Abstract:
The modern food industry is increasingly using the tools of genetic engineering in the production and sale of food products. One of the most important recent technological innovations is lab-grown meat (or "synthetic" meat). The lab-grown meat industry is based on the genetic duplication of animal cells under laboratory conditions in order to attempt to produce a product with the nutritional and culinary value of animal meat. Some predict that this industry will play an important role in the human diet of the future.

The beginning of this process is based on cells taken from live animals. In recent years, new methods of laboratory meat production based on non-meat cells have begun to develop. For example, in one of them, the cells are taken from a pre-embryo found in a fertilized egg (blastula). Otherwise, the cells are taken from a pre-embryo taken from a cow (blastocyst). This topic raises various questions and many challenges in the fields of health, ecology, ethics and, of course, religion. How should we treat such meat? Is meat produced in a laboratory kosher? Is it Halal? Is the product meaty or synthetic? Do the initial stem cells determine the definition of the final product, and, further on, what is the status of such a product when it is produced from pig stem cells?

On the ethical level, a general question is posed on the subject of genetic engineering. Is it permissible to intervene so blatantly in the nature that God created?

This article will focus on the various challenges that this industry raises from the Jewish ethical and kashrut aspects, and address some questions.

Ključne riječi: meat, ethics, laboratory, industry, Jewish law.

JEL codes: Q18

INTRODUCTION

For many years, science around the world has been producing meat substitutes. The increase in population, and with it the increase in meat consumption, contributed to an unprecedented development in this study. Following the damage caused to the planet as a result of greenhouse gas emissions generated in the production processes of the meat industry, the research and this industry are receiving great support from environmental protection organizations.

The research process of growing artificial meat began about 50 years ago - with the success of Prof. Russell Ross, in 1971, to artificially grow muscle fibers. However, a significant breakthrough in the field took place about 10 years ago when a group of scientists in the Netherlands, led by physiologist Prof. Mark Post, from the University of Maastricht, succeeded in producing "meat" from stem cells removed from the
muscle tissue of a cow's neck. Stem cells differ from other cells in their ability to develop and form new tissues.

The researchers "fed" the stem cells fats, sugars and proteins and placed them on a seaweed substrate that causes them to stimulate, which leads to their reproduction. After many muscle tissues were created under laboratory conditions, a "meatball" was prepared from them with the addition of flavorings.

The main development led to the production of the first samples of artificial burgers which, unlike their predecessors, had a reasonable market price.

There are many dozens of companies in the world today that use different technologies, so the concept of "cultivated meat" is very general and each product needs a discussion on its own depending on the technology in which it is produced.

There are technologies whose development is not based on a mature meat cell from an animal, in one method the product is produced from cells (fibroblasts) that are used as part of the connective tissue of a pre-embryo (blastula) formed in a fertilized chicken egg. When the cells are soaked in a suspension, they cause some of them to replicate and some of them to differentiate into fat cells. The final product is a collection of fat cells and connective tissue cells that are very much identical to parallel cells found in birds.

In another method, the pre-embryo of an animal is washed from the fallopian tubes when it is in the "blastocyst" stage; and is made up of an inner nucleus of stem cells (from which the fetus is supposed to develop) and an outer shell (from which the placenta is supposed to develop). In this method, the replication process is two-step: in the first stage, the stem cells undergo replication within "bioreactors" that simulate the biochemical environment of the animal's body and cause some of them to differentiate as muscle cells and some to differentiate as fat cells; In stage two, the sorted cells are sown on top of plant "scaffolds" or blood base, and continue to replicate until tissue is formed.

There are technologies based on taking a mature meat cell from a living animal, from a slaughtered animal, from a kosher animal and from a non-kosher animal.

An in-depth understanding of the structure of the material and the various scientific-technological processes will enable the institutions in charge of public health and Kosher certification in each country to provide a correct and appropriate response. In this article, we will try to examine the ethical and kosher aspects of this technology.

