

THE 364-DAY “QUMRAN” CALENDAR AND THE
BIBLICAL SEVENTH-DAY SABBATH:
A HYPOTHESIS SUGGESTING THEIR SIMULTANEOUS
INSTITUTIONALIZATION BY NEHEMIAH

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This paper presents a new hypothesis concerning the institutionalization of the biblical weekly Sabbath. To be on the cautious side I term my suggestion a “hypothesis” since – as with much of the previous discussion of these issues – there is no certain solution. We are confronted with the challenge of assembling a puzzle with many missing pieces, much like the challenge of reassembling a Qumran scroll. What I am suggesting is a new way of arranging the “fragments” that allows a different picture to emerge.

In brief, I suggest that a 364-day calendar similar to those best known from the Qumran *Mishmarot* texts was put into use in the Jerusalem Temple during the Persian Period, quite possibly as part of the sabbatarian reforms implemented by Nehemiah,¹ and that this was key to the successful institutionalization of the weekly Sabbath. It may even be the case that the 364-day year was a catalyst for the conception of the perpetual weekly Sabbath, rather than vice-versa as is almost universally assumed.

My argument considers together two scholarly controversies that have hitherto been considered separately, and suggests a crossover point. The first concerns the 364-day calendar whose pattern resonates throughout the Dead Sea Scrolls, and whose pre-Qumranic origins have been debated since the 1950’s. The second concerns the origin of the perpetual seventh-day Sabbath observance (which is commonly called the “weekly Sabbath”),² a

¹ Or, at least, attributed to Nehemiah; as with other biblical texts, some scholars suggest that *Nehemiah* text underwent a long editorial process. See for example, Jacob Wright, who suggests that this process continued until the early Hellenistic period; J.L. Wright, *Rebuilding Identity: The Nehemiah-Memoir and its Earliest Readers* (BZAW 348; New York: Walter de Gruyter, 2004).

² I will use the term “weekly Sabbath” for the seventh-day Sabbath, to distinguish it from the “full-moon Sabbath” (about which more will be said below). It should be clear, however, that in the Jewish tradition dating at the latest to some time during the Persian period (as will be discussed below), it is the seventh-day Sabbath that defines the “week.” Unlike the lunar month, which is a natural phenomenon, a “week” – in the sense of a non-natural, culturally determined, repetitive sequence of days that is shorter than a month – need not be seven days long. Part of the purpose of this article is to discuss the origins and institutionalization of the Jewish cultural practice of the seven-day week.

debate which dates back to the nineteenth century. I will take positions on both of these controversies, but I will not spend much time defending those choices since my focus is on how they overlap.

The Debate about the Origin of the 364-Day Calendar

The adherence to a 364-day calendar is one of prominent characteristics of the non-biblical Dead Sea Scrolls found at Qumran. Previously, a calendar of 364-days was known from *The Book of Jubilees* (dated to the second century B.C.E.) and the *Astronomical Book*, chapters 72-82 of *1 Enoch* (dated to the third century B.C.E. or earlier). A 364-day year has the great virtue of dividing exactly into 52 weeks, and subdividing into 4 seasons of 13 weeks each, and has the further practical advantage that the annual holidays fall on the same day of the week every year, and *never* fall on the Sabbath.³ A significant problem, of course, is that it is about 1¼ days short of the true 365¼ day solar year. Given the lack of clear evidence, scholars are divided about whether there were practical methods of intercalation; I will not enter into this debate, but my view assumes that such a calendar could have been used in practice.⁴ In terms of biblical exegesis, it should be noted that there is nothing in the 364-day calendar that places it in conflict with biblical texts,⁵ certainly no more than the lunisolar rabbinic calendar.

³ These features were first pointed out by Annie Jaubert in the 1950's; see A. Jaubert, *La Date de la Cène: Calendrier Biblique et Liturgie Chrétienne* (Paris: J. Gabalda 1957), published in English as A. Jaubert, *The Date of the Last Supper* (trans. I. Rafferty; Staten Island, N.Y.: Alba House, 1965).

⁴ All suggestions turn on the intercalation of multiples of seven-day weeks. James VanderKam suggests that 35 days (5 weeks) could have been intercalated every 28 years; J.C. VanderKam, “The Origin, Character, and Early History of the 364-Day Calendar: A Reassessment of Jaubert’s Hypotheses,” *CBQ* 41 (1979), pp. 390-411 esp. p. 406. Uwe Glessmer develops a possible intercalation scheme based on the sabbatical cycle; U. Glessmer, “The Otot-Texts (4Q319) and the Problem of Intercalations in the Context of the 364-Day Calendar,” in *Qumranstudien: Vorträge und Beiträge der Teilnehmer des Qumranseminars auf dem internationalen Treffen der Society of Biblical Literature, Münster, 25.-26. Juli 1993*, eds. H.-J. Fabry, et al. (Schriften ds Institutum Judaicum Delitzschianum; Göttingen: Vandenhoeck & Ruprecht, 1996), pp. 125-164. For other positive assessments see also M.O. Wise, “Second Thoughts on *duq* and the Qumran Synchronistic Calendars,” in *Pursuing the Text: Studies in Honor of Ben Zion Wacholder on the Occasion of his Seventieth Birthday*, eds. J.C. Reeves and J. Kampen (Sheffield: Sheffield Academic Press Ltd, 1994), pp. 98-120; B.K. Gardner, *The Genesis Calendar* (New York: University Press of America, 2001); G. Boccaccini, “The Solar Calendars of Daniel and Enoch,” in *Book of Daniel: Composition and Reception*, eds. J.J. Collins and P.W. Flint (Leiden; Boston: Brill, 2001), pp. 311-328. For negative assessments see R.T. Beckwith, *Calendar and Chronology, Jewish and Christian* (New York: E. J. Brill, 1996), esp. pp. 126-127; P.R. Davies, “Calendrical Change and Qumran Origins: An Assessment of VanderKam’s Theory,” *CBQ* 45 (1983), pp. 80-89; J.B. Segal, “Intercalation and the Hebrew Calendar,” *VT* VII (1957), pp. 250-307.

⁵ Even as we remember that we cannot speak of a canonized “Bible” for the time and place this calendar was used.

Many Qumran scholars contend that adherence to a 364-day calendar is a key reason why the sect separated itself from the Jewish mainstream of its day.⁶ There is a general scholarly consensus that the Qumran texts in general, and the 364-day calendar texts in particular, display priestly concerns, and that the Qumran community was a priestly oriented group (perhaps Essene, Sadducean, or Enochian) in conflict with the Jerusalem Temple.⁷ The ongoing scholarly debate concerns the origin and use of this calendar – who used it, where, when and why.

The primary attention of Qumran scholars has been on the timing of the displacement of this calendar and its role in the formation of the Qumran sect; even those scholars who assert the likelihood of the priestly antiquity of the 364-day calendar have not suggested a clear historical setting for its introduction into the Temple. One position, especially associated with Shemaryahu Talmon, holds that this calendar was an innovative creation of sectarians who at some point formed the group of “Qumran covenanters,” and was used primarily at the site of Qumran.⁸ The second major position, which I support, was originated by Annie Jaubert and defended by James VanderKam. It contends that the texts represent a mainstream priestly tradition that meshes with the biblical text and pre-dates their use by the community that gathered the library found at Qumran.⁹ This position also

⁶ See, for example, S. Talmon, “The Calendar Reckoning of the Sect from the Judean Desert,” in *Aspects of the Dead Sea Scrolls*, eds. C. Rabin and Y. Yadin; (Scripta Hierosolymitana 4; Jerusalem: Magnes, 1958), pp. 162-199, esp. p. 164, and more recently, S. Talmon, “Calendar Controversy in Ancient Judaism: The Case of the ‘Community of the Renewed Covenant’,” in *The Provo International Conference on the Dead Sea Scrolls: Technological Innovation, New Texts, and Reformulated Issues*, eds. D.W. Parry and E. Ulrich; (Studies on the Texts of the Desert of Judah; Boston: Brill, 1999), pp. 379-395 esp. p. 385; J.C. VanderKam, “2 Maccabees 6, 7A and Calendrical Change in Jerusalem,” *Journal for the Study of Judaism* 12 (1981), pp. 52-74 esp. p. 71; M.G. Abegg, “Does Anyone Really Know What Time it Is: A Reexamination of 4Q503 in Light of 4Q317,” in *The Provo International Conference on the Dead Sea Scrolls: Technological Innovation, New Texts, and Reformulated Issues*, eds. D.W. Parry and E. Ulrich (Studies on the Texts of the Desert of Judah; Boston: Brill, 1999), pp. 396-406 esp. p. 396.

⁷ For example, Schiffman proposes the Saducees, VanderKam defends the Essene hypothesis and Boccacini proposes an Enochian community. L.H. Schiffman, *Reclaiming the Dead Sea Scrolls* (New York: Doubleday, 1995), esp. pp. 83-95; J.C. VanderKam, *The Dead Sea Scrolls Today* (Grand Rapids: Eerdmans, 1994), esp. pp. 71-98; G. Boccacini, *Beyond the Essene Hypothesis* (Grand Rapids: Eerdmans, 1998).

⁸ See for example, Talmon, “The Calendar Reckoning of the Sect from the Judean Desert,”). In the face of texts pre-dating the Qumran community, Talmon refined his position, stating it was “an ancient tradition the Jerusalem priesthood had abandoned,” but has not pursued its implications; S. Talmon, “Qumran Studies: Past, Present and Future,” *JQR* 85 (1994), pp. 1-31, esp. p. 28. Beckwith even more strongly asserts that the Qumran 364-day calendar is nothing more than “a very ingenious piece of exegesis”; Beckwith, 101-110; see also R.T. Beckwith, *Calendar, Chronology and Worship: Studies in Ancient Judaism and Early Christianity* (Leiden-Boston: Brill, 2005), esp. pp. 54-66.

