

# A Scientific Humanist

Studies in Memory of Abraham Sachs

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The Nabonassar Era and other  
Epochs in Mesopotamian  
Chronology and Chronography

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it was in

748 that the throne of Babylon changed hands and the accession of Nabonassar (Nabu-našir) took place. It was also in this year that, according to one theory, Piankhy rose to power in Egypt, founding a new capital at Napata and inaugurating the 25th dynasty and a new period of Egyptian self-assertion<sup>80</sup>; according to another theory, it was the year of the great earthquake in Israel recorded in Amos 1:1.<sup>81</sup> And already Kugler speculated that the spectacular conjunction of the moon and planets in 747 might have inspired it.<sup>82</sup> But whether it was any of these events and whether millenarian considerations played a part or not, certain it is that Nabonassar's accession was regarded by his successors as ushering in a new era in Babylonian history.

Whether it was so regarded also by himself and his contemporaries is another question. Brinkman<sup>83</sup> rejects the notion, and indeed one could find numerous parallels to ancient eras retroactively introduced many centuries after their starting point. The Christian Era, for example, dates from the early sixth century C.E. More particularly, the Olympic Era was introduced into Greek historiography only in the third century B.C.E., and the Roman Era ("*ab urbe condita*") even later.<sup>84</sup> Curiously, these two schemes begin, respectively, in 776 and 753 B.C.E., i.e. just before the accession of Nabonassar. Is there a possibility that all three were the product of Hellenistic speculations?

In modern historiography, the conception of a "Nabonassar Era" was first put forward by F. X. Kugler in 1924<sup>85</sup> and then largely forgotten until taken up in a limited sense in 1960 in the context of my survey of first millennium contacts between Assyria and Israel<sup>86</sup> and reiterated in 1971.<sup>87</sup> It was given more formal expression by Brinkman in 1968<sup>88</sup> and by Grayson in 1975<sup>89</sup> and 1980,<sup>90</sup> and now needs to be considered in greater detail. I submit that there are no less than ten separate witnesses to the existence of a "Nabonassar Era" in later Mesopotamian historiography.

1) The most explicit of these is also the latest. According to Ptolemy, the Alexandrian astronomer of the 2nd century C.E., Nabonassar's reign inaugurated 424 years of Mesopotamian history which ended with the death of Alexander in 323 B.C.E. The "Ptolemaic Canon" that enshrined this concept<sup>91</sup> figured prominently in Ptolemy's writing because it helped his readers to employ the late Babylonian astronomical techniques which he described to them. Ptolemy's further contention "that practically complete lists of eclipses are available since the reign of Nabonassar"<sup>92</sup> seems borne out by such texts as *LBAT* 1413, "a report of lunar eclipses which could be dated about this time (718-746 B.C.)."<sup>93</sup> The tradition has thereby been regarded as strikingly confirmed ("*schlagend bestätigt*").<sup>94</sup>

80. K. A. Kitchen, *The Third Intermediate Period in Egypt* (1100-650 B.C.) (Warminster, 1973), p. 359.

81. J. A. Soggin, "Das Erdbeben von Amos 1:1," *ZATW* 82 (1970) 117-121. Cf. also Zechariah 14:4f.

82. Brinkman, *AnOr* 43, p. 227 n. 1434.

83. Brinkman, *AnOr* 43, pp. 226f. n. 1432.

84. Bickerman, *Chronology of the Ancient World* (Ithaca, 1978), pp. 70-77: "The Eras." Cf. above note 1 (end).

85. F. X. Kugler, *Sternkunde und Sterndienst in Babel II* (Münster, 1924), pp. 362-371: "Der Ursprung der Ära Nabonassar."

86. Hallo, *BA* 23 (1960) 51.

87. Hallo and Simpson, *The Ancient Near East*, pp. 144, 169.

88. Brinkman, *AnOr* 43, pp. 226f.

89. Grayson, *TCS* 5, pp. 13f.

90. Grayson, "Histories and Historians of the Ancient Near East: Assyria and Babylonia," *OrNS* 49 (1980) 174, 178, 183.

91. For a partial synopsis see S.M. Burstein, "The *Babyloniaca* of Berossus" *SANE* 1, p. 180; Grayson, *RIA* 6, p. 101; more complete in Bickerman, *Chronology of the Ancient World*, pp. 107-109.

