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Identifying *Tekhelet*: Masoret and Yedi'ah

MASORET: PERMISSIVE OR CONFIRMATORY? IDENTIFYING THE *TEKHELET*

Most of the Torah's commandments are practiced by us in accord with the tradition (*masoret*) which defines all the specifics of the given mitzvah. Our clear understanding of these particulars derives only from the tradition of actually keeping the mitzvah, without interruption, since the days of Moshe Rabbenu. The details of mitzvot *tefillin*, *mezuzah*, Shabbat and Yom Tov observance, *shehitah*, family purity laws, and the like, are not specified in the Torah. They are known to us by oral tradition now recorded in the halakhic literature.

MASORET AS A *MATIR* (PERMISSIVE ORDINANCE)

With Reference to Kosher Birds

Avimi the son of R. Avuhu taught, There are 700 types of fish, and 800 types of locusts, and innumerable types of birds. . . . R. Yitzhak said, Kosher birds are eaten [only] by virtue of there being a tradition (*masoret*) [that they are kosher]. . . . [The Torah provided specific] identifying signs for fish: fins and scales . . .

(Hullin 63b)

The Torah does not indicate any "signs" at all for a kosher or non-kosher bird, only the names of those bird species which

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are unacceptable. Any bird not listed as unacceptable is kosher. However, we are no longer familiar with the identifying names of the non-kosher birds listed in the Torah. Issi ben Yehudah notes that "there are a hundred non-kosher birds in the east, and all of them are varieties of the *ayah*" (ibid.), a non-kosher bird whose name appears in the Torah (Leviticus 11:14).

The Rambam expresses the same concerns:

Whoever does not recognize them [birds] and does not know their names has to examine the following signs which our Rabbis gave us: any bird which claws [its prey] while devouring it is certainly one of the ¹ non-kosher varieties; if it does not claw and eat, then if it has one of the three following signs, it is kosher. They are as follows: an extra toe, or a crop, or that the outer layer of the *kurkevan* [gizzard] can be peeled off by hand. (Hilkhos Ma'ahalos Assuros 1:16)

In *Shulhan Arukh*, Yoreh Deah 82:2, the author disagrees with Rambam and requires all three of these signs, not just one. However, even if the bird does not claw while feeding, and even if it has all three signs together, nevertheless "one should not eat it, inasmuch as we are concerned lest it be indeed a bird which claws its prey. One should not eat it unless we have a tradition handed down from our ancestors that it is a permitted species." The concern that it might actually be a bird which claws prior to eating is based on the fact recorded in *Hullin* 62b: "Abaye said . . . There is a bird called chicken of the swamp. . . . Marimar concluded that the chicken of the swamp is forbidden because it was observed clawing and eating." However, this bird was considered to be kosher, and only subsequently did it become clear that it claws and eats (making it non-kosher). Therefore, they decided that without an accurate

1. To claw its prey means to hold it down with its talons while dismembering it with its beak.

tradition (*masoret*), it is not possible to be certain that a bird is kosher. We rely solely on the tradition; as it says in the Gemara, "a kosher bird is eaten [based] on tradition [that it is kosher]."

In his responsa, the Rosh adds additional information to explain why we do not rely on "signs" to declare a bird kosher (Responsa of the Rosh 20:20). "There are nineteen varieties of non-kosher birds, each of which has three kosher identifying signs. And there are two kinds of non-kosher birds which each have two signs of kashrut; consequently, regarding the permissibility of birds, one cannot rely on signs." Thus, it is only tradition (*masoret*) which renders a bird permissible to be eaten.

With Reference to Locusts

Similarly, with locusts (*hagavim*), we rely on the anatomical signs which our Sages gave us. Unless it is known without any doubt that a locust is called a *hagav* in accord with our *masoret*, we must assume that it is not a kosher species (Yoreh Deah 85:1). Thus, the *masoret* is the *matir*, or sole basis, for a permissive ruling. It is the only halakhic source available to us when attempting to identify kosher birds or locusts.

MASORET AS A CONFIRMATORY FACTOR

We learn that the [identifying kosher] signs of bird eggs are like the signs of fish. What do you mean by the signs of fish? God said, fins and scales [are the signs for a kosher fish]! Our Torah does not teach us anything about identifying the eggs of a kosher species of bird.

(Hullin 63)

Here we see that there can be no comparison between the signs of birds' eggs and the "signs" for kosher fish, since the distinguishing characteristics of kosher fish are specifically written in the Torah, and are not derived from investigation or derivation by the Rabbis.

Therefore, there can be no doubt whatsoever whether a certain fish is kosher or not; it is if it has scales of the type the Torah requires (ctenoid or cycloid scales, and not ganoid or placoid scales, which cannot be scraped off with the hand or with a scaler).

