

Theory, Practice, and Polemic in Ancient Jewish Calendars

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1. The Problem

Since the discovery and publication of the Dead Sea Scrolls over the past sixty years, we have become increasingly aware of what had previously been known, that calendrical controversies played an important role in defining the social, religious, and political dividing lines between various Jewish groups, as between Judaism and Christianity (and as between Christian groups) in their subsequent history down to the present. In retrospect, the relative stability of what became the universally practiced Jewish calendar (especially in light of other, continuing intra-Jewish divisions) is all the more remarkable. In antiquity, by contrast, which calendar one followed and who controlled calendrical determinations were important not just for practical considerations of coherent social adherence, but for the projection of political power and religious self-definition. To quote James VanderKam, “Measuring units of time was not simply a matter of convenience; rather, it was a moral issue involving obedience to divine revelation about the nature of reality and the laws by which the world operated.”¹ Universally speaking, calendars are a prime medium for linking the cycles and rhythms of human, societal time with those of the cosmos.

¹ James C. VanderKam, *Calendars in the Dead Sea Scrolls: Measuring Time* (London & New York: Routledge, 1998), 17.

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2. Scriptural Foundations

At the heart of calendrical controversies is an astronomical discordance between the cycles of the sun and moon, which affects all systems of time-keeping, not just Jewish (or Christian and Islamic), but is particularly acute for the monotheistic creeds which understand a single deity to have set all of the celestial bodies in their courses and rhythms as an unalterable pattern to be mirrored by human society in its concordance to a similarly fixed and cyclic calendar. According to Genesis 1:14-16, part of the creation account:

[14]God said, “Let there be lights in the expanse of the sky to separate day from night; they shall serve as signs for the set times (*mo’adim*) – the days and the years; [15]and they shall serve as lights in the expanse of the sky to shine upon the earth.” And it was so. [16]God made the two great lights, the greater light to dominate the day and the lesser light to dominate the night, and the stars” (NJPS).

Besides illuminating the day and the night, the sun and the moon are intended as signs for the marking of time (seasons, days, and years, but implicitly months as well).

As is well known, and was known in antiquity, it is impossible to synchronize time as measured by the two “great lights” in the sky, since there is not a whole number of lunar months (approximately 29.5 days) within a single solar year (approximately 365.25 days). Or, to put it differently, a year of twelve lunar months (354 days) is shy of a full solar year by approximately 11.25 days. The earliest scriptural recognition of this disparity between solar and lunar years, with an attempt to reconcile the two, is to be found in the chronology of the Flood story (Gen. 7:6-8:14).² In short, it is impossible to mark time according to one without being out of synchronization with the other,

2 Ibid., 4-5.

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necessitating the favoring of one or the other as the primary celestial timepiece.

However, the sun-moon competition, and the inability to divide either the month or the year by a whole number of days, is only part of the problem, since the inability to synchronize between these two cosmic timepieces is aggravated when we add the biblical requirement to regulate work and rest by cycles of seven-day weeks, since neither the lunar month nor the solar year is divisible by a whole number of such weeks. Add to that the desire to mark the four agricultural seasons of the solar year (divided by solstices and equinoxes), so that the pilgrimage harvest festivals fall always during the same seasons (around the vernal and autumnal equinoxes), and the requirement to mark larger cycles of time by seven- and fifty-year intervals (sabbatical and jubilee cycles), and you end up with a seemingly infinite number of ways to dice and splice time, with not one of them bringing all of the temporal measurements into perfect harmony with one another. It is, therefore, impossible for a society to order its daily, weekly, and yearly patterns of communal life in concordance with the celestial astronomical cycles of creation, as Scripture would seem to require, without human manipulation of time, and the inevitability of devolving into societal dispute as to which concessions to make and according to whose authority to make them.

One way to eliminate this conundrum would be to rewrite Scripture so as to grant timekeeping authority to only one of the “great lights,” or at least to create a better division of chronological labor between them. Thus, for example, Psalms 104:19 states: “He made the moon to mark the seasons (*mo’adim*); the sun knows when to set” (NJPS). Thus, the daily solar cycle is assigned the task of marking the day, whereas the lunar cycle determines the “seasons,” presumably referring to the seasonal pilgrimage festivals, at least two of which, according to scripture, fall on the fourteenth/fifteenth of the month, the full moon in a true lunar month.³

3 For scriptural passages that attribute significance to the day (or days) of the

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3. Second Temple Reflections and Contentions

In the post-biblical, Second Temple period we find very different choices of calendrical priority between those who favor the moon and those who favor the sun. For example, the Jerusalem wisdom teacher Ben Sira (ca. 175 CE) assigns to the sun the daily role of heating the earth (43:2-5), but to the moon *alone* he assigns calendrical functions (43:6-8):

[6]It is the moon that marks the changing seasons, governing the times, their everlasting sign. [7]From the moon comes the sign for the festal days, a light that wanes when it completes its course. [8]The new moon, as its name suggests, renews itself; how marvelous it is in this change, a beacon to the hosts on high, shining in the vault of the heavens! (NRSV)

Conversely, we find that the book of Jubilees (mid-second century BCE), “rewrites” Genesis 1:14-16 so as to designate the sun *alone* as the “great sign” that marks all types of time (2:9):

And on the fourth day he made the sun and the moon and the stars. And he set them in the firmament of heaven so that they might give light upon the whole earth and rule over the day and the night and separate light and darkness. And the Lord set the sun as a great sign upon the earth for days, sabbaths, months, feast (days), years, sabbaths of years, jubilees, and for all of the (appointed) times of the years – and it separates the light from the darkness – and so that everything which sprouts and grows upon the earth might surely prosper.⁴

new or full moon, see Num. 28:11-15; 1 Sam. 20:5, 18, 24, 27-29, 34; 2 Kgs. 4:23; Isa. 1:13-14; Ezek. 46:1-3; Ps. 81:3. Although a solar year is implicitly acknowledged by the need to maintain the festivals in their proper “seasons,” as James VanderKam (*Calendars*, 8) states, “[N]o scriptural statements assert the role of the sun’s course in defining a year. Despite its greater size, it seems to be the lesser light in the Bible.”

⁴ The translation is from *The Old Testament Pseudepigrapha*, ed. James H.

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The only role remaining for the moon is to provide light at night. It is not surprising, therefore, that the book of Jubilees, like the Astronomical Book of Enoch (1 En. 72-82) before it (late third century BCE) and the Dead Sea Scrolls after it, calculates a 364-day “solar” year (6:32) of fifty-two weeks (6:30), in which the twelve months are thirty days each, with the addition of one day at the beginning of each three-month season (quarter) (6:23),⁵ but with the resulting months bearing no correspondence to “true” lunar cycles (of 29.5 days). Such a “solar” (or nearly-solar) calendar has the additional advantage of being divisible into four quarters of thirteen weeks or ninety-one days each (6:29), thereby retaining the centrality of the seven-day week, modeled as it is on the pattern of creation, as biblically timed. A further advantage of this calendrical system based on exact multiples of seven days is that any date (or festival day) will fall on the same day of the week in any year. How such a calendar would “make-up” the 1.25 days “lost” each year from a “true” solar year, is never indicated, even though the discrepancy must have been known.

Unlike the Astronomical Book of Enoch, upon which the book of Jubilees appears to be dependent for its calculations, the latter advocates a calendar that is *solely solar*, that is, one for which the cycles of the moon play no role.⁶ Both the Astronomical Book of Enoch and the book of Jubilees claim their calendrical patterns to be divinely revealed,

Charlesworth, 2 vols. (Garden City, N.Y.: Doubleday, 1983), 2:56. For the dominion of the sun, see also Jub. 4:21.

5 These four “days of remembrance,” deriving from the chronology of the Flood, fall on the first days of the first, fourth, seventh, and tenth months. They are presumably the equivalents of the added days (31st) of the third, sixth, ninth, and twelfth months according to the Astronomical Book of Enoch (1 En. 72:13, 19, 25, 31), upon which the book of Jubilees appears to be dependent (Jub. 4:18, 21). See Sacha Stern, *Calendar and Community: A History of the Jewish Calendar Second Century BCE-Tenth Century CE* (Oxford: Oxford University Press, 2001), 10; but cf. VanderKam, *Calendars*, 29-30.

