

ANCHORING TIME

If you are like most people who study Scripture using a study Bible and commentaries, or even if you have studied the Bible professionally as a seminarian, you have probably never heard of the Bûr-Saggilê eclipse. That is unfortunate, because the misidentification of the year when that eclipse occurred in history is preventing you from having an accurate Old Testament chronology for understanding the works of God.

The Bûr-Saggilê eclipse is not mentioned in the Bible. In fact, in all of recorded history, there is only a solitary mention on a cuneiform tablet now archived in the British Museum. Among the hundreds of clay tablets brought back to England from the ruins of the royal library of Ashurbanipal in Nineveh, scholar and Orientalist Sir Henry Rawlinson found and deciphered four lists of eponyms that comprise what has come to be called the Assyrian Eponym Canon. In the Neo-Assyrian Empire, a year was named after its *limmu*, a title given to a royal official who was appointed to preside over the celebrations marking the start of the New Year. Each of Rawlinson's four *limmu* lists was incomplete by itself, but the four overlapped one another enough to reveal a continuous record of the number of regnal years for each king of the Neo-Assyrian Empire from its rise in the 10th century to its fall to Babylon in 609 BCE.

In the inscription for the ninth year of Ashur-dan III (ninth using an accession year counting system, or tenth year if not) was mention of a solar eclipse during the eponymous year of a *limmu* named Bûr-Saggilê. Rawlinson, with the help of no less a luminary than Queen Victoria's Astronomer Royal, determined that the referenced eclipse had occurred on June 15, 763 BCE.¹ For Bible scholars, the discovery meant that it was possible to calculate a scientifically-certified date for the beginning year in the reign of Rehoboam of Judah by aligning it with Rawlinson's astronomically anchored chronology of the Neo-Assyrian kings. The assumed-authoritative Neo-Assyrian time line was used to date the start of the reign of Rehoboam by using the following reasoning:

1. Henry Creswicke Rawlinson, "The Assyrian Canon Verified by the Record of a Solar Eclipse, B.C. 763" (The Athenaeum: Journal of Literature, Science and the Fine Arts; number 2064; May 18, 1867); p. 660-661.

“With regard to the year when these occurrences [*reigns of the Hebrew kings*] took place, some new chronological data are afforded by a recent discovery of Sir H. Rawlinson by which certain Assyrian dates are fixed with astronomical certainty. A chronicle upon a brick tablet in the British Museum makes distinct mention of an eclipse, the exact date of which has been fixed, and from it the relative dates of the events chronicled can be exactly known. It results from this that a battle [*near the town of Qarqar*] in which Ahab, king of Israel, and his allies, were defeated by the king of Assyria happened in the year 853 BCE, and supposing this to be the battle recorded in the books of Kings and Chronicles where Ahab lost his life, the last year of Ahab’s reign is hereby fixed.”¹

It was known from an inscription located on the Kurkh Monolith that the Neo-Assyrian king Shalmaneser III fought a battle at Qarqar in his sixth year, and in that campaign fought against a coalition of kings that included Ahab of Israel. And from 1 Kings 22:35, it is recorded that Ahab was killed in battle at Ramoth-gilead. That latter action was assumed by scholars to have been part of the overall Qarqar campaign. By such reasoning, Ahab’s final regnal year was equated with the year that the Battle of Qarqar took place, 853 BCE. Since Ahab died in the seventeenth regnal year of Jehoshaphat, king of Judah, adding the total years of Jehoshaphat’s predecessors Asa, Abijah, and Rehoboam (41, 3 and 17 years respectively) to his 17 years yielded a total of 78 years, allowing Bible scholars to count back that number of years to identify the year 931 BCE as Rehoboam’s first regnal year as king of Judah.

For more than a century, the year 931 BCE has been the almost-sacrosanct date accepted by Bible scholars as the year when united Israel divided into the separate kingdoms of Israel and Judah and Rehoboam became king of Judah.² However, when scholars began using that date to try to harmonize the reigns of the kings of Israel and Judah with one another, and then to harmonize the reigns of the Hebrew kings with the reigns of the Neo-Assyrian kings mentioned in the biblical text,

1. C. W. Goodwin, “On an inscription by Takelot II” (*Ägyptische Sprache und Alterthumskunde*, published by Professor Dr. R. Lepsius of Berlin; March, 1868); p. 28.

