

The International Date Line and Related Issues

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Introduction

The twentieth century has seen advances in technology to the point that one person may be in simultaneous communication with many others all over the Earth. Although for him it may be the morning, for others it is the middle of the night, afternoon, evening, or any time of day at all, depending on where on the globe they are. Although the time differential has always been a natural phenomenon, it has never caused as much excitement in the world of halacha as it has recently.

By convention, all countries of the world have agreed to begin each new day at midnight. Since it is not midnight all around the world at the same instant, the new day does not begin simultaneously for all places. When it is midnight in New York, it is only 11 PM in Chicago and 9 PM in Los Angeles. That means that it becomes Friday in Chicago an hour after it does in New York, and in Los Angeles two hours after that. Several hours later it becomes Friday in Hawaii (at Hawaiian midnight) and several hours later Japan follows suit. Eventually, Pakistan, Iran, Israel and France will all begin Friday in turn. After several more hours, it will again be midnight in New York. Does that mean that it will then

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become Friday? Surely not, since 24 hours earlier Friday already set in! Somewhere along the line we must stop saying that it becomes Friday midnight, and say that now it becomes Saturday at midnight. This point is known as the International Date Line, which is an imaginary line in the Pacific Ocean, extending from the North to the South Pole.

From this we see two things. First of all, the need for a date line is real. Second, the location of the date line is arbitrary.

When all the people in the world lived in the same area, this was not an issue. Everybody lived in one region and it was 2:35 PM on Thursday for everybody simultaneously. When people began to wander to other lands, those who wandered east were always ahead of the ones who stayed home. Similarly, those who wandered west were always behind those who stayed home. Theoretically, if the east nomads met up with the west nomads, there would be a problem, because the east nomads kept track of the days ahead of the original settlement, and the west nomads kept track of the days behind. Thus, when they met, they would be one day apart. This never came up for many thousands of years, because in order to meet, someone had to circumnavigate the world, which did not happen until after the Middle Ages.

The Halachic Problem

An arbitrary date line is unacceptable for Jews, though, because we must keep accurate count of the days, since many halachot depend on the day of the week — most significantly, Shabbat. We cannot simply agree to treat tomorrow as Shabbat, on our own whim! We must figure out which halachic day it is for every point on the Earth that Jews are found.

The Torah records that *Hashem* provided the Jews with manna in the desert. This manna had miraculous properties — everyone gathered precisely the appropriate allotment for his family, and any manna left over spoiled. No manna fell on Shabbat, so a double portion fell on Friday to supply for Shabbat.

Thus, the Jews in the desert had physical evidence which day of the week was Shabbat. As long as everyone stayed in the desert

and kept accurate records, there would be no doubt which day of the week it was.¹

כי אות היא ביני וביניכם

One might suggest that since we are sure that Shabbat began in the Sinai desert at sundown, then at that instant Shabbat started all around the globe. If so, Shabbat would begin in New York at about 11 o'clock Friday morning, and in California at about 8 o'clock Friday morning. The whole world would begin Shabbat simultaneously, at the time when Shabbat was starting in the Sinai.

However, this is not correct. The Radvaz (*Teshuvot*, Vol. 1, *siman* 76) insists² that the period of Shabbat (and presumably the other days of the week as well) are determined by sunset at the particular location under consideration.³

Similarly, the *Mishne Lamelech* (*Parashat Derachim*, *drush* 23) notes an interpretation of a midrash which presumes that in Heaven the days parallel those of Yerushalayim (Jerusalem). When Shabbat begins in Yerushalayim, it begins in Heaven as well. Nevertheless, he assumes, like the Radvaz, that Shabbat in every given region begins when the sun goes down in that spot on Friday.

As we travel farther from the desert, and from Israel in general, we become doubtful as to whether we have crossed the halachic date line. Unless we identify a halachic date line, Jews might never be allowed outside of Eretz Yisrael for fear of violating Shabbat every week, based on erroneous assumptions of the identity of the day! Obviously, then, as Jews travel all across the

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1. Tradition has it that the Sambatyon River is physical evidence of the day of Shabbat, even nowadays. During the week, the river thunders from agitation and turbulence. On Shabbat, the river is calm and placid [*Sanhedrin* 65b]. Of course, the location of this river is shrouded in mystery.
 2. This idea is derived from a *pasuk*, [*Shemot* 31:13] כי אות היא ביני וביניכם "For Shabbat is an individualized sign between Me and you . . ." implying that the Shabbat relates to each Jew individually, which the Radvaz applies to the issue of time.
 3. This is also found in the *Shulchan Aruch Harav* [2nd ed. 1:8], as well as in the *Sha'ar Hakolel* [Chap. 1, and Chap. 49].

globe, it becomes of overwhelming importance halachically to determine precisely where the day begins and ends.

Talmudic Sources

There is one Talmudic text [*Rosh Hashana* 20b] that may hold the answer to our problem in its entirety, depending on how we understand that passage. It says that the *Beit Din* (court) may not pronounce a day to be *Rosh Chodesh* unless the new moon appeared before noon on that day. (We will discuss this passage in depth later.) This Gemara sheds no light whatsoever on our discussion according to many *Rishonim* such as Rashi. They explain that this text is relevant only to the details of declaring *Rosh Chodesh*.

