THE BIBLE AND SCIENTIFIC THEORY: PROBLEMS IN INTERPRETING GENESIS THROUGH REPLACEABLE SCIENTIFIC PARADIGMS

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ABSTRACT

In the present work, I will divide the history of the interpretation of Genesis into three periods. For heuristic purposes, they will be termed the Platonic, Aristotelian, and Copernican periods. Thus, the first section of this paper surveys how the New Testament writers read the first chapter of Genesis. Here I deal with the concept of historicity inherent in Genesis 1-3 and show how the authors of the New Testament believed that Genesis was a reliable historical account of Earth's Origins. Then I will proceed to highlight the changes that took place. The second section of this paper looks at how such an interpretation shifted in the first four centuries through a Platonic reading of Genesis and in the Middle Ages through an Aristotelian reading. Finally, the third section of this article looks at the Copernican Revolution and points a critique on these conceptions.

Keywords: Bible. Religion. Science.

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INTRODUCTION

In his latest book entitled, *Protestantism's Dangerous Idea*, Alister McGrath says, "One of the most vigorous debates within modern Christian thought concerns the implications of Darwinism for religious belief" (MCGRATH, 2007, p. 379). This is evident in evangelical and mainstream Protestant circles, where several Christian theologians have moved away from a literal reading of Genesis and have opted for a form of theistic evolution[2].

When it comes to uncritically using scientific theories in our interpretation of Scripture, Henry Toulmin advises us to be more cautious and critical, since our task should not be "to replace one static but outdated system of doctrine (paradigm) for another, equally static but more up-to-date system: instead it is to have reflected on the specific relevance of *Historismus* to the projects of theology and cosmology" (TOUMIN, 1989, p. 234). Taking his warning into consideration, this paper will historically analyze[3] these failed attempts to replace one outdated system of scientific doctrine for another in the history of the early church, the medieval church, and the church in the modern era. By scientific doctrine, I mean Popper's definition of science as a "tradition of critical discussion"[4]. Thus, Platonism, Aristotelianism, Copernicanism, and Darwinism could be included in this label[5]. Taking this into consideration, this paper claims that attempts to interpret the Genesis creation account through an established scientific theory such as Platonism, Aristotelianism, and Darwinism undermine not only the integrity of the Biblical narrative but also the integrity of these theories themselves that are constantly changing.

[2] Protestants theologians include Samuel Terrien, who sees the creation account of Gen. 1:1–2:4a and Gen. 2:4b–3:24 as "a parable of the human situation, a true mythos."_ In his commentary Genesis for Everyone geared at a more general audience, the more evangelical scholar John Goldingay shuns from describing Genesis 1 "as a creation 'myth'" ,pointing out rather that "myth is used in many different ways; it's a confusing word." He then adds "But another reason is that calling something a myth is usually an insult, because it implies it is untrue." For this reason, he goes on to say, "I would rather call Genesis 1 a parable". It is not a term that points to an account of the world's creation. It is a metaphor." (TERRIEN, Samuel. **Till The Heart Sings**: A Biblical Theology Of Manhood And Womanhood. Grand Rapids: Eerdmans/Dove Booksellers, 2004. P. 8). In addition to this, the Catholic Church has also narrowed down the possibility for even Intelligent design.

[3] Our Historical analyses will be akin to Toulmin's conception of *Historismus*.

[4] Popper defines a scientific tradition as a "tradition that allows of encourages critical discussion between various schools and still within one and the same school" in page 202. He gives He credits this tradition to Thales of Miletus. He tells of the story where Thales' student Anaximander criticized his masters overall cosmological model. Popper points to the fact that Thales " was, according to tradition, only about fourteen years younger than Thales, and he must have developed his criticism and his new ideas while his master was alive.But there was no trace in the sources of a story of dissent of any quarrel, or of any schism." Thus, he concludes by saying, "This suggests I think, that it was Thales who founded the new tradition of freedom. He seems to have been able to tolerate criticism. And what is more, he seems to have created the tradition that one ought to tolerate criticism." In Conjectures and Refutations, page 202. This seems to be his definition of science as a critical tradition. Fo more read the chapter Back to the Presocratics in Conjectures and Refutations pages 184-224 for a more detailed exposition of this topic (POPPER, 1962, p. 200).

[5] Throughout the paper the words, science, worldview, and even philosophy will be used interchangeably in describing the set of a priori necessary for any scientific inquiry of the natural world. I will also use the terms Platonic and Aristotelean rather loosely here only as a heuristic device to emphasize the extent and influence of these philosophers in shaping the scientific knowledge of these respective eras. I do understand that the term "scientific" itself could use a whole other book and would require a significant amount of discussion, but for purposes of this article will suffice.

This paper contends that a reading of Genesis in light of theistic evolution can result in the same pitfalls expressed by the early church fathers and by the Catholic Church in rejecting Galileo; that pitfall was interpreting Scripture in light of theories that have already been discarded as nonscientific.

