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The Future of the Jewish Calendar

With the exception of a few specialists, most Jews—even rabbis, and others who are highly educated—believe that the transition from the observation-based calendar to the fixed calendar was clear—cut, with the immediate adoption of the fixed calendar in its definitive form. In a former paper, published in *Tradition*, 38 (2004), we outlined the history of the Jewish calendar from the Mishna period—roughly the beginning of the third century—until about 420 CE. We proved the existence of substantial Talmudic evidence allowing the outline of this evolution. In the same paper, we showed also that the fixed calendar was not laid down immediately. Rather, it evolved during this period, and was not definitively fixed until the tenth century.

In order to examine the future of the Jewish calendar, we explore the most significant rabbinical positions in response to the history of the Jewish calendar, and its transition from an empiric to a fixed structure. We find in the rabbis' explanations the great principles of their vision of the calendar.

We further speculate on the Jewish calendar's future, particularly the question of whether we might improve upon our fixed calendar. We suggest that the calendar might indeed be improved, especially if this improvement can be achieved in a manner that is indistinguishable to the overwhelming majority.

Finally, we consider how the calendar might be structured in the remote future, with the re-establishment of the *Sanhedrin*. It is generally accepted that the re-establishment of the *Sanhedrin* will lead to the return to an observation-based calendar.

We discuss the subject thoroughly, and show that important *gaonim* like R. Hai Gaon had divergent opinions. We conclude that this belief—that the re-establishment of the *Sanhedrin* will lead to the return to an observation-based calendar—rests on Maimonides' ruling; it has no precise Talmudic basis, and it was vigorously contested by Nahmanides. The great diversity of opinions among the most important rabbis left the problem open; the solution will remain in the hands of the future *Sanhedrin*, which will judge without appeal.

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I. INTRODUCTION

The history of the Jewish calendar in the Talmudic period can be divided into two stages: the period of the empirical and observation-based calendar, and, later, the period of the fixed calendar.

The sighting-based calendar seems to have evolved and undergone serious changes during the periods of the Mishna and the Talmud, from the beginning of the third century until the second half of the fourth century. As soon as the council of intercalation, under the leadership of Rabbi Johanan, decided not to fix Rosh Hashanah on *DU*,¹ they were obliged to take liberties with the observation-based calendar and, when necessary, make the month of *Elul* full.² This required them to introduce elements of calculation in order to acquire the needed flexibility regarding the testimonies in order to direct and guide the calendar. The available elements demonstrate that, from the beginning of the fourth century, calculation played an increasingly greater role in the determination of the calendar. It appears that the council of the calendar made its calculations several months in advance.

This trend probably increased around the beginning of the fourth century, when, according to Rav Hisda,³ the council of intercalation decided to let the month of

1 *D* is the fourth day of the week, Wednesday, and *U* is the sixth day of the week, Friday. See the statement of Ulla in *B. Rosh Hashanah* 20a.

2 See *B. Rosh Hashanah* 20a: “When Ulla arrived in Babylonia, he said that *Elul* had been made full.”

We find in the Talmud three cases in which *Elul* was made full instead of defective, and all of these cases correspond to this period: see *B. Rosh Hashanah* 20a: the case of Ulla and *B. Rosh Hashanah* 21a: the case of Rav Nahman, and the case of Rabbah (and not Rava).

3 R. Hisda was the head of the Academy of Sura for ten years, from 300 until 309; he lived 92 years (*B. Moed Kattan* 28a). *Y. Hallah* (I, 1, 57c), and, with a slight difference, *Y. Rosh Hashanah* (I, 4, 57b) say:

תמן חשין לצומא רבא תרין יומין, אמר לון רב חסדא למה אתם מכניסין עצמכם למספק הזה המרובה חזקה שאין בית דין מתעצלין.

“There, in Babylonia, they are worried about the true day of the fast of Kippur (and some Rabbis fast two days). Rav Hisda said to them: ‘Why are you putting yourself in this big doubt? There is a strong presumption that the court is not neglectful.’”

This quotation of Rav Hisda must be from the very beginning of the fourth century. The classical Commentary *Korban ha-Eda* claims that the Court sends the messengers immediately. This explanation is untenable, because we know that the messengers could never have reached Babylonia in time to inform them about the true day of Kippur. I think that the correct explanation of this quotation is the following: until this period, the Babylonian rabbis did not know when the Court decided that *Elul* would be a full month of 30 days or a defective month of 29 days; therefore, they lived in great doubt, especially about Kippur. Rav Hisda seemed to know that the Court of Palestine had changed its conduct; *Elul* was

Elul remain definitively defective. They then had to act in *Av* or even in *Tamuz* in order to prevent Rosh Hashanah from occurring on *DU*. Although the calendar was still formally an observation-based calendar, communicated month by month, it became increasingly more calculated.

Until the beginning of the 20th century, the idea that the evolution from the empirical calendar to the fixed calendar was clear-cut, with the fixed calendar immediately adopting its definitive form, was widely accepted. The publications of the papers of Hayim Yehiel Bornstein, based on the most recent discoveries in the Cairo *Genizah*, challenged that notion. Even today, however, with the exception of a few specialists, most Jews, even those who are highly educated and rabbis, still share this earlier belief.

The evolution of the calendar was attributed to different parallel reasons: the situation of crisis, the political instability, the war between the Roman Empire and the Persian Sassanid dynasty, the difficulty of communications and, also, anti-Jewish persecution, known as “the persecution theory.”⁴ Historians have demonstrated that there is no evidence of Roman persecutions in the third and fourth centuries in Palestine. Similarly, the theory of the persecution by decrees of the Christian Imperial authorities against the Jewish calendar appears to be unsubstantiated: there is no external evidence from either Christian or Roman legal sources of Imperial prohibition against Patriarchal calendar reckoning.⁵ The conclusions, based on the study of Talmudic passages connected with the calendar,

again definitively a defective month of 29 days. If it was necessary to avoid an instance of Rosh Hashanah falling on a Wednesday or a Friday, the Court would move the Neomenia of *Elul* or even of *Av* by one day, in order to obtain the correct result without making *Elul* a full month. “The Court is not neglectful” would then mean that it reacts sufficient time in advance and no longer waits for the last moment. Of course, this new attitude implies that it was necessary to consider calculation more than observation. Some scholars have criticized this view because the text gives no real hint of the proposed explanation. It seems, however, that the problem of a full month of *Elul* and its effect on the date of Kippur was very much the order of the day (see the statement of Ulla in *B. Rosh Hashanah* 20a and two cases where *Elul* was made full in *B. Rosh Hashanah* 21a). Rabbah, the head of the academy of Pumbedita (298-320 CE), at the same period, still fasted two days because of the doubt of Kippur (*B. Rosh Hashanah* 20b). It is likely that this evolution occurred at this period. At the same period or a little later, Rav Safra already knew the fixing of the Neomenia several months in advance (see “Rav Safra and the Second Festival Day”: *Tradition*, 38 [2004] and, by about 325 CE, Abbaye and Rava knew the fixing of the New Year in advance. Therefore, without a real hint in the text, I consider that this explanation is genuine; it corresponds perfectly to the problem raised at that time and it offers the only likely solution.

4 Stern, *Calendar and Community* (Oxford, 2001, p. 212.

5 Stern (2001), pp. 216-17.

are concordant: the evolution of the Jewish calendar was progressive and slow; it began at the very beginning of the fourth century, well before the time of the litigious persecutions. This slow evolution does not seem to be the consequence of persecutions. R. Dr. Sacha Stern⁶ has examined different reasons that could have led toward this evolution, such as the scientific progress theory and the unity calendar theory. I would add the following reasons:

- The desire to achieve some degree of predictability for the calendar.
- The desire to direct and guide the calendar in order to implement the rule *Lo DU Rosh*⁷ and *Elul* and *Adar* defective.
- The awareness that the empirical calendar could not satisfy this objective without crude manipulation.

However, it seems that we cannot ignore the persecutions that are mentioned, even by allusion, several times in the Talmud, because of the absence of external evidence. Even if we accept that the persecutions in fourth-century Palestine were exceptional and brief, and could not have justified the evolution toward a fixed calendar, I would suggest that the concretization of this natural evolution, by the communication in advance, before *Tishri*, of the year's calendar to Babylonia, was achieved during a time of persecution and the threat of the calendar's disruption. Indeed, such a special situation of crisis and persecution was an excellent pretext and justification for the institution of this change. Indeed, the institution of new dispositions for the calendar, as soon as they received publicity and inevitably became known, was certainly not an easy thing and would otherwise have raised many objections by certain influential authorities.

The second period in the evolution of the fixed calendar remains significant in the study of the history of the Jewish calendar. Many hold that the fixed calendar, i.e. our modern calendar, was definitively fixed in 358-59 CE, when it was first introduced by the Patriarch Hillel II. The Talmud provides evidence that the calendar still differed from ours in about 430 CE, in the time of Rav Yemar.⁸ Bornstein⁹ and

6 Stern (2001), pp. 211-37.

7 By reference to the rule *lo DU Rosh*, which Ibn Ezra connects to Ezra 8:17.

8 We know from a passage in *B. Sukkah* 43b that, in about 325 CE (the time of Rabbin), Rosh Hashanah could fall on Sunday. Similarly, we know from *Y. Megilah* I, 2 that later, in about 350 CE, at the beginning of the fixed calendar and at the time of R. Yose (Youssa), Purim could fall on a Wednesday, implying that because the calendar had become invariable between Purim and Rosh Hashanah, Rosh Hashanah could fall on a Sunday. We know from a passage in *B. Niddah* 67b, that at the time of R. Yemar (head of the academy of Sura after R. Ashi, 427-32 CE), Rosh Hashanah could still fall on a Sunday. We know further from a passage of the epistle of R. Sherira Gaon that in 817 SE, i.e. 4266 AMI or 506 CE, Purim could still fall

Jaffe¹⁰ have devoted their lives to studying the development of the fixed calendar. Bornstein based his theory on several documents in the *Cairo Genizah*, whose importance he recognized. They have shown that the Jewish calendar took on a definitive form only in the mid-ninth century and was definitively fixed in 922 CE, after the dispute between Ben Meir and Saadia Gaon. Our knowledge of the history of the Jewish calendar still remains very fragmentary and restricted, and is incomplete. The difficulty of the reconstitution of this history stems from the fact that the council of intercalation of the calendar worked in the greatest secrecy,¹¹ and its decisions were accepted in Palestine and Babylonia. Very few documents are still available to cast light on the subject.

on a Wednesday and Rosh Hashanah on a Sunday. This situation could have continued until the mid-seventh century. The passage concerning Rav Yemar is the following: רב יימר אמר: אפילו שכן אמרינן לבר מאישה חופפת באחד בשבת וטובלת בחמישי בשבת, דלמוצאי שני ימים טובים של ראש השנה שלאחר השבת ליתא דאפשר דחופפת בלילה וטובלת בלילה. דרש מרימר הלכה כרב חסדא וכרמפרש רב יימר. “Rav Yemar said: The principle to fix the maximum accepted delay between the washing of her hair and the purification, according to the extreme case that can be met is valid except for the case of the two days of Rosh Hashanah following Sabbath, where the delay of three days is too important, while it is possible for her to wash and purify herself the night following the festival days.”

We see that in about 432 CE, seventy-four years after the introduction of the fixed calendar by Hillel II the Patriarch, by testimony of the Talmud, Rosh Hashanah could still fall on a Sunday.

The word ליתא means that Rav Yemar did not accept the case of Sabbath followed by the two days of Rosh Hashanah as an acceptable interval between washing and purification, because it is too long. One cannot interpret it as meaning that this case does not occur, because then R. Yemar should have considered the case of the two days of Rosh Hashanah preceding the Sabbath, a situation that still occurs today. The commentary of Rashi sustains this exegesis and considers that Rosh Hashanah could occur on Sunday-Monday. Rav Yemar mentioned Rosh Hashanah, because it is the only festival that has two days in Babylonia and in Palestine. Indeed, the Babylonians always ruled that the Palestinians must keep two days for Rosh Hashanah (see Rif, p. 3a on *B. Beitsah*). There is a parallel quotation in *Y. Megila* IV, 1, 75a: כדי ... רבי יוסה בשם ... הוא התקין שתהא אשה חופפת וסורקת קודם שהרתה ג' ימים, רבי יוסה בשם ... לשבת ולשני ימים טובים של גלויות. This second quotation is probably from about 350 CE, when the Palestinians introduced the fixed calendar and kept only one day of Rosh Hashanah. They accepted, however, a distance of three days because of the needs of the Diaspora. Thus, the quotation in *Y. Megila* IV, 1 is evidence that in about 350 CE the Palestinians no longer observed two festival days for Rosh Hashanah, and *B. Niddah* 67b is evidence that, in about 420 CE, Rosh Hashanah could still occur on Sunday-Monday.