Several other *Rishonim*,⁴ though, interpret this Gemara to be addressing our issue precisely. They interpret the passage in the following manner:

If the astronomical new moon (*molad*) occurs slightly before noon (Israel time), then the *Beit Din* may declare that day as the *Rosh Chodesh*. If the *molad* occurs any time after noon, then the next day is *Rosh Chodesh*. The Gemara further states that this is a consequence of the requirement that we cannot declare *Rosh Chodesh* unless the newly sanctified *Rosh Chodesh* will last a full 24 hours. For example, if the *molad* occurs in Israel three hours after nightfall on Wednesday night, (that is, three hours after the beginning of Thursday, since the Jewish day begins at nightfall) the *Beit Din* can still declare Thursday as *Rosh Chodesh*, because it is not yet Thursday in New York. Similarly, if the *molad* occurs in Israel eight hours after nightfall on Wednesday, then Thursday is still acceptable for *Rosh Chodesh*, because it is not yet Thursday in California. How long can we continue this pattern? The Gemara here designates noon Israel time as the latest time for which any locale has not yet begun the new day. Now, noon is 18 hours after nightfall, which means that there is still a region in the world where

4. Particularly the *Ba'al Hama'or* [loc. cit.] and the *Kuzari* [section II, *siman* 20]. The Ran and Ritva prefer the explanation of the *Ba'al Hama'or* to that of Rashi.

Rosh Chodesh has not yet begun, and that is the farthest west we can travel for which this is true. In other words, more than 18 hours west of Israel we cross the date line and enter the next day, 6 hours ahead of Israel.

Thus, according to these *Rishonim*, the Gemara established the date line six hours (90°) east of Israel (see map). This is the interpretation of the *Ba'al Hama'or* and several other *Rishonim*. But according to Rashi and other *Rishonim*, as we have said, there is no explicit Talmudic source at all to help us locate the halachic date line.

Various Opinions

Some are of the opinion that if the Gemara above is not dealing with our issue, we are free to suggest any other spot as the date line. Rabbi M. M. Kasher,⁵ for example, postulates that since there is no Talmudic source for the date line, any arbitrary point is acceptable, and since the International Meridian Conference of 1884 has already chosen an International Date Line 180° from Greenwich, England, that should be the date line for halacha as well. His opinion has been rejected by nearly all later *poskim*.⁶

The Kazhiglover (*Teshuvot Eretz Tzvi, siman 44*) cites three versions of the opinion of the *Kuzari* on this matter.⁷ (A) the date line is located along the eastern edge of Asia; (B) it is in the center of the Eurasian continent; (C) or it is actually in Israel or the

5. *Hapardes*, Chicago, 28th year, vol. 5 p. 3 ff.

6. R. Chaim Zimmerman, in a brief essay printed in *Hama'or*, feels R. Kasher has misrepresented the sources.

7. His understanding of the *Kuzari* is taken from the commentaries *Kol Yehuda* and *Otzar Nechmad*, which do not necessarily explain the position of the *Kuzari* correctly. The Kazhiglover concludes, oddly enough, that since there are several opinions on the location of the date line, we cannot dare to decide the matter conclusively. The date line remains a mystery, and any Jew traveling to that part of the world (which according to the Kazhiglover may be Eretz Yisrael itself!) simply keeps Shabbat after seven days from the last time he kept Shabbat. Nevertheless, his basic premise is that there is a halachic date line, and he insists that the International Date Line is irrelevant to the halacha, in opposition to R. Kasher's suggestion.

desert.⁸ It seems very difficult to assume that the date line would be located in a region inhabited by the Jews of old; since crossing the date line entails some responsibilities, and the Gemara never implies that travelers dealt with these responsibilities, they could not have crossed the date line in their travels. We conclude, rather, that wherever the date line is, it falls outside the area inhabited in the ancient world.

The two most accepted opinions of the location of the line are those of the Chazon Ish and R.Y.M. Tukitchinsky (see map). The Chazon Ish places the line at 125° east longitude (corresponding to 90° east of Yerushalayim) while R. Tukitchinsky places it at 145° west longitude (corresponding to 180° from Jerusalem). We shall now examine these two opinions in more depth.

Chazon Ish

In 1941, several hundred *talmidim* from different European yeshivas (primarily from Mir) escaped Nazi persecution by fleeing to the Far East, where they were granted asylum. They stayed temporarily in Kobe, on the Japanese island of Honshu, but soon went to Shanghai. Kobe is located at 135° east longitude (100° east of Jerusalem), still west of the official International Date Line. Concerned that they had possibly crossed the *halachic* date line, some *talmidim* kept two days of Shabbat every week, because of doubt.⁹ Since this practice could hardly continue, they sent telegrams to the *gedolim* in Europe and Eretz Yisrael for advice.¹⁰

8. This is possibly also the opinion of the kabbalist, R. Moshe Cordovero, in his work *Shiur Komah* [section 52].

9. Incidentally, in late 1941, some 50 *talmidim* from Mir staying in Shanghai were preparing to travel to Canada, and upon realizing that their ship would cross the date line on Yom Kippur, which would require them to fast two consecutive days, chose to wait for the next available ship. Meanwhile, the Second World War broke out between Japan and the U.S., blocking any passage between Shanghai and the Americas. The *talmidim* were forced to wait out the war until 1946.