I. GENERAL ASPECTS

The artificial production of meat in the laboratory is without a doubt one of the fascinating developments in the field of technology and food. This innovative development makes use of genetic technology and makes it possible to create meat from stem cells produced from animals and sorted into muscle cells. Scientists are working hard in various laboratories around the world to improve the technology and make it cheaper to make it economically viable. This development raises general questions and not just questions about the kosher status of food:
1. Relationship between Science and Jewish law
The question regarding the relationship and the gap between modern science and Halakha is raised from time to time. Many even suggest that there is a contradiction between science and Jewish law. This unfortunately is a wrong understanding of characteristics of scientific theory and Halakha. While Halakha is made of law and ethics that characterize a way of life, including commandments dealing with proper behavior, prohibited food and much more. Science, is dealing with nature and the way it is function. Creating tools and technologies for the benefit of humanity. However, scientific technology in wrong hands can cause a disaster. The reason is simple, science is a tool and the use of it is a question of moral values. Therefore, technology and science as such do not and cannot contradict the moral values of Halakha.

Leading rabbinic authorities already started to examine the halakhic aspects of Lab-grown meat shortly after development of the technology production started. This issue raise many questions in Jewish law. First, one must determine the halakhic status of the “meat” to be able to determine is it kosher and therefore can be consumed and in which conditions. Many questions need to be clarified such as: Is Lab-grown meat considered meat? Do the stem cells determine the definition of the final product? Can it be used with dairy? Are cells that cannot be seen forbidden? The answers to these questions and others are not simple, and therefore there are different opinions between rabbinical authorities.

2. Human Intervention in the Affairs of God
The field of science raises a fundamental question. In the Torah, it appears that health conditions come from the divine providence as reward or punishment for our conduct in the world:

“If thou wilt diligently hearken to the voice of the Lord thy God, and wilt do that which is right in His sight, and wilt give ear to His commandments, and keep all His statutes, I will put none of these diseases upon thee, which I have brought upon Egypt: for I am the Lord that heals thee.” (Exodus 15:26)

Does these verses imply that medical treatment is an intervention in Gods providence? It is well known that members of some religions affiliations reject the use of medical treatment, since they see it as interference with “the will of God.”

Jewish law, not only allow medical treatment, in many cases Jewish law considers medical treatment mandatory. The obligation to heal is derived from the verse: “Cause him to be thoroughly healed.” (Exodus 21:19). Our Sages learned “Hence do we have permission to heal.” From which we learn that it is an obligation to heal and save life, by no means is it an opposition to divine will. Furthermore, withholding treatment is equivalent to shedding blood.

The attitude of the Jewish law regarding the obligation to heal is explained in the following Midrash as follows:

“Rabbi Ishmael and Rabbi Akiva were walking in Jerusalem together with another man. A sick person met them and said: “Gentlemen, tell me how I
may be healed." They responded: “Take such and such and you will be healed.”

After the sick person departed, the man who was accompanying the Rabbis asked: “Who caused his disease?” They answered: “The Holy One, blessed by He.” He asked: “Why do you interfere in a matter which is not yours? The Lord did smite him; why then do you heal him?”

The Rabbis asked him: “What is your occupation?”

“I work the land. Here you can see my scythe,” he answered. Then the Rabbis asked: “Who created the land upon which you work?”

“The Holy One, blessed by He.”

“Then you are interfering in a matter which is not yours. The Lord did create the vineyard; why then do you eat His fruits?”

The farmer responded: “Do you not see the scythe in my hand? If I did not plow and weed and put down fertilizer, nothing would grow in the land.”

“Fool,” the Rabbis said, “a tree cannot grow if the land is not prepared. And if the tree grows, it will die unless fertilized and watered. Similarly the body of man must be tended by the physician with proper medication.”

The Midrash explain that the world was created with a system of natural law. However, humans are permitted to use the laws of nature for their health and well-being. It is therefore appropriate to engage in science and medical therapy for our health.

II. JUDAISM ON GENETIC ENGINEERING

As a matter of principle Judaism is very supportive of scientific developments that help humanity. In the creation of the world, God commands man: “fill the earth and master it” (Genesis 1:28), which the Sages interpreted as God's instruction for man to develop the world and perfect it.

