

LECTURE I. *The Chaldeans*

During the period of the French Revolution citizen Dupuis, in three bulky volumes "On the Origin of all Forms of Worship" (1794), developed the idea that the primary source of religion was the spectacle of celestial phenomena and the ascertainment of their correspondence with earthly events, and he undertook to show that the myths of all peoples and all times were nothing but a set of astronomical combinations. According to him, the Egyptians, to whom he assigned the foremost place among "the inventors of religions," had conceived, some twelve or fifteen thousand years before our era, the division of the ecliptic into twelve constellations corresponding to the twelve months; and when the expedition of Bonaparte discovered in the temples of the Nile valley, notably at Denderah, some zodiacs to which a fabulous antiquity was attributed, these extraordinary theories appeared to receive an unexpected confirmation. But the bold mythological fabric reared in the heavens by the *savant* of the Revolution fell to pieces when Letronne proved that the zodiac of Denderah dated, not from an epoch anterior to the most ancient of the known Pharaohs, but from that of the Roman emperors.

Science in her cycles of hypotheses is liable to repeat herself. An attempt has recently been made to restore to favour the fancies of Dupuis, by renovating them with greater erudition. Only, the mother country of "astral mythology" is to be sought, not on the banks of the Nile, but on those of the Euphrates. The "Pan-Babylonists," as they have been called, maintain that

Behind the literature and cults of Babylon and Assyria, behind the legends and myths, behind the Pantheon and religious beliefs, behind even the writings which appear to be purely historical, lies an astral conception of the universe and of its phenomena, affecting all thoughts, all beliefs, all practices, and penetrating even into the

domain of purely secular intellectual activity, including all branches of science cultivated in antiquity. According to this astral conception, the greater gods were identified with the planets, and the minor ones with the fixed stars. A scheme of correspondences between phenomena in the heavens and occurrences on earth was worked out. The constantly changing appearance of the heavens indicates the ceaseless activity of the gods, and since whatever happened on earth was due to divine powers, this activity represented the preparation for terrestrial phenomena, and more particularly those affecting the fortunes of mankind. . . . Proceeding further, it is claimed that the astral-mythological cult of ancient Babylonia became the prevailing *Weltanschauung* of the ancient Orient, and that whether we turn to Egypt or to Palestine, to Hittite districts or to Arabia, we shall find these various cultures under the spell of this conception.

It furnishes the key to the interpretation of Homer as well as of the Bible.¹ In particular, all the Old Testament should be explained by a series of sidereal myths. The patriarchs are "personifications of the sun or moon," and the traditions of the Sacred Books are "variations of certain 'motifs,' whose real significance is to be found only when they are transferred to phenomena in the heavens."

Such is a wholly impartial summary of the theories professed by the advocates of the *Altorientalische Weltanschauung*. I borrow it, with slight abbreviation, from an address delivered by Morris Jastrow, Jr., at the Oxford Congress in 1908.² Now of this system it may be said that what is true in it is not new, and what is new is not true. That Babylon was the mother of astronomy, star-worship, and astrology, that thence these sciences and these beliefs spread over the world, is a fact already told us by the ancients, and the course of these lectures will prove it clearly. But the mistake of the Pan-Babylonists, whose wide generalisations rest on the narrowest and flimsiest of bases, lies in the fact that they have transferred to the nebulous origins of history conceptions which were not developed at the beginning but quite at the end of Babylonian civilisation. This

¹ See e.g. Fries, *Studien zur Odyssee* (Mitt. Vorderasiat. Gesellschaft), 1910.

² *Transactions of the Third International Congress for the History of Religions*. Oxford, 1908, i, p. 234; cf. Jastrow, *Die Religion Babyloniens und Assyriens*, ii (1910), p. 432.

vast theology, founded upon the observation of the stars, which is assumed to have been built up thousands of years before our era,—nay, before the Trojan War,—and to have imposed itself on all still barbarous peoples as the expression of a mysterious wisdom, cannot have been in existence at this remote period, for the simple reason that the data on which it would have been founded, were as yet unknown.

