

CLASS 1

I. Introduction

A. The Torah: Foundations of Modern Science

1. **The world was created with order and design**
(Knowing that there are consistent and predictable patterns, systems, and laws inspire the search for discovery of those systems)
2. **Mankind's superior intelligence is capable of grasping the world's design**
(Human intellect is endowed with the ability to understand the workings of the world)
3. **Humans are imperfect**
(The awareness of human fallibility necessitates hypothesis testing and scientific rigor)

B. Definitions

Molecular Biology is the field of science concerned with studying the chemical structures and processes of biological phenomena that involve the basic units of life (molecules). It focuses especially on nucleic acids (e.g., DNA and RNA) and proteins.
(Adapted from *Encyclopedia Britannica*, <https://www.britannica.com/science/molecular-biology>)

Microbiology is the study of microscopic organisms (microbes), including bacteria, archaea, viruses, fungi, protozoa, and algae. Microbiologists study the structure, function, and classification of microorganisms, and explore how they interact with humans, animals, plants, and the environment, both in maintaining life and in causing disease. It is an interdisciplinary science, overlapping closely with other disciplines such as biochemistry, molecular biology, immunology, medicine, agriculture, food science, environmental engineering, and pharmacology.
(Adapted from *Encyclopedia Britannica*, <https://www.britannica.com/science/microbiology>)

Genetics is the study of hereditary inheritance (how traits and biological instructions are passed down from one generation to the next), including the interplay of genes, DNA variation, and their interactions with environmental factors. It is an interdisciplinary science, overlapping closely with other disciplines such as biochemistry, biotechnology, medicine, agriculture, and ethics.
(Adapted from *National Human Genome Research Institute*, <https://www.genome.gov/genetics-glossary/Genetics>)

C. The difference between Molecular Biology and Microbiology

1. Microbiology (the *independent forms of life*) is the study of self-sustaining creatures that live on their own, that reproduce, find food, and live independently in their environment. In Halachah, this will have relevance to such areas as the laws of preservation of health, the laws of kashrus, and the laws of Shabbos observance.
2. Cellular Biology and Genetics (the *building blocks of life*) is the study of the basic components of larger, complex life. Such cells are micro in size, but cannot exist or function independently. They are parts of a larger organism. In Halachah, this will have relevance to topics such as lineage, genetic testing, and the ethics of bioengineering and cloning.

D. From the Torah's point of view, is the study of molecular biology and genetics (and science in general) prohibited, permitted, or obligatory?

1. Studying the wonders of the physical world helps us recognize the Divine wisdom underlying them, leading to an enhanced appreciation of and connection to the Creator.

a. Rambam, Hilchos Yesodei ha'Torah 2:1-2

(See also Rambam, Hilchos Yesodei ha'Torah 4:12,
and Rambam, Hilchos Teshuvah 10:6,
and Rambam, Moreh Nevuchim 3:28)

(א) הא-ל הנכבד והנורא הזה מצוה לאהבו וליראה אותו שנאמר "ואהבת את ה' א-להיך" (דברים ו ה). ונאמר "את ה' א-להיך תירא".

(ב) והיאך היא הדרך לאהבתו ויראתו? בשעה שיתבונן האדם במעשיו וברואיו הנפלאים הגדולים ויראה מהן חכמתו שאין לה ערך ולא קץ מיד הוא אוהב ומשבח ומפאך ומתאנה תאנה גדולה לידע השם הגדול. כמו שאמר דוד "צמאה נפשי לא-להים לא-ל חי" (תהילים מב ג). וכשמחשב בדברים האלו עצמן מיד הוא נרתע לאחוריו ויפחד ויודע שהוא בריה קטנה שפלה אפלה עומדת בדעת קלה מעוטה לפני תמים דעות. כמו שאמר דוד "כי אראה שמיך מעשי אצבעתיך... מה אנוש כי תזכרנו" (תהילים ח ד-ה).