Scientific and technological developments are also the realization of the special virtues that God created in man, thus expressing the dignity of man described in the book of Psalms:

“That You have made him little less than divine, and adorned him with glory and majesty;

You have made him master over Your handiwork, laying the world at his feet” (Psalms 8:6-7).

Various developments in the field of genetic engineering, if approved and successful, can allow us to choose the sex of the fetus, prevent diseases, and in our case, the development of meat for eating by using advanced genetic technology. Genetic engineering with the help of acquired knowledge about the human genome makes it possible to save people by identifying various diseases and syndromes, but on the other hand, this knowledge may impair our free choice of how to behave, for example whether to marry or have children?

Genetics allow us to choose the sex of the fetus, however a choice might not always be affected and will be made for medical reasons. Is this what we want?
Another step is genetic intervention, i.e. gene modification and various gene manipulations, this step raises many ethical and not just halakhic questions. The technology of genetically engineered meat production takes different cells and produces meat from them. The potential benefit is enormous, as the meat industry is known to be one of the biggest pollutants, it is an industry that consumes water resources and agricultural land in very large quantities, and of course there is the problem of animal cruelty. On the other hand, many ethical questions arise, such as the risks of genetic engineering, that is, the genetic engineering in these processes concerns the fundamental building blocks of the world. Can this type of development lead to dangers that are difficult for us to anticipate right now? Furthermore, it is not possible to prove at this stage whether food produced with the help of artificial intervention in nature is safe from a health point of view. Therefore, this issue requires great caution. Below we will examine the various considerations regarding the use of genetic engineering technology for meat production.

1. Ecology and food needs of the world:
One of the most famous sources in Judaism for the importance of ecology, appears in the Midrash:

“When the Blessed Holy One created the first human, He took him and led him round all the trees of the Garden of Eden and said to him: “Look at My works, how beautiful and praiseworthy they are! And all that I have created, it was for you that I created it. Pay attention that you do not corrupt and destroy My world: if you corrupt it, there is no one to repair it after you.””

Man receives from God for his use a perfect world but is warned to guard it. The meat industry is one of the largest environmental pollutants in the world, and the arguments in favor of cultivated meat are not limited only to the bad conditions of animal raising alone, as laboratory-grown meat can ostensibly and generally help to reduce the ecologic damage to the environment. According to the Food and Agriculture Organization of the United Nations (FAO), farms, and especially cattle, are among those responsible for global greenhouse gas emissions, which are contributing to climate change.

World food resources are limited, and animal husbandry occupies extensive agricultural land, relative to its nutritional contribution, and increases the problem of world hunger. In addition, if the price of cultivated meat is significantly lower than the price of natural meat, this will directly help the weaker population around the world. About 8 percent of fresh water is used directly or indirectly to raise animals, and it is estimated that there is a need for more than 15,000 liters of water to produce one kilogram of beef (Mekonnen and Hoekstra, 2012:401-415). Despite this, the demand for meat in the world is growing, partly due to the continuous increase in the world population and the improvement in living conditions in developing countries like India and China. The FAO predicts that by 2050, meat consumption will increase by more than 70 percent compared to its level in 2010. Studies that support the development of cultivated meat, estimate that the transition to synthetic meat - as a substitute for animal meat - will help preserve the planet. And it is estimated that cultivated meat will utilize 99 percent less land, emit 96 percent
less greenhouse gases, consume 96 percent less water and require 45 percent less energy compared to beef produced in the meat industry today (Tuomisto and Teixeira de Mattos, 2011:6117-6123). Therefore, meat grown in the laboratory can ostensibly help reduce the environmental damage caused by raising animals for food.

2. Compassion and kindness toward animals and modern food industry

Another significant consideration in favor of this technology is the prevention of the great suffering that animals raised in modern farms have. Although, in principle, human needs precede the needs of animals, it is clear that the suffering of animals should be avoided as much as possible.

