

GUIDE 2:5 THE LANGUAGE OF THE SPHERES IN JEWISH TRADITION

Overview

“The heavens declare the glory of the Lord, and the firmament proclaims His handiwork.”
(Psalms 19:2)

What, exactly, do the heavens declare, and what does the firmament proclaim?

This chapter, Guide 2:5, will be one of the most difficult chapters for modern readers to accept. Maimonides rejected the opinion of most commentators by insisting on a literal reading of Psalm 19. The heavens, *i.e.*, the *spheres*, are conscious beings who somehow praise God.

He often read Scripture metaphorically, so why does he now insist on a literal reading?

He argues that the original Tannaitic and pre-Tannaitic Jewish tradition accords with the Aristotelian doctrine of the spheres as conscious agents. Those who reject his interpretation not only reject that tradition, but are ignorant of the reality of the universe. He implies that their thinking verges on the atheist Epicurean view that the heavenly bodies came from the random collisions of inanimate objects.

He could come to these conclusions because in the prior chapters of Volume II he had explained his Aristotelian/Ptolemaic physics and astronomy. The scientific view in those days was that the stars and planets were moved by a system of transparent concentric spheres. That system rotated like an immense crystalline onion with Earth as its center.

According to this theory, the spheres' love for God makes them rotate endlessly as they fruitlessly seek to approach the beloved but unapproachable One. There were problems with this theory, especially with its burgeoning complexity, since more and more spheres had to be added to make it work. But it was the reigning paradigm, and science was still in the puzzle-solving phase of that paradigm. Opposing views were neglected or rejected.

The new paradigm did not emerge until publication in 1543 of Copernicus' masterpiece, *De Revolutionibus Orbium Coelestium* (On the Revolutions of the Celestial Orbs). The new cosmology would come to eliminate the so-called spheres, relegating Earth's formerly central status to that of just another planet.

We now know that “spheres” do not *declare* anything. Maimonides could not have foretold the coming Copernican revolution, but still, why did he refuse to grant any merit to those in his own day who read Psalm 19 as a metaphor? Why did he insist that they accept the spheres as conscious agents?

(On the phases of the paradigm shift, and on the transition to the Copernican paradigm, Thomas Kuhn, *The Structure of Scientific Revolutions*, U. of Chicago 1962, and *The Copernican Revolution*, Harvard 1957. Aristotle's system: *Metaphysics*, 12:7 and 8, esp. 1072a20-30-1072b3, with 12:8:1074b1-14, as digested and reinterpreted through the writings of the *falasifa* Alfarabi and Avicenna, see last chapter-essay).

The Spheres Are Alive

“SCRIPTURE supports the theory that the spheres are animate and intellectual, i.e., capable of comprehending things...” (*l'inyan sh'hagalgalim khaim baalei hegion, k'lomar, masigim, harei ze emet v'nakhon gam mtzad torah*)

Maimonides' expressed his theme in this chapter's opening sentence: the philosophic theory that intelligent spheres govern nature is also the Torah view.

The opposing view then was that inanimate bodies fill our skies, just as the lifeless elements, fire, air, earth and water, fill the earth. The primary elemental forces arose from chaos, colliding with each other to form the composite masses of the night sky. It is the most common view today.

The rabbis recognized this view as atheist, tagging it with the epithet *apikoros*, correctly referring to Epicurus (341–270 BCE), who inherited the teachings of the atomist Democritus, the hedonist Aristippus, and the skeptic Pyrrho. The Epicureans and the pre-Socratic materialists sought to discover the physical principles of nature, settling on one or more primary elements whose random encounters create the things of our world.

Although some of these thinkers were contemporaries or successors of Socrates, philosophers like Plato, Aristotle, and Maimonides thought that Socratic idealism, which recognized the divine in everyday life, *superseded* the Epicureans, making their materialism antiquated.

Maimonides regarded the Epicurean view as destructive to Judaism. This explains the powerful, even vituperative language he marshals against anything resembling it. Thus, in his very next phrase, he says:

“They [the spheres] are not, as *ignorant persons (ha-sikhlim)* believe, *inanimate masses (gufim metim)* like fire and earth, but are, as the philosophers assert, endowed with life, and serve their Lord, whom they mightily praise and glorify.” (All italics throughout are mine.)

We might agree to call those unschooled in Maimonides' last five chapters “ignorant,” *i.e.*, ignorant of his philosophical astronomy. But his remark seems directed against his materialist opponents. They might have been few but they were not ignorant. Still, he regarded their atheism as outmoded, even pre-philosophic. Physicians seemed to be drawn to it (S. Stroumsa, *Maimonides in His World*, 49-52, Princeton, 2009).

R. Kafih translates the underlying Arabic term אלג'האל neutrally as *ha-sikhlim*, *i.e.* foolish or confused. Michael Shwarz uses *haboorim*, “ignoramuses,” which conveys the *ad hominem* sense Maimonides had in mind. Maimonides assaults his opponents as having made a “great error” (Pines: “how very remote from mental representation of the truth,” *v'kama rakhok m'haskil et ha-emet*); and “Only ignorant or obstinate persons would refuse to admit this proof,” *zo... lo yakh'khishena ki im sakhal o mitakash*.

Maimonides' arguments do not justify his invective. None of his “proofs” in this chapter are deductively logical or even philosophic. All are disputable scriptural interpretations or rhetorical claims. His intent here, however, was to argue that the Jewish outlook on physics and astronomy, though obscurely reflected in

scriptural and Tannaitic sources, was up-to-date scientific doctrine. Atheist and materialist views were no more welcome, in his view, among the advanced philosophers than among the rabbis.

As we reflected in the last chapter, the entanglement of Judaism with the scientific paradigm, especially in the thinking of Maimonides, who was such a passionate advocate of that paradigm, was a problem it would have to overcome, especially since that paradigm was fading fast. Judaism did overcome it well before its collapse, as Cabala took the spheres out of the *Sefirot*.

Nonetheless, as I will argue, Maimonides rejected the atheist materialist cosmology because he understood that random atomic collisions cannot account for the life of our world, that physics cannot explain its own basic axioms, and that atheism cannot grasp the universal bias toward consciousness. While we cannot authentically separate him from his cosmology, we should try to grasp why he so energetically advocated it.

A Mere Figure of Speech?