This is what is written in *Responsa Zikhron Yehudah* 32: "It is obvious that if a person finds a fish with scales, that fish is kosher, and no *masoret* [tradition] is required to determine that fact." *Masoret* merely confirms that a known species of fish is kosher because it meets the Torah-ordained standard of kashrut—the presence of "kosher" scales. The *masoret* merely records that Jews ate this fish because it has scales.

Thus, if the signs are specified in the Torah, there is no need for a tradition to determine that they are kosher. The *masoret* only comes to determine that this fish or this animal has the signs which qualify it as kosher, as listed in the Torah, inasmuch as its name is known to everyone and there has never been any doubt as to the acceptability of this species.

Concerning Animals and Beasts

It is difficult to understand why the Hazon Ish ruled so narrowly: "It is our custom not to eat animals (*behamot*) or beasts (*hayyot*) unless we have a tradition [to do so]" (Yoreh Deah, Hilkhot Behemah ve-Hayyah Tehorah 11); he cites the Shakh (80:1) and writes that the *Hokhmat Adam* ruled this way too. Thus, no new species can be included in our kosher diet.

In truth, however, the words of the Shakh and the *Hokhmat Adam* were said only in connection with identifying a type of *hayyah*, an animal all of whose fats are permitted (i.e., are not *helev*) and whose blood must be covered after slaughter, inasmuch as the Torah does not record any signs to distinguish between kosher beasts known as *hayyah* and *behemah*. The identifying signs taught us by our Rabbis are difficult to apply in practice in order to know whether a particular creature should be categorized as a beast (*hayyah*) or a domesticated

animal (*behemah*). However, never has there arisen any doubt about the kashrut of an animal which has split hooves and chews its cud. This is what the *Peri Megadim* wrote:

The signs of kosher beasts and animals are specified in Scripture. However, the signs to differentiate between a kosher beast and a kosher animal, concerning its fats and the covering of its blood, are not explicated. However, our Rabbis gave these signs, based on tradition (i.e., the horns are split).

Recently, several previously unknown animals have been discovered in the jungles of Vietnam, all of which have split hooves and chew their cud. These animals certainly are kosher. However, we must permit only the fats known as *shuman* (largely found above the diaphragm) and not the fats known as *helev* (which are found below the diaphragm), and insist upon covering their blood, inasmuch as we are in doubt whether they should be classified as *hayyah* (which requires no blood covering) or *behemah* (which does), since we have no *masoret* as to their status.

IDENTIFYING TEKHELET: IS THERE NEED FOR A MASORET? ARE WE UNCERTAIN?

The Color

It is clear from the Gemara, the Tosefta, and the writings of Rambam what the characteristics of *tekhelet* are, and its definition as a color of a specific shade, which is able to impart a permanent dye to a strand of wool.

In Bava Metzia 61 and Menaḥot 40a, the Sages attest that the color known as *kela ilan* is the exact color of *tekhelet* and cannot be differentiated from it. Only God can tell whether it is *tekhelet* or *kela ilan*.

The Holy One, blessed be He, said, I am He who differentiated between the sperm which became a firstborn and the sperm which did not become a firstborn [in the instance of the plague of the firstborn in Egypt]. I am the one who will eventually punish the one who hangs a thread of *kela ilan* in his garment and calls it *tekhelet*.

(Bava Metzia 61)

The *Arukh*, all of whose comments are based on traditions from the Geonim, translated the term *kela ilan* as *indiko* (i.e., indigo), which is a vegetable dye known to us with certainty.

The Source of *Tekhelet*

In the Tosefta, at the beginning of the chapter *Tekhelet* in Tractate *Menaḥot*, it becomes clear that *tekhelet* is kosher, i.e., acceptable, specifically when it comes from the *hillazon*, a snail or whelk called *argaman kehei-kotzim* which I am identifying as *Murex trunculus*.

In the Rambam, *Hilkhot Tzitzit* 2:2, it is explained that *tekhelet* is produced from a fish which lives in the "Salt" Sea. (*Yam ha-melaḥ* means "a saltwater sea," as distinguished from "a body of fresh water").

Thus, from the Torah we have two signs for *tekhelet*: (a) the color indigo, and (2) the source of *tekhelet* as coming from the *hillazon*, whose habitat is the sea.

Proofs

1. "If someone catches a *hillazon* [on Shabbat] and shatters it, he is only guilty of one transgression. The meaning of 'shatters it' is that he breaks the covering of the fish [i.e., the shell]" (*Shabbat* 74a). The source of *tekhelet* used by the Radziner Rebbe was the ink sac of the squid. There is no breaking or cracking to obtain the body fluid from which to extract the *tekhelet*. In fact, it is not possible to extract any dye from the squid ink sac.

