

הלכות יסודי התורה • פרק שלישי

Learned like the daf, the literal words in bold, flowing with the elucidation

CHAPTER PREVIEW

In this chapter, the Rambam takes us on a breathtaking journey through the physical structure of the cosmos, showing us the wondrous design of Hashem's creation. We learn about the nine great spheres that surround the world, starting from the sphere of the moon closest to us, all the way up to the ninth sphere which encompasses everything and rotates daily from east to west. The Rambam explains how these spheres are pure and refined, layered like the peels of an onion, and completely free of physical properties like weight, color, taste, or smell.

We also delve into the calculations of astronomy, the sizes of the celestial bodies—including how the sun and moon compare to the size of the Earth—and the twelve mazalos (constellations) mapped out by the early Sages. Most beautifully, the Rambam reveals the inner life of these creations, explaining that the stars and spheres are not dead matter, but are actually endowed with a neshama, knowledge, and intellect, standing in constant recognition and praise of their Creator.

All introductions, summaries, and contextual notes are the editor's commentary and are not part of the original text.

הלכה א

Halacha 1 • The Order of the Nine Spheres and the Arrangement of the Stars

הגלגלים הם הנקראים שמים ורקיע וזבול וערכות.

The spheres, they are those called "heavens" and "firmament" and "habitation" and "skies."

והם תשעה גלגלים.

And they are nine spheres in total.

גלגל הקרוב ממנו הוא גלגל הירח.

The sphere that is the closest to us, it is the sphere of the moon.

והשני שלמעלה ממנו הוא גלגל שבו הכוכב הנקרא כוכב.

And the second sphere which is above it, it is the sphere in which is the star called Kochav, which is Mercury.

וגלגל שלישי שלמעלה ממנו שבו נגה.

And the third sphere which is above it, in which is Nogah, which is Venus.

וגלגל רביעי שבו חמה.

And the fourth sphere in which is the sun.

וגלגל חמישי שבו מאדים.

And the fifth sphere in which is Ma'dim, which is Mars.

וּגְלָגַל שְׁשִׁי שָׁבוּ כּוֹכַב צֶדֶק.

And the sixth sphere in which is the star of Tzedek, which is Jupiter.

וּגְלָגַל שְׁבִיעִי שָׁבוּ שַׁבְּתַי.

And the seventh sphere in which is Shabbtai, which is Saturn.

וּגְלָגַל שְׁמִינִי שָׁבוּ שְׂאָר כָּל הַכּוֹכָבִים שֶׁנִּרְאִים בָּרָקִיעַ.

And the eighth sphere in which is the rest of all the stars that are seen in the sky, the constellations.

וּגְלָגַל תְּשִׁיעִי הוּא גְלָגַל הַחוּזָר בְּכָל יוֹם מִן הַמִּזְרָח לַמַּעֲרָב וְהוּא הַמְקִיף וּמְסִבֵּב אֶת הַכָּל.

And the ninth sphere, it is the sphere that revolves in every day from the east to the west, and it encompasses and surrounds everything else.

וְזֶה שֶׁתִּרְאֶה כָּל הַכּוֹכָבִים כְּאִלוֹ הֵם כְּלָם בְּגִלְגָּל אֶחָד וְאֵף עַל פִּי שֵׁשׁ בְּהֵן זֶה לְמַעַלָּה מִזֶּה.

And this that you see all the stars as if they all are in a sphere, one single layer, and even though there is among them this one above this one, at different depths,

מִפְּנֵי שֶׁהַגְּלָגָלִים טְהוֹרִים וְזָכִים כְּזֹכוּכִית וְכֶסֶפֶיר

is because the spheres are pure and clear like glass and like sapphire;

לְפִיכָּה נִרְאִים הַכּוֹכָבִים שֶׁבְּגִלְגָּל הַשְּׁמִינִי מִתַּחַת גְּלָגַל הָרִאשׁוֹן:

therefore are seen the stars that are in the eighth sphere as if they are below the first sphere, closest to us.

הַלָּכָה ב

Halacha 2 · The Structure and Movement of the Celestial Spheres

כָּל גְּלָגַל וּגְלָגַל מִשְׁמוֹנָה הַגְּלָגָלִים שֶׁבְּהֵן הַכּוֹכָבִים

Every single sphere of the eight spheres in which the stars are set

נִחְלָק לְגִלְגָּלִים הַרְבֵּה

is actually divided into many sub-spheres,

זֶה לְמַעַלָּה מִזֶּה כְּמוֹ גְּלָדֵי בָצָלִים.

one above the other, like the layers of onions nested inside each other.

