The Hittites were already a great power before the middle of the second millennium B.C., and their long ascendency determined the character of the civilisation of the whole of the peninsula.[1] But towards the end of the eighth century the whole land from the Euphrates to the Ægean was overrun by barbaric hordes from the North known as the Cimmerians, a name still synonymous with the blackest barbarism. The peoples of Central and Eastern Asia Minor appear to have been the worst sufferers. None of them ever again played any important part. It was this disaster to the peoples further east that opened the way to the predominence of Lydia, much as the destruction of the great Etruscan power in North Italy by the Gauls about the year 400 B.C. opened the way for the rise of Rome, the power against which the flood of Gallic barbarism finally broke. In both cases we find the new power advancing as the wave of invasion recedes, and before long the kings of Lydia had extended their frontier to the Halys, which rises a little north-east of the source of the Euphrates and flowing first in a south-westerly direction then sweeps round in a great semicircle into the Black Sea. In this way Lydia was brought into direct contact with

[1] On this subject see D. G. Hogarth, *Ionia and the East.*

Assyria, which from its capital Nineveh (Mosul) on the upper Tigris had dominated the whole of Mesopotamia from the opening years of the first millennium B.C. Gyges, the king who founded the dynasty under which Lydia rose to this dominant position, acknowledged the king of Assyria as his overlord, and a clay tablet, discovered in Assyria and brought to the British Museum by George Smith in the 'seventies of the last century, tells us how this Gyges, or Gugu, as the tablet calls him, met his death at the hands of the Cimmerians.

It is easy to see how these changes affected the Greeks of the cities on the coast. They were now the immediate neighbours of the greatest power in the Near East, and had only that power between them and what had been for the last few centuries the greatest and most civilised power in the whole world. Relations were not always friendly. There were, in fact, perpetual wars between the Lydians and one or other of the Greek states, and occasionally they proved disastrous for the Greeks. The long-suffering Greek city of Smyrna was captured in one of these Lydian invasions. But as a rule the struggle was not carried to extremities. This, for instance, is how the war was carried on against the city of Miletus: "Every year

when the crops were ripe the king marched his army into the land. The army marched to the music of mouth organs and harps and flutes, both male and female. And when they reached the Milesian territory they neither pulled down nor set fire to the houses in the country, nor removed their doors, but left them as they found them. But after destroying the trees and the crops on the land they went back home; for the Milesians had control of the sea, so that there was no point in a siege. The reason why the Lydian did not pull down the houses was this, that the Milesians might have the means of sowing and working their land again, and as a result he might be able to damage them at the next invasion. In this way he carried on the war for eleven years."[1] The words just quoted are taken from a Greek historian who was born in one of these Asiatic coast cities only two generations after the order of things that he here describes had passed away. The explanation he gives may be half fanciful and humorous, but it probably embodies a fundamental fact when it says that these Lydian invaders realised that it was not to their own interest to destroy the prosperity of their Greek neighbours even if for the time

[1] Herodotus, i. 17.

they found themselves in a state of war with them.

Such phenomenal intelligence calls for an explanation. Partly it may have been due to the fact that Lydia had risen to power as the leader of the resistance to the Cimmerians, who threatened Greeks and Lydians alike. One of the earliest fragments of Eastern Greek literature comes from a poem by Callinus of Ephesus, in which he exhorts his countrymen to take up arms against the Cimmerian hordes. Without the Lydians the Greeks would have gone under, and they may have felt a lasting gratitude.

But the main reason why Lydia dealt on the whole gently with the Greek cities of the coast was that without them she would have ceased at once to be a great and wealthy power. The greatness of Lydia depended partly on her mines, of which we shall have more to say in a moment. But the mines owed much of their importance to the other great factor in the history of the country, and that was the great road that ran eastwards from Sardis, the Lydian capital, through the whole length of the peninsula and enabled caravans to convey the products of Babylon and Nineveh and the civilised East into the young and newly developing countries of the Far West. It is not

difficult to see why about this time Sardis became the most important point in the whole route. Situated as it was at roughly the same distance from quite a number of the Greek seaports it became the clearing house where the Easterners discharged their caravan loads for distribution by the Lydians themselves among the Greek cities of the coast. These latter in their turn would carry them by ship all over the Mediterranean and the Black Sea and return with the raw products, which would be collected at Sardis and there be loaded on to the caravans that transported them to the Far East. The statements just made are not mere deductions from the geographical situation. The Greeks themselves recognised the great part played in commercial history by the Lydians, who are actually said to have been the earliest merchants. The authority for this statement is Herodotus, the historian who has just been quoted on Lydian relationships with the Greeks of Asia.[1]

A still more important part in the history of commerce is ascribed to the Lydians by several good ancient authorities,[2] according to whom they were the first people in the world to strike

[1] Herodotus, i. 94.
[2] Among them Herodotus (i. 94).

and issue metal coins. Some modern critics have disputed the Lydians' claim to this epoch-making discovery, but the evidence is all in favour of the ancient tradition. The earliest extant coins are very thick and rather amorphous pieces with a type only on one side (see Plate XII, 1). They are found principally in West Asia Minor, and if not struck by the Lydians must have been the work of their Greek neighbours to the west. If hitherto they have been found mainly on the coast the reason may well be that the coast has been much more accessible than the interior, and the Greeks who still inhabit it are much more alive than the Turks of the interior to the value of finds of ancient coins. The metal used for these very early pieces is neither gold nor silver, but a natural mixture of the two known as white gold or electrum. The sources of this metal were the mines on the Lydian Mount Tmolus and the washings of the Lydian River Pactolus, and though, of course, the metal need not have been coined where it was found, the Lydian origin of the metal lends a certain probability to the claims of Lydia to be the maker of the coins.[1]

[1] The early date of these electrum coins is shown by the find recently made by the British Museum authorities when excavating the temple of Artemis (Diana) at Ephesus. This

If we try to visualise the state of things that led to the great invention, we shall be further confirmed in the belief that the tradition that attributes it to Lydia is true. So far as a metal currency has been a blessing to mankind, it has been so because it made it possible for property to be transferred and distributed much more expeditiously and with much less waste of labour than had been possible under any earlier system of exchange. Who then, about the time at which we know that coins were first struck, would have found the greatest benefit from the invention? The Greeks, as pointed out by the French scholar Radet in his history of Lydia,[1] were essentially merchant seamen. They would set out from Ephesus or Miletus with a cargo of manufactured articles or materials from their own cities or the civilised

building was first erected on a grand scale in the days of Crœsus, king of Lydia from about 560 to 546 B.C. The excavators found the remains of two successive buildings that must have been earlier than the temple of Crœsus, and in a position that showed them to be earlier than the earliest of these buildings they found a large number of these electrum coins. The same date is suggested by the style of the coins. We know that by about 550 B.C. coins were struck with "heads" and "tails" like those we still use (see e.g. Plate XII, 3). The primitive electrum coins have a design on one side only and are technically not nearly so advanced as the coins known to have been current in the middle of the sixth century.