6 While the new moon is to be marked, the months do not correlate with lunar cycles.

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with Enoch being for both the conduit of such revealed astronomical knowledge.⁷ However, in the latter, they are not simply the function of astronomical calculations, but are tied directly to scriptural covenantal history, especially as revealed in the Flood narrative and the covenantal pact with Noah and his descendants immediately thereafter. Noah's covenant (in the third month) sets the pattern and date for subsequent covenantal enactments, as well as for their festive re-enactments (especially Shavu'ot) in the collective life of Israel.⁸

In keeping with its calendrical *exclusivity*, the book of Jubilees, again in contrast to the Astronomical Book of Enoch, *polemically* admonishes its audience to follow a solar-only calendar, over against those who would mark time by the moon (or some combination of the two). For the book of Jubilees the practical consequences, in covenantal terms, of its calendrical advocacy loom large. The correct reckoning of calendrical time is required for Israel to observe the divinely revealed laws of the Torah, especially regarding the festivals, necessitating that the divinely revealed solar calendar be scrupulously maintained and observed. Error in calendrical reckoning leads to failure to uphold Israel's side of the covenantal relationship with God: "And they will forget all of my laws, and all of my commandments and all of my judgments, and they will err concerning new moons, sabbaths, festivals, jubilees, and ordinances" (1:14). As Moses admonishes at length (6:32-38):

[32]And you, command the children of Israel so that they shall guard the years in this number, three hundred and sixty-four days, and it will be a complete year. And no one shall corrupt its (appointed) time from its days or from its feasts because all (of the appointed times) will arrive in them according to their testimony, and they will not pass over a day, and they will not corrupt a feast.

7 Even though the book of Jubilees claims to be a record of the divine revelation to Moses at Mt. Sinai, the calendrical system that is therein to be imparted to the Israelites is traced back to Enoch. See Jub. 4:17-18, 21.

8 See Jub. 6:10-18, 23-31. For the calendrical implications of the Flood narrative more broadly for the book of Jubilees, see VanderKam, *Calendars*, 29-30.

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[33]But if they are transgressed, and they do not observe them according to his commandment, then they will corrupt all of their (fixed) times, and the years will be moved from within this (order), and they will transgress their ordinances. [34]And all of the sons of Israel will forget, and they will not find the way of the years. And they will forget the new moons and (appointed) times and sabbaths. And they will set awry all of the ordinances of the years.⁹ [35]For I know and henceforth I shall make you know – but not from my own heart, because the book is written before me and is ordained in the heavenly tablets of the division of days – lest they forget the feasts of the covenant and walk in the feasts of the gentiles, after their errors and after their ignorance.¹⁰ [36]And there will be those who will examine the moon diligently because it will corrupt the (appointed) times and it will advance from year to year ten days.¹¹ [37]Therefore, the years will come to them as they corrupt and make a day of testimony a reproach and a profane day a festival, and they will mix up everything, a holy day (as) profaned and a profane (one) for a holy day, because they will set awry the months and sabbaths and feasts and jubilees.¹² [38]Therefore, I shall command you and I shall bear witness to you so that you may bear witness to them because after you have died and your sons will be corrupted so that they will not make a year only three hundred and sixty-four days.

- 9 The sense here is that any corruption of the calendar would set the whole system out of kilter, the error becoming increasingly compounded with time until it is unrecoverable.
- 10 It is suggested that abandonment of the prescribed calendar would render Israel indistinguishable in its religious life from that of the gentiles. Whether this is to associate the following of a lunar calendar in particular with the influence of the gentiles is less certain.
- 11 Ten days is the difference between a purely lunar calendar of 354 days and the prescribed “solar” calendar of 364 days. If the former were followed, dates (e.g., festivals) would fall ten days “earlier” every year than their “correct” time according to the 364-day “solar” calendar.
- 12 A holy day celebrated on the “wrong” day would, in effect, be profaned. Thus, the whole system of holy and profane would be corrupted, the distinction between the two becoming unrecognizable.

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And therefore they will set awry the months and the (appointed) times and the sabbaths and the feasts, and they will eat all of the blood with all flesh.¹³

However, not all writings that are preoccupied with calendrical calculations are so polemical, or, for that matter, univocal in their calendrical preference. As already indicated, the *Astronomical Book of Enoch* (1 En. 72-82), provides an interesting comparative perspective to the polemical and exclusively solar calendrical preoccupation of the book of *Jubilees*, precisely for its interests in *both* solar-year and lunar-month calculations, but *without* correlation of either to the dating of sacred feasts (or fasts). While the cycles of lunar months are correlated with that of the solar year (1 En. 74, 78), no effort is made to synchronize them, that is, to prevent lunar dates from falling increasingly early with respect to the solar year. Thus, 1 Enoch 72 presents calculations based on a solar year of 12 months, following the pattern of months of 30+30+31 repeated four times yearly for a total of 364 days (fifty-two seven-day weeks) (see 1 En. 72:32). However, 1 Enoch 74 and 78:15-16; 79:4 presume twelve lunar months that alternate in length between twenty-nine and thirty days for a total of 354 days (which is indivisible by seven-day weeks). The discrepancy is explicitly acknowledged in 1 Enoch 74:10-17, which verses, however, are internally inconsistent and could be a later addition.¹⁴ In short, while the *Astronomical Book of Enoch* displays interest in lunar calculations suggestive of a lunar calendar, its calendrical preference

13 Translations from *The Old Testament Pseudepigrapha*, ed. Charlesworth, 2:53, 68.

14 See Matthew Black, *The Book of Enoch or 1 Enoch: A New English Translation. With Commentary and Textual Notes by Matthew Black. In Consultation with James C. VanderKam. With an Appendix on the 'Astronomical' Chapters (72-82) by Otto Neugebauer* (Leiden: Brill, 1985), 386-419. The possibility of reckoning a 360-day calendar of twelve thirty-day months (without four epagomenal days) is suggested and rejected by 1 En. 74:10-11; 75:1-2; 82:4-6, these being as close to polemical as this text gets.

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would appear to be solar (e.g., 1 En. 74:17). The fact that it makes no clear effort to reconcile the two calendars, solar and lunar, through intercalation,¹⁵ as well as to correlate them with the proper time for the observance of the festivals (as emphasized in Jubilees),¹⁶ has led Sacha Stern to suggest that “it is unlikely that Enoch’s solar calendar was meant to be observed *in practice*... All Enoch was concerned with was the construction of a simplified and ideal astronomical order; he had no interest in practical use or in scientific accuracy.”¹⁷

The same can be said for 2 (Slavonic) Enoch, a work which in its extant form is of uncertain dating and provenance, having undergone a long process of translation and redaction, but having its roots, most likely, in the first century CE.¹⁸ Initially, we are presented therein with a

15 As found in 4QEnastr^a (4Q208), which J. T. Milik (*The Books of Enoch: Aramaic Fragments of Qumran Cave 4* [Oxford: Oxford University Press, 1976], 273-84) identifies as belonging to an Aramaic book of Enoch.

16 As emphasized by VanderKam, *Calendars*, 26.

17 Stern, *Calendar and Community*, 7, in the latter part paraphrasing, approvingly, Milik, *The Books of Enoch*, 14 and 277. Likewise, Stern (*ibid.*, 8-9) states: “Enoch’s calendar may similarly have been used for purposes of theoretical astronomical study.... Whichever interpretation is favoured, the astronomical book of Enoch is unlikely to inform us, therefore, about actual calendrical practice. After all, the stated purpose of this book (in 72:1) is to reveal the courses of the sun and moon, rather than to prescribe the observance of any specific calendar.... Enoch also suggests that these calendars would normally have been set by mathematical calculation, rather than by empirical observation of new moons. But this is likely to reflect Enoch’s own interest in mathematical astronomy, rather than how contemporary Jews would have reckoned the calendar in practice.” Stern adds: “For comparative purposes, it is worth noting that the cycles of intercalation designed by Greek astronomers such as Meton or Callippus, as well as the octaeteris, were apparently not observed in practice in any of the Greek cities of the Classical and Hellenistic period” (*ibid.*, 9, with bibliographic references in *ibid.*, n. 35).

