

Ancient Egyptian Monument Dates, based on 365-day year of Ptolemy's "Mathematical Syntaxis," the reckoning of which began at noon, Feb. 26, 747 B.C.

ANALOGUE OF ANCIENT EGYPTIAN, JEWISH, AND MACEDONIAN DATES

A Calendar Problem

Ancient Aramaic Observation Dates of Papyrus, Tablet, and Stone, computed in Jerusalem Civil Time (Julian Calendar) from Ginzel Tables.

TABLE I EGYPTIAN CALENDAR (one day earlier than Aramaic reckoning)

Series Number*	Regnal Year	Leap Days from 747 to Regnal Year B.C.	Egyptian Date on Papyrus	Egyptian Interval from 1 Th.	Papyrus Astronom. Date**	Papyrus Civil Date		
1	2	3	4	5	6	7		
"400"	7 Cambyses	523	56	17 Phamenoth	(7)	196	July 16	July 16/17
"A"	15 Xerxes	471	69	28 Pachon	(8)	267	Sept 12	Sept 12/13
"B"	1 Artaxerxes	464	71	17 Thoth	(1)	16	Jan 2	Jan 2/3
"D"	6 Artaxerxes	460	72	1 Mesore	(12)	330	Nov 11	Nov 11/12
"30"	9 Artaxerxes	451	74	4 Thoth	(1)	3	Dec 17	Dec 17/18
"E"	19 Artaxerxes	446	75	10 Mesore	(12)	339	Nov 17	Nov 17/18
"F"	25 Artaxerxes	440	77	19 Pachon	(9)	258	Aug 26	Aug 26/27
"G"	No Year	446	75	6 Epiphi	(11)	305	Oct 14	Oct 14/15
"H"	4 Darius	420	82	Payni	(10)	270-299	Sept 2- Oct 1	Oct 2/3 - Oct 1/2
"J"	9 Darius	416	83	12 Thoth	(1)	11	Dec 16	Dec 16/17
"K"	14 Darius	410	84	9 Athyr	(3)	68	Feb 10	Feb 10/11
"R.S."	9 Ptol. Epiph.	199	137	18 Mechir	(6)	167	Mar 28	Mar 28/29

TABLE II ARAMAIC (JEWISH) CALENDAR (Jerusalem Civil Time)

Jewish Regnal Year	Passover 14 Nisan J.C.T.	Year Length (Days)	1 Nisan Civil Date	Trans-lation Period	Aramaic Date on Papyrus	Aramaic Interval from 1 Nis.	Julian Equivalent Date J.C.T.
8	9	10	11	12	13	14	15
7 Cambyses	523	Apr 20	Apr 7	1.77	14 Tammuz	102	July 17/18
14 Xerxes	471	Apr 15	Apr 2	1.78	18 Elul	165	Sept 13/14
21 Xerxes	465	May 8	Apr 25	2.56	18 Kisleu	254	Jan 3/4
5 Artaxerxes	460	Apr 13	Mar 31	1.37	21 "Hesvan"*	227	Nov 12/13
8 Artaxerxes	451	May 4	Apr 21	1.95	7 Kisleu	242	Dec 18/19
19 Artaxerxes	446	Apr 10	Mar 28	3.17	2 Kisleu	237	Nov 19/20
24 Artaxerxes	440	May 2	Apr 19	2.25	14 Ab	131	Aug 27/28
No Year	(446)	Apr 10	Mar 28	3.17	26 Tisri	202	Oct 15/16
3 Darius	420	Apr 22	Apr 9	3.49	Elul	148-176	Sept 3/4 - Oct 1/2
8 Darius	416	May 6	Apr 23	1.23	3 Kisleu	239	Dec 17/18
13 Darius	411	Apr 13	Mar 31**	3.54	24 Shebat	318	Feb 11/12
Ptol. Epiph. 199		Apr 9	Mar 27	3.34	4 Xanthicus	3	Mar 29/30

Egyptian Reckoning --

"400" = Feb 26 + (196 - 56 = 140) = 2+31+30+31+30+16 = July 16 (M.T.) or July 16/17, civil time.
 "A" = Feb 26 + (267 - 69 = 198) = 2+31+30+31+30+31+12 = Sept 12 (M.T.) or Sept 12/13 civil time.
 "B" = Feb 26 - (71 - 16 = 55) = (25+ 30 in Jan) = Jan 2 (M.T.) or Jan 2/3, civil time.
 "D" = Feb 26 + (330 - 72 = 258) = 2+31+30+31+30+31+31+30+31+11 = Nov 11 (M.T.) or Nov 11/12, civil time.
 "30" = Feb 26 - (74 - 3 = 71) = (25+31+ 15 in Dec) = Dec 17 (M.T.) or Dec 17/18, civil time.
 "E" = Feb 26 + (339 - 75 = 264) = 2+31+30+31+30+31+31+30+31+17 = Nov 17 (M.T.) or Nov 17/18, civil time.
 "F" = Feb 26 + (258 - 77 = 181) = 2+31+30+31+30+31+26 = Aug 26 (M.T.) or Aug 26/27, civil time.
 "G" = Feb 26 = (305 - 75 = 230) = 2+31+30+31+30+31+31+30+14 = Oct 14 (M.T.) or Oct 14/15 civil time. [c.t.]
 "H" = Feb 26 + (270 - 82 = 188) = { 2+31+30+31+30+31+31+2 = Sept 2 (M.T.) or Sept 2/3,
 299 - 82 = 217 = { 2+31+30+31+30+31+31+30+1 = Oct 1 (M.T.) or Oct 1/2,
 civil time.
 "J" = Feb 26 - (83 - 11 = 72) = (25+31+ 16 in Dec) = Dec 16 (M.T.) or Dec 16/17, civil time.
 "K" = Feb 26 - (84 - 68 = 16) = Feb 10 (M.T.) or Feb 10/11, civil time.
 "R.S." = Feb 26 + (167 - 137 = 30) = 2+28 = Mar 28 (M.T.) or Mar 28/29, civil time.

Aramaic Reckoning --

"400" = Apr 7 (1 Nis.) + 102 days = 23+31+30+18 = July 18 (calendar) or July 17/18, civil time.
 "A" = Apr 2 (1 Nis.) + 165 days = 28+31+30+31+31+14 = Sept 14 (cal.) or Sept 13/14, civil time.
 "B" = Apr 25 (1 Nis.) + 254 days = 5+31+30+31+31+30+31+30+31+4 = Jan 4 (cal.) or Jan 3/4, civil time.
 "D" = Mar 31 (1 Nis.) + 227 days = 30+31+30+31+31+30+31+13 = Nov 13 (cal.) or Nov 12/13, civil time.
 "30" = Apr 21 (1 Nis.) + 242 days = 9+31+30+31+31+30+31+30+19 = Dec 19 (cal.) or Dec 18/19, civil time.
 "E" = Mar 28 (1 Nis.) + 237 days = 3+30+31+30+31+31+30+31+20 = Nov 20 (cal.) or Nov 19/20, civil time.
 "F" = Apr 19 (1 Nis.) + 131 days = 11+31+30+31+28 = Aug 28 (cal.) or Aug 27/28, civil time.
 "G" = Mar 28 (1 Nis.) + 202 days = 3+30+31+30+31+31+30+16 = Oct 16 (cal.) or Oct 15/16, civil time. [civ. t.]
 "H" = Apr 9 (1 Nis.) + 148-176 days = 21+31+30+31+31+4 = Sept 4 (cal.) or Sept 3/4,
 21+31+30+31+31+30+2 = Oct 2 (cal.) or Oct 1/2, civil time.
 "J" = Apr 23 (1 Nis.) + 239 days = 7+31+30+31+31+30+31+30+18 = Dec 18 (cal.) or Dec 17/18, civil time.
 "K" = Mar 31 (1 Nis.) + 318 days = 30+31+30+31+31+30+31+30+31+31+12 = Feb 12 (cal.) or Feb 11/12, civil time.
 "R.S." = Mar 27 (1 Nis.) + 3** = Mar 30 (cal.) or Mar 29/30, civil time.

