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B. The Canon's Dating Technique

The Canon only lists years, no months or days (see Table 1 above). Each year is 365 days long, as detailed in Table 2. Years marked in italics include a 29 February, e.g. Year 3 of Nabonassar, which lasts from 26 February until 24 February. Year 2 and Year 3 of Nabonassar therefore both begin on 26 February and are equally long, but Year 2 ends on February 25 whereas Year 3 ends one day sooner on February 24 because it includes a 29 February. Julian leap years are those that can be divided by four after subtracting one, such as 745 (745 − 1 = 744; 744 : 4 = 186).

In one instance, the year number to the left in the column entitled "Extension of Wandering Year" in Table 2 does not decrease by one, namely in the transition from Year 1 to Year 2 of Darius II, that is, from Year 227 to Year 228 of the Era. The reason is that Year 227, 365 days long, fits entirely in Julian 521 BCE, a 366 day leap year. Year 228 therefore begins on 31 December 521 BCE, in the same Julian year.

What does it mean when a ruler of Babylon begins his reign on a given Egyptian date in the Canon? Take for example the beginning of Cambyses's reign, dated by the Canon to 3 January 529 BCE, the beginning of Year 219 from Nabonassar. One thing that can certainly *not* be concluded is that Cambyses began his reign on that day. If he had, that would be a matter of pure coincidence. In fact, in Cambyses's case, it is known from other sources that he did not. What happened, then, on 3 January 529 BCE? A distinction is necessary between Egypt and Babylon.

As regards *Babylon*, there is no reason, nor any need, to assume that anything special happened on 3 January 529. The lunar month Kislimu, Month 9, had begun about twenty days earlier

with the evening observation of the first crescent soon after the conjunction or new moon of 13 December 530 BCE at 7:53PM (Goldstine 1973, 40), when sun, moon, and earth, in that order, had positioned themselves on a single line. Parker and Dubberstein (1956, 29) give the evening of 15 December as the beginning of Day 1 of Kislimu. Accordingly, the one day period from the evening of 2 January to the evening of 3 January of 529 BCE would be 19 Kislimu. If the first crescent had already been observed on 14 December 530 BCE, 2/3 January would correspond to 18 Kislimu. If this observation had been delayed due to bad weather until 16 December, 2/3 January would be 20 Kislimu. It is certain that the Babylonians did not celebrate Cambyses's accession to the throne on 18, 19, or 20 Kislimu in early 529 BCE. On the one hand, his reign had already begun *before* that date, in August 530 BCE (Parker and Dubbersteiu 1956, 14). On the other hand, his Year 1 began, in accordance with Babylonian regnal dating practice, *after* that date on the reign's first Babylonian new year in the spring, 1 Nisan, which fell on 12 April in 529 BCE. On 3 January 529 BCE, Cambyses was in his "accession year," the period that lasts from the accession to the throne to the reign's first new year or beginning of Year 1 in the spring.

In *Egypt*, however, 3 January 529 did have significance. It was the beginning of a new year, I *3ḫt* 1 or 1 Thoth.[35] This year lasted from the morning of 3 January to the morning of 4 January. How did this Egyptian new year of 3 January 529 BCE come to mark the beginning of the Babylonian reign of Cambyses in the Canon? First of all, the Canon operates with .whole Egyptian years. Any Babylonian reign converted into Canon years is therefore bound to begin on an Egyptian new year. The ever receding Julian dates of all the Egyptian new year days relevant to the Canon are found in Table 2. The question remains: Which Egyptian new year? It appears that 3 January 529 BCE was chosen as the beginning of Cambyses's reign in the Canon because it is the Egyptian new year that *precedes* the beginning of the Babylonian Year 1 of Cambyses, which occurred on the first new year *following* the beginning of his reign.

This conversion procedure has much of a zigzag motion. Both its components have historical equivalents.

On the one hand, the choice of the Egyptian new year *before* the beginning of Babylonian Year 1 reflects the Egyptian regnal dating practice called predating. During much of Egyptian history except the New Kingdom, a reign's Year 1 began on the day of accession and lasted until the first new year, when Year 2 began. It follows that the beginning of regnal Year 2 falls *before* the first anniversary of the accession, that is, *before* the beginning of the reign's *full* Year 2. Hence the term *pre*dating or *ante*dating. In other words, following the Egyptian calendar, the Canon predates.

On the other hand, in Babylon, Year 1 did not begin on the day of the accession, but on the first new year in the spring. It follows that the beginning of regnal Year 2 falls *after* the first anniversary of the accession, that is, *after* the beginning of the reign's *full* Year 2. Hence the term *post*dating.

It may be concluded that the Canon, following Egyptian regnal dating practice, not only *pre*dates, but, following Babylonian regnal dating practice, also *post*dates. There is a hierarchy in the Canon's predating and postdating, however. The postdated Babylonian regnal years are predated according to the Egyptian calendar. In other words, the Canon *pre*dates *post*dating. Or, it exhibits *pre*dating of *post*dating. For example, Cambyses's Babylonian Year 1 began on the new year of 12 April 529 BCE, several months after the actual beginning of the year. The Canon treats this postdated beginning of the reign, and not the actual beginning of the reign, in Egyptian predating fashion by taking it as the beginning of Year 1 and beginning Year 2 with the next Egyptian New Year's Day on 2 January 528 BCE.