To better understand this, I will divide the history of the interpretation of Genesis into three periods. For heuristic purposes, they will be termed the Platonic, Aristotelian, and Copernican periods. Thus, the first section of this paper surveys how the New Testament writers read the first chapter of Genesis. Here I deal with the concept of historicity inherent in Genesis 1-3 and show how the authors of the New Testament believed that Genesis was a reliable historical account of Earth's Origins. Then I will proceed to highlight the changes that took place. The second section of this paper looks at how such an interpretation shifted in the first four centuries through a Platonic reading of Genesis and in the Middle Ages through an Aristotelian reading. Finally, the third section of this article looks at the Copernican Revolution and points to the dangers of holding too firmly to a scientific theory.

HOW THE NEW TESTAMENT AUTHORS READ GENESIS 1-3

In order to understand how the interpretations of Genesis changed, it is necessary to understand first, how it was interpreted by the New Testament authors. The New Testament authors do not give a detailed description of the Genesis 1-3 narrative, but they clearly affirm the historicity of particular events, which they see as foundational for an understanding of doctrine.

Matthew makes this clear. When questioned on the legality of divorce, Jesus pointed back to creation saying that "he created them male and female." (19:4-5) Jesus reaffirms God's original plan for marriage and describes Moses' injunction, as Albright notes, "as a departure from the standards presupposed in the creation of a single pair made for each other" (ALBRIGHT; MANN, 2008, p. 226). Thus, the validity of the marriage bond was based precisely on the historicity of the creation of man and woman.

Paul also alludes to the historicity of Genesis 1-3 making particular mention of Adam as a historical figure. This is most evident in Romans 5. Joseph Fitzmyer has pointed out that "Paul treats Adam as a historical human being, humanity's first parent, and contrasts him with the historical Jesus Christ" (FITZMYER, 2008, p. 407). He then adds that although some biblical scholars have attempted to reinterpret Adam as a symbolical figure representing humanity, such a "reading does violence to the contrast that Paul uses in this paragraph between Adam as "one man" and Christ as "one man," which implies that Adam was a historical individual as much as was Jesus Christ" (FITZMYER, 2008, p. 407–408). Thus, Adam and Jesus function as a historical type and antitype of the plan of salvation. Aside from Adam, the New Testament authors also attest

to the historicity of Eve. In 1 Timothy 2:13-14, when dealing with ecclesiastical matters, Paul makes direct reference to Adam, Eve, and the Fall. Overall, Paul affirms Genesis as a reliable source that gives a foundation for explaining such concepts as sin, redemption, marriage, and restoration.

In addition to the Pauline epistles, the book Hebrews is also packed with Old Testament allusions from Genesis 1-3. In Hebrews 4:4 the author alludes to the Sabbath rest quoting Genesis 2:2. Craig Koester highlights the importance of the Sabbath rest for an understanding of the eschatological rest. Koester says: "If God's work culminated in a Sabbath rest at the dawn of time, Hebrews assumes that God's work will culminate in a Sabbath rest at the end of time (KOESTER, 2008, p. 279). Thus, the historical Sabbath rest event in Genesis 2 is essential for an understanding of the author's point of the eschatological rest.

Additionally, Felix Cortez's study of Hebrews' vocabulary in comparison with Plato's Timaeus revealed that such a word as "aionas" was used by the author of this epistle in a Hebraic meaning of universe as opposed to Plato's use of it for his realm of the forms.

Cortez claimed that such passages as Hebrews 11:3 do not subscribing to a Platonic philosophy, but refer rather back creation narrative in Genesis (CORTEZ, 2015, p. 306). As a result of this, a brief look at Hebrews' cosmology seems to indicate closer affinities to Genesis rather than to Plato's Timaeus.

Finally, Revelation 4 provides some of the most important insights in the call to worship, "Him who created the heavens and the earth." Jon Paulien sees a direct verbal parallel between these words and Exodus 20:11. According to him, "this verbal parallel, along with thematic and structural parallels, shows that the latter portion of the first angel's message constitutes a clear, direct allusion to the fourth commandment of Exodus 20:11 within the broader context of a worldwide call to worship the true God" (PAULIEN, 2003, p. 19). Creation is essential to the message of Revelation 14 because it is intimately tied to the question of worship. God is worthy to be worshiped because He is the creator God.

I have tried to show how Matthew, Paul, Hebrews, and John in Revelation treat Genesis 1 and 2. It is clear that they saw key events in the Genesis creation narrative as historical such as the Sabbath rest in Hebrews 4 and the creation and fall of Adam and Eve in the Pauline epistles. They also allude to the creation week in Revelation 14 as has been argued by John Paulien. Therefore, it appears that the New Testament writers read Genesis as history.

HOW THE GRECO-ROMAN CULTURE WOULD HAVE INTERPRETED GENESIS 1-3

As has been argued from the beginning of this paper, the historicity of Genesis 1-3

would be de-historicized to fit with the prevailing scientific paradigm. Up to the Middle Ages, that paradigm would be the Platonic. The following section will try to show this historical process. However, before we begin this, it is important to understand what were the key points in Plato's cosmology that contradicted the Genesis narrative.