*References on pages 6-10 of discussion.

** Leap day number is found by taking 1/4 of difference between 747 and the regnal year. If as much as 3 remains, an additional leap day is demanded by actual count.

*** The Egyptian date occurs by a certain interval in advance of 1 Thoth, which new year, in turn, is earlier than Feb 26 by the number of leap days spanning the period. Date is therefore found by adding to Feb 26 the difference between the two when the interval is the larger, and subtracting the difference when the leap day number is larger.

*Fotheringham and Shürer suggest "Hesvan" instead of "Kisleu" of Papyrus "D," which does not fit Jewish reckoning for any reasonable position of 1 Nisan in the 5th year of Artaxerxes.


**The translation period demands Mar 31 for 1 Nisan, of which date the Ginzel table runs a little short.

Accompanying Table presents a simple method of calculating the papyrus dates, independent of the 1 Thoth table for the Nabonassar era. Aside from Papyrus "E," resulting Egyptian and Aramaic dates each differ by one day. In order for a zero difference to occur, either the Nabonassar era would have to begin a day later, or 1 Nisan of the Jewish calendar would have to occur a day earlier in each instance.

COMPARATIVE CHRONOLOGIES OF NEOBABYLONIA, PERSIA,
EGYPT, AND ISRAEL, 627 B. C. - 443 B. C.

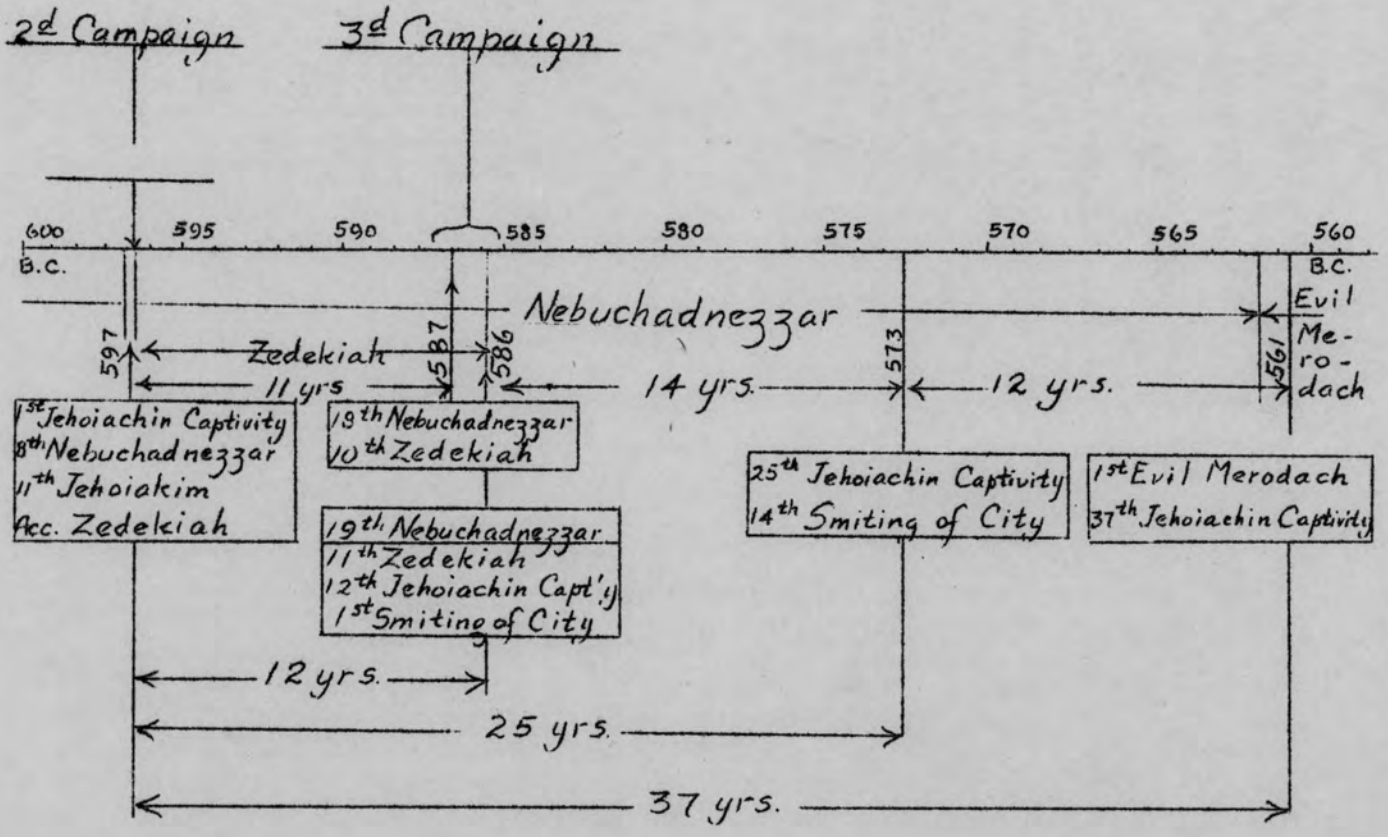
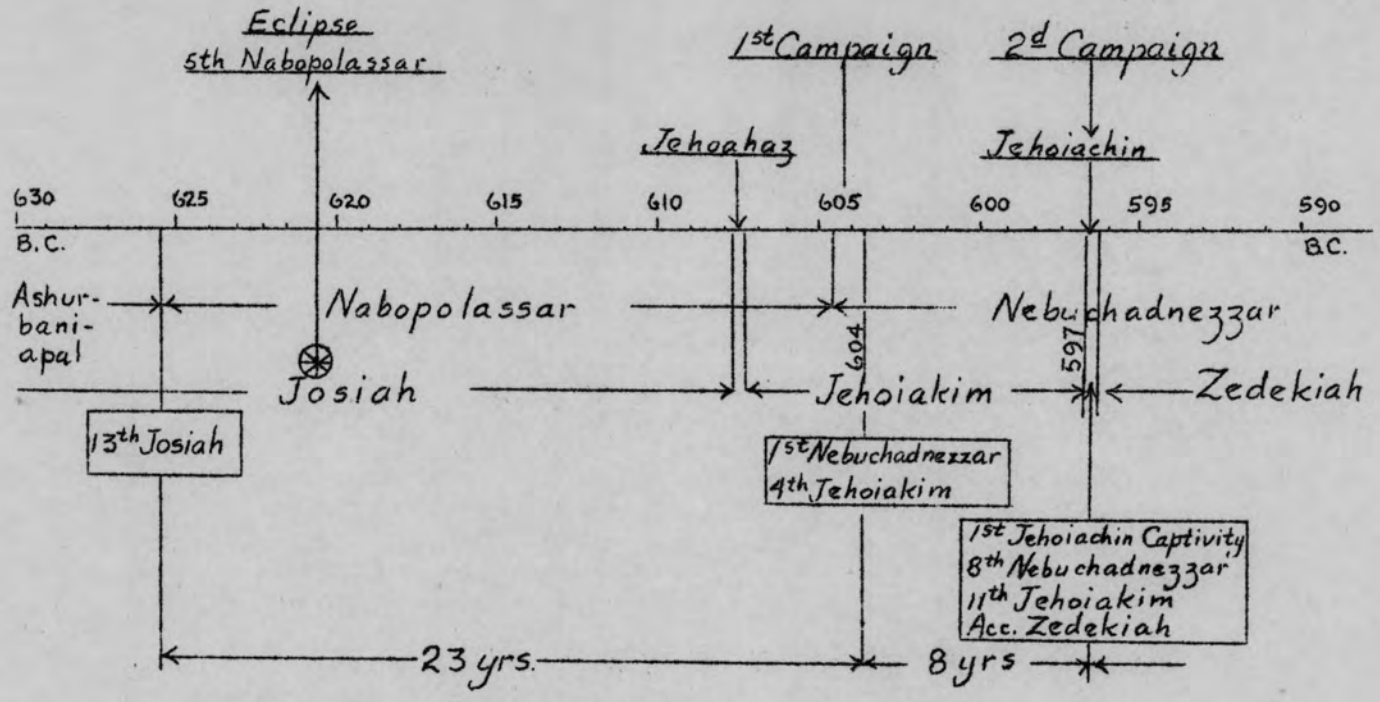
B. C.	Egypt	Judah	70 years	Jehoiachin's Captivity	Prophet	Assyria Babylonia	Persia	Reference
627	37	12				Ashurbanipal 21		1 p. 7
626	38	13			Jeremiah 1	22 Nabopolassar A		2 " "
625	39	14			2	1		-
624	40	15			3	2		4 " "
623	41	16			4	3		-
622	42	17			5	4		-
621	43	18			6	⊗ 5		3 " "
620	44	19			7	6		-
619	45	20			8	7		-
618	46	21			9	8		-
617	47	22			10	9		-
616	48	23			11	10		-
615	49	24			12	11		-
614	50	25			13	12		-
613	51	26			14	13		-
612	52	27			15	14		-
611	53	28			16	15		-
610	54	29			17	16		-
609	Necho 1	30			18	17		5 p. 7
608	2	Jehoaahaz 31 Jehoiakim A			19	18		6 " "
607	3	1			20	19		-
606	4	2			21	20		-
605	5	3	1		22	21 Neb-zar A		7 " "
604	6	4	2		23	7 1		8 " "
603	7	5	3		24	2		9 " "
602	8	6	4		25	3		-
601	9	7	5		26	4		-
600	10	8	6		27	5		-
599	11	9	7		28	6		-
598	12	10	8		29	7		-
597	13	Jehoiachin 11 Zedekiah A	9	1	30	8		10 p. 8
596	14	1	10	2	31	9		-
595	15	2	11	3	32	10		-
594	16	3	12	4	Call of Ezekiel	11		-
593	Psamtis II	4	13	5	1	12		11 p. 8
592	2	5	14	6	2	13		-
591	3	6	15	7	3	14		-