⁹ Jaubert argued that the dated elements of the priestly texts of the Hexateuch were internally consistent with the 364-day calendar, thereby confirming the use and status of this

asserts that this calendar was used in the Second Temple for some period of time beginning in the Persian Period before making its way to Qumran, where it was preserved and observed. Hanan Eshel has recently proposed that the Jerusalem priesthood adapted the 365-day Egyptian solar calendar to a 364-day calendar “sometime during the third century B.C.E.” when Jerusalem was under the control of the Hellenistic Ptolemaic empire.¹⁰

Of particular importance in this context is recent scholarship by Wayne Horowitz and Jonathan Ben-Dov which asserts that the origins of the 364-

calendar at least by the time these books were edited; Jaubert, *The Date of the Last Supper*, esp. pp. 31-52. VanderKam endorsed this view, that the 364-day calendar “was probably the official cultic calendar during the early centuries of the second temple”; VanderKam, “The Origin, Character, and Early History of the 364-Day Calendar: A Reassessment of Jaubert’s Hypotheses,” esp. p. 410. Glessmer is also in this group; U. Glessmer, “Calendars in the Qumran Scrolls,” in *The Dead Sea Scrolls After Fifty Years: A Comprehensive Assessment*, eds. P.W. Flint and J.C. VanderKam; Leiden: Brill, 1999, pp. 213-278. Matthias Albani has emphasized the priestly orientation of the 364-day calendar (*Astronomie Und Schöpfungsglaube: Untersuchungen Zum Astronomischen Henochbuch*, WMANT, Neukirchen-Vluyn, 1994). Building on Albani’s work, Johann Maier has theorized that these calendars are part of the development of the priestly cult during the exile (*Die Qumran-Essener: Die Texte Vom Toten Meer*. Vol. 3. München/Basel: UTB, 1996), esp. p. 124. Philippe Guillaume has recently restated and proposed that “the early Persian period remains the most likely moment to introduce a new calendar in Jerusalem,” while conceding that “history provides no confirmation on this point”; P. Guillaume, “Tracing the Origin of the Sabbatical Calendar in the Priestly Narrative (Genesis 1 to Joshua 5),” *Journal of Hebrew Scriptures* 5 (2005), esp. 5. Bruce Gardner has suggested that an early version of the *Mishmarot* calendar is encoded in the post-exilic composition of Genesis 1-11; if correct, this could be the kind of calendar introduced by Nehemiah (as I argue below); see Gardner.

Some scholars have gone even farther, suggesting that the 364-day calendar may date to the pre-exilic period. Daniel Olson suggests that the 364-day calendar “represents the official calendar of pre-exilic Israel,” since recent scholarship has pushed the dating of the P(riestly) texts of the Bible to the pre-exilic period (whereas earlier scholars had tended to date them to the post-exilic period); Daniel C. Olson, “1 Enoch,” in D.C. Olson, “1 Enoch,” in *Eerdmans Commentary on the Bible*, ed. J.D.G. Dunn (Grand Rapids: Eerdmans, 2003), pp. 904-941, esp. p. 927. Rachel Elijor also suggests that the 364-day calendar was used by “the Zadokite priests, who had officiated as high priests from the time of the First Temple”; R. Elijor, *The Three Temples: On the Emergence of Jewish Mysticism* (trans. D. Louvish; Oxford: The Littman Library of Jewish Civilization, 2004), esp. p. 61. While Elijor references VanderKam’s article, her assertion that the 364-day calendar was used in First Temple times is not supported by that article, nor by Jaubert. I find these proposals for a pre-exilic dating of the 364-day calendar unpersuasive, especially because I agree with the view that the Jewish 364-day calendar tradition evolved out of a Mesopotamian 364-day year no earlier than the exilic period, as will be discussed presently.

¹⁰ H. Eshel, “4Q390, the 490-Year Prophecy, and the Calendrical History of the Second Temple Period,” in *Enoch and Qumran Origins: New Light on a Forgotten Connection*, ed. G. Boccaccini (Grand Rapids: Eerdmans, 2005), pp. 102-110 esp. p. 108. Eshel is not the first to “conjecture” an Egyptian connection; see below note 15. However, I am unconvinced, as is Sacchi; see P. Sacchi, “Measuring Time Among the Jews: The Zadokite Priesthood, Enochism, and the Lay Tendencies of the Maccabean Period,” in *The Early Enoch Literature*, eds. G. Boccaccini and J.J. Collins (Supplements to the Journal for the Study of Judaism 121; Leiden: Brill, 2007), pp. 95-118, esp. p. 95.

day calendar found in these Jewish texts can be traced back to Mesopotamian astronomical practice of the seventh century B.C.E. in which 364 days was the average of a lunisolar intercalary cycle. This intercalary practice added a 30 day lunation every 3 years to the typical lunar year of 354 days made up of 12 lunations (counting a typical lunation as lasting 29.5 days); thus the average year was $354 + 10 = 364$ days.¹¹ This evidence of a Mesopotamian 364-day year is for an *average astronomical year*, which is itself an evolution from a long maintained idealized Mesopotamian astronomical year of 360-days. In contrast, Mesopotamian *calendars* maintained their lunisolar character, (meaning a 354 day = 12 lunar month year or 384 day = 13 lunar month intercalary year, although these could vary slightly depending on observation), and no evidence has been found for a Mesopotamian *calendar* of 364-days. In this sense, the 364-day calendars found at Qumran remain unique.

Mesopotamian astronomy was concerned with the interrelationship of three cycles, those of the sun, moon, and stars. Deriving from this tradition are both Gen 1:16, which mentions these three types of luminaries, and the *Astronomical Book*, which explicitly coordinates their motion. The *Astronomical Book* is considered the oldest of the Jewish 364-day calendar tradition texts, and one of its distinctive aspects is that it lacks any mention of the Sabbath or annual holidays as part of its temporal rhythms.¹² Nevertheless, some scholars had inferred that the 364-day year was a

¹¹ See W. Horowitz, "The 360 and 364 Day Year in Ancient Mesopotamia," *JANESCU* 24 (1996), pp. 35-44 esp. p. 41; W. Horowitz, "The 364 Day Year in Mesopotamia, Again," *NABU* (1998), pp. 49-51; J. Ben-Dov and W. Horowitz, "The 364-Day Year in Mesopotamia and Qumran [Hebrew]," *Meghillot* 1 (2003), pp. 3-26; J. Ben-Dov, "The Initial Stages of Lunar Theory at Qumran," *Journal of Jewish Studies* 54 (2003), pp. 125-138; J. Ben-Dov, "Duq and the Question of Lunar Phases in the Calendars from Qumran: New Perspectives from Mesopotamia [Hebrew]," *Meghillot* 3 (2005), pp. 3-28; J. Ben-Dov and W. Horowitz, "The Babylonian Lunar Three in Calendrical Scrolls from Qumran," *ZA* 95 (2005), pp. 104-120. Henryk Drawnel also infers the link between the *Astronomical Book* and related Qumran texts to the Mesopotamian astronomical traditions by showing their similar descriptive methodologies, concluding that "Babylonian celestial divination clothed in the garb of Jewish religion gave rise to what modern scholars call 'Enochic apocalyptic literature,'" see Drawnel, Henryk. "Moon Computation in the Aramaic *Astronomical Book*." *RevQ* 23 (2007), pp. 3-41, esp. p. 35. Based on the work of M. Albani, *Astronomie und Schöpfungsglaube: Untersuchungen zum Astronomischen Henochbuch* (WMANT 68; Neukirchen-Vluyn: Neukirchener, 1994), Glessmer also argues for a Mesopotamian connection of the 364-day Calendar; Glessmer, "Calendars in the Qumran Scrolls," esp. pp. 233-235. But compare Olson, who argues that Horowitz's evidence falls short of describing a "true Babylonian parallel" to the *Astronomical Book*; D.C. Olson and i.c.w.A.M. Workeneh, *Enoch, A New Translation: The Ethiopic Book of Enoch, or 1 Enoch, Translated with Annotations and Cross-References* (North Richland Hills, Tex.: Bibal Press, 2004), esp. p. 927.

¹² Thus, I contend it is a mistake to attribute liturgical intent concerning the observance of annual holidays or Sabbaths to the *Astronomical Book*, as was done (for example), by Sacchi; see P. Sacchi, *Jewish Apocalyptic and its History* (Journal for the Study of the Pseudepigrapha Supplement Series 20; Sheffield: Sheffield Academic Press, 1990), esp. p. 134.

“Jewish”¹³ or “sabbatarian”¹⁴ adjustment of either the 360-day Mesopotamian or 365-day Egyptian calendars toward a scheme that was favorable to the weekly Sabbath cycle.¹⁵ If we accept the work of Horowitz and Ben-Dov we can eliminate these possibilities.

Indeed, I would say that the *lack* of a Sabbath cycle is itself an element tying the *Astronomical Book* to the Mesopotamian astronomical and calendar traditions.¹⁶ Most Qumran scholars tend to date the *Astronomical Book* to the third century BCE, based on the early second century dating of related Qumran texts.¹⁷ Given this, some scholars express surprise that the *Astronomical Book* displays no knowledge of later, more sophisticated

¹³ O. Neugebauer, “The ‘Astronomical’ Chapters of the Ethiopic Book of Enoch (72 to 82),” in *The Book of Enoch or I Enoch: A New English Edition*, ed. M. Black; (Studia in Veteris Testamenti Pseudepigrapha; Leiden: E.J. Brill, 1985), pp. 386-418, esp. p. 387.

¹⁴ J.C. VanderKam, *Enoch and the Growth of an Apocalyptic Tradition* (Washington: The Catholic Biblical Association of America, 1984), esp. p. 98.

¹⁵ Solomon Zeitlin speculated that the 364-day year was used during the pre-exilic period, and was a sabbatarian adjustment of the 365-day year used in Egypt, even proposing that the “Jubilee year” was a short 49-day intercalary year inserted after every 49 years to make up for the missing day while preserving the important sabbatarian pattern of seven; S. Zeitlin, “Some Stages of the Jewish Calendar,” in *Solomon Zeitlin’s Studies in the Early History of Judaism* (New York: Ktav, 1973), pp. 183-192. Along similar lines, see S.B. Hoenig, “Sabbatical Years and the Year of Jubilee,” *JQR* 59 (1969), pp. 222-236. Chyutin also proposes an ancient Egyptian source, suggesting that it was adapted to reflect a sabbatarian rhythm by King Solomon at the founding of the First Temple; see M. Chyutin, *Milhemet Luhot-Ha-Shanah Bi-Tequfat Bayit Sheni wa-'arikhat Mizmore Tehilim 'al-Pi Luah-Ha-Shanah* (Tel Aviv: Modan, 1993), p. 53. Beckwith also claims the 364-day calendar adopts the Egyptian 365-day year in the Hellenistic period, but does not believe it was used in the Temple; see Beckwith, *Calendar and Chronology, Jewish and Christian*, esp. pp. 105-110. To this “Egyptian origins of the 364-day Calendar” group we can now add Eshel; see note 10 above.