[1] G. Radet, *La Lydie et le Monde Grec.*

countries further east, and return with the raw products of some such undeveloped country as Italy, Spain, or South Russia. It is a matter of exchanging cargo for cargo. The whole transaction is best done without the use of anything like money as we now understand it. But at Sardis the state of things was different. The baggage animals that came with carpets and the like from Central Asia were in no need of heavy loads to serve as ballast on the homeward route. Very often they would be more than contented to return with a small but precious load of gold or silver from the Far West or electrum from Lydia itself. We may be fairly sure that the precious metals travelled eastward in some abundance in this caravan trade, and consequently that the Lydian merchants in the bazaars at Sardis would have a strong motive for keeping their stock of these metals in the form most convenient for trade. It is hardly rash to assume that a nation of shopkeepers, such as the Lydians unquestionably were, must have realised that the middleman's profits are safest and probably in the long run greatest when the largest possible amount of business passes through his hands. In other words, we find in Lydia precisely the circumstances that would inspire the invention of a metal coinage. The trader who kept his

precious metals in the form of coins of a fixed weight and guaranteed quality would have struck his bargain and be already getting on with the next piece of business while his old-fashioned rival was only at the beginning of the elaborate operation of sawing up gold bars or sorting out gold rings in order to make some corresponding payment, the operation being rendered the more complicated by the fact that like Lot and Abraham he still kept his accounts in units of sheep and oxen.

It would probably be difficult to overestimate the influence that Lydia exercised on the Greeks of the coast just west of it. It made them the nation of traders that they have been ever since, and that by itself, with a people gifted like the Greeks, meant that it made them exceptionally quick-witted and keen observers. But that was only a small part of the effect of contact with the people who controlled the great East road. All sorts of wrought articles passed westwards along it, and their skilful workmanship stimulated the Greeks to emulate and later to surpass their models. Nor was it only material things that travelled thus. Skilled workmen from the East may have come at least as far west as the royal residence at Sardis, and directly or in-

directly Greek workmen must have become their pupils. In engineering, too, and in some of the sciences, notably astronomy, the peoples of Mesopotamia were comparative experts, and in these spheres also the wisdom of the East came now in some measure to cities like Miletus and Ephesus along the great Lydian road.

While Gyges was building up Lydia into a great power in Asia Minor, Egypt was recovering its lost greatness under a prince named Psamtek, or, as the Greeks called him, Psammetichus. The centuries that followed the overthrow of Mycenæan civilisation in the Ægean had been equally black for Egypt. The country had broken up into a number of petty principalities whose rulers spent their time in feuds with one another like so many mediæval barons. We even find tournaments organised in a way that curiously recalls those of our own mediæval period,[1] while the subject of the joust, a piece of armour belonging to a dead prince, and the general behaviour of the chieftains and the angry impotence of their nominal overlord suggest a comparison with Agamemnon and his unruly subordinates before

[1] Maspero, *Popular Stories of Ancient Egypt*, translated by Mrs. C. H. W. Johns, pp. 217 f. (*The High Emprise for the Cuirass*).

the walls of Troy. These internal dissensions had opened the way for foreign invaders, and the kings of Assyria had entered the country from the north-east, while the Ethiopians had advanced into it from the south, and in the eighth century established some sort of supremacy over the whole country. Psamtek, who was prince of Sais in the western part of the Delta, made himself king of the whole country, reducing the other princes to the position of vassals and driving the Assyrians and Ethiopians out of the land. This, of course, meant that he had more men and more money than his rivals, and it was to secure these advantages that he opened up the country to the Greeks. He made his money by trading with foreigners across the sea, among whom were certainly the Greeks of the Asiatic coast, and he enlisted to fight for him Ionian Greeks, that is, Greeks from the central cities of that same region. When Psammetichus was firmly established he did not disband these mercenaries, but concentrated them in a camp on the Suez frontier in a place known to the Greeks as Daphnæ : in the Bible the name appears in the form Tapahnes : it is the place where Jeremiah sought refuge from the Babylonians. Some thirty years ago the site was excavated by Flinders Petrie, and the numerous finds that

he made there of objects both Greek and Egyptian enable us to form some picture of the ancient town and to fill in many historical details as to the Greek occupation.

Psamtek founded a dynasty, the twenty-sixth, which continued to prosper and govern Egypt during the whole period of the Greek renaissance. All through this period of over one hundred and fifty years the Egyptian pharaohs depended largely on their Greek mercenaries, and continued the facilities for the Greeks to trade in Egypt. Somewhere towards the end of the seventh century a brother of the poetess Sappho is known to have traded with Egypt in the wines of his native Mitylene. The chief port in Egypt for this Greek trade was Naucratis, a city lying some way up the most western branch of the Nile. This site, too, has been excavated, and the finds show what a flourishing place this Greek emporium was.[1]

These traders and mercenaries must have kept their fellow-countrymen in touch with Egypt all through the period whose history we

[1] Some doubts have been expressed as to whether the Greek settlement goes back to the early days of Psamtek, but a full examination of the exidence of both excavations and ancient writers shows fairly decisively that it did.

are tracing, and it is inconceivable that under these circumstances Egypt should not have played a considerable part in the great movements that were taking place in the Greek world. Now Egypt herself, under the twenty-sixth dynasty, witnessed a remarkable revival of all her ancient prosperity, the armed retainers of the petty chiefs of the preceding period giving place to armies of artisans and craftsmen engaged in building great temples, carving great statues, and generally in making good the losses of some centuries of anarchy and civil war. We cannot here trace in detail the ways in which Egyptian influence was felt in Greece, but the influence is manifest at the first glance to anyone who has ever compared an early sixth century Greek statue (e.g. Plate III) with the work of Egyptian sculptors. There can be little doubt, too, that the antiquity of the temples and monuments that he saw everywhere in Egypt roused the historical imagination of the Greek visitor, while his geographical sense was similarly stimulated by the mighty river which in so obvious and striking a manner positively makes the land of Egypt. Here again we are not indulging in pure speculation or a priori probabilities. We can detect these influences in the Greek historian Herodotus, who visited Egypt less than a cen-

tury after the overthrow of the dynasty that Psamtek founded.