“[The spheres] are, as the philosophers assert, endowed with life, and serve their Lord, whom they mightily praise and glorify; comp. ‘The heavens declare the glory of God, etc.’ (Ps. 19:2). It is a *great error to think that this is a mere figure of speech...*”

We need to explain Maimonides’ last sentence. All of my quoted translations of the Guide are from Friedlander, unless noted otherwise. Pines’ translation here, however, is more literal: “How very remote from mental representation of the truth are those who think that this is language *appropriate to the state of the speaker*.” R. Kafih’s Hebrew reads *v’kama rakhok m’haskil et ha-emet mi sh’hashev ki zeh bitui ha-matzav*.

When Maimonides wrote this there were fewer descriptive tools for metaphor. The term *matzav*, which translates the Judeo-Arabic אלהא, means “state,” *i.e.*, my *state* of mind as a viewer projected as the state of the heavens. It is a *metaphorical projection*.

I am struck by the beauty of the midnight expanse. Instead of voicing my awe, *i.e.*, my own “state” of mind, I *project* it onto the heavens themselves. I *personify* them as expressing *my own state*. I thereby achieve a more sublime expression than I could if I only wrote about myself. In other words, *I am the one who declares the glory of the Lord*, but I constructed this metaphor to show that the glory of the Lord consumes the totality of being. I express my totalizing witness as though the universe were assimilated to me, projecting on that endless plane the glory of the Lord. Thus, *the heavens declare the glory of the Lord*.

Another way of putting this is to call it *bekhina ha-anashim b’hem*, as did the original translator R. Shmuel Ibn Tibbon. Friedlander translates this as “what man thinks of them [the heavens].” The word *bekhina* can, however, also mean *perspective* or *perspectival*. (See secondary definition of *bekhina* in Alkali *Heb. Eng. Dictionary* and Efros’ *Dict. of Maimonidean Philosophic Terms*). Thus, “the perspective man has of the heavens.” In that sense, we poetically project upon the spheres our own perspective.

Maimonides denies any such perspectival projection. He says that “The heavens declare the glory of the Lord,” literally means that the spheres express the glory of the Lord. They are ensouled and intelligent. His interpretation is thus far simpler than that of his opponents who are “very far from the truth,” and commit “a great error.”

His problem was that the majority of both Jewish and non-Jewish commentators did interpret the passage metaphorically. They include Saadia Gaon, Rashi, R. Ibn Ezra, R. David Kimchi (Radak) and R. Asher Crescas. But Maimonides' Andalusian predecessor, R. Avraham Ibn Daud (c. 1110-1180), agreed with him.

“With respect to the concept that the heavens are conscious, and that their movements are the movements of ensouled beings, which act voluntarily and with the intention of praising God... David, the Psalmist, stated ‘The heavens declare...’ meaning that they speak not in external speech of lip and tongue but through internal speech.” (My trans. of R. Ibn Daud, *Emuna Rama* 1:8)

Maimonides knew that he was in the minority. He framed two arguments to support his literal reading, a *grammatical* argument, and a *contextual/conceptual* argument. Neither is a philosophic argument.

The Grammatical Argument

“It is a great error to think that this is a mere figure of speech: for the *verbs to declare* and *to relate* (*lashon hagada v'sipur*), when joined together (*yakhad*), are, in Hebrew, only used of intellectual beings.”

Maimonides speaks here in his authoritative voice, ruling that when the Hebrew terms for *speaking* and *telling* occur in one verse their subject must be ensouled and intelligent. His words carry impressive weight.

The verse has to combine some variant of the Hebrew roots *s*p*r* and *m*g*d*. This occurs in Psalm 19:2, “The heavens *declare* (*m'saprim*) the glory of God; the firmament *proclaims* (*magid*) his handiwork.” Maimonides' rule was that this pairing tells us to read the verse literally.

This is the only place in Scripture where such a pairing of these verbs occurs in quite this way. Exhaustive search reveals only one similar verse, Psalms 40:6,

“Many things hast Thou done, O LORD my God, even Thy wonderful works, and Thy thoughts toward us; there is none to be compared unto Thee! If I would *declare* (*agida*) and speak (*v'adabera*) of them, they are more than can be *told* (*misaper*).”

The context here is similar to Psalm 19:2: praise of the works and thoughts of God. Rashi says that these “wonderful works, and Thy thoughts toward us” are the miracles God wrought for the Jews in history. Psalm 40 is, therefore, not an example of Maimonides' interpretational rule, since it is about *my* declarations of praise, not that of the spheres.

But how can Maimonides frame a rule on just one verse? Friedlander writes that,

“... Each verb by itself could be used figuratively. But he [Maimonides] holds that the author of the Psalm [19:2], in employing both verbs together, indicated that he used them in a literal sense. It seems that he had no other passage to cite in support of this theory.” (Friedlander note 1, v.2, p.35)

There is a reason for Maimonides' ruling. The Bible never wastes words. Since biblical space is at a premium “it is a great error” to read repetitions as mere poetic decoration. The Psalmist could have used either *m'saprim* or *magid* alone, but their pairing in one verse *alerts* us that the spheres really are *declaring*

and *proclaiming* the glory of the Lord. The verse is, thus, according to Maimonides, a scientific description of the spheres' action. The soul and the mind of the sphere (the sphere has both: see last chapter, Guide 2:4) perceive God, inspiring its love and praise expressed through its rotations and emanations. However incredible this sounds it was the accepted view of Maimonides' time.

The Contextual/Conceptual Argument

“The manifest proof (*v'ha-raya ha-brura*) of the fact that Scripture describes their state according to their essence (*m'toar matzvam b'atzmam*) – I mean to say the state of the spheres – not the state according to which people consider them, is the dictum (Ps. 19:4): ‘There is no speech, there are no words, neither is their voice heard’ (*ayn omer, v'ayn d'varim, bli nishma kolam*).” (Pines trans.)

Having made his grammatical case, Maimonides explains that we learn how the spheres express themselves from the fourth verse of the Psalm: *There is no speech, there are no words, neither is their voice heard*.

If the spheres really *declare* the glory of the Lord, why don't we *hear* anything?