ולפי הדברים האלו אני מבאר כללים גדולים ממעשה רבון העולמים כדי שיהיו פתח למבין לאהב את השם. כמו שאמרו חכמים בענין אהבה שמתוך כך אתה מכיר את מי שאמר והיה העולם.

א) It is a mitzvah to love and fear this glorious and awesome G-d, as it says, "And you shall love Hashem, your G-d" (Devarim 6:5), and as it says: "Hashem, your G-d, you shall fear" (Devarim 6:13).

ב) What is the path [to attain] love and fear of Him? When a person contemplates His wondrous and great deeds and creations and appreciates His infinite wisdom that surpasses all comparison, he will immediately love, praise, and glorify [Him], yearning with tremendous desire to know His great name, as David stated: "My soul thirsts for Hashem, for the living G-d" (Tehillim 42:3). When he reflects on these matters themselves, he will immediately recoil in awe and fear, appreciating how he is a tiny and lowly creature standing with his limited wisdom before He Who is of perfect knowledge, as David said, "When I see Your heavens, the work of Your fingers... [I wonder] what is man that You should recall Him" (Tehillim 8:4-5).

Based on these concepts, I will explain important principles regarding the deeds of the Master of the worlds so that there will be an opening for a person of understanding to [develop] love for G-d, as our Sages said regarding love: "In this manner, you will recognize He who spoke and thereby brought the world into being."

b. Rambam, Sefer ha'Mitzvos #3

היא הציווי שנצטוונו על אהבתו יתעלה, והוא: שנתבונן ונסתכל במצוותיו וציווייו ופעולתיו, כדי שנשיגהו ונתענג בהשגתו תכלית התענוג - וזוהי האהבה המצווה [עלינו].
The third mitzvah is that we are commanded to love G-d, and that is: that we will contemplate and closely examine His mitzvos, His commandments, and His works, in order to understand Him, and through this understanding to achieve the ultimate experience of pleasure. This is the goal of the commandment to love G-d....

[Note the difference between these two statements of the Rambam.]

c. Zohar, Parshas Yisro (80b)

אילו ידעין בני נשא חכמת דכל מה דנטע קודשא בריך הוא בארעא וחיילא דכל מה דאשתכח בעלמא, ישתמודעון חילא דמאריהון בחכמיה סגיא. אבל לא טמיר קודשא בריך הוא חכמת דא מבני נשא, אלא בגין דלא יסטון מארחי, ולא יתרחיצו בההיא חכמת וינשון ליה.

If people would know the wisdom of all that the Holy One, blessed be He, has planted in the earth, and the power of all that is to be found in the world, they would proclaim the power of their Master in His great wisdom. But the Holy One has purposely hidden this wisdom from people, in order that they should not turn from His way by trusting in that wisdom alone, forgetting Him.

[Note the difference between the Rambam's approach and the Zohar's approach.]

d. Chovos ha'Levavos, Sha'ar ha'Bechinah 5

(English translation by Rabbi Moses Hyamson, former chief Rabbi of British Empire, 1925, with revisions of Rabbi Yosef Sebag)

וחיבין אנו לעין בהתחלת האדם ומולדתו וחבור חלקיו והרכבת אבריו ותועלתו בכל אחד מהם והצרך המביא לעשותו על הצלם אשר הוא... כדי שיכיר הבורא יתעלה מסימן החכמה בו כמה שכתוב (איוב יט) ומבשרי אהבה אלוה... ואז יכנע לבורא על רוב חסדו וטובו עליו ותתגדל הודאתו לו כמ"ש דוד ע"ה (תהלים קל"ט:ד-ט"ו) אודך על כי נוראות נפילתי נפלאים מעשיך ונפשי ידעת מאד לא נכחד עצמי ממך אשר עשיתי בסתר רקמתי בתחתיות ארץ גלמי ראו עיניך ועל ספרך כלם יכתבו ימים יצרו ולא אחד בהם.

