

THE ASSYRIAN CANON VERIFIED BY THE  
RECORD OF A SOLAR ECLIPSE, B.C. 763.

1, Hill Street, Berkeley Square, May 13, 1867.

THE progress of cuneiform study has tended year by year to place in a more prominent light the chronological value of the Assyrian Canon, which I had first the honour to communicate to the public in the pages of the *Athenæum* (No. 1805, of May 31, 1862), and which, it may be remembered, met with but an indifferent reception at the time from scholars, such as the late Dr. Hincks and M. Oppert, because it varied to the extent of about forty years from the received computation of Biblical dates in the eighth and ninth centuries B.C. These scholars, indeed, maintained that an hiatus to this extent must necessarily exist in the List of Eponymes, recorded in the Canon, immediately preceding the reign of Tiglath-Pileser II., and that the entire scheme of chronology was thereby vitiated; and although I have since repeatedly pointed out that no trace exists on the tablets of any such hiatus, but that on the contrary the several independent copies of the Canon confirm and verify each other, proving that the catalogue of Eponymes is both authentic and continuous, still, I think, that up to the present time, owing to this disparaging criticism, the historical value of the Canon has never been adequately recognized. A recent discovery, however, has put an end to all further controversy. The place of the Canon in the chronology of the world is now established on a direct astronomical basis, and the dates of many of those leading events in Jewish history, which are immediately connected with the Assyrian annals, can thus be determined with almost mathematical precision. A few words will

explain how this very satisfactory result has been obtained.

Assyrian scholars will recollect that in the course of the discussions on Assyrian Chronology which took place between Dr. Hincks, M. Oppert and myself in the years 1862 and 1863 (see *Athen.* No. 1810, p. 22; No. 1811, p. 50; No. 1814, p. 143; No. 1878, p. 533, &c.), allusion was frequently made to a certain mutilated fragment of a tablet, which Dr. Hincks had examined as long ago as 1853, and which he had described in his Report to the Trustees of the British Museum in 1854, as "containing a register of yearly events, probably in connexion with the names of the Assyrian Eponymes." This tablet seems to have been subsequently mislaid, so that Dr. Hincks in his later visits to the Museum could not further examine it; and when in due course, preparatory to publication, it came with other similar tablets under my inspection, I confess that, owing to the column of names being broken off, I did not recognize its chronological value. It never even occurred to me to identify it as the tablet previously described by Dr. Hincks, and in my labours on the Canon I allowed it therefore to pass altogether unnoticed. Indeed, although I had quoted from the tablet in question in my letter to the *Athenæum* of August, 22, 1863, in reference to the reign of Tiglath-Pileser, and although Dr. Hincks, in his answer to my letter of October 9, 1863, had suspected from these quotations that the so-called "distribution list of the officers of Tiglath-Pileser's Court" must be the very chronological document of which he had been so long in search, still by some strange fatality, neither did I, when I published last year this now famous record in the second volume of the 'Cuneiform Inscriptions of Western Asia,' pl. 52, No. 1, connect it in any way with the Canon, nor does Dr. Hincks up to the period of his death, and notwithstanding that the published text must have then been for a twelvemonth in his hands, seem to have verified his previous suspicions, or to have taken any further interest in the matter. And this is the more extraordinary, since in the index to the volume of Inscriptions which I published last year, under the heading of Plate 52, No. 1, and with the title of 'Distribution List of Offices under Tiglath-Pileser II.,' I drew particular attention to the fact that the fragment in question contained the record of a solar eclipse; and since it is evident that Dr. Hincks must have seen and accepted this explanation of the Cuneiform group which denoted an eclipse, because he availed himself of the reading to work out his own ingenious, though, as I think, erroneous conclusions, as to Assyrian lunar eclipses, which he subsequently published in the *Monatsbericht* of Berlin.

