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Physico-theology of Mikhail Lomonosov

Lomonosov was a polymath who left his imprint in many different areas. He made contributions to science, including chemistry, physics, and geology where he worked on the problem of heat, light, colors, electricity, and geological processes. He constantly stressed the need of the interaction between theory and experiment in science and designed numerous scientific instruments to make experiments possible. Also, he authored a textbook on Russian grammar, on rhetoric, and wrote a history of early Russia. However, his fame initially came from his literary work, primarily panegyrics and philosophico-religious odes; only later were his scientific achievements fully appreciated.

God

Lomonosov did not write any theological or philosophical treatises; however, he was not silent about his theological convictions which are very strongly voiced in his poetry, in his lectures, and also in some of his scientific publications. When conveying his religious convictions, Lomonosov spoke as a scientist who devoted his life to theoretical and experimental research of nature. He did not speak as a theologian, but as a researcher for whom his scientific investigations also have theological significance.

“Investigation of nature is ... a difficult, useful, and sacred task.” It is sacred since “the deeper [our] reason penetrates to the very causes of such marvelous works, the clearer is revealed the ineffable Creator of all. This visible world is the first, general, true, and vocal proclaimer of His omnipotence, majesty, and supreme wisdom. Heavens proclaim God’s glory,” he said in his *Lecture on the origin of light* (S 2.109)¹. The last words of this quotation are the opening line of Psalm 19

¹ References are made to the following works of Lomonosov:

IFP – *Избранные философские произведения*, Москва: Государственное издательство политической литературы 1950.

PSS – *Полное собрание сочинений*, Ленинград: Академия Наук СССР 1950-1983, vols. 1-11.

S – *Сочинения*, Санкт Петербург: Второе Отделение Собственной Его Императорского Величества Канцелярии 1847-1850, vols. 1-3.

[18] and they pretty much summarize Lomonosov's theology: God is discovered in nature through investigation of nature.

Investigation of nature finds everywhere the providential care of God who so purposefully organized the world that some things have been created on account of something else, in particular, on account of man. For example, God created man in this way that "the humankind scattered over the surface of the earth ... everywhere finds metals that are indispensable to meet its needs. And since a large quantity of shining phlogiston is needed to make them, the supreme wisdom of God filled in abundance the deepest wombs of mountains with rich mineral that we call sulfur, thanks to which metals were made not only in the past, in the early days of the world, but they are being produced in large quantities up until today", he stated in *On the metallic shine*, PSS 1.403). The general principle is elaborated in the *Rhetoric*, in a long and passionate comment to this syllogism: "If something consists of such parts that one exists on account of another, then this was made by a rational being. The visible world consists of such parts that one exists on account of another. Consequently, the visible world was made by a rational being" (*Rhetoric* §271, S 3.668). Mountains and valleys are so arranged that water can flow down and form rivers. Rivers are flowing to provide water for drinking and bathing for people and animals, also to unite people for mutual benefit. Clouds bring rain and snow to replenish rivers (S 3.669) and to sustain life. Celestial bodies and their motions serve measuring time and navigation on the sea. Plants grow to bring fruit. Parts of plants are so organized that some of them protect plants from elements, some nourish them, some bring fruit (670). Different parts of the human body have an important role to play in sustaining the life of man. How remarkable blood circulation is, and the nervous system which through animal spirits informs the mind on all changes in the body and the mind which is "the ruler of the entire bodily edifice." How wonderful sensory organs are (671). In *The Russian grammar* §3, Lomonosov marveled about the wonderfully crafted speech and hearing organs: "we cannot think without wonderment about ineffable reason [and] without the deepest reverence and gratitude about bounty of the Supreme Creator of the world" (S 3.254). In the *Rhetoric*, he pondered on how wonderful the structure of the eye is (S 3.672). It is clear for any researcher of nature that not even the smallest speck exists for itself only. Therefore, "there is no doubt that this visible world was created by a rational being," an organizing power, immeasurably great, inconceivably wise, ineffably generous – God. Therefore, all the world should bow with gratitude before Him, bend the knee and the heart (673)". "And you, so privileged to look into the book of immutable natural laws, raise your mind to their creator and with extreme reverence give thanks to him who revealed to you the Theater of his supremely wise works; and the more you understand them, the more exalt him, with awe. Even the smallest critters tell you about his omnipotence and so do the immense heavens proclaim, and innumerable stars show his incomprehensible Majesty. Oh, how blind you are, Epicurus, that in the face of such a multitude of celestial lights/bodies you do not see your Creator!

You, immersed by barbarian unbelief or by carnal delights in the depth of unbelief, arise and turn away [from it] after consideration that [the one] shaking sometimes the foundations of the earth can push you alive into hell, [the one] overflowing seas and rivers [can] drown you in waters, [the one] igniting mountains with his touch [can] annihilate you with flame, [the one] covering the sky with clouds, [can] strike [you] with a lightning. He is the one who casts down lightning: the ungodly, tremble” (674). The tone of these statements and, particularly, the last sentence, fit better a sermon rather than a detached analysis of a syllogism.