B.C.	Egypt	Judah	70 years Captivity	Jehoiachin's Captivity	Prophet		Babylonia	Persia	Reference
590	Psamtik II 4	Zedekiah 7	16	8	Ezekiel 4		Neb'-zar 15		-
589	5	8	17	9	5		16		-
588	Hophra (Apries) 1	9	18	10	S ⁴ 6		17		12 p. 8
587	2	10	19	11	7	Smiting of	18		13 "
586	3	11	20	12	8	the City	19		14 "
585	4	Gedaliah (Governor)	21	13	9		2	20	
584	5		22	14	S ⁵ 10		3	21	
583	6		23	15	11		4	22	
582	7		24	16	12		5	23	
581	8		25	17	13		6	24	
580	9		26	18	14		7	25	
579	10		27	19	15		8	26	
578	11		28	20	16		9	27	
577	12		29	21	17		10	28	
576	13		30	22	18		11	29	
575	14		31	23	19		12	30	
574	15		32	24	20		13	31	
573	16		33	25	21		14	32	15 "
572	17		34	26	22			33	
571	18		35	27	23			34	
570	19		36	28				35	
569	Ahmose II 1		37	29				36	16 "
568	2		38	30				37	
567	3		39	31				38	
566	4		40	32				39	
565	5		41	33				40	
564	6		42	34				41	
563	7		43	35				42	
562	8		44	36				43	
561	9		45	37			Amel Marduk A	1	17 "
560	10		46	38			Nergal Sarusur A	2	18 "
559	11		47	39				1	Cyrus
558	12		48	40				2	1
557	13		49	41				3	2
556	14		50	42			Nabunaid A	4	3 19 "
555	15		51	43				1	4
554	16		52	44				2	5

B.C.	Egypt	70 years	Jehoiachin's Captivity	Prophet	Babylonia	Persia	Reference
553	Ahmoze II 17	53	45		Nabunaid 3	Cyrus 6	
552	18	54	46		B 4	7	
551	19	55	47		E L 5	8	
550	20	56	48		S 6	9	
549	21	57	49		H A 7	10	
548	22	58	50		Z 8	11	
547	23	59	51		Z 9	12	
546	24	60	52		A 10 R	13	
545	25	61	53		C 11	14	
544	26	62	54		O I 12	15	
543	27	63	55		R 13	16	
542	28	64	56		E G 14	17	
541	29	65	57		E 15	18	
540	30	66	58		N T 16	19	
539	31	67	59			17 Cyrus + 20	20 p. 8
538	32	68	60			Darius 1	
537	33	69	61				2
536	34	70	62			Cyrus (1) 3	
535	35					(2) 4	
534	36					(3) 5	
533	37					(4) 6	
532	38					(5) 7	
531	39					(6) 8	
530	40					(7) 9	
529	41					Cambyzes, A	1
528	42						2
527	43						3
526	44						4
525	45 Psamtis III A						5 21 "
524	E						6
523	G Y						7 22 p. 9
522	P T						8
521	A					Gaumata, A	
520	P					Darius, A	1
519	P E R S I A						2
518							3
517							4

B.C.	Egypt						Persia	Reference
516	E						Darius	5
515	G							6
514								7
513	Y							8
512	P							9
511	T							10
510	A							11
509								12
508	P							13
507	E							14
506								15
505	R							16
504	S							17
503	I							18
502	A							19
501	N							20
500	P							21
499	R							22
498	O							23
497	V							24
496	I							25
495	N							26
494	C							27
493	E							28
492								29
491	5							30
490	2							31
489	5							32
488								33
487								34
486								35
485	3						Xerxes A 36	23 p. 9.
484								1
483	3							2
482								3
481	2							4
480								5