2. By counting back another thirty-five-plus years from the start of Rehoboam’s reign to the fourth year of Solomon’s forty-year reign as specified in 1 Kings 6:1, the date for the start of construction of the Temple was calculated as 966 BCE. That same verse specified that the Exodus happened 480 years prior to the beginning of Temple construction, thus identifying the year of the Exodus as 1,446 BCE.

alignment problems were encountered. Seminary student Edwin Thiele took up the challenge of harmonization for his graduate thesis. As his research progressed, however, he ran into intractable problems when trying to align the reigns of the last few kings of Israel with the regnal years of the Neo-Assyrian king Tiglath-pileser III. He eventually eliminated that roadblock to harmonization by hypothesizing scribal error in the biblical text in order to get his dates for the Hebrew kings to align with the Neo-Assyrian chronology he considered more accurate. His thesis research was made available in his 1951 book, *THE MYSTERIOUS NUMBERS OF THE HEBREW KINGS*. In the conclusion of his book, Thiele wrote:

“The vital question concerning the chronological scheme set forth in these pages is whether or not it is a true arrangement of reigns of Hebrew kings. Certainly, this system has brought harmony out of what was once regarded as hopeless confusion. But is it necessarily the true restoration of the original pattern of reigns? At the least this research shows that such a restoration is possible. However, we must accept the premise ... **of the fact that at some late date—long after the original records of the kings had been set in order and when the true arrangement of the reigns had been forgotten—certain synchronizations in 2 Kings 17 and 18 were introduced by some late hand [an anonymous scribe] twelve years out of harmony with the original pattern of reigns.**”¹

Thiele assumed that the biblical text was corrupted by scribes, an assumption necessary to get his Hebrew kings chronology to align with the Neo-Assyrian time line. He accepted that Sir Henry Rawlinson had correctly identified the year of the Bûr-Saggilê eclipse using astronomy, and that the Neo-Assyrian time line based on that scientifically-verified identification was to be considered more authoritative than the Bible’s historical details. Constrained by his assumptions when he started his attempt at harmonizing the reigns of the Hebrew kings, he ended up “shoehorning” a too-short time span for the reigns of those kings into a truncated Neo-Assyrian time line. Thiele’s unquestioning faith in Rawlinson’s dating of the Bûr-Saggilê eclipse and his preference for the

1. Edwin R. Thiele, *THE MYSTERIOUS NUMBERS OF THE HEBREW KINGS* (1st ed.; New York: Macmillan, 1951; 2d ed.; Grand Rapids: Eerdmans, 1965; 3rd ed.; Grand Rapids: Zondervan/Kregel, 1983); p. 205 (original paragraph truncated and emphasis added).

secular Neo-Assyrian time line based on that eclipse date led him to publish a flawed kings chronology. Essentially all Bible expositors since Thiele are using that flawed chronology as a component of their Old Testament exposition. Few realize that it contains unresolved alignment problems caused by using the 763 BCE eclipse date to anchor both Old Testament and Neo-Assyrian time lines.¹ With the goal of resolving the alignment problems in a way that does not require setting aside biblical inerrancy, a fresh look at the Bûr-Saggilê eclipse follows herein ...

During the eponymy of Bûr-Saggilê, governor of Gûzanâ, revolt in Libbi-âli; in Siwan, eclipse of the sun. (*Glassner translation*)²

That brief inscription contains all of the information Rawlinson had available for choosing the year 763 BCE as the year of the Bûr-Saggilê eclipse. Notice that the inscription does not say whether the eclipse was total, as Rawlinson assumed, or partial, an equal possibility. It says only that (from various academic translations) a “bent,” “twisted,” “crooked,” “distorted,” “obscured” sun was observed, presumably at Nineveh, in the month of Siwan (*aka* Simanu), which always occurred in the proleptic Gregorian months of May or June. It also specified that the eclipse happened in the year when Bûr-Saggilê was the *limmu*. That is the sum total of what can be known from the ancient Neo-Assyrian record.

The event identified by Rawlinson as the Bûr-Saggilê eclipse was a solar eclipse of magnitude 0.987 that occurred on June 15, 763 BCE. However, another solar eclipse, a partial eclipse of magnitude 0.737, occurred twenty-eight years earlier on June 24, 791 BCE,³ and it agrees in every way with the above description used by Rawlinson to choose his eclipse. Some object that the 763 BCE eclipse, with its greater magnitude, was the eclipse more likely to have been recorded in the eponym list. However, the magnitude is irrelevant, since the determining requirement is that Bûr-Saggilê had to have been *limmu* in the year of the eclipse, something possible for either date since the years when Bûr-Saggilê lived are not known to us and were unknown by Rawlinson as well. Based only on the inscription’s specifications, both eclipses are possibilities.