Hence, it is our duty to study the beginning of a human being, his birth, the compositions of his parts, the joining together of his limbs, the purpose of each limb and organ and the necessity which caused its being made in its present form.... So that through the evidence of Divine wisdom displayed in himself, the person will become cognizant of the Creator, as Iyov said, "From my flesh, I see G-d" (Iyov 19:26)....

... And then, realizing the abundance of G-d's loving kindness and goodness toward him, he will be filled with the spirit of humility and submission towards the Creator, and his gratitude towards his Maker will abound, as King David said: "I will thank You, for in an awesome, wondrous way I was fashioned; Your works are wondrous, and my soul knows it very well..." (Tehilim 139:14)....

...וכן שאר כל מדות האדם כאשר תבחנם תמצאם בתכלית התקנה והתועלת לו כאשר זכרנו בשקל....

ואומר כי אין אבר שזכרתי תועלתו שאין סימני החכמה נראים בהרכבתו ותכונתו וחבורו למי שמתבונן בהם ועדותם חזקה וראיתם גלויה על חמלת הבורא עלינו. וכבר באר גלוס בכמה ספרים תועלות האברים באר היטב

ואלו היינו מכונים לבאר את זה באבר אחד לבדו היינו יוצאים בדברים מגבול הדרך הקצרה ובמה שהבאנו די להעיר מי שיורהו הבורא דרך הצלתו בעז"ה.

So, too, all the other faculties of man, if you study them, you will find, display the utmost perfection and are of the utmost benefit to him....

I assert that there is not one of these organs the uses of which I have mentioned that does not show to one who reflects on them clear signs of Divine wisdom in its structure, form, and combination with other organs. They display strong evidence and clear proof of the Creator's mercy towards us. Galen, in numerous treatises, has expounded the functions of the bodily organs. Were we to do so in the case of one of these, we would depart from our goal of conciseness. What we have brought, with G-d's help, is sufficient to inspire anyone....

e. Radak (Rabbeinu David Kimchi), Tehillim 139:14

Tehillim 139:14

אודך על כי נוראות נפְלִיִּיתִי נְפִלָאִים מַעֲשֶׂיךָ וְנִפְשִׁי יֹדַעַת מַאֲד.
I will thank You, for in an awesome, wondrous way I was fashioned; Your works are wondrous, and my soul knows it very well.

רד"ק

אודך על כי נוראות. עלילות נוראות יש ביצירתי ואודך עליהם כי נפלאותי ביצירה רוצה לומר נפלאות מעשיך ב'.

ונפשי יודעת מאד. ונפשי יודעת כלומר נפשי המשכלת יותר על שאר החיים, והיא תדע מעשיך הנפלאים ותודה לך עליהם ונוראות היצירה הם נגלים לחכמים כי כל אבר ואבר נברא בחכמה ועל התכונה שנברא הוא לצורך ולתועלת וכל אדם צריך להתבונן בהם, ומתוך כך יכיר נפלאות היוצר ויודה לו עליהם ואם באנו לספר בזה החיבור תכונת האברים ותועלתם ומזג הכוחות ותועלתם יאריך הסיפור אבל המשתוקק להם ימצא בספרי החכמים.

"I will praise You". The workmanship involved in my creation are awesome, and I will praise You for them, because "I am wondrously made" in my creation, meaning to say: Your works within me are wondrous.

"And my soul knows it very well". And my soul knows, meaning, my soul of wisdom, which has greater understanding than all other living creatures. It knows Your wondrous works and praises You for them. The awesome wonders of creation are revealed to *chachamim*, the wise, for every single organ was created with wisdom, and the specific way it is engineered is designed exactly for a vital need and function. Every person needs to contemplate them, and through this contemplation one will recognize the wonders of the Creator and acknowledge Him for them.

If we would come in this book to recount the anatomy of the organs and their functions, and the homeostasis of the bodily faculties and their utility, the discussion would be immensely lengthy. But whoever eagerly desires to know them will find them in the books of the wise men (the scientists and physicians).