9 Hayim Yehiel Bornstein, 1845-1928.

10 Zvi Hirsch Jaffe, 1853-1927.

11 Otherwise, how is it possible to understand that, during the period 240-300, the Babylonian community remained unable to determine when *Elul* was made full? It was in fact the only way to enable introducing adaptations and new rules.

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Although some of their conclusions are now known to be inaccurate and must be slightly adapted because of new elements,¹² the core of Bornstein's and Jaffe's work and their main conclusions remain authoritative in spite of attempts to undermine their theories.

These elements of the history of the Jewish calendar during the end of the observation period and during the beginning of the period of the fixed calendar are still unknown today to the overwhelming majority of the intellectual community and to most of the rabbis.

R. Kasher, in the 13th part of *Torah Shelemah*, examined with great erudition all the aspects of the Jewish calendar, and included Bornstein's theory; however, despite many pieces of evidence mentioned, examined, and apparently accepted by him—which he ultimately chose to ignore—he fought it with all his strength.¹³

The evolution of the Jewish fixed calendar during the fifth century can be proved by Talmudic references. Tossafot Rid¹⁴ seems to be the only rabbinical authority that recognized this evolution of the calendar after its institution. This evolution of the Jewish calendar offers sufficient justification, if necessary in the future, for a further evolution without the intervention of a *Sanhedrin*.

II. THE OBSERVATION-BASED AND THE CALCULATED CALENDARS: THE RABBINICAL POINT OF VIEW

The rabbinical position is important to consider because any further evolution of the Jewish calendar will depend on it. The rabbis from the gaonic period onward had no knowledge at all of the evolution of the Jewish calendar after 358-59 CE. They were convinced that the fixed calendar, from its origin onward, was exactly the same as it was in their day, and that it had been definitively and completely enacted in 358-59 CE. The precise connection between the observation-based calendar and the fixed calendar was not very clear to them, and they gave different explanations for the transition between the two.

12 For example, the different tombstones of Zoar cannot be explained according to the rabbinic calendar. It must be accepted that the Jewish community of Zoar used a calendar that could differ from the rabbinic calendar. For more details about the tombstones of Zoar, see Stern (2001), p. 146.

13 Apparently, he was afraid that accepting a late finalization of the Jewish calendar would undermine its authority. However, this approach leaves the reader perplexed.

14 See notes 106, 107 and 108. R. Isaiah de Trani the Elder, southern Italy, 13th century, was probably the only Rabbi who recognized the late character of the *dehiya lo A Rosh*.

A. About the Cause of the Transition

The first reference to the year of the enactment of the fixed calendar was provided by a quotation in *Sefer ha-Ibbur*¹⁵ from a responsum of R. Hai Gaon, which mentioned that Rabbi Hillel¹⁶ ben Judah established the fixed calendar in 670 S.E.¹⁷ It is important to understand the reason for this transition, because it helps us to understand the rabbinical position on the future of the calendar.

Maimonides wrote in *Hilkhhot Kiddush ha-Hodesh* V, 3 that this fixed calendar was introduced at the end of the period of the sages of the Talmud, just after the time of Abaye and Rava,¹⁸ when Israel was destroyed and no fixed court remained. This expression seems to correspond to the disappearance of the *Sanhedrin*, or at least the interruption of its regular sessions and the end of its regular work.

In his glosses on *Sefer ha-Mitzvot*, Nahmanides argued that the *Sanhedrin* had

- 15 Written by R. Abraham bar Hiyya (second half of eleventh century - first half of the twelfth century, around 1136), also known by the name *Savasorda*, edited by Filipowski (London, 1851), p. 97.
- 16 Hillel II the Patriarch.
- 17 1 S.E. = 3450 A.M. thus 670 S.E. = 4119 AM = 358/359 CE where S.E. means Seleucid Era = Era of the contracts = *Minyian Shtarot*, A.M = Anno Mundi beginning at *Beharad* and CE = Common Era.
- 18 Maimonides wrote in *Hilkhhot Kiddush ha-Hodesh* V, 3 that the period of the empirical observation-based calendar lasted until the time of Abaye and Rava, apparently Abaye and Rava included. This is coherent with the reading in *B. Rosh ha-Shanah* 21a that Rava was still fasting two days on Kippur. This is also coherent with his ruling in *Hilkhhot Yom Tov* VI: 11, 12 and 14, according which the dictum of Rava in *B. Beitsah* 17a about the late *Eruv*, belongs to the first period of the empirical calendar. R. Zerahia ha-Levi on the Rif *Beitsah* (p. 3a of the Rif, top) holds a similar position about another dictum. By contrast, Meiri in *Beit ha-Behirah* on *B. Sanhedrin* 13b writes that Abaye and Rava belong already to the period of the fixed calendar. Ran, on Rif *Beitsah* (p. 9b top of the Rif) writes also that Rava knew the fixing of the first day of the month. Nahmanides, in *Milhamot Hashem* on Rif *Beitsah* p. 3a (line 16) writes also that the fixed calendar was introduced during the days of Rava. These statements of Meiri, Ran and Ramban are not totally precise. They confuse the first period, from about 325 onwards when the Babylonian community knew in advance the fixing of the first day of *Tishri*, and the later period from 358-59 onwards, when the fixed calendar was introduced. There was practically no difference for the Babylonian community between these two periods. See two pieces of evidence of this new situation from about 325 onwards, when the Babylonian community knew in advance the date of the festivals: *B. Hulin* 101b and *B. Ta'anit* 21b. In any event, it appears from Talmudic evidence that the Babylonian and Alexandrian communities became aware in advance of the fixing of the first day of Rosh Hashanah and Pesach from about 325 onwards, i.e. about thirty-four years before the official date of the beginning of the fixed calendar.

already lost its prerogatives forty years before the destruction of the Temple.¹⁹ Nahmanides suggested that the causes of the transition were the disappearance of the Patriarchate and the danger of the imminent disappearance of the institution of the ordination.²⁰ Nahmanides added that the Patriarch Hillel feared that, without the fixed calendar, all Jewish festivals would disappear. With the introduction of the fixed calendar, they celebrated all the festivals together in Palestine and in Babylonia, and “this predictable²¹ calendar was acclaimed by all.”

R. Zerahia ha-Levi wrote that the calendar was introduced at this epoch for a variety of reasons: the Diaspora, the dispersion, the difficulty of communication, the difficulty of finding witnesses who could join the Court, and the difficulty of sending messengers to communicate the fixing of the Neomenia.

This trend had developed from the beginning of the fourth century onward, and the fixed calendar of 358-59 put the finishing touches on this irreversible development. Between these opinions, R. Zerahia ha-Levi's explanation seems the most likely; the explanations of Maimonides and Nahmanides are less convincing, since we know that the Patriarchate was abolished only in 415 CE, fifty-seven years later, and that the years 358-59 were a relatively quiet period, after the repression of Gallus during the short reign of Julianus, which had given the Jews much hope for the future. It is unlikely that the *Sanhedrin* was abolished at this time, and, similarly, there was no reason to fear the disappearance of the institution of the ordination of the rabbis at that precise moment.

B. The Observation-Based Calendar and the Fixed Calendar

In their explanation of the transition from the observation-based calendar to the fixed calendar, the rabbis mentioned above had to consider two contradictory passages in the Talmud—one stating that it is an obligation to sanctify the new

19 See also *Mishna Sotah* IX: 11: במשתאות: בטל השיר במשתאות.

20 In fact, 358-59 does not correspond to the end of the Patriarchate, nor to that of the *Sanhedrin* and the ordained rabbis. Hillel II was followed by Rabban Gamaliel, Rabban Judah Nesiya IV and Rabban Gamaliel *batra'ah* (the last), who was dismissed by the order of Emperor Theodosius II in 415 CE. Furthermore, the passage in *B. Bava Kama* 15b: אמר קבעו לי זימנא proves that there were still courts in Palestine, or at least one Court of ordained rabbis able to judge cases with penal aspects (קנסות), recognized in Babylonia in the fifth century much later than the year 358-59.

21 This adjective seems to summarize correctly the following sentence of Nahmanides in his glosses on *Sefer ha-Mitzvot*: וראה תיקון הכל בחשבון זה אין מקדים ואין מאחר ושהדבר יותר מוסכם ומקובל על העם בדעתם המועדות בקביעות מאין שיבוש ושינוי...

month according to the vision of the new moon,²² and another stating the contrary, that one is not obligated to sanctify the new month by seeing the new moon.²³

*Sefer ha-Mitzvot*²⁴

Maimonides wrote in *Sefer ha-Mitzvot* that the calendar is based on the vision of the new crescent moon in order to fix the beginning of the month, and on the observation of the vernal equinox in order to determine the intercalation of the years. These operations, he wrote, basing his argument on the understanding of the scripture,²⁵ required the existence of the High Court of Israel and must be carried out in Israel.²⁶ The observation-based calendar had vanished because of the disappearance of the High Court, just as sacrifices had ended after the Temple's destruction. Today, the calendar must be calculated and promulgated in Israel by expert rabbis, i.e. ordained rabbis.²⁷ In an emergency, when there are no ordained rabbis present in Israel, ordained rabbis in Israel can exceptionally promulgate

22 *B. Rosh Hashanah* 20a.

23 *B. Arakhin* 9b.

24 Positive law 153.

25 Exod. 12: 2.

26 This opinion, that the fixed calendar must be proclaimed in Israel by an ordained rabbi, was already championed by Rabbi Abiathar ben Elijah ha-Cohen (c. 1040-1110), the last official Palestinian *gaon* from 1081 onwards. The academy of Jerusalem was transferred to Tyre in 1071 following the conquest of Jerusalem. He mentioned in the *Megilat Abiathar* that his father gathered Israel in the academy of Tyre and nominated him as *gaon* two years before his death. In the year of his death, R. Elijah went to Haifa to sanctify the year, to confirm the *gaonut* and the *semikha*. He wrote also that the *Rosh Yeshiva* must sanctify the year and indicate if it is a regular or an intercalated year. Those who base their views on calculation, must rely on the *gaon*. On p. 473, lines 10-14 we read: אבל סמיכת הכל שיקדש ראש הסנהדרין: שהוא ראש הישיבה ויקבענה אחרי אותו החשבון אם מעוברת אם פשוטה, וכל העושין על אותו החשבון צריכין הן במצות התורה כאשר צוה יי' ביד משה איש האל"ם לסמוך על דברי גאון החבורה ואין להימין ולהשמאיל ממנו שנאמר אלה מועדי יי' אשר תקראו אותם, וכל שהן עושין בכל שנה ושנה בכל גליות ישראל צריכין הן... לחשוב כי. Similarly, each year in the Diaspora, they must think that they act according to his formal *sanctification*. See *Megilat Abiathar*, Schechter JQR Vol. XIV (1901-02), pp. 449-74. Maimonides' opinion is based clearly on this Palestinian tradition. We see thus that the *gaon*, who had taken refuge outside Israel, must ordain his son in Israel and he must sanctify each New Year in Israel.

27 See also Samuel Klein (1886-1940), rabbi and professor of history and geography at the Hebrew University, in *Toldot ha-yshuv ha-yehudi be-Eretz-Yisrael* (Tel Aviv, 1935), pp. 100-101. He notes the position of R. Abiathar, who ascertains that the promulgation of the Jewish calendar is the prerogative of the Palestinian ordained *gaon*. He notes also the similarity of the position of Maimonides, who writes that the calculation of the Jewish calendar outside Israel receives its legitimacy only from the fact that there are in Israel scholars knowing the "*Sod ha-Ibbur*."

months abroad. Maimonides added that if there was no Jewish population in Israel and no ordained rabbis in Israel or abroad, the Jewish calendar would lose all its legitimacy. In other words, the legitimacy of the modern calendar requires a Court of ordained rabbis in Israel.

Nahmanides objected (ad loc.): “we had no ordained rabbis for many years, so how does the calendar still work?” He felt obliged to create the fiction that R. Hillel II sanctified all the months and intercalated the years in advance²⁸ until the coming of Elijah the prophet.²⁹ This solution certainly contradicted Maimonides, who ruled³⁰ that the intercalated years cannot be proclaimed in advance.