1. See “Missing Years of Tiglath-pileser III” on page xxx.

2. Jean-Jacques Glassner, edited by Benjamin R. Foster, *MESOPOTAMIAN CHRONICLES*, (Atlanta: Society of Biblical Literature, 2004); p. 171.

3. “Five Millennium Catalog of Solar Eclipses” <https://eclipse.gsfc.nasa.gov/SEcat5/SE-0799--0700.html>

So, what effect does changing the year for the Bûr-Saggilê eclipse to 791 BCE have on Bible chronology? Most importantly, it moves the sixth year of Shalmaneser III and thus the year of Ahab's death back twenty-eight years earlier in time than the traditional date. Added to that adjustment, the historical record indicates that Shalmaneser's reign must be moved back two more years to account for the civil war between his eldest son, Ashur-danin-pal, who claimed the throne when Shalmaneser died, and his younger son, the future Shamshi-adad V, who was backed by the military. It took the latter two years to dethrone his brother and be proclaimed king. Perhaps no eponyms were recorded while the two brothers struggled for the throne, or more likely, the victorious Shamshi-adad erased any mention of his brother as king by removing from the kings list any *limmus* Ashur-danin-pal may have appointed.¹

By applying the above chronological adjustments to the traditional Neo-Assyrian time line, the start of Shalmaneser III's reign is moved back in time a total of thirty years, identifying his sixth year and thus the final year in Ahab's reign as 883 BCE. Repeating the calculation that scholars used to identify 931 BCE as the date for the start of Rehoboam's reign by totaling Ahab's 17 years, Asa's 41 years, Abijah's 3 years, and Jehoshaphat's 17 years means that 78 years must be added to the 883 BCE date for Ahab's death, revealing that 961 BCE was Rehoboam's first year as king of the southern kingdom of Judah. Before that date, Rehoboam reigned over the Kingdom of United Israel for five years, beginning in 966 BCE. In his fifth year, 961 BCE, Shishak (commander of pharaoh Siamun's army, later known as pharaoh Shoshenq I) invaded and sacked Jerusalem. It was in that year that united Israel divided into the northern kingdom of Israel and the southern kingdom of Judah (*see page xxx*).

Using 996 BCE as the beginning year in the reign of Rehoboam over united Israel, the first year of Solomon's forty-year reign is revealed as 1,006 BCE. That means his fourth regnal year, when Temple construction began, was 1,002 BCE, with the Temple building being completed seven years later in 996 BCE and its dedication taking place the following year in 995 BCE. So, the revised chronology generated by using the 791 BCE date for the Bûr-Saggilê eclipse produces revised dates for the Temple's construction, completion, and dedication (and revised dates for all other events in the history of ancient Israel) that vary significantly from

1. H. R. Hall, *The Ancient History of the Near East* (London: Methuen & Co.; 1913; p. 455).

TRADITIONAL TIME LINE <i>using 763 BCE for the Bûr-Saggilê eclipse</i>		CORRECTED TIME LINE <i>using 791 BCE for the Bûr-Saggilê eclipse</i>
1,446 BCE	The Exodus from Egypt	1,442 BCE
971 BCE	Solomon's first year as king of united Israel	1,006 BCE
966 BCE	4th year of Solomon, Temple construction begins	1,002 BCE
960 BCE	Temple construction completed	996 BCE
959 BCE	Temple dedicated	995 BCE
- - -	Solomon dies, Rehoboam king of united Israel	966 BCE
931 BCE	Shishak invades Israel in Rehoboam's 5th regnal year, kingdom divides, Rehoboam reigns 17 years in Judah	961 BCE
912 BCE	Abijah of Judah, reigns 41 years	942 BCE
914 BCE	Asa of Judah, reigns 3 years	944 BCE
853 BCE	6th year of Shalmaneser III, Battle of Qarqar, Ahab killed in 17th year of Jehoshaphat	883 BCE
- - -	2-year civil war, Shamshi-adad V's reign begins	853-851 BCE
763 BCE	Bûr-Saggilê eclipse	791 BCE

the traditional time line used by modern Bible scholars and expositors. The obvious question to ask at this point is, "Which chronology reflects the true time line?" Two ancient Jewish chronological sources provide crosschecks that confirm the revised time line, as follows:

- BABYLONIAN TALMUD (Tractate Yoma 9a) says that Solomon's Temple was in use for 410 years. Since it was destroyed in 586 BCE, counting back 410 years confirms 995 BCE as the year the Temple was dedicated and sacrifices began (*see "How to Count the 410 Years" on the next page*).
- SEDER OLAM RABBAH, a 2nd-century-CE collection of Jewish history and chronological details, says that Joash of Judah renovated the Temple in his 23rd year, 155 years after the Temple was dedicated by Solomon, and 218 years before Josiah renovated the Temple in his 18th year. Josiah did his Temple renovation in the year 622 BCE (traditional Bible chronologists agree with that date). Adding 218 years to that date takes the chronology back to 840 BCE, which was the 23rd year of Joash, the year when he completed his renovation of the Temple. Adding 155 years

How to Count the 410 Years									
<i>ALL YEARS BCE, P = PASSOVER FOLLOWED BY ITS NUMBER IN THE COUNT</i>									
P-1 586 BCE	P-2 587	P-3 588	P-4 589	P-5 590	P-6 591	P-7 592	P-8 593	P-9 594	P-10 595
<i>P-10 above</i>	P-20 605	P-30 615	P-40 625	P-50 635	P-60 645	P-70 655	P-80 665	P-90 675	P-100 685
P-110 695	P-120 705	P-130 715	P-140 725	P-150 735	P-160 745	P-170 755	P-180 765	P-190 775	P-200 785
P-210 795	P-220 805	P-230 815	P-240 825	P-250 835	P-260 845	P-270 855	P-280 865	P-290 875	P-300 885
P-310 895	P-320 905	P-330 915	P-340 925	P-350 935	P-360 945	P-370 955	P-380 965	P-390 975	P-400 985
P-401 986	P-402 987	P-403 988	P-404 989	P-405 990	P-406 991	P-407 992	P-408 993	P-409 994	P-410 995 BCE

to that renovation date takes the chronology back to 995 BCE, the year when the Temple was dedicated by Solomon. 622 BCE + 218 years takes the year back to 840 BCE + 155 years takes the year back to 995 BCE.¹

Sabbath Years

Second only to the memorial Passover night, the Sabbath year was the most important marker used to keep track of the passage of years in ancient Israel. When God handed down the Law at Sinai, he instituted the Sabbath year, commanding that it be consecrated every seventh year (Leviticus 25:8). As a result, in good times and bad, Jewish religious authorities religiously kept track of which year was a seventh year. Whether the Sabbath years were actually observed in ancient times can be debated (the Bible says they were not always observed in practice), but, from specific mentions in the biblical text, two ancient Sabbath years that were observed as commanded can be identified.

In modern times, several Sabbath calendars have been developed by Jewish researchers for use by Jews in the *Diaspora*. The system put forth by Benedict Zuckermann, a 19th-century professor of calendric science at the Jewish Theological Seminary of Breslau, is the calendar that gained wide-spread popularity among Orthodox Jews, and it is still used as the basis for determining the Sabbath year in modern Israel and

1. Heinrich W. Guggenheimer, *Seder Olam* (Lanham, Maryland: Rowman & Littlefield Publishers, inc.; 1998), pp. 161, 210; also, see Chapter Seven in this book, pp xxx-xxx.

for Jews worldwide. That calendar says that the most recent Sabbath year began in 2,021 CE, but when using that date to count back into antiquity in seven-year increments, the resulting list of Sabbath years does not align with the two known Sabbath years mentioned in the biblical text, so the validity of modern rabbinic Judaism's Sabbath-year calendar must be rejected for doing Old Testament chronological research.

