

An Emendation to Richard Eisenberg's Complete Triennial System for Reading Torah, to Address a Rare Situation

OH 137.2012

Rabbi Joshua Heller, with thanks to Daniel Lydick

Passed by acclamation by the Committee on Jewish Law and Standards on October 24, 2012.

Sheilah- in certain, very rare instances, a calendar configuration arises which was not accounted for in the standard Triennial cycle. How should the reading be divided in such instances?

Teshuvah:

Richard Eisenberg's "Complete Triennial System for Reading the Torah," (approved 1988, emended June 1995) reflects the cumulative wisdom of several colleagues in providing a comprehensive three-year cycle of readings. It ensures that each verse of the Torah is read over the three years, with minimal overlap, despite the many possible combinations of joined and merged Torah portions. When portions may be combined in some years, but separated in others, the system presents specific reading configurations for each possible three-year configuration of combined and separate readings.

Daniel Lydick, a computer programmer and a serious student of the Bible who is engaged in creating an index of the Torah, has identified an omission in the Eisenberg system, with regard to the sometimes-double portion Vayakhel and Pekudei, and has proposed a solution (see his paper, as an Appendix to this one). ¹

The Eisenberg system anticipates that in the course of any three year Torah reading cycle, these portions would always be read together at least once, and separately at least once- a total of six different configurations. The system does not consider the possibility that the two portions will be read separately three years in a row. As it turns out, this is an extremely unusual occurrence, but is possible as follows:

Vayakhel and Pekudei are read separately under two circumstances:

1. a Hebrew leap year (which happens 7 out of every 19 years) ,
2. A non-leap year in which Rosh Hashanah starts on a Thursday and Kislev and Cheshvan both have 30 days . This configuration is described by the acronym "pey-hey-shin", and occurs just a few times a century.

¹ We are very grateful to Mr. Lydick for bringing the issue to the attention of the committee, and proposing such an elegant solution, which reflects a very clear understanding of the Jewish calendar and the system of division of aliyot.

Usually, there are two regular years between each leap year, but twice in the 19 year leap years cycle, there is just one regular year separating leap years (years 6 and 8, and 17 and 19). If this intervening regular year is of the configuration “pey-hey-shin,” then one ends up with three years in a row in which Vayakhel and Pekudei are read separately. Even more rarely, these three years align exactly with a USCJ triennial cycle, so that the portions are read separately in all three years of the cycle, a possibility not anticipated by Eisenberg’s system.

Mr. Lydick notes two upcoming instances (Hebrew years 5831-5833, corresponding to 2071-3, and 6572-6574, corresponding to 2812-2814) where this calendar configuration comes to pass, and has suggested a method of division of the portion for such a configuration. To be sure, this is an issue of primarily academic interest, but the story of Honi Hama’agel reminds that we can never anticipate when the events of 70 years hence may turn out to be of personal interest.

Therefore the interest of completeness, we should update the system to incorporate further information, as has been done in the past. I have reviewed Mr. Lydick’s calendrical calculations using calendar software, and I have confirmed that his suggested divisions (largely based on the existing systems for Vayakhel-Pekudei) confirm to the rules for division of portions. Each portion is at least three verses, and each portion ends either on a paragraph break or at least three verses from the nearest break.

P’sak-

We recommend that Mr. Lydick’s proposed configuration “G” be added to future publications of the Eisenberg system, so that it is available for use when this unusual configuration next arises.

Corrigendum to Add a Missing Variation to the Modern Triennial Torah Reading Cycle

A Proposal

Submitted to The Rabbinical Assembly

Rabbi Elliot Dorff, Committee on Jewish Law and Standards

by

Daniel Lydick

June 22, 2012

(In-print reference material page numbers revised per RA recommendation of October 4, 2012. See end note 1.)

Table of Contents

<i>Introduction</i>	1
1. Abstract	1
2. Background and Structure of This Triennial Reading System	1
3. Missing: One Triennial Reading Variation in <i>Vayakhel-Pekudei</i>	2
4. Solution: A Proposed Triennial Cycle Variation "G" for <i>Vayakhel-Pekudei</i>	8
5. Actualization: Proposed Aliyot Divisions for Separate Sidrot for Triennial Cycle Variation "G" of <i>Vayakhel-Pekudei</i>	11
6. Conclusion	13
End Notes	14

Tables

Table 1: Valid combinations of common years and leap years	2
Table 2: Segments of Long-term Calendar with Year Type פה"ש	2
Table 3: Occurrences of Year Type פה"ש and Coincidence with the Missing Triennial Cycle Variation	4
Table 4: Triennial Cycle Variations for the Standard Readings in <i>Vayakhel-Pekudei</i>	5
Table 5: Roster of All Triennial Cycle Variations in <i>Vayakhel-Pekudei</i> , Ordered by Leap Year Mode	6
Table 6: Roster of All Triennial Cycle Variations in <i>Vayakhel-Pekudei</i> , Ordered by Variation Name	7
Table 7: Available Non-overlapping Reading Segments	8
Table 8: Mapping of Variation "F.1" (<i>Vayakhel</i>) and Variation "A.3" (<i>Pekudei</i>) into Proposed Variation "G"	9
Table 9: Summary of Triennial Cycle Variation "G"	10
Table 10: Aliyot Divisions for Triennial Cycle Variation "G" of <i>Vayakhel-Pekudei</i> , Ordered by Year	11
Table 11: Aliyot Divisions for Separate Sidrot, Triennial Cycle Variation "G" of <i>Vayakhel-Pekudei</i>	12
Table 12: Triennial Cycle Variation "G" of <i>Vayakhel-Pekudei</i>	13

Corrigendum to Add a Missing Variation to the Modern Triennial Torah Reading Cycle

DANIEL LYDICK

This paper is offered by the author to the Committee on Jewish Law and Standards for the purpose of closing the gap in the Conservative triennial Torah reading system that was unexpectedly discovered while researching a variety of Torah lectionaries. This is the system that was proposed to the CJLS in 1988 by Rabbi Richard Eisenberg and was widely implemented by the United Synagogue of Conservative Judaism in the mid-1990's.