B.C.	Egypt						Persia	Reference
479	E						Xerxes 6	
478								7
477	G							8
476	Y							9
475								10
474	P							11
473	T							12
472								13
471	A							14
470								15
469	P							16
468	E							17
467	R							18
466	S							19
465	I							20
464	A						Artabanus ²¹ Artaxerxes A	23 p. 9.
463	N							1
462	P							2
461	R							3
460	O							4
459	V							5
458	I							6
457	N							7
456	C							8
455	E							9
454								10
453	5							11
452	2							12
451	5							13
450								14
449								15
448								16
447	3							17
446	3							18
445	2							19
444								20
443								21



1. The Egyptian chronology followed here is according to Breasted's History of Egypt, 1912 Edition. Psamtik reigned 54 years giving way to Necho in 609 B. C., Pp. 581,582. Thus he began his reign in 663 B. C., with which date A. T. Olmstead, History of Assyria, p. 417 agrees.

2. Ashurbaniapal reigned 22 years and died in 626 B. C. (A. T. Olmstead, History of Assyria, p. 627). Nabopolassar revolted and ordered his subjects to date their business records by his year as king of Babylon. (P. 634).

3. "In the 5th year of Nabopolassar, which is Egyptian--127th year of Nabonassar--close to the eleventh hour--27th or 28th of the Egyptian month Athyr, some one noticed the moon at Babylon commence her eclipse. Formed in the greatest phase of this eclipse a quarter of the diameter of the meridinal part of the luminary. Since the eclipse commenced at five hours after midnight, and reached the center about six hours, which made in that case at Babylon, 5 1/2 to 1/3 hours, the sun was exactly in the 27th d. 3' of the ram--it is clear that the time of the middle of the eclipse was for Babylon, 5 1/2-1/3 hours equinoxial, and for Alexandria, 5 hours only after midnight. Or the time since the epoch is 126 Egyptian years, 86 days, 17 hours equinoxial." (M. Halma, Translator, Composition Mathematique de Claude Ptolemae, 2 Vols., Paris 1813, Vol. II, 340,f.) This corresponds to Apr. 21, 621 B. C. The Scroll is found, 18th of Josiah. II Kings 22:3-14; II Chron. 34:8-22.)

4. The earliest dated tablet in Nabopolassar's reign is for 2 yr./--mo./ 9 da. (Strassmaier, Zeitschrift für Assyriologie, Vol. IV, 136.)

5. Necho began to reign in 609 B. C. (Breasted, History of Egypt, 582.)

6. Necho killed Josiah; the people appointed Jehoahaz king. Necho deposed him and appointed Jehoiakim king. (II Chron. 35:20-36:4; II Kings 23:29-35.) Josiah reigned 31 years. (II Kings 22:1.)

7. The latest dated tablet for Nabopolassar's reign is for 21st yr./ 2 mo./ 19 da. (Strassmaier, Zeitschrift für Assyriologie, Vol. IV, 145.) This was also the accession year for Nebuchadnezzar, as well as the 3d year of Jehoiakim, thus accounting for the statement in Dan. 1:1, and II Kings 24:1. Nebuchadnezzar at this time took Daniel and his companions captive and this year was the first year of the 70 years' captivity, as prophesied by Jeremiah the following year. (Jer. 25:1-11.) Ptolemy's Canon agrees (Curt Wachsmuth, Studien der Alten Geschichte, (1895), pp. 305, 306) in giving Nabopolassar 21 years. Cameron, (History of Early Iran, p. 219) places Nebuchadnezzar's reign (604-562), forgetting his accession year in 605. He has Nabopolassar's reign (626-604) p. 232, but tablets and scholars agree in giving him 21 years. If 626 is his accession year 625 is his first year and 605 would be his 21st and the accession year of Nebuchadnezzar.

8. Here begin the first of a series of synchronisms between Biblical and secular history, most remarkable for their ability to tie sacred chronology to secular. The first one S¹ firmly links the reigns of the kings Josiah, Jehoahaz, and Jehoiakim, making it 23 years from the thirteenth year of Josiah to the 4th year of Jehoiakim. (Jer. 25:1-3). This same reference also gives the second synchronism, S², linking the 4th year of Jehoiakim with the 1st year of Nebuchadnezzar. This year was the date of the battle of Carchemish where Nebuchadnezzar defeated Necho. (Jer. 46:2). Breasted, (History of Egypt, p. 583,) makes the battle of Carchemish 605 but Olmstead, (History of Palestine & Syria, p. 510) puts this campaign correctly in 604. Cameron, (History of Early Iran, p. 219,) infers the same date by making Nebuchadnezzar's reign 604-562.

9. Jehoiakim rebelled after serving Nebuchadnezzar three years, (inclusive reckoning). II Kings 24:1. Because of the conditions spoken of in the next few verses a fast is proclaimed, (Jer. 36:9); Jeremiah writes a message which is read to Jehoiakim, who in anger cuts the roll and burns it. Jer. 36:22. It is during this same year that Nebuchadnezzar has the dream of the great image, Dan. 2, and Daniel interprets it for the king.

10. Jehoiakim reigned 11 years, (II Kings 23:36.) Here is the third synchronism, S³, which makes the eleventh year of Jehoiakim equal the eighth year of Nebuchadnezzar. (II Kings 24:10-16; compare II Chron. 36:5-8.) Jehoiachin is taken to Babylon this same year, (II Kings 24:12), and Zedekiah is appointed king. (v. 17). This then becomes the first year of Jehoiachin's captivity. The date 597, is therefore the proper date of the second campaign of Nebuchadnezzar against Jerusalem.

11. The fifth year of Jehoiachin's captivity is the year of Ezekiel's call. Ezek. 1:1. It is also the first year of the reign of Psamtik II. (A. T. Olmstead, History of Palestine and Syria, 523; J. H. Breasted, History of Egypt, 601.)

12. Hophra, (Apries), began his reign. (A. T. Olmstead, History of Palestine and Syria, 525; J. H. Breasted, History of Egypt, 601.)

13. The tenth year of Zedekiah is synchronized with the eighteenth year of Nebuchadnezzar. (Jer. 32:1.) The Babylonians had been before Jerusalem for nearly a year. (Jer. 39:1; II Kings 25:1.)

14. The twelfth year of Jehoiachin's captivity is synchronized with the first year of the smiting of the city. (Ezek. 32:21.) This is S⁵. The eleventh year of Zedekiah is synchronized with the nineteenth year of Nebuchadnezzar--S⁶. (Jer. 39:2; 52:12; II Kings 25:8). This is the third and final campaign against Jerusalem, establishing definitely the date 586 B. C.

15. The twenty-fifth year of Jehoiachin's captivity is synchronized with the fourteenth year of the smiting of the city. (Ezek. 40:1). This is S⁷.

16. Ahmose began his reign in 569. (A. T. Olmstead, History of Palestine and Syria, 536; J. H. Breasted History of Egypt, 601.)