2. *Tosafot* there, s.v. *ha-tzod*, find this passage difficult, inasmuch as the Jerusalem Talmud states that someone who catches a *hillazon* has not transgressed the sin of hunting on Shabbat, while our Talmud considers the hunting (*tzeidah*) transgression as part of the *tekhelet* protocol. *Tosafot* do not offer an answer. In truth, however, there is no contradiction. It is possible to catch the *hillazon* in deep water, which halakhically is an act of hunting, but also to gather it in less deep water, where it is possible to acquire it by simply bending down to pick it up (*sheḥiyah aḥat*), which does not constitute an act of hunting. In Babylon, where the Babylonian Talmud was compiled, the *hillazon* lives in deep waters; however, in Israel, bordered by the Mediterranean, it is possible to find the *hillazon* lying close to the beach, where no act of hunting is required to gather it. Perhaps this is what the Gemara alludes to when it says of the *hillazon* that "its body resembles the sea, and its form resembles a fish, and it emerges once in 70 years, and from its blood one dyes the *tekhelet*, therefore it is expensive" (*Menaḥot* 44). (The description that "it emerges once in 70 years" is not to be taken literally, but indicates rather that large numbers are found close to the shore at infrequent intervals.)

3. The Gemara notes that the longer the creature stays alive during the extraction process, the more preferable it is, for the dye remains "stronger." After its death, the *hillazon*, which is being discussed here, loses much of its ability to dye fabrics. Only its fresh "blood" (the reference is correctly not to "blood" but rather to fluid secreted by a gland that lies under the shell) could readily be used to dye fabrics. Nowadays, since we understand the chemical process, it is possible to restore the dyeing properties to these secretions by means of chemical reducing agents.

4. In 1985, a flask was discovered in Lebanon, containing *tekhelet* dye from the years 1300–1200 B.C.E.. There were still some remnants of the dye adhering to the flask, and the color was virtually identical with the dye extracted from the *Murex trunculus*.

Furthermore, thousands of conch shells of the dark purple murex have been discovered in archaeological digs associated with the ancient marine-dye industry.

5. A description of the manufacture of *tekhelet* by Pliny confirms that the source was a snail of the murex family.² The complex isolation protocol described by Pliny will successfully extract *tekhelet* from *Murex trunculus*, although a much simpler isolation process can now be used.

Why Did We Stop Wearing *Tekhelet* in Our *Tzitzit*?

Careful study of ancient sources reveals that there was never any doubt as to the source or method of manufacture of *tekhelet*. Written literature was and is available to all who were or are interested. However, the manufacture of royal purple was highly restricted in the Roman Empire. By edicts of the emperors Valentinian, Theodosius, and Arcadius, it was declared a capital offense to manufacture the "royal purple" other than in the imperial dye-works. Only the two censors could wear togas completely dyed in purple; consuls and praetors could have purple-edged clothing.³

In addition, the price was exorbitant. In 301 B.C.E., a pound of purple-dyed wool cost 50,000 denarii, about three years' salary for a baker.⁴ The difficulty in obtaining *tekhelet* because of the imperial edicts is recorded in the Talmud (Sanhedrin 12a), and one who manufactured *tekhelet* earned the merit of long life because of the danger (or extreme dedication?) the effort involved (Sotah 46b).

2. Pliny Secundus, *Natural History*, trans. T. E. Page et al. (Cambridge, Mass.: Harvard University Press, 1956), pp. 77–82.

3. *American Scientist*, vol. 78, p. 308.

4. *Endeavour*, January 1974, pp. 11–17.

Knowledge as Evidentiary Proof

The mass of evidence that *tekhelet* is the dye extracted from the murex is so overwhelming as to lead to a high degree of certitude. This certitude is tantamount to the testimony of two witnesses, and should be considered as sure a proof as an unbroken tradition would be.

Ketubbot 85. A certain woman came before the Beit Din of Rava and was required to take an oath. However, the daughter of R. Hisda, who was the wife of Rava, said to him, "I know this woman, and her oath is not to be trusted." Thereupon, Rava required the other party to the dispute to take the oath, because he had total confidence in his wife.

The explanation of this incident is that although a woman cannot testify, Rava "had total confidence in his wife." Therefore, we do not consider it as if she (Rava's wife) were permitted to testify, but rather that Rava was acting out of clear knowledge. He had absolutely no doubt, inasmuch as he had heard "from the daughter of R. Hisda" that the woman could not be trusted when she took an oath. Years of observation of his wife's character and meticulous attention to always speak the truth convinced Rava of the reality that one of the litigants was untruthful.

