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S. Najm & Ph. Guillaume, “Jubilee Calendar Rescued from the Flood Narrative”

Jubilee Calendar Rescued from the Flood Narrative*

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1. Introduction

- 1.1. A jubilee ago, Annie Jaubert claimed that the calendar of the book of Jubilees is to be regarded as an ancient priestly calendar which the Essenes continued to use¹. This Jubilees calendar is also called ‘sabbatical calendar’² because it is based on a 364-day year made up of exactly 52 weeks, with four seasons of equal length (91 days: 1 En 72,8-32; 82,4-6.11-20)³. Consequently, each date always falls on the same day of the week, Sabbaths fall on the same dates every year⁴. This is the purpose of such a calendar, as attested in Qumran texts, in Enoch literature and earlier in the Pentateuch, Ezekiel, Haggai, Zechariah, Chronicles and Ezra-Nehemiah⁵. The flood thus starts on a Sunday (Gen 7,11) and the ark duly stops on Ararat on a Friday in order to respect the Sabbath (Gen 8,4)⁶. The travels of the Patriarchs are also planned to respect the seventh-day rest; during the Exodus the children of Israel do not start off or arrive on a Sabbath day (Ex 12,31; 16,1)⁷. The perfect seven-day structure of this calendar and its ability to provide a perpetual table of Sabbath dates suggest links with Genesis 1. This leads us to ask whether the composer of Genesis 1 (P) also invented the sabbatical calendar. If so, the Jubilees calendar would be much older than the book of Jubilees.

- 1.2. James VanderKam has partly confirmed Jaubert’s hypothesis⁸, and recently B.K. Gardner has produced a monograph where he shows that ‘there was a covert, sophisticated synchronistic tradition of 364-day calendrics in the post-exilic Priestly Writer P’⁹. Otherwise, Jaubert’s hypothesis has received little support. Nina Collins holds that the sabbatical calendar was in use at the latest when the Torah was translated into Greek around 280 BCE¹⁰. Roger Beckwith reversed Jaubert’s argument: the Old Testament chronologies are not based on the 364-day calendar; it is the calendar that is based on the Old Testament, and the

sabbatical calendar was created by the Essenes between 251 and 200 BCE¹¹. Frederick Cryer even concludes a study of the Flood Narrative (FN) claiming that the only calendar *not* reflected in P's system is the 364-day calendar of the book of Jubilees and Enoch¹².

- 1.3. This contribution tries to show that Cryer is mistaken. Rather than a mere 'hobby horse of Jubilees sectarians'¹³, the 364-day calendar is clearly reflected in both the final Torah redaction of the FN and already in the Priestly writer's version. This calendar may be as old as the Priestly Narrative (P^g) which opens with a cosmogony (Genesis 1) that supplies the basic components of the calendar attested in the book of Jubilees.

2. Searching for the Priestly Writer's Flood Chronology

- 2.1 Cryer's conclusion is that P uses three systems: a schematic 360-day calendar, the 354-day lunar and 365-day solar calendars. Fractions are completely disregarded; all computations are based on whole numbers. 'These are earmarks of a purely arithmetical, schematic system which has nothing to do with astronomical observation'¹⁴. This last point contradicts his discovery of a lunar and a solar calendar in the FN, but this is not the point we want to make. Our aim here is to show that it is possible to find the sabbatical calendar in the Priestly version of the FN. To do so, we reproduce Cryer's useful table that lists all the chronological data provided in the FN, with just a few alterations¹⁵:

	Days	Dates
Gen 7,4.10	7	
Gen 7,11-12	40	17/II
Gen 7,17	40	
Gen 7,24	150	
Gen 8,3	150	
Gen 8,4		17/VII (MT) or 27/VII (LXX)
Gen 8,5		1/X (MT) or 1/XI (LXX)
Gen 8,6	40	
Gen 8,10	7	
Gen 8,12	7	
Gen 8,13		1/I
Gen 8,14		27/II

