

GALILEO AS THE GUARDIAN OF TURKISH SECULARISM

ALPER BILGILI*

ABSTRACT

This article aims to show how modern Turkish discussions on science are used to achieve certain social and political goals. Since the Young Turks, the conflict hypothesis –the view that science and religion are necessarily and inevitably in conflict– was embraced by the secularist elites and used to legitimise certain policies. The Galileo Affair ranks at the top of the list of historical incidents that cause people to believe that the conflict hypothesis is a plausible model for understanding the relationship between science and religion. This article will not only refer to historical data to test the validity of this hypothesis, it will also try to reveal the Western context that gave rise to conflict hypothesis' emergence and acceptance by science popularisers. Last but not least, Turkish myths concerning Galileo and the way these myths were exploited in Turkish discussions on secularism will be analysed.

Keywords: Galileo Affair, Science and Religion, Conflict Hypothesis, Turkey, Secularism

* Acıbadem University, Istanbul, Turkey Alper.Bilgili@acibadem.edu.tr
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In his poem *Kablettarih*, penned in 1929, Turkish poet Nâzım Hikmet describes defenders of reason who will enlighten humanity. These revolutionaries, Hikmet writes, hold Galileo's head in their hands. Here Galileo's head stands as a metaphor, which implies that those destined to enlighten the masses follow Galileo's path. Yet there is a problem with this poem; Hikmet asserted that Galileo was burned alive by his enemies.¹ Most probably, the Turkish poet confused Galileo with Giordano Bruno. This mistake is enough to make any reader question Nâzım Hikmet's knowledge on the history of science. Still, it is fair to say that despite his apparent ignorance of the Galileo Affair, Nâzım Hikmet had accurately noticed the symbolic meaning attached to Galileo in discussions concerning Enlightenment. Galileo, as the narrative suggests, was a foe to darkness and ignorance.

This was not the only occasion on which Galileo was associated with Enlightenment by Turkish artists. Turkish musician Fikret Kızılok and rock band *Bulutsuzluk Özlemi* composed songs entitled "Ama Babacığım" and "Hezarfen Ahmet Çelebi'nin Şarkısı" respectively, where the Galileo Affair was depicted as a dramatic but necessary moment in the enlightenment of mankind. Anyone who became familiar with the Galileo Affair, both songs suggest, would be filled with grief. Yet despite being painful, this is the only way, Kızılok claims, to become mature.² Just like Nâzım Hikmet's poem, those songs are exemplifying the role the Galileo Affair plays –or is forced to play– in Turkish social and political discussions. According to this narrative, Galileo, like other martyrs of science, fought against enemies of the Enlightenment and modernization, and thus must be upheld as a role model for the Turkish Enlightenment project which was intensified, if not pioneered, by the Republican elite.

It goes without saying that it would not be fair to criticize Turkish artists for their childish, naïve portrayal of the Galileo Affair; they were not expected to delineate the details and nuances of the Galileo Affair. Yet it must be added that Turkish academics and science popularizers' depictions of the Galileo Affair are no more sophisticated than that of artists. Galileo was depicted as a man of science who fought for modern, secular values and against the religious, evil camp embodied in the Church. No doubt such a narrative was hoped to serve as a lesson for Turkish secularists. By providing examples from Turkish popular science books, this article aims to analyze the way in which the Galileo Affair was exploited in Turkish social and political discussions on secularization and secularism. Although we will touch

1 Nâzım Hikmet. "Kablettarih", *Bütün Şiirleri* (İstanbul: Yapı Kredi Yayınları, 2015), 127.

2 Fikret Kızılok. "Ama Babacığım", *Biz Şarkılarımızı*, 1985; *Bulutsuzluk Özlemi*. "Hezarfen Ahmet Çelebi'nin Şarkısı", *Bulutsuzluk Özlemi*, 1986.

briefly upon what happened between Galileo and the Catholic Church, the affair will not be at the centre of our investigation.

I. THE CONFLICT HYPOTHESIS

Most of the myths concerning the Galileo Affair date back to the Enlightenment era. 18th century thinkers such as Voltaire³ and D'Alembert used –if not fabricated– these myths to fight against organized religion and curb the powers of religious authority. Galileo, as myths have it, was tortured and his eyes were gouged out. Repetition of these and many other myths by several Enlightenment thinkers turned them into painful and robust realities.⁴ Yet it would take a century for those myths to be presented with a more comprehensive worldview: the conflict hypothesis. The hypothesis assumes that there is an inevitable conflict between scientific and religious worldviews. Religion, as the hypothesis asserts, hindered scientific development for centuries while science proved religion wrong. Since proving religion wrong meant religions were not God-given and instead manmade, it was claimed by proponents of this view that science buried religion. One of the prominent ideologues of this view was German science populariser Ludwig Büchner. Büchner, as a scientific materialist, placed natural sciences at the centre of his thinking⁵ and reduced any other type of knowledge – including philosophical knowledge– to mere speculation.⁶ In his magnum opus, *Kraft und Stoff*, Büchner stated that:

3 Despite his belief that lacking "a rewarding and vengeful God", atheism would eventually tear down a moral society, Voltaire criticised Christianity and the Catholic Church. See Shirley A. Roe. "Biology, Atheism, Politics in Eighteenth-Century France", *Biology and Ideology from Descartes to Dawkins*, eds. Denis Alexander and Ronald L. Numbers (Chicago: Chicago University Press, 2010), 51.