The Greeks who at this period traded with Egypt or supplied its kings with soldiers came mainly from the same Asiatic cities that saw so much of the armies and the traders of the kingdom of Lydia. The original mercenaries of Psamtek are said to have been Ionians, their earliest settlement in Egypt was known as the Milesians' Fort, while of twelve Greek cities that enjoyed the privilege of permanent quarters in Naucratis only one, the island of Ægina, belonged to European Greece: the rest all lay on the Asiatic coast or on the islands immediately off it. In Egypt and in the Further East these comparatively new Greek cities were brought face to face with civilisations much older and more developed than their own. In other directions, as observed already, they were constantly meeting with peoples very much more primitive. Miletus, for instance, was engaged in planting her settlements round the shores of the Black Sea, which, with the vast rich plains behind them, soon came to mean to the Greek world something of what Canada has meant for modern England. The neighbouring Samians, in a famous voyage to which we shall have occasion to revert in Chapter VII, explored as far as Tartessos, the Biblical Tar-

shish, in Spain, and won enormous wealth by exploiting its silver mines, or rather the natives who worked them.

This concludes our very brief survey of the geographical distribution and grouping of the Greek race and the alien races with which at this time it found itself in contact. It remains in this chapter to indicate some of the ways in which the Greeks of this period were moulded and influenced by their environment.

One inevitable effect of the wanderings of the Greeks themselves was that they had become a very mixed race. The population of the mother country itself was the result of successive waves of immigration. In some spots no doubt, and notably in Sparta, two separate streams of invaders and the aboriginal stock each maintained all through the historical period a quite separate existence. In others, including perhaps Athens, the floods of invasion had swept past and left the original population practically undisturbed, except by refugees of their own race. But even in regions that escaped invasion there must often have been much peaceful penetration by foreign elements, notably in Athens itself, while in most invaded districts there must have been much inter-

marriage. On the Asiatic coast not only did the original Greek settlers come in three different groups, but on their arrival they intermarried largely with the various native races whom they dispossessed. This may safely be assumed from the character of such expeditions, where among the invaders men are bound to be in an immense preponderance, while the invasion is almost certain to leave the native women more numerous than the marriageable men of their race. In the case of the Milesians, whose city soon won the first place among the new settlements, we are expressly told that the invaders intermarried largely with the native Carian women. If we wish for a more vivid picture of the sort of thing that must have been constantly happening we have only to read the story of Briseis in the Iliad, whom Achilles took to live with him after he had sacked her city and killed off all her male relations. The Greeks of this period were, therefore, a mixed race, and the mixture was by no means uniform. In the main, however, it was the union of the youthful North with the more ancient and sophisticated South, a union that more than once has been found to produce a particularly gifted progeny. As a work of art no doubt the prize goes to the thoroughbred, but from the point of view of creative genius and

intelligence the mixed breed is generally found to come easily first.

Antecedents and upbringing also played their part in making the Greeks what they were. For generations past they had been an adventurous people. In the days of the actual migrations there must have, indeed, been restless spirits, with something in them of Homer's Odysseus, who took their whole future into their hands and sought a new home across the seas. Right on into the days of the renaissance this thirst for adventure continued equally strong. Without it the Black Sea would never have been fringed with Ionian colonies, and Psamtek of Egypt would never have gathered together the Ionian mercenaries with whose help he became pharaoh and re-established Egypt as a great power.

But what differentiated these adventurers of the seventh century B.C. from their ancestors in the eighth century and earlier was that their wanderings were not due merely to external pressure or aimless unrest. They had by now become the enterprises of an organised society with definite constructive aims.

The period of exploration was practically at an end. The whole Mediterranean area had been opened up to Greek trade, and every Greek city began to form more or less regular

and recognised connections with mother or sister cities in other parts of this greater Greek world. Each of the cities of Sicily or South Italy, for instance, was in fairly constant communication with some definite group of cities in the mother country and with one or more of the Greek settlements still further to the north and west. Even the Greek cities of Spain are shown by archæological finds to have been in frequent touch with their mother cities in Asia Minor. Life was still sufficiently rich in adventure and variety to drive home the fact that human nature is not static and uniform. On the other hand, it was sufficiently stable and ran on definite enough lines to allow for and encourage a continuous growth and development. This was the case all over the Greek world, but most of all in the Ionic cities, and this is perhaps the main reason why they took the lead.

In one other point Ionia was peculiarly favoured. Too often it happens that the milk and honey of the promised land prove the ultimate downfall of its possessors. The enterprising nation pushing its way to a place in the sun advances just a little too far so that the warmth produces enervation. To the modern inhabitant of Northern Europe the climate of the East Ægean may seem too warm

for a really energetic life; but on this point it is necessary to remember that climate may change in the course of twenty-five centuries: the retirement northwards of the great ice belt of the last glacial period is a comparatively recent event, and apart from such purely natural considerations it must be remembered that the climate of any given region can be to some extent affected by the people who inhabit it according as they treat the vegetation and the surface water of their land. The neglected Mesopotamia of the Turks must be very different climatically from the elaborately irrigated and canalised Mesopotamia of the great empires of antiquity. And not only may the actual climate change but also the climatic requirements of humanity in its varying phases of development. Bearing these facts in mind there is no reason for not accepting for this period the words of Herodotus, who asserts that from the point of view of climate Ionia was favoured above all the regions of the known world.[1]

But though the Asiatic cities were thus specially favoured and took the lead, the rest of the Greek world followed close behind. What they severally achieved in the

[1] Herodotus, i. 142.

various spheres of art and literature, science and philosophy, political and social organisation will be indicated in the chapters that follow.

CHAPTER IV

THE RENAISSANCE IN ARTS, CRAFTS AND COMMERCE

THE disastrous effects of an age of wars and invasions are not to be measured merely by an inventory of positive destruction. Achilles and Agamemnon did more than destroy Troy. They destroyed for the time being at any rate the will to reconstruct it. Men will build well and strongly only when there is a reasonable prospect of their work enduring, and the fall of Troy and Cnossus must have meant to the men of that period that no such prospect longer existed. It was nearly half a millennium before any serious attempt at reconstruction began. Some of the factors that inspired the renaissance have been touched on already in Chapter III, but none of them would have had any serious permanent effect on Greece but for the fact that the Greeks themselves were settling down and becoming comparatively peaceful and law-abiding

members of organised societies. To the end of their history the Greek city states were in a chronic state of war with one another, but from the seventh century B.C. onward within the city walls life was comparatively safe. Men began to go about the streets of their own city unarmed. It was an epoch-making change and from it Thucydides dates the beginning of Greek greatness.