- f. The “god of the gaps” fallacy, and the misleading expressions “wonders of nature” and “nature created” and the like

1) Rav E. E. Dessler, *Michtav Me'Eliyahu*

Rabbi Aryeh Carmell, introduction to Rav E. E. Dessler's “Nature & Miracle” in *Strive for Truth*, p. 237 (English edition of *Michtav Me'Eliyahu*):

... “In our time, ‘Nature’ has virtually supplanted God in human consciousness. ‘Nature’ is thought of as all-wise and all-powerful; it is the supreme lord to which all must make obeisance. It is this idolatry of nature that Rabbi Dessler sets out to destroy....”

Rav E. E. Dessler, *Michtav Me'Eliyahu*, vol. I, p. 180 (English version, *Strive for Truth*, vol. I, p. 246):

... הכל ברצונו נעשה. מה נואלו האנשים אשר לא ילמדו ולא יתבוננו בגדולתו יתברך, אשר נראה בחוש מרבוי העולמות והברואים בכל פרט ופרט, כי אילו הסתכלו הזה היו ניצולים מלהכשל בכפירה של המבט הטבעי אשר הורגלו בו, והיא מאושרים בב' עולמות ממש.

... All is done according to His will. We are very foolish if we close our eyes and refuse to reflect on God's infinite greatness. This so obvious to anyone who takes time to consider the multiplicity of worlds and creatures and the breathtaking beauty and complexity of their structure. **If only we would not just see but observe and note all these wonders we should escape the cold heresy of “natural causes” to which we have become so habituated. We would then ensure our happiness in this world and the next.**

Ibid., vol. III, p. 164 and vol. I. p. 181 (*Strive for Truth*, vol. I, p. 147):

... יש מסתכל לתוך הבית דרך חור מנעול שבדלת, ויראה עט כותבת, ולא יראה את האדם – וידמה שהעט כותבת בעצמה. כך הוא הכופר, שיחשוב שהטבע פועלת בעצמה. אבל כשפותח הדלת, יראה את האדם הכותב; כך המאמין יראה שה' יתברך הוא העושה והמסבב את הכל, וכל הסיבות ומעשי בני אדם הם אצלו כמו עט ביד הכותב, אשר ישתמש בכולם לתכלית אשר ירצה.... עבורו היא מצות האמונה – ללמוד לדעת שיש מנהיג לטבע, ולדעת זאת באותה מדה של ודאות כמו שודע האדם במשל הנ"ל שלא העט כותב מעצמו אלא האדם האוחז בעט....

Someone looks through the keyhole of a door into a room and all he can see is a pen moving over paper. He concludes that the pen is writing by itself. This is the standpoint of the one who denies Hashem and believes that nature is an independent power. But when the door is opened, the person sees the writer. This corresponds to the attitude of the believer who recognizes that Hashem is the true cause of all events... they are for him nothing but the pen in the hand of the writer.... For him the mitzvah of Emunah (faith) is to learn to know that there is a Director of nature, and to know it with the same degree of certainty as the person in the above metaphor knows that it is not the pen that writes by itself, but rather the person who is holding the pen....

Ibid., vol. V, pp. 365-366

"תכלית הבריאה היא גילוי כבוד ה' " (אבות סוף פ"ו). כל פרט ופרט שבה יכול להיות כלי לגילוי זה. עד כמה שיש בכוחו לגלות - זהו קיומו ומציאותו של כל פרט. גילוי כבוד ה' תלוי בראיית האדם. כל הדברים בעולם נקראים דברים, כי הם מדברים. "מה שנצרך יותר לחיי האדם, נמצא יותר. (אור נמצא יותר ממים, מים יותר מאוכל, אוכל יותר ממלבוש וכו'). וכן ברוחניות - הנצרך יותר לגילוי נמצא יותר. הטבע נמצא יותר מהנס, וא"כ מוכרח שיש יותר גילוי בכח הטבע מאשר בנס. מהו כבוד ה' שאפשר לגלות בטבע? מתגלה בו תמידיות רצון ה' בקיום כל הנבראים, ועקביותו, והדייקנות המתמטית הנפלאה שבכל דבר מגדולי הגדולים - כגון גלקסיות, עד קטני קטנים - כמו אטומים. בדברים אלו בדיוק השתמשו רעי עין בכדי להעצים את האדם ולנתק את הבריאה מבוראה.