18 In what follows I am dependent on Basil Lourie, “Calendrical Elements in 2 Enoch” (paper presented at the Fifth Enoch Seminar: Enoch, Adam, Melchizedek: Mediatorial Figures in 2 Enoch and Second Temple Judaism, Naples, Italy, June 15, 2009), to be published in the printed proceedings of

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364-day calendar of twelve months of unequal numbers of days from twenty-two to thirty-five (2 En. 16:2).¹⁹ But there is also a 364-day calendar of ten months of either thirty-five or forty-two days each, as enunciated in 13:3-4, which has the advantage of allowing both the solar year and each of the ten non-lunar months to be divisible by a whole number of seven-day weeks.²⁰ Furthermore, in 16:8 we find acknowledgement of the Metonic lunisolar cycle of seven month-long intercalations every nineteen years, as employed in the 354-day (before intercalation) rabbinic calendar, but irrelevant to either of the 2 Enoch's solar calendars: "And the moon has a sevenfold intercalation, and a period of revolution of nineteen years. And she begins once again from the start." Additionally, 15:4 recognizes a twenty-eight-year cycle by which the sun returns, as it were, to its starting place at the same time of day and day of the week (presuming a solar year of 365.25 days), known in rabbinic parlance as *birkhat ha-hammah*: "and the cycle of him [the sun] goes on for twenty-eight years, and begins once more from the start."²¹

that conference. For the text of 2 Enoch, in English translation, I am using Francis I. Andersen, "2 (Slavonic Apocalypse of) Enoch," in *The Old Testament Pseudepigrapha*, ed. Charlesworth, 1:91-221. On the question of dating and provenance, see Andersen, 94-97. In what follows, I cannot consider the question of possible calendrical interpolations into the text of 2 Enoch, on which see Andersen, 125 n. d, 130 n. f. On the text of 2 Enoch, see also Christfried Böttrich, *Das slavische Henochbuch* (JSRZ V/7; Gütersloh: Gütersloher Verlagshaus, 1996). On calendar in 2 Enoch, see Stern, *Calendar and Community*, 9-10.

19 See Andersen's lengthy note ad loc., 128 n. d. For the 364-day calendar, see also 13:3-4 and 48:1.

20 As Lourie notes, this emphasis on the seven-day weekly cycle might have produced a thirteen-month, 364-day year of 28 days/month, but there is no evidence for such a calendar in 2 Enoch.

21 This was recently (April 8, 2009) celebrated by Jewish communities world-wide.

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4. Dating Shavu'ot

The entire narrative of 2 Enoch resides within one quarter of the year, the ninety-four-day period between the eleventh of the first month (Nissan) and the ninth of the fourth month (Tammuz), wherein is incorporated the central events in Enoch's life and the central festivals of Passover and Shavu'ot, as well as a pre-Passover 3.5-day fast as part of the four-day epagomenon. Especially significant, both for the life of Enoch and for the calendrical calculations, is the festival of Shavu'ot, the only major biblical festival for which a specific date is not scripturally provided. In fact, determining the date of Shavu'ot proves important to reconstructing ancient Jewish calendars in general. According to Leviticus 23:11, 15, this festival occurs seven weeks (fifty days) after the ceremony of "waving the (barley) sheaf," which falls on "the day after the sabbath" following Passover. At issue in ancient disputes over this dating is whether "sabbath" refers to the seventh day of the week or to a festival day of rest, in either case it being unclear whether the so-designated day falls during the seven-day Passover festival or only after its completion.

According to the book of Jubilees (15:1; 44:4-5), as well as the dominant Qumran calendar, the "sabbath" in question is the weekly sabbath following the completion of the seven-day Passover festival, that is, the twenty-fifth day of the first month (Nissan), the fifty-day count beginning on the twenty-sixth day of the first month and concluding with the fifteenth day of the third month (Sivan), which would always be a Sunday.²² According to rabbinic Judaism, the "sabbath" in question is the first festival day of Passover, that is, the fifteenth day of the first month (Nissan), the fifty-day count beginning on the sixteenth

22 For a schematic representation of the 365-day calendar according to the Dead Sea Scrolls, see Menahem Kister, ed., *The Qumran Scrolls and Their World* (Hebrew) (Jerusalem: Yad Ben-Zvi, 2009), following 685.

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day of the first month and concluding on the sixth day of the third month (Sivan), which would not fall on a set day of the week.

According to 2 Enoch, as Basil Lourie reconstructs its calendar, Shavu'ot falls on the sixth day of the third month (Sivan). That is, notwithstanding 2 Enoch's sharing a 364-day calendar (in two forms) with Jubilees, 1 Enoch, and the Dead Sea Scrolls, its dating of Shavu'ot agrees with that of rabbinic Judaism (which has a 354-day calendar before intercalation). However, this is achieved in a unique manner, by counting fifty days from the first Sunday, which is also the first day after Passover concludes, this being the twenty-second of the first month (Nissan), and understanding that month to have thirty days and the second month (Iyyar) to have thirty-five (according to some manuscripts of 2 En. 16:2). If Lourie is correct, this would be the *only* calendar of which I am aware that fulfills *both* possible meanings of "the day after the sabbath" (Lev. 23:11, 15), that is, as the day following the seventh day of the week (Sunday) and the day following the (last) Passover festival day of rest. Although 2 Enoch never explicitly identifies the sixth day of the third month (Sivan) with the festival of Shavu'ot, this calculation is highly significant, since it would reflect the *only* known 364-day calendar in which Shavu'ot falls on the sixth day of the third month (Sivan), as it does in the rabbinic 354-day calendar and as the calculation presumably yields in Josephus.²³ In all other known 364-day solar calendars (Jubilees, Qumran), Shavu'ot falls on or around the fifteenth of Sivan, by counting fifty days from the first Sunday following the conclusion of the seven-day Passover festival (the twenty-sixth of Nissan), with Nissan and Iyyar having thirty days each.²⁴

23 By counting fifty days from the second day of Passover, being the sixteenth of Nissan, as per Josephus, *Antiquities* 3.250-53. Before the calendar was set, Shavu'ot could, presumably, fall on the fifth of Sivan, if the preceding month was determined to have had thirty-one days.

24 For a polemical allusion to this manner of counting, whereby, according to the "Boethusians," Shavu'ot would always fall on a Sunday, see *m. Menah.* 10:3; *m. Hag.* 2:4 (without reference to Boethusians); *t. Roš. Haš.* 1:15.

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The advantage of Shavu'ot falling on the fifteenth of Sivan is that it is the mid-point in the month, and thereby consistent with the mid-month datings for the other pilgrimage festivals, even though the advantage of its being a full-moon is lost in these calendars since the months are not true lunar months. In the rabbinic calendar, the advantage of Shavu'ot falling on the sixth of Sivan is that that date, according to the rabbinic chronological interpretation of Exodus 19, is the date on which the receiving of the Torah took place at Mt. Sinai,²⁵ an association that is *nowhere* made or implied in 2 Enoch. In other words, in this regard the Shavu'ot of 2 Enoch coincides *chronologically* with the rabbinic Shavu'ot, but not *narratologically*.

Inter-communal disputes regarding the proper date of Shavu'ot are particularly significant since Shavu'ot is the *only* major scriptural festival with which no historical event is scripturally associated, its scriptural significance being wholly agricultural and sacrificial.²⁶ Shavu'ot is a narratively empty vessel begging to be filled. As Lourie convincingly demonstrates, 2 Enoch amply obliges, by identifying the sixth day of the third month (Sivan) as the date of Enoch's birth (68:1), as well as the date on which he returns to earth from his sixty-day ascent to heaven, by arguing that the ascent began on the eleventh of the first month (Nissan), the beginning of the 4-day epagomenon prior to Passover, one month prior to his second ascent and disappearance from earth on the sixth day of the fourth month (Tammuz) (contrary to 68:3), as well as the feast of the consecration of Methusela three days later on the ninth day of the fourth month (Tammuz) (see 69:1). In this regard, 2 Enoch has important antecedents in the book of Jubilees, which associates the date of Shavu'ot (fifteenth of the third month) with a

25 See *Mek. of R. Ishmael, Bahodesh 3*.

26 By contrast, in addition to its agricultural aspects, Passover commemorates the Exodus from Egypt, while Sukkot marks the desert wandering and dwelling in booths. Moshe Weinfeld (*Deuteronomy 1-11* [AB 5; New York: Doubleday, 1991], 267-75) tries valiantly to find inner-biblical associations of Shavu'ot with Sinaitic revelation, but, to my mind, unconvincingly.

