Neverending Skies: Milton's Use of Astronomy in *Paradise Lost*

Tabbatha Keller-Sanders

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Our Universe is ever expanding and seemingly infinite. And while these concepts are things that we in the modern era take for granted, this was not the case in the day of the English poet John Milton. Having lived during the time of Galileo and being as wide read as he famously was, the study of Astronomy had a major impact on Milton’s works. Milton’s most notable work, *Paradise Lost*, makes many allusions to the astronomical theories of the day. Understanding Milton’s use of Astronomy within *Paradise Lost* will allow for a better understanding of Milton’s ideas on the topic, and explain how these ideas may manifest in his works.

John Milton was born in December of 1608 only a few months after Hans Lippershey invented the first spyglass, which would later evolve into the telescope, with the aid of his children (Hobden). The invention of the telescope in the 17th century lead to an explosion of research and discoveries in the field of Astronomy. A number of these discoveries can be attributed to the astronomer Galileo Galilei, including the discovery of four of Jupiter's moons which “was a further nail in the coffin of the old Earth centred view of the universe, and it conflicted with the established view of the Catholic Church” (Hobden). Regardless of the advancements there was still a strong hold on the general populous by the Church. Thus, many who wrote about these topics would need to draw a hard line regarding where they stood in the battle of science versus religion, and Milton was no exception. However, the influence that Astronomical theory had on Milton’s expression of the cosmos in *Paradise Lost* is critical to a firmer understanding of how Milton fits into the quickly evolving landscape of science and Astronomy, and his personal stance in the conflict between science and religion.
In 1638, at the age of 30, Milton meet Galileo. This meeting is one which most scholars of literature believe highly influenced Milton’s works. Galileo and the telescope are referenced in *Paradise Lost*, Book Three, lines 588-590 “There lands the Fiend, a spot like which perhaps / Astronomer in the Sun’s lucent Orb / Through his glaz’d Optic Tube yet never saw.” These lines of the poem refer to Galileo’s observation of sunspots, spots or patches along the surface of the Sun which happen to appear darker when compared to the rest of the Sun. In an article discussing the influence of Galileo on the works of Milton, Jacqueline Cowan writes that this particular reference acknowledges Galileo’s discovery, provides a theological explanation for their existence, and “disparages Galileo’s telescopic sight.” Cowan makes note that it is incredibly difficult to truly understand where Milton’s stands in relation to the discoveries and theories of Galileo because Milton always seems to acknowledge these ideas, but then turns around and frowns upon their very discovery.

“Milton's Galileo consistently brings the blemishes of heaven to light, be they the spotted sun and pitted moon or Satan's solar shadow and his battered shield. Galileo, then, is a figure whose natural philosophical discoveries stand as true, but he is also one who stands alongside Satan.” (Cowan)

This confusion regarding Milton’s stance on the works of Galileo leaves many wondering about the Milton-Galileo relationship, but to Milton’s relation with the science of Astronomy and with the study of science as well.

While exploring this topic, one should attempt to understand which Astronomical theories Milton believed. One way of trying to understand this is to see what Milton chose to teach to any of his students. In an article written by Allen Gilbert, he discusses Milton’s favored
Astronomy textbook, *De Sphaera* by Johannes de Sacrobosco, which was originally published in 1472, and was consistently released as newer editions until the middle of the 17th century. According to Gilbert, we currently do not know which edition of *De Sphaera* Milton used. However, there were editions released in both 1608 and 1620 that were nearly identical. These two editions are the most likely candidates to have been used by Milton. *De Sphaera* was generally updated to match the current astronomical findings of the time. “The editors of late editions brought the work up to date not by altering the text, but by printing notes, comments, and other treatises in the same volume” (Gilbert 297). By doing this, the volume that Milton used to teach his students was mostly up to date with the currently ideas within Astronomy. However, *De Sphaera* predated the Copernicus model of our solar system, which places the Sun at the center rather than the Earth. This means that while the notes included within *De Sphaera* aided Milton’s students in a truer understanding of how our tiny slice of the Universe works, the text was imperfect and flawed in it scientific view of the Universe as Gilbert notes that *De Sphaera* is “wholly Ptolemaic in character” (301). These students were also exposed to the beliefs of old where the Earth was at the center with all of the other heavenly bodies existing around it. Gilbert also notes that while *De Sphaera* was of great aid in teaching certain aspects of Astronomy to Milton’s pupils, the text’s Ptolemaic character meant that Milton most likely would have taught any Copernicus thought to his students without using this text, or any textbook.

