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### Weighing Galileo's Letter

*I am aware that philosopher's ideas are not subject to the judgement of ordinary persons, because it is [their] endeavor to seek the truth in all things, to the extent permitted to human reason by God.*

-Copernicus

In his *Letter to the Grand Duchess Christina*, Galileo takes an oddly conventional approach to an otherwise, unconventional letter, factitiously pleading his case in the name of science. Providing a protective layer from papal authorities and other ecclesiastic onlookers, is Galileo's excessive praise of scripture, a technique used most prominently throughout this literary masterpiece. Instead of pitting the bible's nescient interpretation of the cosmos against the intelligible voice of science, Galileo instead, uses its simplicity to highlight the compatibility between ancient scripture and the Copernican system and is even bold enough to show the Duchess why God, "himself", would be in support of scientific exploration. Galileo's argument is plausible insofar as it gives a convincing account of how the sacred books came to fruition and presents scripture in such a way that science should not have to contend with the narrowness of its parameters. And although his use of rhetoric gives the overall work a superficial undertone, it is overpowered by the letter's more honest, and penetrating features that are inspired more by scientific naturalism than they are by divine wisdom.

Before Galileo begins to defend himself against the charges of heresy laid at his door, he first defends his predecessor, Nicholas Copernicus, who he says was "not only a Catholic, but a priest and a canon" (178), and was, in fact, *assigned* the task of studying the celestial motions by

The Bishop of Fossombrone himself, to help regulate both the liturgical and lunar calendar (178). By pointing out Copernicus' devotion to Catholicism and the clerical positions with which he was entrusted, Galileo hopes to convince the Duchess of Copernicus' piety and loyalty to the church. The fact that he was specifically called upon by a high-ranking Roman Catholic authority to help reform the church calendar not only helps to show the reverence that Lateran council members had for Copernicus but also the church's dependency on astronomical exploration and science in general. By drawing the Duchess' attention away from the timeline of his predicament long enough to evoke a memory that demonstrates the deep, historical ties between science and scripture, Galileo can lay a foundation strong enough to support his arguments to follow, and honest enough to build a level of trust with his reader(s).

With this crucial backstory complete, Galileo eagerly defends the heliocentric model against those who condemn it on the grounds that it contradicts the word of the bible which they claim teaches an earth-centred universe. To refute this claim, he first calls attention to the ambiguity of scripture which he says is "often very abstruse" (181) and that a literal reading cannot reveal its profundity. The bible, he argues, "has not hesitated to obscure some very important pronouncements, attributing to God himself some qualities extremely remote from (and even contrary to) his essence" (182), which suggests that it is not unreasonable to assume that the bible's references to celestial bodies (like the sun or earth) have also been presented contrary to their true essences as well. And although it is highly unlikely that the sacred scribes would have purposely crafted a false interpretation of the cosmos, his rationale does work to explain the contradiction in question. He says that this ambiguity was by design insofar as the authors of the bible had much greater knowledge of astronomy than was conveyed in the text, therefore, made a conscious choice not to share more deeply on these topics. Though Galileo

insists this was not a conniving move on the part of these sacred scribes because they never claimed the bible to be the best source for answers pertaining to astronomy. The more likely reason for its simplicity, suggests Galileo, is that these matters so mysterious they are beyond human reasoning (such as God and the heavens) must be adapted into something that can be understood by the “common people” (181) who cannot easily grasp concepts which defy their reasoning “and could not be made credible through science” (183), therefore, holy scripture “needed” to sway from the absolute truth in order to accommodate to the understanding of “every[body]” (182). The natural sciences on the other hand, are governed by a set of universal laws which cannot be reduced in the same way; thus, are under no obligation to conform to the comprehension of laymen (182). However, he warns that a literal reading (of the Bible) will often lead to a misunderstanding of the text, which suggests that the adaptation is not, in fact, working in the best interest of the “common people” if indeed it was adapted in their interest at all. He closes his argument with one final overpraise of the bible, concluding that “divine wisdom surpasses all human judgement and conjecture” (183) hence, his astronomical position need not interfere with the passages of holy scripture. The sincerity of this statement is called into question however, when we analyze the ambiguity of Galileo’s reference to “human judgement and conjecture” that is not necessarily equivalent to human logic, because if it is not, “divine wisdom” may or may not surpass scientific reasoning in his mind.

Galileo proceeds to ask a series of rhetorical questions arguably designed to depreciate the authority of the Holy Spirit and says “the intention of the Holy Ghost is to teach us how one goes to heaven, not how heaven goes (186). Not only does this parallelism emphasize the different objectives of science and scripture, but it also serves as a transition into his next argument in defence of scientific exploration, which we find is undeniably seamless. To begin his