How often, for instance, has the theory of the precession of the equinoxes been brought into the religious cosmology of the East! But what becomes of all these symbolical explanations, if the fact be established that the Orientals never had a suspicion of this famous precession before the genius of Hipparchus discovered it?¹ Just as the dreams of Dupuis vanished when the date of the Egyptian zodiacs was settled, so the Babylonian mirage was dispelled when scholars advanced methodically through the desert of cuneiform inscriptions and determined the date when astronomy began to take shape, as an exact science, in the observatories of Mesopotamia. This new delusion will depart to the realm of dreams to join the idea, so dear to poets of old, of Chaldean shepherds discovering the causes of eclipses while watching their flocks.

When we have to ascertain at what date oriental star-worship effected the transformation of Syrian and Greek paganism, we shall not find it necessary to plunge into the obscurity of the earliest times; we shall be able to study the facts in the full light of history. "An astral theory of the universe is not an outcome of popular thought, but the result of a long process of speculative reasoning carried on in restricted learned circles. Even astrology, which the theory presupposes as a foundation, is not a product of primitive popular fancies but is rather an advanced scientific hypothesis."² In this first lecture, then, we shall have to begin by asking ourselves at what date a scientific astronomy and astrology were developed at Babylon, and then proceed to examine how they led to the formation of

¹ See below, Lecture II, p. 34.

² Jastrow, *l. c.*, p. 236.—Since this lecture was written, an excellent paper on this subject has been published by Carl Bezold, *Astronomie, Himmelschau und Astrallehre bei den Babyloniern* (Sitzungsb. Akad. Heidelberg, 1911, Abh. No. 2).

a learned theology and gave to Babylonian religion its ultimate character.



Let us consult, the historians of astronomy. The original documents of Chaldean erudition have been deciphered and published during these last twenty years mainly by the industry of Strassmaier and Kugler,¹ and we are able to-day to realise to some extent what knowledge the Babylonians possessed at different periods.

Now here is one first discovery pregnant with consequences: before the eighth century no scientific astronomy was possible owing to the absence of one indispensable condition, namely, the possession of an exact system of chronology. The old calendar already in use about the year 2500, and perhaps earlier, was composed of twelve lunar months. But as twelve lunar periods make only 354 days, a thirteenth month was from time to time inserted to bring the date at which the festivals recurred each year, into harmony with the seasons. It was only little by little that greater precision was attained by observing at what date the heliac rising of certain fixed stars took place. So inaccurate a computation of time allowed of no precise calculations and consequently of no astronomy worthy of the name. In fact, during the first twenty or thirty centuries of Mesopotamian history nothing is found but empirical observations, intended chiefly to indicate omens, and the rudimentary knowledge which these observations display, is hardly in advance of that of the Egyptians, the Chinese, or the Aztecs. These early observers could employ only such methods as do not necessitate the record of periodic phenomena. For instance, the determination of the four cardinal points by means of the rising and setting of the sun, for use in the orientation of temples, was known from the very earliest antiquity.

But by degrees, direct observation of celestial phenomena, intended either to enable soothsayers to make predictions or to fix the calendar, led to the establishment of the fact that certain

¹ F. X. Kugler, S. J., *Die Babylonische Mondrechnung*, 1900, and *Sternkunde und Sterndienst in Babel*, 1907-1909 (in progress). A clear and able résumé of Kugler's researches has been given by Schiaparelli; see below, p. 13.

of these phenomena recurred at regular intervals, and the attempt was then made to base predictions on the calculation of this recurrence or periodicity. This necessitated a strict chronology, at which the Babylonians did not arrive till the middle of the eighth century B.C.: in 747 they adopted the so-called "era of Nabonassar." This was not a political or religious era, or one signalised by any important event. It merely indicated the moment when, doubtless owing to the establishment of a lunisolar cycle, they kept properly constructed chronological tables. Farther back there was no certainty in regard to the calculation of time. It is from that moment that the records of eclipses begin which Ptolemy used, and which are still sometimes employed by men of science for the purpose of testing their lunar theories. The oldest is dated March 21, 721 B.C.¹