17. The thirty-seventh year of the captivity of Jehoiachin is synchronized with the first year of Evil Merodach (Amel Marduk). (Jer. 52:31; II Kings 25:27). This limits Nebuchadnezzar's reign to 43 years as shown. The latest dated tablet for Nebuchadnezzar's reign is 43 yr./ 5 mo./ 9 da. (Ungnad, Vorderasiatische Schriftdenkmäler, Heft III, 36). Ptolemy's Canon agrees; (Curt Wachsmuth, Studien der Alten Geschichte, p. 305).

18. The latest tablet for Amel Marduk is dated 2 yr./ 5 mo./ 17 da. (Clay, Babylonian Expedition, Vol. VIII, 34.) This year is also the accession year for Nergal Sharusur. The earliest tablet found for him is dated Acc. yr./ 3 mo./ 20 da. (Ungnad, Vorderasiatische Schriftdenkmäler, Heft IV, 32).

19. The latest tablet for Nergal Sharusur is dated 4 yr./ 1 mo./ 2 da. (Evetts, Nergal Sharusur, 69). The earliest tablet found for Nabunaid is dated Acc. yr./ 2 mo./ 15 da. (Clay, Babylonian Expedition, Vol. VIII, p. 39). Much archaeological evidence has been found indicating that Belshazzar is a historical character, the son of Nabunaid (Nabonidus), and co-regent with him on the throne of Babylon. (R. P. Dougherty, Nabonidus and Belshazzar, 137, 192.)

20. The latest tablet for Nabunaid is dated 17 yr./ 9 mo./ ?da.
 "Strassmaier, Zeitschrift für Assyriologie, IV, Nabunaid, 1055.)

21. Ahmose reigned for 45 years, and died in 525. Psamtik III ruled but a few months when the country fell into the hands of the Persians and became one of the provinces of that nation until Alexander's time. (J. H. Breasted, History of Egypt, 595).

22. The eclipse of the moon in the 7th yr. of Cambyses has been attested by two witnesses, Ptolemy's Canon and the Cambyse (400) Tablet. "In another eclipse arriving in the 7th year of Cambyses which is the 225th year of Nabonassar 1 hour before midnight on 17th or 18th of the Egyptian month Phamenoth--one saw in Babylon the eclipse of the moon of the part of its diameter in the northern part. . . . corresponds to 224 Egyptian years, 196 das." (M. Halma, Composition Mathématique de Claude Ptolémaë, I, 341, 342). The Cambyse Tablet as translated by Strassmaier says, "On the 7th of Cambyses, in the night of 14th Dazu, $1\frac{1}{2}$ kasbu (3 hours) after the nightfall, the eclipse of the moon was entirely visible. It covered the northern half of the disk of the moon." (Sidersky, Etude sur la chronologie Assyro-Babylonienne, Paris 1916, p. 41; Kügler, Zeitschrift für Assyriologie, Vol. XVII (1903), 238).

23. The latest tablet found for the reign of Darius is dated 36 yr./ 6 mo./ 22 da. (Peiser, Keilschriftliche Acten Stücke, XIX). This would make Xerxes accession year 485 and his first year 484. Olmstead, History of Palestine and Syria, 560, places 485 as the last year of Darius, but counts the 21 years of Xerxes as beginning that year not giving any room for Xerxes accession year.

24. The latest record found for the reign of Xerxes is an Aramaic papyrus from a community of Jewish mercenaries located at Yeb, later Elephantine, dated in the 21st year of Xerxes. (A. H. Sayce and A. Cowley, Aramaic Papyri Discovered at Assuan, Plate B). According to Diodorus, Xerxes was murdered by Artabanus who took the throne and reigned some seven months. Thus the year 464 would be the accession year of Artaxerxes. That he came to the throne some time in the fall of the year is evidenced by a comparison of Nehemiah 1:1; 2:1; and Ezra 7:7-9.

PERSIAN KINGS

(The shaded regnal years sustain Bible synchronisms)

	1 January		1 Tisri		1		31 December									
Julian	528	527	526	525	524	523	522	521	520	519	518	517	516	515		
N.E.	2	3	4	Cambyses			7	8	1	2	3	4	Darius I		7	
Jewish	1	2	Cambyses			5	6	7	8	1	2	Darius I		5	6	
	Gaumata-----															
Julian	514	513	512	511	510	509	508	507	506	505	504	503	502	501		
N.E.	8	9	10	11	12	13	14	15	16	17	18	19	20	21		
Jewish	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
Julian	500	499	498	497	496	495	494	493	492	491	490	489	488	487		
N.E.	22	23	24	25	Darius I			28	29	30	31	32	33	34	35	
Jewish	21	22	23	24	25	26	27	28	29	30	31	32	33	34		
Julian	486	485	484	483	482	481	480	479	478	477	476	475	474	473		
N.E.	36	1	Xerxes			4	5	6	7	8	9	10	11	12	Haman's	2
Jewish	35	36	A	1	2	3	4	5	6	7	8	9	10	11	12	
Julian	472	471	470	469	468	467	466	465	464	463	462	461	460	459		
N.E.	Lot	15 "A"	16	17	18	19	20	21	Artaxerxes I			3	4	5	6	
Jewish	13	14	15	16	17	18	19	20	21	A	1	2	3	4	5	
Julian	458	457	456	455	454	453	452	451	450	449	448	447	446	445		
N.E.	7	8	9	10	11	12	13	14	15	16	17	18	19 "E"	20	4	
Jewish	6	7	8	9	10	11	12	13	14	15	16	17	18	19		
Julian	444	443	442	441	440	439	438	437	436	435	434	433	432	431		
N.E.	21	22	23	24	25	26	27	28	29	30	31	32	33	34		
Jewish	20	21	22	23	24	25	26	27	28	29	30	31	32	33		

¹ Eclipse on July 16, 523 B.C., 7th Cambyses: Ptolemy, Claudius, "Mathematical Syntexsis," Book 5, pp. 340, 341. Tr. Halma. Paris, 1813. Note: This eclipse of the moon is also confirmed by the Cambyses (400) Tablet, which, as translated by Strassmaier, says: "On the 7th of Cambyses, in the night of the 14th Dazū, 1-1/2 kasbu [3 hours] after the nightfall, the eclipse of the moon was entirely visible. It covered the northern half of the disk of the moon."--Sidersky, David, "Etude sur la chronologie Assyro-Babylonienne," p. 41. Paris, 1916.

² Esther 3:7. Note: The 12th year of Xerxes, Jewish reckoning, is the same as the 13th, Nab. Era.

³ Papyrus "A" (Sayce and Cowley), "year 15 of King Xerxes," 18th Elul = 28th Pachons: Cowley, A., "Jewish Documents of the Time of Ezra," p. 30. London, 1919.

⁴ Papyrus "E" (Sayce and Cowley), "year 19 of Artaxerxes the king," 3rd of Kisleu = 10th Mesore: Cowley, A., "Jewish Documents of the Time of Ezra," p. 42. London, 1919.

Note: The Aramaic dates of the Papyri found at Elephantine, are a little earlier in point of time than their corresponding Jewish dates on the Jerusalem meridian. This may have been due to Babylonian influence, which employed a shorter translation period than was customary among the ancient Jews. Nevertheless, the equated Egyptian and Aramaic dates are so nearly coincident with the Jewish, that they identify the Persian regnal years with their corresponding Julian years.