It should be noted that the postdating system was abandoned from Alexander onwards. This

35. I am assuming that the Canon's Egyptian years are historical. They certainly are from 473 BCE onwards, and I see no reason to doubt that they also were before that date (on this matter, see Depuydt [1995a]).

TABLE 3

Predating of Postdating Applied to Three Babylonian Reigns

A. The dates of the *artificial beginnings of the reigns according to the Canon*, that is, the Egyptian new year or 1 Thoth immediately preceding the beginning of the Babylonian Year 1 or the reigns' first new year (1 Nisan):

Xerxes I:	23/24[36]	December	486
Darius II:	7/8	Decemher	424
Artaxerxes II:	2/3	December	405

B. The dates of the *beginnings of Babylonian Year 1* (1 Nisan):[37]

Xerxes I:	3/4[38]	April	485
Darius II:	10/11	April	423
Artaxerxes II:	9/10	April	404

C. The approximate dates of the *actual beginnings* of the reigns:

Xerxes I:	late November 486[39]
Darius II:	between 24 December 424 and 13 February 423[40]
Artaxerxes II:	between 17 September 405[41] and 9/10 April 404 (1 Nisan)

D. *Comparison* of the *beginnings of the reigns according to the Canon* (A) with the *actual beginnings* (C):

Xerxes I: The actual beginning of late November 486 *precedes* the Canon's beginning of 23/24 December 486. The interval postdated forward by the Canon from late November 486 to 3/4 April 485 (1 Nisan; Babylonian new year) is *greater* than the interval predated backward from 3/4 April 485 to 23/24 December 486 (1 Thoth; Egyptian new year).

Darius II: The actual beginning, which fell between 24 December 424 and 13 February 423, *follows* the Canon's beginning of 7/8 December 424. The interval postdated forward by the Canon from 24 December 424–13 February 423 to 10/11 April 423 (1 Nisan) is *smaller* than the interval predated backward from 10/11 April (1 Nisan) to 7/8 December 424 (1 Thoth).

Artaxerxes II: The Canon's beginning of 2/3 December 405 could he either earlier or later than the actual beginning, which fell between 17 September 405 and 9/10 April 404.

affects numbers 31, 32, and 33 in the Canon. For example, Year 1 of Philip begins, according to the Canon, on 12 November 324 BCE. As with all the other rulers of Babylon in the Canon, the beginning of Philip's reign is predated in Egyptian fashion from the beginning of the Babylonian Year 1. But in the case of Philip, the beginning of Year 1 was itself not postdated. It coincided with the *actual* beginning of his reign, and Year 2, not Year 1 as with most other rulers of Babylon mentioned in the Canon, began on the first new year of the reign. For Philip Arrhidaeus and

36. Sunrise to sunrise.

37. For these dates, see Parker and Dubberstein (1956, 31, 33).

38. Sunset to sunset.

39. Depuydt 1995b, 157, note 22.

40. Depuydt 1995b, 159, note 28.

41. Louvre AO 17603 (Durand [1981, Plate 36], Joannès [1982, 93 no. 30]). I owe this reference to Matthew Stolper.

Alexander IV, and it would seem also for Alexander the Great, the Canon does not predate postdating, but just predates.

What does the Canon tell us, then, about the actual beginnings of Babylonian reigns? There are two possibilities, excluding numbers 31, 32, and 33 (see above). The actual beginning of the reign can *precede* or *follow* the Canon's beginning. Predating of postdating has been described above as a zigzag procedure consisting of two movements in opposite directions: postdating forward from the actual beginning of the reign to the first Babylonian new year, that is, the beginning of the Babylonian Year 1, which always falls around the spring equinox, and predating backward from the beginning of the Babylonian year 1 to the Egyptian new year, which in the period covered by the Babylonian segment of the Canon falls from 8 November to 26 February. All depends on which of the two movements is the greatest. If a ruler comes to the throne *between the Egyptian new year and the Babylonian new year*, less time is postdated forward to the first Babylonian new year than predated backward from the Babylonian new year to the preceding Egyptian new year, and the Canon's Year 1 begins *before* the actual beginning of the reign. But if a ruler comes to the throne *between the Babylonian new year and the Egyptian new year*, more time is postdated forward to the first Babylonian new year than predated backward to the preceding Egyptian new year, and the Egyptian Year 1 will end *after* the first anniversary of accession.

Three examples from the Persian period are Xerxes I, Darius II, and Artaxerxes II (see Table 3). In the case of Xerxes, *more* is postdated forward than predated backward. In the case of Darius II, *less* is postdated forward than predated backward. In a third case, Artaxerxes II, the order of the reign's actual beginning and the Canon's beginning is not known because of a lack of evidence from the tablets. For the same reason, it remains unknown whether Nabonassar already ruled on 26 February 747 BCE, at the beginning of the Era named after him.