מֵהֶן גְּלָגָלִים סוֹבְבִים מִמַּעֲרָב לְמִזְרָח.

Of them, there are spheres that revolve from west to east,

וּמֵהֶן סוֹבְבִים מִמִּזְרָח לַמַּעֲרָב

and of them, there are those that revolve from east to west,

כמו הגלגל התשיעי החוזר ממזרח למערב.

like the ninth sphere, which returns and rotates daily from east to west.

וּכְלֹן אֵין בֵּינֵיהֶם מְקוֹם פָּנוּי:

And as for all of them, there is no empty space between them at all.

הִלְכָּה ג

Halacha 3: The Absence of Physical Properties and Colors in the Celestial Spheres

כָּל הַגִּלְגָּלִים אֵינָן לֹא קִלִּים וְלֹא כְבִידִים

All the spheres are neither light nor heavy, as they are not made of the physical elements that possess weight,

וְאֵין לָהֶם לֹא עֵין אָדָם וְלֹא עֵין שָׁחַר וְלֹא שְׁאָר עֵינֹת.

and they do not have a red color, nor a black color, nor any other colors of their own.

וְזֶה שֶׁאֲנוּ רֹאִין אוֹתָם כְּעֵין הַתְּכֵלֶת

And this that we see them as a blue color when we look up at the sky,

לְמִרְאֵית הָעֵין בְּלִבְדּוּ הוּא לְפִי גְבַהּ הָאֵוִיר.

is only to the sight of the eye, according to the height of the atmosphere which creates this visual effect.

וְכֹן אֵין לָהֶם לֹא טַעַם וְלֹא רִיחַ

And likewise, they have neither taste nor smell,

לְפִי שֶׁאֵין אֵלֶּה הַמֵּאֲרָעִין מִצִּדֵּי אֶלָּא בְּגוֹפּוֹת שְׁלִמָּה מִהֵן:

because these phenomena are not found except in the physical bodies that are below them in the terrestrial world.

הִלְכָּה ד

Halacha 4: The Spherical Shape of the Orbs and the Earth Suspended in Their Midst

כָּל הַגִּלְגָּלִים הָאֵלֶּה הַמְקִיפִין אֶת הָעוֹלָם

All of these spheres that surround the world

הֵן עֲגֻלִּין כְּכדור

are spherical like a ball,

וְהָאָרֶץ תְּלוּיָהּ בְּאֶמְצָע.

and the Earth is suspended in the middle.

וַיֵּשׁ לְמִקְצַת מִן הַכּוֹכָבִים גִּלְגָּלִים קְטַנִּים

And some of the stars have small spheres

שהן קבועים בהן

that they are fixed in,

ואין אותם הגלגלים מקיפין את הארץ

and those small spheres do not surround the Earth;

אלא גלגל קטן שאינו מקיף

rather, each small sphere that does not surround the Earth

קבוע בגלגל הגדול המקיף:

is fixed within the large sphere that does surround it.

הלכה ה

Halacha 5 · The Number of Spheres and the Science of Astronomy

מספר כל הגלגלים המקיפין את כל העולם שמונה עשר.

The number of all the spheres that surround — all the world is eighteen.

ומספר הגלגלים הקטנים שאינם מקיפין שמונה.

And the number of the spheres that are the small ones that do not surround the entire globe is eight.

וממהלך הכוכבים ידיעת שעור סביבתן בכל יום ובכל שעה

And from the movement of the stars and the knowledge of the measure of their revolution in every day and in every hour,

ומנטייתן מרוח דרום לרוח צפון ומרוח צפון לרוח דרום

and from their inclination from the direction of south to the direction of north and from the direction of north to the direction of south,

ומגבהן מעל הארץ וקריבתן

and from their height above the earth and their closeness,

יודע מספר כל אלו הגלגלים וצורת הליכתן ודרכ הקפתן.

will be known the number of all these spheres and the form of their path and the way of their orbit.

וזו היא חכמת חשבון תקופות ומזלות.

And this is the science of calculating seasons and constellations.

וספרים רבים חפרו בהן חכמי יון:

And books many composed about them the wise men of Greece.