It would thus seem that the connexion of the Canon with a solar eclipse, and the consequent establishment of Assyrian chronology on an astronomical basis, was long ago within the grasp both of Dr. Hincks and myself; and yet that it eluded our notice. For my own part, I freely confess that I remained in ignorance of the true nature of the fragment in question until a few weeks back, when it was pointed out to me by Mr. G. Smith,—a young man now employed under my directions as a transcriber at the British Museum, and whom I regard as one of the most promising of our Assyrian students,—that the division into compartments of the so-called "Distribution List," corresponded in a remarkable manner with the regal divisions of the Canon. On examining the fragment, I at once saw that this correspondence, although not complete, was too near to be accidental, and I then remembered that a fragment of a List of Eponymes, discovered amongst the Museum hoards since the publication of the Canon, would probably fit on to the mutilated tablet. On trial, such proved to be the case, the identification of the so-called "Distribution List" as an independent copy of the Canon being thus definitively established, and a further most important addition to our knowledge of Assyrian history and chronology being supplied by the two supplementary columns, which appended to the name of each Eponyme his title and the most important event of his Eponymy. The results, indeed, of this discovery are three-fold: Firstly, in reference to the calendar, we find that the

appointments of the Assyrian Eponymes followed a certain regular succession, the king, in the olden times, heading the list at the commencement of each reign, and being followed in due order by the chief officers of the court and by the provincial governors, so that in some cases we can now identify a certain year as well from the title as from the name of the Eponyme. It appears, however, that immediately after the rectification of the Babylonian calendar, which is known in history as the establishment of the era of Nabonasser, the Assyrians adopted a cycle of eight years, with an intercalation of three months,—not, however, as Dr. Hincks supposed, following the Greek method of intercalating a single month, in the third, fifth and eighth years of the cycle, but inserting the whole three months in the last year (by doubling the first, sixth and last months of the year), as described by Macrobius and Solinus. The new Assyrian calendar commenced with the Eponymy of Tiglath-Pileser in 743—this being the first even division of time (half an octaeteris) after the era of Nabonasser in 747—and it continued for at least fifty-six years, the unequal division of three cycles and four cycles, which is proved by the official succession in one series from the Eponymy of Tiglath-Pileser, in 743, to that of Sargon, in 719, and in a fresh series from 719 to the Eponymy of Sennacherib, in 687, being intended, perhaps, to correct the slight excess of time in the lunar over the solar period; and it may further be surmised that the irregularities which can be detected in the series of titles of the Eponymes of the old Canon before the institution of the octaeteris cycle, may also be intended to indicate intercalations which were necessary for the rectification of a fluctuating and very imperfect calendar.

Secondly, as the third or supplementary column of the newly-discovered fragment of Canon contains a brief notice of the principal event which occurred in the Eponymy to which it is appended, we obtain an abstract of Assyrian history from B.C. 817 to B.C. 728; and this is the more valuable as, for the greater portion of the period included within these limits, the Annals were previously defective. In the great majority of cases, the notice merely refers to the city or country against which the king directed an expedition; but occasionally there are entries of more interest, such as natural phenomena, earthquakes and eclipses; and allusions to the gods, which are also, I suspect, connected with the movements of the heavenly bodies, and which may ultimately furnish us with very important astronomical verifications.

Thirdly, the result which I have reserved for last consideration, but which I regard at present as the most precious fruit of the discovery, is chronological.

In the 18th year before the accession of Tiglath-Pileser there is a notice to the following effect:—"In the month of Sivan an eclipse of the sun took place"; and to mark the great importance of the event a line is drawn across the Tablet, although no interruption takes place in the official order of the Eponymes. Here, then, we have a notice of a solar eclipse which was visible at Nineveh, which occurred within ninety days of the Equinox (taking that as the normal commencement of the year), and which we may presume to have been total from the prominence given to the record; and these are conditions which during a century before and after the commencement of the era of Nabonasser are alone fulfilled by the eclipse which took place on the 15th of June, B.C. 763. I believe, indeed, that astronomers will entertain no doubt whatever of the identity of this eclipse of June, B.C. 763, which commenced before noon, which was total, and which was visible over all Western Asia, with that recorded on the cuneiform tablet; and, if that be so, we have then a mathematical pivot upon which the whole scheme of the Canon can be made to turn; for we can count the lines, without a single fault, for 146 years before the eclipse and for 97 years after the eclipse, and can thus determine positively within that interval the date of any leading event in Assyrian history, as well as the date of any event in Jewish history which may be assigned in the contemporary Assyrian annals to any particular year of the reign of one of the kings