Later rabbis have tried to justify Maimonides’ position with regard to the present situation without ordained rabbis. Indeed, Nahmanides’ objection was so obvious that Maimonides could hardly have neglected this problem. R. Jacob Berav³¹ explained that today, in the absence of ordained rabbis, the Jewish population of Israel has the power to re-establish the institution of the ordination. Therefore, we must consider the situation as if we had ordained rabbis today. R. Herzog,³² the late chief rabbi of Israel, wrote along similar lines. These two rabbis, R. Berav and R. Herzog sought to justify their views using the end of the passage from *Sefer ha-Mitzvot*, which mentioned only Jewish inhabitants, but no longer the Court of Israel nor its rabbis. R. Abraham Allegre³³ tried to deduce from the same passage that today we do not need ordained rabbis at all—the presence of Jews in Israel is in

28 The fact that the fixed calendar evolved since its introduction in the fourth century, and was certainly not identical to our modern calendar, is certainly the greatest objection to this theory.

29 This idea that the present calendar is valid until the coming of the Messiah is already mentioned in a responsum of R. Hai Gaon, the son of R. Nahshon Gaon, *gaon* in Sura in about 886-96, not to be confused with R. Hai Gaon, the son of Sherira Gaon, *gaon* in Sura from 968 until 1006 (Bornstein, *Hatekufah* 14-15, p. 362). This responsum is also quoted in an article of Rahamim Sar Shalom in *Sinai*, 138 (*Nisan-Sivan* 5766). This theory of Nahmanides of the sanctification in advance of all the forthcoming months and years until the coming of the Messiah (or Elijah the Prophet) seems far-fetched. It had nevertheless a tremendous success, and was acclaimed by nearly all his followers; namely R. Samuel ha-Sardi in *Sefer ha-Terumot*, R. Solomon ben Aderet in his *Novellae* on *B. Sukkah* 43a, Ran in his commentaries on the Rif in *B. Sanhedrin* 11a and 11b, *B. Rosh Hashanah* 25a and *B. Sukkah* 43a, Israeli in *Yessod Olam* Book IV, Chap.9, last lines of p. 16b and p. 16c.

30 *Hilkhot Kiddush ha-Hodesh* IV, 13.

31 *Kuntras ha-Semikha*: paragraph beginning with: זהו מה שהשיב הרמב"ן אבל דברי הרמב"ם תמהים ואי אפשר שנאמר שנעלם ממנו הקושיא הזאת...

32 שו"ת בדיני אורח חיים, כרך ב' מאת מרן הגאון רבי יצחק אייזיק הלוי הרצוג סימן ע"ז עמוד שנ"ט

33 *Sefer ha-Mitzvot*, ad loc., commentary *Lev Sameah*.

itself sufficient. This seems, however, to contradict the beginning of Maimonides' text:

ודע שחשבונו זה שנמנה אותו היום ונדע בו ראשי חדשים והמועדים אי אפשר לעשותו אלא בארץ ישראל לבד ובעת הצורך ובהעדר החכמים מארץ ישראל או אפשר לבית דין הסמוך בארץ ישראל שיעבר השנים ויקבע חדשים בחוצה לארץ כמו שעשה רבי עקיבא כמו שהתבאר בתלמוד...³⁴

Therefore, the two explanations mentioned above not only seem far-fetched, but also seem to contradict the principles enunciated in the beginning of the passage of *Sefer ha-Mitzvot* by Maimonides himself. The true explanation of this passage from *Sefer ha-Mitzvot* is probably that given by Bornstein.³⁴ By contrast, with the affirmation of Nahmanides,³⁵ ordained rabbis did not disappear in the generation following the Patriarch Hillel II, but they continued to live in Palestine until the end of the twelfth century or the very beginning of the thirteenth century.³⁶ Bornstein brings evidence of the gaonic period,³⁷ but there is even evidence in the *Halakhot*³⁸

34 *Hatekufah*, Book 4 (5679), pp. 394-426. On the huge and encyclopedic Internet site of Judaic studies *Daat* of Prof. Yehuda Eisenberg, <http://www.daat.ac.il/daat.html>, there is an article to which Eng. Y. Loewinger drew my attention: <http://www.daat.ac.il/data/kitveyet/hatekufa/mishpat2-4.htm> משפטי הסמיכה וקורותיה. This text is anonymous. It appears, upon examination, to be verbatim the article of Bornstein in *Hatekufa*.

35 On *Sefer ha-Mitzvot* ad loc.

36 See *Sefer ha-yishuv*, Vol. 2, S. Assaf and L. Mayer (Jerusalem, 1944), Introduction p. 40, ספר הישוב, כרך שני, מימי כיבוש ארץ ישראל על ידי הערבים עד מסעי הצלב, ש. אסף ול. מאיר. R. Abiathar ben Elijah recovered the *gaonut* after the destitution of David ben Daniel, but he had to take refuge in Tripoli (Syria), because of the advance of the Crusaders. He was the last official *gaon* of Palestine, and died in 1109. His brother, Solomon ben Elijah, followed him as the head of the Yeshiva. The Yeshiva was then transferred to Damascus, where it continued to exist for about another hundred years until the beginning of the thirteenth century. It was still called *ישיבת ארץ הצבי*. Its leaders still claimed to bear the original rabbinic ordination, *סמיכה*, allowing them to judge penal cases. With regular trips to Palestine, they could ordain their disciples and proclaim the calendar. This institution disappeared at the beginning of the thirteenth century. When Maimonides wrote his *Sefer ha-Mitzvot* he still considered with confidence the existence of ordained rabbis but later, when he wrote his *Hibbur*, he changed his mind because he had already a foreboding about the future of this institution.

37 Victor Aptowitz (1871-1942) examined the same problem in his book: *מחקרים בספרות דיני קנסות בתשובות הגאונים* (Jerusalem, 1941). The fifth chapter of this book is indeed entitled: *הגאונים והגאונים*. He took issue with Bornstein, and argued that Bornstein had based his theory on some gaonic responsa, neglecting divergent responsa. He challenged Bornstein's conclusions and ascertained that the Rif and Rambam referred to the prerogatives of the Palestinians at the time of the Talmud. I think that Aptowitz unduly criticized Bornstein. There was a

of the Rif³⁹ and, in the *Hibbur* of Maimonides,⁴⁰ that there were still ordained rabbis in Israel in their time. These rabbis were judging and imposing penalties in areas where the Babylonian rabbis were incompetent.⁴¹ Maimonides found no difficulty in this text, because ordained rabbis still worked in Israel in his time.⁴² Only later, when there were no longer ordained rabbis in Israel—and when the existence of such ordained rabbis during the period from the fourth century until Maimonides' time had been forgotten—was the whole problem raised. There is no justification for Nahmanides' objection and for his artificial solution: Nahmanides apparently did not note the change of Maimonides' position in *Hilkhot Kiddush ha-Hodesh* with regard to *Sefer ha-Mitzvot*, or he did not accept it, and felt that both conditions were still needed in his day: ordained rabbis acting in Israel. Since these conditions were no longer fulfilled, his fictitious solution became necessary.

Hilkhot Kiddush ha-Hodesh

We note a profound evolution of Maimonides' position regarding his former writings. The main differences between his position in *Hilkhot Kiddush ha-Hodesh* V, 1 and 2 and in *Sefer ha-Mitzvot* are the following:

constant rivalry between Palestine and Babylonia concerning the precedence and the influence of the two centers. Many *gaonim* regarded their Palestinian colleagues with contempt and condescension, and could not admit that rabbis of lesser importance could have greater prerogatives. Therefore, the negative documents, those neglected by Bornstein, do not prove anything other than the extant rivalry. On the other hand, the documents that Bornstein considered are sufficient to prove that there were some Babylonian *gaonim* who recognized the prerogatives claimed by the Palestinian *gaonim*. Bornstein's theory seems correct, and Aptowitz's criticism unfounded. Despite his dependence on the traditions of the Babylonian *gaonim*, Maimonides seems to have been influenced by the Palestinian traditions (there was still a strong Palestinian community in Fostat in his day), and he accepted that the Palestinian ordained rabbis had some prerogatives above those of the Babylonian rabbis.

38 *Halakhot* of the Rif p. 6b on *B. Bava Kama* 15b.

39 Rabbi Isaac ben Jacob ha-Cohen (1013 - Lucena 1103).

40 *Hilkhot Sanhedrin* V : 17. מנהג הישיבות בחוצה לארץ אף על פי שאין גובין שם קנס מנדין אותו עד. שיעלה עמו לדין לארץ ישראל. More evidence is to be found in Rambam, *Hilkhot Hoveel u-Mazik* IV: 16.

41 Aptowitz wanted to explain that they were only referring to the period of the Talmud. We have nevertheless seen above that Aptowitz's arguments against Bornstein seem finally very weak.

42 In fact, they were no longer living in Israel, but in Syria, though they journeyed regularly to Israel in order to ordain their disciples and proclaim the calendar.

- We don't need any more ordained rabbis for the calculation and the proclamation⁴³ of the Jewish calculated calendar.
- The organization of the Jewish calendar is established according to a *halakha le-Moshe mi-Sinai*.
- Maimonides recorded in *Hilkhot Kiddush ha-Hodesh*⁴⁴ that when there is no *Sanhedrin* we fix the months and we intercalate the years according to the present calendar. Here he based his argument on the understanding of the scripture,⁴⁵ based on a tradition going back to Moses.⁴⁶ He added⁴⁷ that the effective establishment of the Neomenia is performed by the Israeli inhabitants.⁴⁸ Here, Maimonides no longer referred to the necessity of ordained rabbis acting in Israel. He referred, instead, only to the existence of Jewish inhabitants in Israel.⁴⁹ The contradiction between this text and the text of *Sefer ha-Mitzvot* is

43 We know that until the tenth century, and even later, the Palestinian *gaon* publicly proclaimed the nature of the year to come.

44 *Hilkhot Kiddush ha-Hodesh* IV, 1.

45 Exod. 12: 2.

46 ומפי השמועה למדו איש מאיש ממש רבינו שכך הוא פירוש הדבר..... There are already more ancient references about the Jewish calendaric traditions going back to Moses: in *Pirkei de Rabbi Eliezer*, Chap. 8 (a work generally dated to the eighth or the ninth century), the tradition goes back to Adam ha-Rishon, but in *Pesikta de Rav Kahana* (dated to the sixth century), Chap 5, the tradition goes back to Moses. Rambam also invoked a tradition going back to Moses in his commentary to the *Mishna Rosh Hashanah* II: 6 and in *Hilkhot Kiddush ha-Hodesh* XVIII, 8 and 10.

47 *Hilkhot Kiddush ha-Hodesh* IV, 13. זה שאנו מחשבים בזמן הזה כל אחד ואחד בעירו ואומרים שראש חודש יום פלוני ויום טוב ביום פלוני, לא בחשבון שלנו אנו קובעים ולא עליו אנו סומכים, שאין מעברין שנים וקובעים חודשים בחוצה לארץ, ואין אנו סומכים אלא על חשבון בני ארץ ישראל וקביעתם וזה שאנו מחשבים לגלות הדבר בלבד הוא, כיון שאנו יודעים שעל חשבון זה הן סומכים אנו מחשבים לידע יום שקבעו בו בני ארץ ישראל אי זה יום הוא, וקביעת בני ארץ ישראל אותו הוא שיהיה ראש חודש או יום טוב, לא מפני חשבון שאנו מחשבים.

48 אבל היום שבני ארץ ישראל סומכים על החשבון ומקדשים עליו, 14. See also *Hilkhot Yom Tov* VI, 14. It is likely that when Rambam wrote this text he was still in the same state of mind as when he wrote the text of *Sefer ha-Mitzvot*, positive law 153. *Hilkhot Kiddush ha-Hodesh* was written much later, at the end of the redaction of the *Hibbur*. It is indeed true that Rambam did not use the verb לקדש, neither in *Hilkhot Kiddush ha-Hodesh* nor in *Sefer ha-Mitzvot*, to characterize the contemporary fixing of the calendar. But this verb belongs to the vocabulary used in the *Megilat Abiathar* by the Palestinian *gaon*, Abiathar ben Elijah ha-Cohen; see the quotation in note 26.