Then Cryer establishes a table of intervals (days, months in Roman numbers and years from Noah's age)¹⁶:

Gen 7,6 Gen 7,11	<i>Noah is 600 years old</i> Flood starts	<i>1/I/600</i> 17/II/600	47 days
Gen 8,4 Gen 8,5	Ark rests Mountaintops appear	17/VII/600 1/X/600	73 days
Gen 8,13 Gen 8,14	Ark's cover removed Ark opened	1/I/601 27/II/601	57 days

2.2 Cryer's first interval is contrived because it is built on the assumption that the flood started on 1/I, although Gen 7,6 only mentions that Noah was 600 years old when the flood came on the land. It is therefore safer to remove this fragile piece of evidence and only take into consideration days and intervals based on dates provided by the text. The two other intervals are also disputable since, according to the procedure used to tally 150 days between 17/II and 17/VII (13 + 120 + 17), the days between 17/VII and 1/X amount to 74 (13 + 60 + 1) while from 1/I to 27/II we count 56 days (29 + 27)¹⁷. Moreover, one episode of the flood is missing: the interval between the appearance of the mountaintops and the removal of the ark's cover, both events duly dated by passages commonly attributed to P¹⁸. It should then be integrated into Cryer's table with the amounts of days tallied with the same procedure as the 150 days.

Table 1: corrected Cryer data

Gen 7,11 Gen 8,4	Flood starts Ark rests	17/II 17/VII	150 days = 13 + 120 + 17
Gen 8,4 Gen 8,5	Ark rests Mountaintops	17/VII 1/X	74 days = 13 + 30 + 30 + 1
Gen 8,5 Gen 8,13	Mountaintops Cover removed	1/X 1/I	90 days = 29 + 60 + 1
Gen 8,13 Gen 8,14	Cover removed Ark opened	1/I 27/II	56 days = 29 + 27
Total			370 days = 52 weeks + 6 days

Since the result is not a whole number of weeks, we consider it as an unlikely representation of P's system. So, we tally both MT and LXX dates (different from MT in 8,4.5) with the sabbatical calendar which introduces an extra day at the end of months III,VI,IX and XII.

Table 2: MT and LXX dates with sabbatical calendar

		MT		LXX
Gen 7,11	17/II	152 = 13 + 31 + 60 + 31 + 17	17/II	162 = 13 + 31 + 60 + 31 + 27
Gen 8,4	17/VII		27/VII	
Gen 8,4	17/VII	75 = 13 + 30 + 31 + 1	27/VII	95 = 3 + 30 + 31 + 30 + 1
Gen 8,5	1/X		1/XI	
Gen 8,5	1/X	91 = 29 + 30 + 31 + 1	1/XI	61 = 29 + 31 + 1
Gen 8,13	1/I		1/I	
Gen 8,13	1/I	56 = 29 + 27	1/I	56 = 29 + 27
Gen 8,14	27/II		27/II	
Total		374 days = 53 weeks + 3 days		374 days

Now we notice that the 150-day interval between the resting of the ark and the appearance of the mountaintops contradicts both the MT and the LXX dates, since they amount to 152 or 162 days¹⁹. J.M. Baumgartner and others after him have used this fact to reject Jaubert's hypothesis and ascertain that the FN does not use the sabbatical calendar²⁰. But if we consider this 150-day interval as secondary because it only makes sense within the MT system tallied with a 360-day calendar, then the argument is void and the very presence of these 150 days reveals that another chronological system was imposed upon an older version of the FN that did not follow the 360-day calendar. Therefore, the appeal to the FN to establish the use of the sabbatical calendar in P^g may be less absurd than Baumgartner has claimed. The following shows that the FN chronology makes plenty of sense if worked out on the basis of the 364-day calendar.