4 Maurice A. Finocchiaro. *Defending Copernicus and Galileo: Critical Reasoning in the Two Affairs*, (Dordrecht: Springer, 2010), 175-177.

5 See Herbert Schnädelbach. *Philosophy in Germany, 1831-1933*, (Cambridge: Cambridge University Press, 1984), 96. Also see M. Sükrü Hanioglu. "Blueprints for a Future Society: Late Ottoman Materialists on Science, Religion, and Art", in Elisabeth Özdalga (ed.). *Late Ottoman Society: The Intellectual Legacy* (London: Routledge Curzon, 2005), 29-30.

6 Büchner's disdain –and ignorance– of philosophy could be illustrated with his critique of Descartes' "Cogito ergo sum": "The 'I think' pre-supposes the 'I am', for he who is not, thinks not. We might as well say, the dog barks, therefore the dog exists. The plainest intellect must perceive that nothing is gained and nothing refuted by such a play upon words." See Ludwig Büchner. *Force and Matter*, trans. by Collingwood, J. Frederick (London: Trübner & Co., 1864), xxvi.

All these notions concerning a direct influence of supernatural or inexplicable forces have melted away before the age of modern science. Like astronomy, which with mathematical certainty has measured the spaces of the heavens, so does modern geology, by taking a retrospective view of the millions of years which have passed, lift the veil which has so long concealed the history of the earth and has given rise to all kinds of religious and mysterious dreams.⁷

German philosopher and science populariser Carl Vogt was another proponent of conflict hypothesis. Like many defenders of this hypothesis, he was convinced that scientific theories were incompatible with the concept of God. Darwin's theory, for instance, "ignores a personal creator, and his direct interference in the transmutation and creation of species..."⁸ American historians John William Draper and Andrew Dickson White championed similar opinions in their works. These historians based their work on Auguste Comte's theory that society passes through three stages in its development, namely theological, metaphysical, and the positive stages. In the modern era, theological thinking must be replaced with positivist thinking. Both Draper and White gave several examples from the history of science that allegedly proved Comtean theory right.⁹ Both works utilised the Galileo Affair to support their claim that religion impeded scientific thinking. In *A History of the Warfare of Science with Theology in Christendom*, for instance, White explained the Affair in detail and even tried to respond to claims which argued that the Galileo Affair could not be considered a clash between science and religion.¹⁰ Although today, the majority of historians of science do not support conflict hypothesis claiming that it misses nuances in the history of science, it would be misleading to assume that conflict hypothesis is an archaic concept defended only in the 19th century. British philosopher Bertrand Russell and evolutionary biologist Richard Dawkins are examples of supporters of conflict hypothesis in the 20th and 21st centuries.

Conflict hypothesis became popular, especially in the second half of the 19th century, partly due to the zeitgeist within which science made great changes in people's lives. Further secularization and modernization made the hypothesis attractive to social and political actors

7 Ibid, 57.

8 Martin Amrein and Kärin Nickelsen. "The Gentleman and the Rogue: The Collaboration between Charles Darwin and Carl Vogt", *Journal of the History of Biology*, 41, 2 (2008), 242.

9 See James R. Moore. *The Post-Darwinian Controversies* (Cambridge: Cambridge University Press, 1981), 19-49, for a more detailed analysis of Draper and White's "conflict hypothesis".

10 See, Andrew Dickson White. *A History of the Warfare of Science with Theology in Christendom* (Cambridge: Cambridge University Press, [1896] 2009), 1: 159-164.

who hoped to curb religion's decisive role in shaping society. They were interested in using –or abusing– certain conflict narratives and barely questioned their validity.

II. CONFLICT HYPOTHESIS IN THE OTTOMAN EMPIRE

As mentioned, conflict hypothesis started becoming increasingly popular, especially in the second half of the 19th century. This coincided with increased Western influence on Ottoman socio-political thinking. At this time, Ottoman reformers were primarily concerned with the reasons behind their backwardness, and some concluded that it was religion that was preventing Turkish and Muslim societies from modernisation and development.¹¹ Young Turks, an influential group which would later launch a coup d'état and seize power in the Ottoman Empire in the beginning of the 20th century,¹² were among those who held Islam responsible for underdevelopment. They were educated in Europe or in modern schools of the Ottoman Empire, and thus closely followed Western discussions on science and religion.¹³ İbrahim Temo, a prominent ideologue of Young Turks, pointed out that they used Western literature on science to awaken their young friends in Royal Medical School.¹⁴ As a result, Büchner, Vogt, Draper, and White became popular among the Ottoman elite cadres. Büchner's *Kraft und Stoff*, the historian Hanioglu argues, became a divine book in the eyes of Turkish modernisers.¹⁵

It must be noted that it was not only Western knowledge, but also Western discussions on science, that were conveyed to the Ottoman Empire. The West, for many, was much more than a technological model that should be copied. The West became a synonym for development,

11 Niyazi Berkes. *The Development of Secularism in Turkey* (London: Hurst & Company, 1998), 348.

12 Despite the fact that majority of Young Turks were convinced that religion prevented modernization, they were not a uniform group and included religious thinkers like Filibeli Ahmed. See Amit Bein. "A 'Young Turk' Islamic Intellectual: Filibeli Ahmed Hilmi and the Diverse Intellectual Legacies of the Late Ottoman Empire", *International Journal of Middle East Studies*, 39 (2007), 607-625.