10. By the time Yom Kippur came, most of the *talmidim* were sent to Shanghai, with very few remaining in Japan.

The map indicates three lines of longitude which are relevant to the halachic discussion of determining the dateline for religious purposes:

- 1) the longitude which passes through Jerusalem
- 2) the longitude 90° of Jerusalem



Dateline
According to
Chazon Ish

International
Dateline

Dateline
According to
R. Tukitchinsky

3) the line 180° east of Jerusalem

Notice that Japan, New Zealand, and much of Australia and the USSR lie to the west of the International Date Line but to the east of the 90° line. Also note that Alaska and Hawaii lie to the east of the IDL but to the west of the 180° line.



Meridian Through Jerusalem

The Chazon Ish, as well as numerous other *gedolim*, replied that they had indeed crossed over the date line and must treat what the Japanese considered to be Sunday as Shabbat.¹¹ To explain his position, the Chazon Ish wrote an essay in which he declared unequivocally that any point more than 90° east of Yerushalayim is no longer six hours *ahead* of Israel, but 18 hours *behind* (see map). According to the Chazon Ish, this is the opinion of all *Rishonim* who discuss the topic.¹² Any *Rishon* who expresses a position on this matter identifies 90° east of Israel as the meridian¹³ of the date line. They understand the Gemara above [*Rosh Hashana* 20b] in the same way as does the *Ba'al Hama'or*.¹⁴

The *Rishonim* proceed to offer an additional, rational explanation for this position. The Gemara [*Sanhedrin* 37a] as well as the verse [*Yechezkel* 38:12] refer to Eretz Yisrael as "*tabur ha'aretz*," the center of the world. This means that if we were to divide the globe into two hemispheres, an upper one and a lower one, we would position it so that Jerusalem is in the center of the

11. Interestingly, R. Simcha Zelig Rieger, the *dayan* of Brisk at that time, sent a letter advising the *talmidim* as follows: Since the *minhag* among the Jews there at the time was to treat Saturday as Shabbat, (albeit contrary to the halacha as he understood it) regarding rabbinic laws we say that custom overrules rabbinic law; so the *talmidim* should join the community in Shabbat davening on Saturday. But as far as biblical laws are concerned, the real date line is 90° east of Jerusalem, and they should thus keep Shabbat on Sunday.

R. Yechzkel Levenstein, spiritual leader of the *talmidim* of Mir, insisted that the *talmidim* follow the Chazon Ish entirely, even for rabbinic laws.

12. The Chazon Ish interprets the *Yesod Olam* (a *talmid* of the Rosh) to support this position as well, contrary to other readings in the *Yesod Olam*. R. Zimmerman, in his monumental work on our topic, *Agan Hasahar*, understands some of the *Rishonim* differently from the Chazon Ish, yet adds the Rambam to the list of *Rishonim* who support him. R. Zimmerman learns that the *Yesod Olam* places the date line an hour and a half to the east of the Chazon Ish's line, yet he suggests that this may be based on a factual error.
13. A meridian is a line of longitude, stretching from the North Pole to the South Pole.
14. He adds that even those *Rishonim* who reject the *Ba'al Hama'or's* interpretation of the Gemara agree that the date line is 90° east of Yerushalayim. They merely claim that the words of the Gemara are to be understood differently, not dealing with the placement of the date line.

upper one. Since the cradle of civilization is in the upper hemisphere, and exploration of the lower hemisphere dates back no further than a few centuries, the upper hemisphere is the portion of "yishuv," settlement, whereas the lower hemisphere is "uninhabited."¹⁵ If we were to draw a flat map of the *settled* area, then the east edge would fall 90° to the east of Israel, and the west edge 90° to its west. This map would define one indivisible region. The easternmost edge represents the region which becomes a new day first, and the westernmost edge the region which is last to become a new day. With the globe in this orientation, we can understand why the Gemara would define the date line six hours to the east of Israel. The eastern edge of the settlement, representing the earliest portion of the globe, lies six hours to the east of Israel. The halachic date line lies right beyond this edge of the hemisphere (see map).

Positioning the halachic date line 90° east of Israel (in the ocean east of China) is very convenient for most purposes. Very few Jews live in that part of the Orient, or in the part of Siberia which fall along this meridian. However, it is enormously inconvenient when the occasional traveler actually gets to that part of the world. It may theoretically occur that he is staying on one side of the street where it is Friday, while across the street it is Shabbat! This is the opinion of the Brisker Rav as well as several other *poskim*.¹⁶ The meridian corresponding to 90° east of Jerusalem is an absolute demarcation regardless of its position on the ground.

The Chazon Ish, however, blends the Talmudic source above with the rationale of the *Rishonim*, and postulates that the *estimated* determination of the upper hemisphere is governed by the 90° rule, but the upper hemisphere conforms halachically to the eastern coastline of any landmass which would otherwise be split by the 90° rule. This means that if any significant part of a given

15. This makes even more sense in light of the study of plate tectonics, where the theory of continental drift may suggest that at one time the continental plates were all located on the "upper" hemisphere.

