

closely linked, that they must, according to Diogenes Laertius,¹ have had a common origin; and it can scarcely be doubted, that the noble structure of European civilization was based upon the science, commerce, and industry of Asia.

In the preceding pages the intercourse between the eastern and western nations has been occasionally noticed, but a more connected view of the subject will now be taken, with reference to the influence which that intercourse has had upon Europe itself.

The Taurus and its adjoining plains regulated the progress of the pastoral tribes.

The first great change, which was the consequence of the spread of the pastoral tribes from the banks of the Hiddekel and the Frát, was no doubt, in a great measure, brought about by the wants of the people and the physical structure of the earth. The progress of the human race from Shinar, in a northerly direction, till it encountered the first natural barrier, has already been noticed,² and elsewhere will be found a description of the Tauric chain, which probably influenced their subsequent progress.³ The plains bordering this vast barrier afforded to the first wanderers an almost continuous and suitable line of country, stretching to the confines of the Indo-Chinese races in 143° E. longitude; whilst the plains of Arabia served to carry the Mizraim branch of the same people into Africa.⁴

Extent of country passed by the Indo-Chinese races.

The Indian and Egyptian monuments testify a common origin of the people.

The ancient remains towards the extremities of these lines are sufficient to prove that the social state of the people in those places was far advanced; and that their temples, excavations, and other works of art, were nearly alike. And since there has not been at any period a colony sent from either region to the other, this similarity of their monuments, which has been so frequently noticed by travellers, can scarcely be explained in any other way than by assuming a common origin for the people who had been so long and so completely separated. And may not the knowledge of arts and sciences which was manifestly possessed by the earliest inhabitants of eastern Asia, and by the people of Egypt, be considered as a proof that when those regions were first occupied, mankind was not in a savage, but, on the contrary, in a civilized state, such as may be supposed to have been the result of instruction derived from a common line of ancestors?

¹ Lib. I.

² Vol. I., pp. 67-71.

³ See above, pp. 35, 36.

⁴ See above, pp. 21, 22, 50, 51.

The circumstances connected with the settlement of the sons of Mizraim¹ are sufficiently well understood; but not so the eastern branch of the Cushites, in connexion with which several circumstances of interest, which have not been already noticed, may now be mentioned.

There is reason to believe that the tracts lying between the rivers Oxus and Jaxartes were once inhabited by a people whose dominion extended over Bactria and Margiana, and who spread civilization from thence into other countries, at a period long anterior to the mytho-historical age.² M. Bailly, the celebrated astronomer, came to the conclusion that the source of the sciences, particularly of astronomy, was in this part of Asia, and that the Indians and Chinese had derived their religious and other knowledge from thence.³

The banks of the Jaxartes were once the seat of a civilized people.

The Indians and Chinese supposed to have derived their knowledge from Irán.

It appears that the day on which the sun enters Aries was chosen for the foundation of Persepolis: it was observed also in connexion with some of the most remote events of Chinese history; and these facts may serve to prove that the duration of the solar year had then been determined,⁴ and was made subservient to chronological purposes.

Irán⁵ afforded an easy intercourse with India and China during the earlier, and with western countries during a later, period of the world. The position of Aryavarta, the holy land of the Brahmins, and the admission of the Hindús themselves,⁶ show that they derived their sciences from the north-west; and the similarity of their religion and language to those of the Persians, strengthens the belief that the region in question, the country of the Arians,⁷ was the seat of their ancestors.

¹ See above, pp. 21, 22, 50, 51.

² *Antiquités de la Nature et de la Langue des Celtes*, par le R. P. Dom. P. Pezron, Docteur en Théologie, Paris, 1703.

³ *Lettres sur l'Origine des Sciences, et sur celles des Peuples de l'Asie*, par J. S. Bailly. 8vo, Paris et Londres, 1777, pp. 18, 19.

⁴ *Ibid.*, p. 42-44.

⁵ In its largest sense it extended from the Upper Euphrates to the Indus. Vol. I., p. 65.

⁶ *Institutes of Menu*, book II., 17, 18; and Elphinstone's *Hist. of India*, vol. I., p. 388.

⁷ Or Arias. This was the designation both of the Persian and Indian branch. *Commentaire sur le Yaçna*, par M. Eugène Burnouf, 4to, Paris; and Herod., lib. VII., cap. lxii.

The religion, like the philosophy of a nation, frequently determines its origin. That of the Magi, for instance, who followed the mysteries of Mithras, is more ancient than that of the Egyptian worship; ¹ and the Magi gave birth to the Gymnosophists or Brahmins of India.²

The Brahmins
settled in
India.

The dominant tribes appear to have accompanied their leaders from Persia to India; the Brahmins themselves not being natives of the latter territory, but individuals who brought thither a foreign language and foreign sciences.³ The sages in question were, in reality, only the preservers of ancient metaphysics, which, as well as the arts in general, had been handed down by a people of higher antiquity.⁴ At a period anterior to regular history, a civilized empire existed, it is believed, in higher Asia; for massive foundations of walls, gold, silver, and copper vessels, diadems, weapons, ornaments of dress, which have been discovered in the Tartarian tombs, with instruments of bronze, such as knives, swords, spear-heads, statues, remains of miners' tools, and various domestic utensils, have been found in the steppes of Asia. Some of these have been deposited in the Museum of the Imperial Academy of Sciences at St. Petersburg, and by their execution it is evident that they must have belonged to a civilized nation.⁵

Philosophy
and the
sciences de-
rived from
higher Asia.

Spread of
ancient people
to eastern
Asia and
America.

In addition to the Hindús, the people of Central Asia, including the Mongol races, are supposed, according to some authorities, to have spread into the Indian Archipelago, and even to the New World, which they may have reached by the way of Behring's Straits.

It is admitted that at the time of the discovery of America, two distinct races were found inhabiting that continent. One appears to have come from the north, and to have constructed the yet existing remains. Three-fifths of the various dialects

¹ Aristotle de Philosophiâ, lib. I.

² Clearchus apud Diogenem Laertium, lib. I.

³ Lettres sur l'Origine des Sciences et sur celles des Peuples de l'Asie, par J. S. Bailly. Paris et Londres, 1777, p. 89.

⁴ Ibid., pp. 152, 153.

⁵ An Inquiry into the Origin of the Antiquities of America, by J. De-la-field, Cincinnati, 1839, p. 85, compared with View of the Russian Empire during the Reign of Catherine II., by William Tooke, F.R.S., Wogan. London, 1801. Vol. I., pp. 256, 257.

of the American Indians resemble the Mongolian languages of northern Asia; and the remaining two-fifths have an affinity to the dialects of Scythian origin. With respect to the other race, from a careful examination of their language, mythology, hieroglyphics, astronomy, architecture, religion, and customs, as well as the cranial formation, ample evidence is deduced that they came from Southern Asia.¹ As the arts and sciences just mentioned correspond with those which were common to Hindústán and ancient Egypt, the American people must have descended from some race which had imparted their peculiar ideas and manners to these two oriental regions. Egypt and Hindústán appear to have been occupied by the branches of one powerful family, which established in each country its peculiar system of astronomy, and there built cities, and erected temples and pyramids, which they covered with hieroglyphic carvings, whose remains are splendid monuments of their greatness.²

Affinity of the American language and people to those of Scythia.

Supposed common origin of the Indians and Egyptians.

Almost coeval with the dawn of history, another race, the Syro-Arabian, appears to have occupied the tract between Assyria and Egypt. This, which is considered as the principal Semitic race, is particularly known by its two leading branches, the Nabatheans, who extended across the peninsula, and the Chaldeans. It has been seen,³ that one portion of the latter was seated in Babylonia; whilst others, such as the Bení Kháled, preserved their warlike habits by continuing a nomad life. The steppes of Mesopotamia, Syria, and Arabia, belonged to this race;⁴ and besides preserving the Semitic language, and handing down the great truths connected with the early history of mankind, they applied themselves to medicine, natural history, mathematics, and other branches of learning, which found their way from thence to Europe, particularly through Barbary and Greece.

The Syro-Arabian a Semitic race.

Their state of advancement.

The other great section of mankind, the people of Túrán, are first noticed in early history as the ancient Scythians; and according to Justin, they conquered the greater part of Asia,

People of Túrán, or the second section of mankind.

¹ Inquiry into the Origin of the Antiquities of America, by John Delafield, J. R., Cincinnati, 1839, p. 25-32.

² Ibid., p. 102-104.

³ See above, pp. 31, 40, 52, &c.

⁴ Ibid., p. 53.

about 1500 years before Ninus.¹ At the height of their power the territories of this people embraced about 110 degrees of longitude, or 5000 miles from east to west, and more than 200 miles of latitude northward from the borders of Persia.

Their frugality and martial spirit.

Virtues, which the Greeks acquired by learning and philosophy, were natural to the Scythians; whose laws were calculated to prevent luxury, fraud, and wickedness, and at the same time to cherish that martial spirit for which they were so justly famed in history.² Scythia had a regal government, and the crown was hereditary, but the monarch might be deposed, or even put to death, if he violated the laws. The people were satisfied with covered waggons, drawn by oxen or horses, which served for dwellings, and likewise to convey their families and furniture from place to place. Like the Egyptians, they embalmed the bodies of distinguished individuals, and their interments were conducted with great pomp and solemnity.³

The Scythians used covered waggons as dwellings.

Bodily strength, and moderation of this people.

The Scythians possessed great bodily strength, being inured to labour; but although prone to war, their passions were under such control, that they made no other use of victory than to increase their fame. Theft was considered such a crime, and so severely punished, that their flocks wandered from place to place in perfect security; while they subsisted on their milk and were clothed with their skins.⁴

The spread of such a people could not fail to have an influence on those countries in which they settled: their migrations were extensive; and one of the earliest of these took place under Finiusa,⁵ the chief of a Scythian tribe, who is said to have proceeded into Shinar, where he established schools in which the sciences and languages were taught; and he invited Gadel, son of Eathon and Cavik Jar, son of Neamha the Hebrew, to superintend them. He afterwards returned to Scythia, leaving

¹ Lib. II., cap. iii.

² Herod., lib. IV., cap. xlv.

³ Justin, lib. II., cap. ii.; Herod., lib. IV., cap. xlv.

⁴ Justin, lib. II., cap. ii., compared with Thucydides, lib. II., p. 200.

⁵ From this prince, according to Delafield, the name of Phœnicia had its origin.

his son Niul in Mesopotamia. The latter proceeded to Egypt, and received as a dowry with the daughter of Pharaoh, a territory along the Red Sea, called Capacerunt.¹

Not being an idolater, this prince is said to have favoured the passage of the Israelites through his territory; and having given umbrage to his father-in-law in consequence, he avoided his wrath, by embarking on the Red Sea. After the death of Pharaoh he returned to Egypt, and was succeeded by his son Gadelus, whose grandson Sru, with his followers, proceeded to Spain, and thence to Ireland.

Niul favours
the escape of
the Israelites.

This fabulous account at least shows the belief that in ancient times there had existed a connexion between Scythia and Egypt, which appears to have embraced other countries also. The affinity between the Persian and Hindú dialects, and again, between these and the western languages, particularly those derived from the Scandinavian German, added to the resemblance between the mythology of the latter country and that of the Persians and Hindús, seem to prove that both the religion and the people were derived from, or at least connected with, a common stock.

Scythia sup-
posed to have
been connected
with Egypt.

Amongst the earliest people noticed were the Kimmerians, who came from Mæotis and settled between the Don and the Donau,² and were succeeded in the sixth century B.C. by the Skythinians or Scythians, to whom as the more permanent possessors of the country there will be occasion to revert. Still greater interest, however, belongs to another tribe, which is stated to have come into this part of the world after the Trojan war. It appears that one portion of this Asiatic race remained on the upper Don, under a chief named Turchi, whilst the remainder were led by another called Franco, to the banks of the Rhine, where they commenced building a city, which was to have been called after their leader, but which does not, however, appear to have been completed.³ Both the Franks and

The Kim-
merians settle
in Europe.

Franks settle
in Germany.

¹ An Inquiry into the Origin of the Antiquities of America, by J. Delafield, Cincinnati, 1839, p. 76-78; and Keating's History of Ireland, London, 1733.

² Herod., lib. I., cap. ciii., civ.

³ Fridegarius Scholasticus, Hist. Franc. Epist.

the Dardani-ans¹ seem to have been connected with the history of Troy;² for it is stated that some of the Trojans were led by Antenor into Europe, and having at length reached the upper part of Italy, they settled between the Alps and the Adriatic Sea, and gave the name of Troya to a part of this tract. Again, there was at one time near Asburg, in Cleves, a city called the holy or lesser Troja. Another writer connects the Franks with the fugitives from Troy, who came, it is said, into Europe by way of Mæotis and the Tanais, after the fall of that celebrated city.³ Moreover, it appears that a belief of a descent from the Trojans prevailed among the Scandinavian pirates;⁴ and, according to a similar tradition, the ancient Normans built a palace in Sweden, called Trojenburg, also a city named Troja, which was situated between the river Hackeguaw and the lake Hartgrepos Lagetrog.⁵ Near to the latter is the farmhouse called Troja-mala, and the Troja forest.

The Franks descended from the Trojans.

Also the Scandinavians and Normans.

Europe peopled from Asia before the irruption of the Black Sea.

It is very probable that part of Europe was peopled by Asiatic tribes antecedently to the change which took place in the basin of the Mediterranean,⁶ in consequence of the irruption of the Black Sea through the Bosphorus, and the subsequent passage of the waters into the Atlantic by the Gaditanian straits; the Greek islands being the remains of the submerged country, over which the wanderers had passed. But of other branches which spread westward from northern Scythia, till arrested by the Atlantic, there are more particulars. One of these Scythian tribes has been known by various names, as Saces, Sacks, or Sacæ, Celtæ, Gauls, Galatai, Cimbrians, and Kimper.⁷ Traces of this race, whose name Celts, signifies potent, valiant, and warlike, are found at various places between

The Celtic tribes settle in

¹ Diod. Sic., lib. V., cap. xxx.

² Tradunt multi eosdem (Francos) de Pannoniâ fuisse degressos, writes the Frank historian Georgius Turonensis.

³ Ptolemy, lib. III., and Dio Cassius, lib. LV.

⁴ Dudo, Willemas Gemmeticensis Orderic Vitalis, *ibid.*

⁵ These traditions were related to the Author by a learned Swede.

⁶ Cosmos, by Alex. von Humboldt, vol. II., p. 117.

⁷ Antiquité de la Nation et de la Langue des Celtes, autrement appelés Gaulois, par le R. P. Dom. P. Pezron, Docteur en Théologie. Paris, 1703, pp. 8-12.

the Danube and the extremity of Spain;¹ but previous to their departure from the region situated between Media and Bactria, they were called Gomerians.² Without, however, going back to the sons of Gomer, it would appear that an immigration into Europe took place about 590 B. C., when Bellavese³ led a portion of this people from the shores of the Black Sea into Italy. various parts of Europe. Their colonies were also found in the lower part of Germany, along the Danube, extending into Pomerania, and likewise into Illyria, Helvetia, and Gaul. From the latter country, they invaded the British islands, and originated the Picts or Caledonians, Welsh, and Irish: the branches of this stem were numerous, and continued to be powerful throughout Europe, till they were broken by the Roman power.⁴

The government of the Celts was monarchical: the Curetes, Government of the Celts in Europe. Druids, Bards, &c. interpreted the laws, and administered the sacred rites. Spacious groves, and those singular altars of massive unhewn stones that are found in many parts of the countries just mentioned, belonged to their primitive ceremonies, which, with the assistance of the Dews and images of darkness belonging to the ancient Scandinavian worship, appear to have handed down the mythology of Zoroaster, or rather that of Ahrimán.

Colonies from Asia appear to have reached the most western Asiatic colonies enter Ireland by the north as well as the south. portion of Europe by two different routes; the earlier people entered Ireland through Germany to the north, and the later, called Milesian, at the south-western extremity, having come thither by sea from the Mediterranean. The numerous circular entrenchments throughout Ireland are connected with the

¹ It has been observed that a resemblance exists between the names of the ancient provinces of Spain and certain words of Persian origin. Thus Turdetani, Lusitani, Basitani, Carpetani, &c., answer to Khoristán, Farsitán, Kurdistan, Dáhistán, &c. Hence several philologists have inferred the Asiatic origin of the first inhabitants of the Peninsula. *Histoire comparée des Littératures Espagnole et Française*, par Adolphe de Puibusque (Paris, 1844), compared with *Researches into the Physical History of Mankind*, by J. C. Prichard, vol. III., p. 44-47.

² The Kimmerians, already noticed, whose seat is mentioned by Ptolemy, lib. VII., cap. xi., xiii.

³ Meaning in Slavonic, White-beard.

⁴ *Researches into the Physical History of Mankind*, by J. C. Prichard, vol. III., p. 49-62.

former race, and traditionally with the Danish invasions. But as the conquests of this people do not appear to have extended either to the south or the west of Ireland, and as the remains go further back than the invasions in question, in the eighth century, it is not impossible that the chains of forts may have derived their name from the supposed Asiatics, who are called in Irish history, Tuatha De Danann:¹ by this people they may have been constructed as inclosures for their flocks, and also in part for the protection of their families.

The Tuatha
De Danann
people.

Passing over the traditional history of Boath, Gadelian, and the Milesian race, it appears that Lughaidh, with a view to recover the Irish possessions of his cousin Milesius, proceeded thither with a fleet and army of Gadelians; and about 1300 B.C., according to Keating, overcame the Tuatha De Danann. Many local circumstances confirm the belief of a connexion between Spain and the south-western coast of Ireland, and an impression prevails that at one time a colony came thither also from Barbary. During a visit made to Ireland in 1821 by Sadi Ombeck Benbei, then envoy from Morocco, this individual overheard some people in the market-place at Kilkenny making remarks on his person and dress in a dialect which was intelligible to him: he recognized it as one which was spoken in the mountains to the south of Morocco,² and with which he had been familiar as a boy.

Traces of a
colony from
Barbary.

Besides the preceding, other Asiatic tribes subsequently came into Europe; namely, the Massagetæ, the Gets, the Sarmatians, and finally, the Alamians, led by fourteen different chiefs, who, with their followers, settled between the Dnieper and the Don. To these succeeded the various Hunnish tribes whose inroads and conquests have already been noticed. These were followed in succession by the Bulgarians, Hungarians, and others; so that from about 80 B.C. to the Mongol invasion in the thirteenth century one horde after another poured into Europe from central Asia; thus probably connecting, through the ancient Scythians, the remains of the central Asiatic empire with the western nations.

The Huns,
Bulgarians,
and Hun-
garians, settle
in Europe.

¹ Royal Genealogies, by James Anderson, D.D. Lond., 1776; fol. p. 777.

² The circumstance was related to Professor Hinks, LL.D., of the Master College, by the individual himself.

Besides the population thus drawn from Asia, there were other sources of civilization which could not fail to have a lasting influence on the development of the human mind. A thirst for knowledge carried the ancient sages either into Asia, as the original seat, or to Egypt, which had become the depository of the learning of the east. From the remotest period Asia Minor has served as the high road between Asia and Europe, and having been peopled chiefly from Armenia and Assyria, two of the provinces of Irán, it continued in a great measure dependent upon the latter, even when its political importance had almost ceased. The establishment of numerous Grecian colonies on the shores of this territory at a later period, made, therefore, but little change. The mass of the people continued as before more Persian than Greek.¹ Asia Minor was no less distinguished for its wealth and civilization, than for the number of great men to whom it gave birth, and who imparted the knowledge which they had drawn from the east to their neighbours in the west.

Knowledge
sought in Asia
and in Egypt.

