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# THE ATTITUDE TO TRUFFLES AND MUSHROOMS IN JEWISH SOURCES

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## Abstract

The current study deals with the long halakhic debate with regard to truffles and mushrooms, and it reflects the development of Jewish law on this topic throughout history. Three historical stages may be discerned in this matter. The basic discussion was held in the Talmudic era, when the Sages ruled that truffles and mushrooms are differently than other plants ("They grow in the ground but draw sustenance from the air"). In the Middle Ages the rabbis attempted to offer different explanations for their special manner of development, such as that plants develop seeds while mushrooms have no seeds and that unlike plants, which have roots that penetrate the ground, mushrooms have no roots. Modern halakhic scholars, in contrast, indicate the discrepancy between ancient halakha, based as it is on period-based beliefs and outlooks, and modern knowledge.

*Keywords:* truffles, mushrooms, Jewish tradition, Mishnah, Talmud

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## 1. Introduction

Truffles (*Tuberales*) and mushrooms (*Fungi*, *Mycota*) do not contain chlorophyll and they multiply by means of spores or a mycelium, i.e., a dense interconnected network of hyphae that creates the fruit body [1, 2]. In the past, fungi were considered plants [1, p. 7-8; 3], however contemporary plant taxonomy classifies them as a separate kingdom, since they do not photosynthesize like plants [4]. Fungi grow as a parasite on various hosts. The large majority of fungi belonging to the *Basidiomycota* division are organisms that receive their energy from dead or decomposing organic matter (saprophytes). They attach themselves externally to the host's cells, break down food material using enzymes and absorb this material, while others develop special feeding organs called rhizoids [2, p. 27-35; 3, p. 58].

Some *Basidiomycota* are edible and some are poisonous or not tasty. Truffles are fungi whose mycelium is subterranean, resembling a potato tuber. In Eretz Israel, home to a considerable part of ancient Jewish literature, several

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species of edible mushrooms grow, including the *Terfezia leonis* that grows in symbiosis with the roots of the *Helianthemum sessiliflorum* [2, p. 122-123; 5; 6].

## 2. Purpose of the study

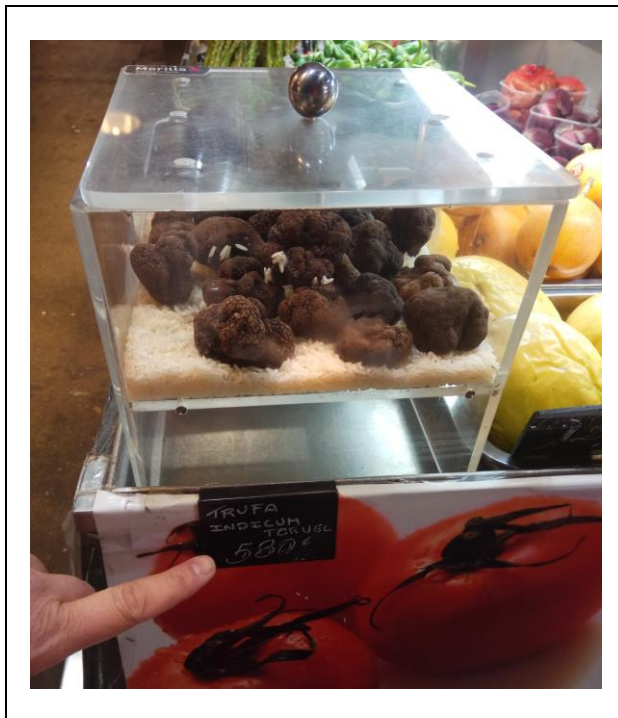
This study has two main purposes:

1. To explore the contexts in which truffles and mushrooms are mentioned in Jewish sources.
2. To debate the question of whether, according to ancient Jewish thought, i.e., in the classical and medieval periods, truffles and mushrooms were considered plants, and if not – why not?

## 3. Discussion

### 3.1. Truffles and mushrooms in Jewish literature – names, utilization as food and scents, and medical attitude

Truffles and mushrooms are not mentioned in the Scriptures, and some have mistakenly identified them with *paku'ot sadeh* mentioned in II Kings 4.39-40 [7]. In the Mishna, truffles are called *shmarke'in* (Figure 1) [*Mishnah, Otkzin* 3:2; 8; 9]. Several commentators from the post-Talmudic period identified the Babylonian Talmud's *ardilai* with truffles [8, p. 33-34].



