

## *Chametz in Eighteen Minutes? An Inquiry into the Correct Text of the Talmud*

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How long does it take for dough to become *chametz*? Eighteen minutes is the standard reply, but the answer is not so simple. It is evident from the *Mishna* that there is no easy rule and sometimes dough can take a very long time to become *chametz*. In the following essay I will explore the rabbinic criteria for becoming *chametz* and the time it takes for this processes to occur.

### **One *Mil* or Four *Mils*?**

While discussing the process of separating *challah* for dough kneaded on Yom Tov, the *Mishna* in *Pesachim* implies that the leavening process can take a very long time:

How does one separate *challah* that has become *tamei* on *Yom Tov*?... Rabbi Yehoshua said, is this not the *chametz* about which we are enjoined [by the Biblical verse], “It shall not be seen nor shall it be found”? Rather, she separates it (*challah*) and places it (to the side) until the evening (the end of the festival), and if it becomes *chametz*—it has become *chametz*.<sup>1</sup>

The *Mishna* and the *Talmud* provide various signs for detecting if dough has become *chametz*. If the dough has changed color and become white, or if it has risen, or if there are cracks and splits in the dough, it is said to have already become *chametz*.<sup>2</sup> But what if none of these signs are apparent in the dough? This scenario, too, is discussed in the *Mishna* and *Talmud*:

**Mishna:** [Regarding] ‘deaf’ dough, if there is [a dough] similar to it which has become leaven, it is forbidden. **Gemara:** What if there is no [dough] similar to it?—Said R. Abbahu in the name of R.

<sup>1</sup> m*Pesachim* 3:3.

<sup>2</sup> *idem* 3:5.

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Shimon b. Lakish: [The period for dough to become *chametz* is] as long as it takes a man to walk from *Migdal Nunaiya* to Tiberias, which is a *mil*. Then let him say a *mil*—He informs us this, [viz.,] that the standard distance of a *mil* is as that from *Migdal Nunaiya* to Tiberias. R. Abbahu said in the name of R. Shimon b. Lakish: For kneading, for prayer, and for washing the hands, [the standard is] four *mils*.<sup>3</sup>

The ‘deaf’ dough to which this text is referring is dough that does not have all of the signs of *chametz*, and there is doubt as to whether or not it has become *chametz*.<sup>4</sup> The *Mishna* says that if a dough that was kneaded at the same time as the ‘deaf’ dough had become *chametz*, the ‘deaf’ dough is also considered to have become *chametz*. The *Gemara* then discusses an instance where there was no dough that was kneaded at the same time; how, then, is the status of the ‘deaf’ dough determined? The *Gemara* quotes Resh Lakish as saying that if the dough stood idle the amount of time it takes to walk from *Migdal Nunaiya* to Tiberias, it is considered to have become *chametz*. The *Gemara* then proceeds to inquire how long it takes to walk from the first city to the second, and the answer given is a *mil*.<sup>5</sup>

Why, then, the *Gemara* asks, did Resh Lakish not simply say a *mil*? The *Gemara* suggests that this was to teach us that the distance between *Migdal Nunaiya* and Tiberias is the distance of a *mil*. The *Gemara* then proceeds to quote another dictum of Resh Lakish that in regards to

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<sup>3</sup> b'Tal Pesachim 46a.

<sup>4</sup> See Dr. Moshe Raanan, *Batzek haCheresh*, <<http://daf-yomi.com/DYItemDetails.aspx?itemId=23187>>, for the various explanations of ‘deaf’ dough. The halachic definition of *chametz* is something I hope to return to. For now, see Dr. Moshe Raanan, *ibid*, and his explanation of the biological processes involved in *Shivat Yamim Se'or lo Yimatzei b'Vateichem—Shimarim*, <<http://daf-yomi.com/DYItemDetails.aspx?itemId=22528>>. Raanan raises the possibility that most contemporary bread is not *chametz* because it lacks lactic acid that is contained in bread made with sourdough! Rav Tzair summarized some of the opinions on his blog <[http://ravtzair.blogspot.co.il/2013/03/blog-post\\_6.html](http://ravtzair.blogspot.co.il/2013/03/blog-post_6.html)>. R. Shabsi Rappaport thinks that the halachic definition of *chametz* is not a biological state. A transcription of his lecture is available at <[http://ravtzair.blogspot.co.il/2013/03/blog-post\\_9500.html](http://ravtzair.blogspot.co.il/2013/03/blog-post_9500.html)>.