13 Erik-Jan Zürcher. "The Young Turks: Children of the Borderlands?" in Kemal Karpat and Robert W. Zens (eds.). *Ottoman Borderlands: Issues, Personalities, and Political Changes* (Madison: University of Wisconsin Press, 2003), 283.

14 Dr. İ. Temo. "Darwin'in Ellinci Ölüm Yılı Dönümü", *İçtihat*, 347 (1932), 5736.

15 M. Şükrü Hanioglu. *Ataturk: An Intellectual Biography* (New Jersey: Princeton University Press, 2011), 49. On the other hand, various conservative writers penned books to refute Büchner's claims in *Kraft und Stoff*. See Alper Bilgili. "An Ottoman Response to Darwinism: İsmail Fenni on Islam and Evolution," *British Journal for the History of Science*, 48, 4 (2015), 565-582.

civilisation, and modernisation.¹⁶ Any idea associated with traditional and religious *Weltanschauung* was loathed. Needless to say, Islamist Sultan Abdülhamid's oppressive policies had an impact on the formation of a generation that would embrace conflict hypothesis.¹⁷ Still, Abdülhamid was not anti-Western, since he adopted reforms that would enhance further Westernisation in many fields, including the education system.¹⁸ Thus the reason behind the Young Turks' interest in conflict hypothesis could not be reduced to Ottoman political struggles for power. No matter what the Ottoman Sultan thought, Young Turks would ask for Ottoman Enlightenment. It was almost a religious call for them. Another prominent Young Turk ideologue, Abdullah Cevdet, wrote an article as a reaction to the arrest of three teachers for teaching Darwinian Evolution in 1913, which would clarify Young Turks' deep interest in Westernisation and how Westernisation was linked in their minds to the scientific worldview:

The war between enlightenment and darkness is going on... Any country where commenting on the laws of evolution or speaking about Darwinism is perceived to be blasphemous has not emerged from the Middle Ages. And [those belonging to] the Middle Ages have no right to exist in the twentieth century. Any head, turbaned or not, has to understand this fact unless it desires to be smashed!... Gaybendi Hodja seduces the mob to kill the enlightened youth. The enlightened youth want to enlighten Gaybendi Hodja. This is the difference between the old and the new; the ignorance and the wisdom; the darkness and the light!... Kastamonu! If you do not want to be Thessalonica, or Kosovo; if you do not want to witness Muslims being killed, or their honour and chastity exploited; then wake up urgently, and do not desire to kill those who already woke up and who try to awaken you!¹⁹

In this article, Abdullah Cevdet's illustration of Gaybendi Hodja and the enlightened youth reminds one of Victor Hugo's saying; "there is in every village a torch –the teacher, and a fire extinguisher –the clergyman." Gaybendi Hodja, like his Christian counterparts in the Western experience, opposes scientists for religious reasons. Just like Giordano Bruno, Galileo Galilei, and Charles Darwin, these teachers sacrificed their lives to enlighten the masses.

16 Hilmi Ziya Ülken. *Türkiye'de Çağdaş Düşünce Tarihi* (İstanbul: Ülken Yayınları, 1979), 202.

17 Berkes, *The Development of Secularism in Turkey*, 290-292.

18 Benjamin Fortna. "The Reign of Abdülhamid II." in Reşat Kasaba (ed.). *The Cambridge History of Turkey. Volume 4: Turkey in the Modern World* (Cambridge: Cambridge University Press, 2008), 51.

19 Abdullah Cevdet. "Kastamonu'da Kurun-i Vusta", *İctihad*, 58 (1913), 1271-1274.

As a former Young Turk activist, Atatürk had read materialist works that promoted scientism and placed scientific knowledge above other kinds of knowledge.²⁰ Draper's *History of the Intellectual Development of Europe* and Büchner's *What Man is According to Modern Science* were among these works, where the former took Comte's view of history for granted and the latter challenged an anthropocentric view of the universe and argued that human beings were not created in the image of God.²¹ Atatürk underlined the parts where it was stated that religion loathed critical thinking, which indeed was essential for progress; intellectual and moral development were impossible unless human beings chose science over religion.²² Atatürk's reforms and policies promoting further secularization, or his sayings which seem to encourage scientism, might be interpreted as a sign that he was heavily influenced by the literature which assumed that science would eventually beat religion.²³ During his rule, Atatürk tried to secularize state institutions –especially the education system. Accordingly, the caliphate was abolished, Western law was embraced, and religious orders were banned.²⁴ Since that time, secularism has been at the center of Turkish modernization and Enlightenment projects.