The world is one wonderfully crafted whole working harmoniously, and that very fact points to the Creator of this natural mechanism. All natural phenomena, particularly when seen in the context of the entire nature, speak about the Creator. This is lyrically phrased in one of Lomonosov’s best poems, *The morning meditation of the divine majesty*, in which the Sun is a physical testimony of the power of God:

Wonderful luminary
 Spread already its light over the earth
 And revealed God’s works:
 Grasp it, my spirit;
 Wondering about such bright rays,
 Imagine, how is the Creator Himself!
 If mortals could only
 Fly so high,
 So that our mortal eye could
 Come close to the sun and see it;
 Then the eternally burning Ocean
 Would be open/revealed from all sides.
 Flaming walls rush there
 And find no shores,
 Fiery winds whirl there
 Fighting a multitude of ages:
 Stones boil there, like water,
 Burning rains roar there.
 This terrifying giant
 Is like one spark before You.
 Oh, what a bright lamp
 Was lit by You, God,
 For our everyday tasks,
 That You commanded us to do.
 From dark night were freed
 Fields, hills, seas and forests
 And to our sight they were revealed

Full with Your wonders.
 All flesh exclaims there:
 'Great is the Lord our Creator!'
 Daily light is beaming
 Only onto the surface of bodies;
 But your sight pierces into abyss,
 Knowing no boundaries.
 From the brilliance of Your eyes
 Joy of all creation pours.
 Creator, onto me, covered by darkness,
 Cast rays of wisdom,
 And teach how to always act
 According to Your will
 And when looking at Your creation
 To praise You, immortal King.

Lomonosov rendered in verse several psalms, all of them expressing praise to God through the grandeur of nature. The same topic is also found in fragments of the Book of Job which he put into a poem. There is no difference when choosing poems to translate. For example, Lomonosov provided a free translation of a fragment of the satire of Claudian, *Against Rufinus*:

For a long time I thought and was in doubt for a long while,
 Whether someone watches the earth from above;
 Or everything goes on blindly without order,
 And there is no heavenly providence in all of the universe.
 But after watching the structure of heavenly bodies,
 Goodness and dignity of the earth, seas, and rivers,
 Change of days and nights, phases of the moon,
 I admitted that we are created by the divine power².

² Here is a translation of the Latin original:
 Often an opinion oppressed my doubting mind,
 Have [some] beings above care for the earth, is there on it no
 Ruler, and mortal things pass [through] in an uncertain way?
 For when I investigated laws of the world,
 Laws and limits of the sea, and seasons of the year,
 And the changes of day and night, then I thought that everything
 Is directed according to the design of God who by laws
 Have moved stars, who brought fruits at different seasons,
 Who ordered changing Phoebe/Moon to be filled with alien light
 And the Sun with its own; for waves he stretched
 Shores, in the middle he balanced the earth on [its] axis.

The grandeur of God can be found on the micro and the macro level. He concluded his *Evening meditation of the divine majesty* with the words:

[Do the wise] tell [us] how big is the world?
 And what is beyond the smallest stars?
 The end of creation you don't know:
 Say then, how great is the Creator!

The ungraspable immensity of the world is the testimony of the greatness of God's creative power. There is no difference on the micro level:

Great is our Creator in the heavenly heights!
 Great in making worms, great in their smallness!

As he stated in his versified *Letter on the usefulness of glass* (S 2.250), the glass which allows for designing a microscope through which the immeasurable complexity on the micro level can be investigated and the works of the Creator can be admired.

Appreciation of God's work in nature is not limited to humans. In a brief remark Lomonosov stated that the sunlight is a testimony of God's providential care for the world and "induces some image of the divine not only in human reason, but also in mute, it seems, animals" (S 2.110). This suggests that he believed that animals considered mute by humans are not exactly mute and their language, although it may be very different from any human language, can be considered a manifestation of some measure of rationality also in animals. In this way, man can claim the highest position among creatures on earth, but the gap between humans and animals is not wide. However, Lomonosov was not quite consistent with this view, since he also stated that God gave animals senses and power for defense; to man He also gave intelligence capable of making predictions and averting any danger (*Lecture on aerial phenomena due to electrical force*, S 2.79). It seems that animals can form some images on a purely sensory level, and their language may not be quite rational, after all. As he stated in the opening paragraph of the *Russian grammar*, reason that directs human actions is the most noble gift by which man surpasses animals; the second such gift is voice given to men so that they can exchange their thoughts (§1, S 3.253).

In his admiration for orderliness in nature, Lomonosov did not shun carrying it to the end. Among natural phenomena "there is not even one that is so dangerous and damaging that would not at the same time bring some benefit and delight. It seems that pleasant things are by some providence of God linked with the opposite so that we would be more delighted when using what is pleasant when thinking about what is unpleasant" (*Lecture on making metals by earthquakes*, S 2.149).

Even an earthquake “serves not only for our benefit, but even brings abundance by producing metals exceedingly useful in many applications, and many other goods” (151). He explicitly mentioned “the terrible fate of Lisbon” (155), a great tragedy which in 1755 killed 6000 inhabitants and was widely discussed in the 18th century in the context of theodicy³. Lomonosov clearly thought that an overall benefit for humankind of this natural disaster outweighs the harm inflicted on people, although his justification is rather weak: it refers to some unspecified benefit and to the argument that good things are appreciated more when contrasted with bad things⁴. Also, in his view, “although emergence of mountains and valleys follow from terrifying and dangerous events, we receive through them great blessings from God. Not mentioning that human heart by nature likes changes and searches for various ways to be joyous and to that end the plain and everywhere the same appearance of the earth without heights from which distant areas could be viewed would appear dull” (*First principles of metallurgy*, Second addendum §121, S 2.528). It is, however, doubtful, if the reader of these words can find an explanation of “terrifying and dangerous events” satisfactory on account of its reference to the esthetic needs of man.