¹⁶ Indeed, many Qumran scholars are insufficiently precise when they assume a sabbatarian interest on the part of the *Astronomical Book* (for a recent example see Boccaccini, “The Solar Calendars of Daniel and Enoch,” esp. pp. 315, 318). I agree with Koch, who has recently reiterated that the *Astronomical Book* contains no reference to any festival or Sabbath; indeed, it presents itself as an ephemeris of astronomical and meteorological rhythms that are true for all creation, while saying nothing about the special observances or obligations of the Israelites, something taken up with enthusiasm in *Jubilees*; K. Koch, “The Astral Laws as the Basis of Time, Universal History, and the Eschatological Turn in the *Astronomical Book* and the Animal Apocalypse of 1 Enoch,” in *The Early Enoch Literature*, eds. G. Boccaccini and J.J. Collins (Supplements to the Journal for the Study of Judaism 121; Leiden: Brill, 2007), pp. 119-137, esp. p. 121. Therefore, while the *Astronomical Book* supports a 364-day year, we should not assume that this requires a sabbatarian motivation and outlook for its author. Instead, the *Astronomical Book* may be a transitional text promoting a 364-day astronomical year (along the lines proposed by Horowitz and Ben-Dov) while not necessarily linked to the weekly Sabbath.

¹⁷ F. García Martínez and E.J.C. Tigchelaar, “1 Enoch and the Aramaic Fragments from Qumran,” *RevQ* 14 (1989), pp. 131-146, esp. p. 135; J.T. Milik and with the collaboration of M. Black, eds., *The Books of Enoch: Aramaic Fragments of Qumran Cave 4* (Oxford: Clarendon, 1976), esp. p. 273; VanderKam, *Enoch and the Growth of an Apocalyptic Tradition*, esp. p. 105; Ben-Dov, “Duq and the Question of Lunar Phases in the Calendars from Qumran: New Perspectives from Mesopotamia,” esp. p. 28; Eshel, esp. p. 108.

intercalation based on the Metonic cycle,¹⁸ and indeed is still concerned with defending a 364-day year against the old, idealized 360-day year. I suggest that this in fact supports the view that while the third century is the latest possible date for the composition of the *Astronomical Book*, its perspective reflects an older origin that lies in the Persian period.¹⁹

While later forms of the 364-day calendar, such as *Jubilees*, may have become anti-lunar and pro-solar, I suggest that the 364-day calendar did not begin as a *solar* calendar, but a *stage* in the evolution of the *lunisolar* calendar tradition, i.e., the lunation was still important to its creators, as would be expected from a Mesopotamian calendar.²⁰ The adoption of a 364-day calendar may not have been perceived to be as quite as radical as has been generally portrayed, especially if it evolved in stages from a 360 day year, to a 360+4 day year (adding the four solstices and equinoxes), to a 364-day year, as seems to be the case in the *Astronomical Book*.²¹

Still, it is clear that for those with a theological focus on the weekly Sabbath the 364-day year – developed in Babylonia without regard to the weekly Sabbath, and echoed in the *Astronomical Book* – could be easily transformed to include the weekly Sabbath.²² Some of the most detailed

¹⁸ A number of scholars note that the astronomy of the *Astronomical Book* seems older than they would expect; in my view this is not a problem, but indicates its antiquity. See VanderKam, *Enoch and the Growth of an Apocalyptic Tradition*, esp. p. 102 n. 78; García Martínez and Tigchelaar, esp. p.134; Neugebauer, esp. p. 387.

¹⁹ Various scholars have suggested a Persian period origin for the *Astronomical Book*. See Milik and Black eds. (ed.), esp. pp. 8, 17; G.W.E. Nickelsburg, “The Qumran Fragments of *1 Enoch* and Other Apocryphal Works: Implications for the Understanding of Early Judaism and Christian Origins,” in *Jewish Civilization in the Hellenistic-Roman Period*, ed. S. Talmon; Philadelphia: Trinity Press International, 1991), pp. 181-195, esp. p. 182; E.J. Bickerman, *The Jews in the Greek Age* (Cambridge, Mass.: Harvard University Press, 1988), esp. p. 212; B.Z. Wacholder, “Calendar Wars Between the 364 and the 365-Day Year,” *RevQ* 20 (2001), pp. 207-222, esp. p. 214. VanderKam is more cautious, saying it is possible but not certain; see J.C. VanderKam, “The 364-Day Calendar in the Enochic Literature,” in *Society of Biblical Literature 1983 Seminar Papers*, ed. K.H. Richards (Atlanta: Society of Biblical Literature, 1983), pp. 157-165, esp. p. 159. See also, VanderKam, *Enoch and the Growth of an Apocalyptic Tradition*, esp. pp. 79-88.

²⁰ Although Talmon claims to accept Horowitz’s findings, writing that the 364-day calendar “probably had its origin in ancient Mesopotamia,” he continues to insist that this is a “solar ephemeris of 364 days”; see S. Talmon, “Calendrical Documents and Mishmarot,” in *Qumran Cave 4, XVI: Calendrical Texts*, eds. S. Talmon, et al.; (DJD 21; Oxford: Clarendon Press, 2001), pp. 1-166, esp. p. 3. This is despite Horowitz’s clear description in that this was “a Mesopotamian ideal mean lunar year of 364 days” (Horowitz, “The 360 and 364 Day Year in Ancient Mesopotamia,” esp. p. 35) that is found “in both stellar and lunar contexts” (Ibid., esp. p. 41).

²¹ See for example VanderKam, *Enoch and the Growth of an Apocalyptic Tradition*, esp. pp. 97-98; Sacchi, *Jewish Apocalyptic and its History*, esp. pp. 128-139; Sacchi, “Measuring Time Among the Jews: The Zadokite Priesthood, Enochism, and the Lay Tendencies of the Maccabean Period”; Boccaccini, “The Solar Calendars of Daniel and Enoch.”

²² While Glessmer points out the likely attraction of the 364-day year to those who used a seven-day week, he does not take this any further; see U. Glessmer, “Horizontal Measuring in

Qumran calendar documents do just that, coordinating not only the cycles of sun and moon in a fashion similar to the *Astronomical Book*, but also adding in the weekly Sabbath cycle and the annual festivals. In particular, the *Calendrical Documents/Mishmarot A, B and C*, which are best known as the *Mishmarot* texts, describe a six-year cycle that synchronizes sun and moon with the 24 priestly work-shifts that change weekly.²³ This is achieved by a doubling of the Mesopotamian 3-year intercalary cycle, overlaid by the weekly sequence of the priestly work-shifts. Every 6 years all the cycles – astronomic and weekly – resynchronize at the beginning of their cycles.²⁴ In contrast to the *Astronomical Book*, these texts have a cultic function of indicating when the priests must *do* something, whether it is the Sabbath or a holiday.

Scholars have used various terms to describe the 364-day calendar of the *Mishmarot* documents, such as “Qumran,” “solar,” “solar-lunar” or “concordant.” The most neutral term is “364-day calendar,” which I have been using.²⁵ In my view these other descriptions are misleading because

the Babylonian Astronomical Compendium MUL.APIN and in the Astronomical Book of 1En,” *Henoah* 18 (1996), pp. 259-282, esp. p. 280.

²³ 4Q320, 4Q321, 4Q321a. There is an ongoing scholarly debate about whether the lunar cycle in the Qumran texts begins with the first crescent, as in the *Astronomical Book*, or with the full moon, but addressing this will take us far afield, into the controversy over the meaning of *duq* a hapax legomenon in the Qumran scrolls. For the former position see S. Talmon and I. Knohl, “A Calendrical Scroll from a Qumran Cave: *Mishmarot B*^a (4Q321),” in *Pomegranates and Golden Bells*, eds. D.P. Wright, et al.; Winona Lake, Ind.: Eisenbrauns, 1995), pp. 267-301, esp. p. 298. Talmon took the opportunity of publishing the *editio princeps* to reiterate and elaborate his position; see Talmon, “Calendrical Documents and Mishmarot,” esp. pp. 13-14, 30-36, 67-68. See also Wise; Ben-Dov and Horowitz, “The 364-Day Year in Mesopotamia and Qumran”; Ben-Dov, “The Initial Stages of Lunar Theory at Qumran”; Ben-Dov, “Duq and the Question of Lunar Phases in the Calendars from Qumran: New Perspectives from Mesopotamia”; Ben-Dov and Horowitz, “The Babylonian Lunar Three in Calendrical Scrolls from Qumran.” For the latter position see J.T. Milik, *Ten Years of Discovery in the Wilderness of Judaea* (trans. J. Strugnell; London: SCM Press, Ltd., 1959), esp. p. 152, n.5; J.C. VanderKam, “Calendrical Texts and the Origins of the Dead Sea Scroll Community,” in *Methods of Investigations of the Dead Sea Scrolls and the Khirbet Qumran Site: Present Realities and Future Prospects*, eds. M.O. Wise, et al.; New York: The New York Academy of Sciences, 1994), pp. 371-388, esp. p. 381; J.C. VanderKam, *Calendars in the Dead Sea Scrolls: Measuring Time* (New York: Routledge, 1998), esp. p. 79; Abegg, esp. p. 406; Glessmer, “Calendars in the Qumran Scrolls,” esp. pp. 240-252.

²⁴ The three year cycle is made up of 36 alternating 30 and 29 day lunation, plus a 30 day month; the result is an average year length of $(3 \times 354 + 30) = 354 + 10 = 364$ days. The beginning of each three year cycle is designated as a “sign” (*ot*) event in 4Q320 and 4Q319, a term alluding to Gen 1:14. In Genesis this indicates an astronomical event, which 4Q319 and 4Q320 take as the configuration of the sun, moon and stars at their creation on the fourth day of the primordial week. Every six years the astronomical “sign” re-synchronizes with the sequence of 24 priestly duty-shifts. See J. Ben-Dov, “Otot,” in *Qumran Cave 4, XVI: Calendrical Texts*, eds. S. Talmon, et al. (DJD 21; Oxford: Clarendon Press, 2001), pp. 195-244, esp. pp. 201-202.

²⁵ See also the recent article by Jonathan Ben-Dov and Stéphane Saulnier, who discuss the shift in terminological use; J. Ben-Dov and S. Saulnier, “Qumran Calendars: A Survey of

they misunderstand the primary temporal element of this liturgical calendar, which is the Sabbath. If we are to give this calendar a qualitative label, I suggest it is best characterized as *sabbatarian* because it highlights the importance of the weekly priestly work-shifts in the temple as the key temporal rhythm of the cosmos.