Plato's cosmology is best seen in his dialogue the Timaeus, in which Plato presents a systematic exposition of the origins of the universe. Timaeus, after whom the dialogue is named, lays down the following assumption: First if the universe was caused, it must have an unchanging perfect cause. Second, the unchanging imperfect cause is a demiurge who created the material universe using a perfect and unchanging immaterial copy (TIMAEUS, 28a-29a)6. Finally, time came into being after the "creation of the heaven," when God created the planets to mark the time (TIMAEUS, 38b-38c).

It is apparent that Plato's cosmology fundamentally challenges the Genesis narrative. If Plato sees the material creation as an imperfect copy of an immaterial original, whereas in Genesis God deemed the original creation Good (before the fall) both the material creation of Genesis and the God who makes material creatures would be inferior in Plato's hierarchy of being. This is because the gods who use matter proceed from the God who is spirit (TIMAEUS, 29a). The result is that the universe is an imperfect copy of a perfect reality.

Aside from the content of creation, the mode of creation is also different. In the Timaeus, Creation was created by a demiurge out of preexisting matter, while in Genesis it is created ex nihilo7. Aside from the mode of creation, Plato's account also challenges the duration of the creation. The fact that time only came into being after the creation of the planets would lead some Christian exegetes like Saint Augustine to develop the notion of a timeless creation as we will see later on. Finally, the notion that God created two human beings and that these human beings fell due to the sophistry of the serpent was totally foreign to Plato's appraisal of reasoning and dialectic.

In sum, the picture of creation that Timaeus gives in comparison to Genesis is very distinct. In the Timaeus, Plato depicts a timeless immaterial God who creates through proxies in a period of indeterminate time. On the other hand, Genesis depicts a God who creates in time and is intimately involved with his creation declaring it to be good. It will be important to have this picture in mind, as we see in the first four centuries of the early

[6] Although in the *Timaeus,* Plato seems to qualify the material creation as inferior, in *Apologia* 39e-41c and *Phaedo* 114c he makes it almost to be evil in comparison to the goodness of the immortal soul.

[7] It is interesting to see that this ideia as it appears in the New Testament in the Epistle to the Hebrews significantly challenged Platonic cosmology as a whole. Jaroslav Pelikan points out that Hebrews in "summarizing the teaching of Genesis and declaring the doctrine of "creation ex nihilo," it simultaneously invoked and controvened the vocabulary of the Timaeus when it affirmed that "by faith we perceive [pistei noumen] that the universe was fashioned by the word of God, so that the visible came forth from the invisible"; thus it combined a reference to the noun pistis as Belief (which was for Timaeus incompatible with *aletheia*) with a reference to the verb derived from nous (which Timaeus had made the instrument for perceiving the *aletheia* of really real Being, in opposition to doxa as Belief). (PELIKAN, Jaroslav. **What Has Athens to Do with Jerusalem**: Timaeus and Genesis in Counterpoint. Ann Arbor, MI: University of Michigan Press, 1997, p. 89.

church how Genesis was subsequently reinterpreted to harmonize with the then-current scientific paradigm. Alexandria would be the breeding ground for such a synthesis and would be done by Jewish theologians like Philo before it was adopted by the wider Christian community in the third and fourth centuries and finalized by Augustine in the fifth century.

PHILO OF ALEXANDRIA: HARMONIZING PLATONISM WITH JUDAISM

The attempts to harmonize the Genesis narrative with Platonic philosophy originated in Alexandria as the Jewish community attempted to harmonize the Biblical teaching with the social and intellectual norms of Greco-Roman society. In his work, Between Athens and Jerusalem, John Collins says that "the basic problem in the Jewish diaspora was how to maintain the Jewish tradition in an environment dominated by Gentiles" (COLLINS, 2000, p. 3). Collins points out that two main factors for this conflict were "the social tensions that existed between ethnic groups, especially in Egypt, and the other was the distinctiveness of the Jewish religion" (COLLINS, 2000, p. 122).

The Jewish philosopher Philo of Alexandria would attempt to solve at least the second problem by harmonizing the Greek and Judaic worldviews through his allegorical method of biblical interpretation. This attempt to harmonize Plato's cosmology with that of Moses would be especially clear in his reading of the first three chapters of Genesis.

To combine the cosmological differences of the two accounts, Philo claimed that the Bible was written to suit the needs of the uneducated (MENDELSON, 1988, p. 7). For instance, in De Oficio Mundi, Philo would attempt to harmonize Judaism and Platonic science, by stating that Moses wrote the Genesis narrative not from investigation but was rather discoursing exceedingly piously on God and cosmology (οὐκ ἀ℗ὸ σκο℗οῦ καὶ τὴν γένεσιν ἀνέγραψεν αὐτοῦ Qάλα σεQνῶς θεολογήσας) (DE OFICIO MUNDI, p. 12). After making this distinction, Philo would attempt to answer the differences in the mode of creation between Plato and Genesis, by appealing again to this dichotomy of matter and spirit. Philo argues that Moses was only describing the creation of the visible material world in harmony whereas Plato was the spiritual (DE OFICIO MUNDI, p. 12). This separation between faith and science or faith and philosophy would eventually make its way into the theology of the early church fathers and reach fruition with Augustine.

