

I agree with Rabbi Tukatzinsky. The biblical IDL is 144.8 degrees west, which is 180 degrees opposite Jerusalem. See Notes below.

Major Point. In Hawaii, the Sabbath is really local Thursday sunset to local Friday sunset because the IDL is in the wrong place.

ISSUES IN JEWISH CONTEMPORARY SOCIETY

THE INTERNATIONAL HALACHIC DATE LINE

סמנר מדרשת רחל וחייה

A. WHY DO WE NEED AN INTERNATIONAL DATE LINE

From the 14th Century onwards geographers became aware (at least in principle) of what became known as 'the circumnavigator's paradox'. Since the world is a sphere, at any given time the sun's position in the sky will depend on where the observer is standing on the globe. Since the day is 24 hrs and the globe has 360°, there will be a change of 1 hour every 15°. Hence the time differences around the world as follows:-

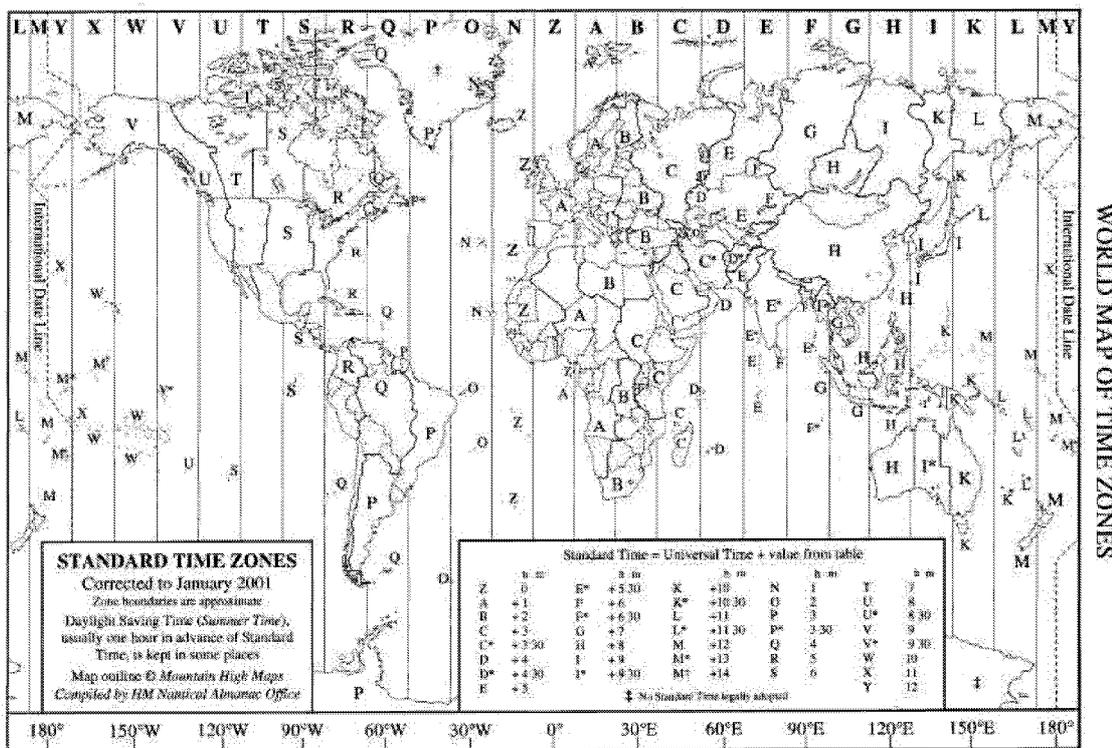


FIG 1.

The paradox is that if a person is standing in London at 1.00pm on Wednesday, every 15° further east is 1 hour later (in Israel (+2) it will be 3pm, in China (+8) it will be 9pm and all the way around to London (+24) it will be 1pm on Thursday. Yet it is clearly still 1pm on Wednesday on London!! That means that at some point when travelling east the person must go back on day and when travelling west must go forwards one day. By the 16th Century, sailors were circumnavigating the world on a regular basis and realised that on arrival at their destinations they were often one day out from the locals. During the 17th Century it became clear that a meridian had to be drawn marking the change of date - "the Date Line" and it was accepted that this would have to cut through the Pacific Ocean.