III. THE GALILEO AFFAIR

No doubt the Church's attempt to silence Galileo was detrimental to the development of science. It not only impacted Galileo's scientific studies but also gave a clear message to those who held similar views to Galileo. One such example was Descartes, who realised the possible consequences and cancelled the publication of his book on mechanical and geometric physics, in which he embraced Copernicanism.²⁵ Still, the Galileo Affair cannot be reduced to a conflict

20 Hanioglu, *Ataturk: An Intellectual Biography*, 48-49.

21 Recep Cengiz (ed.). *Atatürk'ün Okuduğu Kitaplar* (Ankara: Anıtkabir Derneği Yayınları, 2001), 12: 469-474; see also vol. 22, 126-224.

22 Ibid, 22: 129-130, 214.

23 Hanioglu. *Ataturk: An Intellectual Biography*, 48-51. It must be noted that the secularisation process did not start with Atatürk and dates back to Ottoman times. To illustrate, the Young Turk government left religious authority outside the cabinet. Indeed, even before the secularisation process had started, the Ottoman state could not be classified as a pure theocracy since the laws enacted by the Sultan and customary law were as important and influential as the Sharia law. See Erik-Jan Zürcher. "Ottoman Sources of Kemalist Thought" in Elisabeth Özdalga (ed.) *Late Ottoman Society: The Intellectual Legacy* (London: Routledge Curzon, 2005), 15; Kemal H. Karpat. *Osmanlı'dan Günümüze Elitler ve Din*, trans. by Güneş Ayas (İstanbul: Timaş, 2009), 246.

24 Zürcher, "Ottoman Sources of Kemalist Thought", 16-17.

25 Edward Slowik. "Descartes' Physics", *The Stanford Encyclopedia of Philosophy* (2014), Edward N. Zalta (ed.),

between science and religion unless one turns a blind eye to the social and political factors that complicate the incident. Here we will briefly analyse what really happened between the Church and the astronomer.

For starters, the Church's reaction to Galileo's heliocentric model was believed to be due to the passages in the Bible (Joshua 10: 12-13) in which Joshua asks God to stop the Sun, and as a result the Sun stands still for a day:

Then spake Joshua to the Lord in the day when the Lord delivered up the Amorites before the children of Israel, and he said in the sight of Israel,
Sun, stand thou still upon Gibeon;
And thou, Moon, in the valley of Ajalon.
And the sun stood still, and the moon stayed,
Until the people had avenged themselves upon their enemies.²⁶

These verses seem to contradict the Copernican system and support a geocentric system. Yet many Christian theologians and philosophers objected to a literal reading of these verses. For instance, concerning these verses in Joshua, 14th century theologian Nicole d'Oresme defended a non-literal interpretation. He argued that here the Holy Scripture adopted "the customary usage of popular speech." A similar usage could be observed "where it is written that God repented, and He became angry and became pacified..."²⁷ Galileo, in a similar vein, argued that the Bible used layman's language and thus did not really defend a geocentric model since its main aim was not teaching astronomy.²⁸ Galileo notes that he embraced Cardinal Cesare Baronio's teaching that "the intention of the Holy Spirit is to teach us how one goes to heaven and not how heaven goes."²⁹ In his letter to Castelli, Galileo defended his position with references to verses which mentioned God's hand, eyes and feet. A literal reading of these verses would be absurd. Thus one must be cautious when reading these verses and according to Galileo the same principle should be applied to verses on nature.³⁰ Indeed, Galileo was

not the first to oppose a literal interpretation of the Bible on verses concerning nature. Saint Augustine, for instance, argued that the days of creation mentioned in the Bible should not be understood as 24-hour periods.³¹ Thus the Church could have interpreted the verses in Joshua in a figurative manner instead of pushing for a literal meaning. Yet, as will be shown, there were other, non-religious, reasons behind the Church's insistence on a literal interpretation.

There was another, –allegedly– religious reason behind the Church's opposition to a heliocentric model. If God chose this planet to host human beings, and if he sent his son to this planet to establish his kingdom then, the Church deduced, this planet should be at the centre of the universe. An alternative scenario would diminish man's worth. This reaction of the Church inspired Freud and led to his conclusion that the human ego had been attacked three times in history. The first was Copernicus showing that human beings were not at the centre of the universe. Darwin had shown that human beings were nothing more than superior apes and finally Freud himself had proved that they were far from being mentally healthy and rational animals.³² Today, Christian theologians believe that the Earth does not need to be at the centre of the universe to be special. They refer to studies of physicists such as Stephen Hawking, Paul Davies, Roger Penrose, and Martin Rees to claim that there is a fine tuning in the universe. Based on these physical parameters, theologians conclude that probability of the existence of an Earth-like planet is extremely low unless an intelligent being like God created the universe.³³

These were the religious arguments the Church deployed against Galileo. However, it is not possible to understand the reaction Galileo caused by referring to those arguments alone. Galileo was not the first astronomer to defend a heliocentric model. Copernicus, almost a century before Galileo, had developed a model in which the Sun was at the centre of the universe. Theologian Nicole d'Oresme, even before Copernicus, had speculated on the possibility of a heliocentric model and concluded that the Earth may be revolving around the Sun. Neither Copernicus nor Nicole d'Oresme sparked a similar reaction. There were even Catholic clergymen like Cardinal Schoenberg and Bishop Giese who supported Copernicus' views and encouraged him to publish his work.³⁴ Galileo's contemporary theologian Paolo

<http://plato.stanford.edu/archives/sum2014/entries/descartes-physics/>. Accessed 25 January 2015.