The new sense of security profoundly altered the whole life of the Greeks. There was an outburst of constructive activity such as the world has seldom seen. It affected thought still more than action, but even the material results were sufficiently remarkable. Greek art still sets our standards even where it does not furnish us with models. The rest of this chapter will be devoted to giving a short account of the way in which it developed its main characteristics.

In architecture the great achievement of seventh-century Greece was the evolution of the Greek temple, the general plan and style of which will be familiar to most readers of these pages. A rectangular hall is surrounded externally by a colonnade and the whole covered by a gabled roof. Until late in Greek history all Greek temples were erected in one or other of two styles. In the simpler and

severer, which is known as the Doric (see Plate I), the pillars rise directly from the platform on which the temple is erected; the pillar itself tapers upward, not, however, in a straight line but with a slight convex curve that adds greatly to the impression of strength; the broad shallow flutings that run from top to bottom of the pillar are carved so close together that only a sharp edge is left between them; the capital of the column consists of a round member, something like an inverted bun, placed beneath a square plinth on which rests the architrave, or principal horizontal member for the support of the roof; over the architrave is another horizontal member divided into squares known alternately as metopes and triglyphs: the triglyph is always carved vertically with sharp angular flutings, the metopes are sometimes left plain but more often decorated with sculpture.

In Ionic architecture (Plate II) the pillars rest on a base; the pillar itself is slenderer and has not the subtle curve of the Doric; the flutings are placed slightly apart from one another; the capital consists of two volutes; the architrave is carved horizontally to give the effect of three courses of which the two highest each slightly overlaps the one beneath;

while over this again, in the place of the Doric triglyphs and metopes, we find a continuous band of sculpture. There is no need here to describe in detail the other parts of a Greek temple. Of the general character of Greek architecture some idea may be formed from such modern imitations as the British Museum or St. Pancras Church in London, both of which are strictly correct in their rendering of details. But these modern copies and adaptations never catch anything of the atmosphere of the old Greek buildings, while even in externals they give no idea of two of the most striking characteristics of the ancient Greek temple. The first of these is the rigid way in which it adhered to a single plan and to one or other of these two schemes of decoration. The great cathedrals left us by our own Middle Ages have accustomed us to expect great variety of shape and the promiscuous use in one and the same building of numerous styles of decoration. But with one or two exceptions the Greek temple keeps rigidly to its rectangular form, and almost without exception it will be found that any given temple is pure Doric throughout or pure Ionic. If a modern tourist could follow in the footsteps of the Greek Pausanias, who wrote a sort of Baedeker's guide to Ancient Greece in the second century A.D.,

he would probably feel that there was a good deal of monotony about these old temples. But that was not the feeling of the men who put them up. There is no doubt that they were out to realise an ideal, and that mathematical theories played a large part in their conceptions. They had a keen practical sense of proportion. That is shown in the extant remains of their buildings. But they had something else besides this. Their work had a mathematical basis. The sense of proportion was for them not a matter of intuition, but of mathematical reasoning. This unremitting intellectual control gives to Greek architecture perhaps its most outstanding character. The Greek architect sometimes made mistakes, but he was never silly in the way that more recent architects so often are. There is another aspect of this rigid adherence to type that deserves our notice. It has no connexion with the apparently similar phenomenon that may be observed in modern slum architecture. This latter means simply intellectual idleness on the part of the builders, who will not be bothered to think out plans of their own. Greek uniformity meant something quite different. It meant that a whole band of workers was concentrated on solving a single problem, much like the great builders of any one generation of the Gothic

period, or the great artists of modern times who have evolved our steam engines and ships and aeroplanes, or their minor contemporaries who have perfected the cricket bat and the tennis racket. All these men have worked under the same inspiration, namely, that of believing that by infinite pains something like perfection might be obtained within a given limited sphere.

The other great difference between, let us say, the British Museum as we see it to-day and a Greek temple as it appeared while still in repair is in the matter of colour. Greek temples were coloured outside as well as in, the various details being picked out in blue, red, and other bright colours. This may sound cheap and garish to readers whose ideas of good external architecture are all based on the weathered stone and brick of our own best buildings, especially if he connects coloured exteriors with the modern atrocities in glazed tiles that at present disfigure so many of our streets. But there is little doubt that our own great mediæval architects only refrained from colouring the outsides of their buildings because they could not in our moist climate devise any scheme of outside colouring that would not quickly wear off. Internally their buildings were one mass of colours, walls and roof as well

as windows. If they had had the means and material, they would have coloured their exteriors quite as freely as did the mediæval builders of Florence or Orvieto. But whereas Giotto's tower at Florence and the great western façade of Orvieto Cathedral produce their colour schemes by the lavish use of coloured marbles, the Greeks, on the other hand, when they came to build stone temples, secured coloured exteriors by the use of paint. The morals and merits of this process will be discussed later in the chapter, when something has been said of Greek sculptors, who also made considerable use of it. A word, however, may here be said about the history of the practice as applied to the outside of buildings. The marble temple was not in Greece the result of a gradual evolution. It was a translation into more monumental material of a type of building that in its earlier stages had been mainly of wood and in the next stages of soft stone. Both these materials need protection from the weather. When wood was employed this had been secured by facing the more exposed parts of the building (as well, of course, as the roof) with terra-cotta. The terra-cotta vases of this period were gaily coloured, and the architectural terra-cottas, which were doubtless produced by the same firms as the

vases, were coloured in the same way.[1] These highly coloured architectural terra-cottas were used widely and for a long period; there are many specimens in our museums.[2] When wood and bricks gave way to stone, the stone first employed, being soft and by no means weather-proof, was largely protected by means of stucco and paint. This painted stone architecture was very prevalent in the sixth century. But even when marble was employed numerous details were still picked out in colours. A building of bare white marble unrelieved by any colour would have struck a Greek as chilly and bleak.

It is not only in its colouring that the marble temple betrays its wooden prototype. Many details of the ornamentation are almost literal translations from wood into stone. For instance, the triglyphs described above represent the wooden beams that bore the weight of the roof, while the metopes were originally slabs of

[1] In North Nigeria, so I am informed by my friend, J. W. S. Macfie, of the West African medical service, they actually use plates for this purpose, particularly soup plates, which from their shape can be better embedded in the walls of the native mud huts.