For the period of the Sargonides, who reigned over Nineveh from the year 722, the documents of the famous library of Ashurbanapal, and especially the reports made to these Assyrian kings by the official astrologers, allow us to form a sufficiently clear idea of the state of their astronomical knowledge. They had approximately traced the ecliptic, that is, the line which the sun seems to follow in the sky during its annual course, and they had divided it into four parts corresponding to the four seasons. Without having succeeded in establishing the real zodiac, they attempted at any rate, with the object of testing the calendar, to draw up the list of constellations whose heliac rising corresponded to the various months. From the fixed stars they already distinguished the planets to the number of five; they had traced their course, now forwards now backwards, and determined, at least approximately, the duration of their synodic revolutions,—for instance, one tablet calculates that this duration in the case of Venus is 577.5 days, instead of the actual 584. But as yet they had no idea of their respective distances from the earth, for the order in which the seven principal stars are enumerated in the inscriptions of Nineveh,—the Moon, the Sun, Jupiter, Venus, Saturn, Mercury, Mars,

¹ One of these eclipses is noted both in Ptolemy's *Almagest* and in a cuneiform tablet, see Boll, in Pauly-Wissowa's *Realencyclopädie*, s. v. "Finsternisse," col. 2354.

—has no relation to any astronomical fact. Jupiter, or Marduk, is put at the head of the five planets, because Marduk is the principal god of Babylon. Finally, those priests had not only fixed with remarkable accuracy the duration of the lunar period at a little more than twenty-nine and one half days, but, having ascertained that eclipses occurred with a certain periodicity, they had gone so far as frequently—but not regularly—to predict their recurrence. In their reports to the kings of Nineveh astrologers often prided themselves on the fact that an eclipse which they had foreseen, had occurred. This was their great achievement.

The destruction of Nineveh in the year 606 B.C. did not interrupt the conquests of astronomy. Under Nebuchadnezzar (604–561) Babylon returned to the days of her past glory, and in this ancient sanctuary of science, amid the general prosperity, astronomy received a new impetus, which was not checked by the almost voluntary submission of the old Semitic capital to the kings of Persia in 539. A valuable tablet, dated 523, shows the astonishing advance made since the fall of Assyria. Here for the first time we find the relative positions of the sun and the moon calculated in advance; we find, noted with their precise dates, the conjunctions of the moon with the planets and of the planets with each other, and their situation in the signs of the zodiac, which here appears definitely established,—or, to put it more briefly, the monthly ephemerides of the sun and the moon, the principal phenomena of the planets, and eclipses. All this indicates an intensity of thought and a perseverance in observation of which we have as yet no other example, and F. X. Kugler has therefore very properly regarded this tablet as the oldest known document of the *scientific* astronomy of the Chaldeans. True science is at length disencumbered of the empirical determinations which had accumulated in the course of many centuries. From that time some fifty documents, now deciphered,—the most recent of which belongs to the year 8 B.C.,—enable us to follow its development under the dominion of the Persians, the Macedonians, and the Parthians until about the commencement of our era. There is noticeable a continual advance and an

increasing improvement in the methods employed, at least up to the end of the second century B.C., to which belong the most perfect examples which we possess. Chronological reckonings are rendered more accurate by the adoption of a lunisolar cycle of nineteen years; the zodiac is definitely established by the substitution for the ancient constellations of variable sizes of a geometrical division of the circle in which the planets move, into twelve equal parts, each subdivided into three portions or decans, equivalent to ten of our degrees. If the Babylonians were not aware of the precession of the equinoxes before the Greeks, at least they discovered the inequality of the seasons, resulting from a variation in the apparent speed of the sun. Above all, they calculated with astonishing accuracy the duration of the various lunar months, and, if they did not fully grasp the data of the problem of solar eclipses, they determined the conditions under which those of the moon took place. Finally, —and this was a still more arduous and complicated problem, —having determined the periods of the sidereal and synodic revolutions of the planets, they constructed perpetual ephemerides giving year by year the variations in the position of these five stars; then in the second century before our era they became so bold as to attempt an *a priori* calculation of planetary phenomena, such as they had previously worked out for the moon and the sun.

