

beggar woman, 'we are brother and sister, and I shall wait my dinner.' And she spoke the truth, testified to by the very words that had that moment been sent Godwards. So seldom do we know whether we are in earnest, or only telling pleasant stories to God.

L. MACLEAN WATT, *God's Altar Stairs*, p. 19.

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## Recent Biblical Archaeology.

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### Nippur.

THE new volume of the *Babylonian Expedition of the University of Pennsylvania*<sup>1</sup> is full of important matter for Oriental learning. Professor Hilprecht begins with some words of answer to his critics in America. Into the details of this controversy, however, we on this side of the Atlantic must decline to enter. In so far as the dispute turns upon whether a certain collection of cuneiform tablets should be called the library of a temple or of a temple school, the question seems little more than a verbal quibble: in any case, it was a library, and in the Middle Ages the library of a cathedral was also the library of a cathedral school.

The tablets of which Professor Hilprecht has given us copies with his usual exactitude and graphic skill belong partly to about 2200 B.C., partly to the middle of the Kassite period, about 1300 B.C. The greater number of them are mathematical, and the chapter devoted by their editor to their interpretation is a brilliant addition to our knowledge of ancient culture. They testify to an advanced state of mathematical science. As is well known, Babylonia was the originator of

the sexagesimal system, sixty taking the place of zero in mathematical calculations. But what was not known were the high numbers with which the Babylonian mathematicians were able to deal, one of the multiplication or rather division tables, for instance, beginning with 8,640,000. Another table gives us 'the 216,000th part of 195,955,200,000,000'!

The study of these mathematical tablets has led Professor Hilprecht to an important discovery. They are all based on the number 12,960,000—that is to say,  $60^4$  or  $3600^2$ —as their dividend. Now this is precisely the famous 'Number of Plato,' which in the *Republic* he calls 'the lord of better and worse births.' It was, in fact, the mathematical statement of the law of the universe, to which all things, when mathematically expressed, must conform by being its divisors, otherwise chaos and anarchy would be introduced into the world in place of harmony. The Babylonian origin of the whole conception, which has long been suspected, is now proved, and is fresh evidence of the indebtedness of Greek thought to Babylonian civilization.

Of equal value with the mathematical tablets is a chronological tablet which contains a dated list of the dynasties of Ur and Isin, and must have been compiled before the reign of Khammu-rabi. Unfortunately the tablet is merely a fragment, and the obverse is at present illegible. The two

<sup>1</sup> *The Babylonian Expedition of the University of Pennsylvania*. 'Mathematical Metrological and Chronological Tablets from the Temple Library of Nippur.' By H. V. Hilprecht. Vol. xx. 1. Philadelphia, 1906.

dynasties, however, with the length of each king's reign, are well preserved, and throw a welcome light on early Babylonian chronology. Many of the kings belonging to the dynasty of Isin are new to us, and the length of time during which the dynasty lasted—two hundred and twenty-five and a half years—comes as a surprise.

Professor Hilprecht identifies the fall of the dynasty of Isin with the capture of the city of Isin, which appears as a sort of era in the tablets of Rim-Sin of Larsa. This seems to have chiefly influenced him in rejecting the testimony of Nabonidos as regards the date of Sargon of Akkad, and in adopting for Babylonian history the discredited theory of the older Egyptologists which made half the Egyptian dynasties contemporaneous. That there once were independent states in Babylonia with contemporaneous lines of kings is unquestionable, and I have long maintained that the earlier kings of the so-called first dynasty of Babylon were invaders who were not recognized as the legitimate rulers of the whole country until after Babylon had become the capital. It is, I believe, also true that the Babylonians, like the Egyptians, added together the totals of two overlapping dynasties; but this could happen only where the overlapping was not great, and there was no danger of mistakes being made in legal reference or registration. The error, in addition, would thus be at most two or three centuries in a period of two thousand years. Nabonidos, however, was a careful investigator, and there is evidence that in his calculations of time he confined himself to the strict succession of legitimate kings. Thus he gives seven hundred years only for the interval between Khammu-rabi and Burnaburyas, placing the former 2100-2070 B.C.—the date, by the way, to which Dr. Hales' chronology assigned the defeat of Chedor-laomer,—and so removing for us the difficulties connected with the dynasty which succeeded that of Khammu-rabi, the earlier kings of which are credited with impossibly long reigns. It will be time to criticise and revise his chronology when we possess a quarter of the historical materials which were at his disposal.

Professor Hilprecht assumes that the end of the dynasty of Isin and the fall of the city were synonymous, which, of course, is by no means the case. Indeed, there is a tablet which assigns one of the captures of the city to the reign of

Libit-Istar, the fifth king of the dynasty, reference being made in it to 'the year when the Amorite (*Amurrum*) drove out Libit-Istar.' And yet Libit-Istar was followed by eleven other kings. As the first of these does not seem to have been related to his predecessor, it is possible that there was a short interregnum between them which is not noticed in the dynastic list. That the dynastic lists ignored such periods when no legitimate Babylonian king was on the throne, is shown in the case of the Kassite dynasty where the seven years' rule of Assyria is passed over without mention.