There is a Talmudic debate about whether causing pain to animals is a biblical level or rabbinic level prohibition. This debate continued in the post-Talmudic rabbinic literature, however most rabbinical authorities determined that it is biblical prohibition.

One of the biblical sources demonstrating the biblical origin of this prohibition commands helping a friend’s donkey that is burdened by a heavy load:

“When you see the ass of your enemy lying under its burden and would refrain from raising it, you must nevertheless help raise it.” (Exodus. 23:5).

There are many biblical sources whose goal is to prevent the torture of animals and which show that compassion towards the animals is the way of the Torah. According to Judaism, a Jew should cultivate the character trait of compassion and should certainly avoid cruelty. Any cruelty causing pain to animals is prohibited; sensitivity is mandated.

Unfortunately, contrary to the above, animals are not treated with compassion in modern food industries, which consider animals to be a means of production. The attitude towards them is generally exploitative, with no concern for their welfare.

3. Vegetarianism and meat diet

Another consideration that ostensibly supports the use of genetic technology to produce synthetic meat is the Sages’ general support for vegetarianism. In general, it can be said that throughout the ages, many of the Sages have treated the eating of meat as a reserved permit given without encouraging it. Some called to reduce the eating of meat, and to eat it on Shabbat and holidays only or for the strengthening of the body for the purpose of the study of Torah and its observance.

When the world was created, people were not allowed to eat meat, only vegetable-based food: “God said, “See, I give you every seed-bearing plant that is upon all the earth, and every tree that has seed-bearing fruit; they shall be yours for food.” (Genesis 1,29). Both Man and animals were supposed to be vegetarians.

Much later, after ten generations, following the Great Flood, once Noah and his sons exited the Ark, they were allowed to eat meat:

“The fear and the dread of you shall be upon all the beasts of the earth and upon all the birds of the sky—everything with which the earth is astir—and upon all the fish of the sea; they are given into your hand.” (Genesis 9:2-3).
Although the division into clean and unclean animals xv existed at the time of Noah, from then on they were allowed to eat all meat, with one caveat: “You must not, however, eat flesh with its life-blood in it.” (Genesis 9:4). Rabbi Josef Albo xvi explains that the permission to eat meat was sufficient to satisfy the man’s lust (Albo 1929-1930: III, 15.). His personal opinion about eating meat is very negative:

"Besides the cruelty of killing animals, it is helping develop a bad character for a person to pour blood unnecessarily; additionally, eating meat will also lead to fattening and insensitivity in the soul of man" xviii

Similarly, Don Isaac Abarbanel explains in his commentary, why the food God provided to the Israelites in the desert was "bread", which is the mana, and not meat:

“God said to Moses: Meat is not a necessary food, and its purpose is to satisfy the lust for binge eating and eating out of great lust, as well the meat makes the person cruel, and therefore the animals and the predatory birds who eat meat are cruel and evil. But the sheep and the cattle, the doves, and the pigeons, who exist from eating the grass of the field, have no cruelty or evil. and therefore the prophet promised that at the time of the future redemption, “The cow and the bear shall graze, their young shall lie down together; And the lion, like the ox, shall eat straw.” (Isaiah 11,7) and explained the reason for that when said: „In all of My sacred mount- Nothing evil or vile shall be done; For the land shall be filled with devotion to the LORD As water covers the sea.” (Isaiah 11,9). Therefore, the Holy One, blessed be He, did not say to Moses that He would give Israel meat, but rather bread, which is proper and necessary food for human nature. This is the meaning of the verse, " I will rain down bread for you from the sky”(Exodus 16:4)“. xviii

Rabbi Abraham Isaac Hahoken Kook, xix who was a vegetarian, refers in various places to the question of the proper treatment of animals. He brings the opinion of our Sages in the Talmud xx that eating meat was forbidden to Adam and that only because of the deterioration of mankind after the sin of the flood it was then permitted for man to kill animals and eat their flesh (Cohen 1961: 49). However, he is very clear about the immorality of eating meat. xxi