26 John Sutherland Black (eds.). *The Book of Joshua* (Cambridge: Cambridge University Press, 1910), 61-62.

27 Edward Grant. "Science and Theology in the Middle Ages", in David C. Lindberg and Ronald L. Numbers (eds.), *God and Nature* (Berkeley: University of California Press, 1986), 66.

28 James MacLachlan. *Galileo Galilei* (Oxford: Oxford University Press, 1997), 79.

29 Finocchiaro. *Defending Copernicus and Galileo*, 247.

30 See "Galileo's letter to Castelli", 21 December 1613, in Maurice A. Finocchiaro. *The Galileo Affair: A Documentary History* (Berkeley: University of California Press, 1989), 49-54.

31 Lawrence M. Principe. *The Scientific Revolution* (Oxford: Oxford University Press, 2011), 68.

32 See D. Brett King, William Douglas Woody and Wayne Viney. *A History of Psychology: Ideas and Context* (New York: Routledge, 2016), 402; Ernan McMullin. "Galileo on Science and Scripture" in Peter Machamer (ed.), *The Cambridge Companion to Galileo* (Cambridge: Cambridge University Press, 1998), 271-272.

33 William Lane Craig. "Five Reasons God Exists", in William Lane Craig and Walter Sinnott-Armstrong. *A Debate between a Christian and an Atheist* (Oxford: Oxford University Press, 2004), 9-17.

34 Arthur Koestler. *The Sleepwalkers* (New York: Macmillan Company, 1959), 357.

Foscarini's heliocentric views, on the other hand, made his book censored. This could partly be explained by the fact that Galileo wrote in Italian rather than in Latin, which made his work more accessible, and thus more popular, among ordinary people.³⁵ This might have had an impact on the Church's reaction. However, the different reactions heliocentric models caused should be primarily attributed to socio-political processes the Church was going through. In particular, the Reform movement, which made people question the Church's authority to interpret the text, dramatically changed the Church's reaction.³⁶ As Ruse stated, after the Reformation the Church felt threatened and became more oppressive in almost every field to prevent further loss of power.³⁷ Besides, Pope Urban VIII wanted to restore his authority as he was accused of supporting the Protestants during the 30 Years War. Under these circumstances, "the pope was in an especially vulnerable position, and thus not only could he not continue to protect Galileo, but he chose to use Galileo as a scapegoat to reassert, exhibit, and test his authority and power."³⁸ It must also be noted that Galileo portrayed Church authorities as "stupid" in his *Dialogo*.³⁹ Indeed, there was another historical incident which underlines the socio-political dimensions of the Galileo Affair. The Spanish Inquisition did not censor Galileo's work even though it had to endorse the Roman Inquisition's decisions. This was because the Catholic Church decree which listed Galileo's *Dialogo* in the *Index* also censored a pro-Spanish book. This incident shows that religion was not always the primary, let alone only, concern in the Galileo Affair.⁴⁰ Finocchiaro gives another example that illustrates Catholics were not uniform in their reaction to Galileo; while Dominican Catholics were on the conservative camp, the Jesuits were more tolerant to heliocentric model.⁴¹

It is generally believed that the arguments launched by the Inquisition against Galileo were absurd. Draper went one step further in his *History of the Conflict Between Religion and Science* and asserted that even Galileo's critics knew that their arguments did not make much sense and Galileo was right.⁴² Yet closer historical scrutiny reveals that the Church was genuine in its suspicion and indeed tried to bring scientific proof to refute Galileo. One of

these attempts was made by a clergyman. Francesco Ingoli, in his essay titled "Disputation on the Location and Rest of the Earth Against the System of Copernicus" developed 13 mathematical and 5 physical arguments to defeat the Copernican system.⁴³ Although the arguments could not persuade Galileo to a geocentric model, they were far from being absurd. Indeed, Galileo's delayed response to these arguments made some people believe that Galileo abandoned his Copernican ideas.⁴⁴ Jesuit theologians like Christopher Scheiner and Orazio Grassi similarly criticised Galileo primarily on scientific grounds by referring to "the discovery and interpretation of sunspots and the interpretation of comets."⁴⁵ Indeed, the Church also had reasons to suspect Galileo's model despite his observations. As Finocchiaro notes, contrary to what laymen believed, observations through telescopes were not enough to confirm the heliocentric model. These observations seemed to negate the Copernican model but were not conclusive. Besides, Galileo's contemporaries had reasons to doubt observations made through telescopes since they were a relatively new and poorly developed device. More than a century was needed for this device to gain legitimacy in scientific circles. Moreover, Galileo did not explain how telescopes worked to his colleagues who were not familiar with the device.⁴⁶ Lacking trust in telescopes, it was harder for Galileo to persuade people. Even Kepler, who lent great support to Galileo, admitted that he might "seem rash in accepting" Galileo's views in the absence of observations gathered by the telescope.⁴⁷

As mentioned, while the Church was using scientific arguments to triumph over Galileo, the Italian astronomer was referring to verses in the Bible to make himself more persuasive. Galileo argued that the biblical text could not err, yet it was humans who interpreted the text and they were not free from mistakes. The best way to prevent or at least diminish these mistakes, Galileo claimed, was to understand nature through the use of our reasoning capabilities and senses, which were bestowed upon us by God.⁴⁸ Contrary to what one would expect, this suggestion was not welcomed by the Church since it implied that scientists, with their ability to read nature, could better understand the biblical text than the clergymen who lacked these abilities. Because of the aforementioned special circumstances the Church had been going through, the Church was not sympathetic to suggestions which questioned