1. Abstract

Among the several systems for reading the Torah that have been used since Talmudic times is a variant of the Babylonian schedule for reading the Torah over the course of one year. This variation was proposed by Rabbi Richard Eisenberg to the Committee on Jewish Law and Standards of the Rabbinical Assembly in 1988 in a paper entitled, "A Complete Triennial System for Reading the Torah," and was adopted by the Committee that same year. This present author used the published edition of this paper¹ during halachic research on a variety of Torah lectionaries. During the process of examining Rabbi Eisenberg's very diligent and careful work, it was discovered that, even though the triennial cycle variations for the seven double sidrot were closely researched and the resulting triennial cycle variations creatively designed and judiciously set forth against the fluctuations of the Jewish calendar, there is one combination on one pair of sidrot that was not considered. This paper describes the issue and proposes a solution in consonance with Rabbi Eisenberg's original proposal, especially considering his six halachic guidelines for each weekly sidrah.²

2. Background and Structure of This Triennial Reading System

The triennial Torah reading system adopted by the Committee on Jewish Law and Standards in 1988 has been widely used since the mid-1990's by many Conservative congregations. It is structured in three-year segments that interact with the nineteen-year lunisolar cycle and the semi-periodic nature of the Jewish calendar. On this calendar, two kinds of years exist, a common year of twelve months and a leap year of thirteen months. There are a total of eight possible combinations of these two kinds of years in any arbitrary three-year period.³ Of these eight, only four of them actually occur on the calendar over the course of the nineteen-year cycle because leap years may occur only in years 3, 6, 8, 11, 14, 17, and 19 of that cycle. The other four combinations never occur on the calendar at all. So seven years of the nineteen are leap years and the remaining twelve are common years.⁴ These four valid combinations of common years and leap years occur over time no matter which year on the calendar is selected to be the starting year of the three. After the final year of the nineteen-year cycle, the sequence of seven leap years in nineteen repeats itself where year 3 is a leap year followed by year 6, year 8, year 11, etc. Although most leap years occur every three years, an interval of only two years exists between the leap years of year 6 and year 8 and between the leap years of year 17 and year 19. In table 1, this situation occurs on the last line and is marked with an arrow.

	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>
	common year	common year	LEAP YEAR
	common year	LEAP YEAR	common year
	LEAP YEAR	common year	common year
→	LEAP YEAR	common year	LEAP YEAR

Table 1: Valid Combinations of Common Years and Leap Years

Furthermore, each of the nineteen years may start only on certain days of the week, depending on the exact particulars of the current lunisolar cycle. This also means that in both common years and leap years, sometimes the month of Kislev has only 29 days instead of 30 (called a defective year) and sometimes the month of Cheshvan has 30 days instead of 29 (called an excessive year). With these possibilities, a total of fourteen types of years are possible, seven common year types and seven leap year types.⁵ It is the interaction of all these considerations that creates the need for multiple variations of double Torah readings like *Tazria-Metsora* and *Nitsavim-Vayelech* and especially for this matter, *Vayakhel-Pekudei*.

3. Missing: One Triennial Reading Variation in *Vayakhel-Pekudei*

During this author's research, a combination of year types was discovered during the construction of a long-term triennial reading schedule that could not be accounted for with the existing triennial variations of *Vayakhel-Pekudei*. With only the extant variations, a gap in the lectionary occurs in the reading of these sidrot in the three years 5831 (2070-2071 C.E.) through 5833 (2072-2073 C.E.). Table 2 shows a segment of that schedule along with the halachic year type for each year. Again, the last line marks the problematic combination of year types with an arrow.⁶

	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>
	5768 (2007/2008) מ"ח (LEAP YEAR)	5769 (2008/2009) פג"כ (common year)	5770 (2009/2010) פז"ש (common year)
	5771 (2010/2011) מ"ט (LEAP YEAR)	5772 (2011/2012) פה"כ (common year)	5773 (2012/2013) פב"ח (common year)
	5774 (2013/2014) ש"א (LEAP YEAR)	5775 (2014/2015) פה"כ (common year)	5776 (2015/2016) מב"ש (LEAP YEAR)

	5825 (2064/2065) ש"ב (LEAP YEAR)	5826 (2065/2066) פה"כ (common year)	5827 (2066/2067) פב"ש (common year)
	5828 (2067/2068) ז"ח (LEAP YEAR)	5829 (2068/2069) פה"כ (common year)	5830 (2069/2070) פב"ש (common year)
→	5831 (2070/2071) ז"ח (LEAP YEAR)	5832 (2071/2072) פה"ש (common year)	5833 (2072/2073) מג"כ (LEAP YEAR)

Table 2: Segment of Long-term Calendar with Year Type פה"ש

Part of this existing research effort already included the construction of a mathematical model to describe the seven double sidrot of Eisenberg's triennial lectionary and predict the nature of the triennial cycle variations that should exist. All of the above features of the Jewish calendar were incorporated into this model along with other considerations. The results confirmed both the accuracy and completeness of Eisenberg's original research since the model predicted each and every triennial cycle variation in all seven double sidrot—except that it also predicted an extra one.⁷ This result came as quite a surprise but explained the lack of information about the readings for *Vayakhel-Pekudei* for the three years 5831-5833.