Unfortunately, no comprehensive list of all Sabbath years observed in ancient Israel has survived for use by scholars doing Bible research today. If such a record ever existed, it was lost in antiquity, perhaps at the time of the Temple's final destruction in 70 CE. However, all knowledge is not lost. The observance of Sabbath years from the time of the Exodus onward can be calculated from the dates of the Sabbath observances mentioned in the biblical text that occurred during the reigns of the Hebrew kings Jehoshaphat and Zedekiah, as follows:

- **SABBATH YEAR OF JEHOSEPHAT:** The biblical text refers to a Sabbath year that occurred during the reign of Jehoshaphat of Judah. In his third regnal year, the year 897 BCE in the revised chronology, he called on his princes to teach the Law to the people in the cities of Judah, and with them he sent Levites and priests. The Bible says in 2 Chronicles 17:7-9 that, *"they taught in Judah, and had the book of the Law of the Lord with them, and went about throughout all the cities of Judah, and taught the people."* That was done in obedience to the command given in Deuteronomy 31:10-11, which says, *"At the end of every seven years, in the solemnity of the year of release, in the feast of tabernacles, ... , thou shalt read this law before all Israel in their hearing."* (see page xxx)
- **SABBATH YEAR OF ZEDEKIAH:** The biblical text in Jeremiah 34:8-9 says that *"king Zedekiah ... made a covenant with all the people which were at Jerusalem, to proclaim liberty unto them; That every man should let his manservant, and every man his maidservant, being an Hebrew or an Hebrewess, go free; that none should serve himself of them, to wit, of a Jew his brother."* The covenant of freedom coincided with the start of the siege of Jerusalem by the Babylonians in 589 BCE, when all hands were needed for defense. The fact that the release was limited to Jews only confirms that it was done as a Sabbath-year release, although that specific reason is not stated in the biblical text. (see page xxx)

With the identification of the third year of Jehoshaphat as a Sabbath year, counting forward in time in seven-year increments from that year, 897 BCE, verifies by exact alignment that the year 589 BCE in the reign

of Zedekiah was a Sabbath year. Continuing backward in time in seven-year increments from either of those two known Sabbath years reveals the date for the first Sabbath year observed after the Israelites crossed the Jordan River to take possession of the Promised Land by allotment, which happened in 1,394 BCE (*see page xxx*). Counting forward in time from that year, every seventh year is identified as a Sabbath year.

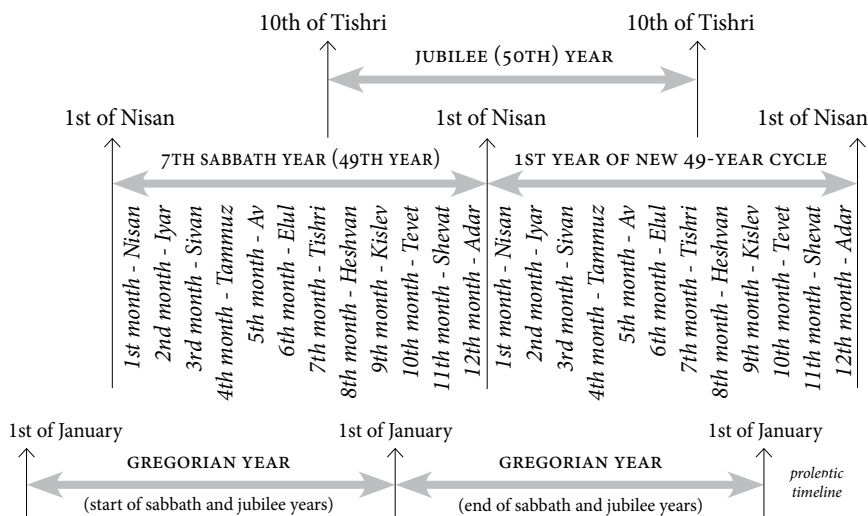
Jubilee Years

God ordained that a Jubilee year was to be consecrated after seven Sabbath years had been consecrated, specifying that it should begin on the tenth day of the seventh month as stated in Leviticus 25:8-10. Thus, many Bible expositors assume that the Jubilee year was to be observed after a forty-nine-year time period had occurred, adding it to create a fifty-year block of time, but that does not reflect reality.

Since the forty-ninth year would have ended at the close of the twelfth month Adar (or Adar II in leap years), and since the Jubilee year could not begin until the tenth day of the seventh month Tishri, starting the Jubilee year after the completion of forty-nine years would have left a six month and ten-day gap when neither a Sabbath nor a Jubilee year was being observed in Israel. Furthermore, a full twelve-month Jubilee year coming between forty-nine-year blocks of time would have ended on the ninth day of Tishri, creating another gap of about six months until the next Sabbath year could begin as specified on the first day of Nisan.

Obviously, the Jubilee year was not a full twelve-month-long year tacked on to the end of a forty-nine-year Sabbath cycle. Instead, it was a “fiftieth year” that stood apart by itself, beginning on the tenth day of Tishri in the seventh month of the forty-ninth (final) year of the forty-nine-year Sabbath cycle. It then ran concurrently with the forty-ninth year until it overlapped into the first year in the next forty-nine-year cycle (*see diagram on next page*).

