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The same article, slightly expanded, appeared in Jedidut, 2/2012, pp. 14-15. Jedidut is the publication of the Finland-Israel Friendship Association. It appears 4 times a year. The English translation follows the text of the article in Jedidut.

### 364-day Calender in Tampere and in Qumran

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The period of time required for Earth to make one complete revolution around the sun is 365 days and 6 hour, minus 11 minutes and 14 seconds. A calendar that follows such orbit can be such that consists of 365 days and every four years a day is added. Such solution was the calendar set by Julius Caesar around 2000 years ago. The problem of this Julian calendar was these 11 minutes and 14 seconds that were left unaccounted for, and accumulated every year to bigger distortion. In the 16<sup>th</sup> century the mistake was already 10 days. In 1582 Pope Gregory XIII introduced a proposal for correcting the calendar that was gradually adopting over the following centuries by most nations of the world. This calendar is known as the Gregorian calendar.

A second alternative is to use as the basic unit of the calendar the duration of the orbit of the moon around Earth. In average, this orbit lasts 29 days, 12 hours, 44 minutes and 3 seconds. Such 12 orbits lasts around 354 days. If a 13<sup>th</sup> months is added in a certain order, the calendar follows the orbit of Earth around the sun. Such is the idea behind the Jewish calendar.

There is a third alternative: the year is considered to consist of 364 days – 52 weeks. The year starts always on the same weekday. Such a calendar has been used in Iceland for more than 1000 years. It is called misseristal (misseri=half a year). The month Mörsugr, which is somewhat parallel to January, always starts on a Wednesday around the winter solstice.

Month	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Mörsugr (Wed)	22 Dec	21 Dec	26 Dec	24 Dec	23 Dec	22 Dec	20 Dec

(<http://www.time-meddler.co.uk/icelandic.html>)

In order to keep the calendar consistent with the solar year, a week is added in a certain order. For ordinary purposes, the Icelanders use the Gregorian calendar as other nations. The old calendar is used mostly to determine the dates of certain holidays.

364-day calendar was used also in Finland. In his book *Vuotuinen Ajantieto* ('Annual Days of Significance') Kustaa Viikuna wrote: "The year was divided into two halves: winter and summer. The first *winter day* or *winter night* was 14.10. and the first *summer day* or *summer night* 14.4. In between these dates was 13.1. *midwinter* or *winter heart* and 13.7 *midsummer*. The duration of time between these dates was exactly 13 weeks, so the year consisted of 52 weeks, or 364 days." Each year started always on the same day of the week. In Finland it was on a Wednesday close to midwinter (p.359).

In a way, this calendar is still in use in Finland. Nowadays, in the left side of the Finnish calendar there is a column where the numeral values of the weeks are marked.

<<< Tammikuu 2012 >>>							
vk	Maanantai	Tiistai	Keskiviikko	Torstai	Perjantai	Lauantai	Sunnuntai
52	26	27	28	29	30	31	1 Uudenvuodenpäivä
1	2	3	4	5 Loppajänä	6	7	8
2	9	10	11	12	13	14	15
3	16	17	18	19	20	21	22
4	23	24	25	26	27	28	29
5	30	31	1	2	3	4	5

### January 2012

In the present-day Finnish calendar, counting of the weeks always starts on a Monday.

These week numbers are not often utilized but sometimes they are useful. For example, in Tampere, according to regulation 828/08, residents of three areas are encouraged to move their cars from those areas during a certain time, so the city's employees can clear the snow. In Pyynikki the clearing is conducted between 12-16 on Tuesdays of even weeks.



Regulation 828/08  
encouragement to move  
maintenance work  
of an even week  
Tuesday 12-16  
in force 15.11- 30.4

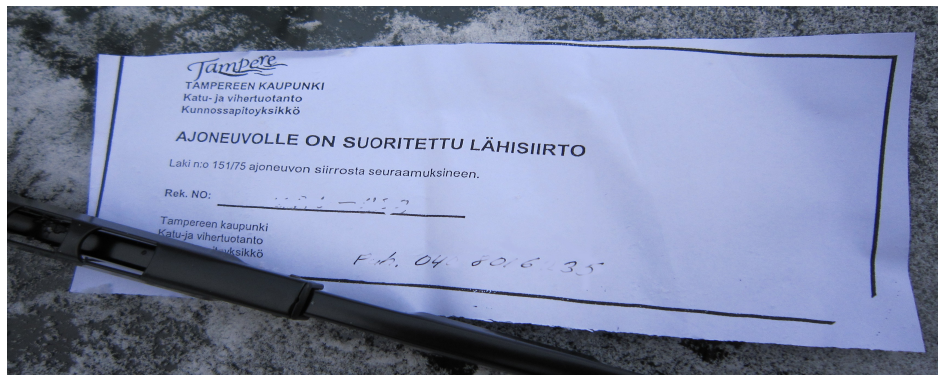
If there is lots of snow, the city's employees clear the streets.