49 *Arukh ha-Shulhan ha-Atid on Hilkhot Kiddush ha-Hodesh*, Chap. 96, § 9 justifies the position adopted now in *Hilkhot Kiddush ha-Hodesh*. We need ordained rabbis for the examination of the witnesses.... אבל חושבנא בעלמא למה צריך סמוכין ורק ארץ ישראל צריך משום קרא דכי מציון תצא תורה אבל לא סמוכין ולזה אנו סומכים על ארץ ישראל.

evident,⁵⁰ but none of his commentators raised it.⁵¹ I propose the following explanation: when Maimonides wrote *Hilkhot Kiddush ha-Hodesh*, at the end of the redaction of the *Hibbur*, in about 1178, he had changed his mind and no longer required ordained rabbis for the promulgation of the calendar in Israel. This change of mind is justifiable, because we mainly require experts to examine witnesses, not for the performance of the calendar calculations. This change of mind must be connected with Maimonides' altered perception of the future of the institution of the ordination of the rabbis in Israel. The Palestinian rabbis and their Yeshiva were forced to take refuge in Syria, Tyre, or Damascus, because of the creation of the Latin Kingdom of Jerusalem. They had to journey to Israel in order to ordain their disciples and to proclaim the calendar. Maimonides must have understood that the institution was dying out. In his epistle to the sages of Lunel,⁵² Maimonides adopted a very pessimistic view of the health of the communities in the area in which the ordained rabbis had taken refuge. He must have changed his mind and adopted the new formulation.

In *Hilkhot Kiddush ha-Hodesh* V, 1 Maimonides wrote that the procedure of the observation-based calendar and all the rules related to the examination of the witnesses, the acceptance of the testimony of the sighting of the new moons and the proclamation of the Neomenia belong exclusively to the prerogatives of the *Sanhedrin* or of a special court that received a delegation from the *Sanhedrin* for this purpose. This was deduced from the scripture⁵³ through a tradition⁵⁴ going back to Moses.

If there is no *Sanhedrin*, or if there is no longer a court of ordained rabbis dealing with the matter from this delegation, we do not have at our disposal the appropriate institution for examining the witnesses, proclaiming the Neomenia, and intercalating the years. Therefore, we must use our present calendar based on mean astronomical values of the lunation and the tropical year.

Maimonides' formulation is a little vague; we cannot know if he means that, in the absence of a *Sanhedrin*:

50 However, it was not noted by Bornstein.

51 Only R. Yehiel Michael Halevi Epstein in *Arukh ha-Shulhan ha-Atid, Hilkhot Kiddush ha-Hodesh*, ed. Mossad ha-Rav Kook, pp. 3-11, 96, 148, proposed understanding from the text of the *Hibbur* that we do not need ordained rabbis for that purpose—but he had to admit that this was not the meaning of the text of *Sefer ha-Mitzvot*.

52 איגרות הרמב"ם, מהדורת יצחק שילת, כרך ב, עמוד תקנ"ח, תקנ"ט.

53 Exod. 12: 2.

54 מפ"י השמועה.

- We have no solution other than using a calculated calendar as, for example, our present calendar.
- Or, we are obliged to use the present calendar.

In *Hilkhot Kiddush ha-Hodesh* V, 2 Maimonides introduced a new and important element with regard to the *halakha* in question. He wrote:

ודבר זה הלכה למשה מסיני הוא, שבזמן שיש סנהדרין קובעין על פי הראייה ובזמן שאין שם סנהדרין קובעין על פי החשבון הזה שאנו מחשבין בו היום ואין נזקקין לראייה.

The whole organization of the Jewish calendar is now a *halakha le-Moshe mi-Sinai*. This formulation is much more binding and it claims more authority because a *halakha le-Moshe mi-Sinai* precludes any discussion.

The exegesis of this paragraph requires some attention. Does the *halakha le-Moshe mi-Sinai* relate to the first part of the sentence or does it refer also to the second part of the sentence. In other words, does the *halakha le-Moshe mi-Sinai* refer to the observation-based calendar that we must put into application when we have a *Sanhedrin* or a court of ordained rabbis, or does it also refer to the present calendar that we use in the present, in the absence of a *Sanhedrin* or a court of ordained rabbis? The classical commentators did not consider this problem in their commentaries *ad loc.*, but it seems that the most widespread opinion on the question is that the *halakha le-Moshe mi-Sinai* refers to both situations.

Prof. Obermann,⁵⁵ in his introduction to *Sanctification of the New Moon*, also understood this *halakha* in this manner. He wrote about these two *halakhot*: “And he lays great stress on the thesis that the Mosaic-Sinaitic tradition that had prescribed sanctification by the court on the basis of visual observation had also prescribed regulation of the calendar by calculation for the time when the *synedrium* should have ceased to function.”

However, Maimonides wrote⁵⁶ about the *Tekufa of Adda* and the consecutive average length of the Jewish year in our calculated calendar that it is more correct and nearer to the truth than the rough value adopted by Samuel of 365.25 days. Maimonides was thus aware that the modern Jewish calendar was not exact. Similarly, Maimonides was well aware that the *molad* occurred slightly later than the mean astronomical conjunction; in his day, the delay was 57 minutes.⁵⁷ It seems inconceivable that the use of a calendar based on an approximated value of the

55 *Sanctification of the New Moon*, the Code of Maimonides; Book Three, Treatise Eight. Yale Judaica Series. Volume XI, p. XVII (1956, 2nd edition, 1967).

56 *Hilkhot Kiddush ha-Hodesh* X, 6 and 7.

57 J. Ajdler, *Hilkhot Kiddush ha-Hodesh al pi ha-Rambam*, pp. 176-78.

length of the solar year and of the synodical lunation would constitute a *halakha le-Moshe mi-Sinai*.⁵⁸

Therefore, we should lean toward the second solution: the sentence comprises two independent parts. The *halakha le-Moshe mi-Sinai* refers to the presence of a *Sanhedrin* and ordained rabbis. In the absence of ordained rabbis having the expertise to receive and check the witnesses, we must use a calculated calendar based on the best available mean values of the synodical lunation and the tropical year.

About Prof. Obermann's introduction, Prof. R. Wiesenberg⁵⁹ wrote:

Maimonides did not in fact subscribe to such a thesis. His language in V, 1-2 is rather subtle. He claims Mosaic-Sinaitic tradition only for sanctification on the basis of observation. As for the present fixed calendar—for it is to that that he subsequently turns—he leaves it to his reader to decide whether the claim applies here also. His cautious vagueness possibly springs from his desire not to lend support to Karaite polemics against the fixed calendar. In XVIII, 7-9 and also in PhM ad RH 2:6, as Prof. Obermann notes on p. LIV, Maimonides claims Sinaitic tradition only for the calculation of true astronomical values. In PhM he in fact deprecates the claim of such a tradition for the fixed calendar based on approximate mean values. To be sure, he assumes that the calculation of correct mean values is the first step in the calculation of true values (VI,1 and PhM *ibid.*). Yet the mean values

58 However, in his commentary on Mishna Rosh Hashanah II: 6 he wrote that the calendar's calculation that we use today is the beginning of the rules of intercalation that God had transmitted to Moses on Mount Sinai. But this does not mean that it has the status of *halakha le-Moshe mi-Sinai*; finally, it is told that all the novellae were already said to Moses: אפילו מה שתלמיד ותיק עתיד להורות לפני רבו כבר נאמר למשה מסיני *Y. Peah* II, 6, 17a (13a); *Y. Megila* IV, 1, 74d (28a); *Y. Hagiga* I, 8, 76d (7b).

It is also possible that in his youth, when he wrote his commentary on the Mishna, he was not yet aware of the approximation of the Jewish lunation and of the length of the mean Jewish year. However, when he wrote the *Hibbur* and was aware of it, he still invoked the Jewish calendaric tradition going back to Moses: *Hilkhot Kiddush ha-Hodesh* V, 1 and XVIII, 8 and 10.

59 For biographical details, see Cyril Domb, "Rabbi Dr. Ernest Wiesenberg, Gaon and Scholar; An Appreciation," *Le'ela*, 3 (June 2000). R. Ephrayim Judah Wiesenberg was the translator and the author of annotations of the Commentary on the Torah by R. Abraham Maimonides, edited by R. David Sliman Sassoon. I had the privilege to know him personally and to be in contact with him for several years. He was certainly at the origin of my interest for *Hilkhot Kiddush ha-Hodesh* and medieval Jewish astronomy.

underlying the fixed calendar are, in his estimation, not identical with the correct mean values, but are only approximations thereof.⁶⁰

As we noted above, it seems that the most widespread opinion is that the *halakha le-Moshe mi-Sinai* invoked in *Hilkhoh Kiddush ha-Hodesh* V, 2 refers also to the fixed calendar. This was certainly the opinion of R. Abraham Karelitz.⁶¹ He wrote the following commentary about *Hilkhoh Kiddush ha-Hodesh* V, 2: הלכה זה הלכה למשה מסיני וכו'.

ובעיקר חשבון שלנו שכתב הר"מ שהוא הלכה למשה מסיני אין הכוונה שנמסרו פרטותיו של חשבון שלנו בהלכה. אלא נמסר שרשות להכמים לעשות חשבון קבוע שעל פיו יסודרו השנים ויתאימו שנות החמה ושנות הלבנה וע"פי זה קבע הלל וב"ד את חשבוננו אבל לא נמנע לקבוע חשבון אחר שגם על פיו יסודרו שנות החמה והלבנה וכדאמר שמואל ר"ה כ' ב' יכילנא לתקוני לכולה גולה ואם חשבון הלל מקובל מסיני מה אנו צריכין לשמואל בזה, א"ה ר"ה סוף סימן קמ'.

This is an original position: Our fixed calendar does not enjoy the status of a *halakha le-Moshe mi-Sinai*, so we are allowed and even encouraged to improve it. Indeed, if this calendar did have the status of a *halakha le-Moshe mi-Sinai*, how could Samuel have dared to propose another calendar?⁶²

Thus, according to this opinion, the *halakha le-Moshe mi-Sinai* refers also to the situation prevailing when there is no *Sanhedrin*. It is thus in pursuance of a *halakha le-Moshe mi-Sinai* that we use a calculated calendar based on mean values. But the characteristics of this calendar are not under this status of *halakha le-Moshe mi-Sinai*. We are allowed and even encouraged to improve it in order to fit as much as possible in the tropical year.

I propose an additional proof that Maimonides did not postulate the absolute rigidity of the rules of the fixation of the calendar on the basis of rules definitively fixed by a tradition going back to Moses on Mount Sinai. Maimonides delineated two methods: the observation-based calendar when there is a *Sanhedrin* and a

60 Appendix. Addenda and Corrigenda to Treatise VIII; Yale Judaica Series, Volume XI, by Ernest Wiesenberg.

61 1878-1953. He is generally known by his book's title: *Hazon Ish*. R. Yehiel Michal Epstein (1829-1908) wrote in *Shulhan ha-Atid, Hilkhoh Kiddush ha-Hodesh*, Chap. 96, 3: זה שכתב שזהו הלכה למשה מסיני או בראייה בזמן שיש סנהדרין או בחשבון בזמן שאין סנהדרין.... He understood that the *halakha le-Moshe mi-Sinai* refers to both cases. It refers apparently to the principle of the calculation but not to the details of the calculation nor to the adopted calendar. This position is similar to that of Hazon Ish. However, the possibility of an improvement of the calendar is not evoked.

62 See *B. Rosh Hashanah* 20b and *B. Hulin* 95b.

calculated calendar if there is none.

However, we cannot be certain that these two methods of calculation are fully defined—as they would be if these methods truly were defined and imposed from Sinai. Indeed, although Maimonides was certainly unaware of the various changes and adaptations the calculated calendar underwent between the fourth and the tenth century, he was well aware of the numerous modifications of the rules of fixing the observation-based calendar. These rules followed rabbinic enactments, principally by Rabbi Johanan ben Zakkai and by Rabbi Johanan (generally introduced by Maimonides in his code, which became an integral part of the law codified by him), and the different discussions and doubts that remained concerning their application as the “frightening of the witnesses.” This implies that the detailed conditions of application of the observation-based calendar cannot be *halakha le-Moshe mi-Sinai*.

Maimonides noted also in *Hilkhot Kiddush ha-Hodesh* XVII, 24 that the calendar tradition of the Sages of Israel of the Tribe of Issachar,⁶³ at the time of the prophets, was lost and their books did not come down to us. Therefore, he made use of the books of Greek astronomy. These books are based on pure mathematics and observation; they are indisputable and we can rely upon them without hesitation, and make use of them, because they must certainly correspond to the contents of the lost books. In any event, the tradition of the sages of Israel was interrupted, and must be completed by data taken from the books of Greek astronomy. This seems also to prove that the details of our calendar that rest perhaps on Greek astronomy cannot be considered as *halakha le-Moshe mi-Sinai*.