<sup>5</sup> The time it takes to walk a *mil* is a matter of dispute. *Shulchan Aruch* (OC 459:2) rules it is 18 minutes but many of the Rishonim and Acharonim are of the opinion that it takes 22.5 minutes. Rambam possibly holds it takes 24 minutes (commentary to the *Mishna Pesachim* 3:2, however in *Berachot* 1:1 he implies 18 minutes)..

kneading, prayer, and washing the hands, the time required is the amount of time it takes to travel four *mils*.

The *Yerushalmi* also discusses the same *Mishna* and asks the same question:

R. Abbahu in the name of R. Yochanan [says]: ['Deaf' dough is] dough that has become cold. If there was not another dough like it that became *chametz*, until when (how long does it take to become *chametz*)? R. Yaakov b. Acha [said in the name of] R. Ula of Caesarea in the name of R. Chanina: Until the amount of time it takes to travel four *mils*.<sup>6</sup>

The *Yerushalmi* seems to disagree with the *Bavli* about the amount of time it takes for dough to become *chametz*. In the *Yerushalmi* it is not the time it takes to walk one *mil* that makes dough *chametz* but four *mils*.<sup>7</sup> However, already in the times of the *Gaonim* we find a harmonization of these conflicting texts. R. Yitzchak b. Ghiyyat writes:

'Deaf' dough...its explanation is—dough that became cold and is no longer becoming *chametz*. And why is it called 'deaf'? Because it is similar to a deaf person who does not realize when we speak to him. So, too, this *chametz*—when we slap it on its face, it does not feel it and is quiet. If there is one similar to it that was kneaded with it at the same time that became *chametz*, this [one, too] is forbidden. If there is no [dough] similar to it, and it waited the time it takes to walk a *mil* from when he finished kneading it—it is forbidden.<sup>8</sup>

R. Yitzchak b. Ghiyyat quotes the *Yerushalmi's* explanation of 'deaf dough,' dough that has become cold, but makes no note of the discrepancy between the amount of time the leavening process takes as given in the *Bavli* and the time given in the *Yerushalmi*. This is telling. He seems to think that there is no disagreement. Perhaps this can be understood in light of the way the *Gaonim* explain the *Bavli*:

If there is not another [dough] similar to it, with what do we measure [to determine if the dough has become *chametz*]? In the way that R. Abbahu said in the name of R. Shimon b. Lakish: [The period for dough to become *chametz* is] as long as it takes a man to walk from *Migdal Nunaiya* to Tiberias, which is a *mil*. And it is also said,

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<sup>6</sup> *pTal Pesachim* 3:2.

<sup>7</sup> Meiri to *Pesachim* 45a understand that the *Bavli* and *Yerushalmi* disagree in this regard.

<sup>8</sup> *Hilbot Pesachim*.

R. Abbahu said in the name of R. Shimon b. Lakish: When do we use the measure of a *mil*? For a 'deaf' dough. However, for the initial kneading of the dough, how long does it take until it is called *chametz*, so that one who eats it is liable? The time it takes to walk four *mils*, from when it is kneaded until [it is ready to be] eaten.<sup>9</sup>

According to the explanation of the *Gaon*, there is no disagreement. The *Bavli* first discusses the amount of time it takes for dough to become *chametz* once it has already been kneaded; if it then sits idle, it becomes *chametz* after one *mil* of time has elapsed. The second case discussed in the *Bavli*, which is also discussed in the *Yerushalmi*, concerns the amount of time it takes to become *chametz* from when the water is mixed with the flour until the dough is fully baked. Both *Talmuds* agree that if the entire process takes longer than the time it takes to walk four *mils*, the dough is to be considered *chametz*.

Thus far we have seen that the dough is considered to have become *chametz* when signs of leavening are manifest in the dough. Sometimes it can take a long time for such signs to appear even if the dough is left to sit idle. However, even if signs of leavening never appear, the dough may be considered halachically *chametz* if sufficient time has elapsed in which it is possible that normal dough would have become leavened. The *Bavli* and *Yerushalmi* seem to disagree as to how long this takes. The *Yerushalmi* writes that it is the time it takes a person to walk four *mils*, while the *Bavli* maintains it is just 1 *mil*. However, we have also shown that early Gaonic material seems to understand that the *Bavli* and *Yerushalmi* do not disagree in this respect but rather explain that they are discussing two different measurements that are not mutually exclusive.