This “sabbatarian” moniker is supported by the structure of the *Mishmarot* texts: these are composed of two lists, one for the annual holidays and one for the lunation. While the year (of the six-year cycle) and schematic month (1-12) would be sufficient to coordinate these two lists, invariably the priestly work-shift is also listed. For example, a reference to an annual holiday is given as, “on the third day in the week of Mo’aziah, in it falls the Pessah (בשלושה במועזיה בוא הפסח).”²⁶ An example from a lunation list reads: “and *duqo* (is) on the fifth in Petahiah (which falls) on the seventh in it (the schematic month) (בפתחיה בשבעה) (בוא).”²⁷ The hierarchical organization of time embedded in the calendar of these texts is: year; day of week (designated by the priestly work-shift); date within the schematic month. The Sabbath is used as the key temporal cycle, both reflecting and constructing the theological perspective of the priests.²⁸

While Horowitz and Ben-Dov have shown how the 364-day calendar tradition is linked to Mesopotamia, because they support Talmon’s position that the 364-day calendar is primarily a sectarian calendar used at Qumran they have no good explanation for how this Mesopotamian knowledge from the seventh century BCE suddenly turns up at Qumran in a second century BCE sectarian context; they merely theorize that the transfer took place sometime between the fifth and third centuries BCE.²⁹ Nor do they link this

Scholarship 1980-2007,” *Currents in Biblical Research* 7 (2008), pp. 124-168, esp. p. 125, 152.

²⁶ 4Q321 4 IV, 8-9 see S. Talmon, “Calendrical Documents and Mishmarot,” esp. pp. 74-75. I have not indicated the reconstructed portion of this and the next passages, as it is not pertinent to the present discussion.

²⁷ 4Q321a 5, 6 IV, 8; see *Ibid.*, esp. p. 89. *duqo* clearly refers to a phase of the lunation. However, it is a hapax legomenon in the Qumran texts and its meaning has been much debated by scholars. See *Ibid.*, esp. pp. 13-14, 33-36, 66-68; Ben-Dov and Horowitz, “The Babylonian Lunar Three in Calendrical Scrolls from Qumran.”

²⁸ Matthias Albani has noted that “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.” M. Albani, “Die lunaren Zyklen im 364-Tage-Festkalender von 4QMischmerot/4QS,” *Mitteilungen und Beiträge* 4 (1992), pp. 3-47, esp. p. 23; translated in VanderKam, *Calendars in the Dead Sea Scrolls: Measuring Time*, esp. p. 74.

²⁹ Horowitz, “The 360 and 364 Day Year in Ancient Mesopotamia,” esp. p. 41; Ben-Dov, “Duq and the Question of Lunar Phases in the Calendars from Qumran: New Perspectives from Mesopotamia,” esp. p. 28; Ben-Dov and Horowitz, “The Babylonian Lunar Three in Calendrical Scrolls from Qumran,” esp. p. 119.

to the origin and institutionalization of the weekly Sabbath, the second scholarly debate I will now address.

The Debate about the Origin of the Biblical Weekly Sabbath

Despite numerous hypotheses regarding possible predecessors, it seems certain that the perpetual seventh-day Sabbath is a uniquely biblical idea. As William Hallo summarizes, “The uniquely biblical conception of the week and the sabbatical cycle stand out equally by virtue of its pervasiveness in biblical laws and letters, as by its absence from the surrounding Near East.”³⁰ While there are many theories about when and why the weekly Sabbath appeared,³¹ by the time the Pentateuch emerged from its last major redaction (probably during the Persian period³²) the Sabbath was the temporal cycle both unique and central to Biblical theology. The seven-day week ending in the Sabbath is the culmination of the creation story that begins the Bible: “God blessed the seventh day and declared it holy” (Gen 2:3), while the heavenly lights created on the fourth

³⁰ W.W. Hallo, “New Moons and Sabbaths: A Case-study in the Contrastive Approach,” in *HUCA* (Cincinnati, Ohio: Hebrew Union College, 1977), pp. 1-18, esp. p. 15. Among others who endorse the uniqueness of the seventh-day sabbath are U. Simon, “Holiness of Place and Holiness of Time in the Bible,” in *Luah ha-Shanah ha-Ivri*, eds. U. Simon and R. Elior (Hug Bet ha-nasi la-Tanakh veli-mekorot Yisra’el 5; Yerushalayim: Bet ha-nasi, 1995), pp. 11-21, esp. p. 19; R. de Vaux, *Ancient Israel: Its Life and Institutions* (trans. J. McHugh; New York: McGraw-Hill, 1961), esp. pp. 186-188; M. Gruber, “The Source of the Biblical Sabbath,” in *The Motherhood of God and Other Studies*, ed. M. Gruber; Atlanta: Scholars Press, 1992), pp. 111-119, esp. pp. 119; F. Rochberg, “Astronomy and Calendars in Ancient Mesopotamia,” in *CANE*, ed. J.M. Sasson (New York: Scribner, 1995), pp. 1925-1940, esp. p. 1931.

Other scholars have attempted to trace Mesopotamian origins for the biblical Sabbath; see for example G. Smith, *The Assyrian Eponym Canon* (London: S. Bagster and Sons, 1875), esp. pp. 19-20; J. Wellhausen, *Prolegomena to the History of Israel* (Scholars Press Reprints and Translations Series; trans. J.S. Black and A. Enzies; Atlanta: Scholars Press, 1994), esp. pp. 112-116; S. Langdon, *Babylonian Menologies and the Semitic Calendars* (London: Oxford University Press, 1935), esp. p. 89; Y. Kaufmann, *The Religion of Israel: From Its Beginnings to the Babylonian Exile* (trans. M. Greenberg; New York: Schocken, 1972), esp. p. 117. Philippe Guillaume has recently suggested a link to the Zoroastrian calendar; see Guillaume, esp. p. 4.

³¹ The inquiry into the origin and meaning of the seven-day Sabbath observance promulgated in the Bible has attracted a great deal of academic attention over the last century, accompanied by a plethora of conflicting theories. For summaries of theories regarding non-Israelite predecessors or sources for the perpetual seventh-day Sabbath see G. Robinson, *The Origin and Development of the Old Testament Sabbath* (New York: Peter Lang, 1988), esp. pp. 27-37; N.-E.A. Andreasen, *The Old Testament Sabbath: A Tradition-Historical Investigation* (Dissertation Series, no. 7; Missoula, Mont.: Published by Society of Biblical Literature for the Form Criticism Seminar, 1972), esp. pp. 1-16; R. North, “The Derivation of Sabbath,” *Bib* 36 (1955), pp. 182-201; de Vaux, esp. pp. 475-483. Also see note 30.

³² Friedman, for example, contends that Ezra was the last redactor of the Pentateuch; see R.E. Friedman, *Who Wrote the Bible?* (New York: Summit Books, 1987), esp. pp. 223-225, 232, 244.

day (Gen 1:14-19) are neither blessed nor hallowed. The Sabbath of Gen 2:1-4a is then used intertextually by the Exodus Decalogue (Exod 20:11) as the etiology justifying why the Sabbath is so important that it is the only observance worthy of mention in both Decalogues (Exod 20:10; Deut 5:14), and the only element described as “sacred” (Exod 20:11; Deut 5:12).³³ There is a scholarly consensus that by some time during the Persian period the observance of the Sabbath became central to Jewish religious ritual and cultural identity.³⁴

Given the weekly Sabbath’s uniqueness, a vigorous scholarly debate concerns the timing and method of institutionalizing this innovation, a debate that becomes fairly entangled with biblical source criticism and various theories concerning the dating and editing of biblical texts, especially the Pentateuch. For my purpose here, these theories can be categorized into two main positions concerning the institutionalization of the continuous weekly Sabbath.

What I will call “The Pre-Exilic Weekly Sabbath School” contends that the Sabbath was a seventh-day institution from the earliest times of Israelite history. Exemplifying this view is Niels-Erik Andreassen, who writes that while the “origin and early history of the Sabbath...continue to lie in the dark,” it is “generally agreed that the seventh-day Sabbath is old, dating back to premonarchical, and undoubtedly to Mosaic times.”³⁵ Hallo supports this position, as does Roland de Vaux who writes, “the weekly

³³ M. Weinfeld, “God the Creator in Gen. I and in the Prophecy of Second Isaiah,” *Tarbiz* 37 (1968), pp. i-ii, 105-132, esp. p. 109. The etiology of the Sabbath in Deut 5:15 refers to being a “servant in the land of Egypt.” The discussion of varying Sabbath etiologies is beyond the scope of this article, but see references in this and the following note.

³⁴ See for example B. Lang, *Monotheism and the Prophetic Minority* (The Social World of Biblical Antiquity Series, 1; Sheffield: The Almond Press, 1983), esp. p. 43; Robinson, esp. p. 342; A. Cooper and B.R. Goldstein, “The Development of the Priestly Calendars (I): The Daily Sacrifice and the Sabbath,” *HUCA* LXXIV (2003), pp. 1-20, esp. pp. 19-20; Sacchi, “Measuring Time Among the Jews: The Zadokite Priesthood, Enochism, and the Lay Tendencies of the Maccabean Period,” esp. p. 98; S.J.D. Cohen, *The Beginnings of Jewishness: Boundaries, Varieties, Uncertainties* (Berkeley: University of California Press, 1999), esp. p. 91; C. Westermann, *Isaiah 40-66* (OTL; Philadelphia: Westminster, 1969), esp. p. 310; B. Lang, “The number ten and the iniquity of the fathers: a new interpretation of the decalogue,” *ZAW* 118/ 2 (2006), pp. 218-238, esp. p. 220; B. Gosse, “Sabbath, Identity and Universalism Go Together After the Return from Exile,” *JSOT* 29/ 3 (2005), pp. 359-370. Among primary sources dated to the Hellenistic-Roman period we have 1 Macc 2, 9 which report the reinterpretation of the Sabbath rest commandment to allow for defensive warfare on the Sabbath, and Josephus, who famously notes that Pompey is able to conquer Jerusalem by refraining from battle but continuing to undermine its walls on the Sabbath (*Ant.* 14:4:3). For descriptions of Sabbath laws and observance during the late Second Temple period see the discussions of E.P. Sanders and Lawrence Schiffman: E.P. Sanders, *Judaism: Practice & Belief, 63 BCE- 66 CE* (Philadelphia: Trinity Press International, 1992), esp. pp. 208-211; L. H. Schiffman, *Reclaiming the Dead Sea Scrolls*. (New York: Doubleday, 1995), esp. pp. 275-282.

