YESHIVAT HAR ETZION

ISRAEL KOSCHITZKY VIRTUAL BEIT MIDRASH (VBM)

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**HALAKHA: A WEEKLY SHIUR IN HALAKHIC TOPICS**

**The Mystery of December 4th**

**By Rav Yossi Slotnick**

Translated by David Silverberg

The following halakha appears in the Rinat Yisrael siddur (p. 547):

On the seventh of Marcheshvan, at arvit on this day, one begins reciting the request for rain ("ve-ten tal u-matar") in "birkat ha-shanim" (the ninth berakha of Shemoneh Esrei). In the Diaspora, one begins reciting the request for rain sixty days after "tekufat Tishrei" (the autumnal equinox), which generally falls out on December 4th at night, during the arvit service.

The basis for this halakha appears in Masekhet Ta'anit (10a), where the gemara posits that the Jewish population of Babylonia should begin reciting "ve-ten tal u-matar" sixty days after the equinox, since they do not require rain before that point. At first glance, it seems that this halakha is irreconcilable with our current practice. The autumnal equinox occurs every year on September 23; sixty days later is November 22, not December 4.

The problem is magnified in light of the comments of the Beit Yosef relating to this issue (O.C. 117):

The Avudraham wrote that the sixtieth day occurs on November 22 (December 3) if February of that year [i.e., occurring three months later] has twenty-eight days. If, however, February that year has twenty-nine days, the request [for rain] begins on November 23 (December 4), since the equinox always occurs seven days before October.

Several surprising points immediately catch our attention:

1. The Avudraham wrote the seemingly correct day, November 22, but someone later edited the citation and switched the date to December 3 (or December 4, when it immediately precedes a civil leap year).
2. Even should the alteration of the text have been warranted, the accepted ruling nowadays requires the recitation starting from December 4 (or December 5, when it immediately precedes a civil leap year), not December 3.

To uncover the solution to this mystery, we must first examine our calendar system.

One can develop an annual calendar either based entirely on the solar year or by combining the solar and lunar years. First, let's take a closer look at the solar-based calendar. This system, established by Julius Caesar, bases itself on the assumption that the year spans 365.25 days. We generally mark the end of a year after 365 days, thus causing the calendar to fall behind 1/4 of a day each year. For this reason, Caesar legislated that the month of February would be extended by one day every four years, thus correcting the calculation.

A problem, however, arose when a flaw was discovered in Caesar's computation. The year spans slightly less than he had surmised; the year is actually 365 days + 5 hours + 48 minutes + 45 seconds, 11.25 minutes shorter than the Julian year. Over the course of a hundred years, these extra minutes amount to a full day. Thus the equinox, slated to occur on September 23, will take place a hundred years later on September 24.

This calendar operated for several hundred years, until in the sixteenth century Pope Gregory XIII established a new calendar to correct the flaw in the Julian system. This system eliminates the extra day in February every hundred years (except for years that are a multiple of 400, for example the year 2000, in which February 29th is maintained), thus shortening the year accordingly and balancing the calendar. But this innovation ensured the calendar's stability only from that point on; it yielded no remedial effect upon the centuries that had passed in the interim. The Pope therefore decided that the calendar would skip 10 days, shifting from October 5, 1582 to October 15. The calendar commonly used today operates according to the Gregorian system.

Now we may return to our own sources. Halakha generally conducts its calendar system according to a combination of the lunar and solar cycles. The Jewish leap year accounts for the excess days of the solar year. In some areas of Jewish law, however, we take into account the solar year exclusively. The halakhic expression of the solar year is the beginning of the four seasons, referred to as: "tekufat Nissan" (the vernal equinox); "tekufat Tamuz" (the summer solstice); "tekufat Tishrei" (the autumnal equinox); and "tekufat Tevet" (the winter solstice).

Long ago, when the beginning of the month was determined on the basis of the testimony of witnesses, the tekufot assumed a critical role in the Hebrew calendar system. Specifically, leap years (adding an extra Adar of 30 days) were instituted by the Sanhedrin primarily to ensure that Pesach would never occur during the winter. Once, however, the Sages established a fixed rotation of leap years, the calendar itself ensured that such a phenomenon would never occur. The halakhic significance of the tekufot was thus reduced to two areas: the recitation of "ve-ten tal u-matar" and "birkat ha-chama" (the blessing over the sun's return to its original position in the galaxy, recited once every twenty-eight years).

Chazal disputed the precise length of the solar year, and needless to say, this argument affects the determination of the beginning of each season. The Rambam (Hilkhot Kiddush Ha-chodesh 9:1) summarizes the debate as follows:

Regarding the solar year, some Sages in Israel maintain that it spans 365 and one-quarter days, while others claim that [the partial day] is less than a quarter of a day. A similar argument exists among the Greek and Persian scholars.

In rabbinic jargon, the first opinion appears under the appellation "Shemuel's tekufa," while the latter view is referred to as "Rav Ada's tekufa." Shemuel's calculation corresponds directly to the Julian system. If we count sixty days beyond the autumnal equinox, September 23, we arrive at November 22. When Pope Gregory instituted his corrected calendar, the Jews did not immediately comply. They stood by Shemuel's calculation, i.e. the Julian calendar (perhaps denying the validity of the science of the time). Thus, they believed the equinox to occur 10 days after the new "Gregorian September 23." In other words, they believed that the equinox should be calculated according to the Julian system, which meant that it would fall on the date formerly called September 23, which was now changed to October 3. Many years (or even centuries) later, when most Jews accepted the accuracy of the Gregorian calendar, they nevertheless continued the tradition of their predecessors, saying "ve-ten tal u-matar" on December 2 (sixty days after the Julian equinox, October 3). Although abiding by the Gregorian calendar in other areas of their lives, for the purpose of calculating tekufot Jews still adhered to the position of Shemuel in the gemara, i.e. the Julian calculation.

It stands to reason, then, that the correction to the text in the Beit Yosef was added in the eighteenth century, when only eleven days separated between the Julian and Gregorian calendars. The editor therefore adjusted November 22 (the sixtieth day after the equinox according to the Julian calendar) to December 3 (the corresponding day according to the Gregorian calendar). We, however, live some two hundred years after the editor adeptly revised the text of the Beit Yosef for the purposes of his time. Since the Gregorian calendar skips one day ahead of the Julian calendar each century that is not divisible by 400, the appropriate day for us should be December 5, not December 3.

The difficulty remains that most siddurim today instruct worshippers in the Diaspora to begin inserting "ve-ten tal u-matar" on December 4, rather than December 5, as our calculation would mandate. Apparently, these siddurim simply continued the nineteenth-century practice, and failed to update the law at the turn of the century. (See the introduction to chapter 20 of Itim Le-bina, where this problem is treated at further length.)