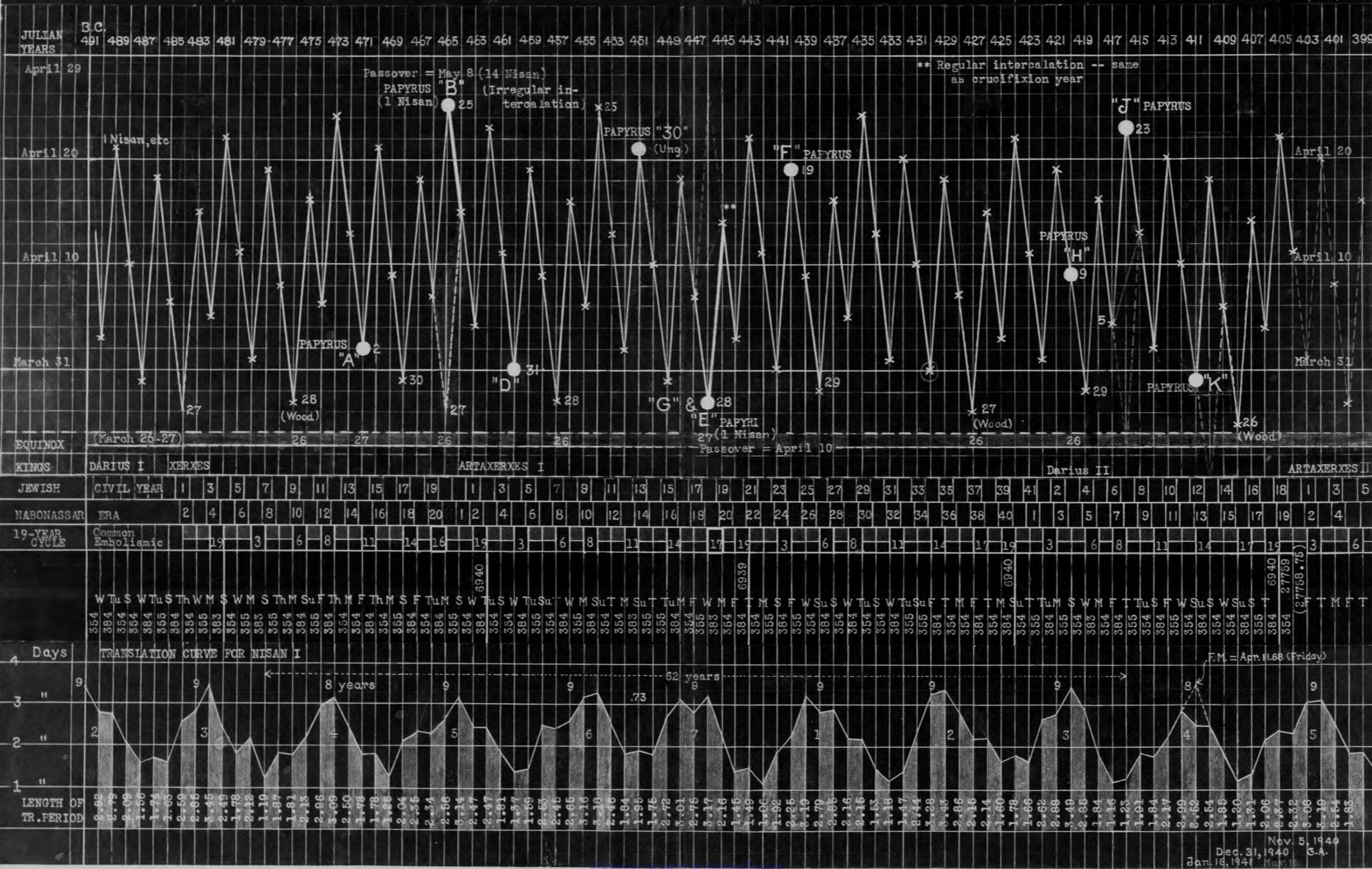
D

CONSTRUCTION OF ARAMAIC CALENDAR IN TIME OF EZRA AND NEHEMIAH

(Nisan Limits Marked by Assuan Papyri) *

* Cowley, A.E., "Aramaic Papyri of the Fifth Century B.C.," p. 10, ff. Oxford, 1923.

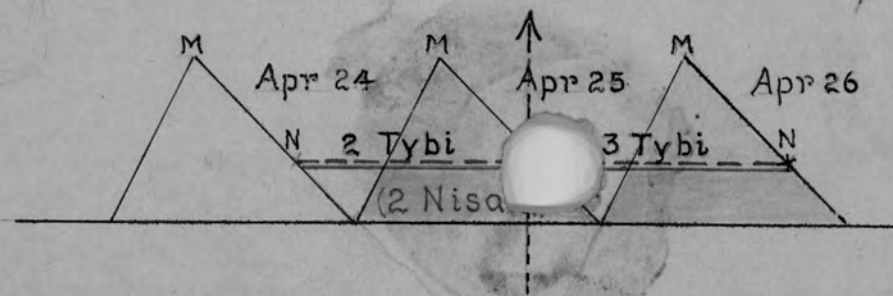
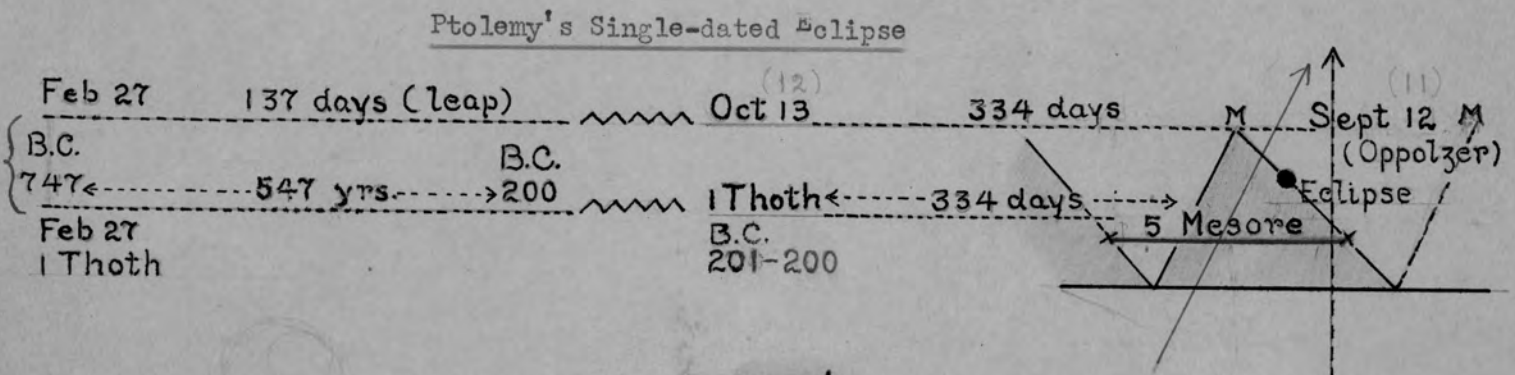
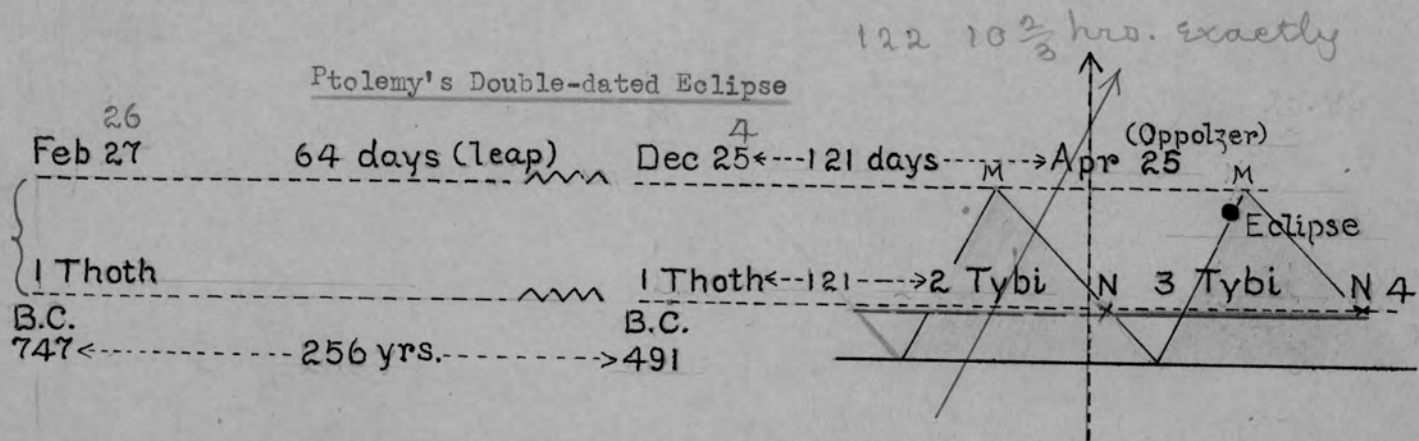
Sept. 22, 1940