³⁵ Andreassen, esp. p. 8.

sabbath goes back to the first origins of Yahwism.”³⁶ There is no doubt that this was the position of the final editors of the Pentateuch, and has remained the traditional view of Judaism and Christianity.

The second position, which I will call “The Post-Exilic Weekly Sabbath School,” argues that the Sabbath became a seventh-day institution in the exilic or post-exilic period, a position first put forward in the 19th century.³⁷ Most adherents of this position contend that in the pre-exilic period the Sabbath was identical to the Babylonian *šapattu*, which refers to the 15th day of the Babylonian months, the full-moon day,³⁸ and that the numerous references in the Bible to “new moon and Sabbath” parallel a Babylonian pattern of observing first-crescent and full-moon holidays during the lunar month.³⁹ They also argue that the Rabbinic interpretation of “the day after the Sabbath” (Lev 23:11) as the day after the first day of Passover⁴⁰ – a full-moon day – is a remnant of the tradition that “Sabbath” meant “full-moon.”⁴¹ The key transformation took place during the exilic period, during

³⁶ de Vaux, esp. p. 480. In addition to Hallo, de Vaux and Andreason, see also Hasel, who is highly critical of the post-exilic Sabbath school; G.F. Hasel, “‘New Moon and Sabbath’ in Eighth Century Israelite Prophetic Writings (Isa 1:13; Hos 2:13; Amos 8:5),” in *Wünschet Jerusalem Frieden*, eds. M. Augustin and K.-D. Schunck; Frankfurt am Main: Peter Lang, 1988), pp. 37-64; G. Hasel, “Sabbath,” in *ABD*, ed. D.N. Freedman; New York: Doubleday, 1992), pp. 849-856. See also J. Milgrom, *Leviticus 23-27: A New Translation with Introduction and Commentary* (The Anchor Bible; Vol. 3B; New York: Doubleday, 2001), esp. pp. 2054-2063.

³⁷ Among others see Wellhausen, esp. p. 115-116; M. Jastrow, “The Day After the Sabbath,” *AJSL* 30 (1914), pp. 94-110; N.H. Tur-Sinai, “Shabbat,” in *Milon ha-Lashon ha-Ivrit ha-Yeshanah vaha-Hadashah*, ed. E.e. Ben-Yehudah; Jerusalem: Hemda and Ehud Benyehuda, 1952), pp. 6877-6885; N.H. Tur-Sinai, *Ha-Lashon vaha-Sefer: Be’ayot Yesod be-Mad’a ha-Lashon uvi-Mekoroteha ba-Sifrut* (3 vols.; vol. 3; Jerusalem: Mosad Bialik, 1955); Robinson; Lang, *Monotheism and the Prophetic Minority*, esp. p. 43; Cooper and Goldstein.

³⁸ In this context a day is the cycle between sunset and sunset, and the full-moon day is the day of the lunar month on which the moon appears at sunset and is in the night sky until sunrise, and would not be visible during the daytime.

³⁹ Biblical references closely linking both terms include 2 Kgs 4:23; Isa 1:13, 66:23; Hos 2:13; Am 8:5; 1 Chr 23:31; 2 Chr 2:3, 8:13, 31:3, Neh 10:34, Ezek 46:1, 46:3.

⁴⁰ *b. Menachot 65b-66a*. The rabbinic texts famously describe conflicts with other groups of Jews over the interpretation of this phrase, including “Boethusians” who interpret this to mean the weekly Sabbath. It is now well established that the 364-day calendar interprets this passage as referring to the seventh-day Sabbath, pointing to an possible equivalency of the Boethusians and the Qumran sect, as initially suggested by Yehoshua Grintz; see Y.M. Grintz, “The Yahad Sectarrians, Essenes, Beth(e)sen [Hebrew],” *Sinai* 32 (1954), pp. 11-43; Y. Sussmann, “The History of Halakha and the Dead Sea Scrolls: Preliminary Observations on *Miqsat Ma’ase Ha-Torah* (4QMMT) [Hebrew],” *Tarbiz* 59 (1989), pp. 11-76, esp. p. 54.

⁴¹ See for example Jastrow; Tur-Sinai, *Ha-Lashon vaha-Sefer: Be’ayot Yesod be-Mad’a ha-Lashon uvi-Mekoroteha ba-Sifrut*, esp. pp. 220-228; A.E. Millgram ed. *Sabbath: The Day of Delight* (ed.; Philadelphia: The Jewish Publication Society of America, 1965), esp. pp. 337-342; Robinson, esp. pp. 325-327; M.A. Fishbane, *Biblical Interpretation in Ancient Israel* (Oxford: Clarendon Press, 1984), esp. pp. 145-151. Jacob Milgrom does not agree that Shabbat ever meant full-moon, but argues that the biblical text is referring to the end of a seven-day “Sabbath-week”; Milgrom, esp. pp. 2054-2063. A recent recapitulation of the

which the meaning of the Sabbath shifted from the full-moon day to a perpetual seventh-day cycle. No consensus on the theological reasons and social process by which this shift took place has been reached, but key suggestions include the following:

- The full-moon Sabbath had been a cult day with special ties to the pre-exilic monarchy, which at various times may have included offerings to a number of gods; with the end of the monarchy this could now be redefined as a “Sabbath of Yahweh” and redirected towards a more emphatically monotheistic festival of Yahweh the true “King,”⁴² part of which involved the de-emphasis or rejection of allusions to lunar worship.⁴³
- The reformulation of religious practices of seasonal seventh-day rest, seventh-year manumission and seventh-year fallow (Exod 21:2, 23:10-12; Lev 25:1-8, 26:34-35, 43) commands into continuous seventh-day rest observance simultaneously observed by all. This was facilitated by distance from their ancestral land to which these practices originally applied.⁴⁴

The proponents of these two positions are highly critical of each other, and there is no scholarly consensus on this question.⁴⁵ The main critique of the Pre-Exilic Weekly Sabbath School is that they “try somehow or other to establish the traditional faith that the Sabbath was a seventh-day-rest institution right from the beginning,”⁴⁶ with ultimate refuge in the position that it is a “mystery”⁴⁷ whose origins “lie in the dark.”⁴⁸ There is also an inadequate explanation for the diptych associating the Sabbath with the new moon in many biblical passages. The main critique of the Post-Exilic Weekly Sabbath School is that they are unable to explain in detail when, how and why the hypothesized shift from full-moon to weekly observance

discussion and sources is contained in G. Hepner, “The Morrow of The Sabbath is the First Day of the Festival of Unleavened Bread (Lev 23,15-17),” *ZAW* 118/ 3 (2006), pp. 389-404.

⁴² Robinson, esp. pp. 74-89; Lang, *Monotheism and the Prophetic Minority*, esp. p. 43.

⁴³ Guillaume, 6-7; Cooper and Goldstein, esp. p. 19.

⁴⁴ Cooper and Goldstein, esp. pp. 12-13,18-20; Robinson, esp. pp. 125, 249; Wellhausen, esp. p. 116-118.

⁴⁵ While attractive at first glance, linguistic analysis does not help resolve this question. The noun form of the root שבת designates a particular day (of the week or month), while its verb form refers to ceasing or stopping. Scholars continue to disagree about which meaning came first and influenced the other, or whether there is any link at all; see Ludwig Koehler, Walter Baumgartner, and subsequently revised by Walter Baumgartner and Johann Jakob Stamm, “שבת,” in *The Hebrew and Aramaic Lexicon of the Old Testament* (Leiden: Brill, 1994), vol IV, pp. 1407-1411. For example, Guillaume has recently argued that the changing practice of the Sabbath (as reflected in the Priestly document of the Pentateuch) caused the change in meaning; P. Guillaume, “Genesis 1 as a Charter of a Revolutionary Calendar,” *Theological Review* 24/ 2 (2003), pp. 141-148, esp. p. 143.

⁴⁶ Robinson, esp. p. 36.

⁴⁷ Hasel, “Sabbath,” esp. p. 851.

⁴⁸ Andreasen, esp. p. 8.

took place. “They fall short of taking account of the Old Testament Sabbath which is completely independent of the moon and the lunar month.”⁴⁹ Regardless of which view is correct, there is a scholarly consensus that the weekly Sabbath became tremendously important during and/or following the Babylonian exile, becoming a key element of Jewish observance and identity.

However, a shortcoming of both sides in this debate is that neither provides a calendrical framework for the institutionalization of the weekly Sabbath, something quite necessary since the flip-side of its uniqueness is that it was an anomalous temporal pattern in the Ancient Near East, whether we are discussing Babylonian or Egyptian calendrical practices.

The challenges of observing the weekly Sabbath in the context of a lunisolar calendar are well documented in the rabbinic literature of the Second century C.E. and onward, which devoted much discussion to conflicts between a new moon or annual holiday and Sabbath observance when they fell on the same day.⁵⁰ Simply put, if a lunisolar calendar had been in use for hundreds of years alongside a weekly Sabbath, why aren’t these problems described and resolved in the Bible or any other pre-rabbinic Jewish texts? The obvious conclusion must be that there was no conflict – which would have been the case if the Sabbath was either a lunar full-moon holiday when an observational lunisolar calendar was in use or that the Sabbath was a weekly holiday when a 364-day calendar was in use.

While biblical scholars tend to assume the antiquity and continuous use of a lunisolar calendar when debating the implementation of the Sabbath, Qumran scholars tend to do the opposite, assuming the antiquity and pre-existence of the weekly Sabbath while debating when a 364-day calendar may have been in use. As we look at these two scholarly debates we can see an historical point of overlap in the post-exilic Persian period, when some biblical scholars claim the weekly Sabbath came into use and when some Qumran scholars say the 364-day calendar came into use.

Matthias Albani, whose scholarly focus has been on Qumran texts, has made a first attempt to bring these discussions together.⁵¹ He reiterates many of the arguments of the Post-Exilic Weekly Sabbath School concerning the heightened emphasis on the seventh-day Sabbath as part of

⁴⁹ Ibid., esp. p. 6. De Vaux has a similar opinion: de Vaux, esp. p. 477.

⁵⁰ For example, see the riot that ostensibly took place at the Temple due to the overlap of the first day of Sukkoth with the weekly Sabbath by the reckoning of the rabbinic calendar as reported in *m. Sukkah* 4:4; the rulings in *m. Rosh HaShanah* 1:5, 9 that encourage the violation of the Sabbath in order to witness the sighting of the New Moon; the famous conflict between Rabbi Yehoshua and Rabban Gamaliel in *m. Rosh HaShanah* 2:8-9 concerns the proper observance of Rosh Hashanah and Yom Kippur. In contrast the 364-day calendar tradition works out so that the annual holidays never overlap the Sabbath.

