

**AU'L-HASAN AL-SURI'S DISCOURSE  
ON THE CALENDAR IN THE KITAB  
AL-TABBAKH, RTLANDS  
SAMARITAN CODEX IX**

BY

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**JUDAISM**, basing itself in its religious elements primarily on ritual and practice, allowed a wide range of freedom in the sphere of doctrine and interpretation. Opposing views were maintained on the most essential matters, and even when the one succeeded in being recognized and accepted, the other could still be spread and taught without running the risk of suspicion of heresy. As regards practice, however, Judaism was not so tolerant, and just as the courts could not punish unorthodox beliefs,<sup>1</sup> so they could not leave unpunished transgressions in practice. This was perhaps not so much due to the so-called Rabbinic legalism as to the fact that division between state and church was unknown in Judaism and both types of transgression were judged by one and the same law code.

Thus, from the Jewish point of view, the essential divergencies among the sects within Jewry lay more in the field of ritual and practice than in that of doctrine and dogma. True, differences in practice also existed in Judaism itself. Owing to the wide dispersion, various communities developed their practices along different lines. This, however, affected mainly the form and the details, but the contents and the underlying general principles remained unchanged and uniform.

Ritual and practice found their main expression in the service and observation of the Festivals; hence it was here that the sects differed most. Yet had they all kept the Festivals on the same dates, all these differences in detail would have been outweighed by the great number of agreements. Complete separation was, however, bound to result when the sects introduced innovations in the ecclesiastical calendar and started to profane the days which were declared holy by the general body- and (page 4) this happened usually at the formation itself of the individual sects. Of the

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<sup>1</sup> See Sanh, xi, 2.

Karaites we know this with certainty. Already Anan<sup>2</sup> the founder of Karaism, opposed the existing system of calculation both as regards the fixing of the New Moon and intercalation. Of the beginnings of Samaritanism we know very little. There is, however, a Talmudic text of not later than the beginning of the third century,<sup>3</sup> which refers to the obstacles placed by the Samaritans in the way of the Jews in connection with the announcement of the New Moons. This implies that the controversy between Jews and Samaritans on the question of fixing the New Moon had even at that time been recognized as going back to ancient times.

But besides the significance of the calendar for the history of sects in general, the Samaritan calendar had its own special interest. The Samaritans made a secret of the system of their calendar.<sup>4</sup> They claimed that it was based on the astronomical tables of Phinhas, the son of Eleazar, which he made soon after the entry of the children of Israel into the land of Canaan, and these, they claimed, were still in their possession. Western scholars ever since the seventeenth century attempted in various ways to induce the Samaritans to reveal their secrets; but in vain. It was not till 1939 when Professor Edward Robertson, on the basis of a comparison of a number of Samaritan manuscripts in the Rylands Library, succeeded in showing that from the year 1689 and onwards the Samaritans made use of the tables of Al-Battani. The question, however, remained as to what were the bases of the earlier Samaritan calendar, and this became clarified in the extract which follows.

The extract is taken from Rylands Samaritan Codex IX,<sup>5</sup> which contains the work *Kitab al-Tabbakh*, "Book of the Cook", (page 5) or "Book of the Slaughterer", by the renowned Samaritan scholar Abu 'I-Hasan of Trye. The work derives its name probably from the opening chapter which treats of the dietary laws. It covers, however, practically the whole field of Samaritan theology, ritual, creed, homiletics and religious philosophy. It is arranged in discourses which deal with their topics in a systematic way, stating, as a rule, the fundamental principles first and discussing the details subsequently. In the mode of its argumentation it bears great similarity to the dialects of the Jewish Midrashim. It is the oldest known work of its kind and it served as a pattern for many authors in later generations. Its main importance, however, lies in the fact that many traditions and other matters it embodies have parallels in Jewish literature, a fact which points to a common origin and an early date.