[2] See, e.g., the fine set from Lanuvium now in the British Museum. Fresh examples are constantly being discovered, e.g. the splendid fragments recently unearthed by Orsi at Syracuse.

terra-cotta or other material placed between these beam ends to prevent the damp getting in and rotting the woodwork.

This bold borrowing of forms that were structural in the older material to serve for purely ornamental purposes in the new is particularly interesting to students of modern architecture; for modern architects are face to face with a similar problem, namely, how far they are to preserve the effects of brick and stone in the new buildings whose structure is based on concrete and iron.

In sculpture the Greeks are generally admitted to have produced works that have never been surpassed. Complete mastery was only reached in the fifth century B.C., but it is easier to realise what was being done in the sixth century if we first turn for a moment to the achievements of the fifth. These latter can nowhere be better studied than in the British Museum, which possesses a magnificent series of reliefs and figures in the round that once adorned the Parthenon, the chief temple of Athens, erected between the years 447 and 438 B.C., but were brought to England by Lord Elgin a century ago. It is difficult and dangerous to try to write a verbal appreciation of a work of art, but among the words that best suggest what these Greek artists achieved we

may safely put beauty, sanity, appropriateness, and a certain solemn restfulness. The modern world is only too familiar with sculptures that abound in force and in nothing else. In all periods when sculptors have thoroughly mastered their technique they tend to try and express in bronze and marble conceptions that are quite unsuitable to such materials. Sometimes, again, sculpture has been captured by mysticism and symbolism and ceased to appeal to any except sectarians and the historians who study their aberrations. In process of time the Greek artists fell astray in all these ways; but unlike the sculptors of most races and epochs they were not perverted till after they had for one brief period expressed in bronze and marble statues just what is best expressed in that way and cannot so adequately be expressed in any other.

Why the Greeks excelled so in sculpture is hard to state. In painting they were probably not nearly so successful. To judge from such evidence as we have at our disposal it is probable that Greek painting even of the very best period would have seemed to us charming but rather thin, and not nearly so expressive as the best modern work. It is, indeed, arguable that the Greeks were just at that stage of development when artistic ideas were best

expressed by sculpture, whereas in modern life, where form appeals less and atmosphere more, sculpture is an archaism, except for decorative purposes, and the picture, stationary or moving, the one live vehicle for artistic ideas.

But to pass from so controversial a point there seems little doubt that one reason why Greek sculpture succeeded in attaining its goal was this: it enjoyed a natural and uninterrupted evolution with just sufficient external stimulus and assistance, but no more. This fact may serve to remind us that we are concerned here only with the earlier stages of the evolution to which it is time that we now reverted.

In sculpture as in architecture the Dark Ages have left us practically nothing. Possibly the gods and great men of the period were represented in wood, since some of the earliest stone statues of the Renaissance appear to have a partly wooden pedigree. In some of them, as for instance a statue of the goddess Artemis found on the island of Delos (Plate III), the body is flat and rectangular like a piece of squared wood; in others, as in a statue of Hera found on the island of Samos (Plate IV), the body is round in section like the trunk of a tree and the folds of the drapery are treated

in a way that rather recalls the grain of wood. These earliest Greek statues often strike the spectator as Egyptian in character, and it is not unlikely that Egypt supplied part at least of the inspiration and possibly of the technique. None of them goes back earlier than the Egyptian revival under the Saite dynasty and the Greek settlements in Egypt early in the seventh century B.C. But Greek tradition ascribed the first debt of Greek sculpture not to Egypt but to Crete, and though modern excavation has not directly confirmed this tradition, it accords well with the recent discovery of the great part played by Crete in prehistoric times.

To turn from origins to developments, the statues of Artemis and Hera above referred to both represent standing draped female figures, and it so happens that we are particularly well able to trace the progressive treatment of this type. Draped female figures were set up in numbers on the Acropolis at Athens, where they were doubtless regarded as particularly appropriate, since Athens was the city of the virgin goddess Athena. In 480 B.C., when the Persians sacked Athens, they damaged and overthrew a whole series of such statues. It was a period when fashions in art were rapidly changing, and so instead of restoring and

re-erecting these damaged works the Athenians made new ones and used the old as building material to help to raise the level of the Acropolis. There they lay buried till 1886, when the Greek archæological society excavated the site, rediscovered these buried statues, and re-erected them in a place of honour in the new museum on the Acropolis within a few yards of the places where they must have stood till Xerxes cast them down. They have been studied with great care and classed in various groups according to their dates and schools. Some of them (see e.g. Plate V) show obvious affinities with the primitive Artemis of Delos, but others (see e.g. Plate VI) show a very high skill and advanced technique. In more ways than one, however, the whole series contradicts our common conceptions of Greek art. The treatment is not broad and simple and severe, but elaborate and sophisticated and even modish. The ladies' dress is highly complicated and has been the subject of much controversy among experts. Their hair must have required hours of attention daily. Even their smile is highly cultivated. In many ways their merits are those that are commonly claimed for Japanese art rather than for Greek. But side by side with this draped female type of statue the Greeks were developing another

that even from its earlier stages had a character pre-eminently Greek. This was the nude male figure (Plate VII). At first the type is treated in a primitive enough way, standing at attention with arms glued to the side, mouth straight like a slot or curved upwards in what is now known among archæologists as the archaic smile, and large staring eyes such as befit a new arrival upon our earth. Statues of this type have been found in many parts of Greece, and a development of treatment can be easily traced. The legs are detached from one another and the arms from the body; muscles and anatomical details generally get to be represented with more and more skill; similar progress is made in the treatment of the face, though eyes and mouth long baffled the artist.

Greek art found its true self when these two conflicting currents at last converged. It was, indeed, long held that no such convergence ever took place; that the Athenian elaboration of the sixth century B.C. was something that conflicted radically with all that was best in the Greek genius; and that Greek art only found its true expression when the Persian wars had swept away this over-elaboration, and caused all Greece, Athens included, to adopt the ideals of the severe Dorian school that had

developed the virile athletic type in art. Such a view is not supported by the archæological evidence. Athens was already casting aside this over-elaboration before the Persian wars began, and Greek art of the fifth century B.C. is not a repudiation of Athenian art of the sixth. The simplicity of Pheidias is like that of Plato : it is the last word in culture and refinement, which nearly always passes through a stage of over-elaboration before it reaches its goal. Like the corresponding change that took place at the beginning of the nineteenth century this revolution in dress reflected a revolution in politics and thought. It was Rousseau and the French Revolution that put an end to wigs and powder and introduced the Byronic collar, and the course of events in Greece towards the end of the sixth century was probably not dissimilar. As will be seen in subsequent chapters, the seventh and sixth centuries B.C. were an age of enlightened despotism and luxurious refinement. In all probability the movement towards simplicity in the latter part of the sixth century B.C. was closely bound up with the overthrow of these enlightened but luxurious despots.