⁵¹ M. Albani, “Israels Feste Im Herbst Und Das Problem Des Kalenderwechsels in Der Exilzeit,” in *Festtraditionen in Israel und im Alten Orient*, eds. E. Blum and R. Lux (Gütersloh: Gütersloher Verlaghaus, 2006), pp. 111-156. I want to thank the anonymous reviewer of this article for bringing Albani’s recent article to my attention.

the evolution of Judaism toward a monotheistic focus as evidenced in the Priestly layers of the Bible. Yet he also suggests, along the lines of Jaubert and her supporters, that the Sabbath oriented 364-day calendar was introduced during or after the exile in concert with the redacting of the Bible by the Priestly editor(s), and that we should not assume that the Babylonian lunisolar calendar was adapted as the Jewish cultic calendar at the same time.

My own view is similar to Albani's, for I see an internal historical and practical consistency in the development of monotheistic theology, the importance of the seventh-day Sabbath, the implementation of a 364-day sabbatarian calendar, and the politics of priestly power in the exilic and post-exilic period.

Yet, regardless of the theological or other basis, on the practical socio-political level calendrical change is always challenging – and not always successful.⁵² Part of the weakness of the Post-Exilic Weekly Sabbath School is that no mechanism has been suggested that would embody and enforce the shift in practice from a full-moon Sabbath to a weekly Sabbath. Similarly, part of the weakness of Jaubert's argument has been the lack of historical context and motivation for the introduction of a 364-day calendar. Even Albani, who discusses the general historical context for the implementation of these religious innovations and recognizes the importance and difficulty of implementing calendrical change in general, does not get very specific about the context, setting or timing of a calendrical change.

Both of these problems are simultaneously solved if we consider the possibility that the sabbatarian 364-day calendar was the *mechanism* used to *institutionalize* the weekly Sabbath. While inevitably somewhat speculative, this is the topic I now want to address.

Nehemiah and the Institutionalization of the Weekly Sabbath

In general, Biblical scholars contend that major developments in Biblical literature and Jewish religion took place in the Babylonian exile and were brought to Jerusalem with the returnees, probably at various times with various carriers. The most famous instance of such a transfer is no doubt the reading of the Torah by Ezra to the Jerusalemites at the Water Gate (Neh 8:1). Although not nearly as clear as Ezra's revelation of the Torah, I suggest that the book of Nehemiah also describes a likely historical context for the introduction of a 364-day sabbatarian calendar to the Jerusalem Temple by Nehemiah.

⁵² Compare, for example, the length of time it took before the Gregorian reform was accepted in Protestant Europe, and the failures of the calendars introduced by the French and Russian Revolutions.

Nehemiah reports that observance of the weekly Sabbath was either lax or non-existent when he arrived in Jerusalem in the mid-fifth century B.C.E. (Neh 13:15-22).⁵³ He is outraged to find men treading winepresses, transporting and selling various sorts food and other goods on the Sabbath (Neh 13:15-16). He censures “the nobles of Judah,” saying to them, “What evil thing is this that you are doing, profaning the Sabbath day! This is just what your ancestors did, and for it God brought all this misfortune on this city; and now you give cause for further wrath against Israel by profaning the Sabbath!” (Neh 13:17-18). Nehemiah shares the post-exilic theological view that the exile was the result of ignoring the Sabbath.⁵⁴ The violation of the Sabbath – not any other holiday observance – is what most angers him, and it becomes central to his reform program. Therefore, he shuts the gates of the city, prohibiting transport and commerce on the Sabbath (Neh 13:19-22). Although scholars disagree about whether his concept of the Sabbath was an innovation or the renewal of a lapsed practice,⁵⁵ it is clear that Nehemiah sought to change the status quo by introducing, organizing and enforcing a new religious regime in the city and the Temple, one that he may have thought was an old one (and, at least, promoted as an old one) but which was innovative at that time. It is quite probable that Nehemiah

⁵³ Usually dated to 444 BCE. There are disputes in the secondary literature concerning whether Nehemiah served one or two times, and whether he preceded or followed Ezra. See H.G.M. Williamson, *Ezra, Nehemiah* (Waco, Tex.: Word Books, 1985), esp. pp. xxiv-xxviii, xxxix-xliv; J. Blenkinsopp, *Ezra-Nehemiah: A Commentary* (Philadelphia: The Westminster Press, 1988), esp. pp. 41-47. These issues, however, do not bear on the present discussion. The scholarly consensus is that significant parts of the biblical book of Nehemiah are based on a memoir composed by Nehemiah himself, subsequently augmented and edited. The “Nehemiah Memoir” is generally thought to include Neh 1-7, parts of 12:27-43, 13:4-31; see Williamson, esp. p. xxiv; L.L. Grabbe, *Ezra-Nehemiah* (New York: Routledge, 1998), esp. pp. 154-156.

⁵⁴ As expressed in Jer 17: 27, “But if you do not obey My command to hallow the sabbath day and to carry in no burdens through the gates of Jerusalem on the sabbath day, then I will set fire to its gates; it shall consume the fortresses of Jerusalem and it shall not be extinguished.” See also Lev 26: 34-35, 43. On Nehemiah’s basis on Jeremiah, see Fishbane, esp. p. 131-134. These passages, plus others such as the pericope in Ex 16 concerning the double portion of manna, are where the Pre-Exilic Weekly Sabbath School and the Post-Exilic Weekly Sabbath School dispute the editorial history. For discourse and references concerning the dispute in general and these passages in particular, for the former position see Andreason, esp. pp. 31-34, 67-69, 128-130; for the latter position see Robinson, esp. pp. 195-199, 227-230. Cooper and Goldstein, who fall in the latter school, suggest the Sabbath pericope in Jer 17 “is almost certainly a late editorial addition;” Cooper and Goldstein, esp. p. 19.

⁵⁵ It is clear that in Nehemiah’s view the Sabbath was not being properly observed, prompting the reforms he undertakes. Various interpretations have Nehemiah re-enforcing what had become a lax observance (e.g., M. Smith, *Palestinian Parties and Politics that Shaped the Old Testament* [London: SCM Press, 1971], esp. pp. 102, 109, 198 n. 53), expanding the rigor of the Sabbath (e.g., Williamson, esp. pp. 394-396; Blenkinsopp, esp. p. 359; Grabbe, esp. p. 173) or imposing a previously unknown observance (e.g., Cooper and Goldstein, esp. p. 20).

reflected practices and beliefs developed by the exilic community that he brought to Jerusalem.⁵⁶ As Alan Cooper and Bernard Goldstein remark, “One ought to empathize for a moment with those beleaguered ‘nobles,’ whose point of view the Bible does not present, since this alleged Sabbath of their ancestors, which they allegedly were profaning, probably came as news to them.”⁵⁷

It appears that Nehemiah’s Sabbath reforms were effective because this is the last time that problems concerning Sabbath observance are reported. Subsequent to Nehemiah it seems the Sabbath was marked continuously in the Temple every seven days and became a key aspect of Jewish religious practice, for despite the many late Second Temple calendrical conflicts there is no evidence of disagreement about the *day* observed as the Sabbath. Therefore, we can say that Nehemiah’s reforms constitute that latest possible date for the implementation of the weekly Sabbath as a vital element in Jewish time keeping.

The shift in Sabbath enforcement was just one of Nehemiah’s many socio-political reforms which included rebuilding the city walls (Neh 2-4, 6:1,15), campaigning against mixed marriages (Neh 13:23-28) and ousting various political opponents from the priesthood (Neh 13:4-9; 28-30). He also strengthens the Temple administration in order to meet the cultic requirements of its operation, which are also the needs of the priests, by enforcing the collection of tithes (Neh 12:44),⁵⁸ particularly the collection of wood and first fruits (Neh 13:31, a reiteration of Neh 10:35-36), grain, wine and oil (Neh 13:12).⁵⁹ Taken as a whole, Nehemiah was able to

⁵⁶ Robinson argues that the seventh-day Sabbath as a rest day most likely developed among the returnees of Nehemiah’s day, arguing that there is a tight relationship of the rest of people on the seventh-day to the rest of the Promised Land; see Robinson, esp. pp. 254-255. However, even if this was implemented in Jerusalem, the ideas are likely to have first developed among those in Persia/Babylonia who were enthusiastic returnees and brought them to Jerusalem, like Nehemia and Ezra. If Milgrom is correct in suggesting that the H text is not only subsequent to the P text, but was composed during the exile, the H school is a likely suspect for innovating a 364-day calendar along with its strong sabbatarian emphasis; see J. Milgrom, *Leviticus 1-16: A New Translation with Introduction and Commentary* (The Anchor Bible; New York: Doubleday, 1991), esp. pp. 27-28.

⁵⁷ Cooper and Goldstein, pp. 20.

⁵⁸ Grabbe, esp. pp. 175-176. See also the evaluation of Nehemiah’s career in Smith, *Palestinian Parties and Politics that Shaped the Old Testament*, esp. pp. 96-112.

⁵⁹ The appearance in the *Temple Scroll* (11QT) and other Qumran calendar texts of specific dates for the festivals of the wood offering, the first fruits of wine and oil seem connected to these elements in Nehemiah, either historically or exegetically. While Talmon insists on the innovative institution of these festivals by the Qumran “Covenanters,” both Yadin and Milgrom are of the opinion (which I share) that Neh 13:31 indicates that Nehemiah probably knew these holidays. See Talmon, “Calendrical Documents and Mishmarot,” esp. p. 165; Y. Yadin, *The Temple Scroll* (3 vols.; Jerusalem: Israel Exploration Society, 1983), vol. I, esp. p. 86; J. Milgrom, “First Fruits, OT,” in *IDB* (New York: Abingdon Press, 1976), pp. 336-337, esp. p. 337. See also J.C. VanderKam, “The Temple Scroll and the Book of Jubilees,” in *Temple Scroll Studies*, ed. G.J. Brooke (Sheffield: JSOT Press, 1989), pp. 211-236, esp. p. 235, n. 37. Although the non-Pentateuchal holidays common to Nehemiah and

institutionalize a thorough reform and reinvigoration of the Temple cult;⁶⁰ as Lester Grabbe observes, these “were not just miscellaneous *ad hoc* decisions. Rather, they seem to have been part of a complete programme. In that sense, Nehemiah was very much a reformer.”⁶¹

One of Nehemiah’s important reforms was that he “arranged for the priests and the Levites to work each at his task by shifts (*mishmarot*)” (Neh 13:30b).⁶² While these work-shifts in the Temple are described in the Bible and go back to pre-exilic times,⁶³ Nehemiah does not specify what was

the *Temple Scroll* are not mentioned in the *Mishmarot* texts, Talmon suggests this probably indicates that they were not accorded the same status as the Pentateuchal holidays; Talmon, “Calendrical Documents and Mishmarot,” esp. p. 14.