92. Neugebauer, *The Exact Sciences in Antiquity* (New York, 1962), p. 98.

93. Brinkman, *AnOr* 43, p. 227 n. 1434.

94. Van der Waerden, *Erwachende Wissenschaft 2: Die Anfänge der Astronomie* (Groningen, 1966), p. 92. Note however, that this passage has been excised from the English translation, *Science Awakening 2: The Birth of Astronomy* (Leiden and New York, 1974), p. 91.

2) Almost equally explicit is the testimony of another Hellenistic source, this time from Babylon itself, namely Berossos (wrote ca. 280 B.C.E.). Admittedly, it is virtually impossible to reconcile some of his dynasties with the known facts of Mesopotamian history or any of its chronographic traditions, and a recent attempt in this direction is not convincing.<sup>95</sup> But he is credited with the statement that "Nabonassar collected together and destroyed the records of the kings before him in order that the list of Chaldean Kings might begin with him."<sup>96</sup> Whether he really "destroyed" them may be questioned in light of the almost topos-like quality of the statement; more likely he simply summarized the prior traditions and contented himself with "destroying" the reputation of his immediate predecessor(s).<sup>97</sup> Moreover, Berossos either ended the second book of his *Babyloniaca* with Nabonassar<sup>98</sup> or, more likely, began the third and last with him.

3) Turning from the Greek sources to the native Mesopotamian ones, we may consider first the circumstantial but nonetheless suggestive evidence of the calendar. There is nothing to suggest that Nabonassar abandoned the practice of dating by regnal years in standard Babylonian usage for some 850 years by his time. But it seems highly likely that he reformed the calendar in another respect, namely by introducing a regularized intercalation based in part on calculation rather than only on observation. At one time, Winckler was prepared to credit Nabonassar with the introduction of an entirely new calendar.<sup>99</sup> At the same time, Eduard Mahler launched a series of articles specifically attributing to him the introduction of the nineteen-year cycle of intercalation<sup>100</sup> based wholly on calculation. This is unlikely, for even the relatively incomplete roster of intercalary months now known from Babylonian texts of the 8th - 6th centuries suggest that they were based partly on observation. Several letters promulgating intercalary months by royal or priestly edict and dating from the sixth century lead to the same conclusion.<sup>101</sup> But it is clear that these same centuries witnessed various experiments with calculations of the intercalation, such as "A scheme for intercalary months from Babylonia" identified by Hunger and Reiner in tablets from the 7th century,<sup>102</sup> and achieved ever closer approximations to the "standard cycle" which finally emerged at the beginning of the 5th century.<sup>103</sup> This standard cycle involved seven intercalations in nineteen years, six of them at the end of the twelfth month (second Addaru) and one at the end of the sixth (second Ullulu). It is often referred to as the Metonic cycle, after Meton, the Greek astronomer immortalized in Aristophanes' *The Birds*, but his attempt to introduce the cycle in Athens in 432 B.C.E. was unsuccessful and was clearly derivative from the Babylonian invention.<sup>104</sup> Thus, although it was "only in Achaemenid times that a regular intercalation cycle of nineteen years was introduced,"<sup>105</sup> the roots of this cycle almost certainly go back to the eighth century and very possibly to the flurry of astronomical activity associated with Nabonassar.<sup>106</sup>

95. Burstein, *SANE* 1, pp. 175-177 (appendix 2).

96. Burstein, *SANE* 1, p. 164; Brinkman, *AnOr* 43, p. 227, cf. *Mesopotamia* 7, p. 242 n. 26.

97. Hallo, *JANES* 16-17 (1984-85) 149ff.

98. So Burstein, *SANE* 1, p. 164 and n. 66; p. 176 and n. 16.

99. *Geschichte Babyloniens und Assyriens* (Leipzig, 1892), pp. 121f., quoted by Grayson, *TCS* 5, p. 13 n. 40.

100. See the articles from 1892-1909 cited in B.Z. Wacholder and D.B. Weisberg, "Visibility of the New Moon in Cuneiform and Rabbinic Sources," *HUCA* 42 (1971) 227 n. 3 and 234.