argument, Galileo explains why it is unwise to pit scripture against science, quoting St. Augustine who said “if anyone shall set the authority of the Holy Writ against clear and manifest reason, he does not know what he has undertaken; for he opposes to the truth not the meaning of the Bible, which is beyond his comprehension, but rather his own interpretation; not what is in the Bible but what he has found in himself and imagines to be there” (186). This is a clever choice of quote for three reasons. Firstly, because St. Augustine is one of the most influential Catholic saints in Western history, therefore, is likely esteemed by the audience to whom he is pleading his case. Secondly, it creates a distinction between scripture (“Holy Writ”) and science (“clear and manifest reason”), in a way that both elevates the word of the bible (that is so profound it is “beyond [the opposer’s] comprehension”) yet also suggests that the Bible is void of reason (that Galileo hopes to provide through scientific exploration). And thirdly, because it connects the word “truth” to science which will also provide a segue into the next part of his argument where he states, “this granted, and it being true that two truths cannot contradict one another, it is the function of wise expositors to seek out the true senses of scriptural texts” (186). Here, Galileo is boosting the logical appeal of his argument by presenting the Duchess with an assumption but states it as if it were factual evidence while simultaneously acknowledging that, like science, scripture also represents the truth, assuming that scripture is one of the “two truths” he is referring to. And although Galileo’s flattery of scripture here may or may not be sincere, the rhetorical devices he uses to persuade his audience in this argument are praiseworthy.

Next, Galileo explains why it is unreasonable for “inferior sciences” to “bend to theology” (191) and argues that theology is only considered “queen of all the sciences” (191) because the subject of salvation is more dignified than that of other sciences. He says that “by acquiring the highest authority in this way, if [theology] does not descend to the lower humbler

speculations of subordinate sciences and has no regard for them because they are not concerned with blessedness, then [theology's] professors should not arrogate to themselves the authority to decide on controversies in professions which they have neither studied nor practiced" (193).

Meaning, since theology confines itself to one subject, it means that it is neglecting many other areas of study, therefore, theologians, unless they are also astronomers and physicists, are not in any position to govern the world of astronomy. Quoting St. Augustine again Galileo adds "it is held to be an unquestionable truth that whatever the sages of this world have demonstrated concerning physical matters is in no way contrary to the bible" (194) and argues that because of this, it is the skeptic's responsibility to prove that a physical conclusion has not been demonstrated before they condemn it rather than they who believe the conclusion to be true.

Here, Galileo is simply explaining the correct manner of reasoning and why "the burden of proof lies with the one making the claim" (Waller 118) concerning the demonstrated conclusions of the sages in this case. Lastly, Galileo explains why it would be an impractical decision to ban books on the Copernican system and how preposterous the task would be trying to regulate scientific study. It's the equivalent of trying to "forbid men to look at the heavens" (196) he says. Unless these skeptics are willing to remove eyeballs, it will be impossible for them to take away the human sense of visual curiosity basically. By connecting scientific exploration to the human sense of sight, Galileo is essentially reintroducing scientific observation as a natural right. In this light, it would be *unlawful* to restrict scientific study, which begs the question: Should theology perhaps consider "bending" to the other sciences instead?

Before Galileo introduces his final counterargument on why *The Book of Joshua* is not necessarily incompatible with the Copernican system, he pushes back once more against those who take the Bible's word literally as opposed to the correct way, that is, interpreting it as a set

of fables designed to teach moral truths and says that “it is custom for the biblical scribes to deliver their judgements in many things according to the commonly received opinion of their times” (201) according to St. Gerome. Not only does this suggest that scripture is not as much a product of divine inspiration that holds timeless eternal truths as it is a collection of fables that have been redesigned throughout Western history to appeal to the majority, but it also means that the testaments in circulation currently would be significantly outdated if this were true. For the bible to maintain its relevancy it would need to be constantly updated alongside the evolution of the Western population, that it was, at one time, designed specifically for, according to this quote.

By creating a distinction between “sages” and “common people” and continuously reinforcing this distinction throughout his letter, Galileo is forcing the Duchess (and any other potential readers) into one of two positions. They can either be an “intelligent” sage who welcomes the Copernican system and is unthreatened by the relationship between science and scripture, or they can be one of the “simple-minded” folks who have built their entire reality around the literal word of scripture. Unless new philosophical theory fits into these suffocatingly narrow confines, it will be rejected by the latter group at all costs, because it threatens their entire reality, their livelihoods (if it is dependent on the literal legitimacy of scripture), and possibly even their political/economic power. However, like the bible, it would be a mistake to interpret Galileo’s letter in a strictly literal manner. For example, it would, of course, be both ignorant and unwise for readers to believe that intelligence is a fixed trait (in the way the Galileo suggests) and that all humans living during any given era in history do not all possess an equal share of it (generally speaking). If Galileo was not merely using this distinction as a rhetorical device and sincerely believed that he and other “sages” possessed superior levels of intelligence in comparison to “common people”, we would, of course, think much less of him.

By appealing to the Duchess' logic and avoiding the sort of direct flattery that Machiavelli warns of in *The Prince*, Galileo's *Letter to the Grand Duchess Christina* is masterful in both its design and influencing power. Galileo's excessive praise of the Bible does not raise its supremacy, but rather, provokes the reader to question its level of authority, which ironically, helps to equalize the power dynamics between science and scripture. And although his rhetoric can, at times, seem insincere and possibly even deceptive, evidently, his greater purpose for writing is directed toward the truth and ultimately the common good. For Galileo, science and scripture can coexist in harmony with each other if we understand their unique purposes. This letter is a bright representation of the exploratory spirit of the Florentine Renaissance, the realistic reflections it inspired, and the changing perspectives of the infinite and changeable "heavens".

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