In his theological fragments Lomonosov gave an expression to physico-theology so very popular in the 17th and 18th centuries. Scores of books on the subject have been published at that time in all of Europe, and Lomonosov may have browsed through some of them while he was in Germany. However, his physico-theology seems to be formed primarily by his religious upbringing and his devotion to science rather than by the study of the existing physico-theological literature. Many authors of such books were philosophers and theologians. Lomonosov, however, spoke in his physico-theology as a scientist who through his research strengthened his belief in an omnipotent God of order who cared for His creation by infusing in it harmony and beauty and made its resources beneficial for man.

Recognition of God’s creative work increases with research, and, on the other hand, it should also be a motivation for the research. The better nature is known, the better its intricate mechanism and laws can be learned, and thereby the more the work of God can be praised. However, even if it is assumed that God can intervene in nature, this should not become an obstacle to scientific research. Some say that it is a sin to investigate the nature of lightening because it is God’s tool to punish people, but when He punishes people by waves, said Lomonosov, it is not a sin to say that He caused them by blowing wind, and when there is no bread in Egypt, it is not a sin to say that the Nile did not flood (*Letter on the use of glass*, S 491). Also,

³ Ulrich Löffler, *Lissabons Fall – Europas Schrecken: Die Deutung des Erdbebens von Lissabon im deutschsprachigen Protestantismus des 18. Jahrhunderts*, Berlin: de Gruyter 1999.

⁴ So, an example used in the *Rhetoric* expressed Lomonosov’s own view: “If heavens permitted that man would spend his life while being well off, he would be unable to feel his happiness” (§42, S 3.482-483).

people praise those who sail dangerous oceans and pray for their safety; thus, those who investigate the greatness of God's work in lightening for common safety and for the glory of the majesty and wisdom of God should not be considered enemies of God (*Lecture on aerial phenomena due to electrical force*, S 80). Even if it is believed that God does punish people by sending lightening, the role of science is to learn as much as possible about the physical nature of lightening. Scientists can and should be interested in the supernatural force involved in natural phenomena, but science should leave the investigation of this force to theology. Therefore, the working assumption of science should be that even miraculous events should be investigated as natural phenomena. This probably was the meaning of Lomonosov's terse statement that "nature clings to its laws very strongly, even in the smallest [part] ... [Even] the smallest [thing] should not be attributed to miracles" (276 *remarks on physics and corpuscular philosophy*, IFP 96). True, nature is obedient to God's commands (*First principles of metallurgy* §102). However, the scientist should not attribute anything to miracles when performing scientific research. In his research, he, of course, can reach the limit of what science can explain, but, still, he should seek for natural explanations. In this way, he can extend the scope of knowledge by better knowing natural mechanisms and thereby appreciate more God's creative power.

In geology it is assumed that some natural materials were created at the beginning, while other materials and minerals emerged from them later. "The creative power of God is the only immediate cause of existence of the former, which does not require any proof." The origin of the latter is the result of natural conditions. "Although everything stems from the omnipotent reason, there is room for human perspicuity to see causes and thus acquire clear knowledge for useful application in life of the things which are given to us for service" (*First principles of metallurgy*, Second addendum §99, S 2.510). Science is powerless to explain naturally the origin of basic materials, but it can and should investigate natural processes leading to the creation of minerals. The outcome of these investigations can only enhance theology, since all transformations of minerals taking place in nature can only lead to the admiration of the majesty of God's works accomplished through natural laws (§161, S 2.564). In the same vein, as he observed in his notes jotted down in Germany: "A conviction is [deep-]rooted in many [minds] that the method of philosophizing based on atoms either cannot explain the origin of things or, if it can, it rejects God the Creator. They, of course, are profoundly mistaken with the former and with the latter, since there are no natural principles which could more clearly and fully explain the essence of matter and of all motion, and no [principle] which would need with greater urgency the existence of an omnipotent mover" (*From remarks on physics and corpuscular philosophy* §75). Natural phenomena should be explained in science by natural principles, but this does not remove God from the picture, but rather makes His position more prominent.

With this understanding of science, it should be clear that scientific research of miraculous phenomena does not aim at their denial; it aims at their appreciation. Some such miracles will prove in the process not to be genuine, which is very healthy both for science and religion.

Science and the Bible

In Lomonosov's grand statement that concludes *The appearance of Venus on the Sun*, "the Creator gave the human race two books. In one [He] showed his majesty, in the other – [His] will. The first [book] is the visible world created by Him so that man when looking at its greatness, beauty, and harmony of its makeup can recognize God's omnipotence according to the ability of understanding given to him. The second book is the Sacred scripture. It is shown in it the Creator's blessing serving our salvation. Great church teachers are interpreting and explaining these Prophetic and Apostolic inspired books. In the other book about the structure of this visible world, Physicists, Mathematicians, Astronomers and others are the interpreters of events taking place in nature by the will of God; they are like the Prophets, Apostles and church teachers [who interpret] this book. A Mathematician who wants to measure the will of God with his compass is lacking common sense. And so is a teacher of theology if he thinks that one can learn Astronomy or Chemistry from the Psalter. Interpreters and preachers of Sacred scriptures show us the way to virtue, present reward for the righteous and punishment for law-breakers and the blessing that stems from living according to God's will. Astronomers reveal the temple of God's power and majesty, [and] they find ways for our temporal blessing connected with reverence and gratitude for the Most High. They all together inform us not only about the existence of God, but also about His indescribable blessings for us. It is a sin to sow among them weeds and discontent" (S 2.272-273). In this, Lomonosov followed long theological tradition, which can be traced back to the Bible and its comparison of heaven to a scroll, a book, essentially (Is. 34:4, Rev. 6:14).