Another problem which finds its solution in the extract that follows is the date of Abu 'I-Hasan. Religious communities attach as a rule, greater importance to the views and thoughts of their teachers than to their biographies; hence the many religious personalities of whose lives and times we know so little. Such has been the fate of Abu 'I-Hasan. His name is associated with various branches of theology, Bible translation, interpretation, liturgy, homiletics, religious philosophy, etc. His date, however, is a matter of controversy, The Samaritans themselves appear to have

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<sup>2</sup> Cf. *Jewish Encyclopedua*, VII, p. 447a; see also the writer's "Saadya Gaon's Arabic Version of the Pentateuch," in *Saadya Studies*, p. 228, Manchester, 1943, and his "Ibn Ezra and the Karaites," in *Melilah*, I, p. 37, Manchester, 1944.

<sup>3</sup> Rosh Hash., ii, 2.

<sup>4</sup> For a full discussion of the matter, see Edward Robertson, "The Astronomical Tables of the Samaritans (Notes and Extracts, VI)," *BULLETIN OF THE JOHN RYLANDS LIBRARY*, 23, 1939.

<sup>5</sup> A detailed description of the MS. is given by Edward Robertson, "Catalogue of the Samaritan MSS. in the John Rylands Library, Manchester", pp. 110 seq., 1938.

conflicting traditions on the matter. A book-list in my possession, written by the brother's son of the Samaritan High-Priest Jacob b. Iuzi Ha-Kohen, dates Abu 'I-Hasan's work c. A.D. 800. On the other hand, Gaster<sup>6</sup> quotes a Samaritan tradition that it was written between 1030 and 1040. While Mills<sup>7</sup> places Abu 'I-Hasan as late as in the twelfth century. Professor Robertson<sup>8</sup> agrees with Gaster by the following reasoning. Abu Sa'id, whom he identifies with Abu 'I-Barakat of the beginning of the thirteenth century, speaks of Abu 'I-Hasan as if he were a figure of tradition, which shows that he belonged to a generation which had then long passed away. On the other (page 6) hand, the fact that Abu 'I-Hasan adapted Saadya Gaon's Arabic translation, which was made in the early years of the tenth century, to the Samaritan Pentateuch would place him about a century after Saadya. This supposition appears still more strong conservatism could well have warded off the need for an Arabic translation of their Scriptures a century longer than the Jews. We shall see later that his conclusion finds full justification in Abu 'I-Hasan's own words in his discourse on the calendar.

The problem the calendar had to solve was that while the Festivals had an agricultural character, and were thus bound to the seasons which depended on the motion of the sun, their dates were fixed in the Pentateuch on specified days of the month s regulated by the motion of the moon. A natural solar year of 365 days did not satisfy the requirements since it could not be divided into an equal number of lunations. A lunar year consisting of twelve lunations at an average length of twenty-nine and a half days was always unsuitable since it fell short of the solar year by nearly eleven days and its Festivals would have been in continual retrogression in relation to the seasons. An additional month had, therefore, to be intercalated at certain intervals in order to bring the lunar year in accord with the solar. The main controversy among the sects concerned the question as to how these intervals had to be determined. The Samaritans relied on astronomical calculation, the Karaites on the observation of the actual arrival of the seasons, while the Jews took both factors into consideration. A similar controversy existed between the Samaritans and the Karaites concerning the fixing of the New Moon. The former made use of calculation whereas the latter insisted on observation. Here, however, the Jews agreed with the Samaritans, only that they introduced certain rules for 'postponements'<sup>9</sup> which the Samaritans rejected. (page 7)

In contrast to the Jews who deal with the calendar from the aspect of the New Year's Festival, the Samaritans discuss it from the point of view of the Passover as it is this Festival to which they attach the greatest importance. The Scriptural passages

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<sup>6</sup> *The Samaritan Literature* (supplement to *Encyclopaedia of Islam*, p. 3, 1925).

<sup>7</sup> *Nablus and the Modern Samaritans*, p. 318, 1864.

<sup>8</sup> "Arabic Translation of the Samaritan Pentateuch," in *Saadya Studies*, pp. 169 ff.

<sup>9</sup> I.e. rules for shifting the dates of certain Festivals. They are of a relatively late origin.