In October 1884 representatives from 25 countries convened in Washington at the International Meridian Conference to recommend a common prime meridian for geographical and nautical charts that would be acceptable to all. When the meridian of the Royal Observatory at Greenwich was by adopted as the prime meridian, the Date Line was set at the 180° meridian which conveniently mostly passed over water. In fact the term 'International Date Line' is a misnomer since its exact course was never defined by any international treaty, law or agreement.

The 180° meridian in fact passes through a number of islands and there have been a number of adjustments over the last 120 years to ensure that the International Date Line (IDL) in fact avoids bisecting land; it would obviously be impossible for it to be Monday on one side of the street and Tuesday on the other. The current IDL is approximately as follows:-

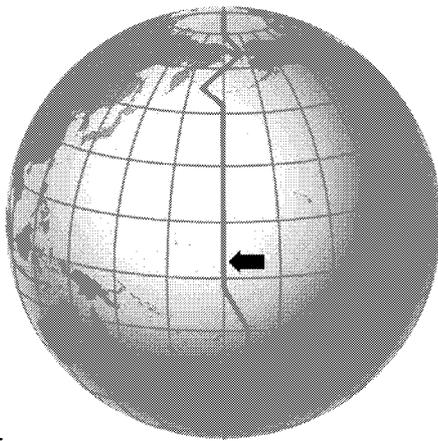


FIG 2.

The crooked line here is not biblically correct.

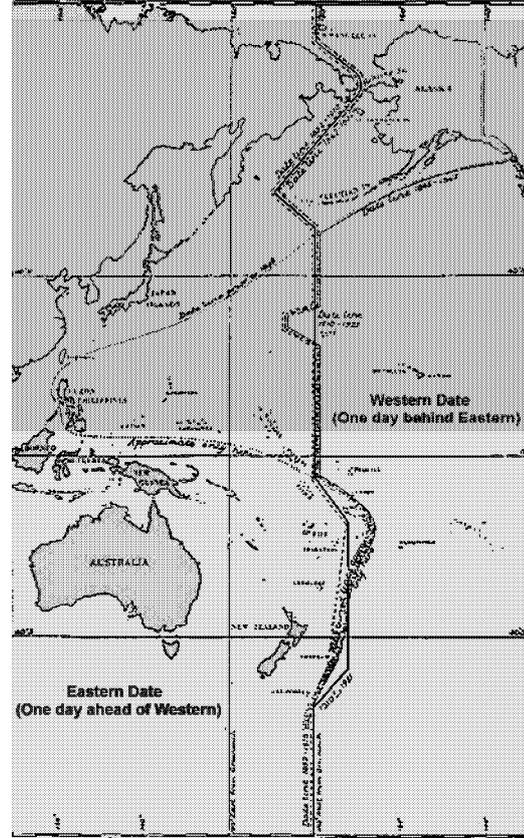


FIG 3.

B. THE TALMUDIC SOURCE FOR A HALACHIC DATE LINE

It is clear that the conclusion of Chazal was that the world is certainly round.

1. כל הצלמים אסורין... וחכמים אומרים: אינו אסור אלא כל שיש בידו מקל או צפור או כדור
עבודה זרה מ:

The Mishna discusses which of the Roman statues were considered to be idolatrous. Chazal saw a particular problem where the statue was holding a globe.

2. כדור, שתופש את עצמו תחת כל העולם כולו ככדור
עבודה זרה מא.

The globe represents domination of the the world (which is round)

3. ככדור - שהעולם עגול כדאיתא בירושלמי שאלכסנדרוס מוקדון עלה למעלה עד שראה כל העולם ככדור ואת הים כקערה
פי' ים אוקינוס שמקיף את כל העולם.

תוספות שם

Tosafot refers to a medrash in the Yerushalmi where Alexander the Great went up into space and looked down on the globe of the earth

The Rishonim discuss the possibility of a Halachic Date Line (HDL). This became of particular importance in 1941 when the Mir and Chachmei Lublin Yeshivos fled from the Nazis and found themselves in Japan. Japan (at 140°E) is clearly on the western side of the IDL and thus is before the day goes back. However the students of the Yeshivos were concerned that the HDL is in fact at 125°E and thus Japan lies on the East of the HDL. This will mean that the day that the Japanese call Saturday is in fact halachically Friday and the day they call Sunday is in fact Shabbat!

(i) The view of the Ba'al Hamaor

The shita they were concerned about is that of the Ba'al Hameor (12th Century) based on the following gemara.