One striking feature of ancient Greek sculpture that has already been mentioned in the section on architecture remains to be noticed

a little more fully here. The statues were coloured. In most extant specimens the colouring has entirely disappeared. The only series where it is preserved at all completely is that of the draped female statues from the Athenian Acropolis. From them, however, we can still get a fair idea of the original effect. Heavy opaque colours are used only for minor details, such as the hair and patterns (generally borders) on the dresses (see Plates V, VI). Larger surfaces are treated with light transparent stains that leave the texture of the marble visible. The result is something far less tiring to the eye and far more beautiful and expressive than anything that can be achieved in plain white stone. It is important to realise that it is we and not the Greeks who are abnormal in this respect. The ancient Egyptians made use of colour in their statues and reliefs. So, too, did the great sculptors of mediæval Europe. White stone statues came in with whitewashed churches and other artistic aberrations of the Puritan movements of the seventeenth century. Why a reaction towards normal conditions has been so slow in coming may be easily explained. The choice, as we generally see it now, is between honest work in plain marble and highly coloured efforts in wax or plaster that are thoroughly meritricious in

every way. Colour, in short, as connected with statuary, has come to connote cheap material and bad art. But the connotation is purely accidental. We have only to look beyond the narrow limits of our own epoch to see it for what it is worth and treat it accordingly.

But for the study of early Greek handwork far the most abundant material is supplied by pottery, and Greek pottery is exceptionally valuable from the historical point of view. In the first place the Greeks of this period were very fond of painting pictures on their vases, and these vase paintings, besides being often very interesting from their subjects, are now our chief source of knowledge as to the achievements of Greek painters and draughtsmen. The potters of the Dark Ages had also painted pictures on their pots, but their drawing, as already mentioned,[1] was childish in the extreme, a primitive form of cubism in which the human figure was represented by various arrangements of squares, triangles, and straight lines. This geometric pottery (Plate VIII a) lasted well into the seventh century, but after 700 B.C. it was no longer the most popular style. The new school of vase painters was less aspiring in

[1] Above, p. 23.

its subjects, but far more skilful in the execution. Instead of attempting long funeral processions or battle scenes and such difficult problems as that of representing the deceased in his coffin or the internal arrangements of a man of war, the new artists spent most of their time in drawing long friezes of animals or birds, and it was only after a long apprenticeship at this sort of work that they began to paint men and gods. Two schools of these animal artists are to be distinguished, one of which flourished in the Greek cities of Asia Minor and is generally known as Ionian (Plate VIII b), the other on the Greek mainland at Corinth. Both schools got their main effect by drawing in black silhouette on a creamy ground; but the Corinthians painted the whole figure in silhouette and then expressed or emphasised details by means of patches of purple paint or by incised lines (Plate IX), whereas the Ionian painters only used silhouettes for the main part of their figures, while the heads were left in outline, thus enabling them to paint in such details as the eyes and mouth. Both schools alike are decorative rather than descriptive, and filled up the empty spaces between the various animals and even the voids left between their legs or above their backs with ornamental

patterns such as rosettes.[1] These fill ornaments, as they are called, cause vase paintings in these two styles to look not unlike pieces of tapestry or Persian carpet. The resemblance is probably not accidental. Homer praises the woven work of the women of Sidon, and it was probably some such work that afforded the models used by the potters of Miletus and Corinth.

In the change from animal decoration to subjects that are mainly human and descriptive the Corinthians and Ionians certainly contributed,[2] but the leading part was soon assumed by Athens. The Athenian potters come to the fore early in the sixth century. One of the earliest of their masterpieces is reproduced on Plate X. Like the Corinthians they drew their figures in black silhouette with details expressed by incised lines, and like them too they sometimes used other colours for details, notably white for the flesh of women and purple for the beards of men. The latter seems to have no relation to the facts of nature, but the white probably tells a melancholy truth. The women of Athens seldom left their houses, and the

[1] Differently drawn in the two styles, cp. Plate VIII b with Plate IX.

[2] See, e.g. Plate VIII b, a comparatively late specimen of its style.

unhealthy pallor of their complexions must have offered a striking contrast to the bronzed faces of the men. The ground colour of Athenian vases is not cream but red.

Now that the vase painters were drawing real pictures the rosettes and other fill ornaments of the earlier styles were only in the way, and soon they disappeared. Their places, however, were not always left vacant. More and more frequently the potter is a man who can read and write and he labels his gods and heroes with their respective names. Sometimes, again, he puts words into the mouths of his figures: one of these vase painters, for instance, has drawn us two elegant Athenians sitting very lightly clad and both looking at a swallow. "See, the swallow!" says one of them. "By Heracles, spring already," replies the other. Another symptomatic fact is that these Athenian potters often sign their names. Some vases bear the signature of the potter, some of the painter, a few of both. Of one of these potters, by name Nicosthenes, we possess over ninety signed vases. Perhaps it is no accident that this particular potter turned out on the whole worse ware than any of his less productive and pushful contemporaries.

About the year 530 B.C. the Attic potters developed a new style of vase painting, known

generally as red figure in contradistinction to the black figure style that it replaced. In the red figure style (Plate XI) the artist drew his outline as before on the red or terra-cotta coloured ground of the vase; but instead of filling in the outline in black he filled in the background with black and left the figures in red. This enabled him to paint in details with fine pencil lines instead of the incisions used on the black figure vases, and as regards individual figures enabled him to express himself as freely as the modern artist working in pen and ink. This is perhaps as far as the great artists got whose pictures the vase painter humbly borrowed from. There is no evidence that the possibilities of background and atmosphere were realised even by the greatest of Greek painters. Even in drawing the sixth-century Attic vase painters were not yet technically perfect. They had not, for instance, realised that though the human eye is almond-shaped it does not appear so and therefore should not be drawn so when the face is in profile. We may, indeed, love them simply for their very quaintness. But there is also a refinement and charm about their drawings that will be sought in vain among the facile and florid productions of later ages.