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number of covenantally significant scriptural events: the covenant with Noah following the Flood (although previously observed in heaven since creation), which henceforth is to be annually renewed (6:10-18), as it is by Abraham, Isaac, and Jacob (6:17-19; 14:19-20; 15:1-4; 44:1-8); the messianically significant birth of Isaac (16:12-14); and the revelation at Mt. Sinai (1:1). Similarly, Shavu'ot is a central festival of covenant renewal and induction among the "Qumran community," although the Dead Sea Scrolls (aside from *Jubilees*) never explicitly connect it to Sinaitic revelation per se.²⁷

Similarly, rabbinic Judaism and various Christian churches continue to imbue Shavu'ot/Pentecost with narrative associations. Although the revelation at Mt. Sinai is the central event associated by rabbinic Judaism with Shavu'ot, other, less well-known associations are with the first sacrifices (by Cain and Abel), the Patriarchs, Hannah's prayer, and the birth and death of King David.²⁸ Similarly, Shavu'ot/Pentecost bears great significance in the narrative of Christian community formation in Acts 2. As Lourie so well demonstrates, the calendar and chronology of 2 *Enoch* are important aspects of that work's transmission and transformation in Christian circles, especially for the association of Jesus's nativity with the date of Enoch's birth on the sixth of the third month, and of Jesus's baptism and disappearance, according to Origen, on the sixth of the fourth month, the date associated with Enoch's final

27 See 1QS I,16-II,18; 4Q266 (4QD^a) 11 16-18 = 4Q270 II,11-12; 4Q320 (4QCalendrical A) 4 III,5; 4Q327 (*olim* 4Q394 1-2) (4QCalendrical E^b) 1-2 I,15-17. See my "Rhetoric and Hermeneutics in Miqṣat Ma'áse Ha-Torah (4QMMT): The Case of the Blessings and Curses," *DSD* 10 (2003): 150-61; "Looking for Narrative Midrash at Qumran," in *Rabbinic Perspectives: Rabbinic Literature and the Dead Sea Scrolls. Proceedings of the Eighth International Symposium of the Orion Center for the Study of the Dead Sea Scrolls and Associated Literature, 7-9 January, 2003*, eds. Steven D. Fraade, Aharon Shemesh, and Ruth A. Clements (Leiden: Brill, 2006), 43-66.

28 See Louis Ginzberg, *Legends of the Jews*, 7 vols. (Philadelphia: Jewish Publication Society, 1913-1938), 1:317; 4:114; 5:136 (n. 11), 187 (n. 52); 6:216-217 (n. 9); 271 (n. 126).

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ascension.²⁹ To ask whether such narrative associations have shaped calendrical calculations, or vice versa, is to inquire of the primacy of the chicken or the egg. The calendars of 2 Enoch, as we have and might reconstruct them, partake both of Jewish calendrical diversification of the Second Temple period, and of its continuing post-Temple Jewish and Christian afterlives of intersection and variegation. As in the Astronomical Book of Enoch, and in sharp contrast to the book of Jubilees, the familiarity with and theoretical interest in a *variety* of calendrical systems and methods of calculation in 2 Enoch suggest a lack of interest in or espousing of actual calendrical practice, or, conversely, in the deriding of alternative calendrical practices.

5. The Dead Sea Scrolls

The Dead Sea Scrolls have added immensely to our knowledge of ancient Jewish calendars and calendrical disputes, as over twenty texts, many of them fragmentary, containing calendrical information, have been identified among the scrolls. It is generally understood by scholars that calendrical differences between the central Qumran community, which appears to have followed a 364-day solar calendar, and the Jerusalem temple establishment, which is presumed to have followed a 354-day (before intercalation) lunisolar calendar, played an important role in the community's split and separation from the majority of Jewish society of late Second Temple times, and in their continuing esoteric self-understanding.³⁰ Some possibly polemical allusions to such a split have been detected, but none as direct or forceful as in the book of Jubilees.

29 Later Christian calendars similarly associate the Feast of Transfiguration in August and the Christian Feast of the Epiphany on the sixth of January. For more on the Christian afterlife of Enochic and Pentecostal associations, see J. Van Goudoever, *Biblical Calendars*, rev. ed. (Leiden: Brill, 1961), 182-214, 228-35.

30 For such a view of the original split, see VanderKam, *Calendars*, 113-16. For more skeptical views of the role of calendrical differences in Qumran origins, see below, n. 40.

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For example, the Community Rule (1QS I,13-15), one of the most important scrolls for our understanding of the sect's organization and ideology, speaking of the members of the community having acquired knowledge and practiced discipline, instructs: "They shall not depart from any command of God concerning their times; they shall be neither early nor late for any of their appointed times, they shall stray neither to the right nor to the left of any of His true precepts."³¹ Scholars assume that the "early" and "late" with respect to "times" and "seasons" (*mo'adim*; appointed times-festivals) refers to calendrical deviations caused by using alternative calendars to that used by the community.³² If so, calendrical deviation is identified with deviation from the observance of divine laws. At several points in another central rule scroll, the Damascus Document, it is stressed that what differentiates and separates the true upholders of the covenant from the rest of Israel is the divine revelation of

the hidden things in which all Israel had gone astray. He unfolded before them His holy Sabbaths and his glorious feasts (*mo'adim*), the testimonies of His righteousness, and the ways of His truth, and the desires of His will which a man must do in order to live.³³

Needless to say, the proper observance of the appointed times requires a correctly calibrated calendar. However, whether this rises to the level of direct polemic is less certain.

31 Translation is from Geza Vermes, *The Complete Dead Sea Scrolls in English*, rev. ed. (London: Penguin, 2004), 99. For the warning not to deviate to the right or left, see Deut. 28:14: "and do not deviate to the right or to the left in any of the commandments that I enjoin upon you this day..." (NJPS). Similarly, Deut. 5:28; 17:11, 20. It would appear that 1QS is equating "right" and "left" with calendrical "early" and "late."

32 See VanderKam, *Calendars*, 45-46. For a similar sense of *mo'adim*, with a possibly similar polemical ring, see 1QS I,8-9; III,9-10. Cf. Dan. 7:25.

33 CD III,14-15. Translation is from Vermes, *The Complete Dead Sea Scrolls in English*, 131. Cf. CD VI,18-19; XII,3-4. For the "hidden things" (revealed to the sect alone), which may be understood to include their calendar, see Deut. 29:28; CD V,4; XV,13; 1QS V,11-12; VIII,11-12.

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One text from among the Dead Scrolls, *Miqṣat Ma'āse Ha-Torah* (4QMMT), is especially significant for shedding light on the disputes that led to, maintained, and justified the separation of the sectarian community from the rest of Israel, in the words of the text, for which “we have separated ourselves from the multitude of the people.”³⁴ While the twenty or so specified “precepts” that are enunciated by the text as differentiating its practices from those of the Jerusalem temple/priestly establishment mainly relate to ritual purity rules, one of the two main manuscripts (4Q394) begins with the last three lines of what must have been a much longer twelve-month calendrical text, which would have listed the days of each month on which Sabbaths and, presumably, festivals fell, and the months to which was added an epagomenal (thirty-first) day. Lines 2-3 of 4Q394 3-7 I (=4QMMT A20-21) conclude the calendar with (as restored by the modern editors): “And the year is complete – three hundred and si[xty-four] days.”³⁵

While there is nothing polemical about such a calendar (or any of the other calendars found at Qumran) in and of itself, someone saw fit to attach it to the same scroll as and prior to the body of 4QMMT,

- 34 4QMMT C7 (4Q397 14-21 7). Elisha Qimron and John Strugnell, *Qumran Cave 4, V: Miqṣat Ma'āse Ha-Torah* (DJD X; Oxford: Clarendon, 1994), 59 (henceforth referred to as DJD X). For my own understanding of the function of this text, see Steven D. Fraade, “To Whom It May Concern: 4QMMT and Its Addressee(s),” *RevQ* 76 (2000): 507-26; idem, “Rhetoric and Hermeneutics in Miqṣat Ma'āse Ha-Torah (4QMMT): The Case of the Blessings and Curses,” *DSD* 10 (2003): 150-61.
- 35 DJD X:45. The editors of the editio princeps have mistakenly appended the calendrical text 4Q327 (Calendrical Doc. E^b) before the extant beginning of 4Q394 (labeling the former, 4Q394 1-2 I-V [DJD X:7, 44, and Plate I] and the latter, 4Q394 3-7 I,19-21 [DJD X:14]), since it evidences a similar 364-day calendar. For a detailed discussion, see James C. VanderKam, “The Calendar, 4Q327, and 4Q394,” in *Legal Texts and Legal Issues. Proceedings of the Second Meeting of the International Organization for Qumran Studies. Published in Honour of Joseph M. Baumgarten*, eds. Moshe Bernstein, Florentino García Martínez, and John Kampen (Leiden: Brill, 1997), 179-94; as well as idem, *Calendars*, 75, 120 n. 3.