Finally, he crowns his interpretation of Genesis by answering the objection to the duration of the creation week. Philo denies a literal sequence of days altogether even calling those who subscribe to such a view "foolish." Philo takes the Platonic idea of timelessness for granted and assumes that creation must have happened outside of time since the sun was created on the fourth day (LEGUM ALLEGORIAE I, p. 2). In order to justify this argument, he appeals once again to allegory claiming that the days were only symbolic (LEGUM ALLEGEORIAE, p. 3; DE OFICIO MUNDI, p. 13). Thus, the Genesis

narrative is de-historicized to fit with the current platonic understanding of the cosmos.

Therefore, Philo's relevance to this paper lies precisely in his contribution to pioneering a hermeneutical method, which most Christian expositors would follow in the subsequent centuries. In the short run, it would influence Christians living in Alexandria such as Clement and Origen, and in the long run, it would impact Augustine who produced a synthesis between Platonism and Genesis. This hermeneutical approach also impacted Thomas Aquinas in his synthesis of Aristotelianism with the Genesis narrative8. The attitude underlying most of these attempts shows a distrust in the historicity of the Genesis narrative, the usage of metaphor or allegory to justify those passages that contradict the current prevailing scientific model, and a reliance on the aforementioned scientific model to answer the major historical questions that Genesis claims to answer.

BETWEEN ALEXANDRIA AND JERUSALEM: CHRISTIANITY AMIDST THE PAGANS AND THE JEWS

If tensions between the Jewish and Hellenistic communities were already high in the days of Philo, they would prove even more so in the following century. In his book The Parting of the Ways, James Dunn attempts to reconstruct the major changes that were happening during this period. He shows that the Jewish revolts of A.D 70 and 134 were decisive for the complete separation between Christians and Jews (DUNN, 2006, p. 312). The Bar Kochba revolt of 134 A.D would seal this separation once and for all (DUNN, 2006, p. 312).

In this scenario, it would have been likely for Christians to attempt to disassociate themselves completely from mainstream Judaism. The double pressure stemming from Judaism and Hellenism most likely forced Christians to opt for the latter. The idea of a literal creation as espoused in the first three chapters of and the question of time as described in Genesis and as mentioned earlier in the Timaeus, are two beliefs that would have sounded anathema to the Greco-Roman society as distinctively Jewish. In light of this challenge, Christian exegetes in Alexandria would once again attempt to reinterpret the Genesis narrative to make it fit in the prevailing worldview.

ORIGIN AND CLEMENT: HARMONIZING PLATONISM WITH CHRISTIANITY

Andrew J. Brown presents a detailed and concise study of how the different segments of early Christianity were interpreting the creation narrative of Genesis 1-2. His results are impressive. Citing a previous author, he begins by pointing out that "long

[8] See KRAGH, Helge. **Conceptions of Cosmos**: From Myths to the Accelerating Universe: A History of Cosmology. Oxford: Oxford University Press, 2007. for a thorough discussion on Aquinas' contribution to natural theology.

before the publication of On the Origin of Species [1859] the role of the Bible as the key to the understanding of creation was already being questioned" (ANDREW, 2014, p. 9).

The main thrust for this new rereading of the Genesis account was the city of Alexandria. Brown argues that Philo's work provided the Alexandrian Christian theologians with a framework from which they could interpret Genesis and present it to the non-Christian audience (ANDREW, 2014, p. 26). The first well-known Christian theologian to work within such a framework was Clemente of Alexandria.

Salvatore Lilla's study of Clements's work shows just how Philo's platonic exegesis influenced Clement of Alexandria's reading of Genesis. According to him, Clement adopted Philo's reading of Genesis almost verbatim" (LILLA, 1971, p. 191). Lilla claims that Clemente adopted the idea of two separate creations (physical and spiritual), and the notion of a timeless creation directly from Philo (LILLA, 1971, p. 191)9. This Neo-Platonic influence would Lead Clement to interpret the days of creation allegorically and posit a creation outside of time (LILLA, 1971, p. 191).

Clement's student and disciple Origen (184/185 – 253/254) continued following the work which his master had started. His allegorical method of interpretation would leave a lasting imprint on Catholic dogma seen by Henry Crouzel's statement that "even if to our modern eyes his interpretation [Origen's] seems more or less distant from the letter of dogma, it is linked to the tradition in a relationship that is not arbitrary" (CROUZEL, 1999, p. 83).

Thus, the overall outlook of the Alexandrian Christian theologians when approaching the Biblical can be summarized by the following sentence from Henry Crouzel: "When Alexandrian Christian thinkers approached the account of the creation week, they sought metaphysical insights, theological signals, or prompts for piety; they did not perceive an unfolding series of physical creation events over earthly time" (CROUZEL, 1999, p. 31). As the above quoted sentence implies in Alexandria the process of robbing Genesis of its historical value was nearly finalized.