2.3 To prove this, we notice that the LXX counts seven months between the resting of the ark and its opening (27/VII to 27/II). We therefore take these seven months as a possible hallmark of P's work since P 'evinces a marked penchant for sevens'²¹. Then we notice that, according to the sabbatical calendar, the flood starts on Sunday while the ark rests on the next week-day, Monday, as if nothing had happened in between. P may thus indicate that the actual flooding period is not to be included into the FN chronology. Rather, the flood would be considered as a de-creation that suspends time and calendar as much as it destroys the other aspects of earthly life. The time between the beginning of the rain and the resting of the ark is thus a time-gap (except for fish!), a black hole in the calendar that should not be tallied. The time count resumes as soon as the ark rests, and it takes exactly seven months to recreate life on the land. It does

not seem too far-fetched to claim that these seven months reflect the seven days of Genesis 1, and thus the LXX would be more likely to transmit P's original date! This means that all who attempted to decipher the Flood chronology may have been misled when they counted the days of the actual flooding of the land.

We should therefore remove them and establish a last table.

Table 3: LXX dates, sabbatical calendar, and flood gap

		Days	Dates
Gen 7,11	Flood starts		17/II Sunday
Gen 7,12	Rain	40	
Gen 7,17	Ark afloat	Time gap	Calendar gap
Gen 8,4	Ark rests	$156 = 3 + 30 + 31 + 60 + 31 + 1$ $56 = 29 + 27 = 8 \times 7$	27/VII (LXX) Monday
Gen 8,13	Ark uncovered		1/I Wednesday
Gen 8,14	Ark opened		27/II Wednesday
Total		$252 = 36 \times 7$	

Now we have a total of days that make up a whole number of weeks, like the 364-day calendar. P's FN starts after the seven days announced by God (Gen 7,10). Rain pours over the land for 40 days (Gen 7,4.12) before the swelling waters float the ark. These 40 days belong to the FN, but then the interval between 17/II and 27/VII is not tallied because it corresponds to the suspension of time. The FN is thus made up of three distinct periods: 40 days of rain, undated de-creation, 7 sabbatical months of recreation = $40 + 156 + 56 = 252$ days = 36 weeks.

2.4 These seven months of re-creation strongly suggest that this version of the FN belongs to the chronological system established in Genesis 1. Rather than considering the whole first interval as secondary because its dates do not fit the 150-day interval, it is the 150 days that should be considered as secondary. The first interval itself, with its LXX dates, should be kept within P's system.

Since the sabbatical calendar always sets dates on the same day of the week, the last stages of re-creation both fall on Wednesday. By placing the removal of the ark's cover on 1/I, P indicates that his calendar starts on a Wednesday, like the day of the creation of the heavenly luminaries that allow calendar calculations (Gen 1,14). Wednesday, day 1 of the sabbatical calendar, is not only New Year's Day (Gen 1,14; 8,13), but also the day of new beginnings when the ark

is opened (Gen 8,14). If the LXX transmits P's original dates, the ark does not rests on Ararat on Friday in order to respect the Sabbath as claimed by Jaubert on the basis of the MT dates²², but on Monday in order to signify the time gap.

3. Alteration of P's Original Chronology

- 3.1 The interval between the beginning of the Flood and the resting of the ark contradicts the twice-mentioned sum of 150 days. It was necessary to reduce the date of the resting of the ark in 8,4 (27/VII LXX) by 10 days (17/VII MT) in order to get only 150 days. The aim of these 150 days is to impose the Egyptian calendar (12 x 30 + 5 supplementary days)²³ onto P's sabbatical calendar by altering the year's length to 360 days (150 + 150 + 60).
- 3.2 The removal of one whole month for the appearance of the mountaintops (1/XI > 1/X) has a different explanation, since the modification of the date provided by Gen 8,5 does not alter the overall chronology. The reduction of the first interval is compensated for by the lengthening of the following one by the same amount. It is probably due to a scribal error: the LXX actually mentions that 'the waters continued to abate until the tenth month; in the eleventh month, on the first day of the month, the tops of the mountains appeared'. Haplography in the Hebrew can easily explain the transformation:

עד החדש העשירי בעשתי-עשר האחד לחדש	Original?
עד החדש העשירי בעשרי באחד לחדש	MT

The date corresponds to P's date of Moses' farewell (Deut 1,3).