4. כי סליק רבי זירא שלח להו: צריך שיהא לילה ויום מן החדש, וזו שאמר אבא אבוה דרבי שמלאי; מחשבין את תולדתו, נולד קודם חצות - בידוע שנראה סמוך לשקיעת החמה, לא נולד קודם חצות - בידוע שלא נראה סמוך לשקיעת החמה.

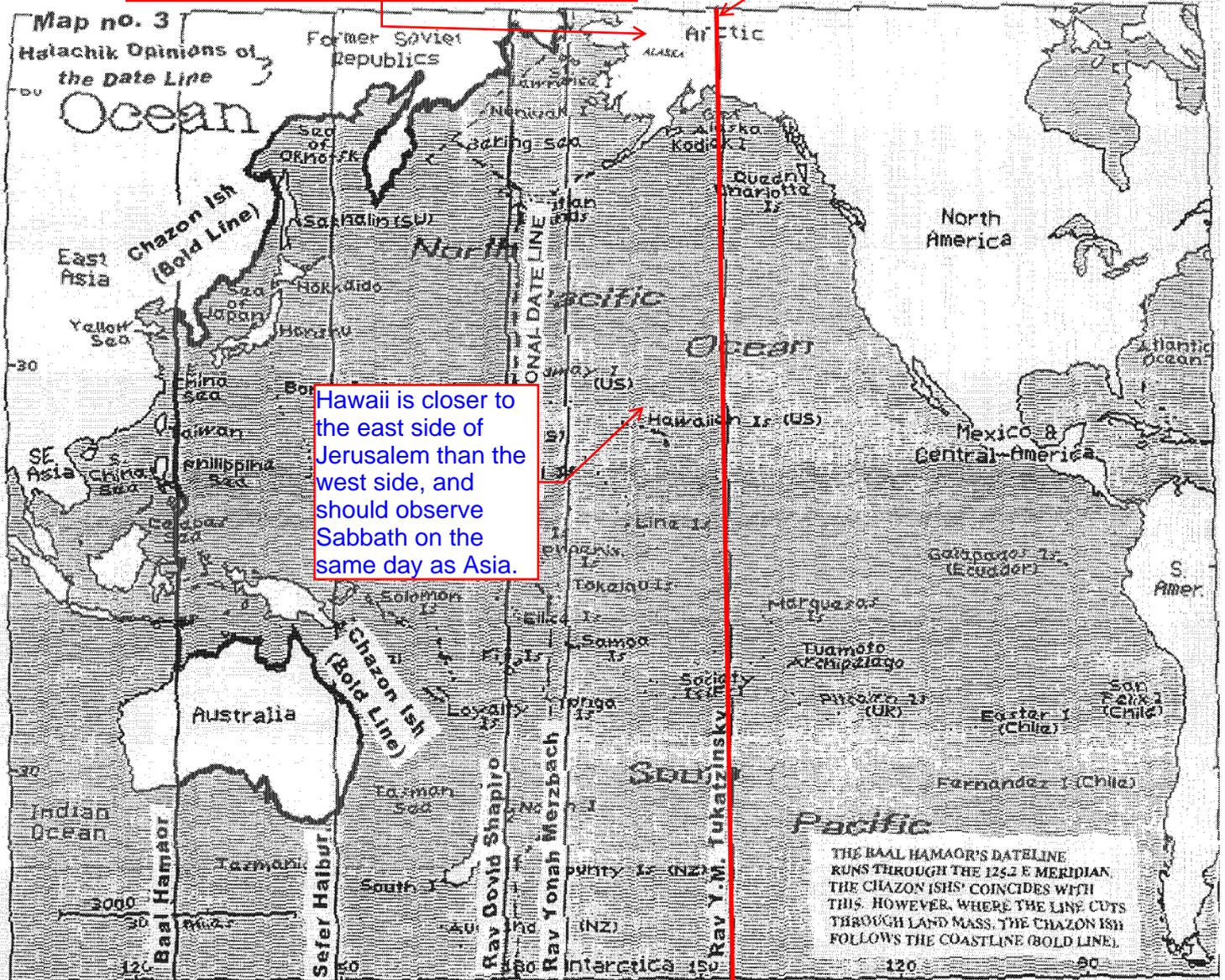
ראש השנה כ:

The Gemara in Rosh Hashana discusses the Molad - that point in the month when the New Moon renews. Two specific statements of R. Zeira are discussed here - (i) that the day of the Molad must contain a full night and day i.e. 24 hour period and (ii) that if the Molad is on or before noon, the new moon will appear by sunset. The Rishonim differ as to what exactly these statements mean. The Ba'al Hameor understands that R. Zeira is stating the following:- the molad must appear such that there will be a full 24 hour period of night and day immediately afterwards. The latest that the molad can appear such that it will be just before sunset *somewhere* in the world is 12 noon in Jerusalem. Thus Jerusalem is 18 hours ahead of the latest sunset in the world. This means that the HDL, according to the Ba'al Hamaor is 270° West (i.e. 90° East) of Jerusalem i.e. 125° 14'E. This line runs through Siberia, the eastern Philippines, Indonesia and Western Australia. The consequences of this are that Siberia, Western Australia, Japan and New Zealand are on the eastern side of the HDL and will therefore be a day behind. They will have to keep Shabbat on Sunday.

FIG 4

This part of Alaska drifted over the HZL during the Flood.

Here is the correct line.



HZL

(ii) The view of the Chazon Ish

The modern question as to the location of the HDL, was presented to the Chazon Ish in a letter sent to him in Israel in 1941 by students of Mir and Chachmei Lublin. The students' question was regarding Yom Kippur in 1941 which fell out on a Wednesday. If they had indeed crossed the Halachic Date Line, then perhaps they should observe Yom Kippur on the Japanese Thursday which is the Halachic Wednesday. The Chazon Ish responded to the students of the Mir Yeshiva including Rav Yechezkel Levenstein, Rav Chaim Shmulevitz, and Rabbi Alex Weisfogel that they **had** crossed the Halachic Date Line and must keep Yom Kippur on the Thursday. According to the Chazon Ish, the principle of the Baal Hamaor is correct.

However the Chazon Ish stated that the HDL cannot cut through land because then one person will be observing one day while his neighbor is observing another day. So he says that when the HDL hits land, it moves around the edge of the shore (see bold line in Fig 4 above) Thus, all of Australia is considered to lie **west** of the Halachic Date Line even though much of Australia lies east of the 125° 14'E.

(iii) The view of Rav Y.M. Tukatzinsky (the 'Gesher Hachaim')

However, the students in Japan received an entirely different answer from, Rav Yechezkel Michel Tukatzinsky, who was the leading calendar expert in Israel at the time. He held that the students of the Yeshivat Chachmei Lublin should fast on the Japanese Wednesday because they had not crossed the HDL. Rav Tukatzinsky rules that the HDL is based on Jerusalem being the center of the world and it is the starting point from which east and west is referred to. This is based on a Medrash in parashat Kedoshim.

5. כשם שהטיבור הזה נתון באמצע האיש, כך ארץ ישראל טיבורה של עולם, שנאמר יושבי על טבור הארץ (יחזקאל לח יב), ארץ ישראל יושבת באמצעיתו של עולם, וירושלים באמצע ארץ ישראל

מדרש תנחומא פרשת קדושים סימן י

According to this view the spot on the Earth where the day halachically starts is 12 hours or 180° east of Jerusalem. This is the Halachic Date Line which is at the 144.8W meridian (See Fig.4 above). According to him, half of Alaska is west of the Date Line, as is Hawaii. This would mean that they are a day behind the halachic day. Friday in Hawaii is in fact Shabbat! However, by using the Chazon Ish's principle of stretching the HDL around the coast all of Alaska is east of the HDL. Hawaii however remains to the west.

The Chazon Ish vigorously opposed this psak, feeling that it went against the clear view of the Rishonim