According to Maimonides, (*Yad. Kiddush Ha-hodesh*, VII, 7), they have been designed to bring the calendar which is based on the mean motion of the Moon in accord with the true motion. This, however, is in disagreement with b. Rosh Hash. 20a, where the reason for the postponements is given that the Day of Atonement and the Sabbath, two days on which even work connected with the preparation of food may not be done, shall not follow immediately one on the other and also that the Willow Day (i.e. the seventh day of the Feast of Booths) shall not fall on the Sabbath.

bearing on the question of the calendar also are found in connection with the Passover. Abu 'l-Hasan divides his discourse into three parts: (1) justifying the Samaritan point of view;<sup>10</sup> (2) directed against Karaites;<sup>11</sup> (3) criticizing the Jews.<sup>12</sup>

I

He finds proof for the Samaritan view in the various passages in the Pentateuch which refers to the time on which the Passover has to be celebrated:

- (a) Ex. xiii, 10, which requires that the Passover shall be kept every year at the same season, can be reconciled with Ex. xii. 18, where the Passover is dated on a fixed day of the lunar month, only by pre-supposing a luni-solar year based on intercalation.
- (b) That this intercalation has to be determined by calculation and not by actual observation is seen from Dt. Xvi, 1, "Observe the month of the young ears ('*abib*)". It is not the young ears which have to be observed but the *month* of the young ears, which implies the necessity for determining the time of the ripening accurately by calculation. Actual observation may sometimes prove also impossible as for instance on Sabbatical years.

The argument as such is found also in Ibn Ezra and has been first advanced by Saadya Gaon against the Karaites who made the Passover depend on the actual observation of the ripening. Yet, whereas Abu 'l-Hasan speaks about calculating the time of the equinox. The explanation seems to be as follows. The rule for intercalation was derived from Dt. xvi, 1, which enjoined that the Passover should be celebrated in the solar month of Abib. Yet, the word '*abib*' which designated originally 'young (page 8) ears' received in course of time the meaning of 'spring'. However, at the time of the Temple, when the offering of the first fruit sheaf was a main rite of the Festival, the decisive factor in determining whether a month had to be inserted or not was that the Passover, which had to be celebrated on the 14<sup>th</sup> of Nisan, must not come before the ripening of the young ears. Thus *Mekhilta*<sup>13</sup> and *Sifre* explain Dt. Xvi, 1: "Observe the ripening ('*abib*) that it be in (the time of) the Passover and the Passover that it be in (the time of) the ripening". With the destruction of the Temple, however, the ripening lost its former significance for the Passover, and gave place gradually to the vernal equinox. This point had the advantage of recurring at a fixed time of the year and was, therefore, more appropriate for the reformed calendar lately introduced in which calculation replaced observation to a great extent. The 'month of Abib' came to mean 'the month of spring' and the conclusive criterion for intercalation was that the Passover must not come before the vernal equinox. Thus the passage of *Mekhilta*, to which we have referred, received in later times<sup>14</sup> the following form: "Observe the '*abib* of the equinox (i.e. spring), that it be in the first half of Nisan", a principle which guided also the Church in fixing the date of Easter. As will be seen later, the Samaritans have also substituted the vernal equinox for the ripening, and although

<sup>10</sup> Rylands Sam. Cod. XI, pp. 82a-91b.

<sup>11</sup> *Ibid.* pp. 120b-123b.

<sup>12</sup> *Ibid.* pp. 120a-120b.

<sup>13</sup> *Ad. Ex.*, xii, 2.

<sup>14</sup> See b. Rosh Hash., 21a.

Abu l-Hasan tries to justify the Samaritan dating of the Passover by the original meaning of 'the month of Abib' he has to admit that this month is determined by the vernal equinox.