As this previous section has aimed to show, the Alexandrian hermeneutic grounded on the Platonic world-view would go on to be the standard reading of the Genesis text after the progressive Constantinization of the Roman Empire for the next eight hundred years. In light of this, the following section looks at the impact of the Constantine era and post-Constantine era in standardizing this reading.

[9] This author also points out interestingly enough that "According to him (Clement) the *ouranos*, the *ge*, and the *phos* which are mentioned in this passage of Genesis are not the sensible heaven, the sensible earth, and the sensible light, but only their intelligible patterns; in other words, they represent the *kosmos noetos*. Both for Clement and for Philo Genesis deals with the origin of the sensible world only from 1.6."

JULIAN THE PHILOSOPHER: A PAGAN'S VIEW ON THE SCIENTIFIC VALIDITY OF THE GENESIS CREATION NARRATIVE

The exegetical work done in Alexandria would spread to the outer recesses of the Roman Empire. However, it was the governmental policies of Constantine, Julian, and Theodosius that would cement this union between the Platonism of pagan Rome and Christianity (PELIKAN, 1993, p. 169).

A brief analysis of the reign of the emperor Julian will give further insight as to how the Genesis account was perceived in the Greco-Roman culture. In his work Contra Galileos, Julian launches a series of attacks on the God of the Christians. Taking for granted his Neo-Platonic worldview, he presents some arguments against the God of Genesis. He criticizes the Christians for failing to perceive that their God is only one of many deities, which Plato speaks of in the Timaeus, who was created by the demiurge to be responsible for the material creation of the world. This God creates in time which, according to Julian, is absurd for any current scientific understanding of the world (IULIANUS, 1990, p. 328). In addition to this, the Christian God creates out of nothing, which contradicts both the Platonic and Epicurean notion of an eternal universe (IULIANUS, 1990, p. 330-332).

Finally, Julian labels the description of the tree of life and the fall of Adam and Eve in Genesis 3, as pure myth (IULIANUS, 1990, p. 324). For Julian, it was inconceivable that the woman which the all-knowing God created for man's good could lead to his fall and that a tree that gave the knowledge of good and evil, which was the goal of Greek dialectic could lead to the fall of the human race (IULIANUS, 1990, p. 324-326). Thus, Julian clearly contradicts passages in Genesis which, as has been mentioned before, were interpreted as historical by the New Testament authors.

This cursory look into Julian's critique of the Genesis 1-3 narrative is important for an understanding of how the pagan Roman elites perceived the creation and fall narrative of Genesis 1-3. Julian's observations show that Moses gave a very shortsighted account of an irrational God, who created the material heavens and earth in time. Consequently, this proved to be contrary to the standard scientific model of the time10. Though he failed to re-paganize the Roman empire, the arguments he raised should not be underestimated. They are relevant for an understanding of how the upper classes would have viewed the Genesis creation account. His caricatured version of the Biblical account would be later adopted by Augustine who would attempt to accommodate this worldview with the Catholic dogma.

[10] Although the definition of the term scientific is a topic of heated discussion, I will us it here in the sense that scientists do when making the distinction between the historical aspect of science rather than the experimental. Therefore, even Darwinism would be subject to this label since it uses the concept of time in its predictions and assertions.

THEISTIC EVOLUTION IN THE FIFTH CENTURY: AUGUSTINE'S PLATONIC SYNTHESIS AND CATHOLIC DOGMA

Long before harmonizing approaches became normative in Protestant and evangelical Christianity, Augustine pioneered a novel approach to explain the inherent differences between the Genesis account and Platonic cosmology. Augustine employed the traditional Alexandrian allegorical exegesis to harmonize the Genesis account with Platonism. Thus, the days of creation were allegorized, and all anthropomorphic descriptions of God were removed (AUGUSTINE, 1887, p. 208-209).

Secondly, Augustine developed a novel method for explaining the appearance of spontaneous life forms on Earth. He developed the idea of rationes seminales, which "are germs of things or invisible powers or potentialities" (COPLESTON, 1950, p. 76). These potentialities being created "by God in the beginning in the humid elements and developing into the objects of various species by their temporal unfolding" (COPLESTON, 1950, p. 76) was Augustine's method of explaining the spontaneous appearance of life seen in the first chapter of Genesis11. According to Copleston, this idea was to be found in the philosophy of Plotinus and the logoi spermatikoi of Stoicism (COPLESTON, 1950, p. 76).

Thus, Augustine's recourse to allegory accommodated the Genesis text into the framework that would be understood by a society that was heavily influenced by Neo-Platonism. On the other hand, though, such a reading would relegate the Genesis creation account to a mere fairytale and would even force Biblical interpretation into a constantly changing philosophical framework.