101. Wacholder and Weisberg, *HUCA* 42 (1971) 230; R.A. Parker and W.H. Dubberstein, *Babylonian Chrono-*

*logy 626 B.C.—A.D. 75* (Providence, RI, 1956), pp. 1f.

102. H. Hunger and E. Reiner, "A Scheme for Intercalary Months from Babylonia," *WZKM* 67 (1975) 21-28; for another innovation dated c. 649 see D. Pingree and Reiner, "A Neo-Babylonian Report on Seasonal Hours," *AJO* 25 (1974-77) 7.

103. Wacholder and Weisberg, *HUCA* 42 (1971) 235 and 237; but begin in 498 rather than 481.

104. O. Neugebauer, *The Exact Sciences in Antiquity*, pp. 7, 140.

105. Hunger and Reiner, *WZKM* 67 (1975) p. 21.

106. Cf. already Hallo and Simpson, *The Ancient Near East*, p. 169.

4) To the Babylonians, however, the calendar was not the only, perhaps not even the chief outlet for astronomical calculations. From their point of view an equally "practical" use of them was in the service of divination. It is in this light that we may interpret yet another innovation, the introduction of the genre called "astronomical diaries," summarizing the astronomical observations for a period of half a year and associating them with observations on meteorological phenomena, the height of the Euphrates at Babylon, commodity prices and, occasionally, notable events in political, military or cultic history as far as they affected Babylon. I have been convinced for years of two things about these diaries; one that they represented a deliberate effort to assemble a "data base" on which to build a new astrological omen corpus, with astronomical or meteorological phenomena in the protasis and terrestrial events in the apodosis; and, second, that they began with Nabonassar. The date of the earliest diaries known to Sachs, who was editing them, has been gradually pushed further and further back, and though at present it is still in the middle of the seventh century (652 B.C.E.), the specialists of cuneiform astronomy now appear to agree to both the above propositions.<sup>107</sup> As it happened, the new omen series was never written—perhaps because the scribes were never satisfied that they had collected sufficient data. Indeed, diaries continued to be written till about 50 B.C.E.<sup>108</sup> and the almanacs derived from them until 75 C.E., well after cuneiform had ceased to be employed for any other purpose.<sup>109</sup> But the diaries occupied a central position among the so-called non-mathematical astronomical texts (including such derivatives as Goal-Year texts, Excerpts, Normal-Star Almanacs and Almanacs, all of which were gleaned from the diaries,<sup>110</sup> as were records of lunar eclipses going back to the 8th century),<sup>111</sup> and were in addition exploited for other purposes if not for omens.

5) In the first place, it can be argued that the commodity prices which are (from our point of view somewhat incongruously) recorded in the diaries provided the model for the "Chronicle of Market Prices."<sup>112</sup> To quote Grayson, "There is a very close affinity in phraseology between the Chronicle's entries and those which concern prices in astronomical diaries and, since this text seems to end about 748 B.C.E. and the astronomical diaries begin the following year, one might speculate that this chronicle was composed as a kind of prologue to the commercial quotations in the astronomical diaries."<sup>113</sup>

6) But there was a far more significant "spin-off" from the Astronomical Diaries. Specifically, it is here proposed that the diaries, and more particularly the notable political, military or cultic events occasionally appended to them, were collected together to create a truly revolutionary innovation in Babylonian historiography: the Babylonian Chronicle.<sup>114</sup> This began precisely with the accession of Nabonassar<sup>115</sup> and continued in the style adopted for Chronicle 1 (747-648 B.C.E.) into Selucid times.<sup>116</sup> The genre as far as preserved is a remarkable departure from all previous

107. See A. Sachs, "Babylonian Observational Astronomy," *Philosophical Transactions of the Royal Society of London*, Series A (1974), pp. 44 and 47 (fig. 2.) for the second.

108. Sachs, *Philosophical Transactions of the Royal Society of London*, Series A, p. 48.

109. Sachs, "The Latest Datable Cuneiform Tablets," *Kramer Anniversary Volume*, AOAT 25 (1978), pp. 379-398 and pls. XV-XIX.