His answer is that the spheres engage in the most sublime form of communication, internal speech or dialogue, *i.e.*, thought, not our external speech. We *speak* to make people know what is on our minds, or to secure in our minds what we repeat to ourselves. The spheres do not express themselves this way. The reason that the Psalm says that they “declare” and “proclaim,” is because *scripture is written in the language of men*, *i.e.*, it borrows human terms to explain the spheres' unique consciousness. When we praise God, we use *speech* and *words*, but the spheres praise God in pure thought. He writes:

“‘There is no speech, there are no words, neither is their voice heard (Ps. 19:4).’ Here he (the Psalmist) clearly shows that he describes the heavens themselves as in reality praising God, and *declaring His wonders without words of lip and tongue*. When man praises God in words actually uttered, he relates the ideas which he has conceived, but these ideas form the real praise. The reason why he gives *expression (ha-bitui)* to these ideas is to be found in his desire to communicate them to others, or to make himself sure that he has truly conceived them. Therefore, it is said, ‘Commune with your own heart upon your bed, and be still’ (Ps. 4:5), [as we have explained, *k'mo sh'biarnu*].” (Friedlander omitted the important bracketed words, which appear in the Judeo-Arabic original. See next section.)

Intellectual praise is the highest praise of a conscious being. We do this in meditation. We also express it when we recite words of prayer, for behind the words is our *understanding* of them, which is our real praise. The *spoken words* are for the benefit of the others, and also for our own benefit, to seal those ideas in our minds. The *expression, ha-bitui*, is the witness to others or to oneself of what we conceive.

Commune with Your Own Heart upon Your Bed (Psalms 4:5)

Maimonides refers to Psalm 4:5 when he wants to emphasize the importance of meditation or contemplation, *hitbodedut*. His Maimonid successors in Egypt emphasized the contemplative path of devotion. His son, Abraham Maimonides, has a chapter on meditation in his *Guide to Serving God*. Maimonides speaks about it passionately in two places in the Guide, 1:50, and 59, which he refers to when he says “as we have explained” (omitted in Friedlander!). In 1:50 he wrote,

“Belief is only possible after the apprehension of a thing; it consists in the conviction that the thing apprehended has its existence beyond the mind [i.e., in reality] exactly as it is conceived in the mind. Renounce desires and habits, follow your reason, and study what I am going to say in the chapters which follow on the rejection of the attributes; you will then be fully convinced of what we have said: you will be of those who truly conceive the Unity of God, not of those who utter it with their lips without thought, like men of whom it has been said ‘Thou art near in their mouth, and far from their reins’ (Jer. 12:2). It is right that a man should belong to that class of men who have a conception of truth and understand it, *though they do not speak of it*. Thus, the pious are advised and addressed, ‘Commune with your own heart upon your bed and be still. *Selah.*’” (Guide 1:50)

Guide 1:50 begins ten chapters explaining his pathway of negative attributes, the *via negativa*. It is a meditation, not, as many have erroneously concluded, a theology. The subject, the nature of God, is so far from our grasp that the only way to approach it is in the silence of meditation. The meditation prescribed is a stepwise path in which we consider any particular praise we could make of God and recognize that it could not do justice to His reality. We must, somehow, deny or negate those human words to leave unique space for Him who we would praise. Thus, God’s *wisdom* is so far above ours, so everlasting in nature, so pervasive, as to be beyond paltry words, framed, as they must be, on what passes for wisdom among us. Moving from *wisdom* to *power*, and to the other *encomia* of our prayers, we come by this meditation to the sublime height where “You will be of those who truly conceive the unity of God, not of those who utter it with their lips without thought.” He urges us with Psalm 4:5 to “Commune with your own heart...”

He ends his thought the same way in Guide 1:59, where he writes, at the end of his section on negation,

“Since it is a well-known fact that even that knowledge of God which is accessible to man cannot be attained except by negations, and that negations do not convey a true idea of the [essence of the] being to which they refer, all people, both of past and present generations, declared that God cannot be the object of human comprehension, that none but Himself comprehends what He is, and that our knowledge consists in knowing that we are unable truly to comprehend Him. All philosophers say, ‘*He has overpowered us by His grace, and is invisible to us through the intensity of His light,*’ like the sun which cannot be perceived by eyes which are too weak to bear its rays. The idea is best expressed in the Book of Psalms, ‘*Silence is praise to Thee*’ (65:2). It is a very expressive remark on this subject; for whatever we utter with the intention of extolling and of praising Him, contains something that cannot be applied to God, and includes derogatory expressions; it is therefore *more becoming to be silent*, and to be content with intellectual *reflection*, as has been recommended by men of the highest culture, in the words ‘Commune with your own heart upon your bed, and be still.’” (Guide 1:59)

Maimonides proceeds in Guide 1:59 to quote the Talmudic account of one ancient worthy whom the rabbis admonished for increasing the number of praises in our daily *Amida* service. More words obstruct the perfect meditation. For Maimonides, the prayer of the spheres exemplifies that silence which is praise.

Three Different Kinds Of “Expression.” In Guide 1:64 he addressed the ways that spheres, men, and inanimate objects praise God. It a *lexical chapter* defining the word *kavod*, “glory, greatness, weight.” These three types of beings praise God’s glory in three different ways:

“1) Sometimes the term ‘glory’ denotes the glorification of the Lord by man or *by any other being* [here he refers to the cosmic spheres]. For the true glorification of the Lord consists in the *comprehension* of His greatness, and all who comprehend His greatness and perfection, glorify Him according to their capacity, with this difference, 2) that *man alone* magnifies God in *words, expressive* of what he has received in his mind, and what he desires to communicate to others. 3) Things not endowed with comprehension, as e.g., *minerals*, may also be considered as glorifying the Lord, for *by their natural properties they testify* to the omnipotence and wisdom of their Creator, and *cause him* who examines them to praise God, by means of speech or without the use of words, if the power of speech be wanting. In Hebrew, this license has been extended still further, and the use of the verb ‘to speak’ has been admitted as applicable in such a case: things which have no comprehension are therefore said to give utterance to praise, e.g., ‘All my bones shall say, Lord, who is like unto Thee?’ (Ps. 35:10). Because a consideration of the properties of the bones leads to the discovery of that truth [the truth of divine uniqueness], and it is through them that it became known, they are represented as having uttered the divine praise: and since this [cause of God’s praise] is itself called ‘praise,’ it has been said ‘The fulness of the whole earth is His praise’ (Isa. 6:3), in the same sense as ‘The earth is full of His praise’ (Hab. 3:3).” (Guide 1:64. Numbering added throughout this chapter-essay)

The *first* of these beings that praise God are the spheres. The spheres are what he means when he writes “by any other being,” i.e., any being other than man or the inanimate things. Since the spheres are conscious beings, unlike stones, he does not treat them metaphorically, but insists that they *always* engage in active comprehension. In the *second* level, in men, this comprehension does not *always* occur, but when it does occur, we express it in *spoken* words. In the *third* level, when Scripture speaks of minerals that ‘express’ their praise of God, Maimonides tells us to take this type of passage *metaphorically*, giving the example of the Psalmist’s “All my bones shall say, Lord, who is like unto Thee?”