The purpose of the Creation is to reveal the honor of Hashem (Avot 6:11, based on Yeshayah 43:7). Every single item in the world is able to be an instrument for this revelation.... The revealing of the Creator's honor depends on the vision of man.

The more something is needed in the world to sustain human life, the more available it is found. (Air is more available than water, water is more available than food, food is more available than clothing, etc.; see Chovos ha'Levavos, Sha'ar ha'Bechinah, ch. 5.) Similarly, in spirituality, that which is more needed is found more readily. Accordingly, the process of nature is found more than the process of miracle. This being the case, it follows that there is more potential revelation [of Hashem's honor] in nature than in a miracle. How do we see Hashem in nature? His constant, consistent will to sustain all of creation is revealed in nature, and in the wondrous, extreme mathematical precision that exists in every part of the natural world, from the largest of the large – such as the galaxies, to the smallest of the small – such as atoms....

2) Professor Stephen C. Meyer, Ph.D. (see link to his article and books at the end of this source sheet):

In recent years, many scientists have emerged as celebrity spokesmen for atheism. Richard Dawkins, Lawrence Krauss, Bill Nye, Michael Shermer, the late Stephen Hawking, and others have published popular books arguing that science renders belief in G-d unnecessary or implausible.... Yet, between message and reality, there is a major disconnect. Over the last century, important scientific discoveries have dramatically challenged science-based atheism, and three in particular now tell a decidedly more G-d-friendly story....

... Molecular biology has revealed the presence in living cells of an exquisite world of informational nanotechnology. These include digital code in DNA and RNA—tiny, intricately constructed molecular machines which vastly exceed our own digital high technology in their storage and transmission capabilities. And even Richard Dawkins has acknowledged that "the machine code of the genes is uncannily computer-like" — implying, it would seem, the activity of a master programmer at

work in the origin of life. At the very least, the discoveries of modern biology are not what anyone would have expected from blind materialistic processes.

All this underscores a growing disparity between public perceptions of the message of science and what scientific evidence actually shows. Far from pointing to "blind, pitiless indifference," the great discoveries of the last century point to the exquisite design of life and the universe and, arguably, to an intelligent Creator behind it all.

3) Rav Avigdor Miller, *Sing, You Righteous*, excerpts from pp. 135-173

When we were children, the teacher said: "Nature plans ahead," and "Nature does nothing without purpose." We were told: "Nature maintains a balance," "Nature foresees emergencies," "Nature economizes," "Nature constantly strives to break down all things to their simplest components," and "Nature has devised an ingenious plan, etc." We swallowed that unthinkingly.

Nature is one of two things: Intelligence or accident. There is no third alternative. They actually are saying, "Accident plans ahead"; "Accident does nothing without purpose."...

... Such attitudes are possible only when men live in a dreamworld of unreality....

... They use dishonest terminology in order to confuse the issue, but in the last analysis, the question remains: Is Life the result of accident or of planning by an Infinite Intelligence?...

... Each cell possesses the most intricate submicroscopic machinery. But it also possesses a DNA molecule. This infinitesimal molecule holds within itself millions of complicated instructions governing every phase of the body's composition and functions, and this molecule also possesses the ability to send out this information to the billions of cells of the body and to activate them accordingly. And the identical DNA molecule with every one of these instructions is present in the trillions of cells in the body. Yet each body has a different set of instructions and its DNA molecules. The mind reels at the immense complexity of this master plan.... [Moreover,] the cell is equipped with a DNA molecule containing instructions for countless eventualities which *arise in the future*....