Because the two books have been created by the same Maker, clashes between pronouncements of science of some Biblical statements are not real. To resolve discrepancies between science and the Bible, Lomonosov referred to nonliteral interpretation of the Bible. He called on some church fathers who promoted a similar approach centuries earlier. This is the approach applied by Basil (S 2.269) who advocated metaphorical interpretation when the Scriptures were in contradiction with nature (270) and provided many examples of reconciling the Bible with "natural truths" (*First principles of metallurgy* §164, S 2.568). The existence of atmosphere on Venus – a discovery made by Lomonosov – may bring to mind the existence there of vapors that form clouds, rains, rivers, seas, and also plants and animals, which resembles the Copernican system and is contradictory with the Bi-

ble (S 2.267). Not so, quickly justified Lomonosov. If people live on other planets, maybe there was no fall into sin there, and thus there are no consequences of sin, suggested Lomonosov (272). There is also a problem whether the Earth moves or does not move. Theologians of the Western church took literally the words from the book of Joshua on the Sun standing still, and thus they wanted to prove that the Earth does not move (267). Also, if the age of the earth seems to contradict the chronology recognized by the church, it has to be acknowledged that: 1. this chronology is not the church dogma or the law established by the councils; it is only an old method used for comparison of old ages with new times and to show the order of events of monarchs of old; 2. although there is 1500 year difference between chronology recognized by Western and Eastern churches, there were no squabbles about it; 3. the Old Testament numbers are unclear and doubtful and still a subject of discussion (*First principles of metallurgy* §165, S 2.568; *On layers of the Earth*, PSS 5.574-575); 4. for this reason Christian nations begin counting years from birth of Christ. Such events as formation of mountains can be considered as having taken place at the age when the earth was invisible and unformed, i.e., before the six days of creation (S 2.569). In this, Lomonosov referred to the very first verse of Genesis and interpreted it as referring to the creation of an unformed and void world which later was shaped up during the six days of creation. It is an attempt to interpret the Bible literally, although having day zero of creation is not quite an orthodox interpretation. On the other hand, the Bible “should not always be understood literally, but frequently it should be understood rhetorically” (270). Lomonosov simply followed the fathers of the church who reconciled seemingly contradictory statements of evangelists inspired by God. “Since also nature is some kind of Gospel constantly proclaiming the Creative force, supreme wisdom, and majesty. And not only heavens, but also the depths of the earth proclaim God’s glory” (568). The world is not just another book, but a gospel, since it includes God’s message inscribed on each created thing. Two books, two gospels, natural and revealed; one is a subject of reason, one a subject of faith. “Truth and faith are two sisters, daughters of one Supreme Father, who can never be in conflict with one another, unless someone through some vanity and the desire to show off his sophistry talks them into enmity. But judicious and good people should think whether there is a way of explaining and reverting the disagreement between them” the way Basil did and was followed by John Damascene who, in essence, stated that “physical deliberations concerning the structure of the world serve God’s glory and do not undermine faith” (270).

Since, for Lomonosov, nature is just as good a book to provide knowledge about God as the Scripture, science is on equal footing with religion. They are aspiring by different means to the same goal – to the knowledge of God as much as it is possible for the human mind. Science is not religion, but its goal is of a religious

nature⁵. It works with tools of nonreligious character, but it strives for a religious goal. Therefore, the scientist occupies in science the same position as a priest does in religion and theology. Because of the difference of approach in the two domains, one domain should not interfere in the dealings of another domain. Interference can only make matters worse, and, when theology tries to forcefully impose its demands on science, it really undermines the task of science, and, paradoxically, the ability to reach its religious goal is thereby undermined rather than enhanced. Just as priests guide the development of theology, so scientists should be in charge of the workings of science. Just as there exists an ecclesiastical hierarchy, so does a hierarchy exist among scientists. Lomonosov saw himself as a scientific counterpart of an archpriest if not a patriarch of olden times⁶.

Lomonosov's sublime poems praising God can be endorsed not only by an Orthodox believer, but also by a Protestant and a Catholic. They are, in a way, generic so that they can be accepted even outside Christianity. Theological statements of Lomonosov are limited to extolling God as a benevolent Creator and providential Protector of creation. This is because that much can be gleaned from the investigation of nature, the first book given by God. The first book, however, is silent about the specifics of the Christian faith, and so is, to a large extent, Lomonosov. There is very little in his statements that is specifically Christian or Orthodox. Christ is mentioned only once, in the *Letter on the use of glass* (S 1.519):

What are the depths of His bounty to us,
That he sent to earth his beloved Son!
He did not despise descending to [this] small sphere
To save the lost by [His] suffering.

From this quotation the reader never learns why Christ was sent to earth. Also, Lomonosov never discussed the problem of the divinity of Christ, the problem of the Trinity, the immortality of the soul, the end times, and other Christian tenets. With his religious education (he almost became a priest!) he certainly was familiar with these topics, but he was silent on these issues. Retaining a lucid mind to the end and two days before death he received communion, and right before death he received

⁵ In that sense it would be true that science for Lomonosov “turned into a living religious task – it became a kind of liturgy,” А. Попов, Наука и религия в мирозерцании Ломоносова, in В. В. Сиповский (ed.), *М.В. Ломоносов: 1711-1911*, Санкт Петербург: Я. Башмаков 1911, 11, and that science was “a task consecrated to God, a form of worship,” А[лексей] Ф. Преображенский, Духовный облик М. В. Ломоносова и некоторые основные черты его мирозерцания, in *Ломоносовский день в императорском Николаевском Университете*, Саратов 1911, p. 20.