We have been obliged to introduce into this description certain technical details in order to fix exactly the period at which Chaldean science became established. It was not, as we have been asked to believe, in the remote obscurity of the fourth or even the fifth millennium that the mighty fabric of their astronomy was reared. It was during the first millennium that it was laboriously and gradually constructed. From this it follows that in Babylonia and in Greece, the two nations among whom the methodical study of the heavens led to the construction of systems which imposed themselves on the world, the development of these theories was partly contemporaneous. In the sixth century, when Thales is said to have predicted an eclipse, the Greeks began by being disciples of the Orientals, from whom they borrowed the rudiments of their knowledge.

But towards the middle of the fifth century they soared aloft on their own wings and soon reached greater heights than their former teachers.

The Babylonians after all had studied astronomy only empirically. By applying to it trigonometry, of which their predecessors were ignorant, the Greeks attained a certainty hitherto unknown, and obtained results previously impossible. But for several centuries the development of the two sciences went on side by side in East and West, and to a large extent independently. It would now be impossible to say to whom amongst the Greeks or the Babylonians belongs the credit of certain discoveries.¹ But it is the peculiar distinction of the Chaldeans that they made *religion* profit by these new conceptions and based upon them a learned theology. In Greece science always remained laic, in Chaldea it was sacerdotal.



There is every reason for believing that religious origins were much the same among the Babylonians as among other Semitic peoples. Here as elsewhere differentiation comes only with progress. Numerous traces are found of a primitive "animism" which regarded as divinities animals, plants, and stones, as well as wind, rain, and storm, and believed them to have mysterious relations with mankind. Being experts in divination, the Chaldeans devoted themselves from the first to the practice of deriving omens from phenomena and occurrences in which they saw manifestations of the will of that motley host of spirits which filled the universe: movements of the clouds, direction of the wind, thunder and lightning, earthquakes and floods, as well as the birth of monstrous animals, the inspection of the liver, or even the appearance of locusts seemed to be portents favourable or unfavourable to human undertakings. All this was set down in writing and codified by the priests—for, every kind of superstition was codified by these Semites as well as the laws of Hammurabi. But among the countless multitude of gods who peopled the realm of nature, the Babylonians attributed a particularly

¹ See below, Lecture II, p. 26, on the cycle of Meton.

powerful influence to the stars. These brilliant objects, which they saw moving unceasingly over the vault of heaven,—conceived as a solid dome quite close to the earth,—inspired them with superstitious fear. Any one who has experienced the impression produced by the splendour of an Eastern night will understand this sense of awe. They believed that in the complicated patterns of the stars, which gleamed in the night, they could recognise fantastic shapes of polymorphous monsters, of strange objects, of sacred animals, of imaginary personages,—some of which still figure on our celestial maps. These formidable powers might be favourable or inimical. In the clearness of their transparent atmosphere the Chaldean priests continually watched their puzzling courses: they saw them appear and disappear, hide themselves under the earth to return at the other extremity of the horizon, rising again to a new life after a transitory death, always victorious over the darkness; they observed them losing themselves in the brilliance of the sun to emerge from it presently, like a young bridegroom entering the bridal chamber to issue forth again in the morning; they followed also the windings of the planets, whose complicated path seemed to aim at throwing off the track an enemy who threatened their course; they were astonished that in eclipses the moon and even the sun himself could grow dim, and they believed that a huge black dragon devoured them or concealed them from view. The sky was thus unceasingly the scene of combats, alliances, and amours, and this marvellous spectacle gave birth to a luxuriant mythology in which there appeared, subject to no law but their own passions, all the heroes of fable, all the animals of creation, all the phantoms of imagination.

Between beings and objects, all alike conceived as living, primitive animism everywhere establishes hidden and unexpected relations, which it is the object of magic to discover and utilise. In particular, the influence which the stars exerted upon our world seemed undeniable. Did not the rising and setting of the sun every day bring heat and cold, as well as light and darkness? Did not the changes of the seasons correspond to a certain state of the sky? What wonder, therefore, that by

induction men arrived at the conclusion that even the lesser stars and their conjunctions had a certain connection with the phenomena of nature and the events of human life. At an early time—and here the Pan-Babylonists are right—arose the idea that the configuration of the sky corresponds to the phenomena of the earth. Everything in sky and earth alike is incessantly changing, and it was thought that there existed a correspondence between the movements of the gods above and the alterations which occurred here below. This is the fundamental idea of astrology. Perhaps in this scheme of coincidences the Babylonians even went so far as to divide the firmament into countries, mountains, and rivers, corresponding to the geography known to them.