This cursory survey of both pagan and Christian texts from the early church shows that it was not the principle of Sola Scriptura that guided the early church fathers but rather the need to reinterpret the Bible to suit the scientific claims of the prevailing worldview12. This scientific worldview was Platonism. The history of the early church has thus shown that when science is the foundation of theology, theology becomes obsolete when the scientific paradigm changes. This is due to the fact, as Alister McGrath has clarified, that "nature is ultimately a social construction, it is an unstable edifice that generations constantly labor to build, raze, rebuild and redesign" (McGRATH, 2009, p. 6). This would be the case in the 1200s when the theology and cosmology of Thomas

[11] Commenting on this issue Coplestone went to say on the same page, "from what has been said it should be clear
that the Saint was not considering primarily a scientific problem but rather an exegetic problem, so that it is really beside that point to adduce him either as a protagonist or as an opponent of evolution in the Lamarckian or Darwinian sense". Nevertheless, Augustine's conclusions clearly did have implications that would even influence to a lesser extent the course of medieval science and philosophy. Thus, the words Science, worldview and cosmology will be used interchangeably.

[12] By *Sola Scriptura* I mean here the principle that the Bible reveals itself and is its own interpreter. This implies that a direct understanding of the Biblical text can be found within the Biblical text instead of on extra-Biblical hermeneutical principles.

Aquinas influenced by the Greek philosopher Aristotle displaced the Platonism of the early Middle Ages. It would also be the case with the Copernican revolution, but this time with much greater repercussions and tragic results, as the trial of Galileo would show.

THE COPERNICAN REVOLUTION: PLATO VERSUS ARISTOTLE

The Middle Ages witnessed a radical shift in scientific thinking. The translation of numerous Greek texts into Latin during the High Middle Ages would lead to the rise of Aristotelianism as the standard scientific model for the next four hundred years (KRAGH, p. 32). The Platonic-Augustinian dualism would be replaced with a synthetic version of Aristotle's philosophy (TORRANCE, 1980, p. 63, 64). This philosophy contended that the Earth was at the center of the universe with the stars, sun, and planets orbiting around it (APPELBAUM, 2005, p. 19). The Greek mathematician Ptolemy (90-138 A.D.) would further supplement these claims with a series of mathematical calculations, which would provide the backbone for the geocentric model of the universe (APPELBAUM, 2005, p. 20). A thousand years later, Thomas Aquinas (1225-1274) would merge this theory with Christianity together, (although excluding Aristotle's notion of an eternal universe) thereby making it the standard scientific paradigm up to the time of Galileo.

Medieval Theologians would follow Aquinas in interpreting key Biblical texts in light of Aristotelianism. For instance, the waters above the firmament in Genesis 1 would be interpreted as a "perfect crystalline sphere" to fit with Aristotle's concept of perfection (KRAGH, 2007, p. 38). Perhaps the most noteworthy transformation was the usage of poetical texts such as Psalms 93:1, Psalms 104:5, and Ecclesiastes 1:5 to justify the geocentric theory of the universe13. The irony of Aquinas' methodology like that of his successors is that they have "tended to treat figurative usages as literal (e.g., Psalms and Job) while treating literal passages such as Genesis 1-3 as figurative" (YOUNKER; DAVIDSON, 2011, p. 145).

Nevertheless, the mathematical calculations by the Polish astronomer Nicholas Copernicus would challenge this very edifice on which Catholic astronomy was based. Although Copernicus' contributions to the heliocentric model have significantly contributed to our knowledge of the cosmos, some historical studies are actually showing that Copernicus just like Thomas Aquinas or Augustine before him came to his theory through philosophy before engaging in mathematical calculations.

Karl Popper argued that Copernicus' heliocentric model was based not on physical observations but relied to a significant extent on Platonism. Popper ascribes this Platonist influence to the philosophers of Novara under whom Copernicus studied as well as the influence of Plato himself and through his appraisal of the sun in book 6 of the Republic

[13] See FANTOLI, Annibale. **The Case of Galileo**: A Closed Question? Notre Dame, IN: University of Notre Dame, 2012. for a detailed exposition of this topic.

(POPPER, 1962, 253). Popper goes so far as to say that Copernicus' Heliocentric model "was not the result of new observations but of a new interpretation of old and well-known facts in the light of semi-religious Platonic and Neo-Platonic ideas" (POPPER, 1962, 253). These "old and well-known ideas" were Platonists' ideas. He makes this clear when he says, "The idea (stemming from Platonic philosophy) came first, and it was indispensable for the interpretation of the observations; they had to be interpreted in its light" (POPPER, 1962, 254).

Popper's study sheds new light on the discussion. Instead of looking at this question as a battle between theologians and scientists as is usually the case14, it is also necessary to consider this conflict as a battle between an antiquated Aristotelian philosophical paradigms versus a renewed Platonic one. This will become even more evident in the trial of Galileo.