⁶ Lomonosov was a priest in “the invisible temple of science,” Вл. Тукалевский, Главные черты мирозерцания Ломоносова (Лейбниц и Ломоносов), in Сиповский, *op. cit.*, 32.

the last unction, that is, last rites⁷, which would mean that the Orthodox church did mean for him more than a target of scorn, but nothing can be clearly stated concerning his beliefs on many – most, actually, Orthodox dogmas. That may simply be an expression of treating seriously his admonition that theologians should keep their investigations to theology and scientists to science. On the other hand, he urged everyone to be educated and knowledgeable in science, which included the clergy. Shouldn't people be also educated in the matters of beliefs? Lomonosov surely did, but he kept many of his religious beliefs to himself. He left his hymns as his legacy and his physico-theology as a mark of his deep religious convictions.

Providence

God created the world for man so that man can turn his attention to Him and by admiring His work, man should admire, revere, and appreciate God and His power, wisdom and mercy (*Lecture on aerial phenomena due to electrical force*, S 107). God did not abandon His creation, He is always present and ready to give His helping hand to those who ask. God is constantly present in the universe, in lives of nations, and in individual lives. He directs the course of history by choosing people for certain tasks. This, Lomonosov believed, was particularly clear in God's choices for men and women on the throne as observed in the Russian history.

The Tatar yoke was due to the sins of forefathers causing the anger of God who set fetters on Russia. Moved by cries of the people, God sent liberators (*Panegyric to the sovereign emperor Peter the Great*, S 1.581). Also, Peter I was “sent by God to astonish the universe” and to defend Russia before Charles XII (593). God gave this victory for Peter's “unceasing labors”; it is God who gave “glorious and beneficial peace” (593). “On the day of the Poltava battle, God shaded Peter's head with His power from above” (607).

There is no doubt that “rulers are put on earth by God,” and so it was with the empress Elisabeth (S 1.579). “Clear signs of God's providence can serve as proof of it.” She was born in the year when Peter I conquered the Swedes at Poltava; “isn't it the finger of the Providence? Don't we hear in the thinking mind a prophetic voice?” (580). The power and spirit of God moved Elisabeth to bring salvation and renewal to Russia (581) and God went with Elisabeth to battle (*Panegyric to her highness, the empress Elizabeth Petrovna*, S 1.560).

Admittedly, there is a great deal of exaggeration in Lomonosov's panegyric odes to the point that his adulation goes beyond the boundaries of good taste. He wrote, for instance: “The incomparable Empress multiplies our perfect contentment

⁷ A letter of Taubert to Müller, Петр Пекарский, *История Императорской Академии наук в Петербурге*, Санкт Петербург: Императорская Академия наук 1873, vol. 2, 877; А. И. Львович-Кострица, *М. В. Ломоносов, его жизнь, научная, литературная и общественная деятельность*, Санкт-Петербург: Ю.Н. Эрлих 1892, 86.

here [in Russia], common joy, abundant enrichment, pleasant embellishment/beauty, our fame in all the world with her divine love of men, when elevated to such heights of power and majesty, which human power cannot surpass, with extreme benevolence toward Her subjects she reaches the fate above mortals” (S 1.568). About his hero, Peter I, he wrote that there are limits to human thought which cannot grasp God. God usually is viewed in human form “and if a man must be found who resembles God according to our understanding, I do not find [anyone else] except for Peter the Great” (615). In this extravagant praise there is a measure of sincerity and belief that should the God in whom Lomonosov believed appear in human form, he would be just like Peter I, which is almost like saying that God’s incarnation was repeated in Russia, this time in the person of Peter I⁸. Never mind Peter I’s subjugation of the church to the state or his Most Drunken Council. Could they be considered ones of many examples of Peter I’s piety for which he was presumably well known (607)?

Lomonosov the prophet

Like in the lives of emperors, God is also present in the lives of ordinary mortals. In Lomonosov’s view, the short life on earth was designated to everyone by God (*An essay on the qualities of the poet*, IFP 517). As Lomonosov stated about himself, God “was a defender in my life and never abandoned [me] when I poured my tears before him in [the conviction of] my righteousness” (Letter to Shuvalov, Jan. 19, 1761, S 1.686). However, in the case of Lomonosov it is more than that. Lomonosov was also convinced that God singled him out to be a scientist, and not just any scientist, but the one to have a significant impact on the development of science and education in Russia⁹. He said that he reached his position in the Academy not by blind luck but by the talent given to him by God (Letter to Shuvalov, 17 April 1760, IFP 690) since the ability to invent new ideas and the sharpness of reason are God’s gifts (*An essay on the qualities of the poet*, IFP 519). He confessed to Teplov: “I would be glad to keep silent and live in peace, but I am afraid of punishment from justice and from omnipotent Providence which has not deprived me of the gift and diligence in study and has now allowed for an opportunity and has given me endurance, noble persistence, and boldness to overcome all obstacles to the diffusion of sciences in [our] fatherland, which is

⁸ Thus, for Lomonosov, Peter I was “an earthly god (бог земной),” А. Тубасов, Религиозные воззрения Ломоносова, *Христианское чтение* 1880, no. 9-10, 360, 361 note 1, which, actually, is an expression taken from Lomonosov’s first *Inscription* (земное божество, S 1.231; cf. the last verse of the third *Inscription*, S 1.232).

⁹ Lomonosov “seems to have thought that his dedication to science resulted from God’s intervention in his individual life,” Charles A. Moser, Lomonosov’s *Veчерneye razmyshleniye*, *The Slavonic and East European Review*, 49 (1971), 192.

more precious to me than anything in my life” (Letter to Teplov, Jan. 30, 1761, IFP 695).