I do not understand why Professor Hilprecht should identify Immerum, who appears as a rival or vassal prince in the earlier days of the first dynasty of Babylon with Nur-Raman of Larsa and Ur. The one belonged to Northern Babylonia, the other to the south, and there is no evidence of their contemporaneity. But the professor is himself the first to acknowledge that his theories are tentative only. 'The dates,' as he says, 'must be understood as mere possibilities.' The one thing which is certain is that the chronological tablet he has edited must, when complete, have contained the names of about one hundred and thirty-five predecessors of Ur-Engur, the founder of the dynasty of Ur. It is needless to add that the texts have all been copied with the minute accuracy for which Professor Hilprecht is celebrated.

### Babel.

Professor Clay is one of the ablest of the younger generation of American Assyriologists, and the book he has just published<sup>1</sup> is warmly to be recommended. It originated in a series of lectures on the connexion between the Old Testament and recent discoveries in Babylonia, in which he pointed out how completely the theories of subjective criticism have been demolished by the progress of Oriental archæology. In throwing the lectures into book shape he has added several chapters on the social life of the ancient Babylonians. There is no one who is better qualified to write on such a subject; Professor Clay has been the editor and decipherer of the hundreds of cuneiform tablets of the Kassite period found at Nippur, as well as of many of those of the Persian epoch. His copies of these difficult texts are exceptionally good, and he has succeeded in making out the meaning

<sup>1</sup> *Light on the Old Testament from Babel.* By Albert T. Clay. Philadelphia: The Sunday School Times Co., 1907.

of the technical words and ideographs employed in them.

The book is intended to present the latest results of cuneiform research in a popular form, and the numerous illustrations with which it is enriched add greatly to its usefulness. A considerable number of them are taken from photographs made by members of the excavating expedition at Nippur, either on the spot, or after the removal of the objects photographed to the University of Pennsylvania. They will therefore be found to be of value to the specialist as well as to the general reader. One of them represents the earliest known delineation of a centaur from a seal-impression of the Kassite age, and tells us what was the origin of the Greek conception and representation in art of that composite figure. Another is a photograph of the dragon of Babylon, which Heuzey has lately traced back to Tello, and shown to be a combination of a horned serpent with an eagle's claws and a lion's feet. It became the symbol of 'the Amorite god' Hadad, and is thus especially interesting to me, since there is a Hittite seal on which the horned serpent appears as the symbol of Sandes, who was identified with the Syrian Hadad. Like so much else in Hittite art and culture, the symbol of the deity came from Babylonia.

The titles alone of some of Professor Clay's chapters will show how deeply interesting their contents are. One is on 'The Code of Hammurabi,' another on 'Moses and Hammurabi,' a third on 'The Name Jahweh in Cuneiform Literature.' Professor Clay has met with it in proper names of the Kassite period, thus filling up the gap between the age of Khammu-rabi and that of the Assyrian conquests in the west. The chapter on the code of Khammu-rabi is one of the best reviews I have seen of the character and contents of the famous collection of laws, and the comparison between the Mosaic and Babylonian codes is at once lucid and sensible. Another chapter well worth reading is that on 'Babylonia in the days of Ezra,' where full use has been made of the legal documents of which such vast quantities are now in our hands. The light thrown by them on the life of the Jewish exiles in Babylonia will doubtless be new to the majority of readers. Among the Jewish names that occur in them are some well worth the attention of Biblical scholars. The names of Ahab and Benjamin (Miniâmen), for instance, are met with; so, too, are Samsanu or

Samson, Samakhunu or Simeon, and Nikhuru or Nahor.

In one chapter Professor Clay has gone outside his province and the title of his book and ventured into the domain of Egyptology. It is a pity that he has done so, for he is here treading upon unfamiliar ground, and his conclusions are not likely to commend themselves to the students of the Egyptian monuments. But in 'Babel' he is at home.

### The Medes.

Professor Prášek<sup>1</sup> has made the Medes peculiarly his own, so that it is with good reason that he has been selected to write their history for the *Handbücher der alten Geschichte*. Every scrap of information bearing upon them has been collected with indefatigable industry, and his book is consequently a historical treasure-house of facts, theories, and references. The first volume, which is all that has thus far appeared, begins with the earliest migrations of Aryan tribes into Persia, and comes down to the establishment of the kingdom of Darius.

Professor Prášek, it must be remembered, is a historian, not a philologist or decipherer of cuneiform inscriptions. His philological facts have therefore to be taken at second-hand, and it is consequently not surprising if they cannot always meet with acceptance. The Indo-European character of the Hittite or other Asianic languages, for instance, is an exploded theory, and the section on the 'kingdom of Ararat' needs several corrections. Indeed, it is clear that the professor has never seen my original memoir on the Vannic inscriptions; had he done so, he would have found that some of the questions discussed by him had been answered more than twenty years ago. Even the identification of Sarduris with the Seduri of Shalmaneser was no discovery of Jensen.