Here, as everywhere, the human mind long sought the way of truth in the maze of conjectures and chimeras. But the very delusion which peopled the heavenly abodes with kindly or hostile powers, whose incessant evolutions were a menace or a promise to mankind, urged the Chaldeans to study assiduously their appearances, evolutions, and disappearances. With indefatigable patience they observed them, and noted the most important social or political events which had accompanied or followed such and such an aspect of the heavens, in order to assure themselves that a given coincidence would be regularly repeated. Thus they engraved on their tablets with scrupulous care all the astronomical or meteorological phenomena from which they derived their prognostications: phases of the moon, situation and conjunctions of the planets, eclipses, comets, falls of aerolites, and halos.

The purely empirical and very simple determinations, accompanied by predictions, which have been preserved to us, are naïve and almost puerile: even in the time of the Sargonides there is nothing in them which recalls the learned precision of a Greek horoscope. But from this mass of documents, laboriously collected in the archives of the temples, the laws of the movements of the heavenly bodies were disengaged with increasing precision. Primitive man commonly believes that new stars are produced each time they disappear, that the sun dies and is born each day or at least each winter, that the moon is swal-

lowed up during eclipses, and that another takes its place. To these early ideas, all vestiges of which did not disappear, nay, have not disappeared—we speak still of a “new moon”—there succeeded the discovery that the same stars always traversed the upper spheres with a brightness which increased and diminished by turns. With the irregularity of atmospheric disturbances was necessarily contrasted the regularity of sidereal revolutions and occultations. Little by little the priestly astronomers, as we have seen, succeeded in constructing an astronomical calendar and foretelling the return, at a fixed date, of phenomena previously described, and they were able to predict to the astonished crowds the arrival of the eclipses which terrified them. There is nothing surprising in the fact that, as they ascribed to the heaven itself the revelation of this marvellous knowledge, they should have seen in astronomy a divine science.

It is impossible to exaggerate the religious importance which an eminently superstitious people attached to these discoveries. Schiaparelli, a most competent historian of the exact sciences in antiquity, has remarked that “the tendency which dominates the whole Babylonian astronomy is to discover all that is periodic in celestial phenomena, and to reduce it to a numerical expression in such a manner as to be able to *predict* its repetition in the future.”¹ The scientific discoveries which were made from the Assyrian period onwards enabled astrologers, as we have seen, to foresee certain events with an absolute certainty which no other kind of prognostication attained. An endless perspective reaching far into the future was opened to minds astonished at their own audacity. Divination by means of the stars was thus elevated above all other methods which were in contemporary use. It is beyond doubt that the pre-eminence henceforth assigned to astrology was bound to lead to a transformation of the whole of theology. “The science of the observation of the heavens, which had been perfected little by little by the priests, became in their hands a body of astral doctrine, which never lost the flavour of the school, but which

¹ Schiaparelli, *I Primordi ed i Progressi dell' Astronomia presso i Babilonesi* (Extr. of “*Scientia*,” *Rivista di Scienza*, iii), Bologna, 1908, p. 22.

nevertheless permeated the entire Babylonian religion, and at least in part transformed it."¹

The development of the old Babylonian religion bears no relation to astronomical theories. It was rather political circumstances which gave to certain gods in turn the primacy among the multitude of divinities worshipped in the land of Sumer and Accad, and, in accordance with a process which is repeated everywhere, caused the functions of other local powers to be attributed to their all-usurping and all-absorbing personality. When Babylon is the capital of the kings, it is the patron of this city, Marduk, identified with Bel, that occupies the foremost place in the Pantheon; when Nineveh is the seat of empire, it is Ashur. Even the groupings and hierarchies, which most plainly betray the intervention of priestly combination, do not appear to be prompted by astronomical speculations. In the system of triads, which theologians conceived, the primacy was given to Anu, Enlil, and Ea, spirits of Heaven, Earth, and Water; below these they placed Sin, Shamash, or Ramman, and Ishtar, the genii of the Sun and the Moon or the atmosphere and the goddess of the fertility of the earth, identified with the planet Venus. In spite of the presence in this symmetrical arrangement of the two luminaries at all times worshipped in that country, and sometimes of the most brilliant of the stars, it is impossible to see an astral principle in this grouping. Prof. Jastrow, the best judge in these matters, does not hesitate to regard the truly sidereal cult, which grew up at Babylon under the influence of the learned theories developed by the priestly caste, as *a new religion*. I quote his words:²