16. R. Zimmerman concurs with this opinion as well.

landmass falls within the upper hemisphere, that whole landmass is in the upper hemisphere and the date line bends around it; all of it is then considered "east" of Israel (and west of the date line). The Chazon Ish bases this notion on the *Sefer Yesod Olam*. This is a tremendous variation, placing all of continental Russia and China to the west of the date line; more surprisingly, all of Australia just to the west of the date line as well. The Brisker Rav would insist that whatever portion of Australia lies to the east of 125°e longitude¹⁷ is over the date line, and consequently at the tail end of the day. This would be very uncomfortable because the International Date Line is well to the east of Australia, so that Shabbat would fall on Australian Sunday. In contrast, the Chazon Ish unites the whole landmass of Australia, so Shabbat corresponds with Australian Saturday.

The upshot is that even according to the view of the *Rishonim* that the date line lies 90° to the east of Israel, major portions of Siberia and Australia are in constant doubt over their date.¹⁸

R. Yechiel Michel Tukitchinsky

Several years before the 1941 sortie to the Far East, the date line issue had already presented itself. During World War I, between 1914 and 1916, several hundred Jews fled to Japan for safety, and they asked Rabbi M.A. Kisilow¹⁹ which day to consider as Shabbat. He told them to rest on Saturday like the rest of the world.²⁰ It appears that this set a precedent, because when the Yeshiva students escaped to Japan in 1941 and sent out the aforementioned telegrams, some came back with instructions to keep Shabbat on Saturday, contrary to the opinion of the Chazon Ish.

The major opponent of the Chazon Ish in this matter was

17. This is the heavily populated area, including Sydney, Melbourne, Brisbane, and Canberra.

18. It depends on whether or not to accept the Chazon Ish's suggestion that the date line conforms to the coastline.

19. Author of the Responsa, *Mishberei Yam*.

20. One factor in his decision was that he could not bear to see Jews keeping their Sabbath on Sunday with the non-Jews.

Rabbi Y. M. Tukitchinsky. His position was that the location of the halachic date line is 180° from Jerusalem (see map). If so, the Japanese settlement was well to the west of the date line, and Shabbat in Kobe is Saturday!

In an attempt to settle the matter, the Chief Rabbinate of Jerusalem convened a meeting of rabbis in 1941 (at the home of Chief Rabbi Herzog). R. Tukitchinsky, present at that meeting, succeeded in convincing the other rabbis of his opinion, so they sent a telegram to Japan advising them to keep Shabbat on Saturday. He based his opinion on *his* understanding of the *Yesod Olam*, as well as on additional *Rishonim*. Presumably, this opinion is predicated on the assumption that the Gemara in *Rosh Hashana* does not deal with our issue, contrary to other *Rishonim* mentioned above.

The only other authoritative source from which to derive an answer is the statement that Israel is the center of the world. As such, a map of the *entire* world with Israel at the center would have 180° on one side of Israel and 180° on the other. The same rationale, which above implied a date line 90° east of Jerusalem, would compel us to place the date line along the east edge of *this* map, meaning 180° from Jerusalem.

This opinion, whether it sounds reasonable or not, is against the majority of the *Rishonim*, and quite possibly against all *Rishonim*. Therefore, the Chazon Ish attacked R. Tukitchinsky for arguing with all of the *Rishonim* without sufficient grounds. How can anyone in our generation decide to reject the unanimous opinion of the *Rishonim*!?

גבוה מכל הארצות

A final argument deserves mention. According to this, even if we had absolutely no sources from which to draw, we would still conclude that the date line lies 90° to the east of Israel. If we could turn back time to the very beginning of history, we would be able to see the orientation of the globe when *Hashem* set the world in motion. When *Hashem* created the world on the first day, or the sun on the fourth day, the Earth was spinning, and the clock was ticking. At the end of that day, *Hashem* was finished with the

creation of the fourth day. Immediately afterward, *Hashem* began the creation of the fifth day. There was clearly one instant dividing the fourth day from the fifth day. At that instant, one spot on the globe was at midnight, one spot at 6:00 PM, one spot at 11:00 AM, and so on. In other words, although the sixth day (for example) lasted for a whole day, there was one spot on the globe in which it became the "sixth day" first. That spot marks the first spot in the world to begin the new day. If we could see the orientation of the globe when *Hashem* declared that the new day had just begun, then we would "see" the "real" date line! Simply find the meridian which was just at sunset at that instant, because that is the beginning of the day.

The *midrashim* are replete with references to Eretz Yisrael as "גבוה מכל הארצות," higher than all other lands. In what sense is Eretz Yisrael so distinguished? As we have explained above, if we view the world as a globe with Eretz Yisrael in the center of the "upper" hemisphere, then Eretz Yisrael is indeed objectively higher than all other lands. Typically, the sun defines the "highest" point in the sky, which means that when the sun is highest in the sky, that part of the globe is "on top." During the course of the day, every part of the globe is thus "on top" for an instant. At what instant is Israel "on top"? Naturally, at the *first* instant of creation! This means that at the first instant of time, Israel faced the sun, which means that 90° east of Israel was at sunset! That must then be the location of the "real" date line in accordance with the opinions of the *Rishonim*, the Chazon Ish, R. Chaim Brisker, and their group of *poskim*.²¹

Nevertheless, the matter of the date line is not completely resolved. Some authorities are still convinced that the date line is

21. This reasoning appears in the *Agan Hasahar* as the rationale of the *Ba'al Hama'or*, although it is not explicit in his commentary. The *Yesod Olam* interprets the *p'sukim* to indicate that the sun was situated exactly antipodal to Eretz Yisrael at the instant that it was created. Nevertheless, the *Chazon Ish* stresses that the *Yesod Olam* himself very clearly distinguishes between the halachic day and the Creation day.