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<sup>9</sup> *Geonica* 225-6; *Shaarei Teshuva* 94. The responsum is attributed to Rav Natrunai Gaon. In another manuscript, it is ascribed to Rav Amram Gaon. See B. M. Levine, *Otzar haGeonim, Pesachim* 136, note 1, p. 55. Meiri *ibid* understands that the *Gaon* allowed for a longer time of four *mils* like the opinion of the *Yerushalmi* when the dough did not have any signs of leavening but was stringent and allowed only one *mil* in regards to 'deaf' dough that had signs of leavening. However, this explanation is not implied in the *Gaon's* words. The *Gaon* writes that the longer 4 *mils* is used only when measuring from the initial kneading until the baking, and clearly tries to use this as a way of harmonizing the disagreement between the *Bavli* and *Yerushalmi* and not as a form of adjudication as suggested by Meiri.

### Geography and *Chametz*

R. Yehosef Schwarz was the first of the Jewish geographers of Israel in the modern era. In his book *Tevnot Ha'aretz*, among other things, R. Schwarz attempts to identify the current location of many cities mentioned in *Tanach* and rabbinic literature. In his books, R. Schwarz identifies *Migdal Nunaiya*, mentioned in the *Bavli* in connection to *chametz*, with two other towns also mentioned in rabbinic literature, *Magdala* and *Migdal d'Tzvaiya*.<sup>10</sup> He argues that the town is located on the northern bank of the Kinneret in a town known to the Arabs as al-Majdal (“the tower”). He notes that the Christians too revere the town as the birthplace of Mary Magdalene.

In his first books, R. Schwarz writes that the city is approximately half an hour away from Tiberias,<sup>11</sup> but in a later responsum he admits to knowing that this was not true. He explains that originally he felt forced to agree with what the *Bavli* states was the distance between *Migdal Nunaiya* and Tiberias and therefore recorded half an hour, rationalizing that this was the amount of time it took someone who walked very quickly. R. Schwarz writes that he knew that normal people could never make it there that quickly even if they walked very fast but he wrote it anyways.<sup>12</sup>

In 1860 R. Schwarz had an epiphany. He realized that the text of the *Bavli* had become corrupt and he figured out how this had happened. He notes that the *Bavli* in *Megilla* uses language very similar to that found in *Pesachim*:

R. Yehoshua b. Levi said: A city and all that adjoins it and all that is taken in by the eye with it is reckoned as part of that city. Up to what distance?—R. Yirmiyah, or you may also say R. Chiyya b. Abba, said: As far as from Chamthan to Tiberias, which is a *mil*. Why not say [simply] a *mil*?—We learn from this what is the extent of a *mil*, namely, as far as from Chamthan to Tiberias.<sup>13</sup>

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<sup>10</sup> *Dos Heilige Land*, p. 150 (1852 edition) *Teshuvot m'Yerushalayim* 3, printed in *Divrei Yosef* parts 3-4.

<sup>11</sup> *Tevnot Ha'aretz* 102b; *Dos Heilige Land*, *ibid*.

<sup>12</sup> R. Schwarz writes in his responsum that he knew that the distance was wrong but wrote it anyways. However, in the back of *Dos Heilige Land* R. Schwarz printed his critical notes on Karl von Raumer's *Palästina*. On p. 352 R. Schwarz criticizes von Raumer for writing that Magdala is an hour and fifteen minutes from Tiberias because the Talmud in *Pesachim* states the distance was only 1 *mil*. It seems that when he wrote *Dos Heilige Land* he clearly believed that it was only 1 *mil* away. Perhaps R. Schwarz meant that by the time he wrote *Tevnot Ha'aretz* he knew that it was wrong and wrote it anyways.

<sup>13</sup> *Megilla* 2b.

The *sugya* in *Megilla* is structured very similarly to the *sugya* in *Pesachim*. In both *Pesachim* and *Megilla* it is in response to a question that it is stated that the distance is the same as the distance between two cities, “which is a *mil*.” To this the *Gemara* further inquired that if it is known that the distance between these two cities is indeed a *mil* why not just state simply that the distance is a *mil*? In both *sugyas* the answer given is that by stating the distance by example of the distance between two cities it also teaches that the distance between these two cities is one *mil*.