The Star-worship which developed in Babylon and Assyria in connection with the science of the observation of the heavens was at bottom a new religion, the victory of which brought about the decadence of the old popular belief. In point of fact, in the ritual of worship, in ceremonies of incantation and purification, in hymns and prayers, in the chants of ceremonial lamentation, in old festivals in honour of the gods of nature, just as in hepatoscopy (or

¹ Jastrow, *Die Religion Babyloniens und Assyriens*, ii, p. 432.

² Jastrow, *op. cit.*, ii, p. 455.

examination of the livers of victims) and in the other kinds of divination, which were maintained up to the end of the Babylonian empire, popular ideas always survived. The priests would have been careful not to destroy or imperil the dominion which they exercised over the multitude by changing the forms of worship in the direction of the new religion. But astral doctrines could not, for all that, fail to make their influence felt little by little as a dissolvent force.

The new doctrines were reconciled or combined after a fashion with the old creeds by placing the abode of the gods in the stars, or by identifying them with the latter. By a logical and fully justified development of primitive belief, which attributed to the sun and moon a powerful effect upon the earth, a preponderating influence over the determination of destiny had also been assigned to the five planets, which like the former traversed the constellations of the zodiac. These were therefore identified with the principal figures of the Assyrio-Babylonian pantheon. In accordance with the rank which was assigned to them and in accordance also with the brightness, colour, or duration of the revolution of the stars, relations were established between stars and gods. To Marduk, the foremost of the latter, was assigned Jupiter, whose golden light burns most steadily in the sky, Venus fell to Ishtar, Saturn to Ninib, Mercury to Nebo, Mars, by reason of its blood-red colour, to Nergal, patron of war. As for the fixed stars, singly or grouped in constellations, they were correlated with the less important lords, heroes, or genii. This was no impediment to regarding Ishtar, for instance, always as the goddess of the fertility of the earth, and worshipping her as such. Thus, as in the paganism of the Roman period, divinities assumed a double character, the one traditional and based on ancient beliefs, the other adventitious and inspired by learned theories.

The origin of this religious evolution goes back far into the past, but we are not able at the present day to mark the stages of its development and to assign dates to them. Perhaps it will be possible some day to follow the progress of Babylonian astronomy in the cuneiform tablets, and to show how an ever-widening conception of the heavens little by little transformed the modes of belief. Doubtless the theories of astronomers never

completely eliminated the naïve tales which tradition related about the divine stars; here, as elsewhere, the enquiry into physical causes failed to get rid of mythical survivals, and the doctrines of oriental cosmographers continued to be encumbered with absurd notions. In order to be convinced on this point it is sufficient to glance at the astronomic curiosities of the Book of Enoch, which as late as the first century before our era echoes the old Chaldean doctrines.

It may be regarded as proved that this astral religion succeeded in establishing itself in the sixth century B.C., during the period of the short-lived glory of the second Babylonian empire, and after its fall, when new ideas derived from East and West were introduced, first by the Persians and afterwards by the Greeks, into the valley of the Euphrates.¹ If, as we shall show,² the Platonic dialogue, the *Epinomis*, is inspired by this religion, it had already formulated some of its chief dogmas before the fourth century. The essential characteristics of its theology are known to us, not from native texts, but from the information supplied by Western writers on "Chaldean" beliefs. The word *Χαλδαῖος*, *Chaldaeus*, bore amongst the ancients very different meanings from time to time. These terms designated first of all the inhabitants of Chaldea, that is, lower Mesopotamia, and next the members of the Babylonian priesthood. Thus at the period of the Achæmenid kings, in the official processions of Babylon, there walked first the *magi*, as Quintus Curtius states,³ that is to say the Persian priests established in the conquered capital, then the *Chaldaei*, that is the native sacerdotal body. Later the epithet *Χαλδαῖος* was applied as a title of honour to the Greeks who had studied in the Babylonian schools and proclaimed themselves disciples of the Babylonians; finally it served to denote all those charlatans who professed to foretell the future according to the stars. The variations in meaning of this ethnical term, which ultimately became, like the term *magi*, a professional designation, have produced in turn an immense exaggeration of the anti-