180° from Israel, whereas the majority of *poskim* hold that the line is 90° east of Israel, thus placing a quarter of the world in constant doubt of the day! In this "doubtful zone" lie Hawaii, Japan, the populous sections of Australia, and many other islands and cities. Furthermore, even if we decide that the date line is definitely not 180° from Israel,²² eastern Australia and eastern USSR would still be in doubt as explained above.

אין מוקצה לחצי השבת

Regardless of where the date line is, there are several related issues which deserve our attention. What is the ruling regarding a person who boards an airplane right after Shabbat ends, and flies "into" Shabbat? Similarly, can one prematurely end Shabbat by crossing the date line into Sunday?

The Kazhiglover [loc. cit] and the Gerer Rebbe,²³ among numerous other *poskim*, deal with these questions. Based on a fascinating theorem, the Kazhiglover suggests that if one travels on Shabbat over the date line to Sunday, he must still keep Shabbat.

The Gemara [Succah 46] states that something which is *muktza* in the twilight of Shabbat remains *muktza* throughout Shabbat. Similarly, if a town's *eruv* was acceptable at the beginning of Shabbat, then even if the box of matzohs validating the *eruv* disappears during Shabbat, the *eruv* remains valid. (This is known as the principle of הוֹתֵרָה וְהוֹתֵרָה הוֹתֵרָה.) We see that the beginning of Shabbat determines the status of all objects for the entire Shabbat. In other words, if it was permissible to carry in this *reshut hayachid* at the onset of Shabbat, it remains permissible to carry in that same *reshut hayachid* throughout Shabbat. (If the walls fall down during Shabbat, then it is not the same *reshut hayachid* anymore.) This explains why an object which was *muktza* when

22. Deciding to follow a rigorous 90° date line, as does the Brisker Rav, would be uncomfortable for Jews in Japan and Australia (not Hawaii) because Shabbat would fall on Sunday, and all calendars would be one day off, and more importantly — the prevailing custom among Jews there today is to keep Shabbat on Saturday!

23. פסקי תשובה חייג סי' רנ"ב.

Shabbat commenced remains *muktza* throughout.²⁴

Should we then say that if an object was not *muktza* at the beginning of Shabbat, it cannot become *muktza* on Shabbat? Ostensibly, this is not so. The Mishnah states that food which is left as bones or peels does become *muktza* on Shabbat. Furthermore, the Gemara states that a dish which shatters into useless shards on Shabbat becomes *muktza*. This seems to imply that an object which was not *muktza* at the beginning of Shabbat is not guaranteed to remain permissible throughout that Shabbat. Yet, these cases are actually different. Just as a *reshut hayachid* whose walls fall down on Shabbat loses its status as *reshut hayachid*, these peels or shards lose their prior status due to the physical change in them. In other words, anything which is permissible to be handled at the onset of Shabbat will remain so throughout the day, but only provided that the object does not undergo a physical change. For example, the Ramo rules [Yoreh Deah 266:2] that after the *brit mila*, the *mohel's* knife does not become *muktza* (even though now it is useless on Shabbat).²⁵

Although all these examples, to show that the beginning of Shabbat governs the whole Shabbat, are only rabbinic laws, there is a rule, כל דתקון רבנן בעין דאורייתא תקון, any rabbinic enactment is patterned after a biblical law. We should thus be able to find biblical laws which reflect the notion that the the whole Shabbat is determined by the status at the beginning of Shabbat.²⁶ The Rosh

24. R. Soloveitchik also used this rationale to explain the principle.

25. The *Taz* on Yoreh Deah there (note number 1) quotes the Maharshal that the reason is אין מוקצה לחצי השבת. When the Gemara invokes this rule, it refers to a case in which the object was not *muktza bein hashmashot*, but during Shabbat it became *muktza* for reason X. During the same Shabbat, reason X disappeared, so we say אין מוקצה לחצי השבת, and the object reverts back to being permissible. That only applies when the reason for the *haktza'ah* vanishes. But if there continues to be a reason for the object to be *muktza*, the rule does not apply. Nevertheless, the Maharshal, the Ramo, and the Ran borrow the expression from there and apply it also to our case wherein the object was permissible at the onset of Shabbat and does not change, and they state that it cannot become *muktza* in the middle of Shabbat.

26. The Chazon Ish tacitly assumes the same premise in his essay on the date line. The *Kuzari* states that Shabbat begins in Eretz Yisrael, and only afterwards does

quotes Maharam Rothenburg, who compares the law regarding a child who becomes bar mitzva in his period of mourning to a child who becomes bar mitzva in the middle of Shabbat. The Rosh rejects the comparison, noting that every second of Shabbat carries with it the day's obligations, whereas the obligation to mourn sets in only at the beginning of the mourning period. The Maharam presumably disagreed with the Rosh, understanding that the obligation to keep the entire day of Shabbat is only because the beginning of Shabbat so requires.²⁷

From this analysis, the Kozhiglover states that if one travels on Shabbat to a place where it is weekday, he must continue to observe Shabbat, since at the beginning of Shabbat he became obligated in all of its laws. (He does not suggest when his Shabbat will end, though.)