Therefore, in the same way that Maimonides considered the general principle of the observation-based calendar, he also considered the principle of a calculated calendar without forbidding any necessary improvements down the line, especially in order to better correspond with the solar year, “to be nearer to the truth and the astronomical observations than before.”⁶⁴

Finally, there is practically no difference between the two possible exegeses of the text, whether the *halakha le-Moshe mi-Sinai* refers to the two stages according to the exegesis of Hazon Ish, or if it refers only to the first stage, the observation-based calendar.

63 When speaking about the sages of the tribe of Issachar, Maimonides certainly refers to the verse of *Divrei ha-Yamim*, I, 12: 33 and probably to *Bereshit Rabba* 72, 5.

64 This is a paraphrase of *Hilkhot Kiddush ha-Hodesh* X, 6.

An interesting text from the end of the 18th century postulated the same ideas as described above, that the details of our calendar are not *halakha le-Moshe mi-Sinai* and that it is even possible to improve it. The author⁶⁵ was described by R. Zadok ha-Cohen from Lublin⁶⁶ as:

”הרב הגדול מהר”ר דוד ז”ל בעהמ”ח חומת ירושלים, אב”ד שערשאב”

This text,⁶⁷ called מגילת טענו”ת, begins as follows:

וּבו יבואר איך שדעת רוב⁶⁸ החכמים שחשבון שאנו מחשבין אין כל פרטיו הלכה למשה מסיני ושברוב השנים נתברר כי החשבון צריך תיקון⁶⁹ הן התקופות הן המולדות ושאינן אנו יוצאים כלל ידי חובות המועדים אם לא בתיקונים.

R. Zadok ha-Cohen, who rejected the different arguments of this text,⁷⁰ had no response to this statement.

We must now examine the exact implications and significance of Maimonides’ statement that when there is a *Sanhedrin* the observation-based calendar is compulsory in pursuance of a *halakha le-Moshe mi-Sinai*. Is it a general statement, giving complete liberty to the *Sanhedrin* to fix the details and the practical dispositions of application, or does the *halakha le-Moshe mi-Sinai* include all the details of application?

We saw already that for those who considered that in the absence of a *Sanhedrin* the use of a fixed calendar was performed in pursuance of a *halakha le-Moshe mi-Sinai*, it referred only to the general principle and the details of the fixed calendar

65 He was the author of glosses on *Shulhan Arukh Orach Hayyim* called *Sefer Homot Yerushalayim*. In *Aliot Eliyahou*, ed. Levin-Epstein, pp. 46-47, it tells about his visit to the Gaon of Vilna. The discussion was certainly related to the calendar arguments of the visitor, but the data of this book do not allow for an understanding of the subject of the meeting and what was really said by both sides.

66 R. Zadok ha-Cohen (1823-1900): *Sefer ha-Zikhronot, Kuntras ha-Ta’anot*. R. Zadok copied this text and wrote a long contradictory text against it.

67 This text deals mainly with a passage in *Y. Sukkah* V, 8, 55d concerning the punishment of the *mishmar* of Yehoyariv, explaining that it was not possible to suppress it and reduce the number of *mishmarot* to 23.

68 Most of the rabbis accepted the theory of Ramban (see note 74 infra), and therefore considered indeed that the use of the fixed calendar is not a *halakha le-Moshe mi-Sinai*.

69 Rambam was already aware that the *molad* did not coincide with the mean conjunction and that the *tekufa* of Adda did not coincide with the mean equinox. He did not know however exactly at which speed the shift would worsen. In the 18th century, R. Raphael ha-Levi from Hanover again noted the problem, but R. David, the author of *Homot Yerushalayim* was the first to champion corrections.

70 *The Megilat Ta’anot*.

were not part of the *halakha le-Moshe mi-Sinai*. The same conclusion should certainly apply in the case of the observation-based calendar. Furthermore, the slow and progressive evolution of the observation-based calendar and the progressive introduction of the different enactments seem to prove that the *halakha le-Moshe mi-Sinai* did not refer to the details and the particular dispositions; it referred only to the general principle of the observation-based calendar.

At this stage of the exegesis of the *halakha* V:2 we can conclude that the *halakha le-Moshe mi-Sinai* invoked with regard to the observation-based calendar referred to the general principle but not to the application details, which necessarily remain submitted to the decision of the *Sanhedrin* and of their appreciation. Similarly, if we consider that the *halakha le-Moshe mi-Sinai* was also invoked concerning the calculated calendar based on the mean value of the synodical lunation and the length of the tropical year, in the absence of a *Sanhedrin*, it referred only to the general principle and not to the practical dispositions. It would therefore not forbid any necessary improvements in the future, especially when they are projected to better correspond with the solar year, and are closer to the truth.

A final point to examine is the origin and the significance of the *halakha le-Moshe mi-Sinai* invoked in this *halakha* V:2. It is quite surprising that Maimonides invoked it in this *halakha* even though he had invoked before, in his former writings,⁷¹ a tradition going back to Moses. The concept of *halakha le-Moshe mi-Sinai* is a very difficult and subtle concept; Rambam examined it thoroughly in the introduction to his commentary on the Mishna. Maimonides explained in detail that a *halakha le-Moshe mi-Sinai* is a tradition going back to Sinai, through an uninterrupted chain of transmission about which there is no allusion in the Torah. It cannot be deduced from the scripture by one of the hermeneutical rules and it is accepted without any discussion or dissension. Maimonides characterized it under the category of *דברי סופרים* because it is not explicitly mentioned in the Torah and therefore it is not counted among the 613 *mitzvot* of the Torah. But it can have the sanction of *דאורייתא* or *דרבנן*.⁷² In the hierarchy of the *mitzvot*, it is ranked at the second level of importance, after the *mitzvot* accepted from Moses, which are alluded to in the Torah or deduced by one of the hermeneutical rules and which are uncontested. Its ranking is also before the *mitzvot* accepted from Moses, which are alluded to in the Torah or deduced by one of the hermeneutical rules but which are

71 PhM or Commentary of the *Mishna Rosh Hashanah* II:6 and *Sefer ha-Mitzvot*, positive law 169.

72 R. Dror Fixler: 1. הלכה למשה מסיני בפירוש המשנה לרמב"ם סיני. *Sinai*, 118/3 (5756).
2. המונחים ההלכתיים במשנת הרמב"ם. See note 73.

the object of discussion and are not unanimously accepted.

We therefore face a real problem: in *Hilkhot Kiddush ha-Hodesh* V, 1 Rambam explained that the great principles of the Jewish calendar were already alluded to in the scripture and explained, by a tradition going back to Moses, that the examination of the testimony of the moon's vision must belong only to ordained rabbis like Moses and Aaron. Now, in *Hilkhot Kiddush ha-Hodesh* V, 2, he writes that the principle of the calendar, the observation-based calendar and perhaps also the fixed calendar, is a *halakha le-Moshe mi-Sinai*. This would contradict the basic principle of the *halakha le-Moshe mi-Sinai* defined by him in his introduction to his Commentary of the Mishna. It seems difficult to admit that the tradition presented in *Hilkhot Kiddush ha-Hodesh* V, 1 as the understanding of the scripture would be a *halakha le-Moshe mi-Sinai, stricto sensu*.⁷³

Furthermore, Nahmanides contradicted Rambam and wrote⁷⁴ that we cannot invoke a *halakha le-Moshe mi-Sinai* when it is not mentioned in the Talmud. Indeed, invoking a *halakha le-Moshe mi-Sinai* means that we ascertain the existence of an uninterrupted chain of transmission going back to Moses on Mount Sinai. Nahmanides argued that we cannot accept, or believe, the existence of such a chain of transmission if it is not mentioned in the Talmud.

This problem of *halakha le-Moshe mi-Sinai* was raised already in a query addressed to R. Solomon ben Aderet:⁷⁵ Rashbah was asked about Maimonides' principle that today, in the absence of a *Sanhedrin*, it is in pursuance of a *halakha le-Moshe mi-Sinai* that we use the present calendar.⁷⁶ Where did Maimonides find this principle? The petitioner added: "I don't think that the tradition reported in the name of Rabban Gamaliel⁷⁷ of Yavneh: כך מקובלני מבית אבי אבא can be considered

73 For this reason, R. Dror Fixler contemplates the possibility that Maimonides changed his criteria for *halakha le-Moshe mi-Sinai* in his *Hibbur* with regard to the rules defined in the introduction to the Commentary of the Mishna. See his paper:

המונחים ההלכתיים במשנת הרמב"ם, ספר היובל לכבודו של הרב נחום אליעזר רבינוביץ, מעלה-אדומים 252-310 'עמ' א, תשע"א. I had the privilege of receiving the paper before it was printed.

74 *Sefer ha-Mitzvot*, positive law 153.

75 Responsa of Rashbah, part 4, 254. I thank Eng. Loewinger for providing me with a copy of this responsum.

76 When there is no *Sanhedrin* we use the fixed calendar known today. Apparently the first case, the *halakha le-Moshe mi-Sinai* about the observation-based calendar, raised no objection!

77 *B. Rosh Hashanah* 25a. In fact, this quotation is mentioned twice on the same page with regard to two different cases. It is probably the second quotation that is considered; the first is related to the observation-based calendar. However, the exact reading of this second quotation is disputed and both quotations could well be relate to the same tradition—i.e. that

as a *halakha le-Moshe mi-Sinai*. Although this tradition is exact,⁷⁸ I do not think that we call it a *halakha le-Moshe mi-Sinai*.”

The interlocutor of Rashbah thus proposed, as the origin of this *halakha le-Moshe mi-Sinai*, the tradition of Rabban Gamaliel that the lunar month is not less than 29d 12h 793p,⁷⁹ but he contested its being called a Mosaic tradition, because it was merely a tradition from Rabban Gamaliel the Elder. In his answer, Rashbah stated that he still considered it a *halakha le-Moshe mi-Sinai*.⁸⁰ He added that the calculated calendar always had precedence, even when sight-based calendars were used.

Thus, despite the answer of Rashbah, we see a strong objection against the invocation of a *halakha le-Moshe mi-Sinai* in the matter of the calendar.

The first to use the concept of *halakha le-Moshe mi-Sinai* in matters of the calendar was R. Saadia Gaon. He was followed by R. Hananel and R. Behaya.⁸¹ R. Saadia Gaon considered that the fixed calendar had always existed and had the sanction of *halakha le-Moshe mi-Sinai*. Maimonides vehemently opposed his position,⁸² but adopted the same terminology. We find other mentions of *halakha le-Moshe mi-Sinai* or more precisely reference or comparison to *halakha le-Moshe mi-Sinai* by authors before Maimonides.

We find a quotation of R. Isaac ben Barukh, mentioned by R. Abraham bar Hiyya:⁸³

כל זמן שביהמ"ק היה קיים עושים מועדיהם בכל ימי השבוע והיו פעמים סומכין על העיבור ופעמים על הראייה. וכן היו מעברין את השנה כפי הנראה להם,⁸⁴ עד שהיו עושים שתי

the true synodical month has a variable length, not less than 29 days and a half (29 days and 6.5 hours according to modern data). This tradition could well be based on an experimental observation made on 7 July 88 CE, during the reign of Rabban Gamaliel the Elder; see my book *Hilkhot Kiddush ha-Hodesh al-pi ha-Rambam* (Jerusalem, 1996), pp. 367-82.

78 According to this tradition, the lunar month is indeed 29d 12h 793p.

79 In fact, this tradition is connected to the length of the lunar month and precedes the calculated calendar. It is also likely that the original text was 29d 12h and 2/3h without mention of the 793 *halakim*. Considering the complete text as original, it was possible to consider that it concerned the rules of the calendar. But, this tradition nevertheless began with Rabban Gamaliel the Elder, and therefore doesn't seem to be a *halakha le-Moshe mi-Sinai*.

80 He probably considered that this was the last stage of the transmission, even though it originated from Moses. This answer seems very weak. Rashbah forgot that his teacher, Nahmanides, wrote explicitly that it was not a *halakha le-Moshe mi-Sinai*.

81 Commentary on Exod. 12: 2.

82 See his commentary on *Rosh Hashanah* II, 6.

83 Filipowski, *Sefer ha-Ibbur*, Book 2, Chap. 8, p. 62 (London, 1851).

84 Thus the *Sanhedrin* could decide without appeal and with complete autonomy to calculate the calendar.

שנים ושלוש מעוברות זו אחר זו ולא היו נזהרין מבד"ו פסח ולא מגה"ז עצרת ולא משאר הסימנים עד זמן הגלות.