הלכה ו

Halacha 6: The Division of the Ninth Sphere into Twelve Constellations

גלגל התשיעי שהוא מקיף את הכל

The ninth sphere, which encompasses everything,

חלקוהו החכמים הקדמונים לשנים עשר חלקים.

the early Sages divided it into twelve parts.

כל חלק וכל חלק העלו לו שם

To every single part, they assigned a name

על שם צורה זו שתראה בו

based on the name of that form which appeared in it

מן הכוכבים שלמטה ממנו שהם מכונים תחתיו.

from the stars that are below it, which are aligned directly underneath it.

והם המזלות ששמותם

And these are the constellations whose names are:

טלה. שור. תאומים. סרטן. אריה. בתולה.

Aries (the lamb), **Taurus** (the ox), **Gemini** (the twins), **Cancer** (the crab), **Leo** (the lion), **Virgo** (the virgin),

מאזניים. עקרב. קשת. גדי. דלי. דגים:

Libra (the scales), **Scorpio** (the scorpion), **Sagittarius** (the bow), **Capricorn** (the kid goat), **Aquarius** (the water bucket), and **Pisces** (the fish).

הלכה ז

Halacha 7: The Ninth Sphere and the Movement of Stars in the Eighth Sphere

גלגל התשיעי עצמו

The ninth sphere itself

אין בו לא חלוקה ולא צורה מכל הצורות האלו ולא פוכב.

has in it neither division nor shape of any of these shapes, and no star at all.

אלא בחבור הכוכבים שבגלגל השמיני

Rather, it is by the connection of the stars that are in the eighth sphere

הוא שִׁירָאָה בְּכוֹכְבִּים גְּדוֹלִים שֶׁבוֹ תְּכֵנִית הַצּוּרוֹת הָאֵלוֹ אוֹ קְרוֹב מֵהֶן.

that there is seen, in the large stars that are in it, the form of these shapes or something close to them.

וְאֵלֵּי הַשָּׁנִים עֲשֶׂר צוּרוֹת

And these twelve shapes of the zodiac

לֹא הָיוּ מְכוֹנּוֹת כְּנֶגֶד אוֹתָן הַחֲלָקִים אֲלָא בְּזֶמֶן הַמַּבּוּל

were not aligned opposite those parts of the ninth sphere except at the time of the Flood,

שָׂאוּ הָעָלֹו לָהֶן שְׁמוֹת אֵלֹו.

for then they gave them these names because they aligned perfectly.

אָבַל בְּזֶמֶן הַזֶּה כָּבַר סָבְבוּ מְעַט.

But at this time, they have already turned a little, shifting out of that original alignment,

לְפִי שֶׁכָּל הַכוֹכְבִּים שֶׁבִּגְלָגַל שְׁמִינִי

because all of the stars that are in the eighth sphere,

כָּלָם סוֹבְבִים כְּמוֹ הַשֶּׁמֶשׁ וְהַיָּרֵחַ

all of them turn like the sun and the moon,

אֲלָא שֶׁהֵן סוֹבְבִין בְּכִבְדוֹת.

except that they turn with great heaviness and slowness.

וְחֵלֶק שְׂתֵּתָהּ לָהֶּ הַשֶּׁמֶשׁ וְהַיָּרֵחַ כְּנֶגְדּוֹ בַּיּוֹם אֶחָד

And a portion of the sphere that the sun and the moon travel opposite in one day,

יָלֵךְ כְּנֶגְדּוֹ כָּל כּוֹכַב מֵהֶן בְּקֶרֶב מֵשַׁבָּעִים שָׁנָה:

every star of them will travel opposite it in approximately seventy years.

הַלָּכָה ח

Halacha 8 · The Relative Sizes of the Stars, the Earth, the Moon, and the Sun

כָּל הַכוֹכְבִּים הַנִּרְאִים

Regarding all the stars that are seen in the night sky,

יֵשׁ מֵהֶן כּוֹכְבִּים קְטַנִּים שֶׁהָאָרֶץ גְּדוֹלָה מֵאֶחָד מֵהֶן.

there are of them small stars that the Earth is larger than one of them.

וְיֵשׁ מֵהֶן כּוֹכְבִּים גְּדוֹלִים שֶׁכָּל אֶחָד מֵהֶן גְּדוֹל מִן הָאָרֶץ כְּמָה פְּעָמִים.

And there are of them large stars that each one of them is larger than the Earth several times.