R. Schwarz claims that a simple scribal error had occurred. Originally, the text in *Pesachim* had stated that the distance between *Migdal Nunaiya* and Tiberias was four *mils*, but because of the similarity to the text in *Megilla*, a scribe copying this text could have easily confused the two *sugyas* and inadvertently left out the number four, leaving only the word *mil*.<sup>14</sup>

Alternatively, R. Schwarz suggests that the text in *Pesachim* never asked how long it took to get from *Migdal Nunaiya* to Tiberias at all, and that whole section was transposed from the *Gemara*’s discussion in *Megilla*, perhaps originally as a marginal gloss on the side, which eventually was later included in the actual text of the Talmud by a later scribe.<sup>15</sup>

R. Schwarz buttresses his theory with several proofs:

- 1) Why would the *Talmud* use the distance between Tiberias and another city if the distance between Chamthan and Tiberias were already known to be a *mil*? However, if the distance between Chamthan and Tiberias is not the same as the distance between *Migdal Nunaiya* and Tiberias as R. Schwarz proposes, there is no question.
- 2) The subsequent discussion in the *Gemara Pesachim* of *halachot* relating to 4 *mils* seems odd and unrelated to what was just discussed if the distance between *Migdal Nunaiya* and Tiberias was only a *mil*. However, the continued discussion makes much more sense if the text

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<sup>14</sup> Heinrich Graetz independently suggested the same thing. See *Monatsschrift für Geschichte und Wissenschaft des Judentums* XXXIX (1880 Iss. 11), *Notizen zur Topographie Palästina's*, p. 484f.

<sup>15</sup> See Malachi Beit-Arie, “Transmission of Texts by Scribes and Copyists: Unconscious and Critical Interferences,” *Bulletin of the John Rylands Library*, 75 (1993), p. 33–51 for more about this phenomenon. See also his updated article “Publication and Reproduction of Literary Texts in Medieval Jewish Civilization: Jewish Scribality and Its Impact on Texts Transmitted,” *Transmitting Jewish Traditions: Orality, Textuality, and Cultural Diffusion*, Yale University Press (2003), ed. Yaakov Elman, Israel Gershoni, p. 225–247.

had originally stated the distance between the cities was four *mils*, which is what the *Gemara* then continues to discuss.

- 3) The *Yerushalmi* explicitly states that the time it takes for dough to become *chametz* is four *mil*.<sup>16</sup>
- 4) He argues that Rashi and Rif seem to imply that *mil* was not actually part of the text of the *Gemara*.
- 5) R. Schwarz writes that his biggest proof is that it is impossible that the *Talmud* would contradict reality, and in reality the distance between *Migdal Nunaiya* and Tiberias is around 75 minutes.

R. Schwarz cautions that he is not offering his theory as practical halacha. “G-d forbid to be lenient with the measurements of *chametz*—by the life of my head.” He notes that all of the *poskim* record that dough becomes *chametz* in only a *mil*'s time and he does not dispute their opinion. In fact, he says that he who disputes this halachic ruling, “which has spread throughout Israel,” should be excommunicated and judged as a *zaken mamre*. The only halachic ruling he would change is if one were to betroth a woman on Pesach with dough that had waited more than one *mil* but less than four *mil*; in such a case, he would consider her halachically betrothed.

### Debating Geography

R. Moshe Kleirs, the Ashkenazic chief rabbi of Tiberias, and himself also a rabbinic geographer, disputed R. Schwarz's conclusions. R. Kleirs first quotes the entire responsum of R. Schwarz and then proceeds to disagree with his every argument. He argues that R. Schwarz misidentified *Migdal Nunaiya* and it is not the town known as al-Majdal. R. Kleirs contends that the *Talmud* mentions several cities called *Migdal* and that R. Schwarz had erroneously thought they were one and the same, and this caused him to err in his identification.

Further, he brings proof from the *Yerushalmi* that *Migdal* was in fact located only around two *mils* from Tiberias and that in later years the city grew to be within one *mil* of Tiberias. He concludes by observing that R. Yeshaya of Trani (II) already noted that the *Yerushalmi* was speaking of

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<sup>16</sup> He further supports this argument by noting that the *Bavli* and *Yerushalmi* agree that the amount of dough that can be prepared at one time is four *kabs* made of wheat and three *kabs* of barley. Had there been a difference between the two as to how long it takes to become *chametz*, we would expect to find a difference here as well.

the time it takes for dough to become *chametz* from the beginning of its kneading until it is baked and that the *Bavli* does not disagree with this.<sup>17</sup>