Avodah Zarah 39b. The Mishnah teaches: "The following are permitted to be eaten: milk that was milked by an idolator but a Jew was watching," etc. The Gemara comments thereon: "Our Rabbis have taught, the Jew sits by the side of the Gentile's flock, and the Gentile milks and brings it to him, and he [the Jew] need not be concerned [that it is milk from a non-kosher animal]." Clearly, it is understandable if there are no non-kosher animals in the herd; but what if there are also non-kosher animals there, why should it be acceptable? The Gemara answers: "Indeed, since there is a non-kosher animal in the flock, and when he [the Jew] sits down, he cannot see him [the Gentile doing the milking], one might think that since he cannot be seen, we should be concerned that the Gentile

might have added some non-kosher milk. However, since if he stands up he could see, the Gentile is therefore afraid to violate his commitment to provide milk only from a kosher animal (*mirtat*)."

The "evidence" which the Rabbis required (that the milk is kosher) is not that "the Jew sees him" but rather, clear knowledge, based on people's behavior in a situation of *mirtat*. Based on this Gemara, my father-in-law of sainted memory, R. Moshe Feinstein, ruled that milk in America is considered to be *halav Yisrael* even though it is not produced under the supervision of a Jew. This is so for two reasons: (1) There are no non-kosher animals in the cattle herds. Never has anyone seen a camel or a donkey together with the cows at milking (*ein tameh b'edro*). (2) The non-Jewish milk producer is not to be suspected of mixing non-kosher milk in with the regular milk, due to his fear of the government's penalty (*mirtat*). Furthermore, it would be economically unsound, since milk from non-kosher animals is fifty times more expensive than cow's milk.

It is the same in our situation. After we examine all the proofs and all the evidence, no doubt can remain, even though there is no one who can testify "This is the tradition I received." The clear knowledge which emerges from studying and investigating this matter is equivalent to the testimony of two witnesses, whose word is sufficient to establish a matter. Tradition (*masoret*) then would only be confirmatory of what I have already determined on the basis of *yediah*, or knowledge of the truth.

THE CONTROVERSY BETWEEN
THE GAON, R. YOSEF DOV HALEVI
AND THE GAON, THE REBBE OF RADZIN

In his book *Shiurim le-Zekher Abba Mori, z'al* ("Lectures in Memory of my Father, My Great Teacher"), Rabbi Joseph Ber Soloveitchik, *z'tzl*, recorded the opinion of his grandfather, known as the *Beit HaLevi*, concerning *tekhelet* (p. 228):

It is well known what happened between my grandfather, R. Yosef Dov HaLevi [Soloveitchik] and the Gaon of Radzin, with respect to the *tekhelet*, which the Radziner renewed and instructed all his Hasidim to wear in their *tzitzit*. The Rebbe tried to prove, based on much evidence, that this dye was the true *tekhelet*. R. Yosef Dov objected, saying that conjecture and proofs cannot prove anything concerning matters which rely upon tradition handed down from generation to generation. In such a case [requiring verbal transmission of tradition], argumentation cannot be the deciding factor, only tradition itself can determine it. That was the way our fathers saw it, and acted thereon, and that is the way the sons have to continue acting.

Based on these words, it seems that without a direct transmission of tradition, it is not possible to establish what is *tekhelet*. However, that is not how the Rebbe of Radzin recorded the response of the Beit HaLevi to his request that the *tekhelet* he was producing from a squid's ink sac be confirmed as halakhic *tekhelet*. I quote:

The Gaon, the head of the Beit Din of Brisk, Lithuania, may he live long [Rav Soloveitchik], has expressed his reasoning in rejecting [the Radziner's] *tekhelet*, in a letter to one of our acquaintances: He [the Radziner] did not explain what he discovered after it was forgotten—whether the identity of the fish or the extraction of its dye. After he has clarified this, i.e., that something was lost and he rediscovered it, will we be obligated to listen to him and wear it. However, if we say that the fish was in existence, and the [manner of] extracting its dye was known during all the time that has passed since *tekhelet* stopped [being used] in Israel, and yet our fathers and our forefathers did not wear it, then it is as if we have a tradition and a transmission from our ancestors that this fish and its dye are not the *hillazon* and the *tekhelet*, despite its having all the signs which our Sages designated. Only after it has become clear to us that this fish or the dyeing process ceased and was forgotten at any time during all this time, and therefore that the transmission was interrupted, only then will the halakhic evidence serve as proof.

According to this version, it is clear that the Beit HaLevi conceded that if the “fish” (i.e., the *hillazon*) was not available (and it was not), and for that reason the great Torah leaders never discussed it and decided not to use it, but rather—and this is what actually did happen—that “it became clear to us that this fish or the dyeing process did cease and the method was forgotten . . . thereby causing a break in the transmission [and for that reason use of *tekhelet* ceased]—at that point, the halakhic arguments could and do serve as proof.”

With the help of the Almighty and His creations, the transmission and the halakhah have been renewed once again, and it is possible to observe the mitzvah of wearing a thread of *tekhelet*, as in days of old.