**Figure 1.** Black Truffles, La Boqueria Food Market in Barcelona, 2018.

In the Jewish literature of the Middle Ages and Modern Era, truffles and mushrooms are mentioned in a series of languages, and they appear to have been discussed by quite a few sages in the East and West. R. Shlomo Yitzhaki (Rashi, Troyes, Champagne, northern France, 1040-1105) did not discern between them and called them *bulaytz*, a term meaning mushrooms in Old French [10].

R. Nathan me-Romy, who lived in Italy in the 11<sup>th</sup> century, discerned between truffles and mushrooms and explained that the source of their name is in Arabic: “*Kmehin* is in the Ishmaelite [=Arabic] language as they call truffles [*kmehin*] ‘kmah’ and mushrooms ‘faka’ (In Arabic: mushrooms = فطر; truffle كُمَّة =)” (Sefer Ha-Arukh, ‘kmehin’) [11]. Physician Tuvia Hacoen from the city of Metz (17<sup>th</sup> century) stated their name in three languages: “Fungi (Latin) – Mantar (Turkish) – Kmehin, in the words of the Mishna” [12; 8, p. 43]. Notably, the Latin name ‘fungi’ refers to mushrooms and not truffles. R. Yitzhak Lampronti (Italy, 1679–1756) translated truffles as ‘soponginiolo’, but a more common name in Italian is ‘tartufo’ [13]. Yiddish-speaking halakhic authorities grouped them together under ‘shwamelich’ [14], ‘shwamen’ [15], or ‘piperling’ [16, 17].

Truffles and mushrooms have been consumed by humans for many years, as they are to this day, and they serve as part of the diet of traditional societies in Europe and Asia [18, 19]. After the rains, villagers go out into the fields and forests and gather them, and they are used to prepare a variety of foods and dishes when still fresh or after they have been dried [20]. The largest species of truffles, also considered the tastiest, are found in southern France and northern Italy. In these areas they are located using pigs or dogs who have a well-developed sense of smell. Some truffles are sold for a high price and used to prepare gourmet foods [20].

At present, the gathering of wild mushrooms is relatively limited, while much use is made of mushrooms raised in special greenhouses using agricultural techniques. Artificial growing of mushrooms is relatively new to human history. For instance, the common edible mushroom *Agaricus bisporus* (common name: champignon mushroom) was first grown in France in the 18<sup>th</sup> century in caves and cellars, and its cultivation in large quantities only began once the need for special beds and suitable growing conditions was grasped [21].

According to rabbinical literature, truffles and mushrooms served as a nutritional component in the diet of Eretz Israel and Babylonian residents, although it is clear that these crops were not a major component of their diet [Babylonian Talmud, Berakhot 40b; Sabbath 68a; Nedarim 55b]. The Mishna in Tractate Semahot 8:3 (2<sup>th</sup> century CE) lists truffles and mushrooms beside pieces of meat and fish as types of choice foods that were strewn before the groom and bride to express joy or to wish them happiness and success in their marriage union. In the time of the *Amoraim* (3<sup>th</sup>-5<sup>th</sup> centuries CE), truffles and mushrooms were considered delicacies and they were sometimes served at the end of the meal as a dessert [*Babylonian Talmud*, Pesachim 119b, and Rashi’s commentary, *ibid.* entry *ardilai lee*]. Sources from recent centuries indicate that European Jews prepared cooked dishes and sweetened concoctions from truffles and mushrooms, and some even used fragrant mushrooms as a perfume [15, p. 116; 22]. There are

mushrooms which spread pleasant odours and their name derived following their scent, for example *Agaricus arvensis* and *Craterellus cornucopioides* [23].

In various Jewish sources from the post-Talmudic period we see an ambivalent attitude towards including truffles and mushrooms in one's diet. Some considered truffles and mushrooms a prime food, while others expressed reservations. An indication of the medical outlook that objects to the consumption of mushrooms is evident in the writings of R. Moses ben Maimon (Maimonides, Rambam, 1138-1204), who advises against eating them for health reasons. He wrote: "There are some foods that are extremely bad and one should never eat them, such as large salty fish [...] and truffles and mushrooms [...] These are to the body as poison." [24] Nonetheless, despite his warnings against eating them, Maimonides mentioned them in *Hilkhot Berachot* when speaking of the blessings recited when eating food products [24]. Mushrooms may have been considered a harmful food due to the fact that some are poisonous and can be fatal or can give severe indigestion, such as *Amanita muscaria*. In this context, it should be mentioned that according to Pliny and other classical writers, Emperor Claudius I was murdered by his fourth wife, who added poisonous mushrooms to his meal – the orange-capped species we call Caesar's mushroom, *Amanita caesarea*. Most scholars have assumed that the weapon was the *Amanita* [25].