35 Finocchiaro, *Defending Copernicus and Galileo*, 234.

36 Ernan McMullin, "Galileo on Science and Scripture", 274.

37 Michael Ruse, *Science and Spirituality* (Cambridge: Cambridge University Press, 2010), 42.

38 Finocchiaro, *Defending Copernicus and Galileo*, 147.

39 Ruse, *Science and Spirituality*, 42.

40 Finocchiaro, *Defending Copernicus and Galileo*, 167.

41 Ibid, 294.

42 John William Draper. *History of the Conflict between Religion and Science* (New York: D. Appleton and Co., 1875), 171-172.

43 Finocchiaro, *Defending Copernicus and Galileo*, 72.

44 Stillman Drake. *Galileo at Work: His Scientific Biography* (New York: Dover Publications, 2003), 293.

45 Finocchiaro, *Defending Copernicus and Galileo*, 293.

46 Ibid, 130-131.

47 Elizabeth Spiller. *Science, Reading, and Renaissance Literature* (Cambridge: Cambridge University Press, 2004), 116.

48 Finocchiaro, *Defending Copernicus and Galileo*, 83.

its capacity and authority to interpret the Bible.⁴⁹ This seems to bolster the claim that the Galileo Affair was at least partly shaped by social and political concerns, although the conflict appeared to be between a religious authority and a scientist.

Philosophers such as Bertrand Russell, Alvin Plantinga and Paul Feyerabend point to different dimensions of the Galileo Affair. Both Russell and Plantinga argue that the clash could be viewed as one between different ways of reasoning, namely Aristotelian *a priori* thinking and inductive reasoning which is based on observations. While the Church embraced Aristotelian reasoning, Galileo adopted inductive reasoning.⁵⁰ Paul Feyerabend, on the other hand, refers to the relationship between science and society. There are, Feyerabend argues, two schools of thought concerning how society should handle scientific knowledge:

According to the first tradition, society must adapt to knowledge in the shape presented by the scientists... According to the second tradition, scientific knowledge is too specialised and connected with too narrow a vision of the world to be taken over by society without further ado. It must be examined, it must be judged from a wider point of view that includes human concerns and the values flowing therefrom, and its claims to reality must be modified so that they agree with these values.⁵¹

As one might guess, Galileo subscribed to the first tradition since he believed that his scientific findings should be accepted by the Church and the society. Objections, especially those stemming from non-scientific concerns, should be neglected. The Church, on the other hand, Feyerabend claimed, embraced the second tradition. Scientific knowledge was important yet it should not undermine non-scientific concerns and values.⁵²

49 Gunnar Skirbekk and Nils Gilje. *A History of Western Thought*, trans. by Ronald Worley (New York: Routledge, 2001), 162-163.

50 Alvin Plantinga. *Where the Conflict Really Lies*, (Oxford: Oxford University Press, 2011), 6; Bertrand Russell. *The Scientific Outlook* (London: George Allen & Unwin, 1954), 33.

51 Paul Feyerabend. *Farewell to Reason* (London: Verso, 1987), 258-259.

52 Ibid, 259.

IV. GALILEO IN TURKEY

After briefly analyzing the Galileo Affair, we now can focus on how this historical incident was depicted by the Turkish secular intellectuals. In order to make sense of these narratives, one has to take the socio-political context in which they were formed into consideration. As mentioned, the secular Turkish elites did not only aim to secularize the state apparatus, but also tried to secularize the society. They adopted top-down secularization policies to enlighten the Turkish masses. Most of the time those policies were not welcomed by the public and several times the clash between the secular and the religious camps turned into conflict which eventually resulted in coup d'états. The conflict hypothesis played a decisive role in these dramatic moments of conflict. Particularly in the 1990s, secular segments of society felt threatened by Islamist fundamentalism. They resorted to Enlightenment narratives and particularly the Galileo Affair to better explain each side of the conflict to the general public. For instance, scientist and science popularizer Cengiz Yalçın refers to the Galileo Affair in a discussion concerning the headscarf ban in Turkish universities. Yalçın argues that Cardinal Bellarmine and Turkish conservatives have something in common; Cardinal Bellarmine refused to see the truth Galileo had revealed, while Turkish conservatives try to reject the fact that religion and freedom are mutually exclusive concepts, and for that reason, wearing headscarves in the universities has nothing to do with personal freedom.⁵³

As the narratives suggest, Atatürk and Turkish secularists resemble Galileo and other guardians of rationality and Enlightenment who fought against the powers of darkness. The sides of this conflict are crystal clear. Science ranks at the top of human endeavors while religion is seen as the main obstacle on the road to modernity. Turkish philosopher Macit Gökberk, for instance, argued that critical thinking, which is necessary for science to flourish, could not be achieved unless religious and dogmatic thinking was abandoned. In his article entitled "Enlightenment Philosophy, Revolutions and Atatürk" Gökberk referred to Francis Bacon's alleged suggestion that humanity should believe in itself rather than delusions.⁵⁴ Similarly, another prominent Turkish secularist thinker portrayed history of thought as a clash between science and religion. He asserted that enlightened people such as Descartes doubted

53 Cengiz Yalçın. "Dediklerinizin Aksine Dünya Dönüyor", 18 October 2010:

<http://www.hurriyet.com.tr/dediklerinizin-aksine-dunya-donuyor-16071757>; accessed 03 January 2016.