ואנו ראויים לומר שכל החשבון הזה אשר אנו חושבים היום קבלה היא בידינו ותקנה וסיג שסייגו לנו רבותינו כאשר נראה לסייג, ואנו שומרים אותו ומחזיקים אותו כאילו היה נאמר **מהר סיני**, כי כן אנו חייבים לשמור כל תקנתם כשמירתנו המצוות הנתונות על הר סיני.

Similarly, we read in *Yessod Olam*,⁸⁵ R. Hai Gaon also invoked a tradition going back to Moses but, since it is more an opinion, he grants great autonomy to the *Sanhedrin* to deal with the matter.

וכך אני אומר כי משה רבנו למד את ישראל עיקרו של הסוד הזה והגיד להם.....
ואע"פ שנתן להם הסוד הזה הוזהרים שכל זמן שסנהדרין קיימה יש להם לשנות⁸⁷ מן המסורת להקדים ולאחר אלא מיהו שאין מתרחקים מן התקופה ולא אם שמגיע אחר שנה או שנתים אל סדר החשבון כהיה דתניא...

R. Hai Gaon wrote **וכך אני אומר**. He had no personal tradition that allowed him to invoke a *halakha le-Moshe mi-Sinai*, and he supposed that Moses had taught Israel only the general principles, but not the details. He added that although Moses had taught them these principles, each time when there is a *Sanhedrin* extant they can deviate from this calculation and fix the month on a day preceding or following the result of the mean calculation. We find here the great ideas of Maimonides' text under examination, but also some important differences; in particular, the ability, but apparently not the obligation, of the *Sanhedrin* to introduce a different calculation than the mean calculation.

R. Abraham ibn Ezra⁸⁸ suggested that Moses' reluctance to explain how to fix the years and the month proved that he relied on the decision of the High Court (which had full autonomy). However, he added, they had a tradition to intercalate seven years in every nineteen years.

In a first draft, I considered that Maimonides perhaps did not mean a true *halakha le-Moshe mi-Sinai* but deemed that the facts enunciated in *Hilkhot Kiddush ha-Hodesh* V, 2 are evident to him as a *halakha le-Moshe mi-Sinai*. This case would

85 Book IV, last lines of Chap.6.

86 *Sefer ha-Ibbur*, Book III, Chap. 9, p. 97. Rabbi Hai Gaon had no tradition; he supposed that Moses taught the rules of the *ibbur*. In another responsum (*Ozar ha-Gaonim*, tshuvot Rosh Hashanah 21b, R. Hai Gaon wrote: ...ה"ה קבלה משה ע"ה. In fact, this was only his opinion and it was certainly not a *halakha le-Moshe mi-Sinai*.

87 Again, the *Sanhedrin* has full autonomy and must not be greater than the earlier ones, as generally required.

88 Commentary on Exod. 12: 2.

be analogous to the invocation of *halakha-le Moshe mi-Sinai* with regard to the reduction of the tithe for the poor during the sabbatical year.⁸⁹ However, the great difference would be that the latter case is mentioned in the Talmud while Maimonides would have given his own opinion about a case not evoked in the Talmud. Such an understanding, however, would contradict the methodology and the rules of composition of the *Hibbur* that Maimonides defined with precision.⁹⁰

In fact, we can distinguish in Maimonides' ruling two layers:

1. Generally, Maimonides' ruling is the result of his own understanding of the Talmudic discussion and his selection from the divergent opinions. He ruled without any justification, without appeal,⁹¹ and without mentioning the name of the Talmudic authority followed.
2. He offered his opinion on problems unresolved or not directly considered in the Talmud; his opinion was based on personal reasoning and, in such cases, he wrote: *נראה לי* and *ונראין לי הרברים*, ויראה לי, or similar.⁹² However, these statements are still rulings.⁹³

89 We have another reference where Maimonides used the terminology of *halakha le-Moshe mi-Sinai* in a case where obviously it is a later enactment of the rabbis of the Great Assembly or even of the first *tanaim*. In *Hilkhot Matanot Aniyyim* VI: 5 he writes: והלכה למשה מסיני שיהיו מפרישים בארץ עמון ומואב מעשר עני בשביעית. *Kessef Mishneh* ad loc. remarked that we must necessarily understand that it is not a true *halakha le-Moshe*, because he ruled explicitly in *Hilkhot Terumot* I: 1 that it is a decision of the first rabbi. R. Samson of Sens and Rosh on *Mishna Yadayim* IV: 3 made a similar remark: It is like a *Halakha le-Moshe mi-Sinai*. The tradition going back to Moses, described in *Mishna Yadayim* IV:3, must be considered as an exaggeration; it is as if there was an uninterrupted chain of transmission going back to Moses. In the present case, the *halakha* is even weaker, because it is not mentioned in the Talmud, while the *halakha le-Moshe of Amon and Moav* is explicitly mentioned in the Talmud. It is not a rule promulgated by the rabbis, but it simply corresponds to Maimonides' convictions. It is as clear as if it were a *halakha le-Moshe mi-Sinai*. It is interesting to note that in his introduction to the *Seder Zerayim*, Rambam already mentioned *Amon u-Moav Measrin* among the different instances of *halakha le-Moshe mi-Sinai*.

90 See note 91.

91 See the letter of Maimonides to R. Pinhas ha-Dayyan of Alexandria in Isaac Shailat, *Igerot ha-Rambam*, Vol. 2 (1988), p. 445, where he recorded that he regretted not citing the reference of each of his rulings in his big *Hibbur*. He intended writing a second volume, in which he would cite the references according to the order of the *Hibbur*. However, he stated in the letter on several occasions that he felt weak and therefore the project was not concretized. This letter was written in Hebrew, because R. Pinhas was of Provençal origin and could not read Arabic. The letter is very important, because it addresses important principles of the *Hibbur* and methodological rules used in the "second root" at the beginning of *Sefer ha-Mitzvot*. Ramban knew this letter and quoted it partially in his gloss on *Sefer ha-Mitzvot*.

92 In the same letter, p. 443, he recorded that he never wrote his own reasoning without describing it. לא היה לך לומר כן אלא אלו היו בחיבור דברים שהוצאתי אותן בפלפולי ומדעתי, וכתבתי.

It seems difficult to accept that Maimonides would have given a personal opinion under the form of a plain ruling. Therefore, we could perhaps propose the following solution to the raised objections.

- *Halakha le-Moshe mi-Sinai* and allusion in the scripture.

It is likely that Maimonides changed his mind about this issue and, in the *Hibbur*, considered that a *halakha le-Moshe mi-Sinai* could also be mentioned allusively in the scripture. We have seemingly similar cases that were not mentioned as *halakha le-Moshe mi-Sinai* in the Introduction to the Commentary on the Mishna or in the commentary. But, in the redaction of the *Hibbur*, they were presented as *halakha le-Moshe mi-Sinai*. The most exemplary example is the law practically deduced from the text of the Torah *עמוני ולא עמונית*, which Maimonides considered as a *halakha le-Moshe mi-Sinai*.⁹⁴

אותם סתם, ולא הבאתי עליהן ראיה, וזה לא עשיתי אותו מעולם. גלה אוזן חכמתך ודע, שכל הדברים הסתם שבו תלמוד הוא בפרוש, בכלי או בירושלמי, או מספרא וספרי, או משנה ערוכה, או תוספתא. על אלו סמכתי ומהן חיברתי. ודבר שהוא מתשובת הגאונים אומר בפרוש, הורו הגאונים או תקנת אחרונים היא וכו', וכיוצא בזה. ודבר שהוא מפלפולי אומר בפרוש "יראה לי שהדבר כך וכך", או אני "אומר", מכאן אתה למד שהדבר כך וכך".

93 For example, in *Hilkhot Yom Tov* VI, 15 he writes: **ולפיכך אני אומר** שאין מערב אדם ומתנה בזמן: הוזה לא עירובי תבשילין ולא עירובי חצרות ולא שיתופי מבראות ואינו מעשר הטבל על תנאי אלא הכל מערב הוזה לא עירובי תבשילין ולא עירובי חצרות ולא שיתופי מבראות ואינו מעשר הטבל על תנאי אלא הכל מערב. יום טוב בלבד. Rambam was persuaded that Rava belonged to the period when they did not know the fixing of the calendar and therefore they kept two festival days out of doubt (*Hilkhot Kiddush ha-Hodesh* V, 3). Maimonides considered further that today the second festival day was not enacted to allow us to escape a doubt, but it was a fixed institution. On this basis, Maimonides concluded with words in bold characters because it was a personal deduction and argument. Nonetheless, it was a ruling. In this case, many authorities did not accept his early beginnings (Rosh, Meiri, and Ran) and therefore these authorities, *Tur* and *Shulhan Arukh* did not accept his ruling.

94 Rambam: *Hilkhot Issurei Biah* XII, 18. However, the evolution of Maimonides' ruling remains difficult to understand. The exposition of the different categories of the law in the introduction to the Commentary of the Mishna seems clear and precise. It is difficult to understand why this rule, which apparently belonged to the first category—and, in a certain measure, could even be said to be formally written, and not alluded to, in the Torah—was downgraded to the second category. Similarly, the Jewish observation-based calendar is alluded to in the Torah but its obligation was debated (*B. Arakhim* 9b) and no consensus was reached; it should at best, after a decision, belong to the third category of the law. Why was it upgraded to the second category?

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- The *halakha le-Moshe mi-Sinai* is not mentioned in the Talmud.

If we refer to Bereshit Rabbah 72, 5:

וכל אחיהם על פיהם, וכל אחיהם מסכימים הלכה על פיהם והוא משיב להם הלכה כהלכה
למשה מסיני.....

There are different readings of this quotation and it is not impossible that Rambam had a text without the conjunction כ.

This reference would be the origin of the attribution of the *halakha le-Moshe mi-Sinai* to the calendar issues. Maimonides' position would then appear much more tenable, and the statement of *Hilkhot Kiddush ha-Hodesh* V, 2 would be a plain ruling: in the presence of the *Sanhedrin*, we must organize the Jewish calendar according to the observation-based calendar. This means clearly that we should go back to an observation-based calendar when the *Sanhedrin* will be re-established with its full prerogatives.

III. THE FUTURE OF THE JEWISH CALENDAR

A. The Accepted Ideas in Orthodox Judaism

Today, the generally accepted position of Jewish orthodoxy regarding the Jewish calendar is the following:

1. It is a *halakha le-Moshe mi-Sinai*, a tradition dating back to Moses on Mount Sinai, that the Jewish calendar is fixed by observation when there is a *Sanhedrin*, and by calculation, according to our present rules, when there is no *Sanhedrin*.
2. The present calendar was established by the Patriarch Hillel II in 358-59 CE, a little after the passing of Rava (352 CE), because of the disappearance of ordained rabbis, or, according to another opinion, because of the disappearance of the *Sanhedrin* or due also to persecutions. The Patriarch Hillel II instituted the calendar and sanctified, in advance, all new moons until the coming of Elijah the Prophet.
3. This institution must be considered as a decision taken by the High Court after a vote. It could be removed only after a new vote made by a more numerous and a more important Court. This could only happen after the coming of Elijah.
4. It is generally accepted that the re-establishment of the *Sanhedrin*, which is correlated to the restoration of the rabbinic ordination, will necessarily be coupled with the withdrawal of the present fixed calendar and the return to the observation-based calendar. Whether the coming of the Messiah precedes⁹⁵ or

95 R. Hananel on *B. Rosh Hashanah* 20b wrote explicitly that the *Sanhedrin* follows the coming

follows⁹⁶ the re-establishment of the rabbinical ordination and the *Sanhedrin* is still in dispute.

These different propositions constitute a hybrid and contradictory system that combines contradictory opinions.

Nahmanides countered the first proposition (that of Maimonides) with the argument that we cannot invoke a *halakha le-Moshe mi-Sinai*, a tradition going back to Moses on Mount Sinai, in a matter that is not even mentioned in the Talmud. Nahmanides' objection seems very strong, but it is important to remember that Maimonides was not the first to invoke a *halakha le-Moshe mi-Sinai* in the matter. Rabbi Saadia Gaon, followed by R. Hananel and later R. Behaya,⁹⁷ championed the character of *halakha le-Moshe mi-Sinai* of the Jewish fixed calendar in use today. Nahmanides also contradicted Maimonides on the role of the *Sanhedrin*. According to him, the critical point was not the existence of the *Sanhedrin* but the existence of ordained rabbis. Their divergence affects the future: Does the re-establishment of ordained rabbis imply the return to the observation-based calendar? According to Nahmanides, the answer is yes—but this answer lacks any practical consequence due to another limitation imposed by Nahmanides, that the fixed calendar applies until the coming of Elijah.