4. Intercalation?

Although there are no clues of intercalation relating to the Jubilee calendar, scholarship has supplied many suggestions to make up for the annual shortage compared to the solar calendar²⁴. However, intercalation was not an issue for P

when he composed his narrative around 530 BCE²⁵. Although the 364-day calendar develops a one-month discrepancy every 24 years²⁶, the marked tendency of this calendar to emancipate itself from natural phenomena like the lunar monthly cycle make it no less liable than other calendars to cope with the discrepancy. After all no ancient calendar reflects the exact length of the solar year. Moreover, the Zoroastrian calendar received its first intercalation in 505 BCE and the next one did not take effect before 441 BCE²⁷. This simply shows that calendars can survive without frequent intercalations. People know to cope with using several calendars at the same time.

5. Modified Priestly Flood Narrative

5.1 These findings have three consequences on the extant of the Priestly FN²⁸:

- the LXX transmits the original Priestly dates.
- the mentions of the 150 days (7,24; 8,3b) do not belong to P.
- the 40 days of rain (Gen 7,4.12) should be attributed to P.

P^g thus reads between Gen 7,11 and 8,14 (changes in bold):

Gen 7,11 (NRSV) In the six hundredth year of Noah's life, in the second month, on the seventeenth day of the month, on that day all the fountains of the great deep burst forth, and the windows of the heavens were opened. ¹²**The rain fell on the earth 40 days and 40 nights.** ¹³On the very same day Noah with his sons, Shem, Ham and Japheth, and Noah's wife and the three wives of his sons entered the ark, ¹⁴they and every wild animal of every kind, and all domestic animals of every kind, and every creeping thing that creeps on the earth, and every bird of every kind—every bird, every winged creature. ¹⁵They went into the ark with Noah, two and two of all flesh in which there was the breath of life. ^{16a}And those that entered, male and female of all flesh, went in as God had commanded him. ^{17a}The flood continued forty days on the earth. ¹⁸The waters swelled and increased greatly on the earth; and the ark floated on the face of the waters. ¹⁹The waters swelled so mightily on the earth that all the high mountains under the whole heaven were covered; ²⁰the waters swelled above the mountains, covering them fifteen cubits deep. ²¹And all flesh died that moved on the earth, birds, domestic animals, wild animals, all swarming creatures that swarm on the earth, and all human beings. ^{8.1}But God remembered Noah and all the wild animals and all the domestic animals that were with him in the ark. And God made a wind blow over the earth, and the waters subsided; ²the fountains of the deep and the windows of the heavens were closed ⁴and in the seventh month, on the **twenty-seventh** day of the month, the ark came to rest on the mountains of Ararat. ⁵The water continued to abate until the tenth month; in the **eleventh** month, on the first day of the month, the tops of the mountains appeared. ^{13a}In the six hundred first year, in the first month, the first day of the month, the waters were dried up from the earth; and Noah removed the covering of the ark. ¹⁴In the second month, on the twenty-seventh day of the month, the earth was dry.

Therefore, it seems a natural conclusion to claim that around 530 BCE, P was not simply the composer of Genesis 1 and of the rest of P^g; he also set up (and possibly invented) the sabbatical calendar that provides the chronological

structure of the whole of P^g. The calendar data provided by the creation week is supplemented by the FN to establish New Year's Day on Wednesday and to set the year's length at 364 days. This bold affirmation certainly needs to be tested on the other chronological systems transmitted by P^g²⁹ before it can be declared valid. But it already suggests that Beckwith stretches the evidence when he claims that the solar and lunar calendars are the only "calendars definitely reflected in the Old Testament"³⁰. The Essenes were not the only ones to be fascinated by numbers. P^g demonstrates a clear concern with symmetry precision and regularity. In spite of Beckwith's claim, there is therefore no need to wait for Alexander and Greek arithmetic to date the invention of the 364-day calendar³¹.