(c) Abu 'l-Hasan proceeds now to prove that the main factor in determining the date of the Passover is not the ripening as such but the position of the sun in that season which can be found best by calculation. (1) The fact that the hot season stands in parallelism with the harvest in Gen. viii, 21-22, shows that the two periods are identical. Now, since the first sheaf of the harvest has to be presented on the Passover, this Festival is perforce dependent on the motion of the sun. (2) Ex. xii, 2, by dating the Passover on the 'first month', determines also the position of the sun for this Festival. This is seen by the following consideration. The sun reaches its greatest strength on entering (page 9) Aries. According to Gen. I, 31, all things reached their utmost perfection at their creation.<sup>15</sup> Now since the 'first month' is necessarily the month on which the sun was created, it implies also that the position of the sun for that month has to be Aries. And here Abu 'l-Hasan continues: "And if it is said: You have not placed this (i.e. the beginning of the year) in Adar<sup>16</sup> although the sun depends on it to Aries! The answer: It is not proper that the 'first month' be Adar for its greater part belongs to Pisces. The sun enters Aries on the fourteenth of it according to the (calculation of the) gentiles only, for it is based on the beams (of the sun). According to the astronomical tables of the Hebrews, however, which are the astronomical tables of Phinhas, on whom be the most perfect peace and approval, which he observed upon the Exalted Mountain<sup>17</sup> and which are based on the body of the planets, the sun enters Aries on the 24<sup>th</sup> day (of Adar)".

Abu 'l-Hasan later repeats the statement that the sun enters Aries on the 14<sup>th</sup> March in the name of the Astronomers. Taking these words as referring to the sun's entering the first point of the constellation that bears the name of Aries, the Samaritan date seems to be correct. At the time of Caesar (45 B.C.) the sun entered the first point of Aries on the 17<sup>th</sup> of March. By the precession of the equinoxes that point had moved until A.D. 1100:  $(45 + 1100) \times 50 \cdot 25'' = 15^\circ 58' 56'' = 16d 5h 10m 32s$  which means that about the time of Abu 'l-Hasan the sun entered Aries on the 2<sup>nd</sup> April at 5h 10m 32s. As, however, the Julian calendar reckoned the year too long by 11m 14s we will have to deduct from this date  $(45 + 1100) \times (11m 14s) = 8d 22h 22m 10s$  and will thus arrive at the date of the sun's entering Aries (page 10) as the 24<sup>th</sup> of March 6h 48m 22s. However, one cannot see how the short interval between the appearance of the beams and the

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<sup>15</sup> Similarly in Hullin 60a: "All the works of creation were created in their full-grown stature". That the expression *tob* in the account of creation conveys the idea of completeness is found also in *Gen. R.* ch. IV, and occurs frequently in the works of the Jewish religious philosophers, e.g. Maimonides, *Guide*, 10,3; Albo, 4, 3.

<sup>16</sup> Throughout the book Abu 'l-Hasan uses the Syro-Macedonian months which are, unlike those of the Jewish calendar, Solar and correspond in length to the Julian months in the following order: Teshrin I, October; Teshrin II, November; Kanun I, December; Kanun II, January; Shebat, February; Adar, March; Nisan, April; Iyar, May; Haziran, June; Tammuz, July; Ab, August; Ilul, September.

<sup>17</sup> I.e. Gerizim.