Lomonosov had every reason to believe in his role of the chosen one. His rise from humble beginnings to the pinnacle of academic life was truly remarkable. His contribution to science, humanities, and literature would be difficult to match. However, his conviction of being the chosen one also had a darker side. His abrasive behavior and undisguised disdain toward the accomplishments of others can be explained not only by his character, but by the conviction that as a prophet of science directly set on his post by God he had every right to excoriate others just as the biblical prophets rebuked his contemporaries.

Already as a student, he quarreled with prof. Henckel in Freiberg¹⁰. After Lomonosov was back in Russia, there were aggressive conflicts with neighbors accompanied with name-calling and beating, leading to lawsuits¹¹. In 1743, he behaved insultingly toward professors of the Academy and was sentenced to house arrest for half a year, after which he issued a public apology blaming inebriation for his misbehavior¹². He was belligerent to almost everyone in the Academy, including Schumacher, Taubert, Teplov, and Müller¹³. Very well known was his hostility toward poets Sumarokov and Trediakovskii. He even had a quarrel with his own pupil, Rumovskii¹⁴. Lomonosov felt he was fully justified in his hostility, since he was convinced that the Academy and its president should do God’s work¹⁵; since, in Lomonosov’s view, they fell short of it, he, Lomonosov, must have criticized them to set them on the divine path. It came even to such petty squabbles when a protocol was to be signed by a number of professors, Lomonosov crossed out his name and put in front of all other names since he considered himself to be “superior to all [other] professors”¹⁶. He even quarreled about the order of seating at the table during meetings¹⁷. If Pushkin is to be believed, when Shuvalov, Lomonosov’s powerful protector, once exclaimed: “I am going to remove you from the Academy”. Lomonosov retorted, “No, it is rather the Academy that will be removed

¹⁰ А. Морозов, *Михаил Васильевич Ломоносов. Путь к зрелости. 1711-1741*, Ленинград: Ленинградское газетно-журнальное и книжное издательство 1952, 378.

¹¹ [Петр С.] Биллярский, *Материалы для биографии Ломоносова*, Санкт Петербург: Императорская Академия наук 1865, 9-14; Пекарский, *op. cit.*, 329.

¹² Биллярский, *op. cit.*, 24-44, 47, 51-52; Пекарский, *op. cit.*, 338-339.

¹³ “The chief cause of his unhappy relationships as an adjunct with the academicians seems to have been that he sensed his superiority over the majority of them. He felt that he was able to perform great things in science, but that conditions were unfavorable for this,” Boris N. Menshutkin, *Russia’s Lomonosov*, Princeton: Princeton University Press 1952 [1936], 40.

¹⁴ Menshutkin, *op. cit.*, 182; Валерий И. Шубинский, *Ломоносов: Всероссийский человек*, Москва: Молодая гвардия 2010, 356.

¹⁵ Letter to Teplov, January 30, 1761, IFP 696.

¹⁶ Биллярский, *op. cit.*, 234, 232; Пекарский, *op. cit.*, 171.

¹⁷ Биллярский, *op. cit.*, 291-293.

from me”¹⁸. At one point he expressed his readiness to leave the Academy which would presumably bring shame to his enemies: “that they who hate me may see it and be ashamed, because the Lord helped me and comforted me [Ps. 86 [85]:17]; so that all would either say: the stone that the builders refused, became the cornerstone and this is from the Lord [Ps. 118 [117]:22-23]; or my leaving the Academy would clearly show that it is its loss after it lost such a man who for so many years adorned it and always fought with enemies of science with no regard to his safety”¹⁹. Theologically, this putting himself on equal footing with Christ is well nigh to hubris. Such rather irreverent attitude toward God Himself is also expressed in his exclamation: “I do not want to be a fool not only at the table of notable lords or for some earthly rulers, but even for the Lord God, Who gave me reason, until, perhaps, [He] will take [it] away” (S 1.687). Even God should limit His requests to what Lomonosov finds acceptable.

Criticism of the clergy

Lomonosov expressed his impatience with those who are unwilling to investigate the causes of natural phenomena or even consider that to be unseemly by simply stating “God created this that way” and everything is that way from the moment of creation (*On layers of the Earth*, PPS 5.575)²⁰. Such remarks particularly inflamed Lomonosov when they came from the clergy. However, his criticism was not always direct. For example, he criticized pagan priests who rejected heliocentrism:

Under the false pretense of respect for these [pagan] gods
The starry world was closed for many centuries.
Afraid of the fall of this false faith,
Hypocrites waged constant struggle with science (S 1.516).

But heliocentrism was also under attack by the Orthodox church; therefore, Lomonosov, if he did not outright mean only the Orthodox clergy when criticizing pagan priests, he certainly did not limit his criticism only to these priests. Similarly, when he found the efforts of some Catholic philosophers laughable when they tried to explain some incomprehensible miracles of God with the laws of physics (*First*

¹⁸ А. С. Пушкин, Мысли на дороге, in his *Полное собрание сочинений*, Санкт-Петербург: Исаков 1871, vol. 5, 386.

¹⁹ Letter to Shuvalov, Dec. 30, 1754, Билярский, *op. cit.*, 278.

²⁰ This fragment is quoted to show that Lomonosov criticized the idea of creation of the world by God (Иван Д. Глазунов, *М.В. Ломоносов – основоположник русской материалистической философии (К 250-летию со дня рождения)*, Москва: Знание 1961, 18), which is clearly not the case.

principles of metallurgy §166, S 2.570), he certainly did not limit this criticism to Catholics only. This is clear from his remark that Augustine erroneously used the Bible to show the impossibility of the existence of antipodes; the same error made those who argue against heliocentrism (S 2.248-9). Because Augustine is an authority recognized by Catholics and Orthodoxy, Orthodox clergy are included here as well.