This gap only exists for *Vayakhel-Pekudei* and it only exists in the two cases of a particular common year positioned immediately between two leap years. This case may occur in years 6 through 8 of the nineteen-year lunisolar cycle and in years 17 through 19 of the cycle. Furthermore, this sequence of three years *must line up exactly* with years 1, 2, and 3 of the USCJ triennial Torah reading cycle. The exact year type of the common year is one where Cheshvan has 30 days instead of 29 (an excessive common year), where Rosh HaShanah is on a Thursday, and where Pesach is on a Sunday. The halachic name for this year type is *qevia* פה"ש. Although year type פה"ש is not common, the only time the gap will appear is when it occurs immediately between these two leap years. The last two occurrences of this exact condition on the calendar were in 4719 (958-959 C.E.) and in 5460 (1699-1700 C.E.). The next two occurrences will be in 5832 (2071-2072 C.E.) and in 6573 (2812-2813 C.E.).⁸ Four instances in 1,855 years is not exactly a common occurrence. This set of occurrences is measured against the USCJ triennial reading schedule (which started in 5756, 1995-1996 C.E.) and has been extrapolated both backward and forward in time to locate these four occurrences of the gap. The same situation occurs in Eisenberg's example triennial reading schedule (which started in 5749, 1988-1989 C.E.) and has three occurrences of this same gap in the same time period.

Table 3 shows the occurrences of year type פה"ש for an extended time period. The term "USCJ year" indicates year 1, 2, or 3 of the USCJ triennial reading cycle. The rectangles mark the years when the year type in question, *qevia* פה"ש, is found immediately between two leap years. The small circles mark the occurrences of פה"ש where the gap appears in the second year of the Eisenberg triennial reading cycle (i.e., the first year of the USCJ triennial reading cycle). The large ovals mark the occurrences of פה"ש where the gap appears in the second year of the USCJ triennial reading cycle.⁹

Corrigendum to Add a Missing Variation to the Modern Triennial Torah Reading Cycle

פד"ש Interval, years	USCJ Year	World Epoch	Common Era	Sequence Interval, years	פד"ש Interval, years	USCJ Year	World Epoch	Common Era
—	2	4719	958-959	— (previous column, please)	7		5663	1902-1903
27		4746	985-986		71		5734	1973-1974
51		4797	1036-1037		20		5754	1993-1994
20		4817	1056-1057		31		5785	2024-2025
51		4868	1107-1108		20		5805	2044-2045
27		4895	1134-1135	247	27	2	5832	2071-2072
20		4915	1154-1155		51		5883	2122-2123
51	3	4966	1205-1206	247	20		5903	2142-2143
27		4993	1232-1233		7		5910	2149-2150
20		5013	1252-1253		20		5930	2169-2170
31		5044	1283-1284		51		5981	2220-2221
20		5064	1303-1304		20		6001	2240-2241
71		5135	1374-1375		51		6052	2291-2292
7		5142	1382-1382	247	27	3	6079	2318-2319
20		5162	1401-1402		51		6130	2369-2370
51	1	5213	1452-1453	247	20		6150	2389-2390
27		5240	1479-1480		7		6157	2396-2397
20		5260	1499-1500		20		6177	2416-2417
31		5291	1530-1531		51		6228	2467-2468
20		5311	1550-1551		20		6248	2487-2488
27	3	5338	1577-1578	125	7		6255	2494-2495
51		5389	1628-1629	247	71	1	6326	2565-2566
20		5409	1648-1649		51		6377	2616-2617
51	2	5460	1699-1700	122 (247 from 5213)	20		6397	2636-2637
27		5487	1726-1727		7		6404	2643-2644
20		5507	1746-1747		20		6424	2663-2664
21		5538	1777-1778		51		6475	2714-2715
20		5558	1797-1798		20		6495	2734-2735
27	1	5585	1824-1825	125 (247 from 5338)	7		6502	2741-2742
51		5636	1875-1876	247	71	2	6573	2812-2813
20		5656	1895-1896	(next column, please)				

Table 3: Occurrences of Year Type פד"ש and Coincidence with the Missing Triennial Cycle Variation

This special combination of year types is *extremely* rare on the calendar. Of the sixty-one occurrences of *qevia* פד"ש in the 1,855 years from 4719 to 6573, only ten occurred immediately between leap years. Of these, only four contributed to the missing triennial cycle variation. Each of the ten occurrences happened only when the year types of the three years were *qevia* מז"ח in year 1

followed by *qevia* פה"ש in year 2 followed by *qevia* מג"כ in year 3,¹⁰ although if year 1 were *qevia* מג"כ instead, *qevia* פה"ש could possibly follow it in year 2 due to the exact boundaries of these year types. Likewise, *qevia* פה"ש in year 2 could possibly be followed by *qevia* מז"ש in year 3.¹¹ Whether these sequences may actually occur could be the subject of additional research—they do not occur in any of the instances between 4719 and 6573.¹²

Now it is quite possible that this very rare combination did not show up during the original research simply because of the limits of the range of years employed and the choice of 5749 (1988-1989 C.E.) as the sample starting year for first three-year cycle.¹³ The year 5749 will be called the Eisenberg epochal year herein. It is quite likely that this particular choice of starting year combined with some reasonable limit on the number of years in the research sample simply did not turn up an instance of a rare triennial cycle variation over 160 years into the past and over 500 years into the future using Eisenberg's triennial epoch. And while it is self-evident that while there are three possibilities to start any three-year cycle of reading the Torah, only one may be selected to start the first cycle.