The second proposition is Nahmanides' opinion, to which Maimonides objected, rejecting **the principle of sanctification in advance**. Maimonides considered, still today, a *de facto* sanctification of the months⁹⁸ by Israel's Jewish inhabitants.

The third proposition is a consequence of the second. It matches Nahmanides' view, though the latter did not explicitly mention it. Ramban recorded simply that the Patriarch Hillel II sanctified the months according to our calendar until the coming of Elijah. Ramban was compelled to imagine the fiction of the sanctification of the future months because he required, even for the fixed calendar, sanctification in Israel by ordained rabbis. This principle, that the enactment of the Patriarch Hillel II must be considered as a decision of the *Sanhedrin*, was enunciated by

of the liberator. Nahmanides on *Sefer ha-Mitzvot* ad loc. recorded that Hillel II sanctified the months (and years) until the coming of Elijah; afterwards we will return to the observation-based calendar. This seems to imply that the *Sanhedrin* will be re-established after the coming of Elijah. Rashi, in *B. Yoma* 80a, writes that the re-establishment of the *Sanhedrin* follows the reconstruction of the Temple.

96 Maimonides in his commentary on Mishna Sanhedrin I: 3 and in *Hilkhot Sanhedrin* IV: 11.

97 Commentary of R. Behaya on the Torah, Mossad ha-Rav Kook, Parashat Bo.

98 Albeit calculated according to our calendar's rules.

R. Jacob Berav,⁹⁹ who seemed to accept both contradictory opinions of Rambam and Ramban: the principle of the sanctification of the months of our modern calendar by the inhabitants of Israel,¹⁰⁰ and also the principle that it is impossible to go back to an observation-based calendar before the arrival of Elijah,¹⁰¹ even if the re-establishing of a *Sanhedrin* seems possible before. He wanted to re-establish the ordination in his days, but he also wanted, at any price, to eliminate the problem of coming back to the observation-based calendar as required by R. Levi ben Haviv.¹⁰²

The fourth proposition is a deduction of the literal wording of Maimonides in *Hilkhot Kiddush ha-Hodesh* V, 2. It is also explicitly expressed in the gloss of Nahmanides on *Sefer ha-Mitzvot* ad loc., where he wrote that Hillel II sanctified all the months until the coming of Elijah and then: “We will come back to the observation-based calendar with the High and holy Court, amen! May it be soon in our days!”

However, the former authorities espoused different views and R. Hai Gaon¹⁰³ considered the *Sanhedrin* to have full autonomy to choose the rules to apply to the calendar; that was also the position of R. Abraham ben Ezra.¹⁰⁴

B. Are we Allowed to Improve the Calendar of Hillel?

After presenting Jaffe’s solution, which he termed “full of genius,” to improve the calendar of Hillel by changing the order of the intercalated years from time to time, in order to get a better correspondence with the solar year, Rabbi Menahem Kasher¹⁰⁵ concluded that such an improvement was impossible, “because our calendar was established by Hillel II, who sanctified the months in advance until the coming of the savior; therefore, we are not allowed to change it until the coming

99 See קונטרס הסמיכה לרבינו יעקב בירב והשגות הרלב"ח בשו"ת מהרלב"ח Venice, 1565. The text was transcribed in חידוש הסנהדרין במדינתנו המחודשת, י.ל. הכהן מימון, מוסד הרב קוק תשכ"ז.

100 According to Rambam.

101 According to Nahmanides. R. Jacob Berav cited three arguments to prove that one cannot go back to the observation-based calendar on the occasion of an early re-establishing of the ordination: 1) the discordance between Israel and the Diaspora (*Mahaloket*); 2) the institution of Hillel II cannot be changed before the coming of the Messiah; 3) we need a *Sanhedrin*. The three conditions could be fulfilled only after the coming of the Messiah.

102 Rabbi Levi ben Haviv affirmed that if we could re-establish the *semikha*, the rabbis’ ordination, the institution of the fixed calendar would end. He understood that, according to Nahmanides, one cannot re-establish the ordination before the coming of Elijah.

103 See above note 86.

104 Exod. 12: 2.

105 *Torah Shelemah*, Book 13, p. 121.

back of our judges as before.” This corresponds to the position of Nahmanides in *Sefer ha-Mitzvot*.

Nahmanides’ theory is quite weak. It neglects the evolution of the Jewish calendar after the institution of the fixed calendar, which, as we have seen, can be deduced from the Talmud. Even those who still oppose this evolution must at least admit that *dehiya A* was not yet enacted in about 427-32 CE, during the reign in Sura of Rav Yemar.¹⁰⁶ Similarly, Tossafot Rid¹⁰⁷ was probably the only one to note that *dehiya A* was a later enactment. He based his position on the statement of Rabbi Yose in *Y. Megilah*,¹⁰⁸ which corresponded to the rules of Hillel’s calendar. In other words, those who reject any idea of a later evolution of the fixed calendar of Hillel must at least accept that the calendar of Hillel was not yet definitive and had to undergo *dehiya A* at a later stage. R. Kasher accepted the two former proofs, but, in the end, did not take them into consideration. His objections against the possibility of improving the Jewish calendar have no real basis.

As soon as we accept—and there is no solution other than to accept—that the calendar of Hillel was not definitive in 358-59 CE, the whole theory of sanctifying months in advance until the coming of Elijah must be considered with reservation, and R. Kasher’s denial of any possible improvement in the future of the Jewish calendar disappears. Similarly, it makes no sense to consider that the present calendar would be a *halakha le-Moshe mi-Sinai* and therefore immutable.

We return to Maimonides’ principles. There is no apparent reason to forbid an improvement of the calendar, especially if it is insignificant, in order to fit the true solar year and to avoid a shift of the Jewish Year from the solar year.

On the contrary, even if we consider that the *halakha le-Moshe mi-Sinai* relates to the fixed calendar in the absence of a *Sanhedrin*, we have seen that Hazon Ish understood Maimonides’ words to mean that we are allowed and perhaps even encouraged to improve the calendar of Hillel II. This is an important conclusion, because the problem of the shift of the Jewish calendar with regard to the solar year is becoming worrisome, as we explain in a paper that will be published in a

106 *B. Niddah* 67b. *Y. Megilah* IV, 1, 75a provide evidence of this.

107 *B. Megilah* 4b.

108 *Y. Megilah* I, 2, 70b. He seems to be the only *rishon* to have made this observation. If we remember that he was also the only one to give a correct explanation of the statement of Rav Safra in *B. Pesahim* 52a (see in *Tradition*, 38 (2004), my article: “Rav Safra and the Second Festival Day”), we can see that he had a very sharp critical sense. In a purely methodological method, the evidence provided by this reference can be countered by the argument: תני ושייר. The two former references of note 106 provide stronger evidence.

following issue of *BDD*, “The Gregorian Revolution¹⁰⁹ of the Jewish Calendar.”¹¹⁰ Sooner or later, it will require a practical solution. It was important to find a theoretical justification that could be acceptable to all streams of Judaism, even the most conservative. It is clear that the implementation of any slight improvement of the Jewish calendar requires the existence of a central and authoritative rabbinical council. The Jewish people cannot afford a new schism. Hopefully, in the not too distant future, we will see the emergence of an authoritative and respected chief rabbinate, independent of the political streams, in accordance with the hopes raised by the first chief rabbis of Israel.

C. Will we Return to the Observation-based Calendar with the Re-establishment of the *Sanhedrin*?

1. The Position of Nahmanides

Nahmanides wrote explicitly that there is no *halakha le-Moshe mi-Sinai* involved in the process of the calendar. Nevertheless, both the sighting and the fixed calendar required ordained rabbis operating in Israel. The passage from the empirical to the fixed calendar was brought about by the disappearance of the ordained rabbis. As soon as this cause disappears, we would expect to return to the prior situation. According to Nahmanides, the fixed calendar is only a provisory, intermediary and emergency solution.

109 The Gregorian revolution of 1582 was intended to correct the errors accumulated by the Julian calendar and avoid their re-accumulation in the future. The Julian calendar was replaced by the Gregorian calendar, and the day following 4 October 1582 was 15 October 1582. The length of the year of 365.25 days was reduced to 365.2425 through the suppression of three days in four centuries. The ecclesiastic calendar for the calculation of Easter and the movable feasts was also reformed in order to get a better correspondence between the ecclesiastic phases of the moon and its true phases. For more details about this revolution see:

- Gordon Moyer, “The Gregorian calendar,” *Scientific American* (1982).
- J. Denoyelle, “Les 400 ans de la réforme grégorienne,” *Ciel et terre*, 98 (1982), pp. 271-82.
- Noel Swerdlow, “The Origin of the Gregorian Civil Calendar,” *The Journal for the History of Astronomy* (1974), pp. 48-49.

110 The aim of this paper “The Gregorian Revolution of the Jewish Calendar” is the presentation of simple solutions allowing for the stabilization of the Jewish calendar with regard to the tropical year without it coming to the attention of most Jews. Such a solution will appear as the Gregorian revolution of the Jewish calendar, hence the title of this paper.

2. *The Position of Maimonides*

As we have seen above, Maimonides' wording must be taken in a strict sense; there is a strict *halakha le-Moshe mi-Sinai*, that, in presence of a *Sanhedrin*, we must organize our calendar according to an observation-based calendar. We may infer that Maimonides was personally persuaded that the re-establishment of the *Sanhedrin* would imply a return to the observation-based calendar.

3. *The Opinion of Rambam about the Return to the Observation-based Calendar.*

Let us examine what the return to the observation-based calendar that Maimonides could have imagined represents. We consider the problem from Maimonides point of view, or someone living before the 19th century, who could not imagine the technical revolution of the last century. According to Maimonides, the *Sanhedrin* will be re-established before the coming of the Messiah,¹¹¹ though we may assume that the *Sanhedrin* that will emerge in the messianic period will have a greater status than that of its predecessors, and will have the power to rescind the enactments taken before.¹¹²

- a. The return to the observation-based calendar also means the return of the problems of incertitude, doubts and difference between the communities endured by the Babylonians and the Diaspora, including the particular problem of Yom Kippur. It raises also the problem of the proximity of Yom Kippur to the Sabbath. Ramban had noted in his gloss on *Sefer ha-Mitzvot* all the positive¹¹³ aspects of the fixed calendar, including the advantage of the predictability.¹¹⁴
- b. To which calendar did Maimonides and Nahmanides consider returning? Certainly they considered the prevalent situation when the transition was made:
 - a) because the logic of the return rests on this principle;
 - b) because all the reasons that were at the origin of the different *takanot* were still present in his time and would remain until the mid-19th century and the invention of the telegraph.

Even if the reasons disappeared, the *takanot* must remain until a “greater” *Sanhedrin* will appear.

111 *Hilkhot Sanhedrin* IV: 11 and Mishna Sanhedrin I: 3.

112 *Hilkhot Mamrim* II: 2 and 3.

113 Gloss of Ramban on *Sefer ha-Mitzvot* ad loc., see note 21. See also *Sefer Yesod Olam* and R. Joseph Berav in *Kuntras ha Semikha*. R. Levi ben Haviv criticized R. Jacob Berav for following R. Isaac Israeli, who was, he said, an astronomer but not a Talmudist. In fact, he forgot that the argument had already been enunciated by Ramban, a great Talmudist.

114 See note 21.

- c. We should reinstate an observation-based calendar similar to the calendar in use at the beginning of the fourth century. To implement the *dehiyot*,¹¹⁵ it will be necessary to accept manipulations of the calendar in order to satisfy contradictory objectives: follow the observation and the witnesses, carry out the *dehiyot*, and maintain the correspondence with the solar year.
- d. The Talmudic rules gathered in *Hilkhot Kiddush ha-Hodesh* still raise difficulties in their application due to internal contradiction and unsolved problems.¹¹⁶ These are not academic but real problems.
- e. As the different *dehiyot* and *takanot* are not integral parts of the *halakha le-Moshe mi-Sinai*, Maimonides should accept that the *Sanhedrin*, in messianic times, could suppress them. This would remove all the problems that they had brought. However, this would also bring new problems: ending the fast of Yom Kippur on a Friday evening and keeping two consecutive days presenting the highest grade of interdiction would be something out of the ordinary.