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which enumerates the differences between the sectarian community and those from whom it has separated itself. Whatever the (unrecoverable) intention of the scribe of 4Q394 in attaching a 364-day solar calendar before the legal body of 4QMMT, we can presume that its rhetorical effect on its sectarian readers/auditors would have been for them to understand the calendar as one of the reasons for which “we separated ourselves from the multitude of the people.” As James VanderKam states, “That the first copy of 4QMMT began with a calendar seemed to confirm the centrality of the subject in Qumran polemics.”³⁶ However, whether or not one considers the calendrical text to play a specifically *polemical* role in its present setting, that is, by targeting those who followed a different, presumably lunar calendar, depends on how polemical one views the genre and function of 4QMMT overall, that is, whether it is *directly* addressed to an adversarial group or a leader thereof, as has been generally presumed. For example, John Strugnell, in his “second thoughts” on 4QMMT, is unable to understand why such a “non-polemical” calendrical list, “addressed to no ‘opponents’,” and forming “no part of MMT’s loftier polemic or hortatory themes” would find its place here.³⁷ Menahem Kister solves the problem by arguing the precise opposite: that the solar calendar in its present setting is polemical for having been preceded by a personal opening to the adversarial addressee (nowhere extant), defining the document as a whole thereby as polemical.³⁸ However, even if one views 4QMMT as an intra-mural work intended or, at the very least, functioning to

36 VanderKam, “The Calendar, 4Q327, and 4Q394,” 179.

37 John Strugnell, “MMT: Second Thoughts on a Forthcoming Edition,” in *The Community of the Renewed Covenant: The Notre Dame Symposium on the Dead Sea Scrolls*, eds. Eugene Ulrich and James VanderKam (Notre Dame, Ind.: University of Notre Dame Press, 1994), 62; idem, “Appendix 3: Additional Observations on 4QMMT,” DJD X:203. See also DJD X:109-10.

38 Menahem Kister, “Studies in 4QMiqṣat Ma’āse Ha-Torah and Related Texts: Law, Theology, Language and Calendar” (Hebrew), *Tarbiz* 68 (1998-1999): 360. For further opinions, see Fraade, “To Whom It May Concern,” 521-22 n. 52.

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strengthen the self-understanding of its sectarian auditors vis-à-vis the rest of Israel,³⁹ that is, to emphasize internally the necessity and justification for their separation (in a sense, an indirect polemic), the inclusion of the community's solar calendar, in implicit opposition to that of others, would have fit its parenetic function. As I previously wrote:

Particularly for candidates and neophytes, familiarity with the basic structure and outline of the community's 364-day solar calendar would have been an essential part of their socialization to the community's separatist practice and self-understanding. For such newcomers, the social consequences of adherence to the community's solar calendar, as to its purity rules, would have been a particularly significant and difficult boundary to cross in marking their separation from the "multitude" of Israel under the leadership of the Jerusalem priesthood, and their entry into the renewed covenant.⁴⁰

An important aspect of many of the Dead Sea Scroll calendrical texts is that they not only synchronize the sabbaths and festivals with a 364-day solar calendar, but they also mark time according to the twenty-four priestly courses or orders (*mishmarot*) that derive from 1 Chronicles 24:7-18 (although some texts trace the priestly rotation back to the time of creation). Each such priestly course would have served for a week at a time and in succession in the Jerusalem temple. Thus, any date on the

39 For my view, see above, n. 34. For similar thinking, see Maxine L. Grossman, "Reading 4QMMT: Genre and History," *RevQ* 20 (2001): 3-22; idem, *Reading for History in the Damascus Document: A Methodological Study* (Leiden: Brill, 2002), 57-87. For a recent history of the scholarship on the genre and function of 4QMMT, see Hanne von Weissenberg, *4QMMT: Reevaluating the Text, the Function and the Meaning of the Epilogue* (Leiden: Brill, 2009), 1-25.

40 Fraade, "To Whom It May Concern," 522-23. For the view that the inclusion of the calendar in the manuscript of 3Q394 is not of significance for the place of calendar in Qumran sectarianism, see Stern, *Calendar and Community*, 17; Lawrence H. Schiffman, *Reclaiming the Dead Sea Scrolls: The History of Judaism, the Background of Christianity, the Lost Library of Qumran* (Philadelphia: Jewish Publication Society of America, 1994), 305.

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solar calendar could also be designated as a day of the week of the service of a particular priestly course. Since a fifty-two-week, 364-day solar year is not evenly divisible into twenty-four weekly courses, a given date on that calendar, while falling on the same day of the week every year, would not fall on the same day of the same priestly course. Some texts suggest a six-year cycle (312 weeks, or 13 complete cycles of twenty four priestly courses) after which, the priestly courses would fall again on the same dates of the 364-day calendar. For example 4QCalendrical Document A or 4QMishmarot A (-4Q320 4 III,1-5; restored on the basis of similar texts) begins:

- 1 The first year (of the six-year cycle) <vacat> its festivals
- 2 On the 3rd (day) in the week of the sons of Maaziah (24th course)
(falls) the Pesah
- 3 On the 1st (day) in Jeda[iah] (2nd course) (falls) the Waving of the
[Omer]
- 4 On the 5th (day) in Seorim (4th course) (falls) the [Second] Pesah
- 5 On the 1st (day) in Jeshua (9th course) (falls) the Festival of Weeks
[etc.]⁴¹

This document presumes certain knowledge based on a 364-day solar calendar: 1. Passover (Pesah), beginning on the fourteenth day of the first month (Nissan), is always a Tuesday. 2. Each of the priestly courses, as delineated in 1 Chronicles 24:7-18, begins on the first day of the week (Sunday) and lasts for seven days. 3. The first two months of the year (Nissan and Iyyar) contain thirty days each. From this information, it can be concluded: 1. The Waving of the Omer takes place on Sunday, the twenty-sixth day of the first month (Nissan). 2. The Second Pesah falls on Thursday, the fourteenth day of the second month (Iyyar). 3. The Festival of Weeks (Shavu'ot) falls on Sunday, the fifteenth day of the third month (Sivan).⁴²

41 DJD XXI:55, translation slightly altered.

42 For more on the *mishmarot* texts from the Dead Sea Scrolls, see Vander-Kam, *Calendars*, 77-85; Shemaryahu Talmon, "Calendars and Mishmarot,"

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What was the function of such lists of priestly courses and their correlation with the 364-day solar calendar, especially for a community/movement which, most scholars believe, by the first century BCE, was no longer participating in the Jerusalem temple ritual or celebrating festivals according to its calendar? As James VanderKam frames the question:

[The priestly courses'] presence in these [calendrical] lists raises intriguing questions about why a group that was physically and ideologically separated from the current temple cult took the trouble to align the periods when the priestly courses would be on duty with other entities in their calendars.⁴³

While a response might at first seem to hang on a choice between practical function or theoretical/theological interest, the possibilities are more variegated and intertwined. Perhaps it was important for priests among the Qumran community to preserve a record of which course they belonged to, with the expectation that sometime soon they would once again serve in the temple according to the unbroken rotation schedule which they had preserved, even while it was inapplicable, once the Jerusalem temple and priesthood were reconstituted according to its divinely revealed (to the community) rules of purity, ritual, and calendar. In the meantime, might we imagine that the members of each such priestly course, "exiled" though it was from the temple, marked its week of service in some privileged manner within the ritual life of the community?⁴⁴ In order to do so, of course, the priestly courses and the communal, especially festival, calendar needed to be synchronized with one another. But such synchronization would also convey the idea that the life of the community *as a whole* was in rhythmic concordance not only with the divinely created and serving celestial rotations,

Encyclopedia of the Dead Sea Scrolls, ed. Lawrence H. Schiffman and James C. VanderKam (Oxford: Oxford University Press, 2000), 110-12.