Some later Jewish sages prohibited the eating of mushrooms based on the *Tosefta* in *Terumot* 7:20 (2<sup>nd</sup> century CE), which states that it is dangerous to eat them "due to snake gouging", i.e., for concern that a snake has left its venom in them [26]. Snakes are carnivores, and it is possible that the ancients attributed toxicity to the truffle as a result of holes that resemble snake bites.

The association between the toxicity of mushrooms and that of snakes existed in the classical world and such mistaken beliefs retained their influence in the following generations. As stresses Nicholas P. Money, medieval writers drew much of their inspiration from the Greek physician, pharmacologist and botanist Dioscorides (c. 40–90 CE) and his Roman contemporary, Pliny the elder (23–79 CE), that believed that the breath of serpents was responsible for making mushrooms noxious and cautioned people to avoid fungi that grew close to serpents dens [25, p. 91].

Then again, some Jewish sages were not concerned of the harmful effect of snakes on truffles. R. Yosef Molcho (Salonica, 1692-1768) speaks of this attitude among Jews in the Ottoman Empire in his compilation *Shulhan Gavoha*: "When I lived in the city of Edirne (*Adrianopolis*) I saw people eating them with no concern of worms or danger" [27]. The ambivalent attitude towards truffles and mushrooms is also evident in the discussion concerning the question of whether they are forbidden by reason of non-Jewish cooking. Some forbade their consumption because they "are served on the tables of kings" [28, 29], but others claimed that they are not such a prestigious food [30]. R. Haim Yosef David Azulai (Jerusalem, 1724–1806) known as the *Hida*, who attempted to reach a compromise between the different opinions, suggested that this depends on their nature and manner of consumption, which change according to place, time, and culinary culture [31].

### **3.2. Truffles and mushrooms – unusual crops**

Talmudic sources describe the rapid growth of mushrooms, particularly after the rains. One famous Talmudic story on this phenomenon is mentioned in the tale of Honi Hame'agel, an ancient sage and miracle man who lived in the late Hasmonean era (1<sup>st</sup> century BC). Honi prayed for rain in a year of drought and his prayers were answered. The people received not only rainwater but also truffles – mushrooms gathered in the rain-filled fields: “Immediately the wind began to blow and the clouds were dispersed and the sun shone and the people went out into the fields and gathered for themselves mushrooms and truffles” (Babylonian Talmud, Ta’anit 23a).

According to the story, the mushrooms appeared right after the rain and were gathered up. Indeed, the ancients saw the rapid and prompt emergence of mushrooms as a type of ‘miracle’ because, as stated, they were not familiar with the mechanism behind this growth. This is evident in the Talmudic source that tries to explain the miraculous meaning of growing food in Messianic times: “R. Gamaliel sat and expounded, Palestine is destined to bring forth cakes and wool robes, for it is said, ‘There shall be an handful of corn in the land’ (Ps. LXXII, 16). However, a certain disciple scoffed at him, quoting, ‘There is no new thing under the sun!’ ‘Come, and I will show you their equal in this world’, replied he. He went forth and showed him morels and truffles.” (Babylonian Talmud, Sabbath 30b)

R. Shlomo Yitzhaki (Rashi, Troyes, Champagne, northern France, 1040–1105) in his commentary to this text states that mushrooms grow ‘overnight’, and attributing their growth to darkness or to a time when their development is not visible reflects the mysteriousness of the growth process. Interestingly, Greek and Roman sages too were challenged by the manner in which truffles and mushrooms developed and the factors that facilitated this process, which remained a mystery to them.

As stated the British mycologist John Ramsbottom (1885–1974), Cicero (106–43 BC), the famous Roman politician, deemed them as ‘children’ of the earth, while Dioscorides (c. 40–90 CE) writes in his five-volume book *De Materia Medica* that they were tuberous roots. Because of the fact that mushrooms and truffles are growing in the autumn and winter, the Greek author Plutarch (c. 46–120 CE) thought them to be the result of lightning, warmth and water in the ground, while the Roman poet Juvenal (Aquinum, Italy, 55–60? CE – c. the early second century CE) thought thunder and rain to be instrumental in their origin [19, p. 12-24; 32].