110. Aaboe, "Observation and Theory in Babylonian Astronomy," *Centaurus* 24 (1980) 15.

111. Sachs, *Philosophical Transactions of the Royal Society of London*, Series A, p. 44.

112. Grayson, TCS 5, Chronicle 23.

113. Grayson, *RIA* 6, pp. 88f.

114. Cf. already Lambert, "Nabonidus in Arabia," *Proceedings of the Fifth Seminar for Arabian Studies* (1972), p. 53. Similarly Grayson, TCS 5, p. 13 and n. 42; J. van Seters, "Histories and Historians of the Ancient Near East: Israel," *O+NS* 50 (1981) 176.

115. Grayson, TCS 5, Chronicle 1.

116. Grayson, TCS 5, Chronicles 2-13a.

Babylonian historiography. Although Chronicle texts may have been put together earlier in the first millennium (notably Chronicle 17), these were in most cases little more than compilations of historical omens excerpted from extispicy series (Chronicle 20) or blatantly propagandistic tracts (Chronicles 19 and 21; for Chronicle 18 see above; for Chronicle 23 see above; for Middle Assyrian Chronicle fragments see TSC 5, pp. 184-9). The Babylonian Chronicle, however, eschewed the fanciful or traditional character of many of the so-called historical omens<sup>117</sup> and provided instead an unusually objective account of events. It reported Babylonian defeats as dispassionately as Assyrian or other triumphs. Its bias was clearly religious or cultic, not political, and it is therefore a reliable guide to political history.

7) A parallel of sorts to the Babylonian Chronicle is furnished by an equally unique if considerably briefer document of prophetic or apocalyptic character. The fragmentary text published by Grayson as the Dynastic Prophecy is broken at its beginning, so it cannot be asserted with total confidence that it too began with Nabonassar, but like the Babylonian Chronicle it pursued matters into Seleucid times, comprehending all the intervening dynasties.

8) The same can be said of the Uruk King List.<sup>118</sup> Although its first editor, van Dijk, doubted that it could have begun as early as Nabonassar, the photograph published by Grayson<sup>119</sup> does not seem to rule this out. Certainly it continued matters well into the Seleucid period, without however, the use of dividing lines or any other structural indications to set off successive dynasties.

9-10) Other innovations can so far be attributed to Nabonassar only on somewhat more tenuous grounds. Among them are the so-called 18-year cycle texts<sup>120</sup> and the introduction of the zodiac.<sup>121</sup> However, Neugebauer<sup>122</sup> takes the same diary texts to prove on the contrary that in 419 B.C.E. the zodiacal signs had not yet been introduced, but instead, constellations ("ecliptical constellations") were still used as reference points.

The numerous innovations thus associated with Nabonassar stand in sharp contrast to the actual circumstances of his reign. Whatever high hopes he may have harbored at its outset, they were very soon dashed on the rocks of hard political reality. We have no royal inscriptions of the fourteen-year reign, and two private inscriptions of the time may be regarded as evidence of the relative strength of private dignitaries and corresponding weakness of the monarchy.<sup>123</sup> Only three years after Nabonassar's accession in Babylonia there occurred that of Tiglatpileser III in Assyria. Here was a truly heroic figure, destined to lay the foundations of the neo-Assyrian empire. He too tampered with traditional historiographic conventions, reviving the age-old concept of the *bala* (in its Akkadian guise of *palá*) to date and count his annual campaigns, but beginning these with his accession year instead of waiting, like his predecessors, for the first full year of his reign.<sup>124</sup> At some point in his reign, he came to Nabonassar's aid, extricating him from

117. On which cf. Reiner, "New Light on Some Historical Omens," *AnSt* 24 (1974) 257-281; I. Starr, "Notes on Some Published and Unpublished Historical Omens," *JCS* 8 (1977) 157-166; Cooper, "Apodotic Death and the Historicity of 'Historical' Omens," *CRRAI* 26, *Mesopotamia* 8 (1980), pp. 99-105. Note the vindication of some of the historical omens in Hallo, "Simurrum and the Hurrian frontier," *CRRAI* 24 (*RHA* 36 [1978/1980]), pp. 74-76.

118. Grayson, *RLA* 6, pp. 97f.; Borger, "Zur Königliste aus Uruk," *AfO* 25 (1974-7) 165f.

119. Grayson, "Assyrian and Babylonian Kings Lists:

collations and comments," *AOAT* 1, pl. III (top).