### In Support of R. Schwarz's Thesis

Although R. Kleirs disputes R. Schwarz's identification of *Migdal Nunaiya*, there are two very strong proofs from Josephus that support R. Schwarz's identification:

- 1) Further proof of the location of *Migdal Nunaiya* can be adduced by noting the city's Greek name. Josephus mentions that there was a town on the western bank of the *Kinneret* called *Taricheae*, which means "the places where the fish are prepared."<sup>18</sup> The city's name appears to be a translation of the Aramaic name *Migdal Nunaiya*.<sup>19</sup> Josephus indicates that the city was large and important, and the archaeological ruins at *al-Majdal* seem to fit this description.<sup>20</sup>
- 2) Josephus also says that the distance from *Taricheae* to *Tiberias* was 30 *stadia*.<sup>21</sup> According to the *Mishna* in *Yoma*, there are 7.5 *ris* or *stadia* in a *mil*,<sup>22</sup> which would make the distance from *Taricheae* to *Tiberias* four *mils*, the same distance the *Yerushalmi* says was the distance from *Migdal Nunaiya* to *Tiberias*.<sup>23</sup>

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<sup>17</sup> *Tavur ha'Aretz* p. 54–66.

<sup>18</sup> Wikipedia claims that it was even called *Magdala Taricheae*. I was not able to verify their sources. The translation of the city's name is variously given as "fish salters" or "picklers" but the exact translation is inconsequential for my purposes.

<sup>19</sup> As to why it was called "tower of fish," R. Schwarz claims that it is a corruption of *Magdalenia*, as in *Mary Magdalenia*. He says either a scribe accidentally wrote *ḥ* instead of *י*, which look similar, or Chazal intentionally changed the name to make fun of the Christians. (This is also how he explains *Migdal d'Tzavaiya*—tower of charlatans.) Prof. Shmuel Klein suggests that the name was originally just *Magdala*, but because there were several *Magdalas*, it was called *Migdal Nunaiya* so as not to confuse it with other *Magdalas*. See *Eretz haGalil*, p. 200.

<sup>20</sup> J.W. II ch. 21. There has been some controversy as to the whereabouts of *Taricheae*. See *Palestine Exploration Fund: Quarterly Statement* (1878) p. 190–192, C. R. Codner, *Notes on the Position of Taricheae*. Klein, *ibid.*, pp. 199–201, disproves these other suggestions. He also claims that there is a parallel story of the destruction of the city found in Josephus and the *Yerushalmi*; see also p. 52.

<sup>21</sup> *Vita* 32.

<sup>22</sup> *Yoma* 6:4. This is problematic because Greek sources indicate there were 8 *stadia* in a mile. I deal with this issue in another essay.

<sup>23</sup> There is also the testimony of the sixth-century Christian, Theodosius, who says that the distance between *Magdala* and *Tiberias* is two Roman miles. See



Additionally, R. Schwarz's (second) suggestion that the *sugya* in *Pesachim* did not contain a discussion about the actual numeric distance between these two cities is supported by two Talmudic manuscripts of *Pesachim* that do not contain the entire passage that discusses the distance between *Migdal Nunaiya* and Tiberias.<sup>24</sup>

### In Support of the Minhag

It is important to point out that even if R. Schwarz is correct, there is a tradition dating back to the *Gaonim* of the ninth century<sup>25</sup> that dough that was left to sit idle for the time it takes to walk one *mil* becomes *chametz*. According to these *Gaonim*, the *Yerushalmi* that states that the time for dough to become *chametz* is 4 *mils* is discussing the time it takes for a lump of dough to become *chametz* even when the dough is being kneaded the whole time. It is possible that the *Yerushalmi* would agree that dough left to sit idle for an extended period of time would become *chametz* faster than the time it takes to walk 4 *mil*.<sup>26</sup> There is no contradiction between the Gaonic tradition and the *Yerushalmi*; they were simply discussing different scenarios.