The *Tanaim* and the *Amoraim* (2<sup>th</sup>-5<sup>th</sup> centuries CE) discerned that truffles and mushrooms are different than other plants and classified them as a separate group for various halakhic matters. Here I will focus mainly on the blessings. Before I begin the discussion I shall mention that, according to ancient Jewish custom, blessings are recited both before and after eating. Each type of food has a typical blessing. Before eating the fruit of the tree the blessing *boreh pri ha’etz* (“blessed are You who created the fruit of the tree”) is recited, before vegetables

and greens *bore pri ha'adama* ("blessed are You who created of the fruit of the earth"), while before eating products of animal origin or that are not of vegetable origin, such as water and salt, the blessing recited is *shehakol nihiya bidvaro* ("blessed are You at whose word all was made") (Mishna, Berachot 6:1).

The Babylonian Talmud states that the blessing recited for truffles and mushrooms is *shehakol*, i.e., they are not of vegetable origin (Berachot 40b). Abaye (278-338 CE), one of the most well-known *Amoraim* in the Babylonian Talmud, justified this decision based on their special growth pattern: "They grow in the earth, but do not draw sustenance from the earth" (ibid.). In another place in the Talmud, his words are brought in more detail: "They grow in the earth, but draw sustenance from the air rather than from the earth" (Nedarim 48b). In other words, mushrooms are connected to the ground but do not draw from it the nutrition necessary for their existence, rather from the air.

This explanation served as the foundation for additional statements in Jewish halakha concerning their irregularity. Following the Mishna, the Babylonian Talmud determines that the precept of *pe'ah*, i.e., the obligation of Jewish farmers to leave part of the produce in the field for the poor, does not apply to mushrooms. The Talmud writes: "A principle was stated with regard to the produce of the corner of the field: Anything that is food, and is protected...And grows from the ground, this comes to exclude truffles and mushrooms, which unlike other plants, do not draw sustenance from the ground." (Pesahim 56b) The Babylonian Talmud also rejects them for the purpose of creating *eruvei hatzerot* and *shitufey mevo'ot* [= mixed courtyards or domains] on the Sabbath because they are not considered fruit (Eruvin 27a). An *eruv* operates so that all the residents treat the entire area as their common 'home'. This ritual enclosure that some Jewish communities construct in their neighbourhoods as a way to permit Jewish residents to carry certain objects outside their own homes on Sabbath.

The Jerusalem Talmud debates whether the laws of tithing (in Hebrew *ma'asrot* i.e., putting aside some of the crop for the priests or the poor) apply to truffles and mushrooms, and in this halakhic context as well their special method of growth is discussed: "Rabbi Hiya bar Ada [a disciple of Rabbi Yochanan] asked R. Yochanan: Truffles and mushrooms how do we know that they are subject to tithing? Said to him R. Yochanan in the name of R. Sisai: It says 'Be sure to set aside a tenth of all that your fields produce each year' (Deuteronomy 14:22) – a species that is planted and grows, excluding truffles and mushrooms that are not planted and grow. R. Yona says differently: Because the earth pushes them out." (*Jerusalem Talmud*, Ma'asrot 1:1, 49a. The word פולטתן is missing in Roma Manuscript)

R. Yochanan, the greatest Eretz Israel *amora* of the second generation (died 279 CE) learns from the verse that the laws of tithing apply only to cultured plants that are planted by man, but not to mushrooms that grow wild and are not planted. The fourth generation Eretz Israel *amora* R. Yona formulates the explanation differently – mushrooms do not grow shoots, similar to other plants, rather are 'pushed out' of the earth due to their rapid growth [9, p. 292].

### **3.3. Explanations offered by Jewish halakhic authorities and commentators concerning the development of truffles and mushrooms**

The words of the *amora* Abaye (above) on the irregular growth process of mushrooms was explained in various ways in the literature of the *Rishonim* (Medieval Jewish legal decisors) and the *Aharonim* (= rabbis living from roughly the 16<sup>th</sup> century to the present). R. Shlomo Yitzhaki (Rashi) in his commentary on Berachot on site, interprets: “From the moisture of the ground they grow on the trees and on the tools”. (And compare to the words of R. Yitzhak ben Moses (Vienne 13<sup>th</sup> century) that mushrooms and truffles grow in garbage, on roofs and walls [33]). Namely, unlike other plants that are connected to the ground, it is not the earth that serves as a bed for mushrooms rather various objects, such as trees and tools. In this way, the difference between mushrooms and other plants is the place where they grow. Regular plants grow in the earth while mushrooms grow on other types of beds.