Rabbi Kook also sees the negative attitude of the Torah towards eating meat in the style in which the Torah describe the desire to eat meat: "If the place where God has chosen to establish the divine name is too far from you, you may slaughter any of the cattle or sheep that God gives you, as I have instructed you; and you may eat to your heart’s content in your settlements.' (Deuteronomy 12:20). The use of the word "תאווה" in the Hebrew version (=Lust, desire, passion) in the Bible is describing materialistic inclinations. xxii

Rabbi Kook explains why the Torah actually didn’t forbid eating meat. In his view, the moral development of mankind must be gradual. First, human beings must solve the problem of enmity and wars among them, and only then can they reach the high moral level of moral and just behavior towards animals. xxiii In other words, the meat-
Lab-grown meat: A modern challenge in food production from the Jewish aspect

eating permit is a sort of temporary moral concession.\textsuperscript{xxiv}

However, already in the existing system of commandment in the Torah, there is a constant dripping of values, which will constitute the moral preparation for changing the behavior of the human race with the animals in the future.\textsuperscript{xxv} For example, the mitzvah\textsuperscript{xxvi} of covering the blood after slaughtering is meant to remind people that there is a moral defect that should be ashamed of taking animal life.\textsuperscript{xxvii} Rabbi Kook believes that in the future, sacrifices will not be sacrificed from the animal in the Temple, but only from the plant (Sperber, 1992: 97-112.). And despite all the above, according to Judaism there is no practical prohibition on eating meat and therefore care must be taken to have kosher meat available to anyone who is interested.

4. Excessive intervention in creation

The technology of genetic engineering is touching a very sensitive issue. In Judaism there is a significant prohibition which instructs man to withdraw from actions that create a significant and fundamental change in the world nature. This is a ban on breeding different species of animals and a ban on assembling different trees and sowing different species in one field. Nacmanides\textsuperscript{xxviii} in his commentary write the reason in his opinion for this prohibition:

\textit{“Thus one who combines two different species, thereby changes and defies the work of Creation, as if he is thinking that the Holy One, blessed be He, has not completely perfected the world and he desires to help along in the creation of the world by adding to it new kinds of creatures.”}\textsuperscript{xxix}

According to various rabbinical authorities, this is the logic behind the prohibition to practice witchcraft.\textsuperscript{xxx}

5. Fear of dangers that may result in the far future from technological development

In the last century, there has been a real revolution in the various fields of science. Various technologies have been developed and contributed greatly to the well-being of mankind. Some of these technologies like nuclear physics bring with them heavy ethical questions. However, no country has objected to technological advancement due to unclear future concern.

The Sages have stated that special attention should be given to future concerns, however they should be clear and concrete concerns and there is no room for far-reaching concerns.\textsuperscript{xxxi} In any case, care must be taken to ensure that progress on such issues is made carefully and gradually, which will make it possible to examine the existence of future risks. And if it does turn out that there are clear concerns then the establishment of appropriate supervisory mechanisms is required.

III. THE KOSHER STATUS OF THE SYNTHETIC MEAT

When we come to discuss the status of kosher synthetic meat, the big question which is disputed between the various rabbinical authorities\textsuperscript{xxxii} is: should the Jewish law
consider this product as “meat”?

If the original cell is taken from meat, during the production process the original cell loses its importance, and if so, perhaps because of this the product is not meaty? Furthermore, if the assumption that the original cell is not related to the final product is indeed correct, then the question arises as to what will be the status of such a product when the original cell is taken from a non-kosher animal, such as a pig?

The question of the kosheriness of synthetic meat is very challenging because of its innovative character. It deals with a situation that is difficult to find similarities to previous issues. Below we will briefly present some of the main issues that are raised in this discussion.

1. The status of stem cells

What is the status of a stem cell that is about a thousandth of a millimeter in size, and can only be seen with a microscope? There is a well-accepted halakhic decision, discussed by main rabbinical authorities such as Rabbi Moshe Feinstein of the Ashkenazi Jewish Community and Rabbi Ovadya Yosef of the Sephardi Jewish Community. They ruled that there is no need to worry about the kosher status of something when the forbidden thing is indistinguishable to the human senses (like invisible insects, which are strictly prohibited) and in our case is the cell that is invisible to the naked eye. Thus ostensibly such a cell, even if taken from a non-kosher animal or has not undergone kosher slaughter, should not be a problem. On the other hand, this is a very important cell that, although not visible at the moment, is the primary reason for the creation of the final product that is visible.