43 VanderKam, *Calendars*, 73.

44 Perhaps akin to the rabbinic *ma'amadot*.

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dominated by the sun, but also with the cultic cycle of priestly service, which could be understood to function both humanly and angelically in the absence of a legitimate physical temple. VanderKam quotes M. Albani as follows:

The basic idea of the calendrical arrangement represented in the 4QMishmarot texts is the concept of a correspondence between heaven and earth, according to which the circuits of the stars and the cycles of the priestly courses have a common origin. This universalizing of the temple cult to the farthest horizon of the creation naturally could have sprung only from the theological interests of priestly circles.⁴⁵

As VanderKam emphasizes, “With heaven and earth moving in a harmonious rhythm, the order and design of God’s creation became manifest to all.”⁴⁶ Whether or not the impetus for such synchronization could have “sprung” only from priestly circles, the community as a whole would have participated, however vicariously, in the correlation of cultic and celestial cycles.

Before proceeding, it should be noted that the preservation of lists of the twenty-four priestly courses (although not in calendrical form) continued for centuries after the destruction of the Jerusalem temple, especially in the Byzantine period, both on synagogue plaques and in liturgical poetry (*piyyut*). Such lists have been uncovered in synagogues in the Land of Israel at Caesaria, Ashkelon, Rehov, perhaps Kibbutz Kissufim (near Gaza), and Nazareth, as well as outside of the Land of Israel in Yemen. While their function in these settings is unclear, they presumably served to connect at least the priests within those local communities, and perhaps the community of worshipers as a whole, with memories of the destroyed temple and with hopes for its eschatological

45 M. Albani, “Die lunaren Zyklen im 364-Tage-Festkalender von 4QMishmarot/4QS^e,” *Mitteilungen und Beiträge* 4 (1992): 23, translated by VanderKam, *Calendars*, 74.

46 VanderKam, *Calendars*, 74.

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restoration, as did other aspects of synagogue iconography which represented the temple sancta and ritual objects.⁴⁷ Similarly, liturgical poets (*paytanim*) of around the same time wrote poems that memorialized and glorified the twenty-four priestly courses, long after they had ceased to have a practical function in Jewish worship, forming thereby a dynamic bridge between past memories and future expectations, while linking both to the present worship experience.⁴⁸ Some of these poems, focusing on a particular priestly course by playing on its name and/or the name of its Galilean place of settlement, were read in synagogue on the sabbath immediately after which that priestly course would have begun its service, were the temple still functioning. Thus, although not strictly calendrical in form, such priestly lists and their poetic elaborations would have served to mark the cycle of cultic time in the absence of actual cultic worship.⁴⁹

Returning to the calendrical texts of the Dead Sea Scrolls, at an earlier stage of their publication, the practicality of a 364-day solar calendar was questioned on the grounds that it would still be 1.25 days short of a true solar year, being enough to cause the major festivals,

47 For the latter, see Steven D. Fraade, "The Temple as a Marker of Jewish Identity Before and After 70 CE: The Role of the Holy Vessels in Rabbinic Memory and Imagination," in *Jewish Identities in Antiquity: Studies in Memory of Menahem Stern*, eds. Lee I. Levine and Daniel R. Schwartz (Tübingen: Mohr Siebeck, 2009), 235-63.

48 For both the synagogue plaques and poems, with reference to previous scholarship, see Lee I. Levine, *The Ancient Synagogue: The First Thousand Years*, 2nd ed. (New Haven: Yale University Press, 2005), 239, 520-21, 525, 586-87. On the function of the synagogue plaques, see Joseph Naveh, *On Stone and Mosaic: The Aramaic and Hebrew Inscriptions from Ancient Synagogues* (Hebrew) (Jerusalem: Israel Exploration Society, Carta, Ma'ariv, 1978), 88. The list of *mishmarot* in the synagogue at Rehov are among fresco inscriptions that have been reported but not yet published. I am relying on Haggai Misgav, "The List of Fast Days found in the Synagogue of Rehov," *Israel Museum* (forthcoming).

49 See Joseph Yahalom, *Poetry and Society in Jewish Galilee of Late Antiquity* (Hebrew) (Tel Aviv: Hakibbutz Hameuchad, 1999), 112-16.

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within a few decades, to become out of sync with their seasonal and agricultural associations. However, several more recently published fragments attest to calculations and calendars that brought the solar calendar into correlation with the solar year through intercalation, as well as that synchronized the 364-day solar year with the phases of the true lunar months.⁵⁰

One non-calendrical text from the Dead Sea Scrolls is particularly indicative of the high stakes of calendrical difference and dispute. It takes the form of a running commentary (*peshet*) on the prophecy of Habakkuk, in particular interpreting the prophetic words (Hab. 2:15), “Ah, you who make others drink to intoxication / As you pour out your wrath,⁵¹ / In order to gaze upon their nakedness”⁵² (NJPS), as follows (1QpHab XI,4-8):

Interpreted, this saying concerns the Wicked Priest who pursued the Teacher of Righteousness to the house of his exile that he might confuse [or, swallow/destroy] him with his venomous fury. At the time appointed for rest, for the Day of Atonement, he appeared before them to confuse them, and to cause them to stumble on the Day of Fasting, their Sabbath of repose.⁵³

The commentary understands the verse as a prophetic prediction of a future event and set of characters, now identified with (and fulfilled in) an event in the recent past life of the community. Although the details

50 For the intercalation of the solar calendar, see VanderKam, *Calendars*, 82, 84. For the intercalation of the lunar calendar, see *ibid.*, 81. For correlations of the solar and lunar calendars, see *ibid.*, 69-70, 74, 76 (4Q317=4QPhases of the Moon).

51 While the masoretic text is *hāmātēkā* (“your wrath”), the text cited as the basis for the *peshet* is *hāmātō* (“his wrath”), referring the charge to a third person (the “you” earlier in the verse’s translation being absent from the Hebrew).

52 While the masoretic text is *mē’ōrēhem* (“their nakedness”), the text cited as the basis for the *peshet* is *mō’ādēhem* (“their sacred days”).

53 Translation is from Vermes, *The Complete Dead Sea Scrolls in English*, 515.

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are few and the actual names of the protagonists are unknown, most scholars suppose that this refers to an incident in which the Wicked Priest, presumably a Jerusalem high priest of the mid- to late-second century BCE, came to the place of (self-imposed) exile of the Teacher of Righteousness, presumed to have been the community's originary prophetic and priestly leader. This occurred on the day which by the community's calendar was the Day of Atonement, a holy day of complete rest and a fast day, but which by the calendar employed by the Jerusalem establishment was a profane workday, on which the Wicked Priest was not ministering in the temple and, therefore, free and able to travel. Scholars uniformly presume that the conflict here is between two totally different calendars, a 364-day solar one for the Teacher of Righteousness and a 354-day (before intercalation) lunar one for the Wicked Priest, according to which the Day of Atonement would have fallen on two different days.⁵⁴

The exact nature of what the Wicked Priest did to the Teacher of Righteousness on the latter's Day of Atonement is not clear from the text. Did he physically attack him on a day on which the Teacher would have been unable to defend himself (cf. 1 Macc. 2:29-41)? Did he force the Teacher to perform some forbidden act on the Day of Atonement, e.g., to eat or drink as the biblical verse might suggest? Did he in some other way interfere with the Teacher's required rest? In any case, the *peshet* slips, as does the biblical lemma, from what the Wicked Priest did to "him" (the Teacher) to what he did to "them" (the

54 As we shall see in a similar calendrical dispute in a rabbinic text, it is possible that the dispute had to do with as little as a one-day difference, arising from a dispute *within* a shared calendrical system (e.g., whether the preceding month was a day shorter or longer). However, the extreme confrontational nature of the story would seem to suggest a larger calendrical conflict, as may be presumed from the broader context of Qumran calendrical texts. Furthermore, the presence of the word *mō'ādêhem* ("their appointed days") in the lemma as commented upon by the *peshet*, may suggest a broader calendrical conflict that would have affected the dating of the other festivals as well. See above, n. 52.