Maimonides (1138-1204), in his commentary on the Mishna, states two other characteristics of mushrooms. He writes: “Mushrooms – ‘al-fater’ [الفَطْر] and this is known in Western countries as ‘al-faqa’ [فَقَع], which is a plant that has neither roots nor seeds and most people eat it cooked or poached” [34, 35]. The first feature is that plants develop seeds while mushrooms have no seeds. Indeed, mushrooms multiply by means of spores – units of sexual or asexual reproduction that are unicellular or multicellular and are not part of a sexual cycle. The second feature: unlike plants, which have roots that penetrate the ground, mushrooms have no roots [34].

This distinction as well is based on actual circumstances. The fruit body of mushrooms is constructed of hyphae called mycelium, through which they absorb their organic food and water, since they are consumers, do not contain chlorophyll and have no real root system. Some mushrooms (saphrophytes) develop special feeding organs called rhizoids. This is a root-like protuberance that serves to attach the mushroom to the bed. The rhizoid does not function like a real root as it does not absorb water and dissolved solids from the bed and transfer them to the plant’s other parts. However, in parasitic species the feeding organs are called ‘haustoria’ [2, p. 58].

R. Shimshon of Sens (France-Acre, 1150-1230), in his commentary on the Mishna, Peah 1:4, also states that mushrooms have no roots and therefore they draw their sustenance from the air. In other words, mushrooms indeed grow on the earth but it only serves as a platform. They have no roots that can draw sustenance from the earth and therefore they receive their nourishment from the air. A similar approach is that of R. Yehoshua Falk Katz (1550-1614), who distinguishes between two terms: “grows in the earth” (*gidulo min ha’aretz*) and “draws sustenance from the earth” (*yonek min ha’aretz*). Regular plants grow in the earth and also draw sustenance from it. Mushrooms, in contrast, are connected to the earth, but unlike other plants they draw little sustenance from it. Thus, they are not truly “plants of the earth” rather mainly “plants of the air” [36].

#### 4. Conclusions

The debate on the halakhic status of mushrooms is age-old. The ancients understood that this group differs from other plants and therefore determined that it should be treated differently with regard to Jewish precepts and practices as well. As stated, Greek and Roman sages in the classical era also described them as cryptic crops. The understanding that they are unusual organisms is completely true, but it is clear that the ancients were not as familiar with mushrooms and their manner of development as we are today. According to ancient sources, mushrooms are 'plants of the air', i.e., they draw sustenance from the air rather than from the earth, although connected to the earth. Halakhic scholars in the modern era debated whether the blessing recited for mushrooms fits present-day botanical-scientific knowledge.

Abraham Korman claimed that the *shehakol* blessing is appropriate for mushrooms as they are incapable of transforming inorganic compounds into organic compounds as do other plants that transform carbon dioxide and water into sugar in a process of photosynthesis. From this respect, he believes that mushrooms are similar to animals, which also eat readymade produce and do not utilize the air and sun in order to grow, and therefore they too receive the blessing of *shehakol* [37]. In other words, producers (Autotroph) such as plants are worthy of the blessings *ha'etz* (fruit of the tree) or *ha'adama* (fruit of the earth), while consumers (Heterotroph) such as animals and mushrooms that draw sustenance from the readymade receive the blessing of *shehakol*.

Talmudic botanist Yehuda Felix believes that today, when we understand how truffles and mushrooms grow, there is room to re-examine various halakhic issues related to them. In the matter of tithing, according to the explanation that mushrooms are not planted and thus are exempt from tithing, there is reason to rule in the present day that tithing should apply to mushrooms that are planted by man. With regard to the laws of blessings as well, plants that contain chlorophyll and that photosynthesize should assumedly receive the blessing 'brings forth bread from the air', as they are mostly produced from compounds drawn from the air. Then again, for organisms that do not contain chlorophyll and do not photosynthesize rather grow from decomposing organic matter or, in the case of symbiont species, from the roots of plants, the blessing 'from the earth' should be used. The latter indeed draw moisture from the air but they mostly grow from the organic matter from which they receive nourishment [9, p. 292].

In summary, the halakhic debate presented in this paper with regard to mushrooms reflects the development of Jewish law on this topic throughout history. Three historical stages may be discerned in this matter. The initial discussion was held in the Talmudic era, when the Sages ruled that they must be treated differently than other plants. In the Middle Ages the rabbinical authorities attempted to offer different explanations for their special manner of development. Modern halakhic scholars, in contrast, indicate the discrepancy between ancient halakha, based as it is on period-based beliefs and outlooks, and modern knowledge.



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