of Nineveh. It is satisfactory enough to find that the chronological scheme which is thus evolved differs but by a single year from the dates which, relying on other and quite independent evidence, I had adopted in my previous examination of the Canon. That the numbers in the Hebrew text of the Bible will have to be altered, so as to curtail the interval between Hezekiah and Ahab by about forty years, I do not regard with any of those feelings of alarm to which the late Dr. Hincks gave such forcible expression in his letter to the *Athenæum* of June 28, 1862. No Christian scholar now-a-days maintains the *literal* inspiration of the Holy Text. The general sequence of names and events is the same in the Bible as we find it in the Assyrian annals, and perhaps the allusions which we obtain from the new Canon to the presence of the Assyrians in Palestine and Damascus during the controverted interval, may assist in rectifying the chronology and reconciling the Scriptural with the Assyrian dates. At any rate, I will now close my letter by giving an abstract of these dates, and recommend their careful consideration to those interested in restoring the integrity of the Hebrew text.

Abstract of Dates in Assyrian Chronology.

Commencement of Canon with <i>Bil-anir</i> II. . . . .	B. C.	809
Accession of <i>Tiglath-i-Bar</i> . . . . .		889
Accession of <i>Ashur-izir-pal</i> , builder of the N.W. Palace Nimrud . . . . .		886
Accession of Shalmaneser II. Black obelisk King . . . . .		858
The Assyrians defeat the confederate forces of Southern Syria, Egypt, Arabia and Palestine at Arer. Ahab of Jezreel associated with Benhadad, of Syria, in this fight. See 1 Kings xx. 34, and 1 Kings xxii. 1. The Israelite contingent was 2,000 chariots and 10,000 men . . . . .		853
Death of Benhadad about . . . . .		843
War with Hazael King of Syria and tribute taken from Jehu, son of Omri, of Samaria . . . . .		841
Accession of <i>Shamsh-Bil</i> . . . . .		823
Accession of <i>Bil-anir</i> III. . . . .		810
Assyrians in Syria and the North of Palestine from 797 to (Subjection of Mariha of Damascus (son of Hazael) at this time by King of Assyria. Compare 1 Kings xiii. 3-5. "And the Lord gave Israel a saviour, so that they went out from under the hand of the Syrians.") . . . . .		795
Accession of Shalmaneser III. . . . .		781
Assyrians in Damascus and Hadrach . . . . .	773 and	772
(Perhaps the notice of Shalman, Hosea x. 14, refers to this period.) . . . . .		
Accession of <i>Ashur-danun</i> . . . . .		771
Assyrians again in Hadrach . . . . .		765
Eclipse of the sun in month of Sivan (June) . . . . .		763
Assyrians in land of Hadrach and Arpad . . . . .	755 and	754
Accession of <i>Ashur-anir</i> . . . . .		753
Accession of <i>Tiglath-Pileser</i> II. . . . .		745
Campaign in Syria against Arpad and its dependencies . . . . .	743 to	740
(At this time, probably, tribute was taken from Menahem of Samaria, Rezin of Damascus, and Hiram of Tyre.) . . . . .		
Campaign in the country of <i>Pilista</i> (Palestine?) . . . . .		734
(If this identification of Palestine be correct, to this year must be assigned the plunder of the cities of Samaria and the carrying away of the tribes of Reuben and Gad and the half tribe of Manasseh. 2 Kings xv. 29, and 1 Chron. v. 26.) . . . . .		
Assyrians in Damascus for 2 years . . . . .	733 and	732
(Tribute taken from <i>Yahu-Hasi</i> (Ahaz?) of Judea and defeat and death (?) of Rezin of Damascus—See 1 Kings, xvi. 9 and 10.) . . . . .		
Accession of Shalmaneser IV. . . . .		727
Accession of Sargon . . . . .		722
Capture of Samaria and deportation of the inhabitants . . . . .		721
See 2 Kings xvii. 6. . . . .		
(The new fragment does not extend beyond the reign of Tiglath-Pileser II., and nothing therefore can be added from it to what we already know of the chronology of the reigns of Sargon, Sennacherib and Esar-Haddon. It appears, however, from the smaller dated tablets, of which many fragments have been recently discovered, that although the Eponymes followed without intermission, some uncertainty prevailed as to the commencement of the King's reign, probably from the fact of his having dethroned his predecessor; and, further, that the epithet <i>arku</i> , "after," was appended to the King's name, perhaps to show that he was not regarded as "King" when he first ascended the throne. The full name appears on the tablets in Assyrian as <i>Sarru-vakina-arku</i> , "the King made afterwards.") . . . . .		
Accession of Sennacherib . . . . .		705
Expedition to Syria and attack on Hezekiah of Jerusalem . . . . .		700
See 2 Kings, xvii. 13 to 16. . . . .		
Accession of Esar-Haddon . . . . .		681
The Kings of Syria, among whom is Manasseh, King of Judea, and the Greek Kings of Cyprus, send artificers to Nineveh, about . . . . .		670
Accession of <i>Ashur-bani-pal</i> (Sardanapalus of the Greeks) about . . . . .		664
A King of Judea, again named as tributary to Assyria (probably Manasseh) . . . . .		—