Martin T. Nilsson, "Primitive Time-Reckoning", Paris, 1920

RULE OF CORRESPONDENCE BETWEEN OPPOLZER'S ECLIPSE DATES (CIVIL TIME)
AND PTOLEMY'S ECLIPSE DATES (EGYPTIAN TIME)

(Date of Correspondence -- Ptolemy's Egyptian date of eclipse 12 hours earlier than Oppolzer's civil date, or position of eclipse.)



Date of Correspondence --

Ptolemy's Egyptian date of eclipse 12 hours earlier than Oppolzer's civil date or position of eclipse

Explanation of Foregoing Table: Nehemiah left Babylon on horse in the spring of Artaxerxes' 20th year (445-444 B.C.), which Nehemiah reckoned from Tishri to Tishri.²⁶ Traveling with only a few officers (Neh.2:9), he would make the journey in much quicker time than Ezra with nearly 1600 people on foot. By the 4th of Ab, which was Sunday in 444 B.C.,²⁷ the wall was begun, and it was finished in 52 days on 25 Elul. For several reasons these Jewish dates are locked in place: (1) the 52-day period cannot begin earlier than 4 Ab on Sunday, both on account of the Jewish Sabbath, and also because, by Jewish reckoning, Ab had 30 days;²⁸ (2) in both 444 and 443, 1 Nisan is fixed by translation periods too short to be lessened by one day on the assumption that the moon might be seen a day earlier, as may occur in Babylonian reckoning; and (3) the building of the wall is tied to the year 444 because the 52-day working period, if dated in 443, would thereby be made to begin on the seventh day of the week, contrary to Jewish law.

The wall was finished within five days of the new year, which Nehemiah evidently called the 21st of the king. Soon after, he decided to assemble nobles, rulers, and people in order to record their genealogies (Neh.7:5). The subsequent Jewish concourse obviously must have been held in the beginning of Artaxerxes' 22nd year, as is described in Nehemiah 8. On this occasion, Ezra reads the law. It was the Jewish new year, and the day was both a "holy convocation," and also the Sabbath day. This synchronism is supported by the Jewish calendar for 443,²⁹ and likewise by the words in verses 9, 10, and 11: (verse 9) "this day is holy unto the Lord your God;" (verse 10) "for this day is holy unto our Lord;" and (verse 11) "for the day is holy." At least the first two of these texts could be applied only to the Sabbath, for a ceremonial sabbath was never called "my holy day;" but was, on the contrary, referred to as "holy unto you" (Lev.23:27). (*Italics mine*)

458-457 =	7
457-456 =	8
456-455 =	9
455-454 =	10
454-453 =	11
453-452 =	12
452-451 =	13
451-450 =	14
450-449 =	15
449-448 =	16
448-447 =	17
447-446 =	18
446-445 =	19
445-444 =	20
444-443 =	21

Tishri to
Tishri

We have, therefore, in Nehemiah 8 an important synchronism that ties the Jewish new year on 1 Tishri, 443 B.C., to the seventh day of the week, and which thereby fixes the year 444-443 as the 21st of Artaxerxes according to Nehemiah's Jewish reckoning. By counting back, it is readily demonstrated that Nehemiah must have dated the seventh year of the Persian king in 458-457, computed from Tishri to Tishri. But by this reckoning, his spring month Nisan could occur only in the spring of 457, for the Jewish calendar reckoned the seventh of Artaxerxes as beginning in the fall, six months later than the spring of 458.

The fact has been challenged, however, that Ezra used the same calendar as Nehemiah, and it is claimed that Ezra based his "seventh year" in terms of the Persian calendar.³⁰ He thus had his pilgrims leaving Babylon in April, 458 B.C.³⁰ But, if this conclusion were correct, then, in the period

between Nisan and Tishri, Ezra's "seventh" according to Persian reckoning, would actually be "sixth" of the Persian king according to Jewish reckoning.³¹ And it would obviously be absurd for chronology to maintain that by an Ezra Jewish calendar, the return was in the sixth year of Artaxerxes, and that by Nehemiah's Jewish calendar, the return was in the seventh of this king! The only consistent conclusion is that both Ezra and Nehemiah employed the same Jewish reckoning, and that the Nisan return from Babylon in the seventh year of Artaxerxes must have occurred in the spring of 457 B.C., and not in 458.

²⁶ Nehemiah has no change of the king's reign in the month Nisan (Neh.2:1).

²⁷ Cf. Table VII, and pages 10 and 11 of the "Time Argument."

²⁸ Parker's "Babylonian Chronology" also allows Ab 30 days in 444 B.C. But his

²⁹ Cf. Table VII. Tables give Nisan only 29 days, and thus date 4 Ab on the Sabbath!

³⁰ Journal of Near Eastern Studies, Vol. II, April, 1943, p. 129.

³¹ In other words, from Nisan to Tishri, the Jews counted the Persian king's year as one less than the Persians, while from Tishri to Nisan, both counts were the same. The Egyptians also used this rule of correspondence.

Rule of Correspondence

October, 1940

- Feb 26 beginning
- Translation period.