Similarly, the Gerer Rebbe writes that if one flies from a weekday into the middle of Shabbat, he does not have to keep Shabbat (or the laws of Yom Kippur, if he flew into Yom Kippur) biblically, since he had not experienced the beginning of that day. It does seem that the Gerer Rebbe would require him to keep Shabbat for rabbinic reasons.

Crossing Time Zones and Date Lines

Although the Earth looks like a smooth ball from space, it is full of mountains and valleys and looks entirely uneven from the

the rest of the world follow. The Chazon Ish explains the *Kuzari* as follows: When *Hashem* taught us the laws of Shabbat in the desert, the part of the world east of there began the new day earlier than the desert. Therefore, since the Shabbat had not yet been commanded to the Jews, those regions east of Israel had begun the day without the sanctity of Shabbat. Thus, the first Shabbat in the world began with Israel, and the eastern regions had their first Shabbat the next week. In this way the Shabbat began in Israel.

This explanation is based on the assumption that the eastern regions could not suddenly begin their Shabbat in the middle of the day, in accordance with our rule that the restrictions of Shabbat can set in only at the beginning of the day.

27. For further elaboration on this point see *Beit Yitzchok* Vol. 22, "בין השמשות דתחילת השבת."

surface. Do we determine sunrise and sunset from the actual appearance of the sun's rising or setting for any given location, or do we pretend to level the Earth, and calculate that sunrise occurs at the theoretical sunrise at sea level on this spot? In other words, someone standing on a mountain will see the sun rise earlier than someone in a valley. Can he fulfill the mitzva of *lulav*, for example, at that time? R. Moshe Feinstein writes (*Orach Chaim* Vol. 1, *siman* 97) that the halachic sunrise and sunset are determined for every given set of coordinates, regardless of altitude.²⁸ That is, someone standing on a mountain peak must wait until the sun has risen enough that it would be sunrise for that spot even if there were no mountain there. Similarly, it would follow that passengers in an airplane must follow the times as they are on the ground below (at sea level). Therefore, an airplane crossing the 125°e meridian has just jumped into another day. If it crossed traveling eastbound, the passengers have just gained an extra day. If it crossed westbound, they lost a day.

Even if we decide to follow the opinion of the Chazon Ish, wherein the date line is not a straight line of longitude 90° east of Jerusalem, but instead bends to include any contiguous portions of land, it could be that airplanes would not be affected. In other words, the Chazon Ish agrees in principle that the date line is a straight line 90° from Jerusalem. He simply adds that the date line cannot divide the solid land into two pieces. In the air, however, this rule might not apply, (according to Rabbi Hershel Schachter), so an airplane flying over the eastern portion of Australia is still

28. This is based on the Gemara [*Shabbat* 118a] which tells that the inhabitants of Tiberias used to begin Shabbat early because they lived in a valley and the sun appeared to set. Clearly, this was not required of them, because the Gemara would not have praised them for merely keeping the basic law. Similarly, the same passage lauds those of Tsippori for keeping Shabbat until the sun appeared to set for them, although they were situated on a hill.

The Maharil (15th century) justifies the practice in Germany in his time to *daven mincha* slightly after sunset. He explains that the apparent sunset is actually a bit earlier than the halachic sunset, since the region lies in a depression.

east of the line. Only when it crosses 125°e will the date change. If Rabbi Schachter's reading is correct, this means that according to the Chazon Ish, if an airplane takes off on Saturday night from eastern Australia, as soon as it lifts off it flies into Shabbat!

Consider someone crossing the date line from Tuesday, 3:00 PM into Wednesday, 3:00 PM. According to the above interpretation, even if he has already *davened mincha*, he must *daven* again because his first *mincha* was for the obligation to *daven* on Tuesday, and he now has an obligation to *daven* on Wednesday. Similarly, he must put on *Tefillin* because we generally assume that there is a daily requirement to wear *Tefillin*.²⁹ If he crosses the line during the 49 days of the Omer, he must count for the new day.³⁰ A woman in the midst of the seven clean days of *niddut* has just jumped into the next day. Generally, the date line affects any issue which depends on the calendar day.³¹

Fast Days

When an airplane flies west, it travels in the same direction as the sun, so the time will not advance significantly throughout the flight. If so, one who flies west on the morning of a fast day should theoretically not be allowed to eat until the fast is over, which is some time after sunset. His fast would then be much longer than everyone else's, because he began his fast in the morning of his departure place, but ended it at night in his destination place. This may not actually be required. The *Nachal Eshkol* writes that he was asked to justify the custom among the Stockholm Jews to break their fast at 9:30 PM even though the sun had not yet set. He

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29. He would not have to make up the *davening* for *Shacharit*, though, since he was never obligated to *daven* on that morning, as he never experienced it.
30. He has not missed a day, so although his count at 3:00 PM on Wednesday will be without a *bracha*, he resumes that evening counting the next day with a *bracha*. (The Lubavitcher Rebbe has a different opinion regarding determining the day of the Omer and Shavuot, for one who crosses the dateline, *Sefer Yagdil Torah*, pp.154-163).
31. *Pidyon Haben* might be an exception, because it might not depend on the calendaric passage of 30 days, but on the actual time elapsed since birth, down to the last second.

suggests that since the Gemara states that the fast days nowadays are only a *minhag* (custom) and not an official rabbinic enactment, the parameters of the fasts depend solely on what we have accepted upon ourselves. At the time the *minhag* was established, there were no Jews as far north as Stockholm, so no one accepted the fast longer than approximately 9:30 PM.