By extension, although this essay has argued in support of R. Schwarz's thesis that the original text of the Talmud in *Pesachim* never

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*Itinerarium Hierosolymitanum*, Vienna 1898, p. 137-138. However, it has been noted that his distances are not accurate. See John Wijngaards, *My Galilee, My People*, p. 29. I have personally measured the distance of the ruins of *Magdala* to ancient Tiberias rather conservatively with [emap.co.il](http://emap.co.il) and have found the distance to be close to 5 km. This is the same distance given on the Bible Walks website. <<http://www.biblewalks.com/Sites/magdala.html>>

<sup>24</sup> Munich 6 and New York/Columbia X 893 T 14a to *Pesachim* 46a. R. Yehoshua Bukh brought this to my attention. His lecture about this topic is available at <<https://www.youtube.com/watch?v=1wqWkCdWMao>> (Hebrew). *Dikdukei Sofrim* vol. 6 p. 130 says that it seems likely that the scribe had skipped from the word *Tveria* to the next *Tveria* and accidentally left it out. The Columbia manuscript also has an entire extra passage immediately after *Migdal Nunaiya* to Tiberias not contained in the standard text; however, it appears that Rashi did have it. ואמ' ר' אבהו אמ' ריש לקיש אם יש גבל העושה עיסתו בטהרה ברחוק ארבעת מילין לפניו ימתין וימתין עד שיגיע לאותו גבל אם יש (באותו מקום) ברחוק [ארבעת מילין] מים מלפניו ימתין עד שיגיע למים ויגבל עיסתו בטהרה. If Rashi had a similar manuscript, this would support R. Schwarz's contention that Rashi did not have the text about *mil*.

<sup>25</sup> It is debatable if there even was a written text of the *Talmud* at that point in history.

<sup>26</sup> Indeed this is the position of some of the *Rishonim* on the *Bavli* as well. See Ritva *Pesachim* 46a and *Shu"t baRosh*, *kelal* 14:4

stated that dough becomes *chametz* in the time it takes to walk one *mil*, and in fact implies that it takes 4 *mils* for this to happen, this does not contradict the tradition of the *Gaonim*. The Talmud in *Pesachim* according to the original version was possibly discussing a scenario in which the dough was kneaded the whole time, and only in this scenario does the *Bavli* state that it becomes *chametz* after a time of 4 *mils* has elapsed.

However, it is clear that the text of the Talmud in *Pesachim* had already become corrupt during the late Gaonic period, and it is this corrupted version that they quote when writing that dough becomes *chametz* in one *mil's* time. Is this corruption the source of the Gaonic tradition? Perhaps, but it is also possible that there was an early tradition that if dough were left to sit idle it would become *chametz* in the amount of time it takes one to walk a *mil* and somehow this tradition was later connected with the text in *Pesachim* which eventually led to it being altered to reflect this opinion. A careful reading of the Gaonic responsum seems to allude to just that:

R. Abbahu said in the name of R. Shimon b. Lakish: [The period for dough to become *chametz* is] as long as it takes a man to walk from *Migdal Nuniya* to Tiberias, which is a *mil*. And it is also said, R. Abbahu said in the name of R. Shimon b. Lakish: When do we use the measure of a *mil*? For a 'deaf' dough. However, for the initial kneading of the dough, how long does it take until it is called *chametz*, so that one who eats it is liable? The time it takes to walk four *mils*, from when it is kneaded until [it is ready to be] eaten.

The gaon first quotes the text from *Pesachim* as it appears in the standard version. It is, however, unclear if the gaon is quoting the Talmud when he writes "which is a *mil*" or if this is the gaon's own abbreviation of the *sugya*. The gaon then proceeds to quote a statement of Resh Lakish that does not appear in the standard text, that the measure of one *mil* is used for measuring a 'deaf' dough.<sup>27</sup> Clearly this textual variant cannot be attributed to scribal error or transposition.<sup>28</sup> We therefore

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<sup>27</sup> The gaon is clearly quoting a variant text because he writes "And it is also said." The statement is very similar to Resh Lakish's next statement that is a list of things pertaining to 4 *mils*.

<sup>28</sup> What remains to be clarified is the nature of the gaon's textual variant. On the one hand it is clear that it was not part of the original text in *Pesachim*, but on the other hand its formulation in the name of Resh Lakish and its content seem very organic to the *sugya*. Above in footnote 24 I cited other textual variants found in some manuscripts that are also in the name of Resh Lakish. Perhaps this is part of the larger question of the role of the *Stammaitic* redactors in the formulation of the *Bavli*. See Shamma Y. Friedman, "Wonder Not

must conclude that the Gaonic tradition that dough can become *chametz* in the time it takes to walk one *mil* predates the textual corruption in *Pesachim*.<sup>29</sup>

Most importantly, as R. Schwarz has pointed out, I have not found any authority, early or late, that disputes that ‘deaf’ dough becomes *chametz* if left unworked for the time it takes to walk a *mil*.<sup>30</sup> This universal consensus indicates that whether this is supported by the Talmud or not, this is the halacha.