... The school youth is led astray by deluded teachers who pretend to explain that these purposeful phenomena of immense premeditation are performed by a mythical "Mother Nature." "Nature plans ahead," "the wisdom of Nature," "Nature conserves space," "Nature conserves materials," "Nature is persistent," "Nature provides for all contingencies," and "Nature strives to maintain a balance." Who is this all-knowing "Nature"? Is it a chemical or a form of energy? It is an imaginary concept which was invented for the purpose of evading the open truth. If we see everywhere such overwhelming abundance of premeditated purposefulness, to what could it be ascribed other than an Infinite Intelligence?...

... Mankind is therefore put to the test whether they choose to open their eyes and recognize Him from His works, which are everywhere. There's no possibility of not seeing these open signs and wonders unless one willfully closes his eyes. Billions of tongues on all sides proclaim the message of plan and purpose....

... Indeed, the universe is the greatest opportunity to recognize the Creator, but it can also be made into the greatest opportunity for the obstruction of men's minds.... The universe demonstrates that although

the truth is purposely concealed from those who seek to avoid it, yet the truth is abundantly available for those who desire it....

... Microscopic plants and animals essential to the body's health flourish in our intestines. They exist by feeding on each other, and at the same time, they thereby inhibit the growth of each other. This marvelous balance renders them normally harmless. (When men interfere, such as by using broad-spectrum antibiotics, which destroy some of the inhibiting organisms, thus upsetting the balance, then the normally harmless organisms increase and cause dangerous super-infections.) The plan of the Creator included these microorganisms, for each species has a function in the process of digestion and metabolism, in addition to creating vitamins and other essential products, and in addition to the function of providing food for each other. And the Creator has rendered these potentially dangerous organisms harmless by arranging a balanced system whereby they control and repress each other. And without these intestinal flora, we could not survive. This same system of balance is found throughout all nature....

... A single example would be enough... to teach Mankind the Knowledge of the Creator. But it is not enough, if one seeks the True Knowledge.

What do you mean by True Knowledge, in contrast to Knowledge?

The *clarity* of Knowledge. Just as seeing is believing, for it causes clarity of Knowledge more than does mere hearing, and therefore the phenomena of the world have been given to us so that we should see them and gain knowledge of the Creator, so does the seeing of many demonstrations cause more clarity than is caused by the seeing of merely one demonstration. Since seeing is believing, then the more one sees, the more he believes.

But is it important to believe more and more intensely?

The more one is convinced of the Infinite Wisdom and the more one is grateful for the Infinite Kindliness, the more eager he is to perform the acts of gratitude-service which the Torah requires. Some men fulfill the Torah because they *must*, but it is far better to fulfill the Torah because one *desires* to do so. But even *for itself* the True Knowledge is an achievement of maximum importance, and in itself it constitutes one of the chief forms of gratitude-service.

g. If the physical world contains so many signs of Intelligent Design, why do so many people ignore those signs?

- 1) Rav E. E. Dessler, *Michtav Me'Eliyahu*, vol. I, pp. 173-174 (English version, *Strive for Truth*, vol. I, p. 227-230, "*There never has been a true apikorus*")

מעולם לא היה אפיקורס אמת

"השמים מספרים כבוד א-ל ... אין אומר ואין דברים בלי נשמע קולם" (תהלים י"ט).

דבר גדול השמיענו הכתוב בזה. כי לכאורה תמוה: אם השמים מספרים, והרקיע מגיד, והימים ידברו, והלילות יחוו דעת, איך אפשר שיהיו בני אדם שלא ישמעו ולא ידעו? אם כל הבריאה כולה אומרת שירה לפניו איך אפשר שיהיו מחוסרי אמונה שיאמרו שאינם שומעים כלום? אמנם מעולם לא היה מי שהוא אפיקורס באמת. כל מי שפקר ידע בפנים קרב לבו שמתעלם הוא מן האמת, ומה שטוען שאינו רואה ואינו שומע היינו שאינו ר / צ ה לראות ואינו ר / צ ה לשמוע.