Another way to try and understand Milton’s beliefs would be to try and compare Milton’s writings and references to Astronomy to those of other writers from his time period. This is exactly what Martin Gimelli chose to do in his article “Milton's and Donne's stargazing lovers, sex, and the new astronomy.” Gimelli compares how Milton and Donne use astronomical
theories within their works, and how these uses reflect what each writer believed. “Donne typically utilizes the terms of the old astronomy, while Milton prefers the new--an unexpected contrast that overturns long-held assumptions about the astronomy of each author” (Gimelli 148). Gimelli notes that Donne takes a far more disapproving view of Astronomy saying that “...Donne takes a highly disparaging view of the new astronomy in both Ignatius His Conclave, or His Inthronisation in a Late Election Hell and his two lengthy Anniversarie poems… English astronomers were quick to approve the new possibilities opened by the Copernican revolution, yet Donne sarcastically inveighs against these very astronomers in the text that signals his conversion, Ignatius His Conclave...” (148-149).

We now understand what Gimelli is trying to say in regard to where Donne stands in relation to what would become modern Astronomy. However, what about Milton? Gimelli explains that Milton’s stance on what he calls “new astronomy” can be found within Paradise Lost. “Building on Galileo Galilei's telescopic visions of the moon's mountains and valleys, Milton further speculates that the outer planets are "happy isles," or unfallen Edens, "Like those Hesperian gardens famed of old, / Fortunate fields, and groves and flow'ry vales," not myth, but further testimony to divine goodness and plenitude (3.567-9)” (Gimelli 149-150).

This view may seem quite odd to the reader because, as we discussed earlier in this paper, Milton seems to have admired Galileo, but had rather mixed feelings in regard to his discoveries and astronomical theories. This unclear standing with the ideas of Galileo causes quite a bit of confusion for those trying to understand Milton. Thus, is seems that the best way to really
understand where Milton stands on the theories of Astronomy is to look at his works. Particularly, Milton’s greatest and most notable work, *Paradise Lost*.

Book Eight provides the best overview of Milton’s astronomical thoughts as this is the book in which Adam asks the angel Raphael to explain to him the interworking of the cosmos. Before diving in too deep, a note about this conversation is how Raphael warned Adam of the dangers of reaching for knowledge that God deemed forbidden. While this warning can be every easily related to the reason Raphael is in the Garden of Eden visiting Adam and Eve, to warning them of Satan and to remind them to be obey God, this warning could also be framed to reflect Milton’s concerns surrounding the study of Astronomy. While it would be clear to anyone who has studied Milton that the poet honored truth and knowledge, Milton was also heavily religious, and space is often a symbol of divinity. The very fact the Astronomy was finding flaws in the Universe, such as the sunspots on our closest star, would upset someone of a religious mindset because “How could there be imperfection within the very Heavens itself?” Or, possibly, one could relate the study of Astronomy to much of the work being done in Biology and medical science today. One, at some point, finds themselves asking “Am I playing God?” Even though the incredible advances in medical science are amazing, many have concerns that reflect the concerns of the 17th century. While Milton valued knowledge, he would be completely justified in being concerned with the fast advancements of modern Astronomy. However, after Adam asks his questions about the Universe to Raphael, the angel replies with “To ask of search I blame thee not, for Heavn’n / Is as the Book of God before thee set / Wherein to read his wond’rous Works, and learn” (*PL* 8.66-68). Milton believes that God knows that humankind is curious, and wishes for us to discover all that he had created for us. This is reflected in Raphael’s
words as he says that he is not upset that Adam wants to knows more about why God made the Universe as he did. The angel going on to say that mankind is meant to learn of God’s works and to attribute them to the glory of God. However, later on Raphael explains