Asia Minor
connects
Persia with
Greece.

Our early associations too frequently foster the belief that the brilliant productions of Greece were entirely original, although most of the early authors of the country itself, as well as those who afterwards examined the subject dispassionately, were aware that the most remarkable works were but the reflex of the eastern literature, &c., obtained from Asia, either directly or through Egypt. Herodotus says,² "I think Melampus was a wise man, who introduced many things into Greece, which he had previously learnt in Egypt, and amongst others the mysteries of Dionysius, which he taught with some alterations of his own. At all events," adds this candid writer, "I am sure that the Egyptians have not borrowed this or anything else from the Greeks, for if any knowledge or institutions exist in Greece similar to those of Egypt, we may be certain that they were borrowed from the latter country."

Philosophy
and the
sciences ob-
tained from
the East.

Diodorus Siculus, taking the same view, but stating it still more strongly, gives a list of those Greeks distinguished by their wisdom and learning who had gone to study the laws and

Several Greek
sages study in
Asia.

¹ The Carians, according to Thucydides, spoke Persian as fluently as Greek.

² Lib. II., cap. xlix

sciences of Egypt.¹ It is recorded in the sacred books of the priests, that Orpheus, Musæus, Melampodes, Dædalus, Homer, and Lycurgus of Sparta, travelled to Egypt; and at a later period, Solon, Plato, Pythagoras, Eudoxus (the mathematician), Democritus of Abdera, and Inops of Chios, also resorted thither.² Some memento of each individual has been preserved in that country; and in some cases, likenesses are shown, and even places named after them or the science they pursued. It cannot, therefore, be doubted that they had been to Egypt, and acquired everything for which the country was, at that time, celebrated.

The hymns
of Orpheus;

It is said that Orpheus borrowed from thence most of the hymns to the gods, as well as his orgies, and the fables respecting the lower regions.³ But be this as it may, the ceremonies of Osiris and those of Isis and Ceres differ only in name.⁴ The same author states⁵ that Melampodes imported the service of Dionysus (Bacchus), the fables relating to Saturn, those of the battle of the Titans, and almost the whole Grecian mythology from Egypt. Pythagoras, he tells us,⁶ borrowed much information from the sacred books; and the remarkable fact is added, that he was indebted to the Egyptians for his knowledge of geometry, as well as of arithmetic, and his system of metaphysics.

the Grecian
mythology;

Democritus is said to have acquired extensive knowledge of astronomy during the five years he resided in Egypt;⁷ and Inops, who lived a long time with the priests and astronomers of that country, imported from thence into Greece the signs of the zodiac, the fancied orbital motion of the sun, and many other circumstances.⁸

astronomy
and the other
sciences
imported from
Egypt.

Diodorus Siculus likewise proves that Greek sculpture owed its origin to Egypt;⁹ and Jamblichus¹⁰ goes so far as to deny that civilization derived any benefit from the Greeks; but, it may be observed that this author was much prejudiced against

¹ Diod. Sic., lib. I., sec. ii., cap. xxii., xxxvi.

² Ibid., cap. xxxvi.

³ Ibid.

⁴ Ibid.

⁵ Ibid.

⁶ Ibid.

⁷ Diog. Laert. de Vit. Philos., lib. IX., seg. xxxiv. *et seq*

⁸ Ibid.

⁹ Lib. I., sec. ii., cap. xxxvi.

¹⁰ De Mysteriis, lib. I.

them, in consequence of their upholding paganism in opposition to Christianity.

Diogenes Laertius, who was well acquainted with the history of philosophy, literature, and civilization generally, begins his book by stating that most authors maintain that philosophy had its origin among nations foreign to the Greeks; for it was cultivated among the Persians by the Magians, among the Babylonians and Assyrians by the Chaldeans, among the Indians by the Gymnosophists, and among the Celts by the Druids, who were likewise called Semnothu or prophets.¹ Aristotle² and Sotion³ say that Phœnix, Ochus, Zamolxis the Scythian, Atlas of Libya, and Vulcan, the son of Nilus, an Egyptian, were the first philosophers, and their followers were called priests or prophets. Clemens of Alexandria repeats the words of Diogenes Laertius, adding many curious details; and Plato, in speaking of the origin of astrology and Sabaism, says that astronomy was invented by the barbarians, but had been improved by the Greeks.⁴

Philosophy,
literature, &c.,
derived from
eastern
nations.

Sabaism and
astronomy
invented by
the barbarians.

An individual, however, bearing the name of Orpheus, and belonging to a much earlier period, claims attention before this philosopher, as having had a great influence on the poetry of the Greeks.

According to Plato, the first religion of the Greeks was very simple; and the sun, the moon, and nature in general, were worshipped among them as among the barbarians.⁵ Philo Judæus adds, that their rites were composed from the religions of different nations; the idolatry, fables, and superstitions of the Greek mythology dating from a later period. Orpheus, who introduced foreign doctrines and ceremonies,⁶ may be considered the founder of the religion of the Greeks, as well as of their poetry; and it has been supposed, with much probability, that the actions of several individuals have been ascribed to Or-

Sabaism the
ancient reli-
gion of Greece.

¹ Diog. Laert. de Vit. Philos., lib. I., seg. i., ii.

² Magic., lib. I., apud Diog. Laert., lib. I., seg. i.

³ De Successionibus, lib. XXIII., apud Diog. Laert., lib. I., seg. i.

⁴ Epinomis, pp. 987, 988.

⁵ Plato, De Legibus, pp. 886, 887.

⁶ Aristoph., Ranæ, v. 1030; Plato, Protag., p. 216.

Orpheus
probably a
mythical
name.

Orpheus and
Linus wor-
shipped in
Scythia.

The mysteries
of Ceres and
Isis based on
those of Egypt

Philosophy
of Linus the
Scythian.

Names of
Musæus, Her-
cules, Hermes,
&c., from the
East.

pheus himself.¹ Cicero,² however, considers the name to be fabulous; but the opinion just mentioned appears to be highly probable. An individual bearing the name of Orpheus, was one of the principal Argonauts, and this person would, on returning home, have an opportunity of introducing in Greece the doctrines which may have been brought from central Asia by means of the great mercantile route leading thither from Trebizonde. It appears that Orpheus and his master Linus were worshipped as demigods by the Scythians as well as the Greeks; and it is asserted by Diogenes Laertius³ that the former belonged to Scythia. He is said to have been the most ancient philosopher;⁴ yet it may easily be imagined that the name in question was applied to all those persons who, about the same period, took an active part in introducing philosophy into Greece from the more enlightened countries of the east.

Jamblichus says,⁵ that the hymns of Orpheus were derived from Egypt. This Orpheus, however, seems to have been a later person than the Scythian above mentioned; and he is said to have been initiated by the priests of Egypt into their religious rites.⁶ He founded the mysteries of Ceres in Sparta, and also those of Hecate at Ægina,⁷ in imitation of the mysteries of Isis in Egypt.

Linus, who was the master, or, according to some, the brother of Orpheus, and the instructor of Hercules in music, is also said to have invented the sphere, and to have first propounded the belief that everything emanated from one source, and returned to the same.⁸

But whether Orpheus were a Scythian or a European, there is reason to believe that the earlier mythological names, as Musæus, Hercules, Hermes, Apollo, Vulcan, &c., were known in the east long before they were in use among the Greeks.

¹ Varro, apud Augustin de Civitate Dei, cap. XXIV., p. 383. Antwerpia, 1701.

² De Naturâ Deorum, lib. I., pp. 38, 39.

³ Lib. I.

⁴ Tertullian, de Anim., cap. II., p. 569.

⁵ De Mysteriis, lib. I.

⁶ Diod. Sic., lib. I., cap. xx., xxxvi.

⁷ Pausanias, in Lacon, lib. III., cap. xiii., xiv.

⁸ Diog. Laert., lib. I., seg. iii. Ed. Amsterdæmi.

But instances of a more direct intercourse with Asia may now be mentioned. Thales of Milet, whose mother was a native of Phœnicia,¹ learned the art of navigation in that country, and having made the Greeks acquainted with the Little Bear, by which the Phœnicians directed the course of their vessels, he was considered the first who had observed that constellation. Callimachus unintentionally makes this fact clear by stating that Thales first observed the stars on the Plaustra, by which the Phœnicians are guided in navigation; adding, that some ascribe to him the work of Phocus of Samos on nautical astronomy. This book is lost; but the circumstance of ascribing it to Thales goes far to show that it had a Phœnician source.

A work on astronomy ascribed to Thales.

Thales had no preceptor,² or at least none is mentioned; but it is admitted that he studied geometry in Egypt, and measured the height of the pyramids by their shadows. In addition to founding the Ionian school of philosophy, he introduced much of the knowledge of the east into Greece—as the use of the solar year, and the calculation of eclipses; he also compared the size of the moon with that of the sun.³ The belief of the immortality of the soul, as propounded in Egypt,⁴ was introduced into Greece by Thales and his contemporary Pherecydes;⁵ and it was subsequently adopted and warmly supported by Plato. The theory of Thales, that water is the origin of all things,⁶ is as old as the philosophy of the east: it was not only believed by the ancient Persians, but it prevailed amongst the Bedawin; and the oriental nations peopled the world with demons many centuries before the time of Thales. As it is clear that Thales studied in Egypt,⁷ we may fairly conclude that his ideas, and those of his contemporaries, were borrowed from that country and others lying more eastward.

Use of the solar year and calculations of eclipses derived from the East.

Opinion in the East that water is the origin of all things.

¹ Clemens of Alexan., *Stromat.* I., p. 300; *Diog. Laert.*, lib. I., seg. xvii., xxiv.

² Clemens of Alexandria, *Stromat.* I., p. 300, *et seq.*

³ *Diog. Laert.*, lib. I., seg. xxiv.

⁴ *Herod.*, lib. II., cap. cxxiii.

⁵ *Diog. Laert.*, lib. I., seg. cxvi.

⁶ *Aristotle, Metaph.*, I, 3.

⁷ *Josephus, Contra Apion*, lib. I., p. 283.

Pherecydes
the tutor of
Pythagoras,

Pherecydes the philosopher, who should be distinguished from the Athenian historian of the same name, was either a native of Scyros, or, according to some authorities, of Syria or Assyria;¹ and he was the tutor of Pythagoras in the sixth century B.C.² Suidas,³ Philo of Byblus, Clemens of Alexandria,⁴ Hesychius of Milet, Eustathius, and Cicero,⁵ agree in stating that he acquired his philosophy in Phœnicia; and Cedrenus adds, that, like Thales and Pythagoras, he visited Egypt and Chaldea in pursuit of knowledge.⁶ According to Theopompus, Pherecydes was the first among the Greeks who wrote on the nature of the gods.⁷ He also wrote a work on cosmogony, intitled *Ἐπτάμυχος*, which contains the Chaldean theories on ether, the earth, time, and the four elements.⁸ Galen assigns to this author the work "*De salubre virtus rationis*," which is commonly printed with the works of Hippocrates; and if this be correct, it would clearly prove that medicine has an oriental origin.

and his
philosophy.

Solon studies
in Egypt and
visits Cræsus.

Solon, the Athenian legislator, who died in the fifty-fifth Olympiad, or 549 B.C., went to Egypt; and after being hospitably received by Amasis,⁹ he proceeded to visit Cræsus, who though a sovereign of Asia Minor, was surrounded by an oriental court.¹⁰ Herodotus states,¹¹ that a thirst for knowledge caused those journeys, and that the one to Egypt had the particular object of collecting materials for a history, which, agreeably to ancient custom, was to be written in verse. On returning from Egypt, he expressed his conviction that neither himself nor any other Greek had any knowledge of antiquity.¹² It is difficult to ascertain how far the institutions of Solon were influenced by the philosophy of Egypt, but although the

¹ Cicero, *Tusculum*, lib. I., 16; *Diog. Laert.*, lib. I., seg. cxvi.

² Clemens of Alexandria, *Stromat.* I., p. 300; Suidas, *Lexicon*, in *Pherecydes*.

³ *Lexicon*, in *Pherecydes*.

⁴ *Stromat.* I., p. 300, *et. seq.*

⁵ *Tusculum Disputat.*, lib. I., 16.

⁶ *Synopsis Hist.*, I., p. 94; Josephus, *Contra Apion*, lib. I., p. 288.

⁷ *Diog. Laert.*, lib. I., seg. cxvi.

⁸ *Preface to Mas'ûdi*, p. 85.

⁹ Plato, *Timæus*, vol. III., p. 21.

¹⁰ *Diog. Laert.*, lib. I., seg. 1., li.

¹¹ *Lib. I., cap. xxix., xxx.*

¹² Plato, *Timæus*, vol. III., p. 22.

intended history was not completed, the moral influence and example of Solon, and his impressions as to the superiority of oriental learning, could not have failed to promote its advancement among the Greeks. * Much of the knowledge he acquired, though not written, was preserved traditionally, and one fragment is given by Plato.¹

Admitted
superiority of
oriental
learning.

Ctesias, during his residence of seventeen years as physician at the court of Artaxerxes Mnemon, had great opportunities of ascertaining the state of the eastern countries, and he wrote twenty-three books on the history of western Asia. The first six contained an account of the Assyrians, and of the times preceding the Persian conquest; and the remainder contained the history of the Persians. As his account differs from that given by Herodotus, in his first, second, and third books, opinions regarding this author are very conflicting. But in comparing the extracts preserved by Diodorus Siculus² with the Shâh Nameh, it is found that his account approaches that of the Persian writers more nearly than that of Herodotus; and as he had the use of the royal archives, his materials must have been of the best description. His Indian history, however, had not the same advantage, and is therefore more questionable; yet there is much to show that an intercourse must have existed between Persia and India, and, therefore, indirectly between the latter and Europe.

Position and
intercourse of
Ctesias with
the east.

Hecateus was born 549 B.C.,³ and died 497 B.C.; consequently he was one of the earliest Greek historians and geographers. Herodotus⁴ and Agathemerus⁵ inform us that he received instruction from the Egyptian priests; and, according to the latter, he subsequently visited Persia. On returning to his native place, Milet, he persuaded his countrymen to abandon the conspiracy which had been formed to throw off the Persian yoke. The arguments he used, namely, the power of the sovereign and the number of kingdoms which were subject to his authority, show that he was well acquainted with

Hecateus
studies in
Egypt and
Persia,

¹ Timæus, vol. III., pp. 22-25.

² Lib. II., cap. iii., *et seq.*

³ Larcher's Herodotus, tome II., note 505; Charles and Theodore Müller fix the same year.

⁴ Lib. II., cap. cxliii.

⁵ Hudson's Minor Geographers.

and was the
first Greek
historian.

Hellanicus
studies in
Egypt and
visits Persia,

and writes a
history of
Persia and
Babylon.

Pythagoras
visits the
Egyptians,
Chaldeans, and
Magi.

the extent of the vast empire then under either Cyrus or Cambyses.¹ This traveller and pupil of the oriental school should be considered the father of Greek history, and the fountain from which so much relating to the geography and history of the east² was borrowed; and so highly was he esteemed, that Cereidas of Megalopolis³ professed his readiness to die, because he hoped after death to meet Pythagoras and Hecateus. No less than 380 quotations from this author are collected in the "Fragmenta Historicum Græcorum, Paris, 1841."

Hellanicus, a contemporary of Herodotus, and one of the most influential of the Greeks, wrote a history of the east, but little more regarding his life has come down to us. It appears, however, from Plutarch,⁴ that he visited Egypt, where he received instruction in history from the priests. It is probable, though not quite certain, that he also visited Persia, for the fragments which remain regarding the Getes agree with the accounts given by Herodotus⁵ of this people. It is a curious circumstance that Hellanicus speaks of a *Historia Sacerdotum* of the Greeks; therefore something like a hierarchy must then have existed among them. Besides a work on ethnography, which showed the extent of his knowledge of eastern nations, and which has been quoted under various titles, Hellanicus wrote a history of Persia, and another of Babylon; and it is very curious that he followed a system which may be considered peculiar to the Arabs and Shemitic people generally, of expressing the relationship of two nations or tribes, by calling their rulers or founders, brothers; thus they would say, Saxo, Francus, and Hesus, were three brothers, and sons of Germanicus, who was the brother of Anghis.

Pythagoras was acquainted with the Egyptian language, and visited the Chaldeans as well as the Magi.⁶ It is even stated, that he travelled as far as India, and that he was a disciple of Zamolxis or Zalmoxis the Scythian.⁷ He was circumcised in

¹ Herodotus, lib. V., cap. xxxvi.

² Diog. Laert., lib. I., seg. x.

³ Apud Ælium Var., Hist. xiii., 20.

⁴ De Iside et Osiri, p. 364, D.

⁵ Lib. IV., cap. xciij.~xcvi.

⁶ Diog. Laert., lib. VIII., seg. iii.

⁷ Clemens of Alexandria, Stromat. I., p. 303, C.

Egypt, in order that he might be initiated into the mysteries of Bhuddism; for, as it will presently be shown, he afterwards founded this religion in Greece. He was likewise initiated in other oriental mysteries:¹ and he conscientiously and implicitly followed the most trifling regulations of the eastern priests. He carefully abstained from certain kinds of food, both meat² and drink, and wore a particular dress; the bent of his mind was towards religious obedience, rather than the pursuit of philosophy, and he possessed an inquiring spirit. His religious tendency appears to have become a fixed principle during his sojourn with the priests of various establishments in the east. There is little doubt that during his prolonged residence in these countries, he had acquired the eastern languages, and these gave him ready access to stores of knowledge which had not then much deteriorated.

On returning to his native country, Pythagoras founded a Bhuddistic order, the influence of which, as a learned institution, could not fail to be very great among the Greeks, who were then without any literature of their own: the school of Pythagoras, therefore, held nearly the same place in Greece, as that of the prophets held in other countries.

Pythagoras has been called the father of geometry, mathematics, astronomy, medicine, and natural philosophy; and to this sage has been attributed many discoveries in the arts, as well as the institution of the priest caste. The supposed inventions were, however, chiefly if not entirely borrowed from the easterns;³ but as learned men subsequently studied the Pythagorean philosophy in Grecia Magna for several centuries, the belief was established that the tenets inculcated were those of the founder of that school.

It is not known whether eastern books were brought to Greece by Pythagoras, or whether he merely translated passages for the use of his pupils. His Golden Verses (*Aurea Carmina*) appear so completely Bhuddistic, that possibly, the original, in

¹ Diog. Laert. lib. VIII., seg. iii.

² Cicero, de Naturâ Deorum, lib. II., p. 16.

³ Clemens of Alexandria, Stromat. I., p. 303, C. Lutatæ, 1629.

a Sanscrit or Tibetan version, may yet be found in some monastery of that religion in China or elsewhere.

Pythagoras was the next after Homer who wrote a work on the use of plants, the origin of which he ascribed to Apollo and the gods generally. Another work on the same subject was written by Democritus: both philosophers were prepared for the task by previous study under the Magi of Persia, and the learned men in Arabia, Ethiopia, and Egypt.

Plato studies
under the
Egyptian
priests.

Plato, after studying under Socrates, went at the age of twenty-eight to prosecute his studies at Megara; and subsequently he acquired the Pythagorean philosophy under Philolaus and Eurytus, two of its most distinguished disciples. He soon, however, saw the advantage of seeking knowledge at its source; and, with this object in view, he proceeded in the first instance to Egypt, where he continued for some time studying under the priests.¹ Subsequently he reached Persia,² but he was prevented by existing wars from visiting India;³ so that he must have acquired the Indian philosophy in Persia.⁴ He died at Athens about 348 B. C., being in his eighty-first year.

Grecian
astronomy and
star worship
brought from
the East.