He goes on to warn, at the end of 1:64, that we should be careful how we interpret terms for the expression of the praise of God’s glory in these three cases: “Consider well the homonymity of this term, and explain it in each instance in accordance with the context; you will thus escape great embarrassment.” With bones, the “praise” is a metaphorical projection based on our wonder at the works of God. But the angelic heavens always express their divine praise in thought.

This Is a Torah Proof

“Only ignorant or obstinate persons would refuse to admit *this* proof taken from Scripture (*v’zo raya torayit lo yakh’khishana ki im sakhal o mitakash*, lit.: ‘And *this* is a Torah proof, denied only by the ignorant or obstinate’).”

Maimonides concludes the first long and complicated paragraph of this chapter with this emphatic but ambiguous statement. What is the *zo*, i.e., the “this,” that he refers to? What “proof” does he mean, the grammatical proof or the contextual/conceptual proof or something else? What was proven? Who are the “ignorant or obstinate persons who would refuse to admit *this*”?

In my interpretation, the *subject of this proof* is his opening sentence: “Scripture supports the theory that the spheres are animate and intellectual... and not inanimate masses...”

The “Torah proof” (*raya torayit*),” i.e., his *supporting argument* for the proposition that “the spheres are animate and intellectual,” was that Psalm 19 says “The heavens *declare* the glory of the Lord.” Since only

conscious beings can ever *declare* anything, it must be that the heavens, i.e., the spheres, are conscious beings.

This “proof” is taken from Scripture, *i.e.*, Torah in the larger sense of the term. It is a proof for those whose law is Torah, and should suffice to persuade them that the heavens are, “as the philosophers assert, endowed with life and serve the Lord whom they mightily praise and glorify.” The Psalm thus comes to reject the atheist Epicurean view that the heavens are lifeless.

Only “ignorant or obstinate persons would refuse to admit this proof taken from Scripture,” *i.e.*, those remaining *ignorant* people who don’t know that the heavens are alive, or those *obstinate* people who should know it but refuse to accept it. Some of them insisted on interpreting Psalm 19 metaphorically. For those people Maimonides framed his two arguments supporting Psalm 19, the grammatical argument, and his contextual/conceptual argument, as *sub-arguments* that we should read the Psalm literally. He condemns as “obstinate” those who still believe, even after hearing his two sub-arguments, that the spheres are “inanimate masses like fire and earth.”

In other words, the interpretation of “The heavens declare...” was a *subsidiary* matter, the main point being that scripture and rabbinic tradition understood the heavens to be alive and conscious. Psalm 19 was one of several supports for this claim. Maimonides will now bring several other citations in support.

In this interpretation, I do not think that the ignorant or obstinate people would include rabbis like R. Asher Crescas who rejected both sub-arguments about Psalm 19. This is because R. Crescas *did* agree with Maimonides’ main point that spheres are divine agents, as I will show near the end of this chapter-essay.

The Sages of Scripture and Talmud Thought that the Heavens were Alive

“As to the opinion of our Sages, I do not see any necessity for expounding or demonstrating it. Consider only the form they gave to 1) the blessing recited on seeing the new moon, 2) the ideas repeatedly occurring in the prayers and 3) the remarks in the Midrash on the following and similar passages: –‘And the host of heaven worshippeth thee’ (Neh. 9:6); and 4) –‘When the morning stars sang together, and all the sons of God shouted for joy’ (Job 38:7).”

Maimonides knew that most rabbis considered Psalm 19 to be a metaphor, but he continued to argue that the *earliest* sages of Scripture and Talmud agreed that conscious beings populate the heavens. This point should be so obvious that he did “not see any necessity for expounding or demonstrating it,” though he does exactly that. He points first to the blessing on seeing the new moon, without quoting it. Here is that blessing:

“Blessed are You, *Adonoy*, our God, King of the Universe, Who with His utterance created the heavens, and with the breath of His mouth, all their host. Law and season (*khok u’zman*) did He give them, that they not deviate from their set function. They are glad and rejoice to do the will of their Possessor—the Worker of truth Whose work is true. The moon He directed to renew itself—a crown of glory to those who are borne by him from the womb, who are also destined to be renewed, and to glorify their Creator for the Name of His glorious kingdom. Blessed are You ... Renewer of the months.” (*The Metsudah Siddur, Ashkenaz, Sabbath and Festival Prayers, Maariv, Kiddush HaLevana*, 1983, 522-523).

To explain what Maimonides saw in this prayer, R. Dr. Yehuda Even-Shmuel emphasized the lines that I marked in grayscale to show that its ancient rabbinic author treated the heavens as conscious agents, writing,

“If it were true that the spheres (‘the heavens, and...all their host’) keep a law and timetable (*khok u’zman*) in their rotational motions, they do this *not as inanimate objects, but as beings who have a mind and soul*, and they do it because of their *heartfelt agreement* (‘they are glad and rejoice’), in the knowledge that by doing this they fulfill the will of their Creator.” (My trans. of Even-Shmuel’s *Commentary*, including his parentheticals, v. 2, p. 105.)