“Solicit not thy thoughts with matters hid,
Leave them to God above, him serve and fear;
Of other Creatures, as him pleases best,
Wherever plac’t, let him dispose: joy thou
In What he gives to thee, this Paradise
And thy fair Eve: Heav’n is for thee too high
To know what passes there; be lowly wise:
Think only what concerns thee and thy being:” (PL 8.167-174)

This lends itself to the idea that mankind is only supposed to know what knowledge God grants them, and that humans should be satisfied in that. That curiosity is fine, but at a point it becomes doubt, and a lack of faith in God.

Regardless of this, Milton studies discoveries and advancements, and these ideas are reflected in Book Eight of Paradise Lost in more depth as Raphael begins his explanation to Adam. Towards the very beginning of this explanation Raphael states that “This to attain, whether Heav’n move or Earth / Imports not…” (PL 70-71). During the 17th century is when the great arguments regarding what was in the center of our solar system occurred. The most widely accepted idea was that the Earth was at the center, and all the planets and the Sun moved around it. However, the Copernicus model, which held the Sun at the center, existed for some time, and due to the invention of the telescope and the work of Astronomers this model was becoming
more accepted by the larger scientific community. Milton states with lines 70-71 that the actual arrangement does not truly matter because the arrangement was of the Universe decided by God.

This stance is the best reflection of where John Milton stands in the conflict between science and religion. Milton was incredibly wide read, and truly believed in the freedom of knowledge and the pursuit of truth. However, to Milton, all of these things pale in comparison to his God. The Earth could orbit around the Sun or the Sun around the Earth, but does that truly matter if it is God who ordained it?

However, there was certainly concerns for our great poet outside of just the pursuit of knowledge. John Milton was a government worker; the Latin Secretary under Cromwell for quite some time. Thus a concern for reputation was required. As a writer, Milton could certainly express his views on matters of free speech and divorce rights, but in many ways the science versus religion debate went far beyond mere politics to the very core of what many people believed about reality and existence itself. But, ultimately, Milton did chose a side in this debate. According to Gimelli:

“Alastair Fowler's 1968 edition of Paradise Lost began an important reevaluation of these issues, not only by carefully documenting Milton's keen awareness of the current state of astronomy but also by noting his clever manipulation of the data in order silently to support Galileo, the modern hero cited both in the poem itself and earlier in Milton's Areopagitica” (155-156).

Thus, Milton sided with science. This does not mean that Milton abandoned religion, or turned his back to God, or anything of that sort. Milton’s Raphael explained to Adam that God gave him all the knowledge he needed, and this is what Milton believed for mankind at large. To Milton
the advancements that Astronomy made during the 17th century made were through the grace of God. That God believed the humans were ready for a new bit of knowledge, and thus it was given to us through the invention of the telescope which allowed Galileo to see the moons of Jupiter, and further confirm the true nature of our solar system. Milton consistently, both inside and outside of the science versus religion debate, values the truth; the free spread of knowledge and information always being a priority in Milton’s not religious writing, but nevertheless appearing as themes within his works. It should not surprise anyone that with the mounting evidence, Milton would inevitably side with the scientific community of the 17th century. A value, belief, and respect for his religion while maintain a value and respect for the advancements of science is something that we can see Milton attempting to balance in many of his works. However, this attempt at balance it most easily seen in his writing in Book Eight of *Paradise Lost*. To side with one does not mean that you must disregard the other. Both science and religion, to Milton, were the truth and were to be value and respected as such regardless of how such an idea might be view by the outside world.

The influence that Astronomy had on the works of the English poet John Milton are those that reflect the very character of Milton’s alignment in the conflict between Science and Religion. Milton’s meeting with Galileo also heavily influenced Milton’s perceptions of Astronomy and whether Milton would ultimately find himself within this debate. Milton was a poet and a man of God, but one that valued truth, and believed that the truth ordained by God was the one that mankind should strive to discover.
Works Cited


