



ENGLISH ABSTRACTS

THE RELATION BETWEEN *TEKUFAT TISHREI* AND THE TIME OF THE FAST DUE TO SCARCITY OF RAIN

Dror Fixler

A drought is an extended period of months when a region notes a deficiency in its water supply. This usually occurs when a region receives consistently below average precipitation, which can have a substantial impact on the ecosystem and agriculture of the affected region. Although droughts can persist for several years, even a short, intense drought can cause significant damage and harm the local economy. There is considerable rabbinic literature concerning the period of time after which one must begin to mention rain, in the second benediction of the *Shemoneh 'Esreh*, and to pray for rain in the eighth benediction, and the time during which one should fast on account of scarcity of rain. In our paper, we present the different opinions dealing with these two questions, as well as the time of *tekufat Tishrei* and *tekufat Tevet*.

In addition, we discuss the Orthodox believer's reaction to drought in modern times, when people are not totally dependent on rain. Israel has a Mediterranean climate with long, hot, rainless summers and relatively short, cool, rainy winters. This climate is due to Israel's location between the subtropical aridity of the Sahara and Arabian deserts, and the subtropical humidity of the Levant and the eastern Mediterranean. The climate conditions are highly variable within the state, and are modified locally by altitude, latitude, and the proximity to the Mediterranean Sea. The comprehension that God controls the weather leads us to a better understanding of the combination of natural reactions and religious behavior.

STRING THEORY, BIG BANG THEORY, KABBALAH AND CREATION

Nathan Aviezer

Using the results of the big bang theory of cosmology and the string theory of particle physics (the leading candidate for the title “Theory of Everything”), it is possible to find harmony and consistency between the scientific account of the creation of the universe and the account of Creation according to Kabbalah. The ten *sephirot* of Kabbalah correspond to the ten spatial dimensions of the universe according to string theory, and the seven broken *sephirot* correspond to the seven compacted spatial dimensions of string theory.

THE *KASHRUT* OF RYE MATZO

Mordechai E. Kislev, Orit Simchoni

Shifon, today’s Hebrew term for rye, is one of the five species of grain specifically mentioned in the Mishna connected to commands dealing with agriculture in the Land of Israel. However, we have no archeological, botanic, agricultural, or linguistic material from the ancient rabbinical or classical sources showing that domesticated rye actually was grown in the Land of Israel. It appears that the Hebrew words used today to describe rye (*shifon*) and oats (*shibbolet shu’al*) had different meanings in ancient rabbinic literature. Specifically, it appears that the rabbis called domesticated oat *shifon*, and two-row barley *shibbolet shu’al*. However, the Jewish communities in Europe broadened the use of the word “barley,” namely the six-rowed species, to also include the two-rowed variety. They also adopted the widely accepted belief in Europe that domesticated oats are a derivative of barley, and adopted *shibbolet shu’al* as the name. Therefore, the original Hebrew name for oats, *shifon*, was replaced by *shibbolet shu’al*. Thus, when the Jews of the Middle Ages came to Germany, they found a new grain used in baking bread, over which they performed ritual hand washing, recited the *ha-motzi* blessing, and said the Grace after Meals. For this reason, they had to find a Hebrew name for the new grain, domesticated rye, and they called it *shifon*, a grain term that had no known meaning. Thus, domesticated rye is a sixth grain, to which apply all the Torah regulations that fall on the five recognized species of grain. Moreover, novel

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research techniques have demonstrated a surprising closeness between domesticated rye and wheat. For example, due to the development of rye in traditional wheat fields, and also fertile crosses between the two that have been identified.

SYNERGY OF “4 GATES” AND “61 ROWS”: A NEW PROPOSAL TO DETERMINE THE CHARACTERISTICS OF THE YEAR IN A 16-ROW TABLE

Eran Raviv

This paper deals with the proposal for a new table that can be used to determine the characteristics of the Hebrew year and the years following it. In order to use this table, we need to calculate the *molad* for Rosh Hashanah and the location of the year in the 19-year cycle.

Over the course of the history of the Hebrew calendar, various tools were developed in order to determine the “type” of each year using simple calculations together with the help of a table. The first table was the “4-Gates” table from the period of the *geonim* and the second one was the “61-Row” table that was developed during the period of the *rishonim*, and first presented in the 13th century.

This paper presents a logical structure, using both tables, which consists of 16 rows, explains the algorithm used to build the table and the advantages that it offers over the two historical tables.