appearance of the body of the sun can account for a difference of the beams and the appearance of the body of the sun can account for a difference of ten days. Moreover, Abu 'I-Hasan states later that the sun moves from Aries into Taurus on the 19<sup>th</sup> of April. This excludes the possibility of the sun's entering the first point of Aries on the 24<sup>th</sup> of March since it would imply that the sun covered the 30 degrees of Aries in about 26 days whereas the real time was more than 30 days. It seems, therefore, that the first point of Aries is used here in the technical sense meaning the equinox. When the Gregorian Calendar was introduced in 1587 the equinox fell on the 11<sup>th</sup> of March. From then to the beginning of the 12<sup>th</sup> century we have 482 Julian years which are too long by (482 x 11m 14s =) 3d 18h 28s. This gives the date of the equinox in the terms of the Julian calendar the 14<sup>th</sup> of March at 18h 14m 28s. A more exact calculation shows that the 14<sup>th</sup> of March of the Julian calendar covered any vernal equinox of the years 995-1130. Abu 'I-Hasan found a way to reconcile the Samaritan tradition of the equinox falling on the 24<sup>th</sup> of March with the observations of the astronomers by assuming that while the astronomers end the night with the beams, i.e. with the appearance of the upper rim of the sun above the horizon, the Samaritans end it only after the whole disc of the sun appeared there. The length of this interval was held at those times to be about six minutes.<sup>18</sup> Thus on the 14<sup>th</sup> of March, on which the equinox fell according to the astronomers- the Samaritan day was still short by about twelve minutes and since at that season of the year the days lengthen at the rate of about 1-2 minutes it needed another ten days to become equal to the night. This explanation, however, was astronomically wrong and could not account for the retrogression of the equinox after the year 1130 or prior to 995 when the interval between the 24<sup>th</sup> of March and the equinox was longer or shorter than ten days. The real reason for this retrogression was that the Samaritan year had exactly 365  $\frac{1}{4}$  days. That the solar year had this length was almost universally accepted since the time of Calippus. It formed the basis of the Julian calendar and of the older Jewish (page 110 calendar called the 'Cycle of Samuel'. That the Samaritans believed the equinox to fall on the 24<sup>th</sup> of March suggests that they relied on the Julian calendar. Caesar, according to general belief, fixed the equinox to fall on the 25<sup>th</sup> of March. But as he placed the commencement of the day at noon while the Samaritans placed it at sunset the 25<sup>th</sup> of the former could be the 24<sup>th</sup> of the latter. Moreover, according to Plinius<sup>19</sup>, Caesar fixed the equinox on the 24<sup>th</sup> of March. This seems indeed to be more probable since the real equinox fell in the year 45 B.C. on the 34d of March 4h 13m. There is also other evidence that the Samaritans depended on the Julian calendar. Abu 'I-Hasan gives the position of the sun for the 16<sup>th</sup> of April, 19 degrees of Aries, while he asserts that the sun moves into Taurus on the 19<sup>th</sup> of April. The sun moves, thus, in Aries 11 degrees in about twelve days. Consequently, on the 12<sup>th</sup> day before the 6<sup>th</sup> of April, which is the 24<sup>th</sup> of March, the day the Samaritan equinox, the sun is in the 8<sup>th</sup> degree of Aries. This again is in agreement with the Julian calendar which fixed the equinox on the 8<sup>th</sup> degree of Aries.

<sup>18</sup> See Mainmonides, *Yad. Keri' ath Shema*, I, 11.

<sup>19</sup> Quoted by Ginzel, *Handbuch*, II, p. 282.

## II

With the knowledge that Abu 'I-Hasan existed sometime between the years 995-1130 we may be able to find for him a more precise date in his arguments against Karaites. The Karaites made the actual observation of the New Moon the fundamental basis of their calendar, and Abu 'I-Hasan advanced against them the following arguments:

- (a) Weather circumstances may sometimes cause the crescent to be invisible which may lead to fixing the New Moons and consequently the Festival on wrong days.
- (b) Observation proves impracticable for establishing the New Moon Festival, which is on the New Moon of Tishri, since the Festival has to begin with sunset while the crescent is visible till after nightfall.
- (c) Relying on the motion of the moon alone causes the Festival to retrogress in relation to the natural year.
- (d) Gen. I, 14 requires that both the sun and the moon shall (page 12) be taken into consideration when fixing the years and seasons. Abu 'I-Hasan concludes this argument by saying: "And great is my astonishment at Jacob that he agreed with Anan in this matter". He mentions, further, that when he wrote his discourse on the *qiblah* Jacob has promised to write a treatise with the object of refuting it but he died before doing so.