(iv) The view of Rav Tzvi Pesach Frank

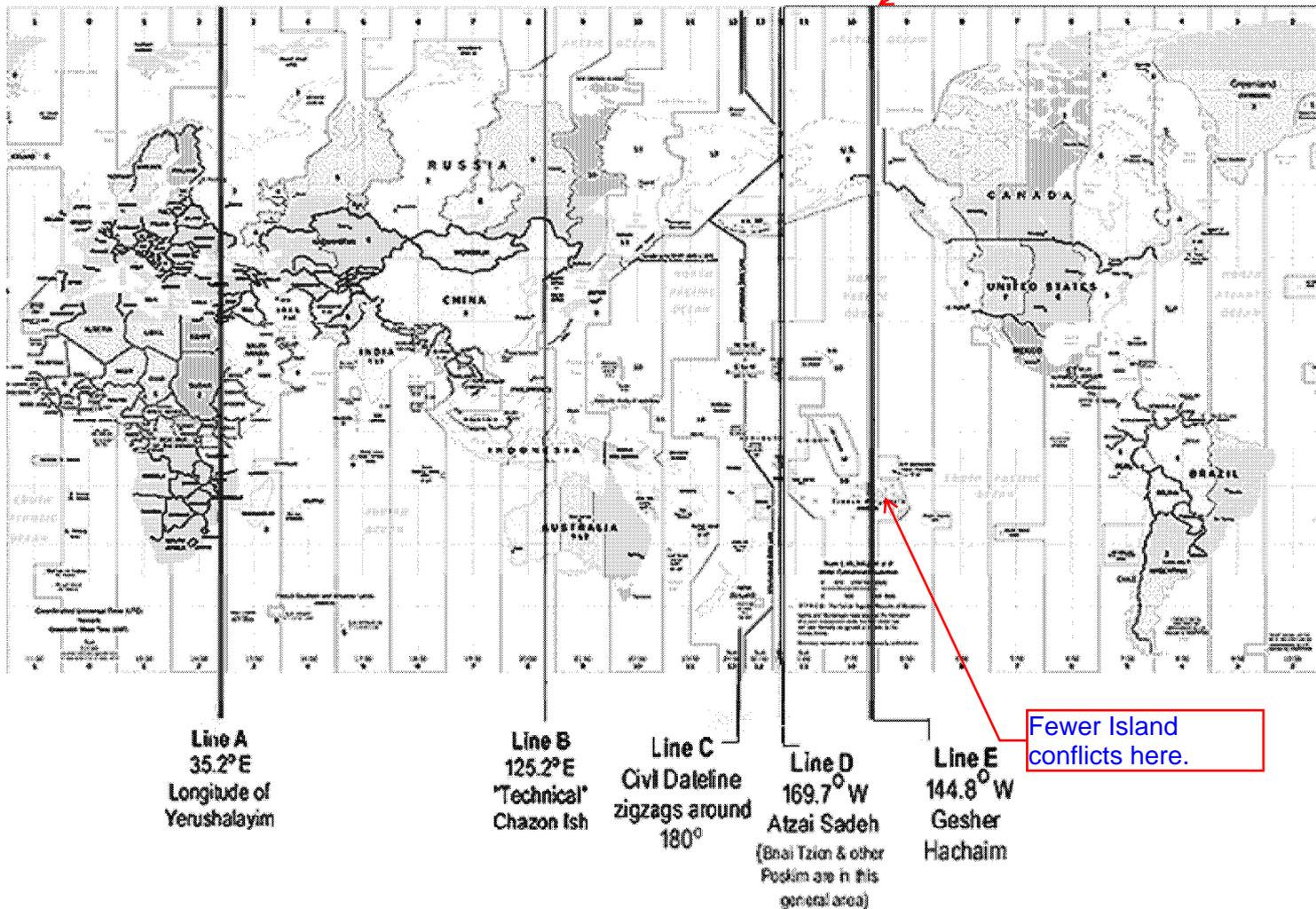
Rav Isser Zalman Meltzer and Rav Zvi Pesach Frank (Teshuvot Har Zvi 1:138) claim that there is no such thing as a Halachic Date Line. Instead, a person just follows the day that the country that he is in is observing. For example, if in Japan it is Wednesday, then the person views the day as the halachic Wednesday. So, they would answer the students that they should observe Yom Kippur on the Japanese Wednesday. Also, since the world adopted the International Date Line as the point where the day begins, in essence they would say that this too is the Halachic Date Line. This view is based on the following halacha:-

6. ההולך במדבר ואינו יודע מתי הוא שבת, מונה שבעה ימים מיום שנתן אל לבו שכחתו ומקדש השביעי

שולחן ערוך אורח חיים סימן שמד סעיף א

Someone who is in the desert and loses track of time must count seven days from when he forgets the day and keep Shabbat on the 7th day from his count. The Radvaz (14th Century) comments that, even though he now has his own personal Shabbat, once he gets to a town, he must fall in with the minhag of the town to keep Shabbat on their day. So too the is no HDL, only local minhag. This will also recognise the IDL as representing the minhag of the world.