### Conclusion

It is hard to know when a dough becomes *chametz*. The Mishna and Talmud give certain identifying characteristics for *chametz* dough but these are not always readily apparent. In case of doubt the Talmud provides a specific time frame after which it can be presumed that the dough has become *chametz*. The *Yerushalmi*’s opinion is that after 72 minutes dough can be presumed to be *chametz*, but the standard version of the *Bavli* declares that this is assumed after only 18 minutes. Some *Rishonim* explain the Talmuds simply disagree on this point, but I have shown that a *Gaonic* tradition maintains that the two Talmuds were not discussing the same scenario.

In the 19<sup>th</sup> century two rabbinic geographers debated if the text in the Talmud *Bavli* had become corrupted and originally agreed with the *Yerushalmi*’s longer timeframe. The correct version of the *Bavli* was contingent on the proper identification of a town mentioned in the *Bavli*. In

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at a Gloss in which the Name of an Amora is Mentioned: The Amoraic Statements and the Anonymous Material in the *Sugyot* of the *Bavli* Revisited” in *Melechet Machshevet: Studies in the Redaction and Development of Talmudic Literature*, (Hebrew) ed. A. Amit and A. Shemesh, Ramat-Gan, (2011), p. 101–144.

<sup>29</sup> Perhaps it was the *Gaonic* addition that caused the text to become corrupted later. That is to say, originally the text only said that the time it took to get from *Migdal Nunaiya* to Tiberias was enough time to cause a dough to become *chametz*. During the *Gaonic* or *Stammaitic* times in Bavel, the distance between these towns was not known and this caused some to understand the distance described by Resh Lakish as the distance of one *mil*, which was the *Gaonic* tradition for dough that had been left untouched. Then a scribe noticed the similarity of the distance of two cities also mentioned in *Megilla* as being the distance of one *mil*, and transposed the text of the Talmud in *Megilla* to the Talmud in *Pesachim* (perhaps originally as a gloss that eventually made its way in to the actual text).

<sup>30</sup> However, *Shibolei haLeKet* does rule in accord with the *Yerushalmi* that the *matzot* should be baked within four *mils* time of the start of their kneading. See *Shibolei haLeKet* 211.

this essay I attempted to support the identification of R. Yehosef Schwarz who claimed that the *Bavli's* original text agreed with the *Yerushalmi*.

I further argued that even if it can be proven that the *Bavli* agrees with the *Yerushalmi* it would be halachically inconsequential because there was a Gaonic tradition that after only 18 minutes dough can become *chametz*.<sup>31</sup> I attempted to show that this tradition predates the corruption of the *Bavli's* text and perhaps was the cause of the corruption at a later date. Since the *Gaonic* tradition does not contradict the opinion that dough becomes *chametz* after 72 minutes, but only clarifies that it is true only under certain conditions, we should continue ruling that dough becomes *chametz* after 18 minutes. Traditionally Jews have always ruled this way and there was never any authority that disputed this. ❧

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<sup>31</sup> There is no halachic consequence as far as defining the time it takes 'deaf' dough to become *chametz*. This implies not that 18 minutes is the minimum, but that if dough is left idle for such time it can be presumed that it is *chametz*; however, other factors such as heat may cause the dough to ferment faster (SA OC 459:2). However, this essay does argue that 4 *mils* is accepted by both Talmuds as the time it takes dough to become *chametz* in certain scenarios. If we are to accept the explanation in the *Gaonic* responsum, 4 *mils* is the maximum amount of time before a dough becomes *chametz* even if the dough is kneaded during the whole duration. Rambam (*chametz u'matzah* 5:13) and *Shulchan Aruch (ibid)* disagree and rule that as long as the dough is actively kneaded it will not become *chametz* even if done the whole day. Bet Yosef cites *Pesachim* 48b, "As long as they are kneading the dough it does not ferment," as the source for this ruling. Rambam understands that this is true in a simple sense and allows dough to be kneaded the whole day. However, *Shu"t Rashba* (124) cites those that limited this allowance to a time frame of only a *mil*. If we are to accept that the *Bavli* also ruled 4 *mils* as the maximum time, perhaps we should also accept the explanation cited in *Shu"t Rashba* so that there is no contradiction between *Pesachim* 48b and 46a.