120. Brinkman, *AnOr* 43, p. 227 n. 1434.

121. B.L. van der Waerden, "History of the Zodiac," *AfO* 16 (1952-3) 216-230, cf. 220.

122. Neugebauer, *The Exact Sciences in Antiquity*, p. 140.

123. Brinkman, "The Akītu Inscription of Bēl-ibni and Nabū-zēra-ušabši," *WO* 5 (1969) 39-50.

124. Hallo and Simpson, *The Ancient Near East*, p. 132f.; cf. H. Tadmor, "The Campaigns of Sargon II of Assur," *JCS* 12 (1958) 12 n. 75.

the unrelenting pressure of Chaldeans and especially Arameans.<sup>125</sup> According to a thesis first put forward by Anspacher in 1912,<sup>126</sup> Tiglatpileser may have been responding to a call for help from Nabonassar, much as he did for Ahaz of Judah in the Syro-Ephramite war,<sup>127</sup> but this parallel, though accepted by Brinkman<sup>128</sup> and myself<sup>129</sup> has never been demonstrated. In any case it is clear that Babylonia paid dearly for the Assyrian help, whether solicited or not, for Assyria was now permanently and intimately involved in the affairs of its southern neighbor and, within five years of Nabonassar's death, Tiglatpileser ascended the throne of Babylon in his own person. The Assyrian king assumed a special Babylonian throne-name, perhaps out of deference for the ancient prerogatives of Babylon which Assyrian kings had always respected since the ill-fated precedent of Tukulti-Ninurta I. And he refrained from imposing the Assyrian system of eponymous year-dates in Babylonia, to judge by the regnal-year system employed in Babylonian tablets from his reign.<sup>130</sup> But at the same time he could hardly have looked with favor on the perpetuation of a system of dating by an era that began with Nabonassar, even if that practice had been followed by Nabonassar's immediate successor—a fact which, absent any dated tablets from that reign,<sup>131</sup> or of texts bearing a date higher than Nabonassar 14,<sup>132</sup> we can only surmise. Note however that Nabonassar was at least succeeded by his son (albeit for only two years)—the only “recorded instance of accession by inheritance between 815 and 606 B.C.E.” in Babylonia, as noted by Brinkman.<sup>133</sup>

Thus the Nabonassar Era is conspicuously lacking in the one factor which would have turned it into a true era in the modern sense: the abandonment of the regnal year system in favor of a continuous dating system extending beyond the boundaries, first of individual reigns and then of individual dynasties. It was left for the Seleucid (and Arsacid) Eras to introduce the first of these dating reforms to the Asiatic Near East, and for the religious eras—Christian, Jewish, Moslem—to breach political and dynastic boundaries and produce the second.

125. Borger and Tadmor, “Zwei Beiträge zur alttestamentlichen Wissenschaft aufgrund der Inschriften Tiglatpileser III,” *ZATW* 94 (1982) 244-251, esp. 247.

126. A.S. Anspacher, *Tiglath Pileser III*, Contributions to Oriental History and Philology 5, p. 19.

127. M. Cogan and Tadmor, “Ahaz and Tiglath-Pileser in the Book of Kings: historiographic considerations,” *Eretz-Israel* 14 (1978) 55-61, English summary p. 124\*.

128. Brinkman, *AnOr* 43, pp. 229 n. 1443.

129. Hallo and Simpson, *The Ancient Near East*, pp. 144f.; cf. Hallo, “Nebukadnezar Comes to Jerusalem” in J.V. Plaut, ed., *Through the Sound of Many Voices*

(Toronto, 1982), p. 56 n. 7.

130. TCL 12 1-3; note, however that his Assyrian name is used in the dates of these tablets. Cf. now also E. Leichty, “A Legal Text from the Reign of Tiglath-Pileser III,” *Erica Reiner AV* (AOS 67 [1987]), pp. 227-29.

131. Brinkman, *AnOr* 43, pp. 234f.; Brinkman and D.A. Kennedy, “Documentary Evidence . . .,” *JCS* 35 (1983) 65.

132. Brinkman, *AnOr* 43, pp. 233; Brinkman and Kennedy, *JCS* 35 (1983) 63f.

133. Brinkman, *Mesopotamia* 7, p. 128 and n. 33.