2. The halakhic status of the fetus or pre-fetus

Another issue is the halakhic status of the fetus or pre-fetus from which the stem cell was taken. According to Halakha, a fetus during the first forty days from the beginning of pregnancy is considered only 'water'. Although the fetus already has stem cells, and therefore, some believe that it should not be considered "meat" at all, even if the cell was taken from a kosher animal. Furthermore, according to this opinion the cultivated meat is allowed in cooking and eating with milk, since it has no natural and real meat flavor that was in the original cell that came from the beef (Reisman, 2014:103).

3. Status of a raw material that undergoes a process that brought to a change of its identity

Another principle issue of kosher dietary laws is the status and identity of a raw material that undergoes a complex process that leads to the abolition of the first identity. The production process, even if it starts with taking a meat stem cell, it only starts from a "meat" cell but the development process is very complex from which in the end you get muscle tissue that undergoes processing to get a product worthy of eating. Ostensibly the final product is a new and different product that is no longer related to its initial identity. The classic example of this is gelatin - a stabilizer used extensively in the food industry - is a coagulated protein extracted from animal bones.
and skins, soaked in salt and lime, and ground with additional chemicals into a fine powder after cleaning and drying in the sun. Because of the complex process of gelatin production that alters the original identity of the raw material, some rabbinic authorities have allowed its use even when it is extracted from non-kosher animals. On the other hand, there are other rabbinic authorities who have banned the use of gelatin extracted from non-kosher animals. In their opinion the bones were not fit to be eaten, but after the gelatin production process they became fit to be eaten, so the ban is back in place. Therefore, based on their opinion, cultivated meat originating from a cell of a non-kosher animal is also prohibited.

In contrast, those who allowed to eat gelatin extracted from the bones of non-kosher animals will allow the kosherness of cultivated meat produced from a cell taken from a non-kosher animal and will not consider it “meat” at all.

4. Ingredients in production

Another question deals with the kosherness of the substrate and the other components that help in the growth and duplication of the cell. The most common use today is blood, and therefore it seems that this will result in a prohibition of eating the meat. However, when using a plant-based substrate and scaffolding, there is no kosher problem in this context.

CONCLUSION

We have seen that Judaism supports technological development even if it is groundbreaking to the point of interfering with nature. At the same time, such developments require scientific caution, they must be done carefully and gradually while examining the various possible risks, and if the risks of developing a particular technology are not high, then it is worth developing.

In cultivated meat, the risks are not high at the moment, so it seems appropriate to continue the development. We have also shown that as a result of this development, there may be a great benefit to humanity by increasing food reserves, preventing ecological damage to the planet and reducing damage to animals.

Regarding the kosherness of cultivated meat, we have seen that there are different opinions among the rabbinic authorities. It is important to emphasize as we have pointed out that there are different types of technologies in laboratory crops. Each development and technology requires its own discussion because there are many different details in each method that can be applied to halakhic case law.

In principle, it can be said that cultivated meat produced from a stem cell taken from a kosher animal that has been slaughtered properly - and if the other ingredients that help improve the cell and its cultivation are kosher, it seems that this meat will be kosher.

A stem cell taken from the flesh of a non-kosher animal, some rabbinic authorities consider it forbidden and some consider it permitted as in the case of gelatin.

Similarly, according to some opinions, the final product is not considered "meat" at
all in terms of kosher dietary law (especially regarding the prohibition of mixing meat and milk), due to the production and processing processes it goes through. Yet, since this is a very new development, the final kosher status of the product will depend directly on the exact technology in which the meat will be produced, and the kosherness of the substrate and other components that help in the growth and duplication of the cell.