Recovery of Egypt from Tirhakah of Ethiopia, and establishment of Necho and his brother nomarchs in power . . . . .	663
Revolt of Egypt. Second attack by Assyrians. Death of Tirhakah, succeeded by his nephew, <i>Ardamane</i> (Rut-Ammon?), his defeat and flight . . . . .	662
Gyges of Lydia sends tribute to Assyria . . . . .	660
Probable accession of <i>Ashur-ibil-ishi</i> , son of Sardanapalus . . . . .	640
(No later Assyrian dates can be determined, even approximately.) . . . . .	
H. C. RAWLINSON.	

P.S.—I may here repeat the warning that I have often before given to those interested in Assyrian research, that the reading of proper names, which are rarely or ever phonetically expressed, is the most difficult branch of the entire subject, and must always be received with caution, unless verified by a corresponding orthography in Hebrew, Greek or Persian authorities. The new reading of *Bil*, for instance (or *Bin* in Syria, as, perhaps, in the name of Ben-Hadad), for the "God of the air," which appears in this list, is little better than a conjecture, and the representation by the word *anir* of the compound group, which is the complement of this God, in the name of the first king in the Canon, and which I suppose to mean "the illuminator," is also merely provisional.

SILCHESTER.

ON Thursday evening, May the 9th, a paper was read at the meeting of the Society of Antiquaries by the Rev. J. G. Joyce, on the progress of the excavations at Silchester. This great work assumes a character of almost national importance, not merely from the interest which must attach to all such remains of the Roman conquest, but also from the public spirit with which the Duke of Wellington has conducted the excavations. It is a piece of good fortune that His Grace has by his side one so qualified to carry out with success the work of unweaving and recording the treasures which lie beneath the ground. As a scholar, an antiquary, and a draughtsman, Mr. Joyce combines everything that is requisite for the most thorough and exhaustive treatment to which any ancient site has at any time been subjected. No sooner does any object stop the progress of the pickaxe or the spade, than the fact is at once recorded and the object itself figured. The journal of the excavations, which was handed round at the meeting, enables any one to pursue from day to day and year to year the progress of the work in its minutest details. We trust that the Duke may be encouraged by the success hitherto achieved to continue the work he has so well begun. The subjoined abstract of Mr. Joyce's paper will satisfy every one that we have not exaggerated the importance of that success.

The excavations at Silchester form five groups, which for distinctness are designated as "Blocks," and numbered from I. to V., according to the order of time at which the first discovery of each was made. The two known as Nos. I. and III. were described in 1865, in a paper read before the Society of Antiquaries, as soon as the work in them had been completed; since then the excavated space occupied by Block I. has been filled in again, and the land brought back into cultivation. The descriptions and plans of both these will shortly appear in the *Archæologia*. The excavation numbered on the ground-plan as IV. was begun in the early part of 1866. The results from it have not been so important as those derived from the others, and therefore, to clear the way, Mr. Joyce dismissed it first. It revealed a portion of an extensive house in the north-west quarter of the city, the walls of which, though still existing, were very badly built; the rooms opened were easily traced and very near the surface. The pavement of the floors was lost except in a few small patches, which was just sufficient to indicate the ancient floor levels; the examination was pursued to the extent of laying bare an area of 110 ft. in length by 35 ft. in width. In plan, the walls laid bare describe a gallery, or corridor, 90 ft. long by 9 ft. wide, with rooms disposed round it; two of the latter were entirely cleared, and six partially; one had contained a small hypocaust; a fragment of a very poor mosaic about 3 ft. square was the only trophy which rewarded the search.