World Map Halachic Opinions on the International Dateline



Major halachic she'elot which will arise from this analysis are as follows:-

For People in the Safek Zones (Chazon Ish - Japan, New Zealand; Gesher Hachaim - Hawaii)

- (i) which day to keep Shabbat/Yom Tov/ Yom Kippur
- (ii) which day to count sefirat haomer
- (iii) which day to put on tefillin

For People who Cross the HDL (e.g. in flight)

- (i) Whether Shabbos can 'reappear' or go out early
- (ii) Whether fast days can 'reappear' or go out early
- (iii) Whether mitzvot have to be repeated if you go back a day - e.g. megilla, matza, shofar, sefira
- (iv) How to count the days of chanukah
- (v) How to calculate brit milah, pidyon haben and barmitzva
- (vi) How to count shiva neki'im and vestot
- (vii) When to daven - what about 'missed' tefillot

A. CROSSING THE DATE LINE - ISSUES ARISING

FLIGHT 1 - New York to Taiwan

Dept: New York: Sunday 12.00 noon

Arr: Taiwan: Monday 16.00 local time (Monday 3.00 New York time)

Flight time : 15 hours

Time zones: - 11

Apparent movement of sun: 4 hours

On a flight from New York to Taiwan, the whole flight takes 15 hours but, because 11 times zones are crossed, the apparent movement of the sun is only 4 hours. The whole flight takes place in sunlight hours. Rav Tukatzinsky's HDL was crossed 7 hours into the flight, the IDL was crossed 10 hours into the flight and the Chazon Ish's HDL was crossed 14 hours into the flight.

Halachic questions include:-

- (i) Sunday mincha and ma'ariv and Monday shacharit were missed.*
- (ii) If Sunday is a fast day, when does the fast end?*

FLIGHT 2 - Taiwan to New York

Dept: Taiwan: Friday 10.00 (Thursday 21.00 New York Time)

Arr: New York: Friday 10.00

Flight Time: 13 hours

Time zones: +11

Apparent movement of sun : 24 hours

On the return flight, the path of the sun is 'speeded up'. The sun sets very quickly and rises again for a second Friday. The Chazon Ish's HDL was crossed 1 hour into the flight, the IDL was crossed 5 hours into the flight and Rav Tukatzinsky's HDL was crossed 8 hours into the flight.

Halachic questions include:-

- (i) Having davened Shacharit on Friday, must one daven a second Friday shacharit?*
- (ii) Must one put on tefillin again for Friday?*
- (iii) If Friday was a fast day and it went out prematurely, can the traveller eat?*
- (iv) Does the fast start again on the 'second' Friday?*
- (v) Did Shabbos start at sunset on Friday night and then abruptly disappear on crossing the Date Line when Friday night turns back into Thursday night?*

B. HALACHIC SOLUTIONS

1. Shabbat

Most Poskim hold that Shabbat comes in and goes out according to whatever location one is in (there is a debate whether this is rabbinic or min haTorah). One must not do melacha and remove muktzeh from one's pockets. Using the bathroom on the plane is therefore a problem. Asking a non-Jew to open the door would be allowed. This temporary Shabbat will last from visible sunset until when one crosses the HDL of Rav Tuketzinsky (145W), when it is definitely Thursday night again according to all opinions. This can be around 3 to 4 hours in the winter.

Some poskim are unhappy about taking this Friday flight which flies into Shabbat due to the issur of (i) techumin (travelling beyond the 2000 amot town limit on Shabbat) and (ii) oneg Shabbat. Most poskim however allow the flight in order to get back to one's family for Shabbat.

2. Matza, Shofar, Megila

If someone flew East across the Date Line on first night Chol Hamoed Pesach, he would go back a day to Seder night. Most poskim hold that, unlike Shabbat, matza need not be eaten again. Whilst Shabbat is dependent on the day of the week, matza etc is a once a year obligation.

3. Chanukah

There are two main opinions on Chanukah:-

(i) Rav Scheinberg and Rav Kanievsky hold that Chanukah is date specific, like matza. As such if a person (flying east) repeats a day, they do not light again for the repeated night. They will thus stay in step with the rest of the world. If they fly west and skip a day, they will simply lose a day of Chanukah and will light the same number of candles as everyone else in their destination e.g. 1,2,3,5,6,7,8 (skipping 4)

*(ii) Rav Eliashiv holds that Chanukah is **not** date specific (n.b. Kislev can have 29 or 30 days so the nights of Chanukah do not always fall on the same dates). For Rav Eliashiv, each night of Chanukah requires one more candle than the last. So if a day is repeated, the traveller gets a day ahead of the rest of the world. This has two consequences:-*