Starting the Eisenberg epoch in its first three-year cycle of 5749-5751 would mean that the second three-year cycle would start in 5752 (1991-1992 C.E.), the third in 5755, the fourth in 5758, etc. While Eisenberg chose 5749 for his example, the United Synagogue of Conservative Judaism apparently chose 5756 (1995-1996 C.E.) for the first year when its congregations began widely using this system, probably due to the efforts of the late Kenneth Goldrich and his *Luah* for this system.¹⁴ Thus 5756 will be called the USCJ epochal year. Comparing this choice to the Eisenberg epochal year means that 5756 is equivalent to the second year of the third cycle of the Eisenberg epoch. It also means that the particulars of the lunisolar cycle will produce different specific three-year segments in Eisenberg reading cycles than are found in USCJ reading cycles. What is not self-evident is that this difference is purely a function of the choice of epochal starting year. Only an extremely long term calendar such as Table 3 can demonstrate the fundamental similarities and differences between them.

Although the gap in the USCJ lectionary does not exist in the Eisenberg lectionary until almost 500 years after the USCJ gap (namely, 5832 and 6326, respectively), the exact reason for the missing triennial cycle variation remains unknown. It is certainly not a lack of due diligence on Eisenberg's part because all possible variations are accounted for in all other sidrot. Of particular interest here is that he identified a triennial cycle variation "D" in this sidrah that does not occur until 5903-5905,¹⁵ which is even farther into the future than the next occurrence of the missing triennial cycle variation in 5831-5833. His research is sound.

An examination of the times where *Vayakhel-Pekudei* is read according to the fourteen year types on the Jewish calendar will demonstrate that there is very little that differs on this double Torah reading than most of the other double readings. These sidrot are read separately in all leap years. They are read combined in almost all—but not exhaustively all—common years. Only in year type פה"ש they are not read combined but separately, like during a leap year. This means that the lectionary contains more than the four standard combinations where the sidrot are read combined in common years and separately in leap years in exact synchronization with Table 1 above. These four standard combinations of triennial readings in *Vayakhel-Pekudei* are shown in Table 4.¹⁶

	Year 1	Year 2	Year 3
A	combined reading (common year)	combined reading (common year)	separate reading (LEAP YEAR)
B	combined reading (common year)	separate reading (LEAP YEAR)	combined reading (common year)
F	separate reading (LEAP YEAR)	combined reading (common year)	combined reading (common year)
E	separate reading (LEAP YEAR)	combined reading (common year)	separate reading (LEAP YEAR)

Table 4: Triennial Cycle Variations for the Standard Readings in *Vayakhel-Pekudei*

Corrigendum to Add a Missing Variation to the Modern Triennial Torah Reading Cycle

The triennial cycle variation names for each variation are marked on the left side. Obviously, the original proposal had more than these four combinations if for no other reason than the nomenclature—there are triennial cycle variations "C" and "D" to consider. Furthermore, as described above, there is also an additional triennial cycle variation not considered by the original proposal. That variation will be called herein, "Triennial Cycle Variation G." Table 5 shows the complete list of all possible triennial cycle variations for *Vayakhel-Pekudei*.¹⁷

	Year 1	Year 2	Year 3
A	combined reading (common year)	combined reading (common year)	separate reading (LEAP YEAR)
E	separate reading (common year) פה"ש	combined reading (common year)	separate reading (LEAP YEAR)
C	combined reading (common year)	separate reading (common year) פה"ש	separate reading (LEAP YEAR)
B	combined reading (common year)	separate reading (LEAP YEAR)	combined reading (common year)
D	separate reading (common year) פה"ש	separate reading (LEAP YEAR)	combined reading (common year)
C	combined reading (common year)	separate reading (LEAP YEAR)	separate reading (common year) פה"ש
F	separate reading (LEAP YEAR)	combined reading (common year)	combined reading (common year)
D	separate reading (LEAP YEAR)	separate reading (common year) פה"ש	combined reading (common year)
E	separate reading (LEAP YEAR)	combined reading (common year)	separate reading (common year) פה"ש
★ E	separate reading (LEAP YEAR)	combined reading (common year)	separate reading (LEAP YEAR)
→ G	separate reading (LEAP YEAR)	separate reading (common year) פה"ש	separate reading (LEAP YEAR)

Table 5: Roster of All Triennial Cycle Variations in *Vayakhel-Pekudei*, Ordered by Leap Year Mode

It shows all cases where year type פה"ש occurs and does so using the same order as the leap year sequence is shown in Table 1 and Table 4. Notice that because of the separate readings in this year type, *the combined and separate readings do not correspond exactly to the common years and leap years*. This behavior is crucial to understanding why triennial cycle variation "G" could even exist. This variation is marked by an arrow in Table 5. From this vantage point, it is easy to see why the variation does exist. Year type פה"ש requires a separate reading where, for the same leap year mode (of a leap year in the first and third year), all other common year types require a combined reading, as shown in the variation "E" line above it (marked with a star).