However, Maimonides, when he wrote his *Hibbur*, had no reason to consider suppressing the *dehiyot* because the reasons for their introduction still existed, with the same acuteness.

115 Maimonides introduced the *dehiyot* in Chapter VII in the treatment of the fixed calendar, with an astronomical justification, omitting the historical reasons. He was contested on this point by Rabad (see his famous gloss ad loc.) and by Isaac Israeli in *Yessod Olam* IV, Chap. 9, p. 17 column c. Maimonides did not mention them in chapter III although the *dehiyot DU* were introduced under Rabbi Johanan according to the testimony of Ulla (*B. Rosh Hashanah* 20a).

116 Here are some of these problems, the list is not limitative.
Hilkhot Kiddush ha-Hodesh III, 1 and *Hilkhot Kiddush ha-Hodesh* III, 15. The *Mefarsh* noted a small contradiction.
Hilkhot Kiddush ha-Hodesh II, 8 and *Hilkhot Kiddush ha-Hodesh* III, 15-16. Ritva noted an unsolvable contradiction. Therefore, if the witnesses come after *minha* there is a doubt about *Tishri* 1: according to *Hilkhot Kiddush ha-Hodesh* II, 8, *Tishri* 1 is the second day. According to *Hilkhot Kiddush ha-Hodesh* III, 16, *Tishri* 1 is the first day.
Rashi also contradicted himself on the subject: Rashi in *B. Rosh Hashanah* stated that *Tishri* 1 is the second day but, in *B. Menakhot* 100b, he stated that it is the first day. *Tsafnat Paneah* championed this second opinion of Rashi. I thank Eng. Loewinger for providing me with a copy of the related page of *Tsafnat Paneah* of R. Joseph Rozin (1858-1936), the *Rogachover*.
There is also a contradiction between *Hilkhot Kiddush ha-Hodesh* II, 8 and *Hilkhot Kiddush ha-Hodesh* II, 9.
Maimonides doubted whether the High Court could achieve *ibbur le-tzoreh*, i.e. make the month full, despite a testimony of the moon's vision at its proper time on the eve of the 30th day. Why does he not say that one can obtain the same result by delaying the procedure of examination and applying *Hilkhot Kiddush ha-Hodesh* II, 8?

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- f. The observation-based calendar presents a juridical insecurity, since a late testimony can create a theoretical possibility obliging the High Court to correct *a posteriori* the calendar by changing the first of the current month by one day.¹¹⁷
- g. Finally, this calendar is unpredictable. This is not without important consequences on the civil life in our modern world. This calendar would not be acclaimed by the Jewish people.¹¹⁸

There is no certitude that the *Sanhedrin* would finally follow Maimonides' ruling. The conclusion remains the same: there is no Talmudic element or evidence that

117 See *Hilkhot Kiddush ha-Hodesh* III, 15 and 16.

118 See note 21. Ramban wrote that the people acclaimed the new fixed calendar because of its uniformity and predictability. For the same reasons, such a reinstatement of the observation-based calendar would be rejected. This is probably the main reason why it is not likely that we will come back to an observation-based calendar.

Some have observed that the attitude of modern Muslims proves the contrary; it is possible to live in a modern society with an observation-based calendar. An observation-based calendar could be acclaimed or at least accepted by the Jewish people. I think that this argumentation is not true. First of all, the Muslim world is profoundly divided on the subject. The Muslim world suffers from the lack of predictability of the calendar.

There are however two fundamental differences between the Muslim and the Jewish calendar.

- The Muslim calendar is a local, observation-based calendar. It does not require a unity in the celebration of the festivals; they are not to be celebrated on the same physical day.
- The Muslims, at least the Sunnis led by Saudi Arabia, accept that the theoretical possibility of vision of the new moon is sufficient to fix the first day of the month. They don't require the physical observation. Therefore, the definition of a reliable and accepted criterion of visibility could give them the key to a predictable observation-based calendar. This explains the important scientific activity of Muslim scholars in this field.

The Jewish fundamental principles of the observation-based calendar require a practical vision of the new moon and the existence of qualified rabbis (ordained rabbis) able to hear and examine the testimony of this vision and to scrutinize the witnesses. These principles require also the unity of the Jewish people; the festivals should be kept on the same day. This last point was the main difficulty faced in the past during the period of the observation-based calendar.

The first point, the practical visibility by witnesses, prevents any possibility of a predictable calendar. By contrast with the Muslims, the requirement of practical vision confirmed by witnesses prevents the future emergence of a predictable observation-based calendar. Therefore, I doubt that the return to an observation-based calendar could be acclaimed by the Jewish people.

allows the problem to be addressed. The *Sanhedrin* will have full autonomy to decide.

4. Other Opinions

Maimonides and Nahmanides were not the only important authorities who discussed the issue. We have seen that earlier rabbis already had discussed the problem, and had divergent opinions.

- R. Saadia Gaon sanctioned the calculated calendar and gave it the status of *halakha le-Moshe mi-Sinai*.
- R. Hananel followed this position.
- R. Hai Gaon championed the complete autonomy of the *Sanhedrin*. He did not invoke a *halakha le-Moshe mi-Sinai*.
- R. Isaac ben Barukh must have had a similar position as R. Hai Gaon.

The opinions of R. Hai Gaon and R. Isaac ben Barukh could support an even more modern vision of the calendar, evolving naturally and irreversibly, following the evolution of knowledge and the sciences, from an empirical observation-based calendar to a fixed calendar. It could even have been improved.

We observe a great confusion on the subject of the Jewish calendar. Because of the absence of a real treatment of the subject in Talmudic sources, the opinions of the great historic authorities of the Jewish people are significantly divergent.

All options will remain open until an authoritative *Sanhedrin*, with the broadest prerogatives, will definitively judge the problem.¹¹⁹

119 I am surprised by the certainty of different authors that the High Court (*Sanhedrin*) that will work after the construction of the Third Temple and the coming of the Messiah will work with the observation-based calendar.

They all champion unanimously the idea that the calendar will be based on the observation of the lunar crescent. I am even more surprised since we have proven above that any High Court with the prerogative of *Sanhedrin* has complete autonomy in matters of calendar. This special post-messianic *Sanhedrin*, having a greater status than the former Courts, will certainly control the calendar and even have the power to rescind all former enactments, the *dehiyot* and *takanot* with a determined cause and the rules *derabanan*. Therefore, we can hardly guess what will happen.

It has been recorded also, with great certainty, that the calendar will be based on lunar observation without any *dehiyot*. As mentioned above, the *Sanhedrin* will have the free choice of the method. Let us follow this common thesis and consider that this High Court will choose to reinstate the vision-based calendar; it seems logical that one should return to the calendar at the stage prevailing when it was abandoned. The High Court would then have to decide whether it accepts the *dehiyot* or not. It has the strength to rescind them, but there is no certitude that it will. It is not certain that the existence of the fridge and electricity

IV. CONCLUSION

We have tried to understand the history of the Jewish calendar and the transition from the observation stage to the fixed calendar through Talmudic quotations. We find indirect indications in the Talmud on the subject of this evolution. R. Isaiah ben Mali Di Trani was the only *rishon*¹²⁰ to note that *dehiya A* (the postponement preventing Rosh Hashanah from occurring on a Sunday) was a late enactment. We find very little information in the Talmud about the beginning of the fixed calendar, and even less information about the data on which it is based.¹²¹ In such a situation—the absence of the theoretical data about an important if not *the* most important element of Judaism—the most important rabbis felt obliged to construct their own theories based on their own interpretation of the elements of the calendar's history available to them.

- R. Saadia Gaon considered the fixed calendar to have absolute priority and to have existed at all times since the time of Moses.
- R. Hai Gaon considered the fixed calendar to be a tradition dating back to Moses, but the *Sanhedrin* had the full autonomy to follow it or to deviate from it.

is sufficient reason to consider that the cause of these *takanot* disappeared. Maybe the delay of burial is still a reason to behold these *dehiyot*. The possible suppression of the *dehiyot* and the suppression of the fixed distance between Rosh Hashanah and the former Pesach are not problem-free. They raise the questions of Arava on Sabbath, Purim on Sabbath and Tisha be-Av on Friday. But they also raise other problems:

1. Should we accept the witnesses after *minha*? Apparently not, if there is a Temple.
2. This would raise the difficulties in the fixation of *Tishri* 1.
3. Will we uphold the rule that *Elul* is defective or will we permit the whole nation, except the town of Jerusalem, remaining in the expectancy and doubt whether Rosh Hashanah falls on Elul 30 or 31. Will they hold the two days of Rosh Hashanah by tradition or out of doubt?
4. We noted also above all the application problems that are still pending in *Hilkhot Kiddush ha-Hodesh*.

Even if the High Court chooses to reinstate the observation-based calendar, it would still have to decide whether it values the *dehiyot* or not. The only advantage of the suppression of the *dehiyot* would be the suppression of all the problems of manipulation of the calendar. However, returning to the observation-based calendar would raise many difficulties and it would not be acclaimed by the Jewish people, which would consider it as a regression; see note 118. Therefore, I doubt whether the *Sanhedrin* would make such a choice.

120 Rabbis living between the eleventh and the sixteenth centuries, after the *gaonim* and before the *aharonim*.

121 It is believed, however, that the statement by Ravina in *B. Arakhin* 9b relates to the length of the lunar month in the calendar of Hillel II, of 29d 12h 792 *halakim*, see *supra*.

- R. Abraham ibn Ezra considered that the High Court of each generation had full autonomy, provided that it intercalated seven years out of nineteen years.
- Maimonides considered the observation-based calendar obligatory, except during the periods without a *Sanhedrin*, where the fixed calendar applies. He required only that the calculated calendar be proclaimed in Israel.
- Nahmanides took exception to this position; he ascertained that the observation-based calendar depends only on the existence of ordained rabbis. He further opposed Maimonides' use of the concept of *halakha le-Moshe mi-Sinai* to characterize the rules of both the observation and the fixed calendar, in a matter not mentioned at all in the Talmud. He required ordained rabbis acting in Israel and, therefore, created the theory of the prior sanctification of all the months and the years until the coming of Elijah.
- As opposed to his teacher, Nahmanides, Rashba considered the fixed calendar to indeed be in the character of a *halakha le-Moshe mi-Sinai*. Furthermore, even during the periods of use of the observation-based calendar, he considered the underlying calculated calendar to hold precedence.

In fact, there is no clear Talmudic data dealing with the subject, and the generally accepted opinions in Orthodox Judaism are a mixture of contradictory opinions taken from Maimonides and Nahmanides.

We examined the possibility of improving the Jewish calendar. At this level, it seems that such an improvement should not be a real problem. We have seen that even if we understand that Maimonides considered the use of a fixed calendar in the absence of a *Sanhedrin* as a *halakha le-Moshe mi-Sinai*, it concerned the principle in general, but not the various details and practical modalities.

Therefore, it seems that the accepted opinion is incorrect and there should be no objection in the near future to improving the Jewish calendar in order to bring it into harmony with the solar year. We found strong support in a commentary of R. Abraham Karelitz. We also addressed the problem of the structure of the Jewish calendar in the more remote future, after the re-establishment of the *Sanhedrin*.

These last considerations have a utopian character and are beyond normal scholarly preoccupations. Nevertheless, the general opinion today is that the re-establishment of the *Sanhedrin* will lead to the return to the observation-based calendar based on the sighting of the new moon. This was already the opinion of R. Jacob Berav and of R. Levi ben Haviv in the 16th century. However, the opinions of these rabbis are still merely assumptions, representing their conviction based on the historical data available to them and on their interpretation of history. These opinions cannot be considered halakhic rulings based on the teaching of the *tanaim*

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and *amoraim* of the Talmud. Even the ruling of Maimonides is not based on clear Talmudic material. We must conclude that there is great confusion on this subject; the opinions of the greatest authorities of Jewish history are radically divergent. In fact, it seems that there are no Talmudic elements that allow this problem to be addressed. The problem could remain open until an authoritative *Sanhedrin* emerges and settles down to confront this challenge. All the options are open because we lack the necessary elements to take a decision. The *Sanhedrin* would also be obliged to take into consideration the aspirations of the Jewish people.¹²² An unpredictable observation-based calendar would most likely not be accepted by the many and diverse strands of the Jewish people.

122 According to the principle: בבא קמא בה. יכולין לעמוד בה. אין גוזרין גזירה על הציבור א"כ רוב ציבור יכולין לעמוד בה. ע"ט ב'.