Turning to our morning prayer service, Maimonides writes “Consider only... the ideas repeatedly occurring in the prayers,” without citing any example. The commentators (R. Kafih, note 16; R. Even-Shmuel, 105-106; Friedlander, note 16, v.2, p. 35, note 4) thought that he meant the first blessing preceding the *Sh’ma*:

“He illuminates the earth ... and in His goodness renews every day, continually, the work of creation.... [The] Good [One] created [everything] for the glory of His Name: the luminaries He set around His strength (His throne). The chiefs of His *hosts* are holy beings, the exalters of God who continually recount the glory of the Almighty and His holiness. Be Blessed... our God, for the excellent works of Your hands, and for the light-giving *luminaries* which You formed; they will glorify You forever.” (Trans. *Metsudah Siddur, Ashkenaz, Weekday*, p. 89, 1981)

R. Even-Shmuel, commenting, wrote:

“The text spoke clearly about the starry spheres (‘the luminaries’), called the Chiefs among the Angels (in *Metsudah Siddur*: “hosts”), who ‘recount the glory of the Almighty,’ and that they do this ‘continually,’ uninterrupted. This is precisely as the philosophers said, that *the spheres move with a single eternal motion, due to their yearning* to be like those Separate Intellects appointed over them, whose emanation flows through them always. This is especially true since the subjects of this prayer are the ministering angels, the heavens and their host.” (My trans.)

The Nehemiah passage that Maimonides mentioned could also support his view that the original sages believed that the spheres are alive. Here is the context, showing his quote-shard in grayscale:

“Thou art the LORD, even Thou alone; Thou hast made heaven, the heaven of heavens, with all their host, the earth and all things that are thereon, the seas and all that is in them, and Thou *givest life to (mekhayeh)* them all; and the host of heaven *bows down (mishtakhavim)* to Thee.” (Neh. 9:6)

God brought the angelic host to life, and they, in gratitude, bow to Him, consciously worshiping Him. Maimonides subtly refers here to the Aggadic account of the Roman emperor Antoninus who asked R. Yehuda ha-Nasi “For what reason does the sun appear in the east and set in the west? R. Yehuda replied that it does so in order to greet its Creator, for it says, ‘And the host of heaven bows down to Thee.’” He meant that when the sphere of the sun causes it to *set* it bows down to express its gratitude to its Creator. Thus, the Tannaitic author assumed that it is alive and conscious (*Sanhedrin* 91b).

Maimonides next cites a passage near the end of the book of Job, the climactic moment when God answered Job “out of the whirlwind.” God demands to know who Job thinks he is:

4. Where wast thou when I laid the foundations of the earth? Declare, if thou hast the understanding.
5. Who determined the measures thereof, if thou knowest? Or who stretched the line upon it?
6. Whereupon were the foundations thereof fastened? Or who laid the corner-stone thereof,
7. When the morning stars sang together, and all the sons of God shouted for joy?"

His focus is the account of how the *morning stars* praise God. In *our* version of the Talmud,

“The ministering angels do not recite their song above until the Jewish people recite their song below, *v’ain malakhei ha-sharet omrim shira l’maalah ad sh’omru yisrael l’mata*, as it is stated: ‘When the morning stars sang together,’ and only then does the verse state: ‘And all the sons of God shouted for joy’” (*Hullin*, 91b citing Job 38:7).

The ancient commentators R. Shem Tov and Efodi (p. 22a) have a *different* version of *Hullin*, in reverse order, which may be what Maimonides read. Thus: *ain yisrael omrim shira milmata ad sh’malachei elyon omrim ota milmala*, “Israel does not recite their song below until the ministering angels recite their song above.” In our version the Jews go first, but in this ancient version, the angels go first. This fits the order in the Job passage, with Maimonides analogizing the “morning stars” to the angelic spheres, while Jews are the “sons of God.” Thus, the Jews do not begin praying until the spheres finish their devotions.

Whichever version you read, Maimonides’ point remains that both the Jews and the angelic spheres are conscious beings whose expressions of gratitude have a place in the order of the universe.

The Howling of the Earth

“Thus, they say in *Bereshith Rabbah* 2:1, ‘The earth was *formless and void*’ (*tohu v’bohu*; Gen. 1:2), It was *mourning* and *crying* [in the Aramaic: *toha v’boha*] — which means that ... the earth, *cried woe* and *howled* because of her evil lot. It [the earth] said, ‘I and they were created together’ — which means the earth and the heavens. ‘[Yet] those above are alive and those below dead.’ *They ... have [thus] said explicitly that the heavens are living bodies and not dead ones like the elements.*” (Pines trans., p. 260)

Maimonides devotes the most space in his survey of rabbinic materials to this remarkable *Midrash*.

Rashi and most other commentators on the opening passages of the Torah explain the unusual terminology *tohu v’bohu*, often translated as *formless and void*, to mean “astonishingly empty.” The *Kuzari* of R. Yehuda ha-Levi calls it a kind of “darkness,” meaning the absence of form and order. Nachmanides turns philosophical and says that the *tohu* is unformed hyllic matter, *khomer ha-hiyuli*.

But the *Midrash* interprets in its own way. It makes *tohu v’ bohu* to be the keynote of an imagined lament in which the lifeless earth complains about its unfair lot:

“Rabbi Yehudah b. Shimon told a parable of a king who bought two maidservants in one bill of sale for the same price. On one he decreed that she remain, and the other that she should leave, —banished! She sat and was *toha* and *boha* (Pines’ translation of the Aramaic: *cried woe and howled*). She said, we were acquired in one deed and at one price. *That one* does not have to flee as a refugee, but you decree

me banished! I am amazed! So, the earth sat there wailing and howling, *toha* and *boha*. It said, the upper ones (*elyonim*) and the lower ones (*takhtonim*) were created at one time. Why are the upper ones alive and the lower ones dead? Therefore [the Torah says] *and the earth was tohu v'bohu.*" (My trans.)

Maimonides shows here that the Midrashic author thought that the heavens were alive. The commentary *Yefeh To'ar* (Shmuel Yaffe Ashkenazi, c.1560 - c.1580) agrees, explaining that the passage compares the life of man to the life of the heavens, that the former pass "like a shadow and the grass of the field" while the heavens "live forever," *ha-elyonim khayim k'mo l'olam*.

Maimonides' citations from Scripture, liturgy, and Midrash are part of an ancient enduring Jewish belief in angels, who he believed to be the conscious causes of the rotation of the spheres. He therefore concludes by saying "The opinion of Aristotle, that the spheres are capable of comprehension and conception, is in accordance with the words of our prophets and our theologians or sages."

He has, however, one last Torah proof which verges on the philosophical. Since those who rule must *know* their subjects, they must also be *conscious*. The spheres are such conscious rulers.