Organizing these triennial cycle variations by leap year mode like in the earlier tables is not the only way to understand the features of these readings. Organizing the table by variation name and then by leap year mode is also useful. In particular, the positions of the "combined reading" states and the positions of the "separate reading" states correspond directly to these same states on the table of triennial cycle variations in Eisenberg's original proposal.¹⁸ The information is the same—it is just ordered differently than in Table 5. In Table 6, variation "G" is again marked by an arrow and the similar variation "E" with a star.

	Year 1	Year 2	Year 3
A	combined reading (common year)	combined reading (common year)	separate reading (LEAP YEAR)
B	combined reading (common year)	separate reading (LEAP YEAR)	combined reading (common year)
C	combined reading (common year)	separate reading (common year) פּה"ש	separate reading (LEAP YEAR)
C	combined reading (common year)	separate reading (LEAP YEAR)	separate reading (common year) פּה"ש
D	separate reading (common year) פּה"ש	separate reading (LEAP YEAR)	combined reading (common year)
D	separate reading (LEAP YEAR)	separate reading (common year) פּה"ש	combined reading (common year)
E	separate reading (common year) פּה"ש	combined reading (common year)	separate reading (LEAP YEAR)
E	separate reading (LEAP YEAR)	combined reading (common year)	separate reading (common year) פּה"ש
★ E	separate reading (LEAP YEAR)	combined reading (common year)	separate reading (LEAP YEAR)
F	separate reading (LEAP YEAR)	combined reading (common year)	combined reading (common year)
→ G	separate reading (LEAP YEAR)	separate reading (common year) פּה"ש	separate reading (LEAP YEAR)

Table 6: Roster of All Triennial Cycle Variations in *Vayakhel-Pekudei*, Ordered by Variation Name

From this vantage point, variation "G" looks like an extension to the current lectionary. Use of letters for variation names reaffirms this—the letter "G" is the next one in the naming sequence and suits this purpose nicely.

4. Solution: A Proposed Triennial Cycle Variation "G" for *Vayakhel-Pekudei*

With a gap in the readings identified, there needs to be a solution that provides Torah readings to fill that gap. Table 7 shows the current arrangement of the available unique separate readings for *Vayakhel-Pekudei* that have no overlap, no gaps, and span the full text of both sidrot.¹⁹

<u>Sidrah</u>	<u>Year 1, Variation "F.1"</u>	<u>Year 2, Variation "B.2"</u>	<u>Year 3, Variation "A.3"</u>
<i>Vayakhel</i>	Ex. 35:1-37:16 (89 verses)	Ex. 37:17-38:20 (33 verses)	
<i>Pekudei</i>		Ex. 38:21-39:21 (32 verses)	Ex. 39:22-40:38 (60 verses)
Total Length: 214 verses	89 verses	65 verses	60 verses

Table 7: Available Non-overlapping Reading Segments

A complete solution for proposed variation "G" may be constructed with a complete set of non-overlapping, ungapped readings for all three years with the following reading segments:

1. Read the first half of the verses in variation "F.1" (*Vayakhel*) in one year.
2. Read the second half of the verses in variation "F.1" (*Vayakhel*) in one year.
3. Read all of the verses in variation "B.2" (*Vayakhel*) in one year.
4. Read all of the verses in variation "B.2" (*Pekudei*) in one year.
5. Read the first half of the verses in variation "A.3" (*Pekudei*) in one year.
6. Read the second half of the verses in variation "A.3" (*Pekudei*) in one year.

Table 8 shows a proposed way to split out selected readings from these reading segments. It will require some explanation in order to make best use of this table and to properly understand its content and layout but this layout strengthens the understanding of the content. The table of verses from variation "F.1" are on the left side while the table of verses from variation "A.3" are shown on the right. In each of these tables, the aliyah number from the existing variation is listed down the left side with the verses from that variation listed beside them. The maftir reading is not shown because it is by definition a repetition of the final part of aliyah 7 and so contains no additional verses from the text. In the next column, the aliyah number for the proposed triennial variation "G" is shown followed by the verses from the existing variation that would be used for that aliyah of the proposed reading.

Some of the reading segments are used directly such as Exodus 39:22-26, which is aliyah 1 in variation "A.3" as well as aliyah 1 in proposed variation "G.2." The completed horizontal and vertical lines of the adjacent boxes in the table show this association succinctly.

In other cases, the segment of verses from one aliyah is used for two aliyot in the proposed variation "G." The larger box for the verses from the original variation (either "A.3" or "F.1") show the extent of this range of verses. The missing vertical lines show how this passage connects to the proposed variation "G." For example, Exodus 39:27-32 is aliyah 1 in variation "A.3" and these verses are mapped to span between aliyah 2 and aliyah 3 in proposed variation "G.2."

In still other cases, the boundaries of the reading segment's verse range do not correspond exactly between the existing variation aliyah and two or more aliyot of the proposed variation "G." For example, Exodus 40:17-27 of aliyah 6 of variation "A.3" corresponds only roughly to aliyot 3, 4, and 5 of proposed variation "G.3" because, even though the starting verse is Exodus 40:17 in both cases, Exodus 40:27, the ending verse of variation "A.3," is the second verse of aliyah 5 of proposed variation

"G.3." The mapping does not end exactly on an aliyah boundary for both original and proposed.