Lomonosov also criticized some well-entrenched church customs which sometimes proved to be harmful. In his view, against nature, widowed young priests and deacons are forced to go to a monastery, which leads to sins rather than to chastity, to adultery and to conducting church services in the state of sin ²¹. Such priests should be allowed to remarry and become monks after they turn fifty (*On the increase and preservation of the Russian people* 1761, §5). Priests baptize babies with cold water in winter since according to a liturgical book, baptismal water should be natural, without additions, and they consider heat to be an addition. However, in the summer they use warm water thereby contradicting themselves. Also, there is some heat even in cold water, which they do not realize because of their ignorance. “No need to explain the laws of physics to ignorant priest,” it is enough to issue a proper decree. With his in-your-face attitude he pronounced: “I consider stubborn priests who want forcedly to baptize with cold water as executioners since they want to have for their own profit burial right after birth and baptism” (§7) ²². Also, fasting season (the Lent) is unfortunately timed, which unfavorably affects the health of people, especially in the north (§8).

In his notes *On the obligations of the Clergy*, he required from the clergy an exemplary conduct as a means to make their own teachings real and as a way to improve the level of morality of the entire nation. He used Germany as an example. “The pastors there do not go anywhere to dinners on the occasions of baptisms, births, weddings and funerals, not only in the cities but also in the villages this is considered shameful, and if any of them is seen drinking, then he loses his position. But here, at every feast in the cities and in villages the priests are the greatest drunkards. And not satisfied with that, they go from the dinner to the taverns, and sometimes they even get into bloody fights.” Pastors teach children in schools how to read and write and the law of God and thoroughly test their knowledge. In Russia, “in many places even priests know as much about how to read and write as a farm laborer or milkmaid” (PSS 6.407-408).

In all these criticisms one theme prevails: the low level of education of the clergy. The ignorance of the clergy is harmful to science, since clerical attacks on

²¹ Tubasov stated that in his criticism Lomonosov limited himself to the physical side of marriage (Тубасов, *op. cit.*, 377-379), but clearly, he addressed the problem of the moral and religious aspect of not being married, and thereby also of marriage. However, he did not discuss the sacramental aspect of marriage – that he left to theologians.

²² The statement was considered so offensive that it was excised from the 1847 edition of Lomonosov’s works (S 1.639; IFP 605).

science undermine the latter but also expose the church to ridicule. The ignorance also is reflected in the low level of knowledge of God's law to be found in the Bible, in the writings of church fathers, and in the proclamations of councils. In his criticism, Lomonosov sided with criticism expressed by some prominent ecclesiastical figures, to name Prokopovich, Iavorskii, and Rostovskii. By such criticism Lomonosov did not necessarily express his anticlericalism, but he surely was concerned about the status and the image of the church. However, his criticism was not always expressed in sober and cultured terms.

In 1699, Peter I in his zeal to modernize the country and the church issued a prohibition against wearing beards and mustaches, from which the clergy (also peasants and merchants) were exempted. Some schismatics were ready to be punished by death rather than shave their beard²³. In his satirical poem, *Hymn to the beard*, Lomonosov ostensibly criticized schismatics ("Not afraid of death, The superstitious jump into flames"), but he meant the clergy that think that wearing a beard makes up for any possible deficiencies as though the essence of the priesthood were concentrated in the beard. For example,

If it is true that planets [are]
Worlds like ours
Then, of course, the wise there
And, most of all, priests
Assure with their beard
That we are not here with a head.
If someone says: 'we are, in fact, here' –
He will be burned on the stake. (IFP 1.534-535)

However, in his scorn, Lomonosov compared the beard to pubic hair:

Nature the guardian
Of happiness of the mortal race
Surrounds with a beard
Of incomparable beauty
The path through which we come to the world
And [to which] we first raise our glance.
If the beard does not appear,
The gates are not open (IFP 1.533).

²³ In a quip, Dimitrii Rostovskii said to those who were willing to be decapitated rather than being shaved: "the beard will grow back, the head will not," Димитрий Ростовский, *Розыск о раскольнической Брынской вере*, Москва: Синодальная Типография 1847, 298.

The refrain repeated after each stanza states:

Dearest beard!
 Pity that you are not baptized
 And that shameful part of the body
 Is more favored than you in that [respect] (IFP 1.533)

So, the comparison of the beard to pubic hair is disadvantageous to the beard because the latter is not baptized, whereas the former is – if only by peeing. The comparison is crude, sophomoric, gratuitous, oozing with the frat boy type of humor rather than with a sober criticism to be expected of a prominent scientist²⁴. It is a small surprise that the poem raised the ire of the church, ostensibly for blaspheming the rite of baptism, and yet, Lomonosov defended it with his customary defiance and insolence, even in front of the Synod²⁵. Unfazed by the Synod hearing, he wrote another poem in which he mockingly stated that

Little goats are born with beards:
 How much more are they respected than priests! (IFP 1.537).

At the age when blasphemy could incur severe punishment, Lomonosov's sense of invincibility can really be understood as an act of someone who felt he was protected by God Himself when lashing out against the official clergy. And spared from any adverse consequences he was.