וְהָאָרֶץ גְּדוּלָּהּ מִן הַיָּרֵחַ כְּמוֹ אַרְבָּעִים פַּעַמִּים.

And the Earth is larger than the moon approximately forty times.

וְהַשֶּׁמֶשׁ גְּדוּלָּהּ מִן הָאָרֶץ כְּמוֹ מֵאָה וְשִׁבְעִים פַּעַמִּים.

And the sun is larger than the Earth approximately one hundred and seventy times.

נִמְצָא הַיָּרֵחַ אֶחָד מִשְׁשֶׁת אֲלָפִים וְשִׁמוֹנֶה מֵאוֹת מִן הַשֶּׁמֶשׁ בְּקֵרוֹב.

Thus, it turns out that the moon is equivalent to one of six thousand and eight hundred parts of the sun, approximately.

וְאֵין בְּכָל הַכּוֹכָבִים כּוֹכֵב גְּדוּל מִן הַשֶּׁמֶשׁ

And there is not among all the stars a star larger than the sun,

וְלֹא קָטָן מִכּוֹכֵב שְׁפָנִלְגַּל הַשָּׁנִי:

and not a star smaller than Kochav, which is Mercury, that is in the second sphere.

הִלְכָּה ט

Halacha 9: The Intellect and Recognition of the Stars and Spheres

כָּל הַכּוֹכָבִים וְהַגְּלָגָלִים כֻּלָּן בִּפְעֻלֵי נַפְשׁ וְדַעַה וְהַשְׂכָּל הֵם.

All the stars and the spheres, all of them, possess a soul and knowledge and intellect.

וְהֵם חַיִּים וְעוֹמְדִים וּמַכִּירִין אֶת מִי שֶׁאָמַר וְהָיָה הָעוֹלָם.

And they are alive and standing, and they recognize Hashem, the One who spoke and the world came into being.

כָּל אֶחָד וְאֶחָד לְפִי גְדֻלּוֹ וּלְפִי מַעְלָתוֹ

Each and every one, according to its size and according to its level,

מְשַׁבְּחִים וּמְפָאֲרִים לְיוֹצְרָם כְּמוֹ הַמַּלְאָכִים.

praises and glorifies their Creator, just like the angels.

וּכְשֶׁם שֶׁמַּכִּירִין הַקָּדוֹשׁ בְּרוּךְ הוּא

And just as they recognize the Holy One, blessed is He,

כִּי מַכִּירִין אֶת עַצְמָן

so they recognize themselves,

וּמַכִּירִין אֶת הַמַּלְאָכִים שְׁלִמְעֵלָה מֵהֶן.

and they recognize the angels that are above them.

ידעת הכוכבים והגלגלים מעוטה מדעת המלאכים

And the knowledge of the stars and the spheres is less than the knowledge of the angels,

וגדולה מדעת בני אדם:

and greater than the knowledge of human beings.

הלכה י

Halacha 10: The Four Elements and Bodies Below the Sphere of the Moon

ברא האל למטה מגלגל הירח גלם אחד שאינו כגלם הגלגלים.

God created below the sphere of the moon one prime matter which is not like the matter of the spheres above.

וברא ארבע צורות לגלם זה ואינן כצורת הגלגלים

And He created four forms for this matter, and they are not like the form of the spheres;

ונקבע כל צורה וצורה במקצת גלם זה.

and each and every form was fixed in a portion of this matter.

צורה ראשונה צורת האש נתחברה במקצת גלם זה ונהיה משניהן גוף האש.

The first form, which is the form of fire, connected with a portion of this matter, and from both of them became the body of fire.

וצורה שנייה צורת הרוח נתחברה במקצתו ונהיה משניהן גוף הרוח.

And the second form, which is the form of wind—meaning air—connected with a portion of it, and from both of them became the body of wind.

וצורה שלישית צורת המים נתחברה במקצתו ונהיה משניהם גוף המים.

And the third form, which is the form of water, connected with a portion of it, and from both of them became the body of water.

וצורה רביעית צורת הארץ נתחברה במקצתו ונהיה משניהם גוף הארץ.

And the fourth form, which is the form of earth, connected with a portion of it, and from both of them became the body of earth.

נמצא למטה מן הרקיע ארבעה גופין מחלקיו זה למעלה מזה

It is found that below the sky there are four distinct bodies, one above the other;

וכל אחד ואחד מקיף את שלמטה ממנו מכל רוחותיו כמו גלגל.

and each and every one encompasses that which is below it from all its directions like a sphere.