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Teacher's community), suggesting that the confrontation was not simply "personal." The purpose of the Wicked Priest's pursuit of the Teacher of Righteousness to "his house of exile" (presumably, the Qumran community) was to "confuse" the latter, that is, to challenge the correctness and legitimacy of his (their) calendar, and thereby, to "cause them to stumble," that is, to interfere with their observance of the Day of Atonement (and by implication, the other calendrically assigned days).

Whatever the specifics, the *peshet* suggests an angry if not violent confrontation between opposing (high) priestly figures, standing respectively for two socio-religious bodies, with no seeming possibility of compromise or conciliation, either calendrical or human. The prophetic verse upon which the *peshet* comments is understood not only to have predicted this confrontation, but to have dualistically cast the Wicked Priest as the villain and, by implication, the exiled Teacher of Righteousness (and his exiled community) as the righteously suffering victim of the Wicked Priest's venomous wrath. By further implication, the calendar of the Teacher and his community are prophetically justified and vindicated.

6. An Early Rabbinic Controversy

Although we cannot do justice to the plethora of early rabbinic texts that deal with calendrical issues (concentrated in the mishnaic and toseftan tractates *Rosh HaShanah*), there is one passage in particular that is strikingly similar to the *peshet* text we just examined, even as it is fundamentally different in its implications. The background to our passage is as follows: The "rabbinic" 354-day lunisolar calendar required two forms of intercalation to bring it into periodic accord with the monthly cycle of the moon (29.5 days) and the annual cycle of the sun (365.25 days): adding a day to some months so they would be thirty days in length rather than twenty-nine, and adding an extra month (Adar II) to the year in seven out of every nineteen years. According to the Mishnah (*Sanh.* 1:2), both intercalations were pronounced by a

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special centralized court (of three or seven), originally in Jerusalem, but after its destruction in 70 CE at Yavneh, on the basis of the testimony of lay witnesses, who would be questioned by the members of the court to determine their reliability.⁵⁵

In the case of the monthly intercalation, if reliable witnesses testified to having seen the first sliver of the new moon on the eve of the thirtieth day of the preceding month, that day would be declared the first day of the new month, the preceding month having had twenty-nine days. However, if no reliable witnesses could bring testimony to having sighted the new moon on the eve of the thirtieth day of the preceding month, that month would be declared to have had thirty days, with what would have been the thirty-first day becoming the first day of the next month. This procedure, and the broadcasting of whether the preceding month was one of twenty-nine or thirty days, was particularly critical in months that contained festivals, and especially in the month of Tishri, during which the tenth day was the Day of Atonement. If the preceding month (Elul) were declared to have had thirty days, the Day of Atonement would fall one day later than if it had been declared to have had twenty-nine days.

The Mishnah (*m.Sanh.* 2:8) records two disagreements as to whether the testimony of certain witnesses was acceptable for purposes of the determination of when the first day of Tishri would fall, with

55 It is generally presumed that the tannaitic rabbis had sufficient knowledge of the length of true lunar and solar cycles to have been able to set the calendar accurately on the basis of calculation (that is, alternating lunar months of twenty-nine and thirty days, and adding an extra lunar month seven times every nineteen years) rather than through real-time witnessing and the uncertainties and possible confusion and dispute thereby produced. Their preference, therefore, for setting the calendar through a process of lay witnessing before a (rabbinic) court must have been driven by other considerations, such as a desire to have the laity participate in the process (e.g., *m.Roš. Haš.* 2:5-6). On the question of human witnessing and legal truth more broadly, see Chaya T. Halberstam, *Law and Truth in the Hebrew Bible and Rabbinic Literature* (Bloomington, Ind.: Indiana University Press, 2009).

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Rabban Gamliel, the head of the court, being more accepting of questionable testimonies than some of his rabbinic colleagues. With regard to two witnesses whose testimony Rabban Gamliel had accepted, Rabbi Dosa ben Harkinas declared, "They are false witnesses," to which Rabbi Joshua (ben Ḥananiah) declared, "I agree with your position." The practical consequence would have been that the day that Rabban Gamliel declared to be the first of Tishri Rabbi Dosa ben Harkinas and Rabbi Joshua would have considered the thirtieth day of the preceding month of Elul, thereby necessitating that the first of Tishri (and the Day of Atonement on the tenth of Tishri) would be a day later for them than it was for him (as for those who followed his decision, which we might presume from the Mishnah's perspective was the majority of the sages, if not the people). The Mishnah continues with the following narrative (*Roš Haš. 2:9*):⁵⁶

[A]Rabban Gamliel sent (word) to him (=Rabbi Joshua): "I decree that you come to me with your staff and purse on the Day of Atonement as determined by your reckoning."

[B]Rabbi Akiva went and found him (=Rabbi Joshua) troubled. He (=Akiva) said to him (=Joshua), "I can demonstrate that whatever Rabban Gamliel has done is (validly) done, as it is said, 'These are the appointed times (*mo'adim*) of the Lord, the sacred occasions, which you shall proclaim' (Lev. 23:4). Whether they are in their proper time or not in their proper time I (=God) have no other appointed times but these (whose times you shall proclaim)."

[C]He (=Joshua) came upon Rabbi Dosa ben Harkinas. He (=Dosa) said to him (=Joshua), "If we are going to take issue with the court of Rabban Gamliel, we would need to take issue with every single court that has served from the days of Moses until now, as it is said, 'Then Moses and Aaron, Nadab and Abihu, and seventy elders of Israel ascended' (Exod. 24:9). And why were the names of the elders not specified? To teach that every group of three (elders) who serve

56 For our purposes, there are no appreciable differences between the printed editions and the principal manuscripts of the Mishnah here.

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as a court of Israel, it is indeed equivalent (in authority) to the court of Moses.”

[D]He (=Joshua) took his staff and purse in his hand and went to Yavneh, to Rabban Gamliel, on the Day of Atonement as determined by his (=Joshua's) reckoning. Rabban Gamliel stood up and kissed him on his head and said to him, “Come in peace, my master and my disciple – my master in wisdom and my disciple in accepting my rulings.”⁵⁷

Here, as in the Qumran *pesher*, we witness a calendrical disagreement (albeit within a shared calendrical system) with severe consequences for legal practice. Rabbi Joshua is forced to choose whether to observe the Day of Atonement on its proper date according to his reckoning, and thereby to reject the judicial authority of Rabban Gamliel, or to accept the judicial authority of Rabban Gamliel at the cost of violating the Day of Atonement, according to Joshua's reckoning, by traveling and carrying on it. With the Day of Atonement being the holiest day of the Jewish calendar, and with Rabban Gamliel being the highest rabbinic authority of his day, Rabbi Joshua's dilemma is extreme. Clearly, he is very distraught at the choice he must make, with no escape or middle-ground available to him. Rabbi Akiva, no lightweight, argues to him that Scripture itself has God assigning the responsibility for setting the calendrical times for the sacred occasions to the Israelites (implicitly, through their leaders). In effect, so far as God is concerned, there is no “correct” date except as determined by the Israelites, who, as it were, invite him to the festivals on days that *they* determine and with which he complies.

Of course, Rabbi Akiva's argument leaves unclear who among the Israelites determines the date of a festival, and by implication, the larger calendar upon which the dating of the festivals depends. Rabbi Dosa

57 For a similar set of scriptural arguments for accepting the rulings of lesser and latter-day judges as being of equal authority to those of earlier “heavyweights,” see *t.Roš. Haš.* 1:18; *b.Roš. Haš.* 25a-b. Cf. *Sifre Deut.* 153.

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ben Harkinas, whose disagreement with Rabban Gamliel sparked the dispute, argues that the viability of the legal system depends upon an unbroken succession of courts, beginning with Moses's court of seventy anonymous elders, and that each successive court, regardless of the identity of its members, deserves the same respect and obedience in order for the legal system to be maintained. In a sense, the "truth" of their verdicts, including calendrical determinations, is of secondary importance to their continuity.⁵⁸

As a result of these scriptural arguments, Rabbi Joshua decides to obey Rabban Gamliel's decree, even though doing so entails profaning the Day of Atonement, according to Rabbi Joshua's calendrical reckoning. While this is a "victory" for Rabban Gamliel, that is, for his authority as head of the court, he greets Rabbi Joshua in a conciliatory, affectionate manner, by noting that whereas Rabban Gamliel is superior in authority, Rabbi Joshua is superior in wisdom, including, we may presume, in calendrical matters. If superiority is conventionally granted to the master over the disciple, in this sense at least, the two sages end up as both master and disciple to one another – a virtual draw.