In numerous passages of his works, Plato acknowledges that he was indebted for many things to the Egyptian priests, of whom he always speaks in high terms.⁵ It is, however, to be observed, that the philosophical theories which he found scattered through Greek literature were, for the most part, of oriental origin; and it is probable, that if his own system were closely analysed, little would be found that was not originally eastern. Plato was a man of powerful genius, although what he says of the Greeks in general, respecting their having borrowed astronomy and star worship from the barbarians,⁶ and also respecting their improvement of whatever they imported,⁷ may be applied to himself. He purified and refined upon the oriental philosophy, using in his writings beautiful language, and an attractive style; so that, through his works, wisdom

¹ Diog. Laert., lib. III., seg. vi.

² Pliny, lib. XXX., cap. i.

³ Diog. Laert., lib. III., seg. vii.

⁴ Clemens of Alex., Stromat. I. p. 303, C. Luitiæ, 1629.

⁵ Ibid.

⁶ Ibid.

⁷ Platonis, Epinomis, p. 988.

and truth passed from nation to nation in the most pleasing form.

Previously to his time, eastern philosophy had been clothed in the forbidding garb of dogmas, by Hermes, Zoroaster, and other sages, who called themselves prophets: its precepts were committed to memory;¹ and, probably, it was only understood by the priests. The dogmas being given as positive commands, no room was left for the exercise of reason; but in the works of Plato the same ideas are conveyed under the form of a dialogue between friends, the result of which was to give pleasure while conveying instruction. The conformity of Plato's tenets to those of the Hindús is manifest from the following passage in Clemens of Alexandria:—"It is evident that the Greeks honoured the barbarians most highly in considering them as their teachers and the givers of their laws, and even calling them gods. They (the barbarians) think that good souls, as Plato says, having left their celestial habitation, submitted to come into this lower region, where, taking upon them bodies, they became participators in all the ills which are contracted in this life: in their care of the human race they framed laws, and taught philosophy, than which no greater good ever came or will come to the human race."²

Philosophy improved by Plato.

Plato's knowledge of the East acquired in Egypt and Persia.

The preceding words evidently allude to the inauguration of Krishna, and it would appear, from what is added by the commentator, that he understood them in this sense. Now, as Plato did not reach India, it is evident that he must have acquired a knowledge of that philosophy either in Egypt or Persia.

A belief in the immortality of the soul is admitted to have passed to the Greek from the Egyptians, and there is reason to believe that it came to the latter from more eastern countries. Noah himself could not have been ignorant of this great truth, even if it can be supposed to have been forgotten or lost during the ages immediately preceding the deluge, when mankind had reached the greatest state of corruption.

The immortality of the soul known to the Easterns.

What has been observed regarding Plato, may equally be applied to the most distinguished of his pupils, Aristotle. The

¹ Clemens of Alexan., Stromat. I.

² Stromat. I., p. 303, A.

Aristotle's
natural history
drawn from
Asia.

work of the latter on natural philosophy, the description of exotic animals, and of the Nile, the works on magic and ether, and the whole book, *De Cælo*, bear the impress of an oriental origin. This is particularly shown by two circumstances, namely, the description of the elephant and the rites of the Magi, since both must have had an eastern source. Aristotle collected much information by conversing with natives of the east; and his contemporary, Eudotas, asserts, that he had frequently seen him in the society of persons, from whom he obtained information, adding that much of his knowledge was drawn from sacred works, and likewise from his predecessors who had studied in the east.

His philosophy
derived from
the East.

The principles contained in the book, *De Cælo*, had been known for a thousand years in the east, and the acquaintance of Aristotle with the eastern animals and plants, which he describes, must have been from his own personal inspection, or that of some individual at their native places. The celebrated work on logic was supposed to be almost entirely translated from Ocellus, who is known to have derived his philosophy from the east.

Plato's
philosophy
compared
with that of
Aristotle

Plato's philosophy is that of the Indo-Chinese nations, whilst that of his pupil approaches the philosophy of the Shemitic people. The latter having the laws of the human understanding (logic) as a basis, may be said to begin by the study of nature, particularly as revealed in the science of astronomy. Aristotle thus lays the foundation of metaphysics; and, that the doctrines and principles of the Chaldeans were followed by this philosopher may be proved indirectly by the fact, that the Arabians, who ever retained among them the philosophy of the Chaldeans, and who followed it exclusively before the works of Aristotle were translated into Arabic, afterwards readily adopted those works when introduced into their country, to the exclusion of the works of Plato. The Múhammedan theologians and lawyers being prepared to receive the tenets of the philosopher of Stagira, with which, from their previous studies, they were already familiar.

Plato's
philosophy
had its origin

It would appear that Plato's philosophy had its origin in the regions of Persia and India; for he and other philosophers

considered the tenets of the Magi as the perfection of wisdom.¹ Following the Indians particularly, Plato despises the present, for the sake of a future life; and like them he rests philosophy on the imagination rather than on the reason.

The philosopher Democritus formed an early and close link between Greece and Assyria, having been brought up and instructed by the Magians and Chaldeans, who accompanied Xerxes to the former country, and who were, it appears, for some time inmates of his father's house.² It is supposed that he was one of the youths, who, by command of Xerxes, were instructed in the religion and philosophy of Persia, with a view to their introduction into Greece. Orpheus, however, was the first who introduced magism and medicine,³ but it appears that Osthanes was the chief instrument, and that magism made great progress in that country, after the wars of Xerxes.⁴ It is certain, also, that Pythagoras, Empedocles, Democritus, and Plato, passed the sea, and exiled themselves from their native land, in order to bring to it the philosophy of the east.⁵ It is stated by Diogenes Laertius,⁶ that when Democritus was of age, he increased his knowledge by travelling to India and Ethiopia, as Pythagoras had done, and as Plato had intended to do. Moreover, the author in question, as well as others, mention certain Egyptian doctrines as being of Indian origin; and even the Egyptians themselves, in some instances, admitted that they had learned them from the Hindús. It would, therefore, appear from this admission, that, in the opinion of the Egyptians, the Magian and the Indian were at that time the most distinguished schools of philosophy, and those in which a learned education should terminate.

Democritus appears to have been taught astronomy by the Chaldeans, and when Anaxagoras published the opinions of the latter, he showed that they were much more ancient than his time, and admitted to whom they belonged; but in acquiring a technical knowledge of theology from the Magi, he adopted their superstitions as well as their philosophy.⁷

¹ Pliny, lib. XXX, cap. i.

² Pliny, lib. XXX., cap. i.

³ Lib. IX., seg. xxxv., &c.

⁴ Diog. Laert., lib. IX., seg. xxxv.

⁵ Ibid.

⁶ Ibid.

⁷ Pliny, lib. XXX., cap. i.

in Persia and India.

Democritus taught by the Magi and Chaldeans.

Magism makes progress in Greece.

Egyptian doctrines of Hindú origin.

Democritus introduces eastern astronomy, &c., into Greece.

His works, however, on astronomy, geometry, music, botany, &c., were considered the bases of these sciences by the Greeks; and the principles being once established, or laid down, it was easy to make improvements: nor is it difficult to perceive that, in most instances, such improvements were the result of careful attention to eastern literature, though, naturally enough, they have been ascribed to the individual who first introduced them. For instance, to *Æonopides*, of *Cos* or *Coos*, the cotemporary of *Democritus*, was attributed the discovery of the obliquity of the ecliptic, whereas he learned this important fact from the Egyptians.

Herodotus travels to collect materials for history.

Halicarnassus, now *Boudroun*, the birth-place of the distinguished *Herodotus*, was more of a Persian than a Greek city. It was for a time under *Lydia*,¹ and it again reverted to the power of the great king.² The travels during which *Herodotus* collected materials for his history, included *Tyre*,³ *Palestine*,⁴ *Syria*, *Mesopotamia*, *Media* and *Babylonia*,⁵ *Colchis*, the *Phasis*, and the coast of the *Black Sea*. He also remained for a considerable time in *Egypt*, where he visited every town of importance.⁶ It is supposed that he must have acquired the Persian language, as he frequently compares the authorities of that kingdom with those of *Greece* and *Lydia*.

He confounds Phraortes with Dejoces.

The account given of eastern history bears the stamp of oriental tradition, which, though tolerably correct as to isolated circumstances, has, in many instances, been either mixed up with other matters, or the same event has been applied to different individuals, or to different periods of time. For example, *Herodotus* relates of *Phraortes*, the predecessor of *Dejoces*, nearly all that the Persians say of the latter (*Kaikobad*). The revolt of the *Medes* against the *Assyrians* was, like all eastern revolutions, caused by the machinations of a powerful governor, who attempted to form a separate dynasty.⁷ The precision of *Herodotus*, however, regarding the history of *Cyrus*⁸ (since borne out by inscriptions), and

¹ *Herod.* lib. I., cap. xxvii.

² *Ibid.*, lib. II., cap. xlv.

³ *Ibid.*, lib. II., cap. civ.

⁴ *Lib.* I., cap. xcv.

⁵ *Lib.* I., cap. cviii, cviii, &c.

⁶ *Ibid.*, cap. clxxiv.

⁷ *Ibid.*, lib. II., cap. cvi.; lib. III., cap. x.

⁸ *Ibid.*, lib. II., cap. xxix, xxxii.

⁹ *Ibid.*, lib. I., cap. xevii., xevii.

many other facts which could scarcely have been detailed from memory, show that he had the use of original oriental materials for the chief part of his invaluable history. But as these were probably difficult of access, and oral testimony more common, it is probable that a large portion of their information reached the Greeks through the latter medium. It may be observed, that rules of operation in science were frequently known to the Greeks before their investigations had reached them. Thus, Thales learned to calculate eclipses before the principles of astronomy had been brought into Greece. This was particularly the case with medicine, as the priests only communicated its most important precepts to their Greek pupils. In philosophy they propounded axioms; in astronomy they gave the leading principles in short sentences. In general, the priests, as shown in the cases of Solon and Herodotus, read a subject from their books, when their pupils, if so disposed, committed what they heard to writing.

His materials were partly written, partly oral.

Manner in which the Egyptian priests gave instruction.

The historians who succeeded Herodotus were more anxious about style than fidelity, schools of rhetoric being the favourite establishments; and Isocrates was compared to the famous wooden horse of Troy on account of the number of distinguished pupils who proceeded from his school. As regarded ancient history, however, the Greek writers of this time mostly contented themselves with making extracts from the labours of their more diligent predecessors, who had travelled for the purpose of collecting traditional history. Even the *Cyropædia* and the *Anabasis* are confined to barren facts, without any attempt being made to show what had brought them about. Geography, one of the eyes of history, is almost entirely overlooked; yet, owing to the importance of the subjects, these works have lived, and will continue to live, notwithstanding their defects.

Rhetoric superseded history.

Defects of ancient history.

The eastern origin of many sciences is sufficiently evident: astronomy, in particular, was first reduced to a system in the celebrated school of Alexandria; but it had existed long previously, and the popular knowledge which the Egyptians possessed of this science might have served as the basis of that

Astronomy derived from the East.

which was taught in the new school, even if the works of Hipparchus had not existed.

Ptolemy first
established -
a system of
astronomy.

Ptolemy, who was one of the most distinguished astronomers, brought into a system all the discoveries which had been previously made; and having verified the facts by observations, his work, giving the result, became the text-book of all subsequent astronomers for the next thousand years.

Astronomy
declines after
the time of
Pythagoras.

The fragments preserved by the Greeks apparently give but a faint idea of the actual state of this science among eastern nations. It is possible that the Copernican system may have been known to Pythagoras; but as the knowledge of this system would have overthrown the ancient religions, the priests naturally kept it to themselves, and thus it was almost lost during the decline of knowledge which took place in the east from the time of Pythagoras. Without, however, entering more into the question, it may be sufficient here to observe, that the progress which it is admitted had been made by the Indo-Chinese and Egyptian nations, as well as at Babylon, establishes the fact that astronomy has an undoubted claim to an eastern origin.

Mechanics and
geometry
derived from
the East.

Mechanics owed many great improvements to Archimedes, who, although not one of the Alexandrian school, had studied the science in Egypt, where, for the transport of ponderous weights and the construction of vast edifices, it was in constant application.

It is admitted, also, that geometry was first brought into practical use in this kingdom: it is not, therefore, surprising that Euclid was enabled to publish a new and complete work on the subject almost immediately after the foundation of the Alexandrian school. As this science was unconnected with religion, mystery was not necessary, and for this reason it is more than probable that the Greek philosophers who resorted to Egypt had every facility given them for its acquisition; and in fact, before the time of Euclid, they were acquainted with many of its most important propositions.

Mineralogy was unknown to the Greeks, except so far as they derived a knowledge of it from the east, where metals and

the precious stones are much more abundant than in Europe,¹ and where they have long been well known and classed.² That the ancients were acquainted with the mineral kingdom, is evident from many passages in the book of Genesis, and from other parts of the sacred volume.³ Some stones were considered as talismans, and were sacred to the planets, while others were supposed to possess medicinal properties. According to the Dabistan, every plant could be represented or depicted by different stones and metals; and the Book of Precious Stones, compiled by Múhammed Ibn Mansúr⁴ in the seventh century of the Hijrah for the use of the Sháh of Persia, an original and valuable work, clearly shows the eastern origin of mineralogy.

¹ The Easterns were well acquainted with mineralogy.

⁴ Work of Ibn Mansúr on precious stones.

Botany was noticed by Pythagoras and Democritus;⁵ and in ascribing the discovery of the use of plants to the gods, Pythagoras indirectly acknowledges that his materials were derived from Egypt. The work of Theophrastus on plants is written in accordance with the religious ideas of the ancient Asiatic nations; and his vanity in adding the Egyptian synonyms, in order to display his erudition, of itself establishes the fact that this branch of knowledge had been previously cultivated in Egypt.

⁵ Botany studied by Pythagoras and Democritus.

Dioscorides, who is supposed to have been the physician of Antony and Cleopatra, in his work on medicinal herbs, seldom fails to add their barbarian names. The medicinal properties are, in most cases, correctly defined, and the writer seems to have been better acquainted with the flora of Egypt and of some parts of Asia than he was with that of Greece and Italy.

⁶ Dioscorides and medicine.

Even before the time of Hippocrates some physicians appear to have maintained that blood was the principle of life,⁶ and the theory is advocated in the Kórán. In Genesis, also,

⁶ Blood the principle of life, according to Hippocrates.

¹ Pliny, lib. XXXVII., cap. iv., v., &c.

² Vol. I., pp. 75, 76.

³ Gen. chap. II., v. 12; Exod., chap. XXVIII., v. 9, 17-20. See also Samuel, Kings, Chronicles, Ezekiel, &c.

⁴ Translated about thirty years ago by Von Hammer.

⁵ Pliny, lib. XXV., cap. iii.

⁶ Hipp., De Naturâ Hominis.

Opinions of
Hierophilus
and Galen.

The geogra-
phical and
medical
knowledge of
Hippocrates
was derived
from the East.

Medical
system of
Galen, like
that of the
Chinese.

the blood is called the life.¹ Hippocrates, however, attempts to prove that life is the result of mixture, and that the four elements, fire, water, air, and earth, form ingredients which, in the animal frame, are represented by four humours, blood, mucus, and black and yellow bile. Pythagóras, Plato, Hierophilus, and Galen were of the same opinion, as were also the Chinese, the Chaldeans, and, in fact, all the other nations of antiquity, and the theory was connected with the worship of the stars.² There is, therefore, no doubt that the opinion of Hippocrates and his knowledge of medicine were derived from the east, although we have no account of his having travelled thither. The amount of geographical and ethnographical³ science which he displays, particularly his knowledge of the Scythians,⁴ which even exceeds that of Herodotus, is, however, very great. He was evidently perfectly acquainted with Egypt and Western Asia as well as his own country; and the Greeks of Alexandria subsequently acquired and followed the system of medicine which he had developed. Galen does not admit that Hippocrates derived his knowledge chiefly, or even partially, from the east, while he mentions the medical skill of the ancient Egyptians. It is, however, right to observe that the learned and talented Galen, whose books contain almost everything that was known to the ancients about medicine, asserts that Hippocrates was the first to propound the theory of the four elements. The warm and cold medicines of Galen were intended to counteract the irregularities arising from the excess of one or the other of those elements, and this treatment prevailed throughout the Greek practice of medicine. We find similar ideas among the Chinese: the heart (*Lis*) is placed under the sign of heaven, and has the nature of fire; its action is greatest in summer: the liver, *Lie* or *Xipr*, is the celestial sign for spring; the bladder answers to the element of water, and belongs to the north, cold; the lungs are under the celestial sign *grungús*, and answer to the earth, as well as

¹ Chap. IX., v. 4.

² Preface to *Mas'údí*, by Aloys Sprenger, M.D.

³ The character of Asiatics, contrasted with that of Europeans, drawn by Hippocrates himself, gives evidence of his enlarged mind.

⁴ Hipp., *De Ære et Locis*.

the five metals, Văm Hó Hó, corresponding to the same number of planets.¹

In addition to the preceding circumstances, the reader may be reminded of the influence which the Anabasis is admitted to have exercised upon modern warfare, as it previously had done upon the movements of the conqueror of the world, and of the nobler result which followed from the conquests of Alexander: these united Europe with Asia in intellectual intercourse, and have produced more important consequences than any other event recorded in the profane history of mankind.

Influence of Alexander's conquests.

It has been seen that the intercourse with the east, which commenced with Alexander, was continued by the wars of his successors, and again by those of the Parthians and Romans. To the latter succeeded the wide-spreading conquests of the Arabs, the enterprises of the crusaders, and the western spread of the Mongol and Tartar hordes, which, in some measure, amalgamated Asia and Europe by means of numerous colonies coming from the former into the latter continent. The last considerable body of easterns was that of the 'Osmánlí Turks, who established themselves in Europe in the fourteenth century.

Continuation of eastern intercourse after the time of Alexander.

Subsequent intercourse between the east and the west has been chiefly confined to the important but peaceful operations of the merchant or the journeyings of travellers. Combining the character of merchant and traveller, and taking advantage of the information obtained by Carpini, Ascelin, and Rubruquis, in 1254, the celebrated Venetian, Marco Polo, after visiting the khán of the western Tartars, and rounding the Caspian Sea, reached Bokhárá in 1260, and being successful in his speculations, he made his way to the court of Kublai, the great khán of the Mongols. Here he so completely ingratiated himself into favour that he was employed on different embassies, which made him acquainted with nearly one-half of Asia, and also with many of the islands of the Indian seas.

Merchants and travellers visit eastern countries.

Marco Polo reaches Bokhara, and

He visited Malacca, Ceylon, Malabar, and Ormuz, and returned by way of the Persian Gulf. He turned to Italy after an absence of nineteen years, bringing

returns by way of the Persian Gulf.

¹ Apud Cleyer de Medicinâ Sinicâ, p. 9, compare Hipp., De Naturâ cap. cxi.

with him such a fund of information about Asia, collected from personal observation as well as that of others, that he has justly obtained the title of the Herodotus of the middle ages.

Vasco de
Gama rounds
the Cape.

It is believed that his work materially influenced the views of Columbus in his search for a passage to India, and also those of the mariner Vasco de Gama, who, in proceeding thitherward, first doubled the Cape of Good Hope. At a time when so little was known of the east, the narrative of this persevering traveller naturally appeared quite marvellous; but time and a better acquaintance with these countries have established its fidelity.

At this period the Venetians were carrying on a lucrative commerce with India by the Red Sea; whilst their rivals, the Genoese, reached the same part of the world from the shores of Asia Minor by way of the Black Sea, the Crimea, Kaffa, Azov, Astrakhan, Khiva, and Tashkend.

Jenkinson's
overland
journey.