¹ Jastrow, *l. c.*

² See below, Lecture II, p. 28.

³ Quint. Curtius, v, 1, 22.

quity, or an undue depreciation of the worth, of the data furnished us by Diodorus Siculus,¹ Philo of Alexandria, and other writers on the religious and cosmic system of the "Chaldeans." These pieces of information, as might be expected, are of value only for the period immediately preceding these authors. They apply to those conceptions which were current among the priests of Mesopotamia under the Seleucids at the moment when the Greeks entered into continuous relations with them. Some of these conceptions are certainly very much older, and go back to ancient sacerdotal traditions. Diodorus contrasts the unity of the doctrines of the hereditary caste of the Chaldeans with the divergent views of the Greek philosophers on the most essential principles; but it is possible that the speculative mind of the Greeks had contributed to the clear formulation of these ancient beliefs and to the co-ordination of the dogmas of this religion, as it had done also in the case of astrology, which is a part of that religion.



The following are the broad lines of this theology.

From the leading fact established by them, namely, the invariability of the sidereal revolutions, the Chaldeans had naturally been led to the idea of a Necessity, superior to the gods themselves, since it commanded their movements; and this Necessity, which ruled the gods, was bound, *a fortiori*, to hold sway over mankind. The conception of a fatality linked with the regular movements of the heavens originated at Babylon, but this universal determinism was not there carried to its ultimate logical consequences. A sovereign providence had, it is true, by an irrevocable decree regulated the harmony of the world. But certain disturbances in the heavens, irregular occurrences such as appearances of comets or showers of falling stars, sufficed to maintain the belief in the exceptional operation of a divine will interfering arbitrarily in the order of nature. Priests foretold the future according to the stars, but by purifications, sacrifices, and incantations they professed to

¹ Diodor. Sic., ii, 29-31; Philo, *De Migr. Abrah.*, 32; *Quis Rerum div. Heres sit*, 20 etc.

drive away evils, and to secure more certainly the promised blessings. This was a necessary concession to popular beliefs which the very maintenance of the cult demanded. But under normal conditions, as experience proved, the divine stars were subject to an inflexible law, which made it possible to calculate beforehand all that they would bring to pass.

In oriental civilisations, which are priestly civilisations, the intimate union of learning and belief everywhere characterises the development of religious thought. But nowhere does this alliance appear more extraordinary than at Babylon, where we see a practical polytheism of a rather gross character combined with the application of the exact sciences, and the gods of heaven subjected to the laws of mathematics. This strange association is to us almost incomprehensible, but it must be remembered that at Babylon a *number* was a very different thing from a *figure*. Just as in ancient times and, above all, in Egypt, the *name* had a magic power, and ceremonial words formed an irresistible incantation, so here the number possesses an active force, the number is a symbol, and its properties are sacred attributes. Astrology is only a branch of mathematics, which the heavens have revealed to mankind by their periodic movements.

From their main discovery, that of the invariability of astronomical laws, the Chaldeans had deduced another important conclusion, namely, the eternity of the world. The world was not born in the beginning, it will not be subject to destruction in the future; a divine providence has from the outset ordered it as it shall be for ever. The stars, in fact, perform their revolutions according to ever invariable cycles of years, which, as experience proves, succeed each other to infinity. Each of these cosmic cycles will be the exact reproduction of those which have preceded it, for when the stars resume the same position, they are bound to act in precisely the same manner as before. The life of the universe, then, was conceived as forming a series of vast periods, which the most probable estimate fixed at 432,000 years. As early as the beginning of the third century before our era, Berosus, a priest of Bel, expounded to the Greeks the theory of the eternal return of

things, which Nietzsche prided himself on having discovered.