BIBLIOGRAPHY

Classic
1. Abarbanel, R. D. Y. (1862.) Commentary to the Bible (HEB), Warsaw.
8. Midrash Kohelet Raba (1878) Jerusalem (reprint Vilnius edition)

Modern

i. **Halakha** – 1. the legal part of Jewish religious literature; the name comes from the verb “הלך” ( ”to go), because Jews "go“ in the path of the Jewish law. 2. Individual provision from the Halakha system; More about Halakha see Dadon (2009:481).
ii. II See also: Leviticus 26:14-16; Deuteronomy 28:61.
iii. See: Babilonyan Talmud Baba Kamma 85a (Vilnius); Babilonyan Talmud Berachot 60a (Steinsaltz).
iv. Shulchan Aruch, Yore Dea 336:1.; see also Dadon (2017).
vm. midrash - interpretation; commentaries on the Torah; there are two types of m.: aggadic (homiletical) and halakhic (legal); collected in many different collections. See more about Midrash in Dadon (2009: 503-505.
vi. Midrash Shmuel 4. See: [https://www.medethics.org.il/article/rj001120a/ (28.7.22)]

vii. This is why according to Judaism Artificial insemination as an example is permitted, since it is treated as healing, see Dadon (2014).

viii. See Midrash Tanchuma, Tazria, 7.
ix. See: [https://www.sefaria.org/Kohelet_Rabbah.7.13.1?lang=bi (28.7.22)]

xi. See: Babilonyan Talmud, Baba Metzia 85b. (Vilnius).


xiii. For more about Cruelty to animals in Judaism see: Deutoronomy 22:10; 25:4; Babilonyan Talmud Baba Kamma 54b. (Vilnius); Babilonyan Talmud, Baba Metzia 89a. (Vilnius).; Babilonyan Talmud, Baba Metzia 85a. (Vilnius); Halevi (1996: 778).; See also: Dadon i Dadon, (2018: 453-474).

xiv. Babilonyan Talmud, Sanhedrin 59b (Vilnius).

xv. See: Genesis 7:2.

xvi. Albo, Rabbi Josef (1380-1444) – One of the later sefardic philosophers, who bring to a close the time of classical hebrew philosophy. Rabbi, doctor, philosopher, Albo served as a rabbi of the town of Daroca in Arragon and the town of Soria in Castille. His only book entitled Haikarim (Principles) and written in hebrew, speaks about the principles of Jewish thought and was one of the first printed texts in Hebrew (Soncino, 1485.). It was republished seventeen times, the book has seen two important rabbinic
commentaries on that book (in the 16th and 17th centuries) and a critical publication that accompanied an English translation (Issac Husik, Philadelphia, 1929.-1930.).

xvii. ibid.; From Hebrew translated by the author.

xviii. Abarbanel, don Isaac (Hebr.: Harav Yichak A.) (Lisbon, 1437 – Venice, 1509) – Commentator, philosopher and politician, a descendant of King David, leader of Spanish Jewry. Portuguese minister of finance at the time of the King Alphonso V as a refugee from Spain. He was also the minister of finance of King Ferdinand and his wife Isabella (1487). During his life in Spain, he authored a commentary on the Book of Joshua, Judges and Samuel. For eight years he served the kingdom and made Spain wealthy and in 1492, when Jews were exiled from Spain, he was their leader. He settled in Naples, where he composed his commentary on the Kings and other biblical books. He also commented on the Mishnaic tractate Avot (The sayings of the Fathers) and a Haggadah for Pesach. He wrote philosophical books using the Rambam method and on the basis of his texts. In his Tora commentary he analyzed various social systems of his time and compared them to the social life in Israel in biblical times.

xix. Abarbanel (1862; Exodus. 16:4.) ; From Hebrew translated by the author.