- since you are on day 6 when the rest of the world is on 5, you can't light 5 candles. But you can't light 6 either since that is the wrong number for everyone else! So you light 1 each night (which is the basic halacha of the mehadrin, not the mehadrin min hamehadrin).*

- You finish a day before everyone else. But you cannot refuse to light at all when everyone else is lighting 8 candles. So you light 8 candles without a beracha, so that people will not think that you have neglected lighting!!*

4. Tefila

There are two main opinions regarding Tefila when a day is repeated (flying east). One says that the tefila should be repeated and one says that it should not. The recommended solution is:-

(i) daven a tefillat nedava (i.e. voluntary shemona esreh) on the extra day

(ii) say hallel again (i.e. on Rosh Chodesh) without a beracha

(iii) bircot hashachar should be said again

(iv) other brachot which cannot be said by a tefilat nedava (e.g. the berachot of pesukei dezimra and mussaf) should be davened mentally

5. Keriat Shema

Keriat Shema is determined by actual sunrise and sunset and thus must be repeated as necessary

6. Sefirat Haomer

When flying east a day will repeat. The count for that day should be made again without a beracha. Thereafter the count can continue with a beracha.

When flying west a day is lost (e.g. Wed 15:00 becomes Thurs 15:00.) Since the omer can be counted even during the day (without a beracha) one should count the new day immediately without a beracha and then count onwards from that evening with a beracha.

7. Fast Days

7. ואמר רב חסדא: כל תענית שלא שקעה עליו חמה - לא שמיה תענית

תענית יב

Chazal state that any fast which does not last until nightfall is not a valid fast

(i) When flying east (eg US to Israel), even if not crossing the HDL, the day will end prematurely. Since the person has reached nightfall in his destination he can break fast even though this would not be night in the US

(ii) When flying west the fast extends artificially - does the traveller need to wait until actual sunset, even though that means that the fast will be extended for many hours? A she'ela must be asked depending on personal circumstances, although the halacha will be more stringent on Tish'a Be'av, as opposed to other fasts

(iii) When flying east over the HDL the traveller goes back a day. E.g. if the fast is on a Thursday, the traveller will, on crossing the HDL, revert to Wednesday, which is not a fast at all. Can he simply start eating immediately, even though it is not sunset? Rav Scheinberg says that one can since Wednesday is not a fast day. Rav Eliashiv says that the fast must be continued until sunset. All poskim agree that the next day must be kept again as a fast, since a fast was not completed on the correct day

(iv) If one crossed the HDL going east after completion of the fast at nightfall, the fast does not have to be repeated

(v) If one crossed the HDL going east and the day moves on from Thursday to Friday, as above, Rav Scheinberg will allow you to eat immediately and Rav Eliashiv will require you to finish the fast until sunset.

8. BritMilah, Pidyon Haben and Barmitzva

There are three opinions on this issues:-

(i) Rav Scheinberg: the count goes by the actual age of the person. Thus if a baby is born in the US on Monday and then goes to Australia (a day ahead) the bris (8th day) will take place on the following Tuesday (i.e. after 7 nights).

(ii) Rav Chaim Kanievsky: the mitzvot are date specific. As such, in the above case, the bris will take place on Monday in Australia, even though the baby is only 7 days old.

(iii) Rav Eliashiv: Bris Mila and Pidyon are age specific (as in (i) above) but Bar Mitzva is date specific

9. Shiva Nekiymim

(i) All poskim agree that the woman must count 7 actual days:- a woman who makes a hefsek tahara on Monday afternoon will go to mikvah the following Monday night. If she makes a hefsek tahara in New York on Monday, and then flies to Australia (i.e. the day moves forward) she will go to mikvah the following Tuesday night in Australia

(ii) If she did a hefsek tahara in the New York on Monday afternoon and then flies to Israel, most poskim hold that she can go to mikvah at nightfall on the following Monday in Israel and she does not have to wait for nightfall New York time.

10. Aveilut

As in Shiva Nekiim, the week of Shiva of Aveilut is a personal count of 7 actual days, disregarding whether the mourner crosses the HDL and losses or gains a day.

11. Vestot

- The vest hachodesh is defined by the calender and will thus be fixed wherever the woman is (if she crosses the HDL she may have no vest hachodesh that month, or two.
- The vest haflaga and the onah beinonit are a personal count of days and are unaffected by the HDL