5.2 Politically, this new calendar has the same symbolic bearing as the French revolutionary calendar based on 10-day weeks and fancy month names³². In ancient Palestine, changes of rule also coincided with calendar changes: Nebuchadnezzar probably enforced the Babylonian calendar at Jerusalem in 604 BCE³³. P^g and its sabbatical calendar reflect the next change, from Babylonian to Persian rule. The sabbatical calendar marks the end of Babylonian hegemony and turns a dark page in Jerusalem's past³⁴. The replacement of the Babylonian lunar calendar by a pure septenary system celebrates the downfall of the Babylonian Empire and the reconstruction of the Judaeen political entity by the Persians, who present themselves as liberators and restorers of cults abrogated by Nabonidus. The introduction of the Egyptian system onto P's calendar is thus likely to correspond to the beginning of Ptolemaic rule over Palestine around 300 BCE. However, the Egyptian calendar did not blot out P's chronological structure. It can be recovered in the FN if one uses the information provided by the books of Jubilees and Enoch. The authors of these books were probably closer to the Priestly traditions than is suggested by the wild sectarian image imposed on them by modern scholarship.

5.3 Finally, if the seven months of re-creation of the FN belong to P's overall chronological system as much as the seven days of Genesis 1, P^g may contain other indications of numerical symbolism which may in turn help us to recover the theological meaning of P^g and even to provide extra criteria to delimitate its

extant. To this end, the fact that the whole FN lasts 6 x 6 weeks is probably significant. It will be the object of our next study, devoted to the Priestly account of the plagues.

NOTES

* We thank David Kerry for improving our English.

¹ A. Jaubert, *Le calendrier des Jubilés et de la secte de Qumrân. Ses origines bibliques*, VT 3 (1953), 250-264.

² W. Vogels, *The Cultic and Civil Calendars of the Fourth Day of Creation (Gen 1,14b)*, SJOT 11 (1997), 163-180 (177).

³ R.T. Beckwith, *Enoch Literature and its Calendar: Marks of their Origin, Dates, and Motivation*, RdQ 39 (1981), 363-404 (383); R.T. Beckwith, *Calendar and Chronology*, 2001, 93-95.

⁴ See table in J.C. VanderKam, *The Origin, Character, and Early History of the 364-Day Calendar: A Reassessment of Jaubert's Hypotheses*, CBQ 41 (1979), 390-411 (391) = J.C. VanderKam, *From Revelation to Canon. Studies in the Hebrew Bible and Second Temple Literature*, 2000, 82.

⁵ A. Jaubert, *La date de la cène*, 1957, 32-38.

⁶ F.H. Cryer, *Gn 5,32; 11,10-11 & the Chronology of the Flood*, Biblica 66 (1985), 241-261.

⁷ See Jaubert, *Date*, 32-33.

⁸ VanderKam, *Origin*, 410 = VanderKam, *From Revelation to Canon*, 81-104.

⁹ B.K. Gardner, *The Genesis Calendar: The Synchronistic Tradition in Genesis 1-11*, 2001, 5.

¹⁰ N.L. Collins, *The Library in Alexandria and the Bible in Greek*, 2000, 115-130.

¹¹ Beckwith, *Enoch Literature*, 363-404; R.T. Beckwith, *The Solar Calendar of Joseph and Asenath: a Suggestion*, JSJ 15 (1984), 90-111 (99).

¹² F.H. Cryer, *Gn 5,32; 11,10-11 & the Chronology of the Flood*, Biblica 66 (1985), 241-261 (256). For a complete overview of the discussion and bibliography: VanderKam, *Origin*, 393-399.