IT IS A *MITZVAH* TO RELY ON A MIRACLE

Ephraim Bezalel Halivni

Generally speaking, a person should not rely on a miracle. However, there are several *mitzvot* that require a person to rely on a miracle by their very nature. These *mitzvot* require a person to perform an act that, in the normal course of things, could lead to an undesirable result and reliance on a divine promise that this result will not occur. This article notes several such *mitzvot* and spells out the supernatural element that exists in them.

HOW MAIMONIDES CHOSE HIS EPOCH – CLARIFICATIONS
REGARDING THE ASTRONOMICAL CALCULATIONS IN HIS
SANCTIFICATION OF THE NEW MOON

Ariel Cohen

As the leading authority of his generation in astronomy, Maimonides wrote a book on the sanctification of the new moon. We show that he wrote chapters 11 through 19 of this book with the knowledge that his derivations would help all those, including gentiles, who wished to determine the new month through the reports of witnesses sighting the crescent of the new moon. For example, we find an explicit appeal to the “World’s Sages,” probably meaning the Muslim, Samaritan or Karaite scholars who wrote scientific essays on the sighting of the new moon, encouraging them to benefit from his derivations. Maimonides notes that he knew the works of al-Battani, the Muslim astronomer-mathematician (see, for example, Maghout, 1990), from whom he learned the most accurate length of the solar year.

Solid proof that chapters 11-19 were written by Maimonides for the benefit of the Muslims can be found in the selection of the date for his calculations, i.e. 6 p.m. on the evening of Wednesday, 22 March 1178 (beginning of the Jewish Thursday, third day of the month of *Nisan* 4938). Calculations regarding the sighting of the new moon on this date could help both the Samaritans to determine the first day of *Nisan* (needed to fix their day of Passover), and also his Muslim neighbors, who needed to determine when *Ramadan* ended that year and the month of *Shawwal* began, with the most important holiday in Islam – *Eid al-Fitr*.

In the second part of this work, we compare the average time of the *molad* as assumed by Maimonides against the *molad* in the Jewish calendar. In addition, we present explanations regarding Maimonides’ approach to the calculation of the orbit of the moon, leading to the consequent conditions required for sighting the crescent of the new moon.

This article also introduces the website <http://shum.huji.ac.il/~cariel/code/4938.html>, developed by the author, which predicts the dates on which the new crescent can be viewed based on the work of Maimonides.

This site allows a long series of astronomical and Jewish-Julian-Gregorian calendar calculations and comparisons. At the end of the paper, we present examples of such results obtained through the website application – for example, regarding the 28-year solar cycles and the 19-year Hebrew calendrical cycle.

RUTH AND ELISHA: COMMON FEATURES AND DIFFERENCES

Yosefa Rachaman

There are twenty or so different shared features in the story about Ruth's cleaving to Naomi and the story about Elisha's cleaving to Elijah before his ascent to heaven (2 Kings 2). These data and their significance, against the differences between these two stories, provide the main topic for this paper.

Despite Ruth's nobility and her crucial contribution to the Jewish people, her not being compared with Elisha in biblical literary research can be explained by gender considerations. Especially in religious circles, it seems that the time has come to recognize universal trends and reflect up-to-date attitudes in biblical research in an innovative though not provocative manner.

AKRASÍA AND ENKRÁTEIA IN JEWISH NEO-PLATONIC THOUGHT

Shalom Sadik

One of the major issues in the Platonic school of thought, disagreed upon by Plato and Socrates, is Akrasía and Enkráteia. According to Socrates, as explained by Aristotle, there is no possibility of Akrasía. A person who understands what he or she must do will necessarily do the right thing. In spite of this opinion, Aristotle and Plato both affirm that people can act contrarily to their understanding. One can explain the difference in opinion by understanding the internal dynamics of the different parts of the soul. According to the philosophers who agree with Socrates, the part of the soul that controls how humans act is the theoretical intellect. The part of the soul that activates choice is intellect, which is why one cannot choose against intellect. Contrary to this opinion, Aristotle and Plato explain that there is another part of the soul, which can choose against the theoretical intellect.

In this article, I summarize the opinion of four Jewish Neo-Platonic philosophers. Rabbi Isaac Israeli and Rabbi Josef Ibn Sadik agree with Socrates. According to their opinion, choice is activated by the intellectual part of the soul, and humans cannot act against their knowledge. Israeli also claims that a person who fully understands the correct thing to do, has no temptation to do otherwise. Rabbi Abraham Bar Hiya and the author of the "Book on the Aptitude of the Soul" both agree with Plato. According to Bar Hiya, the will activates choice whereas the



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author of the “Book on the Aptitude of the Soul” states that choice is activated by the essence of the soul. This article demonstrates that there is no united opinion on the Platonic school of thought, and that there continues to be different opinions regarding the Jewish Neo-Platonic philosophers of the Middle Ages.