The thick horizontal line in the middle of both tables shows the boundary between the readings for the two weeks. Thus the reading segments derived from variation "F.1" of *Vayakhel* have readings for the first year in proposed variation "G.1" on the top and have readings for the second year in proposed variation "G.2" on the bottom. Likewise, the reading segments derived from variation "A.3" of *Pekudei* have readings for the second year in proposed variation "G.2" on the top and have readings for the third year in proposed variation "G.3" on the bottom. With all of these relationships fully described, here is Table 8.²⁰

Allocate triennial cycle variation "F.1" (<i>Vayakhel</i>)				Allocate triennial cycle variation "A.3" (<i>Pekudei</i>)			
"F.1" Aliyah	Verses From Variation "F.1"	"G.1" Aliyah	Verses To Variation "G.1"	"A.3" Aliyah	Verses From Variation "A.3"	"G.2" Aliyah	Verses To Variation "G.2"
1	Ex 35:1-10	1	Ex 35:1-3	1	Ex 39:22-26	1	Ex 39:22-26
		2	Ex 35:4-10			2	Ex 39:27-29
		3	Ex 35:11-20			3	Ex 39:30-32
2	Ex 35:11-20	4	Ex 35:21-23	3	Ex 39:33-43	4	Ex 39:33-43
		5	Ex 35:24-26			5	Ex 40:1-3
		6	Ex 35:27-29			6	Ex 40:4-6
3	Ex 35:21-29	7	Ex 35:30-35	4	Ex 40:9-16	7	Ex 40:7-9
		Maftir	Ex 35:30-35			Maftir	Ex 40:7-9
		"G.2" Aliyah	Verses To Variation "G.2"			"G.3" Aliyah	Verses To Variation "G.3"
4	Ex 35:30-36:7	1	Ex 36:1-7	5	Ex 40:17-27	1	Ex 40:10-12
		2	Ex 36:8-13			2	Ex 40:13-16
		3	Ex 36:14-19			3	Ex 40:17-19
5	Ex 36:8-19	4	Ex 36:20-30	6	Ex 40:28-38	4	Ex 40:20-25
		5	Ex 36:31-38			5	Ex 40:26-29
		6	Ex 37:1-9			6	Ex 40:30-33
6	Ex 36:20-38	7	Ex 37:10-16	7	Ex 40:28-38	7	Ex 40:34-38
		Maftir	Ex 37:13-16			Maftir	Ex 40:36-38

Table 8: Mapping of Variation "F.1" (*Vayakhel*) and Variation "A.3" (*Pekudei*) into Proposed Variation "G"

A glance through Table 8 demonstrates that there are no overlapped readings, no skipping, and no gaps, which are important considerations arising from prior attempts at triennial Torah reading schedules²¹ and are important motivating factors for Eisenberg's original proposal. In particular, the lack of overlap, skipping, and gaps are important features of this proposed variation "G" for halachic reasons. There are no overlapped readings, skipping, or gaps in the "B.2" reading segments, either. And the "F.1" plus "B.2" plus "A.3" readings form one large, continuous reading segment that covers the entire text of *Vayakhel-Pekudei*. The halachic guidelines set forth in Eisenberg's original proposal are these:²²

Corrigendum to Add a Missing Variation to the Modern Triennial Torah Reading Cycle

1. Each aliyah must contain a minimum of three verses and each sidrah must contain at least 21 verses.
2. Paragraphs with 4 or 5 verses are read in their entirety.
3. There is no skipping from one section to another on the same day.
4. Excessive overlapping is avoided whenever possible so as not to lend preference to one section over others.
5. Effort has been made to avoid beginning and ending the sedarim and aliyot on a negative note.
6. Upon the completion of a three-year cycle, no sections will have been omitted.

All six of these requirements have been met by this proposal. The only question that might be raised is somewhat subjective but concerns requirement number five. Exodus 35:3 concludes an aliyah. But because it is clarifying permitted and forbidden activities on the Shabbat, it probably should not be considered to be negative. Some may disagree.

With a new set of reading segments derived from variation "A.3" and variation "F.1" and with the halachic criteria met, it is now possible to propose a complete answer to fill the gap in the lectionary with proposed triennial cycle variation "G." Table 9 uses the amended reading segments of Table 8. It also directly employs the segments from variation "B.2" for both *Vayakhel* and for *Pekudei* in the solution.²³

<u>Sidrah</u>	<u>Year 1, Variation "G.1"</u>	<u>Year 2, Variation "G.2"</u>	<u>Year 3, Variation "G.3"</u>
<i>Vayakhel</i>	Ex. 35:1-35 (35 verses EXTRACTED from "F.1")	Ex. 36:1-37:16 (54 verses EXTRACTED from "F.1")	Ex. 37:17-38:20 (33 verses USED AS IS from "B.2")
<i>Pekudei</i>	Ex. 38:21-39:21 (32 verses USED AS IS from "B.2")	Ex. 39:22-40:9 (31 verses EXTRACTED from "A.3")	Ex. 40:10-38 (29 verses EXTRACTED from "A.3")
Total Length: 214 verses	67 verses	85 verses	62 verses

Table 9: Summary of Proposed Triennial Cycle Variation "G"

5. Actualization: Proposed Aliyot Divisions for Separate Sidrot for Triennial Cycle Variation "G" of *Vayakhel-Pekudei*

The amended editions of triennial cycle variations "A.3" and "F.1" plus the unamended triennial cycle variation "B.2" may now be expanded into the complete list of aliyot for proposed triennial cycle variation "G." Notice that all aliyot employ separate readings in this variation. There are no aliyot that employ combined readings. Therefore, the aliyot divisions below may each look like aliyot for a single sidrah, which is true at face value since these sidrot are always read separately in variation "G" anyway. This representation is also an expansion of Table 9 showing each aliyah of each sidrah for each year. Table 10 shows the aliyot divisions for all of variation "G," ordered by year.²⁴