The first year to be consecrated as a Jubilee year can be identified by counting forward forty-nine years from 1,394 BCE, the first year the Israelites resided in the Promised Land after they crossed the Jordan River to take possession of the territory God had given them. It was in that year the land was allotted to the twelve tribes (*i.e.*, returned to its rightful owners) and that the counting of the years to determine the first Sabbath and Jubilee years was begun. A Jubilee year was commanded by God to



*Alignment of Gregorian years with Jewish years varies slightly from year to year.
(Also see “Relationship of Seasons to Sabbath and Jubilee Years” on page xxx.)*

be consecrated forty-nine years after the land was allotted, with individual ownership rights returned so as to maintain the original boundaries of the twelve tribes, thus identifying the year 1,345 BCE as the first Jubilee in the land. There is no mention in the biblical text about Jubilee years actually being observed in ancient Israel, but the return of land and year of release aspects of the Jubilee may have retained a degree of importance in Jewish cultural identity. For example, Jehoiachin of Judah may have invoked the “year of release” tradition to petition king Evil-Merodach of Babylon for his release from imprisonment, which the biblical text confirms was granted in 561 BCE, a Jubilee year (*see page xxx*).

The Sabbath and Jubilee years derived by choosing 791 BCE as the year for the Bûr-Saggilê eclipse, then by using that date to adjust the Neo-Assyrian time line (prior to 745 BCE), and then by using that adjusted time line to locate in history the reigns of the Hebrew kings as harmonized with one another using the error-free biblical data, are shown in the chart on the following page. They provide the framework around which the events in Old Testament history have been organized into the “Old Testament Time Line” in Chapter Seven (*see pages xxx-xxx*).

Sabbath and Jubilee Years from 1,394 BCE to 77 CE

ALL YEARS ARE BCE UNLESS NOTED OTHERWISE.

Jubilee #	7th Sabbath Year & Jubilee Year	6th Sabbath Year	5th Sabbath Year	4th Sabbath Year	3rd Sabbath Year	2nd Sabbath Year	1st Sabbath Year
30	77 CE	70 CE	63 CE	56 CE	49 CE	42 CE	35 CE
29	28 CE	21 CE	14 CE	7 CE	1 BCE	8	15
28	22	29	36	43	50	57	64
27	70	77	84	91	98	105	112
26	119	126	133	140	147	154	161
25	168	175	182	189	196	203	210
24	217	224	231	238	245	252	259
23	266	273	281	288	295	302	309
22	316	323	330	337	344	351	358
21	365	372	379	386	393	400	407
20	414	421	428	435	442	449	456
19	463	470	477	484	491	498	505
18	512	519	526	533	540	547	554
17	561	568	575	582	589	596	603
16	610	617	624	631	638	645	652
15	659	666	673	680	687	694	701
14	708	715	722	729	736	743	750
13	757	764	771	778	785	792	799
12	806	813	820	827	834	841	848
11	855	862	869	876	883	890	897
10	904	911	918	925	932	939	946
9	953	960	967	974	981	988	995
8	1002	1009	1016	1023	1030	1037	1044
7	1051	1058	1065	1072	1079	1086	1093
6	1100	1107	1114	1121	1128	1135	1142
5	1149	1156	1163	1170	1177	1184	1181
4	1198	1205	1212	1219	1226	1233	1240
3	1247	1254	1261	1268	1275	1282	1289
2	1296	1303	1310	1317	1324	1331	1338
1	1345	1352	1359	1366	1373	1380	1387
0	1394	← Land allotted to the twelve tribes 49 years after the Exodus					

Sabbath and Jubilee years are shown in the proleptic Gregorian year in which they began. The land was allotted to the Children of Israel in 1394 BCE (in the forty-ninth year after the Exodus). The next year, 1393 BCE, started the counting of the first seven-year sabbath cycle in the land, and the next five years in that first sabbath count after the allotment were 1392 BCE, 1391 BCE, 1390 BCE, 1389 BCE, and 1388 BCE, culminating with the Sabbath year in 1387 BCE. Notice that the year 1 BCE was followed by the year 1 CE as time moved forward in history since there was no year "0" (no year zero) when going from years BCE on this chart to years CE.