The Wisdom of Rulers

"The philosophers further agree that this world below is *governed* by influences emanating from the spheres [see Guide 1:72], and that *the latter comprehend and have knowledge of the things which they influence*. This theory is also met with in Scripture: comp. '[The stars and all the host of heaven]...which the Lord thy God hath divided unto all nations...' (Deut. 4:19). That is to say, 'the stars' which God appointed to be the means of *governing* His creatures, *not* to be the objects of man's worship. It has therefore been stated clearly: '...And to *rule* over the day and over the night, and to *divide* [the light from the darkness],' etc. (Gen. 1:18). The term 'ruling' here refers to the power which the spheres possess of governing the earth, in addition to the property of giving light and darkness. The latter property is the direct cause of genesis and destruction; it is described in the words, 'And to divide the light from the darkness' (*ibid.*). *It is impossible to assume that those who rule a thing are ignorant of that very thing which they rule, if we take 'to rule' in its proper sense.*"

Here Maimonides comes to something resembling a philosophic argument, based on two Bible passages, though it is not a deductive proof. He claims that it is logical to assume that rulers always *know* their subjects. The rulers are the spheres which govern the generation and corruption of natural life on earth.

This assumes knowledge of Scripture. Maimonides' first quote-shard is from Deuteronomy 4:19. We should understand it in its context. Moses tells his people:

14. And the Lord commanded me at that time to teach you statutes and judgments, that ye might do them in the land whither ye go over to possess it.
15. Take ye therefore good heed unto yourselves; for ye saw no manner of similitude on the day that the Lord spake unto you in Horeb out of the midst of the fire:
16. Lest ye corrupt yourselves, and make you a graven image, the similitude of any figure, the likeness of male or female,....

19. *And lest thou lift up thine eyes unto heaven, and when thou seest the sun, and the moon, and the stars, even all the host of heaven, shouldest be driven to worship them, and serve them, which the Lord thy God hath divided [khalak—allotted, apportioned] unto all nations under the whole heaven.*

20. *But the Lord hath taken you, and brought you forth out of the iron furnace, even out of Egypt, to be unto him a people of inheritance, as ye are this day.”*

Maimonides interprets that we should not worship the spheres in place of God, for it was God Himself who *delegated* to the spheres the conduct of all the nations of the world. His reading of the word *khalak/divided*, aligns with Rashi, who also says that God delegated the spheres to illuminate all people. Maimonides combines this idea with the Aristotelian view that this illumination is “...the direct cause of genesis and destruction,” i.e., the rule of generation and corruption in nature. (Aristotle, *On Generation*, 336a30-337a35).

Both Rashi and Maimonides derive this interpretation from Genesis 1:18, which employs similar though not identical language to explain what this *division* meant. His quote-shard, in context:

14. *And God said, Let there be lights in the firmament of the heaven to divide the day from the night; and let them be for signs, and for seasons, and for days, and years:*

15. *And let them be for lights in the firmament of the heaven to give light upon the earth: and it was so.*

16. *And God made two great lights; the greater light to rule the day, and the lesser light to rule the night: he made the stars also.*

17. *And God set them in the firmament of the heaven to give light upon the earth [l’ha’ir, i.e., to illuminate it],*

18. *And to rule over the day and over the night, and to divide [l’havdil] the light from the darkness: and God saw that it was good.*

The KJV got the point, translating both *khalak* (in Deut. 4:19) and *l’havdil* (in Gen. 1:18) as “divide.” This *division* of labor was a *delegation* of illuminative tasks allotted to the sun and the moon to *rule* the generation and corruption on earth. Moses’ point in Deuteronomy 4:19 was that since *God* created those orbs as *agents* to govern nature, we should worship Him and not them.

Still, there could be confusion: “Lest thou lift up thine eyes unto heaven, and when thou seest the sun, and the moon, and the stars, even all the host of heaven, shouldest be driven to worship them, and serve them...” Rashi explained that God “did not prevent them from erring after them; rather, He caused them to slip with their futile speculations.” Maimonides, in *Mishneh Torah*, wrote that this was the origin of idolatry:

“During the times of Enosh, mankind made a great mistake, and the wise men of that generation gave thoughtless counsel. Enosh himself was one of those who erred. Their mistake was as follows: They said God created stars and spheres with which to control the world. He placed them on high and treated them with honor, making them servants who minister before Him. Accordingly, it is fitting to praise and glorify them and to treat them with honor. [They perceived] this to be the will of God, blessed be He, that they magnify and honor those whom He magnified and honored, *just as a king desires that the servants who stand before him be honored*. Indeed, doing so is an expression of honor to the king. After conceiving of this notion, they began to construct temples to the stars and offer sacrifices to them. They would praise and glorify them with words, and prostrate themselves before them, because by doing so, they would - according to their false conception - be fulfilling the will of God. This was

the essence of the worship of false gods, and this was the rationale of those who worshiped them.”
(Mishneh Torah, *H. Avoda Zara*, 1:1, Touger trans.)

Having thus avoided Aristotle’s pitfall of making the spheres gods (*Meta.* 12:9:1074b1-15), while affirming that they are nonetheless rulers, Maimonides next argues that rulers must know their subjects. “It is impossible to assume that those who rule a thing are ignorant of that very thing which they rule...” The reason is that we must “take [the term] ‘to rule’ in its proper sense.” In other words, *governing* is always part of the definition of the term *rule*. Governors must know their subjects in order to rule them.

But why couldn’t we just say that the term “rule” in Gen. 1:18 is a metaphoric anthropomorphism meant as poetic enlargement of the illuminative functions of the twin luminaries? Apparently because Deut. 4:19 said that God had *divided* them, in the sense of delegating them to rule all the nations.

Besides, Maimonides felt that he had already shown in the last five chapters that the spheres were conscious, and could, therefore, know their subjects. He felt no need to revisit those proofs since his aim here was just to show that Scripture agreed with medieval Aristotelian cosmology.

We can also suggest that the thinness of his argument reflects his confidence in the regnant cosmic paradigm. Dispute on its margins was acceptable, but serious opposition was the act of a fool. Still, his arguments, tossed off so confidently, now look pathetically weak. I will address this problem at the end of this chapter.