Greek vases of the styles just described have

been found in enormous quantities not only in Attica and other parts of Greece, but also in Italy, Egypt, South Russia, and elsewhere. This fact by itself is enough to show how Greek trade was developing in all directions. For the vases discovered can only form a minute fraction of those that were exported, and if Greek vases penetrated everywhere in this way we may be sure that other kinds of Greek goods did so equally. Pottery is not a particularly portable commodity. Where it differs from most others is in being practically indestructible. If we visit any ancient site, Greek, Roman, ancient British, or even early Saxon, we shall if we use our eyes find plenty of potsherds of the period, but of other remains often none at all. Wood rots, metal rusts, most stones are more or less friable, while such as are not get taken away to be used elsewhere for other purposes. But potsherds have no intrinsic value. Violent treatment diminishes their size but increases their number, and thus the amount and quality of pottery on a site gives some idea of the amount and quality of other products that were once in use there.

Apart from the archæological evidence we know from ancient writers that commerce and industry were rapidly developing. Thucydides regarded the growth of trade and shipping as

one of the dominant features of our period. The Dark Ages had been ages of isolation and exclusiveness. Ships there were, indeed, and in some number : but they were mostly pirates or ships equipped to keep the pirates off. But in the seventh century B.C. we begin to hear of Greek merchant adventurers somewhat of the Dick Whittington description, who sail away into distant lands and come back incredibly wealthy as a result of bartering Greek goods for the products of the lands they visit. After a time the leading Greek cities began to have regular trade connexions with this or that quarter of the foreign world or the Greek world overseas. There were, for instance, close trade connexions between Miletus in Asia Minor and Sybaris in South Italy.

On the land, too, a similar development was taking place. The city states were still in a condition of chronic antagonism as acute and as absurd as that which prevails in Europe at this day. But the governments of this particular period were largely trying to mitigate this condition of things. Most of the leading states established about this time a typically Greek institution in the shape of solemn games, held in some cases annually, in some biennially, in some once every four years. These games were primarily athletic and literary competitions in

which all Greeks were eligible to compete. In point of fact they became as well a kind of great fair held under conditions that recall the mediæval truce of God. All kinds of people gathered at these meetings and they came to mean among other things that at regular periods members of all Greek cities, whether allies, neutrals, or belligerents, had an opportunity of discussing business, politics, or even ideas. Pindar, who began writing at the close of our period, and whose extant works are all occasional poems written in honour of victors at these games, makes frequent allusions to the commercial ties of the cities that he glorifies. For him, as for the other more enlightened supporters of these institutions, the games were great inter-city, or as we should say, international gatherings that made for understanding and reconcilement among the states assembled. His hopes, it is true, proved as baseless as those of the men who organised the Great Exhibition of 1851, not to mention more recent aspirations in the same direction. But though these festivals failed to achieve all that poets hoped of them, it would be a mistake to estimate lightly the value of what they did in fact achieve. When all is said these Greek games remain one of the few notable efforts to reconcile a deeply rooted local patrotism with a

really live internationalism that the world has so far seen.[1]

[1] No popular books are devoted exclusively to the arts and industries of Greece during the archaic period, but they are, of course, dealt with incidentally in all general accounts of the subjects, e.g. (to quote only works of very modest prices) H. B. Walters' little volume on *Greek Art* in the Little Books on Art series, and the *Guide to Greek and Roman Antiquities in the British Museum* and the similar *Guide to Greek and Roman Life*, both published by the Museum Authorities and obtainable at the Museum. Better still, of course, if these can be supplemented by a study of the originals. For sculpture, see the earlier part of E. Gardner's *Handbook of Greek Sculpture*.

CHAPTER V

THE RENAISSANCE IN THOUGHT

THE artists and craftsmen whose work was the subject of Chapter IV were conscious of their debt to more ancient civilisations, and particularly to that of Crete. Some of them are described as sons of Dædalus, the marvellous craftsman who had worked for the Cretan King Minos. Dædalus had put such life into his statues that they had to be chained up to prevent them from walking away from their pedestals, and it was very possibly the rediscovery of Cretan masterpieces that inspired the artists of the seventh and sixth centuries B.C. just as the discovery of Greek and Roman masterpieces fired the artists of the modern European renaissance.

Whether the renaissance in thought had a similar origin is hard to say. Some of the earliest Greek writers and speculators are said to have travelled in Egypt, where they undoubtedly were much impressed by the written wisdom of the priests. But the wisdom of

ancient Egypt is a dull and dead thing compared with that of these early Greeks; and even if it was greater than the extant documents suggest, it is doubtful how far it was accessible to casual Greek tourists. Perhaps the inaccessibility of Egyptian wisdom to the Greeks made it the more inspiring. Early Greek thinkers became acutely conscious of the existence of learning and accomplishments that in some ways obviously far surpassed their own: but knowing nothing precise about Egyptian learning they were not led to fancy that wisdom could be attained by any definite and prescribed course of study, however long and thorough, and, equally important, they were thrown back on themselves to make good their deficiencies. Whatever the other factors that contributed to the sudden outburst of intellectual activity in seventh-century Greece, there can be no question that much was due to the fact that a powerful stimulus to thought was combined as it has seldom been at any other period with a remarkable absence of any influence to force the new thought into old and misleading channels. This explains the freshness and independence that to this day marks off early Greek writers from those who have written under the incubus of a classical tradition.

The writers who were least obviously opening up new paths were the poets ; for poetry had continued in Greece throughout the Dark Ages. But even the poetry of the new age shows a fundamental break with the past. The Iliad and the Odyssey tell us as little of the men who wrote them as the Waverley novels tell us of Sir Walter Scott. But the new writers of the seventh and sixth centuries B.C. were above all things interested in themselves and the people and happenings of their own age. Time has not treated the writers of this period kindly ; all through this chapter we shall have to deal with mere fragments of literature, accidentally preserved through being quoted by some learned professor or grammarian of a later age, or else rediscovered recently on some Egyptian rubbish heap. But even these fragments, preserved in such casual ways, are enough to show the quality of the men and women who wrote them.

One of the earliest and greatest of the new poets was Archilochus. He was a native of the island of Paros, and lived his adventurous life in the first half of the seventh century. Only one complete poem of his has come down to us and that one is only four lines long. It tells us how the poet behaved in a battle against the Saians :

"One of the Saians is rejoicing in my shield, that blameless weapon which reluctantly I left behind a bush. But I myself escaped the doom of death. So let the shield go hang: I'll get another just as good."

On the same island as Archilochus there lived a young lady of high rank named Iambe, with whom the poet fell in love. But her people, who appear to have looked down on the poet and his family, would not allow a marriage, and the lady seems to have accepted their decision. This so enraged the poet that his passion was turned from love to hatred, and he published such scathing verses about Iambe and her whole family that they one and all went and hanged themselves. The correct thing now for Archilochus to do was plainly to be overcome with remorse, and either follow their example or spend the rest of his days in shame and misery. But Archilochus was distinctly unconventional. Instead of doing anything of the kind he wrote another poem exulting in the success of his previous attacks. Only one line of it has survived, but that by itself is sufficiently expressive. It refers to the family he had driven to suicide and it runs as follows :

"They bowed their heads and gurgled forth their pride."