Emulating the success of the Venetian and Genoese trade to India by these routes, Jenkinson and others were despatched from England, in 1557 and in subsequent years, to open a trade with China through the Caspian Sea. But the real state of the eastern countries being little understood, none of the parties even communicated with those who carried on the trade through central Asia.

Charter for
trade with
Babylon.

A charter was given to the Levant Company in 1585, by Queen Elizabeth, to trade to Babylon, &c.; and, in 1599, another company was formed to trade to India, and establish factories in China, Japan, India, Amboyna, Java, and Sumatra; when Mildenhall, Hawkins, Sir Thomas Roe, and others were despatched overland, in consequence, to the court of the Great Mogul, in order to establish commercial relations with that power.

Benjamin of
Tudela's
travels.

Various ancient travellers likewise contributed to this object. One of the most remarkable was Benjamin of Tudela, who, between 1160 and 1173, in his persevering search after the sons of Israel, visited, besides several countries in Europe, the principal parts of Syria, Persia, and Arabia: he has described the places he has seen with manifest fidelity.

Edrisi and
Abû-l-fedâ.

The geography of Edrisi, arranged like that of Ptolemy

according to climates, and that of Abú-l-fedá, both of them valuable works, subsequently appeared; and, still later, one by the traveller Ibn Batuta, who spent thirty years (from 1324 to 1354) in visiting different countries. As a Muslim, who could every where claim hospitality, the difficulties of the journey were greatly diminished, if compared with those experienced by Christian travellers. Having visited the regions from Timbuctoo to the eastern coast of China, he may be considered the most extensive of all travellers.¹

The line of the Euphrates was a good deal frequented at a later period. Rauwolf descended the river in 1574, and the Venetian jeweller Balbi in 1579; also, Fitch, Eldred, and others did so in 1583, with merchandise. Pococke commenced his travels in 1640, and Niebuhr visited Mesopotamia in 1762; Olivier travelled between 1793 and 1798, and the author of the present work between 1829 and 1832.

With a view to the extension of the eastern trade which the French had long carried on extensively from Aleppo, a formidable expedition quitted Toulon and landed at Alexandria in 1798. The city founded by the king of Macedon for a like purpose was selected, on account of its advantageous position, by the modern Alexander; and Napoleon Bonaparte proposed to make it once more the emporium of eastern commerce. Some of the most talented scientific men of whom France could boast accompanied the expedition, and were forthwith employed in elucidating the ancient monuments, in ascertaining the capabilities, and at the same time developing the resources, of the country. The height of the Red Sea, as compared with that of the Mediterranean, was carefully determined, and a water communication was projected between those seas, while *Barrâges* and other works were planned to command the fertilizing effects of the Nile. The battle of Aboukir arrested these projects; while the march into Syria and Persia was cut short by the noble defence of 'Akká; and the French army at length capitulated in consequence of a well-timed combination of the British forces arriving almost simultaneously both from India and Europe.

¹ Travels of Ibn Batuta, translated by Professor Lee, of Cambridge.

Denon's great
work on
Egypt.

Although the project itself was defeated, the French expedition has been attended with many advantages. The great work of Denon is of itself worth the whole expedition. An increased commerce has been one result of this undertaking, which has also been the means of extending our knowledge of eastern nations and facilitating our intercourse with them.

Subsequent
plans of
Napoleon for
an expedition
to India.

It would appear that Napoleon, as emperor, did not abandon the plans he had formed as general; and the projected march towards India, which had been foiled before the walls of 'Akká was intended to be renewed under more favourable circumstances. His first project was to have followed the daring march of Alexander from the shores of the Mediterranean towards the banks of the Ganges. His later intention was to pursue the steps of Trajan and Julian.

Having acquired a better knowledge of the country, Napoleon proposed to land an adequate force at the mouth of the Orontes, where a trusty individual, provided with a secret signal, was to await the arrival of the armament, in order to guide the army to Mar'ash. This city was chosen as the place of the first operations; the adjoining forest being capable of supplying timber for the construction of the flotilla by which the troops were to descend the Euphrates. This being accomplished, Basrah was to have been fortified as a place d'armes, and base of future operations: the details of this project were made known officially to a gentleman who was the author's informant.

The great continental war, however, at that time called Napoleon to another field of enterprise; but his favourite project was still cherished. The hope of obtaining the riches of India, and of acquiring ships, colonies, and commerce, still haunted his imagination; and the following was part of the secret treaty of Tilsit:—

Secret articles
in the Treaty
of Tilsit.

"France and Russia in conjunction to march an army of 70,000 men to the banks of the Indus.

"Austria to allow the French troops to march through her territories, and to assist their descent down the Danube to the Black Sea.

"A Russian force of 35,000 men to assemble at Astrachan;

25,000 regulars, and 10,000 Cossacks. This force to be conveyed across the Caspian Sea to Aster-ābād, there to await the arrival of the French troops.

“Aster-ābād to be the rendezvous of the combined army; to contain the magazines for military stores and provisions, and to be the central point of the line of communication between France, Hindústán, and Russia. The combined army to rendezvous at Aster-ābād.

“The French division of 35,000 men to embark in boats on the Danube, and to sail down that river to the Black Sea.

“On their arrival, to proceed in transports supplied by Russia across the Black Sea and the Sea of Azov to Taganroc; to pass thence up the right bank of the Don, to the small Cossack town of Piali Izbianca; to cross the Don there, and march by land to the city of Czavitzin, on the right bank of the Wolga.

“To embark on the Wolga and descend to Astrachan.

“From Astrachan to embark on the Caspian for Aster-ābād.

“On the junction of the French and Russians at Aster-ābād, the combined army immediately to begin its march, and proceed by the cities of Meshíd, Herat, Furrah, and Kandahár to the Indus.” The computed duration of the march of the French division from the place of embarkation on the Danube to the river Indus was 119 days.

“Aster-ābād is a town in the province of Mázanderán, close under the Elburz mountains, and the only difficulty for artillery is said to be from the town to two miles beyond Yeavest (altogether about fourteen miles), partly forest and partly mountain. But an easier road than this exists from Aster-ābād by Kislauh; and the author of this plan considers that, by taking the eastern road by Aster-ābād through the lands inhabited by the Yemso and Gohlan tribes, the steep passes of the Elburz might be avoided. Proposed route for an army from Aster-ābād.

“After reaching Shahrud, on the road to Meshíd, the force might divide, one division proceeding by the direct road to Meshíd, and the other by Jah Jerm and Kuchan: this latter is two or three days farther, and the marches longer; but good water is abundant, while the country is better peopled and cultivated.”

CHAPTER XVII.

LITERATURE AND SCIENCE OF THE EAST.

State of Oriental Literature considered at four different periods.—Asiatic Civilization during the first period.—Thales and other Sages acquire Knowledge in the East.—Intercourse between Asia and Europe.—Second Period: Literary intercourse commenced by Alexander the Great.—Library and School of Alexandria.—The people of the East were prepared for Christianity.—Influence of the change of Religion upon Literature.—Spread of Learning and Civilization from Alexandria.—Rome becomes the centre of the Christian world.—Third period: Rise of the Arab nation.—The Arabs resort to Literature as an occupation, and become the medium of modern Civilization.—Study of the Korán, and practical use of Astronomy, Geometry, Grammar, and Jurisprudence.—Learned men employed at Baghdád.—History, Novels, and learned works.—Music and Literature cultivated by the Arabs in the eighth century.—Bede's knowledge of Eastern Countries, and use of Arabic names, &c.—The Benedictine Monks.—Their friendly relations with the Arabs.—The Monks spread a knowledge of the East.—The modern Sciences cultivated at Baghdád.—Pursuits of Al Mámún.—Rare Works collected. Sanscrit and other Works translated.—Cultivation of Astronomy.—The Abbot of St. Gallen.—Arabic Manuscripts collected and preserved in Europe.—The Moors introduce Arabic Learning into Europe.—Rhymes of Olfrid.—European Versification like the Arabic.—Provençale Poetry, and Rhymes of Boethius.—Lyric and romantic Poetry.—The Italians adopt the Arabic Poetry.—Mathematical Sciences studied in Spain.—First use of Indian Notation.—Arabic studied in the Schools in France and Spain.—Spread of Arabic Learning in Europe.—Learned Arabs of the Eleventh and Twelfth Centuries.—Progress of Oriental studies in Africa.—Gerhard of Cremona translates the *Almagest* and other works.—Raymond, Archbishop of Toledo, encourages Oriental studies.—Abú-l-Senna and other works translated.—First translation of the Korán.—Hermannus translates Aristotle's works.—Constantinus introduces Arabic medicine into Italy.—Travels and Acquirements of Constantinus.—Adelard of Bath, and his translation of Euclid, &c.—Astronomical Tables prepared.—Adelard's *Treatise on the Astrolabe*.—Arabic Seminaries in France and Spain.—Samuel, a Jew of Fez.—Translation of El Battáni's works.—Roger of Hereford.—Daniel Morley.—The Emperor Frederic II. encourages Eastern Learning.—His Circular to the Colleges, &c.—Michael Scot and his Translations.—Alphonso encourages the study of Astronomy.—Fourth period: Superiority of Western Literature over that of Eastern Countries.

PURSUING the account just given of the intercourse between Asia and Europe in early times, the literature and the sciences of

those continents will now be noticed. The introduction of oriental studies in the west is intimately connected with the general history of mankind, and the account of their progress may be distributed in four different ages.

The first comprises the period from the dawn of history to the reign of Philip of Macedon. The second extends from that of Alexander to the rise of Múhammed. The third relates to the great change brought about by the Arabs, with its influence on the learning of the middle ages; and the fourth, to the state of literature in modern times.

Eastern and western literature divided into four periods.

Without going back to the ages of tradition and fable, it may be observed that towards the latter part of the remarkable period which first claims attention, western Asia was distinguished by the number as well as the power of the empires which it contained. One was the Scythian, which spread over central Asia; another was the Assyrian; a third, the Babylonian; and others were seated in Arabia, Syria, and Egypt.

State of Asia during the first epoch.

Whilst Europe was in comparative darkness, Asia and Africa had probably lost but little of their earlier and more advanced civilization. The valleys of the Euphrates, the Oxus, and the Nile, had no doubt witnessed the energies of the earliest cultivators of the soil; while corn, fruits, domestic animals, and implements of husbandry passed from the east to the west, probably following the tide of migration along the shores of the Baltic, and those of the Black and Mediterranean Seas, carrying knowledge and civilization in their train. Although as it were lost for a time, enough remains to show the early existence of oriental learning, and to enable us to trace its progress into Europe, where it became the basis of modern literature and science.

The civilization of Asia and Africa preceded that of Europe.

Colonies and civilization came by two routes into Europe.

During the part of the first period, extending from about the thirteenth to the fourth century B.C., are found the names of Linus the Scythian, Thales, Pherecydes, Solon, Pythagoras, Hecateus, Hellanicus, Herodotus, Plato, Democritus, Hippocrates, Ctesias, Theophrastus, and Aristotle. All these sages were connected, personally or otherwise, with eastern

Thales and other ancient sages sought knowledge in Asia.

countries;¹ and the philosophy of Irán and India was, by their care, elaborated into the more perfect system which was afterwards diffused through Europe.

Mercantile
and religious
intercourse
between
Europe and
Asia.

Through the Greek colonies in Asia, especially those established near Tarábuzún, a friendly intercourse was maintained between that part of Asia Minor and Greece, which continued up to the time of Alexander. It may also be observed, that to commercial communications were joined those of a religious character. Flotillas annually carried pilgrims from Greece towards those parts of Asia Minor which were considered sacred; and at one period this circumstance gave to the literary men, even of Sicily, great facilities of obtaining information from the east. Philistus, for instance, who was born in the 86th Olympiad, must have had literary intercourse with Egypt, since he wrote several works on subjects relating to that country,² apparently without having visited it. Græcia Magna also became the seat of a philosophy,³ based upon the tenets of Pythagoras and the doctrines disseminated by Pherecydes.

Literary
intercourse
between
Greece and
Egypt.

Influence of
the Cyropædia
and Anabasis,

It is scarcely necessary to remind the reader that the "Cyropædia" and the "Anabasis" have long held high rank with relation to Asiatic history, or that there were other influential circumstances connected with Asia in operation about the same period. During the campaigns of the younger Cyrus, for instance, the Greeks served on both sides. They had also been employed in the east from the time of Psammeticus,⁴ when, as well as subsequently, mercenaries returning after several years' service under Egyptian or Persian monarchs, could scarcely fail to introduce into Greece some of the civilization enjoyed by the Asiatic peoples. Such a train of circumstances was therefore well calculated to prepare the world for the great changes which took place in the second period: this last may be divided into two portions, each of which claims particular

and of the
Greek
mercenary
service upon
Europe.

¹ See above, p. 516-530.

² De Rebus Ægyptiacis, lib. XII. De Baccho, de Theologiâ Ægyptiarum, lib. VI., de Syriâ et Lybiâ.

³ Diogenes Laertius, lib. I., seg. cxvi.

⁴ Herod., lib. II., cap. clii., cliii., and cliv.

attention, on account of the influence of the events occurring in it on the intellectual improvement of mankind.

The earlier portion commences with the literary intercourse between the east and west which took place towards the latter part of Alexander's reign; when the interests and pursuits of the people in Persia and Asia Minor were, to a great extent, amalgamated. The works of Hecateus and Herodotus were at this period beginning to excite an interest in the affairs of the east: this was, no doubt, increased by the writings of Ctesias, which relate to the same part of the world; and subsequently by the works of Aristotle. The great library at Alexandria containing three hundred thousand volumes in Chaldaic, Coptic, Egyptian, Greek, Latin, &c.,¹ and the well-known school in that city, not only exercised a lasting influence on the literature of Europe, but prepared the world for the momentous events of the second period.

Literary intercourse with Asia commenced by Alexander.

Promoted by the library and school of Alexandria.

The conquests of Alexander and his successors, the Parthian wars, the amalgamation, to a certain extent, of different nations; the decline of paganism, hastened by the rise of the Neoplatonic and Gnostic systems of philosophy, added to the revolution which took place in eastern Asia among the Bhuddists about 63 B.C., were so many events by which mankind was prepared for the reception of Christianity.

The world prepared for Christianity.

The intercourse of the west with Asia had already produced some change in the ancient superstitions which, except among the descendants of Heber, had obscured the pure light preserved in the family of Noah. The monopoly of knowledge by the priests had been partly broken down by the Macedonian conquests; and about this period Bhuddism appears to have spread over the greater part of western Asia, and to have imparted among the Chaldeans² some conception of a Trinity in the Godhead. During the succeeding period, several philosophers touched upon the necessity of a revelation from Heaven; and this was in due time vouchsafed by the dispensation of Christianity. The first prophets belonged to the east, and imparted their doctrines in the eastern languages; and the

The eastern people prepared for a change.

Christianity came from the East

¹ Codrenus, p. 186.

² Calmet's Dictionary of the Bible, art. Trinity.

Influence of
religion upon
literature.

apostles, as well as the most ancient fathers of the Church, both Greek and Latin, were citizens of the east. Justinus was a native of Sichein; Tatianus was a Syrian; Theophilus belonged to Antioch; Clemens and Origen were of Alexandria; Tertullian and Cyprian of Carthage; and Ambrosius was a native of one of the African provinces. The advent of Jesus Christ is, however, only noticed here because it connects chronologically the change which took place in the time of Alexander the Great, with the progress of literature and science at a later period of the history of the world.

The phi-
losophy of
language, &c.,
introduced
through
Alexandria.

Many of the Babylonian, African, and Syrian writers contributed largely, by their works, to the advancement of learning in Europe. The two sciences, astronomy and medicine, originated in Chaldea or India. Grammar and the philosophy of language, which were so much studied at Alexandria, were also Asiatic. Both had been cultivated by the early Arabs,¹ from whom the taste probably passed to the inhabitants of Syria and Asia Minor.

Learning and
civilization
spread
westward from
Alexandria.

The civilization which was already flourishing from the frontiers of China to Alexandria, now began to extend from its principal seat on the coast of the Mediterranean, over the north of Africa, the south of Europe, and north-western parts of Asia; and zeal for the Christian religion united the civilized nations in its cause, but at the same time separated them widely in other respects. Rome became the centre of the Christian world, which had its beginning in Palestine; constant intercourse was maintained between the Holy See and the bishops and monasteries in different parts of the east, and intercommunication between the various religious establishments was the means of spreading the literature of which they became the depositories.

Rome becomes
the centre of
Christianity.

Third period:
Rise of the
Arabs.

In the succeeding, or third period, a new nation, that of the Arabs, rose in the east: having conquered Persia, Mekkán, Syria, Egypt, Barbary, and Spain, these people shook the power of the Church in the east. Their success was at first prejudicial to literature, but the Arabs discovered, almost as soon as they had adopted settled habits, that man requires

¹ Vol. I., p. 691-693.

occupation for his mind, and that the excitement of their previously active life in the field or the desert, required to be replaced by other pursuits. Happily, literature was their choice, and it was cultivated with a degree of spirit and success unexampled in any other nation. This was in a great measure the consequence of their ardent temperament, which had previously united their efforts in the cause of religion, and created that zeal by which so much had been achieved: for the subjection of the world was the result of religious enthusiasm rather than of the ambition of the leaders of a servile nation. The overwhelming conquests of the Arabs were chiefly the work of the Bedawín, whose exchange of their erratic habits for a settled life, was accompanied by a radical change in their manners and ideas. The precepts of the Korán constituting the basis of the civil and international law of the Arabs, a new science, that of law (Fík'h), founded on those precepts, was in consequence originated.

Literature
cultivated by
the Arabs.

Change
experienced
by the Arabs
on adopting a
settled life.

The cultivation of history, poetry, and law gave to the Arabs a taste for other studies. Commencing with what may be called the hereditary astronomy of a nomad race, the Arabs appear to have turned their attention to mathematics, geometry, and medicine. In these sciences they collected much from the nations whom they had subjected, as the Persians, Syrians, and Copts; they borrowed from the Greeks, Hindús, and others with whom they came in contact, all that was valuable in their literature or traditions; and thus they became the centre of civilization, and the link between the ancient and modern civilization of Europe. So numerous were their works, that the celebrated scholar Scaliger maintained, that if all the Greek scientific authors were to be lost, the Arabic versions of Hippocrates, Ptolemy, and others would supply the deficiency.

The Arabs
become the
link between
ancient and
modern
civilization.

The first account of the Korán having become an object of study and comment, occurs in the life of 'Omar. It appears that when the empire had rest after the conquest of Persia, the disputes about the meaning of passages in the Korán became so serious, that the khaliph was obliged to send his armies to make fresh conquests, in order to preserve peace in the nation.

Study of the
Korán in the
time of 'Omar.

It was under the same khaliph that the Sowád was surveyed,

Practical use of astronomy and geometry. and an almanac brought into use, the computations for which were made by the assistance of Selmán, and a Persian prisoner whose name is not given, but who is said to have been of royal blood. These may be considered the earliest attempts of the Arabs to make use of geometry and astronomy, for purposes of practical utility.

Early use of Arabic grammar. 'Alí, the fourth khaliph, is considered as the father of the Arabic grammar; and the author of the "Fihrist" relates, that the autograph of a work on grammar, written on Chinese paper, by Abú-l-aswad, existed in the third century of the Hijrah, amongst a splendid collection of manuscripts.

The khaliph Moawiyah employs learned men. Under Moawiyah, the first khaliph of the house of Omaïyah, we find that historians, physicians, and translators of foreign languages were employed. 'Obayd Ibn Sorayah, a Jorhamite, came, according to the Fihrist, from Šan'á to the court of Moawiyah, who made inquiries concerning the kings of the Ajemí (Persia), and the confusion of languages. 'Obayd answered so much to his satisfaction, that, at the khaliph's request, the information was committed to paper, and the Sháh Nameh (Book of Kings), the best history of the Persian kings, was the result.