With this reasoning, some have argued³² that one who travels westbound on a fast day must fast only until it becomes 9:30 PM on his watch (set to the time at the departure location). Nevertheless, this only applies to the minor fasts. *Tisha B'av*, however, which is a bona fide obligation not resting merely on custom, would perhaps require the traveler to wait until the actual sunset to break his fast.³³

Arctic Regions

The Arctic circle is an imaginary line slicing the globe at 66.5° latitude. Above this line, the sun is visible for 24 hours at some time during the summer months. During the winter months, there is a time when the sun is below the horizon for over 24 hours. This poses a halachic problem for someone who finds himself in these regions at these times. Does his halachic "day" correspond to a 24 hour period, or does it depend completely on the motions of the sun? Several *poskim* deal with these questions, including the *Tiferet Yisrael* (in his commentary to *Masechet Brachot*). He suggests that perhaps the day is partially determined by the 24 hour period in which the sun appears to move around the sky and returns to its original spot, even if it does not set. This opinion is clearly not rooted in concrete sources, and it appears to be questionable. R. Chaim Volozhiner commented that since there is no clear solution to this problem, religious Jews should avoid traveling to these places.

32. R. Yoseph Cohen in *Harerei Kodesh* (notes on the *sefer Mikraei Kodesh*) vol. 2, p. 214.

33. See *Mikra'ei Kodesh* R. Tz. P. Frank, Pesach Vol. 2, p. 214, and the notes, *Harerei Kodesh*. But compare *Iggerot Moshe*. O.H. III, no. 9b.

Kabbalat Shabbat and Mikva on Erev Rosh Hashana

The Gemara derives from a *pasuk* that although the day begins at night, one must accept upon himself the sanctity of Shabbat and Yom Tov a bit earlier, while it is still the previous day.³⁴ There is no specified minimum amount that one must add to Shabbat, yet there is a maximum. The author of *Shulchan Aruch* rules that one cannot accept Shabbat before sunset.^{34a} Ashkenazim follow the Ramo who says that one may accept Shabbat as early as *plag hamincha* (one and a quarter hours before sunset, as measured by the Gra).

R. Yitzchok Luria (the *Arizal*) writes that one may go to mikva on *erev* Rosh Hashana as early as the fifth hour of the day. There is a dispute among later authorities whether he meant 10:00 or 11:00 in the morning. What possible significance could this hour have? On the assumption that he meant 10:00, R. Sternbuch³⁵ quotes a novel approach from a certain kabbalist who points out that if the *Ari* held as did the Chazon Ish, that the date line bends around the eastern edge of a landmass which straddles the 90° line, then 10:00 is a perfectly sensible time. At 10:00 in Eretz Yisrael, it is 6:00 PM on the eastern shores of Australia. If that is the first part of the world to begin the new day,³⁶ then at that instant the sanctity of Yom Tov is present somewhere in the world. Consequently, the inhabitants of Eretz Yisrael may then begin to prepare for Rosh Hashana by going to the mikva.

The *Shulchan Aruch* [581] cites the custom to immerse in a mikva on the eve of Rosh Hashana. The *Mishnah Berurah* quotes the *Chayei Adam* who prescribes 11:00 as the earliest time for this

34. Although the Rambam's opinion is that the Torah requires this only for Yom Kippur, and not for Shabbat, most *Rishonim* disagree.

34a. *Orach Chaim* 261:2. See also the *Mechaber* on 263:4 and 267:2 where he appears to contradict himself. Resolution of this difficulty is beyond the scope of this essay.

35. *Moadim Uzmanim*, Vol. 7, *siman* 236.

36. Although the eastern edge of Russia continues to jut out much farther east than the eastern edge of Australia, perhaps the *Arizal* considered that part of Siberia uninhabitable, and not eligible to be considered in this discussion.

immersion, based on his reading in the *Ari*. According to the understanding of the *Ari* that we have suggested, the earliest time for the immersion in Eretz Yisrael is 10:00, but the earliest time in New York would be 3:00 (since at that instant, Australia is beginning Rosh Hashana).³⁷

Tele-fax Machines

There are other ways of crossing the time zones and date line without traveling anywhere. After Shabbat, may one pick up the telephone and call a place where Shabbat has not yet ended? Similarly, may one fax "into" Shabbat? In general, may a person, located in a place which is not Shabbat, cause a *melacha* to occur in a place where it is Shabbat?

These questions are moot if we presume that the beginning of Shabbat is the operative forbidding principle (אוסר) as mentioned above in the name of the Kazhiglover, the Gerer Rebbe, and R. Soloveitchik. Since the caller has ended his Shabbat, even if he does *melacha* in a place where it is the middle of Shabbat, there can be no biblical prohibition. A rabbinic prohibition might still apply though, as above.

The *Sha'arei Teshuva* deals with a related issue: can a guest touring in Israel ask an Israeli to do *melacha* for him on the second day of Yom Tov? Nowadays, it seems that the consensus is to permit this, contrary to the *Sha'arei Teshuva*. This perhaps should indicate also that a Jew for whom it is Shabbat may ask another Jew for whom it is not Shabbat to do *melacha* for him.