As the context suggests, this Jacob was a Karaite who advanced certain arguments in defense of the Karaite calendar. No Karaite scholar of this name is known to have lived in Palestine or in the surrounding countries about the years 995-1130 when, as shown above, Abu 'I-Hasan existed. A Karaite by the name of Abu Jacob is cited by Aaron b. Elijah in his book "Gan Eden",<sup>20</sup> in the section dealing with the calendar. He is identified by Jost<sup>21</sup> with Ibn Gahlul of the middle of the tenth century. The fact, however, that Aaron b. Elijah quotes his view after that of Abi Sa'id (1006-7) and before that of Abu 'I-Farag (1050) shows that he lived in the first half of the eleventh century. He appears to be identical with Abu Jacob who is frequently quoted in an anonymous commentary to Exodus-Leviticus, an extract of which is given by Pinsker in his *Liqqute Qadmoniyoth*.<sup>22</sup> He is identified by Firkovitsch<sup>23</sup> with the aforementioned Ibn Gahlul. But there again he is quoted twice<sup>24</sup> after Abu 'I-Surri who lived at the end of the tenth century, and as the commentary was compiled in 1088<sup>25</sup> Abu Jacob must have lived at about the first half of the eleventh century. Now the view Aaron b. Elijah gives in the name of Abu Jacob fits well our context. It is actually directed against the proof which Abu 'I-Hasan derives from Gen. I, 14. Abu Jacob argues that, while it was true that the latter verse implied that the calendar had to be fixed by calculation, the validity of this verse extended only to the time of the Exodus when it was abrogated by Dt. xvi, 1, which based the calendar on actual observation. The difficulty in assuming that Abu 'I-Hasan is speaking of Jacob referred to Abu Jacob

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<sup>20</sup> Fol. 15d.

<sup>21</sup> *Geschichte*, II, 349.

<sup>22</sup> Pt. II, pp. 71-76.

<sup>23</sup> *Ibid.* p. 76.

<sup>24</sup> *Ibid.* pp. 73, 75.

<sup>25</sup> *Ibid.* p. 75.

appears surmountable if we remember that Aaron b. Elijah himself, at the end of the above mentioned chapter,<sup>26</sup> refers to him as Rabbi Jacob. But if (page 13) Abu 'I-Hasan was a younger contemporary of this Abu Jacob, the Samaritan tradition that he wrote the Kitab Al-Tabbakh between the years 1130-40 was fully justified.

### III

As to the Jewish calendar, Abu 'I-Hasan confines his criticism to two general points. (a) The rules for 'postponements' are incompatible with a system based on astronomical calculation the merits of which are exactitude to the smallest fraction of time. (b) The 'Ibbur's lack of authority is attested by Jewish tradition itself which ascribes its origin to Ezra, a person not endowed with prophecy.

'Ibbur, which meant originally 'intercalation', denoted later the whole system of calculation on which the Jewish calendar was based. There were divergent traditions as to the origin of the 'Ibbur. Saadya Gaon maintained that it went back to the time of Adam. But already Ibn Ezra and Maimonides remarked that he might have made this assertion in the heat of controversy with the Karaites, as there were irrefutable proofs from the Talmud that the calendar was originally based on observation. His adversary, ben Meir, ascribed some rules of the 'Ibbur to R. Judah the Patriarch and to his grandfather Rabban Gamliel. The latter seemed in reality to have been the first who, in face of strong opposition,<sup>27</sup> made use of calculation in fixing the calendar. Hai Gaon, II, placed the introduction of the 'Ibbur at the time of Hillel, (II) (c. 356 A.D.), when the Sanhedrin, the court which alone had the authority to fix the calendar by observation, was dissolved. Popular tradition made Samuel (3d. cent. A.D.) attributed the 'Ibbur to R. Eliezer the great. This was probably due to the fact that the rules of the 'Ibbur were embodied in the book *Pirque de R. Eliezer*, which was held to be a compilation of the latter. The Karaites quoted from a no longer extant work of Hai Gaon, I, that the 'Ibbur was instituted by R. Isaac Nappaha. The association of the Ibbur (page 14) with this Amora, of whom no saying in connection with the calendar was recorded in the Talmud, rightly puzzled Luzzato and Pinsker<sup>28</sup>. It might, however, be noted that while the above mentioned R. Isaac was surnamed *Nappaha*, the extract given by Pinsker, and Hadassi who mentioned this tradition on six occasions, had always *Bar Nappaha*.<sup>29</sup> A Rabbi cited by the cognomen *Bar Nappaha* was the famous Palestinian authority R. Johanan (3<sup>rd</sup> cent.), the head of the academy of Tiberias. Now, it could not possibly be supposed that a Gaon of R. Hai's capacity should have confused these two surnames, especially as they are distinctly separated in the Talmud. Thus, on one occasion of controversy between R. Isaac *Nappaha* and R. Johanan *Bar Nappaha*, R. Simeon b. Laqish remarked: "Better is what the smith (*nappaha*) says, than what the smith's son (*bar nappaha*) says."<sup>30</sup> It was more probable to assume that in Hai Gaon's work the name occurred in the usual abbreviated manner ר' בר נפחה. The Karaites, unaware of the cognomen *Bar nappaha* of R. Johanan, took it from R. Isaac. Hai