54 Macit Gökberk. "Aydınlanma Felsefesi, Devrimler ve Atatürk", *Çağdaş Düşüncenin Işığında Atatürk* (İstanbul: Dr. Nejat F. Eczacıbaşı Vakfı Yayınları, 1983), 284-288.

everything, including revelations.⁵⁵ This, of course, is not a true representation of Descartes' use of doubt since the French philosopher used doubt as a method in his *Meditations*, a book written to prove the existence of God with reasoning in the absence of observational data.⁵⁶ (The full title of his book was "Meditations on First Philosophy in which the Existence of God and the Distinction of the Human Soul From the Body are Demonstrated"). Descartes was a religious Catholic, such that despite his uneasiness with the Church's trial of Galileo, he did not publicly criticise the Church since this, he thought, could put the Church in a vulnerable position vis-à-vis the Protestants.⁵⁷ In another myth, the same author implied that Galileo was a non-believer: "In a 1613 letter [Galileo] penned to his close friend Father Castelli, he noted that positive sciences could not be conducted with books Christianity thought to be 'divine'..."⁵⁸ Although the author's remark concerning Galileo's view that the Bible could not be used as a source of scientific investigation is accurate, he misleadingly creates the impression that Galileo, contrary to the Christians, did not believe in the divinity of the Bible.

A common theme in the Turkish narratives on Galileo is the portrayal of the Church as defending absurd views such as the flat Earth hypothesis against Galileo.⁵⁹ This is an obvious mistake since the Church was defending the Ptolemaic model against the heliocentric model, and this model was based on the assumption that the Earth was round.⁶⁰ There are two possible reasons behind these misrepresentations. The first could simply be Turkish science popularisers' ignorance on the subject. The second, and more probable reason, could be related to the secularist agenda which aimed to persuade the Turkish masses of the truth of the conflict hypothesis. Science populariser and geologist Celal Şengör's opinions on the close relationship between religion and underdevelopment seem to support the second reason. Şengör asserted that Ottoman engineers were not even capable of calculating the sum of the interior angles of a triangle due to the religious education they received.⁶¹ Another secularist intellectual inaccurately asserted that *Darülfünun* –the first modern higher education institution in the Ottoman Empire– was closed for 27 years due to a scientific experiment

55 İlhan Arsel. *Aydın ve "Aydın"* (İstanbul: Kaynak Yayınları, 1997), 139.

56 See René Descartes. *Meditations on First Philosophy*, trans. by Michael Moriarty (Oxford: Oxford University Press, 2008), 3.

57 William E. Burns. *The Scientific Revolution* (California: Abc-Clio, 2001), 271.

58 Arsel. *Aydın ve "Aydın"*, 137.

59 Ibid.

60 See Lesley B. Cormack. "Flat Earth or Round Sphere: Misconceptions of the Shape of the Earth and the Fifteenth-Century Transformation of the World", *Ecumene*, 1 (1994), 363-385.

61 A. M. Celal Şengör. *Bilgiyle Sohbet: Popüler Bilim Yazıları* (İstanbul: Türkiye İş Bankası Yayınları, 2014), 432-435.

which offended the religious authorities.⁶² These secularist writers try to sharpen the contrast between the Ottoman Empire and the Republic in terms of their attitudes towards science. One of them argues that Ottoman rulers took religion and religious authorities as their guide while completely ignoring science and reason.⁶³ Yet, despite the lack of inventors in the Empire, especially in the 19th century, Ottomans were quick and enthusiastic in following and adopting the scientific developments of their age. For instance, in the second half of the 19th century, Ottomans had the seventh longest telegraph network in the world.⁶⁴

Some secularist writers go further and try to create a Turkish Galileo. Turkish sociologist Emre Kongar argues that, like Galileo, 16th century Ottoman astronomer and astrologer Takiyuddin was punished by Shaykh ul-Islam Şemsüddin Efendi, the top religious authority in the Empire, for his scientific studies.⁶⁵ Indeed, Kongar was right in a sense; there is a similarity between Galileo and Takiyuddin, since, as in the case of Galileo, many historians ignore the non-religious elements of the Takiyuddin incident and try to interpret it as a reflection of the clash between science and religion. For instance, some historians ignore the power struggle between the religious authority and Grand Vizier Sokollu Mehmed Paşa, who was the patron of Takiyuddin. Besides, Kongar and many others were reluctant to mention that Takiyuddin was not just a scientist but also an astrologer; and the religious authority referred to Takiyuddin's horoscope predictions, rather than his scientific work, to persuade the Sultan that Takiyuddin's work was dangerous and sinful.⁶⁶