Yet, it would also seem that there is a rabbinic prohibition for a Jew for whom Shabbat has ended to do actual *melacha* himself in a place where it is still Shabbat. Thus one should not fax to a place where the output would be printed on Shabbat.

Mechirat Chametz

The Torah requires us to eliminate *chametz* from our posses-

37. It is not clear how early an Australian should use the mikva.

38. Unless he is a גר תושב.

39. See *Taz* to *Orach Chaim*, end of *siman* 263.

sion by noon on *erev* Pesach.⁴⁰ The common practice of selling the *chametz* to a non-Jew, to avoid the biblical prohibition of owning *chametz* on Pesach, works only before the prohibition of owning *chametz* sets in. If the owner waits until the prohibition begins, he cannot sell his *chametz*, and it will remain forbidden even after Pesach (חמץ שעבר עליו הפסח.) But if the *chametz* is in one place and the owner is in another, must the *chametz* be sold by noon where the owner is located, or by noon according to where the *chametz* is located? In other words, if an American goes to Israel for Pesach, Pesach for him begins several hours before the rabbi in America sells his *chametz*. Yet, at that time the *chametz* is still permissible in America. Similarly, an Israeli visiting America for Pesach has the same problem, just reversed. For him, after Pesach the rabbi in Israel buys back the *chametz* while it is still Pesach for him in America.

The responsa *Chesed L'Avrohom* rules that the sale of the *chametz* depends exclusively on where the owner is. The American who goes to Israel for Pesach must sell his *chametz* seven hours before the Jews in America. He should have the rabbi conduct the sale for him separately, and it should take effect before *chametz* is prohibited in Israel. The responsa *Oneg Yom Tov* says exactly the opposite. According to him, the only consideration is where the *chametz* is. Thus, the American in Israel can include his *chametz* in the rabbi's regular sale.⁴¹ Because there is such a dispute, it is preferable to have the rabbi arrange the sale for travelers separately, to insure that the *chametz* is sold in time, for both the person and the *chametz*. Similarly, he should not buy back the *chametz* until it is no longer Pesach for both the person and the *chametz*.

Ma'aser Sheni

An additional point should be mentioned. The Torah states

40. Actually, we are required rabbinically to destroy all of the *chametz* an hour before that.

41. See *Mikra'ei Kodosh, Pesach* Vol. 2. R. Moshe Feinstein has a novel opinion on this matter. See *Iggerot Moshe, Orach Chaim* Vol. 4 *siman* 94.

that every year, before eating of the new crops (which grew in Israel), we must separate the tithes (*teruma* and *ma'aser*). The *teruma* belongs to the kohen, and the *ma'aser rishon* belongs to the levite. On the first, second, fourth and fifth years of the *Shmitta* cycle, the farmer must also separate *ma'aser sheni*, which he can eat himself, but only in Jerusalem. If he does not want to bring all of the actual food to Jerusalem, he may redeem the food for money. The Torah is explicit⁴² that for this redemption only actual cash is acceptable. The Gemara defines cash as legal tender in *that particular country*. Canadian currency, for example, is invalid to redeem *ma'aser sheni* in Israel.

If the farmer does not take care of the necessary tithes, then the consumer must do so, even if the produce is shipped out of Israel. When one redeems the *ma'aser sheni*, he does not have to hold on to the money — he may simply state that the *ma'aser sheni* is transferred to a certain designated coin in a certain location. In fact, he does not even have to be in the same place as the food to do this. Now the problem is clear. If the person is in one country, and the *ma'aser sheni* is in another, and the money is in yet another, which country must the money belong to, to be recognized as currency? This question is clearly discussed in the Gemara [*Bava Kama* 97], but the outcome of the Gemara is disputed among the *Rishonim*. The Rambam [*Ma'aser Sheni* 4:14] says the money must be legal tender in the country that the redeemer is in, regardless of where the money is. The Ra'avad, who has our reading in the Gemara, understands that the money must be legal tender in the place that the money is, regardless of where the redeemer is. The location of the food is immaterial according to both readings.

Since there is such a debate in the *Rishonim*, and if the redemption is done improperly the *ma'aser sheni* retains its status as *kodesh*, one should redeem the *ma'aser sheni* only with money which is legal tender both where he is and where it is. For instance, someone in America should not rely on Israeli currency (like a פרוטה חמורה), even if it is located in Israel.



42. This is clearly expressed in the *Tosefta, Bechorot* [6:4].

Our study has discussed a number of questions in religious law which arise from the international character of Jewish society and lifestyle in the modern era. Many *poskim* have dealt with the problem of locating the halachic date line. According to most, Jews in Japan, New Zealand, some of the Philippines, and the islands in that vicinity of the Pacific should keep Shabbat on Sunday, but Jews in Alaska and Hawaii should observe Shabbat on Saturday. According to some, Jews in Japan, New Zealand, and some of the Philippines should keep Shabbat on Saturday, while Jews in Alaska and Hawaii should keep Shabbat on Friday. Eastern Australia is a further question, as explained above. Travelers to this part of the world should consult their rabbi to determine what opinion to follow, and how to deal with crossing the line.