ועי' מש"כ הגר"ח מוולאז'ין בנפש החיים שער א' בהגה"ה ע"פ פ"ן
יראה בעיניו ובאזניו ישמע ולבבו יבין ושב ורפא לו", (ישעי' ו') דהיינו שהרשע
מתיירא מלראות ומלשמע ומלהבין, כי אם כה יעשה הלא ישוב ויתרפא,
ובזה אינו רוצה בשום אופן.

וזוהו מה שאמר הכ' "אין אומר ואין דברים בלי נשמע קולם", פי' שאין
שום אחד מדבריהם של השמים והרקיע הנ"ל שאינו נשמע לכל באי עולם, כי
בתוך תוך לבם הכל שומעים את קול השירה של הבריאה כולה המכרזת על
בוראה ומודה לו, כי כל אומר ודברים שבבריאה בהכרח נשמעים, אלא
שהכופר — בכוונה הוא כופר, ובמרמה הוא אומר שאינו שומע ואינו רואה....
... חזו מהלך כל אפיקורסות — כל אדם יודע את האמת בלבבו,
אלא שרצונותיו הרעים מביאים אותו לידי עבירות שאי-אפשר לו לתרץ
לעצמו, ופנימיות לבו דוחפתו ליישב את הסתירה ע"י אפיקורסות. נמצא, כל
אפיקורסות שקר משרשה.

*The heavens recount the glory of G-d
and the expanse declares the work of His hands.
Day to day expresses speech
and night to night communicates knowledge.
There is no speech; there are no words;
their voice is not heard.
[But] their line goes forth in all the earth;
their words to the end of the world. (Tehillim 19:2-5)*

These verses teach us a great lesson. We might wonder: if the heavens recount and the expanse declares, if the days speak and the nights communicate, how is it possible for there to be people in the world who don't hear and don't know? The answer is given by the Psalmist. There is no speech, there are no words — for one who doesn't want to hear. But their sound fills the earth. The *rasha* may try to suppress it, but deep in his heart the voice is heard.

That is why there has never been a real *apikorus* (heretic). Whoever denies G-d, knows in his heart of hearts that he is hiding from the truth.

We may recall what the prophet Yeshayahu was told:

*Fatten the heart of this people,
Deafen its ears,
Turn away its eyes!
Lest it see with its eyes
And hear with its ears
And understand with its heart—
And return ... and be healed. (Yeshayahu 6:10)*

The meaning, as noted by Rabbi Hayim of Volozhyn (*Nefesh Ha-hayim*, 1, note), is that the *rasha* is afraid to look, afraid to listen and understand, because he realizes that if he were only to look at the truth he would be compelled to return — and this he is determined to avoid at all costs.

In his heart every human being hears the great chorus of all creation proclaiming its Creator and praising Him. "Their voice fills the earth, their words penetrate to the end of the world." Denial is a deliberate pretense....

... This is the way of all denial of G-d. In his heart every individual knows the truth. But his will leads him into courses of action which he is unable to justify to himself. He then suffers an inner compulsion to resolve the contradiction by denial. It follows that all *apikorsut* is rooted in falsehood....

2) Rabbi Tzadok ha'Kohen, *Likutei Ma'amarim*, p 109

ויש חכמה באומות העולם כמו שאמרו חז"ל... כי אמת הוא דיש חכמה באומות העולם והיינו חכמת אמת, רק שאינו מורגש ללב (שלהם) להדריך הלב על ידו.... זאת אומרת, הבעיה היא שאומות העולם אינם מתפעלים כראוי ואינם מושפעים לטובה למרות ידיעותיהם.

... For it is true that there is wisdom among the nations of the world, meaning a wisdom of truth, except that it is not felt by their heart to guide their heart through it... That is to say, the problem is that the nations of the world are not properly moved and are not influenced for the better, despite their knowledge.