⁶⁰ These various aspects of cultic reform mentioned in Nehemiah’s Memoir are also mentioned in Neh 10:1-40, a public reaffirmation of the people to Nehemiah’s reforms. This includes affirmations to follow the Sabbath, the Sabbatical year, bring first fruits and gifts of produce to the Temple. Despite its earlier location in the biblical text, scholars generally see it as a subsequent event and a later editorial insertion because it presupposes Nehemiah’s reforms. See Blenkinsopp, esp. pp. 311-312; Williamson, esp. pp. 325-331; Fishbane, esp. pp. 130.

⁶¹ Grabbe, esp. p. 175. Grabbe further points out that Nehemiah’s project of rebuilding the city wall would have served socio-political functions beyond simple defense: “A city whose gates could be shut against outsiders could also serve to minimize contact with unacceptable ethnic and religious groups, and even influences and ideas.” *Ibid.*, esp. p. 176.

⁶² The Hebrew term for these work-shifts varies in the literature. In Neh 7:3, 12:9, 13:30 and in Rabbinic literature (see for example *b. Sukkah* 56b; *b. Ta’anit* 27a,b; *b. Ketubbot* 27a; *b. Berakhot* 12a) the Hebrew word translated as “shifts” is *mishmarot*; a more literal translation would be “watches,” which correctly gives a military connotation of being on guard duty (as in Neh 13:22; see also 2 Kgs 11:4-7). Here the emphasis is on the priests’ and Levites’ duty to protect and enforce the sanctity of the Temple and its cult. As discussed above, this term was adopted by Milik to describe some of the Qumran calendar texts; see Milik, *Ten Years of Discovery in the Wilderness of Judaea*, p. 41. Talmon also discusses this terminology in reference to the Qumran calendars, but without reference to Nehemiah, in Talmon, “Calendrical Documents and Mishmarot,” esp. p. 9.

In the book of Chronicles (especially in 1 Chron 23:6, 24:1, 26:1, 12, 19; 2 Chron 8:14, 31:2) the synonymous term *makhliqot*, translated as “divisions,” “detachments,” or “courses,” is used in the discussion of how the priests and Levites were “divided” into groups for service in the Temple; this term emphasizes the process of division and organization rather than the task which was to be performed.

⁶³ Solomon is said to have established an administrative system of “twelve prefects governing all Israel, who provided food for the king and his household; each had to provide food for one month in the year” (1 Kings 4:7). Chronicles (1 Chr. 27:1) agrees that these administrative shifts took place monthly, but implies that this was different in the Temple, where the Sabbath shifts (1 Chr. 9:32) took place every seven days (1 Chr. 9:25), Chronicles, however, is a less reliable witness to pre-exilic practice since it is a post-exilic text. In the story of the coup against Queen Athalia and the coronation of Joash (2 Kgs 11:4-16 and a later retelling in 2 Chr 23:1-14), the shift of the guards at *both* the palace and the temple took place on the Sabbath; part of Jehoiada’s plot against Athalia involved coordinating with both the departing and arriving shifts, and having the departing shift stay on hand rather than leave as they usually would. While testifying to shift changes on the Sabbath, this episode is open to differing interpretations of whether this is a full-moon or weekly Sabbath. For opposing views see Robinson, esp. pp. 78-82 and Andreasen, esp. p. 52.

being done or not done by the work-shifts, either when he arrived or when he leaves. Nevertheless, it seems likely that Nehemiah mentions them because he establishes, re-establishes or reforms this practice. The work-shifts Nehemiah establishes were probably identical to the list of twenty-four clans reported in 1 Chr 24:7-18, which also appear in later Qumran and Rabbinic texts.⁶⁴ In these later texts it is obvious and explicit that the priestly work-shifts change weekly on the Sabbath, an important administrative structure supporting the institutionalization of Sabbath observance. While the text of Nehemiah is vague on this point, because of the importance of the weekly Sabbath to Nehemiah, it seems reasonable to suppose that he (re)establishes the work-shifts to change on a weekly cycle.

The (re)establishment of the priestly work-shifts was likely connected to the power struggle over Nehemiah's administrative reforms (Neh 13:7-8, 28-30), since he prefaces his arrangement of the work-shifts by proclaiming: "Remember to their discredit, O my God, how they polluted the priesthood, the covenant of the priests and Levites. I purged them of every foreign element" (Neh 13:29-30a). Neh 13:30a is likely referring to a purification that is something broader than simply foreign persons, which was discussed in Neh 9:2, 13:3, 28.⁶⁵ Perhaps the vagueness and ambiguity of this passage encompasses undesirable religious practices, which may have included the observance of a full-moon Sabbath. While it is unclear what the situation of the work-shifts was prior to Nehemiah's reforms, there may have been a tradition of changing monthly on the full-moon Sabbath,⁶⁶ in which case the change to a weekly work-shift would have been a significant reform.

A reorganization of the priesthood via the weekly work-shifts would have had multiple benefits, aside from institutionalizing weekly Sabbath observance. The weekly rotation of the priestly clans would minimize the influence of any particular clan, something Nehemiah may have found

⁶⁴ Scholars have provided various interpretations of Nehemiah's action. Some argue that it was not a new arrangement, but a reinvigoration of what had been instituted much earlier (see for example, J. M. Myers, *Ezra - Nehemiah* [The Anchor Bible; Vol. 14, Garden City: Doubleday, 1965], esp. pp. 218-219. Williamson argues that there is no necessary connection to the twenty-four priestly clans, but merely refers to previously mentioned work obligations, as in Neh 13:10-13; see Williamson, esp. p. 401. Noss and Thomas consider whether this passage refers to the "initial establishment" or "reestablishment" of duties, coming down on the side of "instituting new regulations." See Philip A. Noss and Kenneth J. Thomas, *A Handbook on Ezra and Nehemiah*, (UBS Handbook Series, New York: United Bible Societies, 2005), pp. 559-560. My position suggests that Nehemiah establishes something new, but portrays it as a restoration.

⁶⁵ David Clines agrees that this passages must refer to "a more far-reaching reform than the banishment of Jehoiada's son (v. 28) or the ejection of Tobiah (vv. 4-9), but precisely what is involved we cannot tell." David J. Clines, *Ezra, Nehemiah, Esther* (New Century Bible Commentary, Grand Rapids: Eerdmans, 1984), p. 249. Similarly, see also Noss and Thomas. In general, the ambiguity of Neh 13:30a has led to it being greatly discussed in the literature, and allows for re-reading along the lines suggested.

⁶⁶ See note 63 above.

politically desirable as part of his reforms.⁶⁷ On the other hand, there may have been benefits for the priesthood, who would have found the intensification of worship on the weekly Sabbath and the collection of tithes to be a useful tool for consolidating and projecting their power. It seems to me, then, that Nehemiah is probably the figure who definitively institutionalized the rotation of priests in synchrony with the weekly Sabbath that he aimed to enforce. The only biblical book composed after Nehemiah that addresses issues of the Sabbath is Chronicles, which is thoroughly oriented towards a weekly Sabbath.

I propose that Nehemiah’s reorganization of the priesthood, along with his ideological sabbatarianism, provides an auspicious historical moment for the introduction of a 364-day calendar, a situation that presents both the motivation and opportunity for such a change. It seems unlikely that he would have invented such a calendar, but he could well have brought such a calendar with him from the Persian-Babylonian Jewish community. In this context it is worth remembering that both Ezra and Nehemiah show up in Jerusalem over a century after the first returnees from Babylon, and almost two centuries after the beginning of the exile, quite enough time for the development of divergent theologies and practices between the communities of Babylon and Jerusalem. While a radical innovation, in context we need to consider that the introduction of a revised calendar would have been no more radical than Ezra’s revelation of the Torah to the Jerusalemites at the Water Gate.

I suggest that the kind of calendar introduced by Nehemiah would have been similar to the *Mishmarot* calendars found at Qumran, which reflect a combination of the 364-day ephemeris of the *Astronomical Book* (which does not mention the Sabbath, thus reflecting an earlier stage of development) with Nehemiah’s sabbatarian cultic reforms. A 364-day calendar would have provided a practical mechanism by which the unnatural rhythm of the weekly Sabbath could be institutionalized. Introducing a calendar with the weekly Sabbath built into its temporal structure would have been desirable both administratively and theologically.⁶⁸ It would have been attractive to the priests who had to make the process work, at the same time that it would make the Sabbath itself

⁶⁷ Glessmer pointed out that in the six year cycle of the *Mishmarot* calendars the effect of the rotations changing by four positions each year “has the advantage of distributing the economical possibilities to each priestly group to be on duty on festivals more or less equal,” Glessmer, “The Otot-Texts (4Q319) and the Problem of Intercalations in the Context of the 364-Day Calendar,” esp. p. 144. I have borrowed this insight and adapted it to Nehemiah’s historical context, suggesting that this variation by year, as well as the weekly changes themselves, have both political and economic implications.

⁶⁸ While Glessmer points out the likely attraction of the 364-day year to those you used a seven-day week, he does not take this any further; see Glessmer, “Horizontal Measuring in the Babylonian Astronomical Compendium MUL.APIN and in the Astronomical Book of 1En,” esp. p. 280.

seem to have been built into the divine architecture of the cosmos, into its very nature.⁶⁹ This priestly praxis neatly dovetails with the final editing of the Pentateuch, which probably took place during this same era and which placed such emphasis on the Sabbath cycle that it was put in the opening creation story of Gen 1-2:4a.