Those cars whose owners, despite the explicit encouragement, did not moved to other places, are towed away to streets that were already cleared.



The cars that were moved are not brought back to the place where they were taken from, but rather left in the new place. A note with details of to whom to call in case of a problem are left on the shield.



On a Tuesday, when an owner realizes that his car has disappeared, he should rather check the calendar to see whether it is an even or odd week before informing the police that his car was stolen. On a Tuesday of an even week he will look for his car in the neighboring

streets.

A 364-day calendar is not at all a new idea. Such calendar is described in a book call *I Enoch*. Originally this Jewish book was written in Aramaic, apparently in the third or second century before the Common Era. The book has remained extant only in Ge'ez, the liturgical language of the church in Ethiopia. In chapter 82, verse 6 we read: "...and the year is completed in three hundred and sixty-four days." (Translated by R.H. Charles, 1906.)

The same idea was used some years later by the author of the *Book of Jubilees* (Chapter 6, verse 6):

And command thou the children of Israel that they observe the years according to this reckoning – three hundred and sixty-four days, and (these) will constitute a complete year, and they will not disturb its time from its days and from its feasts; for everything will fall out in them according to their testimony, and they will not leave out any day nor disturb any feasts. (Translated by R.H. Charles, 1913)

This book was originally written in Hebrew, but nowadays is known in its entirety only Ge'ez. The calendar itself is often called the Jubilees calendar.

Fragments of *I Enoch* and the *Book of Jubilees* in the original languages were found in Qumran. Many scholars, among them Mlle Annie Jaubert, have suggested that the members of the sect that lived there used such a 364-day calendar. According to those scholars the new year always started on a Wednesday, because in that day God created the sun

To tell the truth, I do not believe those sectarians used this calendar. Has the archaeologists found in Qumran road signs in which the inhabitants were encouraged to keep the animals inside the yards, for example on an even week Wednesday after the morning prayer till the time the sun was exactly in the south so that the workers of the community could have cleaned the street, then I might have held a different opinion.

In any case, had they used such a calendar, I maintain that the new year could not have started on a Wednesday. The problem is that if Rosh Hashana is on a Wednesday, then Yom Kipur (the tenth day of the first month) is on a Friday. Of course, one can argue that those sectarians lived on dry fruit and cold water, and therefore it would not have bothered them to end the fast day with a cold meal. In this manner they would not have any problem celebrating Yom Kipur always on a Friday. However, they no doubt wanted to convince the whole nation in the wisdom of their habits, and the idea of celebrating Yom Kipur always on a Friday hardly could have been an alluring tradition. In the Jewish calendar Rosh Hashana is never on on a Wednesday or Friday.

In principle, there is no reason why Jews would not adopt such a 364-day calendar. The basic unit of this calendar is the week which Jews have manifested to the world. One must also admit that the calendar used by Jews already for several thousands of years, is originally a foreign loan; it, together with the names of the months, was adopted during the Babylonian exile. Nevertheless, Jews have not been interested in this calendar.

364-day calendar seems to be simple and neat. Indeed, why except the Icelanders nobody is using it?

In my opinion the first reason is that a 364-day is too abstract entity for a calendar. The Gregorian calendar follows accurately the orbit of Earth around the sun. A calendar that is based on the duration of the orbit of the moon around Earth follows the visibility of the moon, which can be observed while watching the sky during the night. A 364-day calendar is incompatible with any natural phenomenon, and that apparently bothers people.

The second reason is, in my opinion, more significant. A 364-day calendar is symmetric – each year is exactly the same as the year before and after. The year starts always on the same day of the week and all days of significant not only fall on the same dates, but also always on the same day of the week. From the Jewish point of view, this is a bad matter,



because among the days of the week, only Shabbat is a sacred day. If each holiday is assigned to a certain day of the week, the significance of Shabbat would decrease.

In a more general perspective, a symmetric year is hardly an enticing idea. It is reasonable that snow is cleared on a Tuesday of an even week during the winter, however it is boring if every religious or civil holiday, birthdays, marriage days, name days, etc., are celebrated always on the same day of the week. Hardly many people would approve such an arrangement.