3) Rav Avigdor Miller, *Sing, You Righteous*, p. 151

If one concentrates his mind on the same phenomenon continually, he thereby gains a deeper appreciation of the wonders of that phenomenon. But do we not see that the medical men become inured to the miracles of the body and are the least impressed by them, despite their constant contact with them? This question was put to Rabbi Yisrael Salanter. If the Scripture declares that "it is better to go to a house of mourning than to a house of feasting, for the living will put [the lessons of death] to his heart" (Koheles 7:2), then why are the undertakers impressed the least of all? To this he replied, for the same reason that the hearse-horse is not impressed. Constant contact with the wonders of Creation is beneficial *only when the mind is employed*. When there is no desire to learn and to be impressed, constant contact produces the opposite of True Knowledge; the mind becomes callous and impervious. A medical man writes: "During the first five days after parturition (childbirth), the mother's breasts produce a liquid called colostrum, which is intended as a laxative to remove mucus and other wastes from the baby's digestive tract, and it supplies antibodies which immunize the newborn child."... Marvels such as these, in the thousands, are constantly repeated by these unseeing men, and their stunning purposefulness is mentioned without the least effect. Because they have no interest in the import of these lessons, and even more, because their teachers were determined to permit no lessons of any kind to be learned from the phenomena, therefore they are unable to benefit from them. Thus, habit takes over, and the frequent contact with the purposeful marvels of the body causes these men to become so hardened that they are the least likely to see anything....

4) Alei Shur, Rav Shlomo Wolbe, vol. II, p. 235

Pirkei Avot 6:1

כל מה שברא הקדוש ברוך הוא בעולמו, לא בראו אלא לכבודו, שנאמר: כל הנקרא בשמי ולכבודי, בראתיו אף עשיתיו.

Everything that G-d created in His world, He did not create but **for His glory**. As is stated (Yeshayah 43:7): "All that is called by My name and for My glory, I created it, formed it, also I made it."

Alei Shur

לפי דרכנו נתרגם ברייתא זו במלים שלנו: "כל מה שברא הקב"ה בעולמו לא בראו אלא להתגלות בו, "זוהי האמת: כל הבריאה כולה, מהעליון שבנבראים עד התחתון, הבריאה בכללה ובכל פרטיה – הכל הוא אך ורק התגלות!"

According to our approach, we may translate this Tannaic teaching (in Avot) in our words as follows: "Everything that G-d created in His world, He did not create but **to reveal Himself...**"

This is the truth: every part of the entirety of Creation, from the greatest of the creations to the smallest, the Creation in its entire form and in all of its details – it is all nothing but a revelation [of Hashem]!

Additional resources for Class 1

Chovos ha'Levavos (Duties of the Heart), Sha'ar ha'Bechina 5. Available online in English at <https://www.dafyomi.co.il/general/info/chovos/article.php?docid=414#ch5> .

Sing, You Righteous, Rabbi Avigdor Miller, ch. 7, "The Universe Testifies".

Mind Over Matter: The Lubavitcher Rebbe on Science, Technology and Medicine (English translation of "*Mah Rabu Ma'asecha Hashem*"). 528 pages. New edition, revised and expanded 2015. Arranged By: Rabbi Joseph Ginsburg and Professor Herman Branover, translated by Dr. Arnie Gotfryd, Ph.D. Select chapters available online at https://www.chabad.org/library/article_cdo/aid/111581/jewish/Mind-Over-Matter.htm

"Too much science gives back to G-d," Ignacio Sols, Professor of Mathematics, Universidad Complutense, Madrid: <https://en.unav.edu/web/ciencia-razon-y-fe/la-mucha-ciencia-devuelve-a-dios>

"How Science Stopped Backing Atheists and Started Pointing Back to G-d," Stephen C. Meyer, Ph.D.: <https://www.newsweek.com/how-science-stopped-backing-atheists-started-pointing-back-god-opinion-1724448>. See also his books, *Darwin's Doubt: The Explosive Origin of Animal Life and the Case for Intelligent Design* (HarperOne, 2013), and *Signature in the Cell: DNA and the Evidence for Intelligent Design* (HarperOne, 2009), and *The Return of the G-d Hypothesis* (HarperOne, 2021).