ויקהל						
	<i>year 1</i>	35:1-35:35	<i>year 2</i>	36:1-37:16	<i>year 3</i>	37:17-30:20
1	35:1	– 35:3	36:1	– 36:7	37:17	– 37:19
2	35:4	– 35:10	36:8	– 36:13	37:20	– 37:24
3	35:11	– 35:20	36:14	– 36:19	37:25	– 37:29
4	35:21	– 35:23	36:20	– 36:30	38:1	– 38:3
5	35:24	– 35:26	36:31	– 36:38	38:4	– 38:8
6	35:27	– 35:29	37:1	– 37:9	38:9	– 38:15
7	35:30	– 35:35	37:10	– 37:16	38:16	– 38:20
Maftir	35:30	– 35:35	37:13	– 37:16	38:18	– 38:20

פקדי						
	<i>year 1</i>	38:21-39:21	<i>year 2</i>	39:22-40:9	<i>year 3</i>	40:10-40:38
1	38:21	– 38:23	39:22	– 39:26	40:10	– 40:12
2	38:24	– 38:27	39:27	– 39:29	40:13	– 40:16
3	38:28	– 39:1	39:30	– 39:32	40:17	– 40:19
4	39:2	– 39:7	39:33	– 39:43	40:20	– 40:25
5	39:8	– 39:14	40:1	– 40:3	40:26	– 40:29
6	39:15	– 39:18	40:4	– 40:6	40:30	– 40:33
7	39:19	– 39:21	40:7	– 40:9	40:34	– 40:38
Maftir	39:19	– 39:21	40:7	– 40:9	40:36	– 40:38

Table 10: Aliyot Divisions for Triennial Cycle Variation "G" of *Vayakhel-Pekudei*, Ordered by Year

As mentioned above, this organization views these sidrot effectively with the format by which single sidrot are set forth in Eisenberg's proposal. But as with the roster of all triennial cycle variations for these sidrot shown in Table 5 and Table 6, this is not the only way to understand the reading segments for variation "G." Organizing them by aliyot divisions is also useful, especially since that is how the double sidrot are set forth in Eisenberg's proposal.

Table 11 shows these same aliyot divisions for all of variation "G," ordered by aliyot division. The information is the same, just ordered differently than in Table 10. This table should be inserted into Eisenberg's original proposal under "ויקהל-פקודי III. Aliyot Divisions for Separate Sidrot" following the sidrot for triennial cycle variation "F.1" on page 397.

ויקהל-פקודי

III. Aliyot Divisions for Separate Sidrot

G.1	ויקהל	35:1–35:35	פקודי	38:21–35:21
1	35:1	– 35:3	38:21	– 38:23
2	35:4	– 35:10	38:24	– 38:27
3	35:11	– 35:20	38:28	– 39:1
4	35:21	– 35:23	39:2	– 39:7
5	35:24	– 35:26	39:8	– 39:14
6	35:27	– 35:29	39:15	– 39:18
7	35:30	– 35:35	39:19	– 39:21
Maftir	35:30	– 35:35	39:19	– 39:21

G.2	ויקהל	36:1–37:16	פקודי	39:22–49:9
1	36:1	– 36:7	39:22	– 39:26
2	36:8	– 36:13	39:27	– 39:29
3	36:14	– 36:19	39:30	– 39:32
4	36:20	– 36:30	39:33	– 39:43
5	36:31	– 36:38	40:1	– 40:3
6	37:1	– 37:9	40:4	– 40:6
7	37:10	– 37:16	40:7	– 40:9
Maftir	37:13	– 37:16	40:7	– 40:9

G.3	ויקהל	37:17–38:20	פקודי	40:10–38
1	37:17	– 37:19	40:10	– 40:12
2	37:20	– 37:24	40:13	– 40:16
3	37:25	– 37:29	40:17	– 40:19
4	38:1	– 38:3	40:20	– 40:25
5	38:4	– 38:8	40:26	– 40:29
6	38:9	– 38:15	40:30	– 40:33
7	38:16	– 38:20	40:34	– 40:38
Maftir	38:18	– 38:20	40:36	– 40:38

Table 11: Aliyot Divisions for Separate Sidrot, Triennial Cycle Variation "G" of *Vayakhel-Pekudei*

Finally, an entry should be appended to Eisenberg's original proposal under "ויקהל-פקודי I. Triennial Cycle Variations" following the entry for triennial cycle variation "F" on page 395.

ויקהל-פקודי

I. Triennial Cycle Variations

	<i>year 1</i>		<i>year 2</i>		<i>year 3</i>	
G	Separate		Separate		Separate	
	ויקהל	35:1 – 35:35	ויקהל	36:1 – 37:16	ויקהל	37:17 – 38:20
	פקודי	38:21 – 39:21	פקודי	39:22 – 40:9	פקודי	40:10 – 40:38

Table 12: Triennial Cycle Variation "G" of *Vayakhel-Pekudei*

6. Conclusion

Since the mathematical model used to predict the existence of the previously unknown variation "G" also predicted every other variation in the original proposal for a triennial Torah reading system, this proposed triennial cycle variation "G" should fill the only gap in the Conservative triennial system for reading the Torah. Although other combinations of aliyot could possibly be used for each of its reading segments, the suggested division of variations "F.1" and "A.3" combined with variation "B.2" as it is currently defined in the Eisenberg proposal are completely satisfactory to both fill the gap and meet all of the halachic requirements for such readings. This Torah lectionary is now complete.