The Pentateuch uses ordinal month names exclusively – as do the Qumran calendars – yet some Babylonian month names appear in the post-exilic biblical texts, including the book of Nehemiah. If Nehemiah introduced a *Mishmarot*-style calendar, why would Babylonian month names appear in his book? The most likely situation is that Nehemiah operated with *two* calendars, the 364-day calendar for local religious purposes and the Standard Mesopotamian Calendar for political and administrative purposes in his role as the governor representing the Persian Emperor.⁷⁰ The instances when Nehemiah uses Babylonian month names are related to historical events, not cultic observances or holidays, while ordinal month names are used in a religious context.⁷¹ As is common today

⁶⁹ The observation that the Sabbath is integral to Priestly ideology concerning the nature of the cosmos reaches back at least to Wellhausen, who observed that, “the Sabbath...presents itself with all the rigour of a law of nature, having its reason with itself, and being observed even by the Creator.” Wellhausen, esp. p. 115. Similarly, Cooper and Goldstein claim that this association of Sabbath with holiness in Lev 23:3 embodies the principles that “organize all of reality,” Cooper and Goldstein, esp. p. 19. Most recently, see Elijior, esp. pp.29-87, who focuses on priestly mystical doctrines. See also Albani, note 27 above.

⁷⁰ VanderKam has put forward a similar theory that there were two calendars in use during the Seleucid period, a 364-day calendar for the Temple cult and the Standard Mesopotamian Calendar for administrative needs of the Empire. He proposes that in the wake of the Maccabean revolt the Hasmoneans introduced the Mesopotamian calendar into use at the Temple; in response, those who rejected this change broke off to preserve the old 364-day calendar practice and founded the Qumran sect (see VanderKam, “2 Maccabees 6, 7A and Calendrical Change in Jerusalem,” and VanderKam, *Calendars in the Dead Sea Scrolls: Measuring Time*, esp. pp. 113-116). While I am not convinced by VanderKam’s scenario for the timing of this calendrical shift, I nevertheless agree with his concept that two calendars were in use during the Second Temple period, one for religious/cultic purposes, and one for non-cultic trade, communication, and legal needs. The difference is that while VanderKam describes a scenario for the *demise* of a 364-day calendar’s use in the Temple, I am describing a scenario for the *beginning* of a 364-day calendar’s use in the Temple.

Ben Zion Wacholder has similarly argued that the evidence indicates *both* the 364-day calendar and the observational lunisolar calendar using Babylonian month names came into Jewish usage at about the same time, in the early Persian period. We differ, however, on which calendar was the one used in the Temple; I am arguing that it was the 364-day calendar while Wacholder’s main aim is to show that the observational lunisolar calendar became the Temple calendar early in the Persian period, a polemic against VanderKam’s thesis of the observational lunisolar calendar’s entry into the Temple with the Maccabees; see Wacholder.

⁷¹ Neh. 1:1, 2:1, and 6:15 mention the Babylonian month names Kislev, Nisan and Elul. The first two are in the context of Nehemiah serving the King in Persia, while the third dates the completed rebuilding of Jerusalem’s wall. In contrast, Neh 7:72, 8: 2, 14 all mention the “seventh month” in the religious context of reading of the Torah at the Water Gate, which echoes Solomon’s dedication of the Temple in the same month (1 Kgs 8:2).

throughout most of the world,⁷² coping with multiple calendars seems to have been standard in the ancient Near East from the days of the early Mesopotamian and Egyptian Empires.⁷³

If Nehemiah instituted a 364-day calendar, what calendar did he replace? There is little doubt that the calendar used during the pre-exilic period was some form of the lunisolar calendars common throughout the ancient Near East, with observances especially keyed to the new moon and full moon; the biblical observance of the *rosh hodesh* (the new moon/first lunar crescent that began the lunar month) together with the annual holidays that take place on the 14th or 15th of the month (the full moon), are remnants of this practice. This local calendar, based on local observation, would have existed alongside the Standard Mesopotamian calendar used for administrative purposes in both the Neo-Babylonian and Persian Empires, whose new months and leap years were determined centrally for the empire as a whole.⁷⁴

My hypothesis, then, is that Nehemiah’s comprehensive cultic reform was accompanied by the simultaneous introduction of a 364-day calendar similar to that described in the Qumran *Mishmarot* texts. This would have created a temporal structure that systematized and enforced his reforms. Indeed, the clear symbiosis between an activist sabbatarian monotheism and a 364-day calendar leads me to raise an even more radical – and speculative – possibility: if the continuous weekly Sabbath is a post-exilic phenomenon, then the exilic encounter with a 364-day astronomical year (as hypothesized by Horowitz and Ben-Dov) may have been a key catalyst in the *formulation* of the *perpetual* weekly Sabbath. If, as Robinson argues, there were already pre-exilic patterns of seventh-day rest during the plowing and harvest seasons (highlighted by the seven day festivals of Sukkot and Passover, and the seven weeks leading to Shavuot), then an encounter with a 364-day astronomical year could have led to the devising of a 364-day sabbatarian calendar with a year-round perpetual seven-day

⁷² It is commonplace today, for example, to describe the holidays of the Jewish calendar as coming “late” or “early,” unconsciously assuming that the Gregorian calendar is an appropriate standard. Obviously, this is merely an example of an alternate calendar maintained alongside the Gregorian calendar, which became the world-wide standard in the wake of European colonialism over the last five centuries.

⁷³ Stegemann makes a similar argument for the differential use of international and local religious calendars; H. Stegemann, *The Library of Qumran* (Grand Rapids: Eerdmans, 1998), esp. p. 171. I am tempted to simplify by saying that Nehemiah “brought” two calendars to Jerusalem. This is possible, but it is likely that the Standard Mesopotamian Calendar was already in use for non-Temple purposes such as politics, administration and trade.

⁷⁴ B.Z. Wacholder and D.B. Weisberg, “Visibility of the New Moon in Cuneiform and Rabbinic Sources,” in *Essays on Jewish Chronology and Chronography* (New York: Ktav Publishing House, 1976), pp. 59-74; Rochberg; J.C. VanderKam, “Calendars, Ancient Israelite and Early Jewish,” in *ABD*, ed. D.N. Freedman (New York: Doubleday, 1992), pp. 814-820; M.E. Cohen, *The Cultic Calendars of the Ancient Near East* (Bethesda: CDL Press, 1993).

week.⁷⁵ As many biblical scholars agree, it was during this same period that the weekly Sabbath became an important focus of Jewish identity and practice, bringing together other political, cultic and theological elements that were in flux, including the end of the monarchy, strengthened monotheism, and the synchronized social observance of periods of seven days or years.⁷⁶

The 364-day calendar is the missing piece of the puzzle that explains not only why these various elements crystallized into the post-exilic emphasis on the weekly Sabbath, but how this was projected and institutionalized. This is precisely the *opposite* view of most Qumran scholars of the 364-day calendar, who see the various forms of the 364-day calendar as the creation of group(s) that were *already* militantly sabbatarian.⁷⁷ I submit that the virtue of this proposal is that it depends on Jewish texts and a Jewish calendar known to have been used by some Jews during the Second Temple period and focuses on a historical period known for significant changes in Jewish religious theory and practice.

Conclusion

To conclude, let me summarize my argument. In the context of the Qumran debate concerning the origin and use of the 364-day calendars, I am joining together recent scholarship showing the Mesopotamian origin of the 364-day calendar tradition with the position that a calendar derived from this tradition was used by the priests of the Second Temple starting some time in the Persian period. This would explain how this calendrical tradition arrived in Judea.

In terms of the debate among biblical scholars concerning the origins of the seventh-day Sabbath, I suggest that the introduction of a 364-day *Mishmarot*-style calendar was a key element enabling the *innovation* and *institutionalization* of a perpetual weekly Sabbath that replaced a full-moon Sabbath. If one contends that the weekly Sabbath was a pre-exilic practice, my hypothesis is still applicable in a modified fashion: I suggest that the introduction of a 364-day calendar would have greatly facilitated the successful *reinvigoration* and *institutionalization* of the seventh-day Sabbath at a time when it fell into abeyance (as it appeared to Nehemiah).

⁷⁵ Robinson argues that this seasonal pattern becomes a perpetual seventh-day rest cycle and is identified with the Sabbath during the exilic or post-exilic period. Nevertheless, he does not suggest a social enforcement mechanism – this is the role I am suggesting was played by the 364-day sabbatarian calendar. For further discussion see Robinson, esp. pp. 126-141.

⁷⁶ See note 34 above.

⁷⁷ Most scholars of the 364-day calendar do not enter into the arguments of the Biblical scholars concerning the era of the seventh-day Sabbath's implementation, and simply assume it was a pre-exilic practice; see for example Jaubert, *The Date of the Last Supper*, esp. pp. 39-40; Stegemann, esp. p. 171. Albani, as previously noted, is an important exception.

In either case, the Jewish version of a 364-day calendar which incorporated the Sabbath as a rhythm integral to the workings of the cosmos did not merely reflect a sabbatarian perspective, but helped to create, form and project a priestly oriented sabbatarian ideology. This calendar gives us a social and cultic mechanism that explains how the weekly Sabbath became a central and established temporal rhythm of post-exilic Judaism. I further suggest that the account of Nehemiah presents a likely historical context for the introduction of a new calendar of this type.

One might even say that my hypothesis *inverts* the rabbinic position that “the names of the months came up with them from Babylonia” (y. *Rosh HaShanah* 1:2 (56d)), which implies that while the Babylonian month names used in the rabbinic lunisolar calendar were brought back to Judea with the returnees, the calendar itself was unchanged from the time of Moses. In contrast, I am suggesting that the returnees, possibly Nehemiah (and by extension, possibly Ezra), introduced a 364-day calendar using ordinal month names into the Temple, in concert with the predominant calendrical nomenclature of the Bible.

In any case, the success of Nehemiah’s weekly Sabbath reforms were such that even in the late Hellenistic and Roman periods, when the proponents of a 364-day calendar were in conflict with groups who preferred an observational lunisolar calendar as a better way of determining the months and years, and when these opposing groups may have observed the annual holidays on different days, the seven-day rhythm of the Sabbath enforced by the weekly priestly work-shifts in the Temple was a point of commonality for all Jews of that era, and has remained so ever since.

ABSTRACT

This paper considers together two scholarly controversies that have hitherto been considered separately, and suggests a crossover point. The first concerns the 364-day calendar whose pattern resonates throughout the Dead Sea Scrolls, and whose pre-Qumranic origins have been debated since the 1950’s. The second concerns the origin of the perpetual seventh-day Sabbath observance (which I will refer to as the “weekly Sabbath”), a debate which dates back to the nineteenth century. The paper proposes that a 364-day calendar similar to those best known from the Qumran Mishmarot texts was put into use in the Jerusalem Temple during the Persian Period, quite possibly as part of the sabbatarian reforms implemented by Nehemiah, and that this was key to the successful institutionalization of the weekly Sabbath. It may even be the case that the 364-day year was a catalyst for the conception of the perpetual weekly Sabbath, rather than vice-versa as is almost universally assumed.