R. Asher Crescas’ Dispute with Maimonides on Psalm 19

R. Asher b. Avraham Crescas (first half of 15th century: not to be confused with R. Ḥasdai Crescas, *c.* 1340) wrote the commentary in tiny type at the page bottom of the standard Ibn Tibbon Hebrew version of the Guide. Though he mostly accepted Maimonides’ cosmology, he rejected his two proofs for a literal reading of Psalm 19:2-4. R. Crescas agreed with most rabbis that those verses project our own praise of God.

R. Crescas’ attack on Maimonides’ Grammatical Argument. Maimonides’ grammatical proof that the heavens are conscious was that the Psalmist used two parallel terms, *msaprim* (declares) and *magid* (speaks) in “The heavens declare the glory of God, and the firmament speaketh his handiwork.” When paired in this manner they must, according to him, depict the consciousness of their object.

R. Crescas first comments that either of these terms, appearing singly, could be figures of speech. His proof is from Job’s attack on his self-righteous friends. Good things do happen to bad people since “robbers live untroubled in their tents, and those who provoke God are secure...” But it’s all part of the divine plan:

“7) Ask now the beasts, and they shall *teach* thee (*v’torekha*),

and the fowls of the air, and they shall *tell* thee (*v’yaged*),

8) Or speak to the Earth, and it shall *teach* thee (*v’torekha*);

and the fishes of the sea shall *declare* unto thee (*v’ysapru*)

9) Who knoweth not among all these, that the hand of the LORD hath wrought this?” (Job 12:6-9)

The verbs to *declare* and to *tell* do not pair in *one verse* in this passage. In line 7, the fowls shall *tell* thee (*v'yaged*), and then in line 8, the fishes shall *declare* unto thee (*v'ysapru*). Maimonides' rule does not apply. We can treat each of them metaphorically. The fowl and the fish never tell you anything.

According to R. Crescas, despite that "All the words of Maimonides are precious pearls, in my humble opinion, we think that this use of *sipur*, *declare*, in Psalm 19 is not an exception..." i.e., not an exception to R. Crescas' rule that in *every case* where an inanimate object or animal is "speaking" it is really *perspectival language* (*bekhinat ha-anashim*), a metaphorical projection from the perspective of the viewer.

He also notes the verse, "All my bones shall *say* (*tomarna*): Lord who is like unto Thee ..." (Psalms 35:10). R. Crescas says that "Since the bones are not conscious, the passage must be meant perspectively." He then proceeded to explain that when Psalm 19 tells us that the heavens *declare* (*m'saprim*),

"The use of this term is meant to *emphasize greatness* (*yoter gadol v'yoter nikhbad*), and the reason for its repetition of the idea [in the next clause, 'the firmament *speaketh* His handiwork'] is that prophetic language repeats itself for emphasis... The exchange of *heavens* with its synonym *firmament* shows that only one meaning was meant." (My trans. of R. Crescas, p. 22a).

The repetition is poetic enlargement meant to emphasize divine greatness.

R. Crescas argues further that since *hagada* and *sipur* are not paired anywhere else in Scripture, they could not be the basis for any rule. Psalm 19:2 should be metaphorically interpreted just as in all similar cases.

R. Crescas' Attack on the Contextual/Conceptual Argument. Maimonides thought that line 4 of Psalm 19, "There is no speech, there are no words, neither is their voice heard," *explained* line 2, "The heavens declare," i.e., that the declaration was soundless internal speech. R. Crescas rejects this, arguing that the purpose of line 4 was to *deny* the literal reading of line 2. The heavens do not actually engage in praise. That is why we do not hear anything.

The reason why R. Crescas' critique is powerful is that he carefully restricted it to Maimonides' two arguments for a literal reading of Psalm 19. He did not attack Maimonides' cosmology of the spheres, nor even his claim that the ancient rabbinic view was consonant or harmonious with the philosophic paradigm.

In fact, R. Crescas used typical Aristotelian terms to explain how "the firmament *speaketh* His handiwork." The *firmament*, according to him, is the band of elemental air rotating between the band of fire above, and the water below. God's *handiwork* is the awesome way that the spheres cause the air to generate thunder and lightning, flares and flashes, stars and comets. He explained that ascending mists that cause rain to form in the air are also moved by the motions and emanations of the spheres.

Only in the last line of his commentary does R. Crescas tentatively suggest the Averroist critique that the spheres' rule is not by their own free will but that God at creation arranged their functions. However, even though Averroes demoted the spheres to a more mechanical role he never dispensed with them, nor with the idea that the spheres function as servants in a divine bureaucracy of royal administrators.

Impudent Critics. R. Yosef Kafih, in a note to his translation of this Guide chapter, spurned commentators who were not as circumspect as R. Crescas, like R. Narboni, R. Yitzkhak Arama and Isaac HaLevi Satanov:

“I saw commentators that thought to refute Maimonides based on Job 12:7-8: ‘But ask now the beasts, and they shall teach thee; and the fowls of the air, and they shall *tell* thee (*v’yaged*); Or speak to the earth, and it shall teach thee; and the fishes of the sea shall *declare* unto thee (*visapru*),’ since it attributed terms of *hagadah* and *sipur* to animals that cannot speak. Some critics were so *impudent* as to claim that Maimonides overlooked this. But there is no problem at all, because Maimonides interprets the Job passage just as R. Saadia Gaon did: *If it were possible* for you to ask the animals they would teach you, or the birds of the sky would tell you, or the beasts of the earth would teach you, and the fish of the sea would tell you this.” (My trans. of Kafih note 9, p. 175, Jerusalem, 1977).

In *Metsudat Dovid*, Rabbi David Altschuler of Prague (1687-1769) explained that if you should ask the fish they would exclaim “Who is such a fool as not to know such a commonplace that behind the visible phenomena of nature is the deep unfathomable wisdom of God's rule.” The Job passage was not about whether the fowl and the fishes could speak, but a *condemnation of any dunce who does not know what even the animals ‘know,’* i.e., that only a beast *like him* would ask such a stupid question. Even a rock would know that behind the visible phenomena of nature is the unfathomable wisdom of God.

(Averroes' critique: Wolfson, “Averroes' Lost-Treatise on the Prime Mover,” *Studies in the Hist. of Phil. and Rel.* v. I, Harvard 1973. Narboni, Arama, Satanov: see Even-Shmuel *Comm.*, notes, p. 103, 104. R. Altschuler in *Metsudat Dovid* to Job 12:9)

How Should We Think about Maimonides' Insistence on the Consciousness of the Heavens?