Comparing the two narratives, Qumranic and mishnaic, may be unfair given that the latter is much more fully developed as a narrative than is the former. In both cases a figure of superior authority confronts a teacher of considerable knowledge with respect to a calendrical dispute that affects the dating and hence observance of the Day of Atonement. In both cases the figure of superior authority causes the competing figure to violate the Day of Atonement on the day reckoned by the latter to be its correct occurrence. In both cases, scriptural interpretation (albeit of different forms) is used to justify one side in the conflict (the Teacher of Righteousness in the *peshet*; Rabban Gamliel in the Mishnah).

Nevertheless the contrasts between the two stories are striking. In a sense, they are inversions of one another; the directions and emotions

58 Compare the famous story of the "Oven of Akhnai," *b.B. Meṣi'a* 59b.

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of travel and encounter are opposite. In the *peshet*, the Wicked Priest pursues the Teacher of Righteousness to the latter's "house of exile," confronts him in anger, possibly even with violence, so as to force him to violate the Day of Atonement. In the Mishnah, Rabbi Joshua travels to Gamliel's seat of authority in Yavneh (in a sense, in exile from Jerusalem), but in a spirit of conciliation, violating thereby, of his own volition, "his" Day of Atonement. In the *peshet*, the scriptural verse is interpreted in such a way as to justify the Teacher of Righteousness's (and his community's) resistance to the Wicked Priest, and possibly suffering at his hands, thereby prophetically (i.e., divinely) justifying their "deviant" (from the perspective of the Wicked Priest) festival calendar. In the Mishnah, scriptural verses are interpreted so as to justify Rabban Gamliel's exercise of judicial authority, and Rabbi Joshua's compliance with it. The *peshet*'s narrative concludes with the seeming wrathful victory of the Wicked Priest, but the prophetic vindication of the Teacher of Righteousness. The Mishnah concludes with a kiss and reconciliation, affirming the superior status of each of the two sages: one in authority the other in wisdom. The *peshet* may be said to be polemical, against the Wicked Priest, but also the calendar and institution that he represents. If the Mishnah contains a polemic (against those sages who would challenge, even if on legitimate grounds, the judicial authority of the rabbinic head of court), it subverts direct confrontation in the interest of rabbinic domestic peace.⁵⁹

In the *peshet*, there are only two figures, both named only by their sobriquets: one standing for wickedness, the other for righteousness, facing off against each other, with no dialogue or middle ground between them. The latter's community is only hinted at. In the Mishnah, we have the two main, named characters, Rabban Gamliel and Rabbi Joshua, with the latter seeking counsel from two named colleagues,

59 As noted above (n. 24), tannaitic literature alludes to the broader calendrical conflict and polemic, at least with respect to the dating of the festival of Shavu'ot, between the rabbinic sages and others (the Boethuseans), who presumably follow a different calendrical system of reckoning.

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Rabbi Akiva and Rabbi Dosa, who bring, as it were, the main protagonists together through the radical rhetoric of their scriptural interpretations. Although the mishnaic actors are named, we are asked to regard them as standing for a long line of anonymity. Scriptural interpretation in the *peshet* is deictic; that in the Mishnah is dialogical.

Explaining these differences is more complicated than identifying them, since they are likely to be reflections not just of different attitudes toward calendrical dispute and ideology among Qumran sectarians and rabbinic sages, but of broader differences between the discursive practices of *peshet* and Mishnah, and even more broadly of Dead Sea Scrolls sectarian texts and of rabbinic literature. With these caveats in mind, it is fair to say that the differences in tone are at least partly attributable to the fact that the *peshet* text (as is commonly presumed) is dealing with a calendrical dispute between two entirely separate calendrical systems (solar and lunisolar), in which each and every sacred occasion (except, presumably, the Sabbath) would have fallen on a different day, making a shared religious life between the adherents of the two calendars permanently and irresolvably impossible. By contrast, the Mishnah is dealing with a more localized calendrical dispute within a shared (lunisolar) calendar. As the Mishnah frames the story, the dispute between the sages is over which witnesses to the appearance of a new moon provide reliable testimony, who determines their reliability, and what one is to do if one's own view diverges from that of the court (or head of court) designated to make that determination.⁶⁰

For the *peshet*, the conflict between the Wicked Priest and the Teacher of Righteousness, as between the two calendars that they uphold, represents the dualistic opposition between the human and cosmic forces of light and dark, truth and falsehood, the final battle which in the "end of days" will result in the absolute victory of the former and the defeat of the latter. By contrast, the conflict and reconciliation between Rabban Gamliel and Rabbi Joshua, after conferring

60 See above, n. 55.

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with his colleagues, seeks to emphasize the scripturally based necessity of accepting the authority of the duly constituted court and its head, in this case to determine the calendar and the sacred appointed times therein, even when legitimately questioning its judgment, in order (in the “words” of Rabban Gamliel elsewhere) “that strife not multiply in Israel.”⁶¹ The *peshet* is about the polemical confrontation between irreconcilable difference; the Mishnah is about the balance between judicial authority, as vested in an institution, and the vitality of collegial debate within a community of scholars.

Conclusions

In theory, the Hebrew Bible presumes a single shared calendar by which appointed festival times could be collectively celebrated in cyclic accordance with the movements of the sun and moon, as divinely ordered and ordained. In practice, the Hebrew Bible gives little guidance as to how such a calendar is to be constructed, especially in view of the mathematical impossibility of synchronizing days, weeks, lunar months, and the solar year (and agricultural seasons) within an annual cycle, without the human intervention of periodic intercalation. We have seen ample evidence of a plethora of attempts at such synchronization, each one with partial success. These various attempts are largely incompatible with one another, at least in the short term. To the extent that these calendars would have been practiced, they would have resulted in calendrical communities that marked sacred (and profane) time according to different, mutually exclusive schedules from one another. Inevitably, the practitioners of one would have disparaged those of another, especially since if one is “right” the others must be “wrong,” invalidating thereby the divinely commanded religious observances keyed to the “wrong” calendars, which by their very practice would be seen by their opponents as rendering the sacred

⁶¹ See *b.B. Meṣi'a* 59b.

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profane and the profane sacred. Polemical statements to that effect are most evident in the *Book of Jubilees*, and to a lesser extent in some of the Dead Sea Scrolls.

However, we need not presume that each such calendar was actually practiced, especially in the cases of single texts or textual corpora that evidence multiple types of calendars. As we have seen, in texts such as the Astronomical Book of Enoch (1 En. 72-82) and 2 Enoch, multiple calendars could textually coexist, even if we presume a preference for the 364-day solar calendar for festival dating. Where we find multiple calendars, calendrical polemic, at least explicit, is noticeably absent. Such texts display an interest in astronomical and calendrical calculations for, in a sense, their own sake. That is, calculating the phases of the moon and cycles of the sun, and in some cases coordinating these with one another, is of interest and meaning aside from their practical consequences for the dating of festivals. To fathom the cyclic patterns of the celestial bodies is a source of wisdom and a medium for integration with the divinely created cosmos in and of itself.

While calendar and calendrical discourse might be thought to reside in the domain of practice or law (in rabbinic terms, *halakhah*), as we have amply seen, it also partakes of aspects of narrative (*aggadah*), both scriptural and post-scriptural (the latter, as we saw, in *peshet* and *Mishnah*). Living according to an authorized calendar not only, as a practical matter, brings the life clock of the individual into synchronization with that of the community, but equally, as a spiritual matter, brings communal rhythms into synchronization with cyclical patterns of creation, revelation, and redemption, both earthly and celestial, both historical and cosmic, especially as these are understood to be divinely driven. It ensures that the cycles of religious feasting and fasting are communally synchronized as shared commemorations and re-enactments of defining scriptural narrative events as well as synchronizations of communal life with the reliably rhythmic cycles of the divinely designed and directed cosmos. Calendars, and the shared communal lives that they regulate,

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become themselves narratives of both transcending significance and of ever-multiplying and morphing variety. Stated differently, calendars connect their adherents both vertically through space to the divinely created cosmos and horizontally through time to a sacred history both reenacted and anticipated. They do so whether through concrete practice or theoretical contemplation, whether through intra-communal accord or through inter-communal discord.