Ancient Arab historians. The Fihrist also mentions some more ancient historians; as Ziyád, who lived at the time of 'Othmán, and bequeathed his works as a precious inheritance to his sons. Also Al-bekrí, a Christian of eastern Arabia, and some others: these last were, however, strictly speaking, rather genealogists than historians.

History and novels translated to amuse the khaliph. Another historian, Ibn al-Katámí, who lived in the time of Moawiyah, is mentioned in the Fihrist; and Mas'údí confirms the statement, by adding that Mo'awiyah had some slaves who translated history and novels for the amusement of the khaliph. Al-hakam and his sons were distinguished physicians during this reign; and it appears both from Al Mas'údí and El Kiftí, that in the first century of the Hijrah, the khaliph 'Omar had a library, from which books on medicine were transcribed, in order that they might be generally useful.

Learned works translated, and money coined in Arabia. The first translation of astronomical and philosophical works into Arabic, was made by Stephanus, under the patronage of Kháled (Walid), the grandson of Moawiyah, whose attainments

¹ MS. in the Royal Library at Paris.

in these sciences were considerable;¹ and, according to Beládin, dinars were coined at Damascus during this reign. It is also stated that the khaliph possessed a splendid globe which was made for Ptolemy in Egypt, and, consequently, previous to the invasion of the Arabs.

Music appears to have been cultivated by this people at the time of, as well as immediately after Múhammed; and Ibn Mosajjij, who flourished under Moawiyah, was one of the first who accommodated Persian and Greek airs to Arabic words. He was followed by other proficient in the art. Cultivation of music

This brief notice of the beginning of Múhammedan civilization, will be sufficient to show that the Arabs were a literary nation as early as the beginning of the eighth century; and even at this period there was some intercourse between the learned men of England and those of Arabia. and literature by the Arabs.

The Anglo-Saxon Bede, who was born in 672, and died in May, 735, devoted his life to study and teaching in the monastery of St. Paul, at Jarrow, and his learning attracted students from all parts of Europe. He was the cotemporary of 'Abd-el-Málik, the sixth khaliph of the house of Omayyah, and the Saracens are constantly mentioned in his works. In the commentary on Genesis, their victories are noticed; and again, in his work, *De Sex Ætatis Mundi*, he details their expedition to Sicily, also their conquests in Africa, and the siege of Constantinople, A. D. 717, as well as the circumstance of their pillaging the coast of Sardinia. He evinces throughout his works a considerable knowledge of the east; and, from other circumstances, it may be inferred that Asiatic learning was known in England soon after it began to dawn in Damascus. The use of the Arabic article *Al* in one of his works, shows that Bede must either have used an Arabic original, or a translation from that language; and his tract, *De Indigitatione*, is undoubtedly oriental, since numbers are shown by the fingers, in the manner practised by merchants in the east. One is expressed Bede the cotemporary of 'Abd-el-Málik. His knowledge of eastern countries, probably derived from Arabic sources.

¹ Flügel, *Diss. de Arabicis Scriptorum Græcorum interpretibus*. Misenzæ, 1841, p. 6.

² *Bedæ Venerabilis Expositio Genesin*, lib. III., cap. xvi., xx. Londini, 1693.

Practical use
of astronomy
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in these sciences were considerable;¹ and, according to Beládin, dinars were coined at Damascus during this reign. It is also stated that the khaliph possessed a splendid globe which was made for Ptolemy in Egypt, and, consequently, previous to the invasion of the Arabs.

Music appears to have been cultivated by this people at the time of, as well as immediately after Múhammed; and Ibn Mosajjij, who flourished under Moawiyah, was one of the first who accommodated Persian and Greek airs to Arabic words. He was followed by other proficient in the art. Cultivation of music

This brief notice of the beginning of Múhammedan civilization, will be sufficient to show that the Arabs were a literary nation as early as the beginning of the eighth century; and even at this period there was some intercourse between the learned men of England and those of Arabia. and literature by the Arabs.

The Anglo-Saxon Bede, who was born in 672, and died in May, 735, devoted his life to study and teaching in the monastery of St. Paul, at Jarrow, and his learning attracted students from all parts of Europe. He was the cotemporary of 'Abd-el-Málik, the sixth khaliph of the house of Omaïyah, and the Saracens are constantly mentioned in his works. In the commentary on Genesis, their victories are noticed;² and again, in his work, *De Sex Ætatibus Mundi*, he details their expedition to Sicily, also their conquests in Africa, and the siege of Constantinople, A.D. 717, as well as the circumstance of their pillaging the coast of Sardinia. He evinces throughout his works a considerable knowledge of the east; and, from other circumstances, it may be inferred that Asiatic learning was known in England soon after it began to dawn in Damascus. The use of the Arabic article *Al* in one of his works, shows that Bede must either have used an Arabic original, or a translation from that language; and his tract, *De Indigitatione*, is undoubtedly oriental, since numbers are shown by the fingers, in the manner practised by merchants in the east. One is expressed Bede the cotemporary of 'Abd-el-Málik. His knowledge of eastern countries, probably derived from Arabic sources.

¹ Flügel, *Diss. de Arabicis Scriptorum Græcorum interpretibus*. Misensæ, 1841, p. 6.

² Bedæ *Venerabilis Expositio Genesin*, lib. III., cap. xvi., xx. Londini, 1693.

by bending the little finger of the right hand; two, by bending the little as well as the third finger; three, by bending the two latter in addition to the middle finger; four, by bending the middle and third fingers, leaving the little finger extended. This system is very ancient in the east; and authors on archery, in that part of the world, make use of it in describing the manner of stringing the bow. The usual position is called the 'ikd, sixty-three, *i. e.*, four fingers bent on the palm of the hand, with the thumb resting on the fore-finger. In an Arabic work on archery,¹ the system of indigitation is explained in exactly the same manner as by Bede. But although the system itself comes from the east, it was known in Europe before the time of Bede, and Hieronymus mentions the number thirty as symbolical of a wedding.²

His system of indigitation similar to that of the Arabs.

Bede uses Arabic names and terms.

The treatise of Bede on the astrolabe betrays its Arabic origin by the frequent use of the word *Al Mucantarāt*,³ which is pure Arabic, and when compared with such corruptions as the word *Avicenna* for *Ibn Sinna*, we may conclude that Bede derived his information from original writings rather than from translations. Oudin⁴ and Mabillon⁵ consider Bede's translation of the book, *Ibn Abú-s-salt*, on the astrolabe,⁶ to be genuine, and a great part of it has been quoted by Hermanus Contractus, who died in 1052, which of itself proves the antiquity, if not the authenticity of the book.

Connexion of the Benedictine monks with Arabia.

The various allusions to Arabic history which are dispersed through the writings of the venerable Bede, and the many questions elucidated by him, of which he could only have had notice from the Arabs, make it more than probable that the monks of his order (the Benedictines) had already opened the mines of Arabic learning for the benefit of Europe.

In his book, *De Elementis Philosophiæ*, Bede notices the

¹ Preserved in the library of Gotha.

² *Nam et ipsa digitorum conjunctio, quasi molli osculo se conflectens et fœderans, maritum pingit et conjugem.*

³ Bede, App. Basil, 1563, vol. I., p. 468.

⁴ *De Scriptoribus Ecclesiasticis*, Leip. 1722.

⁵ *Acta Benedictinorum*, Paris, 1762, I., p. 539.

⁶ MS. in the library of Modena.

Book of Nimrúd, which appears to have been a translation from the Arabic.¹ In the *Fihrist*² of Ibn 'Abú Ya'kub, the original, in Arabic, is mentioned; and there is a copy of it in the Medical Library at Rome.³

Works supposed to be translated from the Arabic.

A friendly intercourse was maintained with Arabia at this period, or at least soon afterwards. Eginhard has recorded that Radbertus, who died in the year 807, was ambassador from Charlemagne to Hárún-el-Rashíd; and that, accompanied by some noble Franks, and monks of Jerusalem, he proceeded, according to Agobardus, from Arles to Africa, and through Egypt to Baghdád. In returning, the embassy visited Carthage, and brought from thence the bones of St. Cyprian, which were afterwards deposited in the episcopal church of Agobardus.

Friendly intercourse between Europe and Arabia in the ninth century.

Embassy to Hárún-el-Rashíd.

The clepsydra, and the curious clock already mentioned,⁴ were brought on this occasion as presents from the Commander of the Faithful to the Protector of the Roman Church. It is also mentioned by Andros, presbyter of Ratisbon, in his *Chronicles*, that Constantine, the patriarch of Jerusalem, was in correspondence with Charlemagne. The zeal of the latter for the revival of literature and science was shown by the establishment of numerous schools and universities: amongst others, those of Paris, Corbie, Fontenelle, Ferrières, St. Denis, &c.; and, in Germany, those of Fulda, Metz, St. Gallen, with many others in the principal monasteries. Under Charlemagne, Italy also became renowned for the schools of Monte Casino; and one for the study of the Greek language was likewise founded by him at Osnaburgh. In addition to these public institutions, Charlemagne established an academy for adults in his own palace, which became the model for the three universities of Paris, and of which he wished to be a member, without any distinction of rank.⁵

Arabian presents sent to Charlemagne.

Establishment of schools and universities by Charlemagne.

During the reign of Charlemagne, and under his protection,

¹ Albertus, *Magnus Speculum*.

² Vol. III. MS. of Leyden.

³ *Histoire des Sciences Mathematiques en Italie*, I., p. 245.

⁴ See above, p. 459. Eginhartus, *Vita et Gesta Caroli Magni*, Colonia, 1521, p. 108.

⁵ *Dell' Origine, Progressi e Stato d'ogni Litteratura, dell' Abbate D. Giov. Andres*, 4°. Parma, 1783, vol. I., cap. viii., pp. 101–104, compared with Gaillard's *Histoire de Charlemagne*, Paris. 1782, tome III., pp. 157–267.

Establishment
of Benedictine
monasteries.

Their
influence on
civilization.

The monks
become the
means of
spreading
knowledge.

The monks
are induced to
study Arabic.

The modern
sciences,
music, poetry,
history, &c.,
studied in
Baghdád.

the Benedictine monks assumed an important place. Their monasteries were intimately connected by a common object and a common language—the Latin. There was, in consequence, a frequency and rapidity of communication, which could scarcely have existed at that period, had it not been facilitated by the wealth and the extraordinary power of the monastic establishments, and of individuals who were distinguished by their energy and devotion to the cause of learning. Veneration for their piety procured them a welcome reception wherever they appeared, even amongst a barbarous soldiery when in a state of hostility with the country to which they belonged. The Benedictines had their head-quarters in Scotland, and, encouraged by Charlemagne, Scotch emissaries founded monasteries in St. Gallen, at Ratisbon, and at Vienna; the first being the most influential establishment, and the second almost equally remarkable, from having sent Albertus Magnus into the world; while the third imparted knowledge under the name of the Schotten Stift. The monks copied with great rapidity books, which were sent from Italy to Belgium, from France to Germany, and from Spain to England; and there were few Benedictines who had not visited Rome, Venice, Paris, Ratisbon, and the cities of Belgium. When tolerably safe, Spain and Jerusalem were included in their wanderings, which were rendered easy to them by the hospitality of their reception in every convent. Their progress was also facilitated by their knowledge of Arabic. As early as A.D. 873, Hartmot, the abbot of St. Gallen, caused some of the monks to study this language, as the great source of information.¹

Reverting to the Arabs—Al Mámún was the first who acquired from them that knowledge from which the modern sciences are derived. It has been seen² that, in the city of the khaliphs, the Arabic language, poetry, music, history, antiquities, and the Kórán, including those branches of learning

¹ Chron. Magnum Bruhlianense, tome I., p. 752, MS. of the library of St. Gallen, case Furchen, lib. 702, fol. 325; and MS. on Oriental Writers and Professors of St. Gallen.

² See above, pp. 460 461; and Dell' Origine, &c. d'ogni Litteratura, dell' Abbate D. Giov. Andres, vol. I., cap. viii., p. 119.

which the study of that book required, more particularly jurisprudence, or law in its most comprehensive sense, were the studies of Mámún. His master in the latter was the celebrated Al Kesáy, and for philology and literature, the famous Yezídí; and, having acquired these branches of learning, he assembled the most distinguished men of the empire at his court. The Fihrist (MS. in the Royal Library at Paris) contains his treatise on the prophetic mission. He wrote another on the praises of the khaliphs who succeeded Múhammed; also a work on the unity of God, and the principal Múhammedan dogmas. It is supposed that the work on falconry,¹ afterwards translated for the use of the Emperor Frederic II., was also by Mámún,² and it formed the basis of one on the same subject by Frederic himself, which was printed in 1596.³

Studies and
works of
Al Mámún.

After Al Mámún had converted Al Fadhl to the faith of El Islám, the disciple, in return, drew the attention of the khaliph to astronomy and mathematics, by which sciences, in addition to those of medicine and philosophy, he became so well known in Europe. He collected Arabic, Persian, and Greek works from the cities which had been taken by the Múhammedans; and the fact, that the last two books of the conic sections of Apollonius of Perga were particularly sought for, proves that the collections were made on systematic principles. An astronomical establishment was attached to the library; and, besides others elsewhere, a regular observatory was subsequently established in the capital. The principal literati whose names have reached us as being employed in translating works for the khaliph, were—Yahíyá Ibn Bitrék, who translated Galen, de Theriaca, and Ptolemy; Ibn Na'ima 'Abdel-el-Mesih, who translated the Philosophia of Alexander Aphrodisiensis; also his commentary on the first four books of Aristotle's Physicæ: to these at least twenty individuals might be added as translators from the Greek into Arabic. Those employed

The khaliph
cultivates
astronomy and
mathematics.

Rare works
collected by
Al Mámún,
and

literary men
employed to
translate
them.

¹ De arte accipitrariâ Moamii.

² There are copies of the translation at Paris and Bologna, and a fragment of the Arabic text in the library at Gotha.

³ Reliqua librorum trider secundi, de arte venandi cum avibus, cum Manfredi regis additionibus.

Astronomical
tables pre-
pared for use.

by Al Mámún to translate from Persian into Arabic are less known, although their labours were more important. After Ibn Al Mokaffa', who was anterior to the khaliph, the family of the Naubakh, from which his vezír was descended, were the most prominent in this field. Next may be mentioned Músá and Yusúf, sons of Kháled; then 'Alí Al Taumé, who translated the astronomical tables called Al Zíj: also Al Hasar Ibn Sahl, probably the person who was appointed by Al Mámún governor of 'Irák: to these may be added the translators of the Khodáí-námeh.¹

Sanscrit and
other works
translated for
the khaliph.

The most important works were doubtless those translated from the Sanscrit, partly before, but chiefly in the time of Al Mámún, since it was through this medium that some knowledge of the Indian learning and philosophy was first received. According to the Fihrist,² the translators from the Sanscrit were Mikak, the Indian, who was under the protection of Is-hak Ibn Soleimán the Hášhemite; and Ibn Dahan, another physician in the Barmakite hospital. Subsequently other valuable works were translated into Arabic by the learned men of Háran, from the ancient Chaldee and Syriac: and the literary treasures thus collected from many parts of the world, were, after the usual ordeal of discussion by the learned Arabians, deposited in the great library in Baghdád.

Cultivation of
astronomy, &c.

At the same time due attention was paid to the important science of astronomy, careful observations being made at the different observatories, particularly by the Jew, Sind Ibn 'Alí, and the celebrated Múhammed Ibn Músá Al Khowárezmi; Al Yarithmis, Habsh, and others were also employed in correcting the astronomical tables. The khaliph, however, died before the task was accomplished, but not before he had completed his greatest scientific work, by measuring an arc of the meridian, near Rakkah on the plains of Sennár.

Subsequently to the golden age of Arabic literature in the time of Al Mámún, the study of that literature was encouraged

¹ The Poetical History of Persia. See the names in Al Mas'údi, vol. II., p. 27.

² Vol. III. MS. of Leyden.

by the Abbot Bernhard of St. Gallen, about 883 A.D. In 900, that monastery had to lament the death of the great orientalist, Hartmanner the younger, who had been the intimate friend of Alfred of Weissenburg,¹ and a disciple of the learned St. Nother, who lived under Charlemagne and Charles the Fat.²

The abbot of St. Gallen encourages the study of oriental literature.

We may fairly conclude that the study of the Arabic language was equally an object of importance in the other Benedictine monasteries: in these were prepared the numerous MS. translations from the Arabic, which are still to be found in European libraries, particularly in those of Venice, Halle, Göttingen, Padua, Berlin, Paris, Oxford, and the British Museum. Unfortunately the productions belonging to the early period of Arabian literature are seldom distinguished from those belonging to the corrupted age of the Turks and Persians, and but few of the former have been preserved.

Arabic MSS. prepared in the monasteries.

There exist, however, Soyátí's History of the Khaliphs;³ Baron Hammer's *Gemälde Saal, oder Lebensbeschreibungen grosser östlichen Herrscher*;⁴ and Al Mas'údí's *Meadows of Gold and Mines of Gems*, now translated by Dr. Aloys Sprenger, M.D.⁵ Also Abú-l-fedá, *Annales Muslimici*; Abú-l-faraj, *Historia Dynastiorum*; and finally Price's *Chronological Retrospect*.

Arabic MSS. preserved in Europe.

Another source of Arabic literature may now be noticed, namely, that which found its way into Europe through the Moors of Spain. Its progress is detailed in a compendium of literary history by Abú-l-Hásim Saïd Ibn Ahmed, and also in the MS. translation by Don Gayangos, of Al-mak-kam's *Muhammedan Dynasties in Spain*. According to the latter author, the philosophical sciences were not cultivated in Spain previously to the invasion of the Arabs, A.H. 92. Subsequently, when the kingdom enjoyed peace under the Omaïyades, men of talent devoted themselves to literary pur-

Europe receives Arabic learning from the Moors.

¹ Chron. Magn. Bruhlianense, tome I., fol. 752.

² Metzlar de viris de St. Galli.

³ MS. of the British Museum, No. 7324, folio 118, recto, and No. 7325, folio 138, recto.

⁴ Leipsic, 1837, ii. p. 219.

⁵ Allen and Co., Leadenhall-street.

Various
branches of
learning
cultivated in
Andalusia.

suits. Towards the middle of the third century of the Hijrah, in the days of Amír Múhammed, sultán of Cordova, the learned men of Andalusia cultivated various branches of the sciences. This appears to have been the case up to the middle of the fourth century of the Hijrah, when the Sultán Al-Hakem, son of the celebrated Abd-er-Rahmán, gave fresh encouragement to science by inviting learned men to his capital from Baghdád, Caïro, &c. Indulging the exquisite taste for literature, which he had acquired during his father's lifetime, he collected even a richer and more extensive library than that of Baghdád.

Poetry is in-
troduced into
Europe from
Arabia.

Poetry, the favourite pursuit of the Arabs, soon found its way into Europe through Spain, and still earlier by another route. The first poet was Olfrid, a Benedictine monk of Weissenburg, and the pupil of the Archbishop of Cologne, who lived about A. D. 870. The rhymes of Olfrid and his song of victory against the Normans,¹ written towards the close of the ninth century, are the most ancient rhymes on record in Europe;² excepting, perhaps, the collection of military songs, said to have been ordered by Charlemagne in order to animate and instruct his soldiers, which contained much of the history of France.³ These verses, as well as those of the Provençals, bear a strong resemblance to the poetry of the Arabs, the last syllable only being rhymed.