Papyrus B, for example -

If 18 Kisleu is exactly identical with 17 Thoth on Jan 2 (Gingel), then 1 Kisleu = Dec 16. Conjunction = Dec. 15, 04 and translation period = .67, or 16 hours - impossible.

Papyrus E, for example -

If 2 Kisleu is exactly identical with 10 Mesore on Nov 17 or 18, then 1 Kisleu = Nov 16 or 17. But conjunction = Nov. 16, 25; and translation period in each instance would be either 12 hours before conjunction, or .46 day = 11 hrs. - impossible.

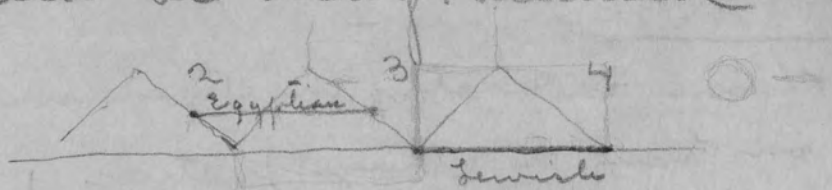
Papyrus K, for example -

If 24 Shebat is exactly identical with 9 Athyr on Feb 10, then 1 Shebat = Jan 18, with conjunction on Jan 17. 13 (J.C.T.). ∴ Translation period would equal .59 day, or 14 hrs. Impossible.

Hence, either the Egyptian tables are in error, and should provide a later date for the beginning of the Nabonassar era, or else the Aramaic dates were not identical ^{to the day} with the Egyptian dates, but a rule of correspondence ^{as between two calendars,} could have existed.

which had no time in common, except that the Egyptian date ended
and the Jewish date began in the same 24 hour period.
For example in Papyrus 13, the

Egyptian date on Jan 2/3 = Aramaic on Jan 3/4
This could be diagrammed as follows:



They had a part of the same 24 hours
in common - Jan 3. The two bands of time
really represent two different calendars,
This is the alternative position lying back
of Charly F and Co.

Papyri from 471 to 411 B.C. show that Egyptian new year slipped back from Dec 19 to Dec 4.

Aramaic papyri add Tammuz, Ab, and Heshvan to Bible list.

The Jerusalem Jews got their names of the months from Babylon. We find Aramaeans using these names; hence they must have not only gotten their month names from the Jews in Jerusalem; in other words they did not use the Babylonian names until Jerusalem did, or until Ezra and Nehemiah came.

249
191
69

Correspondence Between Egyptian and Aramaic Dates in Fifth Century B.C.

(Based upon the beginning of the Nabonassar Era)

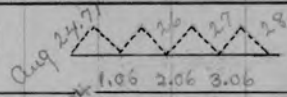
Aramaic Papyrus Dates
Proposed for Aramaic Dates

Corresponding
First Day of Month

Sunset
time
from Mid-
night

Related
Conjunctions
G.M.T. J.C.T.

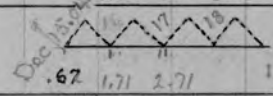
471 A Sept $\left. \begin{matrix} 12 \\ 13 \\ 14 \end{matrix} \right\} = 18 \text{ Elul} \therefore \text{Aug } \left. \begin{matrix} 26 \\ 27 \\ 28 \end{matrix} \right\} = 1 \text{ Elul}$



d
0.77

Aug 24.12 = 24.71
Ab conj.

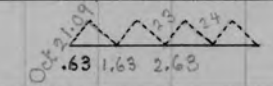
465 B Jan $\left. \begin{matrix} 2 \\ 3 \\ 4 \end{matrix} \right\} = 18 \text{ Kislev} \therefore \text{Dec } \left. \begin{matrix} 16 \\ 17 \\ 18 \end{matrix} \right\} = 1 \text{ Kis}$



d
0.71

Dec 14.45 = 15.04 J.C.T.
Hesvan conj.

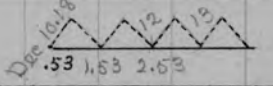
460 D Nov $\left. \begin{matrix} 11 \\ 12 \\ 13 \end{matrix} \right\} = 21 \text{ Kis} \therefore \text{Oct } \left. \begin{matrix} 23 \\ 24 \end{matrix} \right\} = 1 \text{ Kis}$



d
0.72

Oct 20.50 = 21.09 "
Conjunctions dates fit
but Kislev does not = Oct.

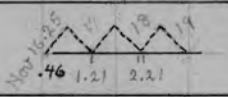
451 "30 Dec $\left. \begin{matrix} 12 \\ 18 \\ 19 \end{matrix} \right\} = 7 \text{ Kislev} \therefore \text{Dec } \left. \begin{matrix} 12 \\ 18 \end{matrix} \right\} = 1 \text{ Kis}$



d
0.71

Dec 9.59 = 10.18 "
Hesvan conj.

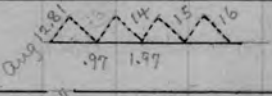
446 E Nov $\left. \begin{matrix} 17 \\ 18 \\ 19 \\ 20 \end{matrix} \right\} = 2 \text{ Kislev} \therefore \text{Nov } \left. \begin{matrix} 12 \\ 18 \\ 19 \end{matrix} \right\} = 1 \text{ Kis}$



d
0.71

Nov. 15.66 = 16.25 J.C.T.
Hesvan conj.

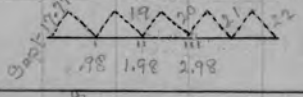
440 F Aug $\left. \begin{matrix} 26 \\ 27 \\ 28 \end{matrix} \right\} = 14 \text{ Ab} \therefore \text{Aug } \left. \begin{matrix} 13 \\ 14 \\ 15 \end{matrix} \right\} = 1 \text{ Ab}$



d
0.75

Aug 12.22 = 12.81 J.C.T.
Tammuz conj.

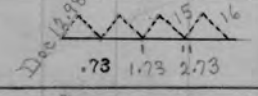
426 G Oct $\left. \begin{matrix} 14 \\ 15 \\ 16 \end{matrix} \right\} = 26 \text{ Tisri} \therefore \text{Sept } \left. \begin{matrix} 19 \\ 20 \\ 21 \end{matrix} \right\} = 1 \text{ Tis}$



d
0.75

Sept 17.18 = 17.77 J.C.T.
Elul conj.
25 Tisri is impossible

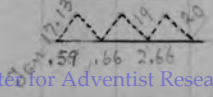
416 J Dec $\left. \begin{matrix} 16 \\ 17 \\ 18 \end{matrix} \right\} = 3 \text{ Kislev} \therefore \text{Dec } \left. \begin{matrix} 14 \\ 15 \\ 16 \end{matrix} \right\} = 1 \text{ Kis}$



d
0.71

Dec 12.39 = 12.98 J.C.T.
Hesvan conj.

410 K Feb $\left. \begin{matrix} 10 \\ 11 \\ 12 \end{matrix} \right\} = 24 \text{ Shebat} \therefore \text{Jan } \left. \begin{matrix} 18 \\ 19 \\ 20 \end{matrix} \right\} = 1 \text{ She}$



d
0.72

Jan 16.54 = 17.13 J.C.T.
Tebeth conj.

Aramaic "which is"



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