THE GALILEO CASE: SCIENCE VERSUS ARISTOTLE

Copernicus' ideas would be corroborated by Galileo Galilei's observations of the sun moon, and Jupiter. His discovery of sunspots would challenge Aristotle's notion of the incorruptibility of the heavens and Galileo's theory of the tides would be used to counter Aristotle's' geocentric notion of the immobility of the earth. Nevertheless, Galileo's trial has often been portrayed in opposite terms such as the age of Reason represented through Copernicanism versus the Dark Ages represented by the Roman Catholic Church and the Bible versus Science. However, such an idea has been severely overstated and has coming under more serious scrutiny in the last decades by historians of science. Catholic astronomers were already practicing what would be later defined as the scientific method and were already like many theologians today attempting to modify or reinterpret the biblical text to fit with their scientific theories.

J. L Heilbronn, for instance, believes that the Church contributed to the development of the science of astronomy. He claims that the Catholic Church was the leading source of financial support for the study of astronomy for over 600 years (HEILBRON, 1999, p. 3). For Alister McGrath, the Middle Ages contributed to the laying down of the foundations of science with the establishment of universities which would be crucial in the development of science and the emergence of philosopher-theologians such as Thomas Aquinas and Robert Grosseteste (McGRATH, 2010, p. 2).

When it comes to the issue of Biblical hermeneutics, a letter between Roberto Bellarmine, who would later condemn Galileo, and the Copernican Paolo Antonio shows that the Catholic Church was already relying on extra-biblical hermeneutical principles

[14] See the classic WHITE, Andrew Dickson. **A History of the Warfare of Science with Theology in Christendom**. New York: Dover Publications, 1960., which presents the view that has been most propagated in the masses throughout the last couple of years.

for interpreting the Genesis creation account. When it comes to the issue of Copernicus' theory, Bellarmine makes clear the willingness of the church to accommodate its interpretation of Scripture to the current science.

He says:

> If there were a true demonstration that the sun is at the center of the world and the earth in the third heaven and that the sun does not circle the earth but the earth circles the sun, then one would have to proceed with great care in explaining the Scriptures that appear contrary, and say rather that we do not understand them that what is demonstrated is false (FINOCCHIARO, 1989, p. 68).

Commenting on this text, Paul Feyerabend claims that Bellarmine believed that "church doctrine is a boundary condition for the interpretation of scientific results. But it is not an absolute boundary condition. Research can move it (FEYERABEND, p. 255). This letter appears to show that it was much more a question of the validity of Aristotle's geocentric cosmology versus Copernicus' heliocentric model than it was of modern science versus Biblical literalism.

On the other hand, Annibale Fantoli holds a different view. He defends the idea that it was the literalist reading of the Biblical text that led to the condemnation of Galileo[15]. Although this may be the case, he still admits that it was the Aristotelian interpretation of the Biblical text, not the Bible itself which had the final word in the Church's rejection of Copernicanism in 1616. He says:

> One can, therefore, conclude that at the basis of the certainty with which in 1616 the Church rejected Copernicanism (with an intention that it be definitive) was not only the theology of the epoch but also, and first of all, the philosophy that was so closely linked to the theology as to constitute an inseparable whole. Surely, the enormous difficulty, both intellectual and psychological, of making theology independent of a worldview based on the obdurate convictions of common sense, and which for centuries had been considered as intimately linked to the theological Christian synthesis, may provide extenuating circumstances for the erroneous decision of 1616 (FANTOLI, 2012, p. 120).

Fantaoli's remarks are impressive because they indirectly alert theologians to the dangers of basing theology on a scientific foundation. The reliance on the geocentric Aristotelian scientific model proved disastrous both for the science as well as for the theology of the 17th century, which both became obsolete with Galileo's new findings, which corroborated the Copernican theory. Stephen Toulmin also seems to follow Fantaoli's conclusions when he warns of the dangers of adopting a scientific paradigm uncritically as a foundation for Biblical hermeneutics. He points out that many European theologians had attached themselves so closely to Aristotelianism during the Middle Ages and Newton in the 18th century that "when radical changes took place in the natural

[15] See FANTOLI, 2012.

sciences, they were unprepared to deal with them" (ROTH, 1998, p. 348) Today, theologians make this mistake in their acceptance of Darwinian science and their attempts to reinterpret the Bible in light of theistic evolution.

The intellectual landscape was already prepared for theistic evolution long before Darwin. Genesis has continued to challenge Western notions of science since its reception in the Greco-Roman Empire and continues to do so in our modern era. The publication of Charles Darwin's The Origin of Species would only take the centuries-old argument of theologians and natural philosophers to its conclusion. Thomas Kuhn had already argued in this direction (KUHN, 1996). He claimed that although a teleological form of evolution was already accepted by natural philosophers, what shocked natural scientists and theologians was that Darwin developed a purposeless mechanism that did not require the existence of a deity (KUHN, 1996, p. 184). As Kuhn has shown, theologians were already prepared for Darwin's ideas, which would open the door for modern-day conceptions of naturalism and materialism.