The rhymes
of Olfrid
resemble the
Arab poetry.

The Moors
introduce
poetry into
Spain.

Giammaria Barbieri,⁴ Andres,⁵ and Gingeni prove that rhyme came from Arabia, chiefly through Spain, to other parts of Europe. As the bravest warriors were frequently the best poets, the melodious Arabic rhymes were first heard by the Spaniards amidst the terrors of war; for poetical effusions were sometimes recited even during the combat. Therefore, when necessity compelled the Spaniards to study Arabic, they naturally

¹ In Schilter's *Thesaurus Antiquitatum Teutonicarum*, vol. I.

² A fine edition of this poem, the *Krist*, was published by Graff, Königsburg, 1831, 4°.

³ Gaillard's *Histoire de Charlemagne*, tome III., pp. 165, 166. ¹

⁴ *Dell' Origine della Poesia Rinata*, opera di Giammaria Barbieri, publicata da Gir. Tiraboschi, Modena, 1790.

⁵ *Origine e Progressi d'ogni Letteratura*, Parma, 1783.

imitated the rhyme and music which were so captivating to a southern nation. This effect is shown by Alvarus of Cordova, who complains¹ that the Spaniards were so infatuated by the beauty of the Arabic style and language, that although scarcely an individual was capable of writing Latin, numbers were so strong in Arabic, that they restricted the termination of their verses to one letter, so as to end with the full sound of the rhyme upon it, agreeably to the genius of their favourite Arabic language.

This extract from Alvarus shows that versification came from the Arabs to Europe: it shows also the progress of Arabic studies among the Christians. In the present day, writes Sir William Jones, scarcely any Arab can read twenty couplets, however learned he may be, without the help of a dictionary, nor does he understand a poem, or a commentary on a poem.

Resemblance of the European to the Arabic versification.

Provençale poetry succeeded that of the Franks. The inhabitants of Provence were in contact with the Arabs, or Moors, and their continual struggle with them for liberty, caused that unfavourable representation of the latter people which is given in their poetry. But although the intercourse did not lead to a profound knowledge of the language of the Arabs, it does not follow that the rhymes of the Troubadours were not derived from the latter people, although the vanity of the Provençale nation prevented them from admitting the fact. The poem of Boethius is as like an Arabic Kasidah as European language would allow; and the rhyme falls usually on the last syllable.

Similarity between the Provençale and Arabic poetry.

The most ancient rhymes found by Raymond in the Provençale language are those of Boethius, which are without date, but certainly are not older than the tenth century; and the most ancient prose he discovered does not go back beyond 842 A. D. The celebrated hymn beginning "Veni Sancte Spiritus," is as early as A. D. 996. The next in point of age is a poem of A. D. 1100, entitled *La Noble Leyczon*.²

Rhymes of Boethius and prose of the Provençaux.

Not only versification, but the modern lyric, and even

¹ About the middle of the ninth century.

² *Choix des Poesies des Provençaux*, Ub. vol. II.

Lyric and
romantic
poetry appear
to be of Arabic
origin.

romantic poetry, whose essence is rhyme, are of Arabic origin. The epic would be too long for the lively Bedawín, who are lyric poets by nature; even the *Korán* and their official writings being in this style. It has been said that the romantic love and veneration for the fair sex which characterize the Provençale poetry are unknown to the Arabs. But, on the contrary, there is scarcely one *Kasídah* in Arabic which does not express the most ardent feelings of love; and Sir William Jones tells us ¹ that it was invariably the custom either to begin with expressions of love, or else introduce them in the middle of the poem; and the Suffees described even their love to God under the symbol of affection for a mistress.

The Italians
adopt Arabic
poetry.

After the French and the Troubadours, the Italians—those at least who lived in the north of Italy—were the first to use the language of the latter, and to begin to write in verse. The Spaniards were late in using their own language for this purpose, the literature of the country having been previously confined to the Arabic; so that it was only when they had the example of the Provençaux in cultivating the vulgar language, and had become in some degree independent of the Arabs, that they began to have a literature of their own.

Mathematical
sciences
studied in
Spain.

About the third century of the *Hijrah*, the Arabs of Spain commenced the study of the philosophical and mathematical sciences, which, in the fourth century of the *Hijrah*, were introduced into Europe, particularly by Gerbert, who died A. D. 1003. Before his elevation to the papal chair, he travelled through Italy, Belgium, and Germany; and in order to study mathematics, he went to Spain, and visited Barcelona, if not Seville also.² The astrolabe is described by him in Arabic terms, and it is a remarkable circumstance that Gerbert speaks of a work

First use of the
Indian system
of notation.

De Multiplicatione et Divisione, written by Josephus Hispanus. This may possibly have been the first book in Latin, giving the Indian system of notation and algebra. There is, however, a Latin MS. in the British Museum which bears the same title.³ It is an explanation of the Indian system of notation; and

¹ *Comm. Poesiæ Asiaticæ*, p. 81

² *Gerberti Literæ*, Paris, 1611, p. 21, &c.

³ *Arundel*, 343. It is considered as of the twelfth century.

it may possibly have been the work of Josephus Hispanus. As the names of the figures are added in Arabic, there is little doubt of its eastern origin; indeed, Leonardo da Pisa, who received from the Arabs the numerals now in use, calls them Indian.¹

Towards the end of the tenth century schools were established in the Christian towns of Spain and the south of France, for the study of Arabic literature and philosophy. Avicenna's (Ibn Sina's) works on logic and metaphysics were used in the Sorbonne, the greatest school of theology in Christendom; and Averrhoes' (Ibn Roshd) works were studied at Paris, during or immediately after his lifetime.

The commencement of the era of the crusades was that in which the eastern literature and science began to be generally cultivated in Europe. At that time almost every country had institutions, in connexion with which flourished those distinguished men by whom the sciences of the Arabs were considerably advanced. Among these were Avicenna, who died A.D. 1037; Mesué in 1015; Al-bisimí in 1039; Ibn Rodhrson in 1061; Al Hezen, the author of the Optics, in 1038; Ibn Jezla in 1100; Avenzohar in 1162; Averrhoes in 1198; and Maïmonides in 1208.

Spain was particularly distinguished at this period for her progress in oriental acquirements. Savawrda, a Jew, flourished in the beginning of the twelfth century as a professor of Arabic learning in the north of Spain. In 1134 he translated a work on astrology, which has the following postscript:—"Perfectus est liber in electionibus horarum laudabilium editione Hali, filii Hamet Ebram; translatus de Arabico in Latinum, in civitate Barshinona, Abraham Indio Hispano, qui dicitur Savawrda, existente interprete et perfecta est ejus translatio anno 1134." Ebram in the above title does not mean Jew, as might be supposed, but it is a corruption of Inrám, as the name is spelt in Arabic and in Kiftí.

Gerhard of Cremona was a learned mathematician, astronomer, and physician, who died, according to Pipini, at Cremona,

¹ Dell' Origine, Progressi e Stato d'ogni Letteratura, dell' Abbate D. Giov. Andres, 4to, Parma, 1783, vol. I., cap. x., pp. 226, 227.

Gerhard of
Cremona
translates the
Almagest of
Ptolemy.

Gerhard's
translations
from the
Arabic.

in 1187, in his seventy-third year, and was buried in the monastery of Sta. Lucia, to which he bequeathed his books. There is a translation of the *Almagest* in the Medicean library, made by him in 1175.¹ Although no MS., however ancient, writes his name *Carmonensis*, the uncertainty of Gerhard's patronymic has been favourable to his fame, for both the Spaniards and the Italians have claimed him; and he is in consequence better known than any other oriental scholar of the middle ages, though by no means the best of the number.² One of his works³ has been printed in various editions, particularly the ninth book, on which several Latin commentaries have been written, as being the text-book of practical medicine in the middle ages.

The *Synonyma* of Rasis is the most ancient Arabic and Latin dictionary extant, of which the MS. Arabic glossary to Rasis, in the library of Leyden, may have been the original text.

Raymond,
archbishop
of Toledo,
encourages
the study of
Arabic, &c.

The study of Arabic literature at Toledo was particularly encouraged by Raymond, who was a native of Agen. He entered the order of St. Benedict, and was brought to Spain by St. Bernhard. He was made archbishop of Toledo in 1130, and died in 1150. Among the orientals who were encouraged by Raymond, were Marcus, an archdeacon of Toledo; Dominicus Gondisalvus; Jonius Hispalensis; and probably also John, archdeacon of Toledo, who is perhaps the same as Marcus. To John, archdeacon of Toledo, a translation of Algazeli's *Logic* is attributed, in the catalogue of the library of St. Mark, Venice. Albertus Magnus says,⁴ that Avendar, a Jewish philosopher, translated into Latin the Arabic works on logic; and in another passage he states,⁵ that he also translated the works of Aristotle from the Arabic.

¹ See Jourdain, p. 127.

² His works and translations are, *Canon Avicenna*, *Aboali filii Davidi compendium Rasis*, and the *Almagest*. There is a splendid copy of his translation of the latter in Burney's Collection in the British Museum, No. 275.

³ "Abubecri Rasis *Almonsarius*; *practica ejusdem antidotarium et liber divisionum*."

⁴ Op. Lyon. 1651, vol. I., p. 41.

⁵ *Speculum Naturæ*, lib. II., cap. vi.

If this Avendar be identical with Avendeneth, or Mendeath, he was one of the orientalists encouraged by the archbishop in the translation of Avicenna's work *De Animâ*; and several of his writings are dedicated to this patron of eastern learning.¹ According to the above we may ascribe to Avendar all the works on logic quoted by Albertus. These are, the logic of Avicenna, of Algazeli, of Alfarabi, and a version of Joannes Damascenus ad Grisarorium.

In some copies of Avicenna's work *De Animâ*, this translation is attributed to Gondisalvus, one of Raymond's archdeacons. It appears from the introduction in one of the MSS. of Paris quoted by Jourdain,² that Avendar translated it from Arabic into his own language, and that Dominicus Gondisalvus rendered it in Latin. A Jew was hired to explain the meaning of the text, and the scholar put it into Latin. This practice accounts for the numerous mistakes and bad orthography of the translations of the middle ages. All those attributed to Dominicus Gondisalvus of Segovia are in reality by Avendar; as the metaphysics of Avicenna,³ those of Algazeli,⁴ Avicenna's book *De Cælo et Mundo*, and Alphoranius *De Scientiis*.

Marcus, who was also encouraged by the archbishop of Toledo, first translated the *Korán* in 1215: of this there is a fine copy in the Ambrosian Library at Milan, and there are two copies in the Royal Library at Paris.⁵ This translation is preceded by a notice on the life and religion of Múhammed, which is tolerably correct; then follows the translator's preface, in which it is stated that when the present archbishop was ordained bishop of Toledo, he caused the *Korán* to be translated from the Arabic by Marcus, who also translated a work of Galen.⁶

¹ Royal Library of Paris, Sorbonne, 1187. Compare Anc. Fonds, 8802.

² Recherches sur Aristote, p. 504.

³ F. Library, Paris, 6443.

⁴ MS. of Tunis, 6552.

⁵ Anc. Fonds, MSS. Latins, No. 3394. St. Victoire, No. 253. Compare Jourdain's Recherches sur les Traductions Latines d'Aristote, p. 110.

⁶ Which is inscribed "De notibus liquidis a Joannino Honaim, de Græco in Arabicum; a Marco Toletano de Arabico in Latinum conversus." MSS. Latins, P. of the Royal Library Paris, 6865, and Sorbonne, 786.

Avicenna's
De Animâ
translated by
Avendar.

Double
translation of
Avicenna's
De Animâ.

First transla-
tion of the
Korán, and

of Galen's
work by
Marcus.

Hermannus translates Aristotle's Rhetoric and Ethics.

But the most learned translator of the thirteenth century was Hermannus, a German. He studied Arabic at Toledo, and flourished about the middle of the century. He translated the Rhetoric of Aristotle, which he dedicated to John, bishop of Burgos, councillor of the king of Castille.¹ Hermannus was assisted by Arabic scholars, and not by Jews, and he accomplished his task with the greatest ability. He also translated the Ethics of Aristotle, of which Robert of Lincoln made another translation from the Greek. Hermannus acknowledged the superiority of the latter, but the earlier version was from the Arabic. He also translated Aristotle's poetry, following the edition of Alfarábi. Hermannus' translation of the Ethics was made at Toledo in 1240, and printed at Venice, 1489.

Other works of Aristotle translated.

Constantinus introduces Arabic medicine into Italy.

Travels and acquirements of Constantinus.

Whilst the orientalists who were educated in Spain, and those of St. Gallen, rendered the mathematical and astronomical works accessible to the Latin reader, Constantinus, a native of Africa, introduced Arabic medicine into Italy, and founded the school of Salerno. His translations from the Arabic were the more welcome, as Celsus and Pliny were then the only medical works in Latin. It has been said that Constantinus travelled thirty-nine years in the east, and went as far as India; also that he studied grammar, dialectics, natural philosophy, mathematics, music, and medicine, at Baghdád. These facts, however, have been doubted, but it appears certain that in 1072 he entered the monastery of Monte Casino, after he had been secretary to Robert Guichard, and that he wrote several medical works, and translated many from the Arabic.²

¹ This translation was printed at Venice, 1481, and is in the Royal Library, Paris, Sorbonne, 1175.

² His translations are, i. *Liber Pantegni, i. e., Ars ingens medicinæ universalis, libri viginti, auctore Isaac Israelita (Is-hak Ibn Soleimán, a Jewish physician of Egypt, who died A.D. 932), et interprete Constantino, monacho Cassiensis.* Royal Library at Paris, 6885.

ii. The Aphorisms of Hippocrates, with the Commentary of 'Alí Ibn Rodhisán, a physician of Egypt, which he translated at the request of his pupil Elancon, from an Arabic MS. MS. of the Royal Library, Paris, 6808. Hippocrates, Aphorismes translati.

iii. Isaac's book, *De Urinis.* Harleian Library, British Museum, 3140, Royal Library, Paris, 7034 and 6871, A. iv.

The works of Constantinus, published in two volumes at Basle, 1536, may equally be considered as translations from the Arabic.¹

The first English orientalist on record is Adelard of Bath, a Benedictine monk, who lived about the year 1100; but the only notice of his life is that contained in the introduction to his "*Questiones Naturales*."² He states that he remained long abroad, chiefly residing in France, and lecturing on the sciences which were then taught in the university of Paris. Seven years before his return to England, it seems that he decided upon studying the works of the Arabs, and he went for that purpose to the Moorish part of Spain; but not, as stated by some authors, to Arabia itself, which, it may be observed, was at that time frequently confounded with the provinces occupied by the Moors in Spain.³

Adelard has become remarkable in Europe by his translation of Euclid's geometry, of which work, however, there is a second version, containing also Campanus' translation of Násir-ed-dín's Demonstrations. But the latter translation must have been added at a later time, since Násir-ed-dín lived subsequently to Adelard. There is a copy extant, without the translation of Campanus, which once belonged to Gregory XI., and is now in the British Museum. It is evidently of Arabic origin, and more ancient than the Demonstrations of Campanus. The existence of two different translations of Euclid's Geometry is confirmed by the marginal notes to another MS. of Euclid,⁴ in which the Demonstrations of Campanus are compared with the earlier work by Adelard. The latter notices, in his *Questiones Naturales*, a book called *Al Zīj* (astronomical tables), of which there is a Latin translation; and he translated

Adelard of Bath studies in Spain.

His translation of Euclid.

Campanus's translation of Násir-ed-dín's demonstrations.

Astronomical tables *Al Zīj*, and those of *Al Khwarizmī*.

iv. Seven books of Isaac, called *Viaticum*. Harleian Library, 3140.

v. Isaac, *De Febribus*, *ibid.* This was printed among the *Auctores de Febribus*. Venice, 1594.

¹ His *Antidotarium* was translated from the Latin into Greek, and there is a copy of this translation in the Imperial Library at Vienna.

² Besides the printed text there are several fine MS. copies of this work.

³ See Albertus Magnus, in his book *De Cassidibus Arabiae Hispalensis*.

⁴ Harleian, 5266.

the astronomical tables of Al Khowarezmi, of which there is a copy in the Hatton library, at Oxford.¹

These tables are also called Ezichiaferim, or Ezieh Za'far, one of the names of Al Khowarezmi. Besides the astronomical tables, Al Khowarezmi wrote a treatise on the astrolabe, another on chronology, and his celebrated work on algebra; which science is supposed to have first found its way into Europe by the translation of Rudolph of Bruges about A.D. 1144.

Adelard's last work on returning to England.

Adelard returned to England during the latter part of the reign of Henry I., and wrote his work "*Per difficiles questiones naturales*," which is remarkable for its rhyming prose in imitation of the Arabic style. It is written in the form of a dialogue between Adelard and his nephew. The greater portion of his works, however, still remain in manuscript in Trinity College, Cambridge.

Treatise on the astrolabe and use of Arabic words.

The Arundel collection³ contains a work by Adelard on the astrolabe, which is remarkable for the correctness with which the Arabic names are spelt. He generally follows the English pronunciation in transcribing Arabic words; thus he writes Jafar, and not, as was usual in his time, Geafar or Gafar.

Arabic seminaries in France and Spain.

During the time of Adelard, and previous to his age, schools for learning existed in various towns in the south of France and north of Spain, particularly at Toledo; in which not only converted Arabs, but Christians and Jews appear to have been Professors. Among the last was Samuel of Fez, who came to Toledo in 1080. In 1085 he became a Christian. His book against Isaac was translated into Latin in 1338 by Buenhambre, a Spanish Dominican, and may be found in the twenty-first volume of the *Bibliotheca Patrum*.

Samuel, a Jew of Fez, writes in favour of Christianity.

As early as 1143, Peter of Toledo, assisted by two friends, Robert Ketenensis and Hermianus Dalmata, who were studying in Toledo,⁴ made a translation of the Korán. The former, who is also called Retenensis, is presumed to have been the trans-

¹ Under the title of Ezieh Elkaurezmí, hoc est tabula Chowarezmicæ ex Arabico traducto.

² Printed and published at Milan in folio as early as 1470.

³ No. 377.

⁴ Bib. Patrum maxima, vol. xxii., pp. 1030, 1033.

lator of Ptolemy's planisphere,¹ and also of the large work, Al-Zīj of Beten, or El Battāni. But there is a better version by Plato Tibertinus, one of the most correct and industrious translators of that period. He says there is no better author on astronomy, either in Greek or Arabic, than El Battāni. This version by Plato Tibertinus has been printed, and there is a MS. copy in the Royal Library at Paris.²

Translation
of El Battani's
works.

Two learned Englishmen may be mentioned in connexion with this period, Roger of Hereford and Daniel Morley. The former, in 1178, observed an eclipse of the sun at his native place. From a fragment of an astronomical work which he wrote³ it appears that he knew Arabic well, and had been at Toledo. The astronomical tables of Hereford are mentioned by Bate of Mechlin. Daniel Morley, who was Hereford's friend, occupied himself particularly with philosophy, and acquired the name of Philosophus. He went to Paris, and from thence to Toledo, where he studied the Arabic sciences. On his return to England he brought a large quantity of books, and one Arabic MS., entitled "*De Rerum Naturâ*," which is in the British Museum.⁴

Roger of
Hereford, the
astronomer.
Daniel Mor-
ley, the
philosopher.

The liberality of Raymond, archbishop of Toledo, which had given a fresh impulse to the pursuit of eastern literature, was renewed with additional vigour, and extended to other parts of Europe by Frederic II. This prince was born in Sicily, spoke Arabic fluently, and was in frequent contact with the Arabs. He had a predilection for Muhāmmédans, and many Saracens attended his court, the sons of Averrhoes being among the number.