¹³ As dubbed by Cryer, *Gen 5,32*, 257 n. 57.

¹⁴ Cryer, *Gen 5,32*, 260.

¹⁵ See Cryer, *Gen 5,32*, 251-252. We have omitted four entries from Cryer's table: the 120 years limit of human life (*Gen 6,3*) because it does not belong to the FN, the repetition of the 7 days in *Gen 7,4* and 10 because verse 10 is clearly the accomplishment of the oracle in verse 4 and should not be tallied twice (so Cryer, *Gen 5,32*, 259). We also omitted Cryer's x and y entries that are pure conjectures. Against Cryer, *Gen 5,32*, 259-260, who considers the 40 days of *Gen 8,6* as a mere doublet of 7,17, we include both in the list because the 40 days of 7,11 and 8,6 are part of phrases in the narrative mode, suggesting that an extra 40 days are spent between the viewing of the mountaintops and the opening of the window.

¹⁶ Cryer, *Gen 5,32*, 259, table 3.

¹⁷ J. Skinner, *Genesis*, 1910, 168. M. Rösel, *Die Chronologie der Flut in Gen 7-8: Keine neuen textkritischen Lösungen*, ZAW 110,4 (1998), 590-593 (593), considers that P relies on schematic months of 30 days and counts 75 days between the resting of the ark in on 17/VII (*Gen 8,4*) and the appearing of the mountaintops on 1/X (*Gen 8,5*). To find 75 days between 17/VII and 1/X with only

30-day months, it is necessary to also count the first day (17th) as a whole day (14 + 30 + 30 + 1). This is hardly acceptable if one counts 150 days between 17/II and 17/VII (13 [instead of 14] + 30 + 30 + 30 + 30 + 17).

¹⁸ N. Lohfink, *Theology of the Pentateuch*, 1994, 145 n. 29. For the FN: Gen 6,9-22; 7,6,11,13-16a,17a,18-21,24; 8,1,2a,3b-5,13a,14-19; 9,1-3,7-17,28-29.

¹⁹ Beckwith, *Calendar*, 101.

²⁰ J.M. Baumgartner, *The Calendar of the Book of Jubilees and the Bible*, *Tarbiz* 32 (1962), 317-328 = *Studies in Qumran Laws*, 1977, 101-114.

²¹ W.H.C. Propp, *Exodus 1-18*, 1998, 315.

²² Jaubert, *Date*, 33; G.J. Wenham, *Genesis 1-15*, 1987, 180.

²³ E.J. Bickerman, *Chronology of the Ancient World*, 1968, 40-43.

²⁴ Listed in VanderKam, *From Revelation to Canon*, 99 n. 57.

²⁵ A. de Pury, *Der Priesterschriftliche Umgang mit der Jakobsgeschichte*, in R.G. Kratz, Th. Krüger & K. Schmid (eds), *Schriftauslegung in der Schrift*, BZAW, 2000, 33-60 (39).

²⁶ Beckwith, *Calendar*, 108.

²⁷ A. Panaino, *Calendars I. Pre-Islamic*, in *Encyclopaedia Iranica* IV, 1990, 662.

²⁸ As delimited by Lohfink, *Theology*, 145 n. 29.

²⁹ See S.E. McEvenue, *The Narrative Style of the Priestly Writer*, 1971, 191.

³⁰ Beckwith, *Calendar*, 106.

³¹ Beckwith, *Calendar*, 106-107.

³² B. Blackburn & L. Holford-Strevens, *The Oxford Companion to the Year*, 1999, 742-745.

³³ J.A. Wagenaar, *Post-exilic Calendar Innovations. The First Month of the Year and the Date of Passover and the Festival of Unleavened Bread*, *ZAW* 115,1 (2003), 3-24 (18 n. 46).

³⁴ Ph. Guillaume, *Genesis 1 as Charter of a Revolutionary Calendar*, *ThR* 24/2 (2003), 141-148.