End Notes

1. Rabbi Richard Eisenberg, "A Complete Triennial System for Reading the Torah," in *Proceedings of the Committee on Jewish Law and Standards of the Conservative Movement, 1986-1990* (New York: The Rabbinical Assembly, 2001), 383-418. Currently out of print (as of October 4, 2012), Gabriel Seed of the Rabbinical Assembly recommended citing the following in-print work for this article: Rabbi Richard Eisenberg, "A Complete Triennial System for Reading the Torah," in *Responsa 1980-1990: The Committee on Jewish Law and Standards of the Conservative Movement* (ed. David J. Fine: New York: Rabbinical Assembly, 2005), 129-164. In order to reference both the research materials and the in-print edition, all references to this work will be of the form, "Eisenberg 2001, p. 111, and 2005, p. 222." E.g., end note 2 following.
2. Cf. Eisenberg 2001, p. 384, and 2005, p. 130.
3. From combinatorial theory, three items with two states each is 2 to the power of 3 , namely 2^3 or 8 item-states.
4. Cf. Arthur Spier, *The Comprehensive Hebrew Calendar, twentieth to twenty-second century, 5660-5860 * 1900-2100* (Third revised edition; Anauet, NY: Feldheim Publishers, 1986), 14.
5. Cf. Spier, pp. 16-17.
6. Daniel Lydick, *Volume 7a: The Modern Conservative Triennial Torah Reading Schedule in Order of the First Words* (vol. 7a of *Torah Scroll Index*; Dallas, Texas: Talmid Torah Press, forthcoming in 2012), 74. Adapted for this corrigendum.
7. Cf. Lydick, *Volume 7a: First Words*, 7a:100-101.
8. Cf. Lydick, *Volume 7a: First Words*, 7a:78.
9. Lydick, *Volume 7a: First Words*, 7a:131. Adapted for this corrigendum.
10. Cf. Lydick, *Volume 7a: First Words*, 7a:132.
11. Cf. Lydick, *Volume 7a: First Words*, 7a:132.
12. Cf. Lydick, *Volume 7a: First Words*, 7a:131.
13. Cf. Eisenberg 2001, p. 385, and 2005, p. 131.
14. This is my conclusion based on statements by Goldrich in three places. First, Goldrich & Abramson, *Luah 5771*, p. A-1 (reference [A] below), states that 5771 (2010-2011 C.E.) is the first year of a triennial reading cycle. Second, the USCJ web site <http://uscj.org> posts the weekly Torah readings for both the annual cycle and the USCJ triennial cycle. Against Eisenberg's proposal, this author's recent inspection (several times since January, 2012) indicates that the current year, 5772, is the second year of this triennial cycle, that is, the triennial cycle using Eisenberg's original proposal against the USCJ epoch. Third, the first full USCJ triennial cycle apparently began with the second annual publication of this *Luah* by Kenneth Goldrich for 5756 (1995-1996 C.E.). "In November 1992, I [Goldrich] undertook the process of writing a liturgical calendar.... This publication... has been published annually since 5755 (1994-1995 C.E.)..." (Goldrich, n.p., reference [B] below.) To document the present author's analysis, two references are appropriate:
[A] Kenneth S. Goldrich (ל"י), *Luah 5771, Order of Prayers, Blessings, and Torah Readings for Synagogue and Home Table*. A joint project of the Rabbinical Assembly and the United Synagogue of Conservative Judaism. (ed. Rabbi Robert Abramson; No city of publication: The United Synagogue of Conservative Judaism, 2011), A-1.
[B] Kenneth S. Goldrich, "Yad LaTorah, Laws and Customs of the Torah Service: A guide for Gabba'im and Torah Readers," in *United Synagogue Review*. (Spring 2002): No pages. Cited April 4, 2012. Online: http://www.uscj.net/Yad_Latorah5810.html.
15. Cf. Daniel Lydick, *Volume 7b: The Modern Conservative Triennial Torah Reading Schedule in Order of the Columns* (vol. 7b of *Torah Scroll Index*; Dallas, Texas: Talmid Torah Press, forthcoming in 2012), 72.
16. Lydick, *Volume 7a: First Words*, 7a:93. Adapted for this corrigendum.
17. Lydick, *Volume 7a: First Words*, 7a:101. Adapted for this corrigendum. See 7a:95-103 for the method used for predicting the existence of variation "G."

Proposal to the Committee on Jewish Law and Standards

18. Cf. Eisenberg 2001, p. 395, and 2005, p. 141.
19. Lydick, *Volume 7a: First Words*, 7a:102. Adapted for this corrigendum.
20. Lydick, *Volume 7a: First Words*, 7a:102-103. Adapted for this corrigendum.
21. A list of many of these issues may be found in Rabbi Lionel E. Moses, "Is there an Authentic Triennial Cycle of Torah Readings?" in *Proceedings of the Committee on Jewish Law and Standards of the Conservative Movement, 1986-1990* (New York: The Rabbinical Assembly, 2001), 332-334. Currently out of print (as of October 4, 2012), this same list may also be found in print in Rabbi Lionel E. Moses, "Is there an Authentic Triennial Cycle of Torah Readings?" in *Responsa 1980-1990: The Committee on Jewish Law and Standards of the Conservative Movement* (ed. David J. Fine: New York: Rabbinical Assembly, 2005), 78-80.
22. Eisenberg 2001, p. 384, and 2005, p. 130.
23. Lydick, *Volume 7a: First Words*, 7a:103. Adapted for this corrigendum.
24. Lydick, *Volume 7b: Columns*, 7b:75. Adapted for this corrigendum.