הגוף הראשון הסמוך לגלגל הירח הוא גוף האש.

The first body, which is close to the sphere of the moon, is the body of fire.

למטה ממנו גוף הרוח.

Below it is the body of wind.

למטה ממנו גוף המים.

Below it is the body of water.

למטה ממנו גוף הארץ.

Below it is the body of earth.

ואין ביניהם מקום פנוי בלא גוף כלל:

And there is not between them any empty space without a body at all.

הלכה יא

Halacha 11 · The Lack of Consciousness in the Four Elements

ארבעה גופות האלו

These four bodies, the basic elements of physical matter,

אינם בעלי נפש

are not possessors of a soul

ואינם יודעים ולא מכירים

and they do not know and do not recognize anything,

אך אף כגופים מתים.

but are like dead bodies that have no consciousness.

ויש לכל אחד ואחד מהם מנהג

And there is to every single one of them a nature and set of physical laws

שאינו יודעו ולא משיגו

that it does not know and does not comprehend,

ואינו יכול לשנותו.

and it is not able to change it on its own.

וזה שאמר דוד

And this is the meaning of that which Dovid HaMelech said in Tehillim:

תהילים קמח ז "הָלְלוּ אֶת ה' מִן הָאָרֶץ תַּנִּינִים וְכָל תְּהוֹמוֹת"

"Praise Hashem from the earth, sea monsters and all depths,"

תהילים קמח ח "אֵשׁ וּבָרָד שֶׁלֹּג וְקִיטוֹר".

and "fire and hail, snow and vapor."

וּבְאוֹר עֲנִיִן הַדְּבָרִים

And the explanation of the matter of these words is:

הָלְלוּהוּ בְּנֵי אָדָם מִגְבוּרוֹתָיו

praise Him, children of man, from His mighty deeds

שֶׁתִּרְאוּ בָאֵשׁ וּבַבָּרָד

that you see in the fire and in the hail

וּבְשָׂרָא בְּרוּאִים שֶׁתִּרְאוּ לְמַטָּה מִן הַרְקִיעַ

and in the rest of the creations that you see below the heaven,

שֶׁגְבוּרָתָם תָּמִיד נִכָּרָת לְקָטָן וּלְגָדוֹל:

whose power and the wisdom of Hashem in them is always recognizable to the small and to the great alike.

CHAPTER SUMMARY

The chapter begins by detailing the order and movement of the nine celestial spheres and the planets within them, explaining their physical properties and how their transparent nature allows us to see through them. The Rambam outlines the total number of major and minor spheres, noting that the science of these orbits was studied by the Sages of Israel and the wise men of Greece alike, with our acceptance of these truths relying on solid proof rather than the identity of the author. After describing the twelve mazalos of the ninth sphere and the slow movement of the stars in the eighth sphere, the Rambam compares the physical sizes of the Earth, moon, and sun. He concludes with the powerful yesod that all stars and spheres possess a soul and intellect, and they actively praise and glorify Hashem according to their high spiritual level.

When we look up at the night sky, we might see beautiful, silent, and cold spheres of light. But the Rambam reveals a breathtaking truth: these stars and spheres are not dead matter. They are alive, possessing a deep intellect and a profound awareness of Hashem. Each one, in its own unique orbit and according to its own stature, is constantly singing praises and glorifying its Creator, just like the holy angels.

Think about this for a moment. The sun, the moon, and the vast constellations are in a state of constant, conscious avodah. They know their Maker, and their very movement is a song of praise to Him. Yet, the Rambam notes that while their intellect is greater than ours, they have a fixed nature they cannot change. You, on the other hand, have something they will never possess: choice. When you choose to serve Hashem, your small whisper of praise carries a power that eclipses the grand song of the entire cosmos.

This changes how we look at the world around us. We are not living in a cold, mechanical universe. We are surrounded by a creation that is alive with the praise of Hashem. When you align your daily actions with the will of the Creator, you are not acting alone; you are joining the grand, cosmic choir of creation, bringing the ultimate purpose of the universe to its fulfillment.

Today, when you step outside and look at the sky, or even when you just feel the warmth of the sun, pause for ten seconds. Remind yourself that the creation around you is alive, knowing and praising Hashem, and make a conscious choice to join their song by doing your next mitzvah with joy and intention.