The emperor
Frederic II.
encourages
eastern learn-
ing.

Frederic endeavoured to counteract the narrow-minded views of the Pope, and the injurious influence of his authority in retarding the advancement of learning, by introducing Arabic philosophy and civilization into his empire. His library was rich in works of all languages, and Latin translations were sent to the universities, accompanied by precepts enjoining what

¹ P. 234, edition of Nurnberg, 1537.

² Sorbonne, No. 1264.

³ *Anni collecti omnium planetarium, compositi a Magistro Rogero Herefordiense, anno, &c.*

⁴ Arundel, No. 377.

Circular issued by Frederic to encourage oriental acquirements.

His object of utility to the people.

should be taught. In a circular letter he enlarges upon the delights of learning, the enjoyment he derived from it, and he urges its cultivation upon the learned, whom he exhorts to communicate their knowledge to their less-instructed brethren; adding, that if the mind be not cultivated, life is spent unprofitably. The emperor's circular contains also the following remarks: "Looking attentively over the books in our library, we noticed various ancient works on logic and mathematics, which were written by Aristotle and other philosophers in the Greek and other languages; which not having yet been translated into Latin are inaccessible. As it is our pleasure that these works should be made useful to the public by means of translations, we have ordered some distinguished men, who are familiar with both languages, to prepare literal translations."

The emperor concludes in these remarkable words:—"Therefore, O learned men, who present to the thirsty drink from the fountains of antiquity, accept these books as a present from your friend the emperor, and make use of them in your lectures, in order that the germs of virtue may grow luxuriantly, and the darkness of error be dispelled. Admonished by your sovereign, and encouraged by the intrinsic value of the presents themselves, you are to make them public for the use of the students, and that they may be a monument to our name."

Michael Scott and his translations.

The largest portion of the labour of the translations fell to Michael Scott (probably a Scotchman), who had been a pupil at the school of Toledo in 1207, and was previously at Oxford and Paris; both of which he quitted in order to exchange scholastic theology for the Arabic literature. His progress in this study, as well as his proficiency in astronomy, philosophy, and all the natural sciences, had gained the favour of Frederic.

But although he was the translator of Aristotle, and a great scholar, Scott owed his reputation more particularly to his pretensions in astrology and magic.¹ He wrote the preface to a work on magic, which was translated by a Jew from the Arabic in 1255. This work is in the library at Dresden, and the character appears to be that of the Mugârebeh; it is therefore

¹ Boccaccio and Dante, *Inferno*, canto XX.

probable that the Jew learned Arabic in Spain, where that character was used.

The principal works translated by Michael Scott are—Abú-el-Sinna's History of Animals; and a work on physiognomies by Theodosius Philosophus.¹ These were dedicated to Frederic II. He also translated a work on falconry for the emperor.

The encouragement thus given did not cease with the death of Frederic, or of his son Manfred, for Charles of Anjou continued to support the cause of learning; and his example was followed, at a later period, by Alphonso X.

This prince had a predilection for astronomy; and finding but few works on this science in Latin, he caused several of those by Arabic astronomers and astrologers to be translated into Spanish. But instead of employing learned Europeans who had mastered the Arabic language, as Frederic II. had done, Jews were selected to translate Arabic works under his own eye. It is said that he was assisted in his undertaking by forty men, and that he spent forty thousand ducats in collecting materials: but the tables which were the result of these labours, have not been much valued by astronomers. The Secret of Secrets, and nine other works, are enumerated as having been translated for Alphonso.²

Although an impulse had been given to learning by Frederic II. and his successor, its progress continued to be slow,

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Michael Scott.

Alphonso X.
encourages
the study of
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¹ Pitts mentions several other works. These are as follow:—

Aristotle's work, *De Coloribus*;

Alchymistisch Siebengestirn, Hamburg, 1695: this book contains a treatise on alchemy, by Aristotle, which is said to have been translated by order of Bishop Honorius from the Hebrew;

Aristotelis Secretum Secretorum, ad Alexandrum;

De Regium Regimine; *De sanitatis conservatione*; *De physiognomiâ*;

Ejusdem de signis tempestatum, ventorum et aquarum;

Ejusdem de mineralibus;

Alexandri Aphrodisii clarissimi peripatetici de intellectu;

Averrois magni commentatoris de animæ beatitudine;

Alexandri Achilli quæ bonis mensis de universalibus;

Alexandri Macedonis in Septentrione monarchi de mirabilibus Indiæ ad Aristotelem. Bologna, MS. No. 1901.

The last is a very curious letter, said to have been written by Alexander the Great to his tutor Aristotle, giving some account of the wonders of India.

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owing chiefly to the delay in translating as well as transcribing ancient works: but from the reigns of these princes may be dated the decided change which marks the fourth period.

The thirteenth century was one of activity.

The thirteenth century has, but scarcely it would seem with justice, been considered a retrograde period; for, the necessity of improvement having been felt, universities were established, and students assembled in quest of instruction both from Arabic and Greek sources: that century was therefore, particularly towards its close, a period of activity, if not of marked advancement.

Charles V. encourages scientific studies.

Charles V., the reigning monarch of France, was one of those who, from position as well as education, was enabled to further the cause of science. He established a library in the Louvre; and translations of classical works were made under his auspices in the university of Paris. Roger Bacon, who appears to have been one of the students of that university, returned with a degree to Oxford, where it was readily confirmed. The invention of an explosive substance nearly resembling gunpowder, the discovery of the principles of the telescope, and the pursuit of alchemy have, more than his other acquirements, given celebrity to this individual. His *Specula Mathematica*, and other works which have been printed, show the vast extent and variety of the information which had been acquired by the learned Franciscan; and the *Opus Magis* is remarkable for a display of knowledge, which far surpassed that of his age. Bacon's favourite pursuit of astrology and alchemy, however, in an age of ignorance, caused him to be suspected of being in league with infernal spirits; and, instead of being honoured as the brightest ornament of his age, he was doomed to pass eleven years in prison.

His learning caused his incarceration.

Sir Michael Scott of Balweary.

Michael Scott, who has been already mentioned, and another individual of the same name who died in 1294, Sir Michael Scott, of Balweary, or the wizard as he was called, are proofs that during the same period learning was also cultivated to a considerable extent in Scotland.

Use of Arabic numerals, &c., in Europe.

The use of the Arabic numerals, and the practice of Arabic medicine, became more general during the succeeding century; but it is the fifteenth century which, in connexion with the

period now under consideration, claims particular attention. A decided change commenced with Petrarch; and the revival of classical literature, which followed in Italy, was accelerated by the settlement in that country of several Greek scholars, who had been exiled from Byzantium. The cultivation of poetry in Spain as well as other parts of Europe, the establishment of great public libraries, particularly that of the Vatican, and the discovery of the art of printing were, at the same time, the means which contributed powerfully to the advancement of learning.

Lorenzo de' Medici was one of those who gave encouragement to literature; and at Venice, Campanus' translation of Euclid was printed in 1482, with diagrams prepared on copper to illustrate the text. Before the end of the century many scientific works were printed in Greece and Italy; and, a little later, at other places in Europe.

Euclid printed
at Venice
A. D. 1482.

During the first quarter of the sixteenth century, classical learning was encouraged in France by Francis I.; and before the middle of this period, it formed a branch of education at the British Court. Considerable progress was also made in the mathematical and physical sciences during this century, in which flourished the distinguished astronomer Copernicus.

Learning
encouraged in
France in the
sixteenth
century.

More modern times claim Lord Bacon, Spenser, Shakspeare, Descartes, Milton, Newton, Leibnitz, Euler, and La Place, with many other individuals distinguished for literature and science; and within the same period, in addition to the cultivation of the classic works of Greek and Latin authors, the Chaldee, Hebrew, Syriac, and other oriental languages, have attracted particular attention. The grammatical structure of these tongues has been carefully studied, and the languages themselves successfully compared with one another. The practical use of steam power and of electricity may be mentioned as two of the greatest benefits which have been conferred on man. The former propels vessels along rivers and across the ocean; and, on land, transports travellers and merchandize with almost the speed of a hurricane.

Its rapid
progress in modern
times.

Steam vessels
and locomotive
engines.

The other power, more mysterious in its nature, though as yet in its infancy, has almost annihilated space, and, in one

The electric
telegraph.

sense, completely annihilated time; since, by moving with a velocity exceeding that of the earth's revolution on its axis, a communication in a westward direction may arrive at its destination at an instant which, in local time, is earlier than that of its departure.

CHAPTER XVIII.

ANCIENT AND MODERN COMMERCE.

Proposed Notice.—Ancient Commerce of India.—Trade overcomes the difficulties caused by Wars, &c.—Various branches of ancient Commerce.—Trade of Egypt and the Ishmaelites.—Commerce of Arabia with Tyre.—Routes from Tyre to Palmyra and Babylon.—Route to Central Asia.—Trade of the Hindús, eastward and westward.—Trade with Asia in the time of Pliny.—Routes to Eastern China and India, through Bálkh, &c.—Commerce on the Southern Shores of the Euxine.—Limited extent of the Greek Commerce by Sea.—Commerce of the Rhodians, Phrygians, Milesians, and Carians.—Greek Colonies in Asia Minor.—Limits of their Voyages.—Commerce of the Phœnicians, Carthaginians, and Gauls with Britain.—Nature of this Trade.—Early Trade of the Hindús, and Merchandise in demand.—Trade from the Persian Gulf, Fárs, &c., to China.—The earliest Navigation was probably that of the Persian Gulf.—Early Navigation of the Persians, the Arabs, and Hindús.—Commerce in the time of Nebuchadnezzar.—The black Jews settle in Malabar.—Arab Vessels in the time of Nearchus.—Commerce encouraged by Alexander's successors.—Route from Egypt to India.—Discovery of the Trade Winds.—Direct voyages made to India, in the time of Augustus, from the Southern Coast of Arabia.—Múhammed enjoins Trade as a religious duty.—Mercantile cities of the Arabs.—Extensive range and intercommunication of their Commerce.—Meḡḡah becomes one of the centres of Trade.—Prosperity of the Arabs in the time of the Abassides.—Effects of Luxury.—Mutawakkel establishes Trading Factories.—Learned Men accompany the Caravans.—Precious Stones and other valuable Commodities are exchanged throughout the Arabian Empire.—Furs, &c., brought from the Northern Regions across the Caspian and Black Seas, and European goods sent into Khorásán.—Trade in Silk, Pearls, Carpets, rich Cloths, &c., partly by barter, partly by coin.—Exports of Glass, Carpets, Cloth, &c.—Swords were not sent abroad.—Costly stuffs, Cloths, and other fabrics.—Embroidered stuffs representing Historical and Geographical subjects.—Commerce from Baṣrah to India, China, and Africa.—Change of system in Trading with China.—A Hindú Physician sent by land to Hárún-el-Rashíd.—Eastern Commerce carried on by Jews, through the Red Sea, &c.—Route through Aleppo to India, and through Barbary to Baghdád.—Arabian Trade chiefly confined to Eastern Countries.—Trade by a circuitous route between Constantinople and India.—Venice becomes a trading Port.—Rise of Commerce in England.—Merchants

settle in Constantinople.—Rapid progress of Venetian Trade.—Genoa becomes a mercantile Republic.—Trade of this Port with India through the Black Sea.—Colonies established on the Shores of the Euxine.—Trade of the Genoese with Europeans.—England shares indirectly in Eastern Commerce.—A Company called the Merchant Adventurers established in England.—Scale of Duties fixed for foreign Trade.—Exports from England to Flanders, &c.—The Venetian Trade opened with India through the Red Sea. Bruges becomes a mercantile Depôt.—Prosperity of Commerce in France.—Discovery of the Western Coast of Africa.—Discovery of America.—Rise of Antwerp.—Trade drawn to Lisbon.—Various routes to India.—The River Euphrates becomes the principal line.—Voyages of Rauwolf, Balbi, and Newberrie.—Patent of Queen Elizabeth for Trade by this Route.—Application of the Merchants for a Loan.—Voyages of Fitch and Newberrie along the Euphrates.—Queen Elizabeth keeps a fleet of Boats on the Euphrates.—Consequent cheapness of Goods from India.—Establishment of the East India Company.—Colonial Trade of England, and its advantages.—Increase of Exports and Imports during Five Centuries.—The Turkey or Levant Companies of England and France.—State of the Trade of the Levant, of Egypt, Syria, Asia Minor, Persia, and Mesopotamia.—Trade of the Arabian and Persian Gulfs.—Partial and proposed Navigation of the Euphrates.—Facilities and advantages of opening the River Euphrates.—Openings for commercial enterprise on the Rivers of Mesopotamia.

Proposed
notice on
commerce.

PASSING from the subjects contained in the preceding pages, it is intended to devote the present chapter to a brief view of the commercial intercourse by which the nations of the earth have been bound together for their mutual advantage.

Origin of
trade.

The exchange of the simple necessities of life for the supply of wants common to all, was speedily extended to that of articles of luxury; and the wants gradually created became, in time, such necessities, that, in order to obtain them, every impediment, whether arising from physical causes or religious prejudices, was overcome: thus the merchandise imported at the present day into Asia continues to pass to its various destinations, notwithstanding the hostility of the Arabs, the fierce spirit of the warlike Turkománs, and the still greater difficulties presented by the exclusive systems of the Coreans and Japanese.

Its progress
notwith-
standing all
impediments.

From the earliest period of history, Asia and its products have been the great attraction of the western hemisphere, and its eastern and middle portions have consequently been the seat of an enriching trade; to which the resources of Hindústán,



ELATH or ELZIONGEBER — MOUNTAINS of EDOM and MOAB,
and Valley of Arabah or Jordan.

Capt. E. M. Stanley, J. N. Smith, G. H. B. Long, 1868.

See Engraving in the face.

and the adjoining territories, have given an activity that is still maintained.

The present subject will now be considered under the following heads:—

Various branches of commerce to be considered.

1st. The commerce of the Phœnicians and Carthaginians.

2ndly. The land trade through Arabia and Asia.

3rdly. Trade by water from and to India and China.

4thly. The Ophirian voyage.

5thly. Trade under the Roman emperors, &c.

6thly. Trade of the Arabs.

7thly. Modern trade.

The position of Egypt was equally favourable for trade by land through Arabia, and for that commerce which is said to have been opened at a remote period by water with the western coast of India. But if such voyages were, as has been supposed, achieved by the Egyptians, in the reigns of Sesostris or Psammetichus,¹ it would appear that in these enterprises, as well as in the land trade, that people were ere long superseded by their neighbours in Palestine and Arabia.

Early commerce of the Egyptians.

The circumstances attending the sale of Joseph, and the journeys of Abraham, show that the peninsula of Arabia was traversed at both these periods for commercial purposes, the products of Asia and Arabia on one side, being exchanged for those of Africa on the other.² The caravan routes of Africa³ converged upon middle Egypt, and from thence proceeded into Syria by way of Foscat, Balbeïs, Gaza, Ramleh, and Tyre.⁴ It has been seen that Phœnicia was first peopled by Cushites from the shores of the Erythrean Sea or Persian Gulf,⁵ and that its commerce was not only extended westward, but into countries in the opposite direction by land, thus connecting, for the first time, the eastern and western regions of the old world. Tyre, the great emporium of trade, did not, however, export merchandise; the commodities of foreign nations were, on the

Caravan trade through Arabia.

Trade of Egypt with Tyre and eastern countries.

¹ Diod. Sic., lib. I., cap. ix., xx.

² See vol. I., p. 651.

³ See above, pp. 92, 93.

⁴ Ibn Haukal, ed. Ouseley, p. 75.

⁵ Vol. I., p. 281, and above, pp. 46, 92.

contrary, brought to the Tyrians in Phœnician ships, or by the nomad tribes, who served as carriers.

Trade of
Arabia Felix
with Phœnicia.

Arabia Felix, as the centre of trade, had several lines of communication with the southern coast. One of these extended from Máreb to Şan'á and the port of 'Aden. A second struck eastward, nearly parallel to the southern coast to Maskat, but sending a branch previously to the port of D̥hafār. A third route struck northward into the interior from Máreb, passing Wádí Dowaser and El Yemaméh, to Gerrha (El Kátif) on the Persian Gulf. From this port again there was a line to Abadan and Babylon; also two caravan routes to the southern coast of the peninsula, one to the eastern and the other to the central part of Ḥaḍramaút, both apparently conducted by the Minæans.

Other caravan
lines through
Arabia.

Route of the
caravans from
Máreb to
Petra.

From the brief notice of Strabo,¹ it would appear that the merchandise collected in Yemen from the southern part of Arabia, was carried from thence to Petra. This route, which was probably nearly that of the pilgrims of the present day, seems to have proceeded from Máreb and Şan'á, in a line almost parallel to the shores of the Arabian Gulf, passing by Mekkah and El Haura,² and from thence by Tebuk and Teima to Petra and Gaza. The Tyrians also, who had colonies on the Persian Gulf, communicated with these; and particularly with Gerrha,³ which they reached through the desert by Jebel Shammar.

Commercial
route from
Tyre to Zelebi.

Another and still more important route passed from Tyre to Ba'albek, Damascus, Palmyra, and the Euphrates at Zelebi, where it divided; one branch striking through Mesopotamia to Babylon and Susa, whilst the other passed by Nineveh, Móşul, and Hamadán to Rai, and from thence by Dámaghán to Níshápúr (or Nísábúr), Merv, and Bactra (Bálkh), in order to communicate with the distant parts of the east.

Early trade of
the Hindús.

The Hindús were always a trading people, having been amongst the first of the Asiatics who fostered commerce. At the earliest period of which there is any record, their merchants appear to have moved with perfect security from place to

¹ Lib. XVII., pp. 1127, 1128.

² Albus Pagus of Strabo, *ibid.*

³ Supposed to be Tyrus and Aradus, vol. I., p. 647.

place¹ with valuable goods, chiefly consisting of precious stones, jewels, and various beautiful manufactures in ivory, muslin, cotton, and other cloths,² which had been prepared with much taste and skill, by the people of the country, for home and foreign consumption.

The spread of mankind through India into the more eastern countries had prepared the way for such commerce, which was carried in different directions through the steppes of Asia. Raw silk from China was carried by the route of Persia to the more western countries, together with woven silk; furs of the most costly description from the Bulgars and Khazars,³ with the best kind of iron; all of which were brought from Seres.⁴

Long before the time of Mas'ûdi, there were carried by the same route many of the perfumes of Tibet and China, as well as the numerous productions of India; or, at least, those which were in demand in the countries to the westward, such as silks, cottons, spices, &c. This commerce was well defined in the time of Pliny, and it may, therefore, be inferred that it existed long before his day. The chief articles exported from India were ivory, crystal, amethysts, diamonds, gold, onyx, sardonyx, cinnabar, myrrh, nardus, pepper, with other spices, and a particular kind of linen.⁵ These were carried into Persia, and the countries lying to the westward; and we know that a political as well as a commercial connexion, had existed between the Persians and the Indians, since the time of the conquest of the northern part of India by the elder Cyrus.⁶

Bactra (Bákh), and the surrounding territory, were the principal seats of the ancient trade, from whence, as has been mentioned in a previous part of this work,⁷ there were two

¹ The Ramayana of Valmeeki, translated from the original Sanscrit by William Carey and Joshua Marshman, vol. III., p. 97.

² Arrian, *Ilist. Indica*, cap. xvi.

³ *Die Handelszeuge der Araber unter den Abbassiden, durch Africa, Asien und Ost Europa; Von Fr. Stuewe.* Berlin, 1836, p. 54.

⁴ Pliny, lib. XXXIV., cap. xiv.