The biblical commentator R. Avraham Ibn Ezra (c. 1089 – c. 1167) was uncomfortable with the prevailing spherical paradigm. He registered disagreement with R. Saadia Gaon's description of the “firmament” (*rakia*, Gen. 1:6) as a sphere of firm transparent stuff like the albumin of an egg. R. Ibn Ezra retorted that the firmament is just our atmosphere.

The Malbim, R. Meir Loeb ben Yehiel (1809–1879) agreed, rejecting spherical cosmology as “built on cobwebs weaved by ancient and medieval commentators from the notion that spheres exist.” The heavenly bodies in this *rakia* are in a “circle of breath,” *igul ha-neshima*, which he explicitly called an “atmosphere,” *atmasapara*, of fine, thin air. There are no spheres, “as has already been explained by the sages of Israel.”

The cabalist tradition had also, centuries earlier, anticipated the collapse of the Ptolemaic paradigm by recasting the spheres as *sefirot*, i.e., moments in divine creativity.

Following Copernicus, we now see the earth as just a planet, not the center of a universe of ensouled crystalline spheres. But even if we were to remove, as we must, the “spheres” from Maimonides' opening statement that “The spheres are living and rational, ...endowed with apprehension,” why does he require our belief in heavenly consciousness, or that Scripture supports this theory?

This was not just a problem for medieval Judaism, but also for philosophy. Maimonides reminds us that it was also “the opinion of Aristotle that the spheres are capable of comprehension and conception.” Would it not have been simpler for philosophers to accept the Epicurean/Democritean vision of a universe of randomly colliding atoms? Why introduce an entirely extraneous *consciousness*, not to speak of divinity?

The reason is that Socrates and Plato had revolted against the materialist view. Philosophy began with their early protest against the atomists' mindless universe. They explained that there are *higher orders* to which we always appeal. Socrates challenged the sophists to admit that between two things one must be better. He then showed that there must be a *better* and *best* to which even hard-core materialists and relativists compare and measure things. The *best* is the eternal exemplar, not the transient particular: the ideal, not the material.

Maimonides' fear was that by accepting a silent alien universe, where the heavens never declare anything, we accept a world where we have no place and no God. If the rabbis agree to a silent heaven would this mean that they, perhaps unwittingly, accept the contemporary scientific or scientific Epicureanism?

While I want to be clear that Maimonides was wrong to read Psalm 19 as a declaration that the spheres exist as conscious intelligent actors, we should grasp what drove him to this.

The idea that there is intelligence in the universe, which we now call *intelligent design*, is ancient. It foreshadowed modern organicism and the *élan vital* of Henri Bergson (1859 – 1941).

Bergson called it *The Creative Evolution*, the organicism already associated with Immanuel Kant and the *Naturphilosophie* of Friedrich Schelling. It is the theory that the universe and its parts are alive and intelligently ordered, much like a living organism, as we saw in Maimonides' *macrocosm* of Guide 1:72.

Otherwise much, if not most, of what goes on in our universe cannot be explained. David Gelernter's famous article "Giving Up Darwin," argued that "The sudden appearance of the Cambrian animals [the "*Cambrian explosion*" 540 million years ago] was merely the most outstanding instance of a *pattern of discontinuity* that extends throughout the geologic column." Gelernter suggested that natural organization tends or has a bias towards consciousness, an idea that goes back to Plato.

Physics uses the laws of nature to explain an incredible range of phenomena with staggering precision. But the laws of nature are *unexplained axioms*. They are hard facts that demand a *metaphysical* explanation. *Physics neither explains nor purports to explain its metaphysical premises.*

In Maimonides' logic of elimination, the only possible explanation is a superior mind, the mind of the Designer. Epicureanism tried to explain everything by chance, but chance *explains* nothing. It is what Maimonides calls here *k'mo sh'damu ha-sikhlim: that which is thought by the ignorant* (Pines), who never deeply contemplate our universe. It is the ruling doctrine of modern atheism.

The physicist and mathematician Freeman Dyson recently argued for a consciousness behind universal growth:

"It appears that mind, as manifested by the capacity to make choices, is to some extent inherent in every atom. The universe as a whole is also weird, with laws of nature that make it hospitable to the growth of mind. I do not make any clear distinction between mind and God: God is what mind becomes when it has passed beyond the scale of our comprehension... We are the chief inlets of God on this planet at the present stage in His development. We may later grow with Him as He grows or we may get left behind."

With due respect to Freeman's pantheistic looseness of expression, he is right to intuit God's creation of consciousness behind the constant growth in our universe. My suggestion is that Maimonides' adherence to his antique cosmology was driven by his recognition of this inescapable fact of universal consciousness.

One more thing... Before we blithely dismiss Maimonides' creaky spherical contraption, it is worth mentioning the January 2022 Smithsonian Institution Magazine article: *A Star-Producing Cosmic Bubble Shrouds Our Solar System*:

“For the first time, researchers have studied a series of events beginning 14 million years ago that caused a still-expanding cosmic bubble to envelop Earth's galactic neighborhood, forming all the nearby stars, a statement explains. Called the *Local Bubble*, the expanse stretches 1,000 light-years wide. Within 500 light-years of Earth, all stars and star-forming regions sit *on the surface* of the Local Bubble, but not inside, giving clues to why Earth sits in a part of the Milky Way Galaxy that is mostly empty....Scientists have suspected the giant bubble's existence for decades. However, astronomers only recently have observed the net, its shape, and how far it reaches. Astronomers at the Harvard-Smithsonian Center for Astrophysics and the Space Telescope Science Institute published the study this week in *Nature*.”

This should remind us that there have been many scientific revolutions. The current paradigm of which we are now so certain can and will change. Ideas that gripped the greatest minds on our planet for over a thousand years are not so easy to write off.

(Gelernter: Claremont Review of Books, Spring 2019. Dyson, “Progress in Religion,” *Edge*, May 15, 2000. On scientific revolutions: Thomas Kuhn, *The Structure of Scientific Revolutions*, U. Chicago 1962, and *The Copernican Revolution*, Harvard 1992)

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