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<sup>26</sup> *Gan Eden*, 18a.

<sup>27</sup> Cp. *Rosh. Hash.*, ii, 8-9.

<sup>28</sup> *Liqqute Qqmoniyoth*, II, 149.

<sup>29</sup> See *'Eshkol Ha-Kofer*, 184, sn.

<sup>30</sup> Cp. *b. Sanhedrin*, 96a.



Gaon, however, referred to R. Johanan whose familiarity with astronomy and with matters of the calendar was well attested in the Talmud.<sup>31</sup>

The tradition that the *'Ibbur* originated with Ezra is not found in Jewish literature. Abu 'I-Hasan's statement may rest on such Talmudic passages as, "The names of the months were brought from Babylonia"<sup>32</sup> or "From the days of Ezra and onwards we do not find an Elul of thirty days".<sup>33</sup> There is also a Baraitha, quoted by Karaite authors<sup>34</sup> but not found in Rabbinic literature, which may also account for this tradition. It refers to the rivalry between R. Simeon b. Gamliel, II, the Patriarch, and Hannaniah, the nephew of R. Joshua, in Babylonia. The latter, as is also recorded in the Talmud,<sup>35</sup> had taken the liberty of fixing the festivals and bissextile years independently of the authorities in Palestine. But, in contrast to the impression we get from the Talmud, that he aimed thereby at securing independence for the Babylonian Schools, the Baraitha asserts that he did this as a protest against the Palestinian authorities (page 15) who began to fix the calendar by calculation. When he rebuked them for making this innovation, they answered, according to the baraita, "Ezra came from Babylonia and his Torah with him". But Hananiah retorted, "Did Ezra bring with him another Torah?" it seems thus, that there had been a time when the Jews ascribed the introduction of the *'Ibbur* to Ezra.

We may thus derive from the information provided by Abu 'I-Hasan the following conclusions: (1) the earlier Samaritan calendar was based on the Julian. They adopted it, we may assume, before the observations of Hipparchus, both as regards the length of the solar year and the precession of the equinoxes, were well-known. At the Council of Nice (A.D. 325) it was already established that the equinox had retrogressed to the 21<sup>st</sup> of March. The Jews kept to the 'Cycle of Samuel' till about the 7<sup>th</sup> century when they introduced the 'Cycle of R. Ada' which was based on the observations of Hipparchus. (2) The Samaritan Passover was, like that of the Jews, regulated by the equinox, not, as Abu 'I-Hasan wanted us to believe, by the ripening. (3) Abu 'I-Hasan existed sometime between the years 995-1130 and wrote his book about the middle of the eleventh century. (4) Contrary to the views held by most Jewish authorities, there seems to have been a tradition, as old perhaps as the first half of the second century A.D., which ascribed the introduction of the *'Ibbur* to Ezra.

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<sup>31</sup> Cp. b. Shab. 75a; Hul., 95a.

<sup>32</sup> Y. Rosh Hash., I, 2.

<sup>33</sup> B. Rosh Hash., 19b.

<sup>34</sup> Hadassio, *'Eshkol Ha-Kofer*, 194, d.

<sup>35</sup> See b. Ber., 63a; y. Ned. VI, 40a.