In the same way as it regarded numbers as sacred, this religion of astronomers defied Time, the course of which was bound up with the revolutions of the heavens. At regular intervals it brought back the moon, the sun, the stars to their starting-point, and as it seemed to govern their movements, it was naturally regarded as a divine power. It was the heavenly bodies that by their regular movements taught man to divide into successive sections the unbroken chain of moments. Each of the periods marked in the unending flight of time shared the divinity of the stars, particularly the Seasons. In their worship old festivals of nature were combined with ideas derived from astrology.

Babylonian theology had never entirely broken with the primitive veneration with which Semitic tribes regarded all the mysterious forces surrounding man. In the time of Hammurabi the supreme triad was composed, as we have said, of the gods of Heaven, Earth, and Water. Sidereal theology had systematised this very ancient cult of the powers of nature by connecting them with astronomical theories. A vast pantheism had inherited and codified the ideas of ancient animism. The eternal world is wholly divine, either because it is itself God, or because it is conceived as containing within it a divine soul which pervades all things. The great reproach which Philo the Jew casts upon the Chaldeans is precisely this, that they worship the creation instead of the Creator.

This world is worshipped in its entirety, and worship is paid also to its various parts: first of all, to Heaven, not only in virtue of a reminiscence of the old Babylonian religion, which gave the foremost place in the Pantheon to Anu, but also because it is the abode of the higher powers. Among the stars the most important were conceived to be the moon and the sun,—for it is in this order that they were placed,—then the five planets, which were, as we have seen, dedicated to, or identified with, the principal divinities of mythology. To them was given the name of *Interpreters*, because, being endowed with a particular movement, not possessed by the fixed stars, which are

subject to a motion of their own, they above all others make manifest to man the purposes of the gods. But worship was also bestowed on all the constellations of the firmament, as the revealers of the will of Heaven, and in particular on the twelve signs of the zodiac, and the thirty-six decans, which were called the *Counsellor Gods*; then, outside the zodiac, on twenty-four stars, twelve in the northern, and twelve in the southern hemisphere, which, being sometimes visible, sometimes invisible, became the *Judges* of the living and the dead. All these heavenly bodies, whose variable movements and activities had been observed from the remotest times, announced not only hurricanes, rains, and scorching heats, but the good or evil fortune of countries, nations, kings, and even of mere individuals.

The domain of the divine god did not end at the zone of the moon, which is the nearest to us. The Chaldeans also worshipped, as beneficent or formidable powers, the Earth, whether fruitful or barren, the Ocean and the Waters that fertilise or devastate, the Winds which blow from the four points of the horizon, Fire which warms and devours. They confounded with the stars under the generic name of Elements (*στοιχεῖα*) these primordial forces, which give rise to the phenomena of nature. The system which recognises only four elements, prime sources of all things, is a creation of the Greeks.

If all the movements of the heavens inevitably have their reactions upon the earth, it is, above all, the destiny of man that depends upon them. The Chaldeans admitted, it appears, that the principle of life, which warms and animates the human body, was of the same essence as the fires of heaven. From these the soul received its qualities at birth, and at that moment the stars determined its fate here below.¹ Intelligence was divine, and allowed the soul to enter into relations with the gods above. By contemplating the stars the faithful received from them the revelation of all knowledge as well as all pre-science. The priestly astrologers were always to some extent visionaries, who regarded as inspirations from on high all the ideas which sprang up in their own minds. Doubtless they had already conceived the idea that after death pious souls re-

¹ See below, Lecture II, p. 31.

ascend to the divine stars, whence they came, and in this celestial abode obtain a glorious immortality.¹

To sum up, at the moment when the Greeks conquered Mesopotamia under Alexander, they found above a deep substratum of mythology a learned theology, founded on patient astronomical observations, which professed to reveal the nature of the world regarded as divine, the secrets of the future, and the destinies of man. In our next lecture we shall attempt to show what influence the Babylonian religion in contact with Hellenism exerted and underwent in turn, and how it was combined with the Stoic philosophy.

¹ See below, Lecture VI.