Another common theme in the Turkish portrayals of Galileo is their naiveté and sentimentality. The majority of these narratives appealed to emotions to persuade their readers. As mentioned, Galileo was imprisoned and tortured in these mythical descriptions, and some even claimed that his eyes were gouged out. The Church was pure evil, while Galileo was described as a man of wisdom and virtue. Adnan Adıvar, for instance, noted that the Church allowed Galileo to "see" his friends right after he lost his sight, in order to describe how evil the Inquisition was. He also described Galileo as a man "plagued by misfortune."⁶⁷ The Turkish astronomer and science popularizer Rennan Pekünlü expressed his sensitivity in an opinion

62 Muazzez İlmiye Çığ. *Atatürk Düşünüyor* (İstanbul: Kaynak Yayınları, 2007), 131-132.

63 Suna Kili. "Türk Devrimi: Gelişmiş ve Gelişmekte olan Ülkeler" in *Bildiriler ve Tartışmalar: Türkiye İş Bankası, Uluslararası Atatürk Sempozyumu* (Ankara: Türkiye İş Bankası Kültür Yayınları, 1984), 89.

64 Miri Shefer-Mossensohn. *Science Among the Ottomans: The Cultural Creation and Exchange of Knowledge* (Austin: University of Texas Press, 2015), vii.

65 Emre Kongar, *Tarihimizle Yüzleşmek* (İstanbul: Remzi Kitabevi, 2007), 60-62.

66 Shefer-Mossensohn. *Science Among the Ottomans*, 50-52.

67 A. Adnan Adıvar. *Bilim ve Din* (İstanbul: Remzi Kitabevi, 1980), 136.

piece about the Galileo Affair by cursing a historian who implied that Galileo plagiarised Jesuit astronomers to form his theory.⁶⁸ Some secularist writers ironically try to create a saint-like figure of Galileo. Göktürk argues that Newton and Shakespeare were born the year Galileo died, implying that the torch Galileo used to carry will keep enlightening the world.⁶⁹

Turkish narratives on the Galileo Affair serve an important function in recent political discussions in Turkey. The clash between the secular and conservative camps of society has increased the importance of discussions on science and put the conflict thesis to the forefront. As illustrated, in these narratives, scientists were placed against religion. Moreover, these narratives try to forge a link between great scientists and Turkish secular elites who have also allegedly fought for the enlightenment of the masses. Yalçın, for instance, draws parallels between Galileo and Atatürk, and argues that both embraced the same *Weltanschauung* by choosing scientific thinking over religious ideas.⁷⁰ In a similar vein, Şengör placed Atatürk in the same camp as famous scientists:

No habit, no taboo could limit him [Atatürk]. He was solely guided by the critical reasoning and acted with knowledge. If he failed, he knew how to step back and then evaluate the issue from another angle, came with novel ideas, and tried one more time with great courage... *This trial and error method is called scientific method...* If Italians have Leonardo and Galileo, if Britons have Newton and Maxwell, if the French have Descartes and Pasteur, if Germans have Goethe and Einstein, if Danes have Steno and Bohr, if Australians have Suess and Schrödinger, if Russians have Mendelyev and Pavlov, we have Mustafa Kemal [Atatürk].⁷¹

Here Şengör described Atatürk's method as scientific. In another work he further asserted that Atatürk must be seen as a "scientist" since he employed "critical reasoning" in his career.⁷² This is consistent with the ideology called scientism, which places science at the top of all human endeavours. If science is the most valuable asset human beings have created, it would be an insult to the pioneer of Turkish Enlightenment not to be classed a scientist.

68 Rennan Pekünlü. "Galileo gazaba gelecek' uyarısı", 29 May 2015, <http://www.aydinlikgazete.com/galileo-gazaba-gelecek-uyarisi-makale,60010.html> accessed 13 January 2016.

69 Halil İbrahim Göktürk. *Atatürk ve Çağlarını Aşanlar'ın Biyografileri* (Ankara: Sena matbaası, 1981), 45.

While Newton was born the year Galileo died, Shakespeare died before Galileo did.

70 Yalçın. "Dediklerinizin Aksine Dünya Dönüyor".

71 A. M. Celâl Şengör. *Zümrütnâme* (İstanbul: Yapı Kredi Yayınları, 1999), 176-177.

72 Şengör. *Bilgiyle Sohbet*, 442-443.

CONCLUSION

This article aimed to show how conflict hypothesis in general and the Galileo Affair in particular was used –and abused– in current Turkish socio-political discussions. As revealed, the Galileo Affair cannot be understood without taking into consideration the power struggle the Church found itself in. Yet it is not only the Galileo Affair that needs to be contextualized to draw a clearer picture. The portrayals of the Affair –that is to say, its reproduction by Enlightenment thinkers and 19th century science popularizers– also need to be contextualized. The conflict hypothesis and narratives on Galileo serve different functions in different contexts. In the Turkish experience, secularist Turkish elites aimed to secularize Turkish masses along with the state apparatus. Even in the Ottoman times, science was used as a rhetorical weapon to curb the power of religious authority. With the establishment of the Republic, narratives on science started to be used to "enlighten" and secularize the public. The Galileo Affair, and the symbolic meaning attached to it, played a decisive role in this process. Turkish secularists not only used this historical incident to strengthen their position vis-à-vis the conservative camp, they also created the impression that the same clash between the forces of Enlightenment and darkness was going on in modern Turkey, although by different actors.

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