There was in Lomonosov a curious mixture of crudeness and the sublime. Like a true prophet, he felt God's protection and not infrequently he acted upon it in an underhanded manner. He thought he was beyond criticism and was very thin-skinned in the face of any disapproval. He thought he knew everything best²⁶ – after all, prophets have a direct line to the Creator – and expressed his opinion in any area with finality. He was competent in science and art, and was right in many cases, but he could not endure a possibility of any mistake. Self-assured and proud because of his prophetic station, he compared himself to Christ sent to Russia to set it on

²⁴ *Hymn to the beard* is a “coarse attack on the orthodox clergy in Russia,” Ilya Z. Serman, *Mikhail Lomonosov: life and poetry*, Jerusalem: The Centre of Slavic and Russian Studies, Hebrew University of Jerusalem 1988, 196. The hymn is “anticlerical and obscene” in opinion of Irina Reyfman, *Vasilii Trediakovskii: the fool of the ‘new’ Russian literature*, Stanford: Stanford University Press 1991, 61. The beard simile had been used in a description of a kissing incident in the Miller's tale in Chaucer's *Canterbury tales*.

²⁵ Serman, *op. cit.*, 201; Шубинский, *op. cit.*, 276.

²⁶ Trediakovskii wrote in a poem *Boaster* about a self-assured person who “says that there was no one like him around, no one equal in anything,” and it is believed that Lomonosov was meant here (Пекарский, *op. cit.*, 166).

the right track, at least in science and education. Humility surely was not his strong suit, and his disagreements with others would not have turned so very often into open hostilities if he had restrained his pride just a bit.

However, in the moments of rapture he was unsurpassable. With his life devoted to science he followed his own precept: “What can be more sacred and more salvational than, having learned the works of the Lord, looking in one’s thought to the throne of His elevated glory and proclaiming His majesty, wisdom, and power? Astronomy opens for this the wide edifice [, the work] of His hands: physics shows the entire visible world and the diverse ingenuity of His marvelous works” (*Panegyric to her highness, the empress Elizabeth Petrovna*, S 1.572). And again, “The greatest, saving task that elevates human mind and heart to heavens is presenting to oneself in the mind inaccessible majesty and incomprehensible wisdom of the Supreme Creator” that created such a marvelous world “to bring us joy and benefit and to thank him for this bounty” (*Program*, S 1.803). Scientific research is a kind of service to God, and Lomonosov exercised this service faithfully to the end.²⁷ This leads to his physico-theology in which he, a scientist, looked for God in nature and saw His providential care for humankind in the harmony and makeup of nature.

²⁷ Russians have always been very proud of Lomonosov, but his religious side did not quite fit the image of him as a sober scientist, particularly in the Soviet era. Therefore, his religious statements were dismissed as an expression of deism and as a means for a materialist to stay away from religion (G[rigorii S.] Vasetsky, *Lomonosov’s philosophy*, Moscow: Progress Publishers 1968, 150). Lomonosov was an author of “a deistic image of the world” (Шубинский, *op. cit.*, 347), although in his poems we see not “an enlightened deist,” but “a man who in a moment of weakness” trusts only in God (p. 220). He was an exponent of “materialist views, although with elements of deism,” И. Серман, *Неизданная философская поэма В. Тредиаковского*, *Русская литература* 1961, no. 1, 165. Sakulin stated that Lomonosov was a deist just like Newton (П[авел Н.] Сакулин, *Личность М. В. Ломоносова*, Москва: Императорский Московский Университет 1912, 19), although Newton wrote more about biblical prophecies (most of it is unpublished) than about physics and mathematics. Also, a claim was made that his use of religious language is only formulaic, which is probably the meaning of the expression that this language has only “formal significance” (Глазунов, *op. cit.*, 7). Similarly, an assertion was made that his “deistic deviation” has only “a formal character” (Е.К. Азаренко, *Мировоззрение М. В. Ломоносова*, Минск: Издательство Белорусского Государственного университета имени В. И. Ленина 1959, 74). Lomonosov’s references to God are “episodic [and] noncommittal” and are done in “purely rhetorical form” (Владимир И. Осипов, *Философское мировоззрение М.В. Ломоносова и русских естествоиспытателей XIX века: монография*, Архангельск: Поморский государственный университет имени М.В. Ломоносова 2001, 44, 46, 53). As “a founder of materialist philosophy in Russia,” he proposed “a single materialistic picture of the world,” G[alina] E. Pavlova, A[leksandr] S. Fedorov, *Mikhail Vasilievich Lomonosov*, Moscow: Mir 1984, 139, and the words “divine majesty” in the title of his two meditation poems was used “because of considerations of censorship,” p. 201. Unaccountably, we can even read that “Lomonosov’s atheism was the direct outcome of his views on natural science” (Vasetsky, *op. cit.*, 249), and, slightly more carefully, “his materialism has very closely connected to atheism” (Глазунов, *op. cit.*, 6). It is quite comical to read the opinion that “many proponents of idealism and religion have been at pains to distort his ideas” (Vasetsky, *op. cit.*, 238). Of course, it never happened to the many proponents of materialism and atheism.

STRESZCZENIE

Fizyko-teologia Michaiła Łomonosowa

Łomonosow nie napisał żadnego dzieła teologicznego czy filozoficznego, lecz jego poglądy teologiczne odnaleźć można w jego poezji, wykładach i w niektórych rozprawach naukowych. O swych przekonaniach religijnych Łomonosow wypowiadał się jako naukowiec i badacz przyrody, dla którego badania naukowe mają też znaczenie teologiczne. Niniejszy artykuł prezentuje jego fizyko-teologiczne poglądy, według których chwała Boga widoczna jest w stworzonym przez Niego świecie, a boska opieka przejawia się w harmonijności tego świata. Artykuł również prezentuje kontrowersyjne stwierdzenia dotyczące duchowieństwa oraz religijnie motywowany sposób widzenia samego siebie.