FINAL CONSIDERATIONS

In this paper, I have attempted to show that long before the publication of the Origen of Species, the first three chapters of Genesis had already been deprived of any historical meaning through the science of Plato and Aristotle. Although I do not believe that my paper has given an exhaustive treatment of this dialogue between the Bible and Western scientific thinking, I do believe that it is a steppingstone on the road to a better understanding of the history of this dialogue, as well as an appeal

Throughout this paper, I have attempted to point out that the idea of a literal creation week, the historicity of Adam and Eve, and the reality of the Fall were foreign to the standard method of scientific thinking of the early and Medieval church and modern scientific thinking. In the first four centuries of the Christian era, it was Platonic science scientific thinking, which posed several challenges to the Genesis creation account. Later it was the Aristotelianism of Thomas Aquinas and eventually Copernicus' heliocentric model. In the case of Copernicus, I have argued that it was much more a reading of the Bible through the lenses of Aristotle's geocentric cosmological model that was the actual enemy of his new scientific theory.

Finally, I have sought to argue that it was an interpretation of the Bible founded on extra-biblical presuppositions like the cosmology of Aristotle that was used to condemn Galileo instead of the Bible itself. Like the theologians in Galileo's day, theologians today still seem to try to bend the Biblical text to fit with the latest scientific theory (YOUNKER; DAVIDSON, p. 145). This sort of interpretation seems to be influenced more by a misguided optimism toward the natural sciences rather than a serious attempt at accepting what the text has to say at face value.

This paper concludes by affirming that attempts at interpreting Genesis 1-3 on a philosophical foundation other than the Bible have rendered not the Genesis account itself obsolete but the mutable scientific foundation on which such theologies have been built. In light of this, what would be the Biblical warrant for interpreting Genesis 1-3 in light of theistic evolution? The author of this paper would answer, "None."

This paper has defended the thesis that attempts at interpreting the Genesis creation narrative through a scientific theory such as Darwinian evolution undermines not only the integrity of the Biblical narrative but also the theologies that use them as their epistemological foundation. Such an attempt at synthesis between any philosophical systems other than the Bible will ultimately have an expiration date because of the nature of science itself. Science is constantly changing and being modified in light of new observations, as well as in light of the theories that guide these interpretations.

For this reason, theologians should be careful in reading the Bible in light of theistic evolution. A brief look at the history of the Christian church has shown that any attempt at synthesis between the Bible and humanistic philosophy is biblically unwarranted. It is ironic to see scientists being more cautious than theologians in quickly adopting a scientific paradigm16. Although theistic evolution may be the new trend, a plain reading of Genesis clearly leads us to the conclusion that Genesis was meant to be read as a historical account of how God created the Earth in six literal days. Attempts to the contrary have been motivated by a bias to accommodate the biblical text to the Spirit of the Age. Paul Feyerabend describes this attitude precisely. He says that the Church "frightened by the universal noise made by the scientific wolves, prefers to howl with them instead of trying to teach them some manners." Ellen White's words embody what our attitude should be in the face of these circumstances. She says:

> Apart from Christ, science is misleading and philosophy is foolishness. It is the entrance of God's word that giveth light; it giveth understanding unto the simple. Psalm 119:130. His word is given for our instruction; there is nothing in it that is defective or misleading. The Bible is not to be tested by men's ideas of science, but science is to be brought to the test of the

[16] See FEYERABEND, **Farewell to Reason**. London: Verso, 1987. P. 263-264. In a seminar organized at the Federal Institute of Technology in Zuerich, the philosopher of science Paul Feyerabend showed his concern over the uncritical attitude in which many theologians who were participating were uncritically accepting and adopting the latest scientific theories. In a letter that he addresses to father Rupert who was one of the participants at this congress he spells out his concern in detail. Pages 263-264 of Farewell to Reason have the full letter. He begins by saying that he was surprised by, "the speed with which the Church now retreats in the face of scientific results." He goes on to say that "this phenomenon does not exist within the sciences." He then gives the example of where the church denied the scientific claim of the eternity of the world for centuries. This denial proved to be very fruitful for the church later on when Big Bang cosmology seemed to support its view. He says that "Today there are numerous world models postulating a beginning in time and leading to complex "creations" during the first world minutes. The restraint, not to say fearfulness, of the Church, therefore, cannot be excused by pointing to scientific practice. It rests on an ideology pure and simple. The most interesting aspect of this letter is how he finalizes it. He says, "When I was a student I revered the sciences and mocked religion and I felt rather grand doing that. Now that I take a closer look at the matter I am surprised to find how many dignitaries of the Church take seriously the superficial arguments I and my friends once used, and how ready they are to reduce their faith accordingly. In this they treat the sciences as if they too, formed a Church, only a Church of earlier times and with a more primitive philosophy when one still believed in absolutely certain results. A look at the history of the sciences, however shows a very different picture."

> unerring standard. ... Yet the study of the sciences is not to be neglected, Books must be used for this purpose; but they should be in harmony with the Bible, for that is the standard (WHITE, 1963, p. 91).

May these words guide the lives of all of those who come in contact with God's Word.

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