The Vannic kings and their language, however, lie outside his proper province. But in dealing with Old Persian names he has been obliged to trust to etymologies which the more recent Iranian researches have, to say the least, placed in doubt. Hoffmann-Kutschke, in his article in the *Philologus* (lxvi. 2), has not the same respect for the authority of Herodotus and other Greek writers as is displayed by Professor Prášek, and writing as an Iranian philologist unhesitatingly affirms—as I

<sup>1</sup> *Geschichte der Meder und Perser bis zur makedonischen Eroberung*. By J. V. Prášek. Vol. 1. Gotha: Perthes, 1906.

maintained long since—that the names of Cyrus and Cambyses have no Indo-European etymology. The Manda, again, have nothing to do with the Mannâ, east of Van, but should be given as *umman manda*, an old Semitic Babylonian expression signifying ‘the hordes,’ and exactly corresponding with the Goyim of Gn 14. So, too, Professor Prášek’s attempt to dissociate Dugdammê from the Lygdamis of Strabo is inadmissible; the name of his son Sanda-ksatru, compounded as it is with the name of the Cilician god Sandes, should of itself have taught us where to look for the scene of his activity.

It is inevitable, however, that in a book like that of Professor Prášek, which is so crammed with facts, there must be a good deal of disputable matter; indeed, it is just the existence of this disputable matter which gives historical research a large part of its interest. And after all, the disputable matter bears but a small proportion to the amount that is certain and unquestioned. At times the Professor even avoids the discussion of points on which I should have been glad to know his opinion, if only for the sake of disputing it. I wish, for example, that he had gone more fully into the nature and origin of the list of Median kings given by Ctesias. Since Volney’s discovery that it consists of a combination of a double set of equivalent names, nothing has been done towards further clearing it up. The materials for doing so, however, are now at hand, and perhaps readers of THE EXPOSITORY TIMES will pardon me if I take this opportunity of pointing out what they are. The list, as explained by Volney, is as follows:—

Arbakes . . .	28 years,	Sôsarmos . . .	30 years.
Mandaukes . . .	50 „	Artykas . . .	50 „
Artynes . . .	22 „	Arbianes . . .	22 „
Astibaras . . .	40 „	Artaios . . .	40 „
Aspadas-Astyigas	35 „	Aspadas-Astyigas	35 „

Total 175 years.

177 years.

Arbakes, who thus lived 725 B.C., answers to the Median prince Arbaku, who paid tribute to Sargon in 713 B.C. Sôsarmos, who also appears in Ctesias’ list of the Assyrian kings, is, letter for letter, the Samas-Raman III. of the inscriptions, who was the first of the Assyrian kings to lay the Medes under tribute about 820 B.C. He was also the successor of the rebel king Assur-dain-pal, the Sardanapallos of the Greeks, who was besieged by him in Nineveh, until the city was finally captured

and the rebellion crushed. Deducting the second thirty-five years of Aspadas and the thirty years of Sôsarmos, the Assyrian contemporary of Arbakes, and adding the other totals together, we reach 837 B.C. for the first year of Arbakes, which explains the lengthened chronology of Ctesias, the date being only ten years in excess of that at which the revolt of Assur-dain-pal and Nineveh took place. Arbianes must be corrected into Artianes, Arteanu being the Assyrian form of Artynes. Artaios is ‘the Medo-Persian,’ the old name of the Persians having been Artæans, according to Herodotus (vii. 61) and Stephanus of Byzantium. A lengthened form of it is Artykas, where the suffix is the same as in Mandaukes, Deiokes (Daiukku), and similar names. Artykas is written Khartuka by Sargon, which disposes of its supposed connexion with Arya and the Aryans. In Mandaukes we may have the Assyrian Manda, though perhaps Rost is right in thinking that the name should be corrected into Masdaukes. As for Astibaras, we may accept Oppert’s derivation of it from *arsti*, ‘a spear,’ so that Astibaras, ‘the spearman,’ and Aspadas (*Aspatha*), ‘the horseman,’ would both be titles of the two last Median kings. That such must be the case with Aspadas is clear from the fact that Ctesias not only knew the name of Astyigas, but is the only Greek writer who gave it in a correct form,

There is one omission in Professor Prášek’s book. He keeps his eyes fixed on the literary sources only; not a word is said on the archæological side. It is true that Iranian archæology is still in its infancy; nevertheless, the excavations of de Morgan in the tumuli of Northern Persia have already poured a flood of light on the earlier history of that region, which will be further supplemented by the discoveries of the American expedition in the mounds near Askabad as soon as they can be published. Some details relating to them will be found in my *Archæology of the Cuneiform Inscriptions*. The ash-hills in the neighbourhood of Urumia are especially important for the earlier history of Zoroastrianism, as there is now little doubt that they represent the sites of fire-temples. Many of these have been explored, and photographs of the pottery and other objects discovered in them will be found in Jackson’s *Persia, Past and Present*, pp. 90–98. A scientific account of the pottery disinterred from them was given by Virchow in the *Zeitschrift für Ethnologie*, 30 (1898), pp. 522–527, and 32 (1900), pp. 609–612.