⁵ Pliny, lib. VI., cap. xxiii.; lib. XII., cap. xvi.; lib. XXIX., cap. i.; lib. XXXVI., cap. ii.; lib. XXXVII., cap. v. vii.

⁶ Xen. *Cyropæd.*, Hutchinson, 1812, p. 349.

⁷ See above, p. 309.

principal routes to China.¹ One proceeded eastward to Badakshan, from whence it took a north-easterly direction by Káshkar to the celebrated mountain pass of the Stone Tower. Here it turned eastward by Ouchi and Aksou, and keeping nearly parallel to the great chain of the celestial mountains, it passed through the desert of Gobi to the capital of Serica,² supposed to be Pekin and the neighbouring gulf of Petchelee; which was reached after a continuous journey of seven months from the Stone Tower.³

Various routes
through
Balkh.

Another route appears to have taken a south-easterly direction through Attock to Delhi and Benares, whence it turned north-eastward through Tibet, until it met the former near Pekin.

Another route proceeded from the lower part of the Panj-áb to Níshápúr, which place is about twenty-four days' journey from the Oxus. Near Níshápúr the line was joined by one which came from the country of the civilized Massagetæ of Herodotus; that is to say, from Shásh, Ferghánah, Belasíghun, and Samarkand, descending the valley of Soghd to Bokhárá, and from thence by Merv, once the capital of Khorásán, to Níshápúr. Leaving this city the road takes a westerly direction for ten days to Dámaghán, and eight days more bring the caravan to Raï. The latter, as a free mercantile city and commercial republic, might then be considered the greatest emporium of trade in the world, and it was still an important place in the third century of the Hijrah.⁴

Early com-
merce of
Raï, &c.

¹ St. Martin has shown that in early times there were colonies of Chinese in Armenia who were probably merchants; but at all events there was considerable intercourse between the celestial empire and the south-western territory of the Black Sea. *Mémoires Historiques et Géographiques sur l'Arménie*, Paris, 1819, vol. II., p. 15-55.

² D'Anville's *Ancient Geography*, vol. II., pp. 93, 94.

³ *Ancient History of the Indies*, with a special consideration of their influence on the Western Countries, by Joachim Lelewel, Warsaw, 1820, p. 198, compared with Ptolemy, I, 12; VI., 13-16; and Ammian. Marcell., XXIII., 6.

⁴ See Kitáb-al-boldan, an Arabic MS., No. 617, of the East India Company's Library.

At Raï, the route was crossed by another coming from the shores of the Caspian Sea, which took a southerly direction onwards through Ispahán to the Persian Gulf. The principal road, however, continued in a westerly course, having afterwards a branch to Tabríz, and from thence to Tarábuzún, whilst the other, as just noticed, passed through Hamadán and Mósul, &c., to Phœnicia. Raï was considered midway between Báلكh and Tarábuzún, from which port at a later period goods were shipped for the coast of Cappadocia to supply Asia Minor, as well as for some of the ports of the Mediterranean, and the more distant parts of Europe.¹

Secondary
route through
Ispahán.

Advantageous
position of
Raï.

From the story of the Argonauts and the Iphigenia of Tauris, it may be inferred that the Greeks were in connexion with the caravan trade by the route which has just been traced; and in this way the productions of India and China, as well as those of the more northern territory of the Massagetæ were at their command. Thus, as the various drugs of India, &c., were obtained almost at first hand, the early acquaintance of the Greeks with their use was the natural consequence of their connexion with this overland trade.

Products of
China and
India brought
to Greece.

The Greek commerce by sea was however restricted to the southern shores of the Mediterranean, the coast of Italy, and that of Asia Minor. The earliest Greek navigators were the Pelasgians, who about 960 B. C. are said to have extended their colonies to the islands of the Archipelago, the coasts of Asia Minor and Italy, as far as the extremity of the Adriatic Sea. They were succeeded by the Thracians; and these were in turn superseded by the Dorian colony of the Rhodians, who drove the ships of the Thracians from the sea, and extended their own commerce as far as the coasts of Cilicia, Italy, Sicily, and Spain. They also carried on an extensive trade with Egypt, from whence they drew their principal supplies of corn, &c.² On the decline of the Rhodian power, the empire of the sea passed into the hands of the Phrygians, the Phœnicians,

Limited trade
of the Greeks
by sea.

Early trade of
the Thracians,
Dorians, and
Rhodians.

¹ Herod., lib. II., cap. xiv., xv., shows that an intercourse had existed between Egypt and the south-eastern coast of the Black Sea.

² *Histoire du Commerce et de la Navigation des Anciens*, par Peter Daniel Huet, évêque de Soissons, 8vo. Paris, 1716, chap. xix., pp. 111, 112.

and the Egyptians, who held it until towards the end of the eighth century B.C., when it was again restored to the Greeks by the Milesians.

Numerous colonies of the Milesians.

Milet, called by Pomponius Mela, the first town of Greece both for peaceful and warlike pursuits, became also the greatest with regard to the number of its colonies, which according to Pliny,¹ amounted to eighty. The Milesians extended their commerce principally towards the north; but they also established colonies in the south, and opened the trade of the Nile, founding the town of Naucratis on its banks, and that of Abydos in the interior of Egypt. Sinope, Tarábuzún, and other large towns, were also originally Milesian colonies. In time, however, their commercial superiority yielded to the growing power of the Carians, who continued masters of the sea until overcome by the Peloponnesian Greeks, whose dominion lasted up to the time of the expedition of Xerxes, 480 B.C.; and, before this period, the discoveries of the Phocæans had, about 600 B.C. opened to this people new sources of commerce. They had carried their trade to the coast of Italy, where they had founded Nelia and Legaria, and to the southern part of Gallia, where they built Massilia (Marseilles). They also reached Spain, where they founded the town of Artemisium or Diamme, now Denia in Valentia. But among the Greeks themselves, little was effected in commercial enterprises by sea during the early period of their history. The Corinthians appear to have had a few colonies on the coasts of Sicily and Illyria, Syracuse being among the former; while the Athenians, at various times, established the greater number of the Greek colonies existing in the Archipelago, on the coasts of Thrace and Asia Minor, as well as in Cyprus, Sicily, and Italy. But it seems well ascertained that, prior to the invasion of Europe by Xerxes, the commercial enterprise of the Greeks had never carried them beyond the boundaries of the Mediterranean and the Pontus Euxinus.² This is, however, contrary to the opinion

Commercial colonies in Italy, France, and Spain.

Colonies established in Asia Minor, Sicily, &c.

¹ Lib. V., cap. xxix.

² *Mémoire sur les Révolutions du Commerce des îles Britanniques, depuis son commencement jusqu'à l'Expédition de Jules César, par M. Melot, tome XXXVIII., p. 246-290, de Mémoires de Littérature tirées des*

of some authors,¹ who consider that the British isles were known to the Greeks long before that event.²

The British islands known as the Cassiterides.

A very early commerce was carried on with certain islands, bearing the name of the Cassiterides, situated near the coast of Britain, which Camden identifies with the Sorlings:³ the existence also of Britain itself was well known to the Phœnicians, who traded not only with the Cassiterides or tin islands, but also with the southern coast of the principal island, which appears to have been included with the others in the general designation of Cassiteridian islands.⁴ The position of the islands was, however, carefully concealed by the Phœnicians on account of the great advantages which they derived from the discovery. It is difficult to fix the epoch of their first visit to these shores; but it is supposed to have been about the time of Moses.⁵ Strabo⁶ mentions salt, with utensils of earthenware, and all kinds of iron and copper tools, as the articles carried to Britain by the Phœnicians in exchange for skins, leather, and tin: he also describes these islands as abounding in grain and cattle, and as having mines of gold, silver, and iron, all of which, with slaves and hunting-dogs, were objects of their commerce: the dogs were used by the Gauls and some of the nations of the Levant for warlike purposes.⁷ Strabo also considers that the Phœnicians first reached the British islands from Cadiz.⁸

Trade of the Phœnicians with Britain.

Salt, iron, and copper exchanged for tin, &c.

The destruction of Tyre and the rise of Alexandria lessened the trade of the Phœnicians, and the western commerce was gradually usurped by the Carthaginians. The latter appear to have rediscovered the British islands about 200 B.C., and to have

Registres de l'Academie Royale de Sciences, Inscriptions, et Belles Lettres, 1749.

¹ Defence of the British History, by John Price; and the Antiquities of Ancient Britain, by Aylett Sammes.

² Mémoire sur les Révolutions du Commerce, &c., par M. Melot, Mémoires de la Littérature, &c., tome XXIX., pp. 265-295.

³ Britannia, ed. Gough, 1806, vol. IV., p. 565.

⁴ Herodotus, lib. III., cap. cxv.; D'Anville, Géographie, &c., tome I., p. 91.

⁵ Eusebius, Chron., attributes the discovery of the Tin Islands to a Phœnician Hercules, in the seventy-third year of Moses.

⁶ Page 175, ed. of 1671.

⁷ Ibid., p. 305.

⁸ Ibid., p. 175.

Trade of the
Gauls with
Britain.

again opened the trade; but less fortunate than the Phœnicians, their secret was soon discovered, and the commerce with Britain was carried on by the Gauls of Duriorigum in Venets, the ancient inhabitants of Britany, now Vannes. This took place probably about 120 B. C., when Narbonne was built; to which town, as well as to Marseilles¹ the British tin speedily found its way.²

Fleet of the
Hindús in the
time of
Semiramis.

Reverting to eastern commerce, which there is little doubt was likewise maintained by sea from a very early period, it is stated that Strabrotatus built four thousand ships of bamboo to encounter those of Semiramis in battle on the Indus;³ and from the circumstance of this river having been covered with vessels at the time of Alexander's invasion, the antecedent existence of a commerce by sea, may safely be inferred. A chain of ports on the western side of the Indian peninsula is mentioned in the Periplus,⁴ particularly Patala, Barygaza now Baroach, Perimula, Tropina, Antomela, Muziris now Mangalore, and Nelkynda, from whence trade was carried westward. Taprobana was another emporium of Hindú commerce, being admirably situated for the purpose of trade between India, Persia, Arabia, and Africa.⁵

Early com-
merce of the
Indians by sea

Corn, rice, butter, oil of sesamum, coarse and fine cotton goods, cane honey or sugar, were regularly exported to Africa from Barygaza and the adjoining coast;⁶ and it has been already mentioned that Eudoxus discovered the prow of a vessel, presumed to be of Indian construction, on the coast.⁷ Moreover, we find from Strabo that a vessel from India reached the Arabian Gulf, having on board, of all the crew, only one man, and he perishing from thirst and hunger.⁸ The

The Hindús
reach the
Arabian Gulf.

¹ Strabo, p. 257, ed. 1571.

² Mémoire sur les Révolutions du Commerce, par M. Melot, 1749, Mémoires de Littérature, &c, tome XXV., p. 57-83.

³ Diod. Sic., lib. II., cap. xiii., xiv.

⁴ Maris Erythræi, p. 27-34.

⁵ Montfauçon, Bibl. Patr., vol. II., p. 336; and Periplus, Maris Erythræi.

⁶ Periplus, pp. 8, 10, 18.

⁷ Pliny, lib. II., cap. lxvii. From the figure of a horse, which is almost an universal ornament of the vessels of Surat and Bombay, being carved on this prow, Captain Ormsby, of the Indian Navy, has with much probability inferred that it was the remains of a Hindú bark.—*Asiatic Journal*, new series, vol. XXIV., p. 110.

⁸ Lib. XVII.

Persian trade with India consisted of copper and different kinds of costly woods, which were brought in large vessels from Barygaza to the Persian cities; while the inhabitants of 'Omán carried, in return, pearls, purple cloths, wine, dates, and slaves, to Barygaza and Arabia; using small wooden boats which were tied or sewn together.¹ The position of Taprobana, or Ceylon, is particularly mentioned at a later period in connexion with China. It is stated that an Arab merchant proceeded from El Basrah, by sea, to 'Omán, and from thence to Kolah, which is midway to China, and the commercial mart of the Muslim vessels of Seraf and 'Omán. Here, it is added, they now meet the merchants of China, who come for the purpose in their own vessels to this island; while, formerly, they proceeded the whole way to the coasts of 'Omán, Fárs, and El Bahreïn; also to El Ob'oll'ah and El Basrah; which last had the name of Farj-el-Hind.

Vessels from
'Omán and
Seraf trade
with China.

When the geographical position of the Persian Gulf is considered, and especially the fact that it bathes the coast of Babylonia, there can be little doubt that it was the first sea navigated. We find from the Old Testament that the Chaldeans had ships as early as the time of Isaiah;² and this was probably long subsequent to the first establishment of trade in those parts. When, also, it is recollected that on the coast of Persia were situated some of the most ancient nations—as the inhabitants of Susiana, and those of the territory lying between Babylonia and India—it is natural to infer that a mutual intercourse must have subsisted both by land and water between the inhabitants of those countries. The testimony of Plato, about the close of the fifth, or the beginning of the fourth century, B. C., that the Persians were invincible by sea, owing to their numbers, power, wealth, and knowledge of navigation,³ sufficiently bears out the words of the prophet. The Persians, who were at this period masters of the Assyrian⁴ and Babylonian empires, and were in possession of the estuaries of

The position
of Persia
favourable to
trade.

Commerce of
the Persians
by sea.

¹ Periplus, Mar. Erythr.

² Chap. XLIII., v. 14.

³ Menexenus, vol. V., pp. 239, 240.

⁴ The monuments recently brought from Nineveh establish the fact of the use of vessels during the early part of the Assyrian monarchy.

the Euphrates, Tigris, Pallacopas, &c., carried on the commerce then existing with India, China, and Africa; and, as a trade so extensive must have been the growth of time, it is evident that its origin is of high antiquity.

The Arabs
succeed the
Phœnicians.

Opinions have differed concerning the people to whom is due the priority of the navigation of this inlet, some considering that it originated with the people of Kach'h, and others with the Arabs. As navigation commenced with the Phœnicians or Erythreans, it is probable that the Arabs who succeeded them, may claim priority over the Persians as well as the Indians.

They have
always been
pirates or
traders.

The Arabs constantly appear in history as pirates or merchants. From the merchants of Midian,¹ being the bearers of spicery, balm, and myrrh, products of India, it may be inferred that they had some intercourse with that region by sea anterior to the time of Moses. Be this as it may, it can scarcely be doubted that navigation among the Arabs goes back at least to the Ophirian trade; when, if their vessels were not used by Solomon, the men probably formed part of the crews employed to man his ships. In any case, however, the constant succession of coasting voyages, stage by stage, along the shores of the Red Sea, must have taught the Arabs the management of vessels.

Nebuchad-
nezzar en-
courages trade.

Subsequently to the Ophirian voyages² an eastern trade may be traced in the Persian Gulf, where Nebuchadnezzar built Teredon, apparently to facilitate this object;³ and it was during the wars of this prince that the Israelites, whose posterity is known as the black Jews of Malabar, are supposed to have made their way to the latter territory, after having been expelled from their own country.

Commerce of
Tyre with
Arabia.

From the animated description of the prophet Ezekiel,⁴ it is evident that Tyre had long maintained an active commerce in the harbours of Arabia, as well as on the adjoining seas. It is elsewhere stated that Arabia abounds with mariners, pilots, and merchants, who exported native commodities to Barygaza, or

¹ Gen. chap. XXXVII., v. 25, and chap. XLIII., v. 11.

² See above, p. 122-128.

³ Euseb., Præp. Evan., lib. X.; Euseb., Chron. XLIX.

⁴ Chap. XXVII.

Baroach, and other parts beyond the straits;¹ there is also some reason to believe that the Arabs had even circumnavigated Africa.²

Vessels, apparently of Arabian construction, were found by Nearchus on the coast of Mekrán;³ and, in the *Periplus*, they are constantly mentioned,⁴ as well as by Agatharchides,⁵ who, in the second century before our era, gives the first historical evidence of the establishment of Arabian colonists in the ports of India.

Trade of the
Arabs in the
time of
Alexander.

The Egyptian sovereigns were not slow to perceive the advantageous position of their country, and measures were early taken for the improvement of commerce with other parts of the world; more particularly with the dependent territories of Palestine, Cœlo-Syria, Cilicia, Pamphylia, Lycia, Caria, &c. Indeed, the successors of Alexander, although at variance with each other in all other respects, were unanimous in the promotion of commerce, in which they carried out the plan traced by their great master. Ptolemy Philadelphus, the second monarch, was particularly distinguished for the measures which he took to increase the trade of his country; in furtherance of which object he founded a city on the western shore of the Red Sea, called Berenice, after his mother. As an additional means of attracting the trade which had hitherto chiefly passed by land from Elath to Rhinocorura, and thence by sea to Tyre, he caused a canal to be opened from Coptos on the Nile to the Red Sea, in which he kept a fleet. He had other vessels on the Mediterranean side of the isthmus of Suëz, and a communication was constantly maintained between the two seas.⁶

Commerce
encouraged
by the
Egyptians.

The commerce thus opened, which received a great impulse from the happy discovery made by Hippalus of the nature of the monsoons,⁷ appears to have continued until the time of the Romans. During the vigour of the republic, commerce appears to have been neglected; but the subsequent extent of the Roman dominions, and a growing taste for the productions of

The periodical
winds ascer-
tained.

¹ *Periplus, Maris Erythraei*, p. 10.

² Vol. I., p. 652.

³ Arrian, *Hist. Ind.*, cap. XXXVIII.

⁴ P. 19-33.

⁵ *Apud Hudson.*

⁶ Strabo, lib. XVII., p. 791.

⁷ *Peripl. Mar. Eryth.*, p. 32.

other countries, gradually drew attention to it, and caused it ultimately to be pursued with energy and success.

Valuable trade
of the Romans
with India.

It was in the time of Augustus that a direct voyage to India occurred. Taking advantage of the south-west wind, now called Hippalus, one hundred and twenty vessels were despatched by Ælius Gallus, from Myos Hormos towards India, to bring back cargoes during the north-east monsoon. Immense profits of about one hundred per cent.,¹ caused the Romans to pursue this commerce to an extent which afterwards became severely prejudicial to the empire, in consequence of the vast sums transmitted in payment for luxuries.² Subsequently, as a means of facilitating the trade, the line of the Nile was substituted for the upper part of the Red Sea. For this purpose the merchandise was put in boats, in the neighbourhood of Alexandria at Juliopolis, from whence it was carried up the Nile, in twelve days, to Coptos; it was afterwards conveyed on camels, in twelve days more, about two hundred miles, to Berenice,³ on the Red Sea, where it was embarked. This took place about the middle of summer, and thirty days carried the fleet either to the port of Ocelis, or that of Cana (formerly Coptos), both on the southern coast of Arabia, a little beyond the Straits of Báb-el-Mandeb. The remainder of the voyage was completed in forty days to Muziris, in Lemyrice, now Concan, to which port the Indians brought their goods. From thence the fleet returned, laden with costly articles of the east, with the next or north-east monsoon.⁴

Route of this
commerce.

The Arabs
continue the
Indian trade.

This commerce continued till the overthrow of the western empire, when it fell to, or rather reverted to the Arabs, with all the advantages of direct, instead of coasting voyages. Basrah appears to have been built as the first Arabian emporium of trade, and Múhammed visited it when engaged in mercantile pursuits, in his early life. The prophet was fully alive to the advantages of commerce, and enjoined it upon his followers as a religious duty. Every conquered town became the centre of new commercial relations. The rich products of Syria were collected in Damascus under the dominion of the Omaïyades,

¹ Pliny, lib. VI., cap. xxiii.

² Ibid., lib. XII., cap. xix.

³ Ibid., lib. VI., cap. xxiii.

⁴ Ibid.,