xx. Kook, Abraham Isaac Hakohen (Latvia, 1865- Jerusalem, 1935) A giant of Jewish thought of the last generations; rabbi of Jerusalem and after the establishment of the Chief Rabbinate the Chief Ashkenazi Rabbi of Israel since 1921 until his death. Spiritual leader of Zionism. In 1888 named the rabbi of Zaumel, in 1895 in Bausk in Latvia; moved to Israel in 1904. As the rabbi of Jaffo he was actually the rabbi of all Jews living in Israel. Before the First World War attended a rabbinic conference in Europe and was forced to stay in Switzerland and in London until the end of the war. Returned to Israel in 1919. The founder of the Merkaz Harav Yeshiva in Jerusalem, which was headed by his son Rabbi Zvi Yehuda (1890-1983) after Rav Kook’s death. Until today, that yeashiva remains a great center of Torah study and through its special teaching methods it emphasizes love for the Israeli people and land. After his death, he left a treasure trove of manuscripts on various topics ranging from Kabbalah, philosophy, Halakha, Talmud commentaries, responsas and liturgy, many of which still remain unpublished today. The most famous book of responsas is “Ezrat Kohen” (The help of the Kohen). He greatly influenced the history of new settlement of Israel. He was well-known for his love of first settlers, both believer and non-believers.

xxi. Babilonyan Talmud, Sanhedrin 59b. (Steinsaltz).

xxii. Ibid. pp. 7-8.


xxv. ibid. pp. 18.

xxvi. ibid. pp. 23.

xxvii. Mitzvah – a religious obligation, a deed pleasing to God; There are 613 mitzvahs in the Torah; 365 prohibitions and 248 commandments, which a religious Jew must adhere to; one part of the mitzvahs deals with man’s relationship with God, and the other part deals with man’s relationship with his fellow friends. The obligation to fulfill the mitzvah applies to women older than 12 years and one day (bat mitzvah) and to men older than 13 years and one day (bar mitzvah). For more about Mitzvah see: Dadon, 2009:335.


xxix. Nachmanides- Moshe ben Nahman, rabbi, abbreviated: Ramban, also known as Nachmanides (Girona, Aragon, 1194 - Israel, 1270) - A famous rabbi of his time with great knowledge in many fields: science, philosophy, language and medicine. He was
a contemporary of Maimonides, his students include Rabbi Shlomo ben Avraham Aderet and Rabbi Aharon Halevi. He wrote a commentary on the Torah and compiled halachic books. He was one of the first to deal with Kabbalah, and his writings are also influenced by Kabbalah. When he was 73 years old, he moved to Israel, arrived in Jerusalem, where he rebuilt the Jewish settlement, because the city had been destroyed by the Tatars before that. To this day, the synagogue he founded and which bears his name still functions in the old city of Jerusalem. Due to a difficult life and the inability to earn a living, he went to nearby Ako, where he founded a yeshiva where he remained for the rest of his life.


xxiii. See: Mishnah (1987: Pesachim 1:2; Yoma 1:1.).


xxiv. R. Moses Feinstein (1895-1985) Lithuania and U.S.A.

xxv. Ashkenazic – initially the name for Jews of Germany and northern France, but since 16th century refers to Jews of Eastern Europe and Russia, who all share the same customs and similar prayerbooks. In the 19th and 20th centuries the Ashkenazi Jews spread to all corners of the Earth maintaining their customs. The majority of Ashkenazi Jews spoke in the language called Yiddish. The biblical word Ashkenaz אָשְׁכָנָז started being used as a synonym for Germany because it is written using the same but differently distributed letters as does the word Sachsen אָשְׁכָנָז (Hebrew script consists only of consonants).

xxvi. R. Ovadya Yosef (1920-2013) Bagdad- Israel.

xxvii. Sephardic – a branch of Jews, descendants of Jews exiled from Spain and Portugal in the end of the 15th century, north African Jews, Jews from the Arabian Peninsula as well as from the Mediterranean to Georgia and Bukhara; they have a different prayerbook, customs and melodies than Ashkenazi Jews.


xxix. See: Babilonyan Talmud Yevamot 69b (Vilnius); Babilonyan Talmud Nida 30a (Vilnius); Maimonides (1974: hilchot Isure Bia 10:1).

xl. For the prohibition on mixing meat and milk see: Dadon, 2009:310.

xli. Yosef (2015: VIII, Jore Dea 11.)