Another poet of this period who had an immense reputation in antiquity was Alcæus, who lived a generation or two after Archilochus in the island of Lesbos or Mitylene. He, too, ran away in battle and recorded the fact in a poem, and he, too, expressed his pleasure in the death of his enemy without mincing his words:

"Now we must get drunk, now we must drink hard, for Myrsilus has been killed."

But probably the most notable of all the great poets of this period was a woman, also a native of Mitylene. Sappho lived at the same time as well as in the same town with Alcæus, who tells us that she had black hair and a sweet smile. She established a sort of school in which she educated a small band of young women. Little is known of her aims and less of her methods, except that her training was by no means purely intellectual. It is, however, as a poet rather than as a pioneer in the higher education of women that Sappho best deserves to be remembered. The two complete poems of hers that have fortunately survived are too long to quote here in full and too good to quote

otherwise; but a few of her fragments will give some notion of her character:

"The moon has set and the Pleiads; midnight has come;
my bloom is passing and I sleep alone."

"Sweet mother, I cannot ply the loom, for I am subdued
with longing for a lad through tender Aphrodite."

"As for me, I love luxury."

One other poet of the period who must here be mentioned is Mimnermus of Smyrna, who was writing about 620 B.C. His fragments illustrate the decadent realism which seems to be an inevitable by-product of an age of enlightenment. Everywhere around him the poet sees death, except where he finds immortality, and either alternative fills him equally with gloom. The immortal sun has been sentenced to hard labour for eternity without the prospect of even a day's release. Mortal men can but snatch a few hurried pleasures before they are carried off by death, or its still more horrible alternative old age.

What is life, what pleasure without Aphrodite the golden?
Let me die when I cease longer to love what she brings,
Stolen kisses and honey sweet gifts and lovers' embraces.
These and the like are the great glorious prizes of youth
Both for men and for women: but when with his aches
and his agues
Oncoming age makes a man ugly and villainous too,

Villainous cares ever ring him around and pull at his heart
strings;
Nor doth he longer rejoice seeing the light of the sun.
Young men eye him with hate, he is held in scorn by the
women.
Such an affliction to men age has been made by the god.

These bald translations of a few scattered fragments nevertheless suggest something of the quality of the writers from whom they are taken. They show that all alike are intensely concerned with their own personal experiences, and all alike are passionately, almost extravagantly, anxious to discover and state the truth about their own inner selves. This by itself makes them noteworthy figures. In most ages such seeking after truth has been taboo. The normal practice has been to try to train and alter human nature by methods of repression. A man must not confess his fears even to himself, and still less must a woman avow her passions. But these are the very things about which Archilochus, Alcæus, and Sappho write. They lead the way in the line of great writers who have held self-knowledge as a passionate faith and preached the doctrine in the only practicable way by publishing confessions of their own. The form and the spirit have differed in different writers and in different periods. Byron, perhaps, comes nearest to these

early Greeks in both respects; but something of the same spirit has inspired writers as different in other ways as the writer of some of the psalms, St. Augustine, and some of our modern novelists. The writer of confessions is open to obvious dangers. The thirst for self-knowledge may be contaminated by a craving for sensational revelation. Everyone is familiar with the Byronic pose. But as far as the evidence allows us to judge, the Greek poets suffered remarkably little from the defects of their qualities.[1]

In writing of themselves in this intimate way the early Greek poets were obeying the precept, "know thyself," which was written up on the front of the great national temple at Delphi. But this precept is one that nobody can properly follow without knowing all that is possible of his surroundings. The personal poetry of Sappho and Archilochus illustrates one side of a movement that on another side found its expression in a great outbreak of purely scientific work. The city that led the way here was Miletus, and modern scholars have noticed that Miletus was said to have belonged originally to the Carians, a race constantly associated with early Crete, and that

[1] For a good short account of Greek literary achievements, see Gilbert Murray's *Ancient Greek Literature*.

this tradition of Cretan connexions is confirmed by finds made recently on the site. It is perhaps equally significant that Miletus lay on the mainland of Asia Minor at the end of the trade route which led up the River Meander towards the Far East, and further that the Milesians were the first Greeks to settle in any numbers in Egypt. All these influences, Cretan, Mesopotamian, and Egyptian, may have contributed towards the Milesian movement, and there may well have been a fundamental truth behind the story that one of these Milesian "philosophers" (as all students and speculators were then called) went and studied in Egypt and then proceeded to start teaching his instructors. He taught them, so it is said, to measure the height of a pyramid. Geometry and astronomy occupied much of the time of these early speculators. Thales, the philosopher just mentioned, is stated further to have invented a method of measuring the distance of ships at sea, and to have foretold the date of an eclipse.

But the pivot of this scientific movement appears to have been the attempt to determine what the earth is made of. There was a general belief that all things came from a single primal substance; but on the question as to what that substance was there was a variety of

opinions. Thales thought that the earth was made of water. We know little of his lines of argument. No doubt he had realised how mistaken is the notion that the solid state is the most permanent: probably, too, he thought of the vital force as something liquid, and observed how all things alike depend on moisture in some form or other to keep them alive. Another of these philosophers, Anaximenes by name, went further and maintained that the primal element was air. He seems to have pondered much on problems of condensation and rarefaction, and to have regarded condensation as the deviation from the normal, a view that seems to imply that body is spirit that has deviated from its normal rarefied state.

Somewhat earlier than Anaximenes a still more advanced view had been put forward by Anaximander, who taught that all created things came from what he called the "undefined" or "infinite."

Another particularly interesting philosopher of this period was Heraclitus, who held that the primary element was fire. He taught that nothing was permanent, all things being in a state of flux. "All flows and nought stands firm," or, as he put it figuratively, "You cannot step into the same stream twice." This conception of fire as the fundamental element

was a marked advance on the theory of Thales ; for fire was not clearly differentiated from heat, and thus the Heraclitan doctrine to some extent anticipates the modern theories of the material world in which chemistry tends to become subordinate to physics.

A word of warning is perhaps desirable at this point. Reading of these old philosophers in the light of modern scientific work there is a danger of overestimating the amount of attention that they paid to pure science. In spite of their being so absorbed in the problem of the composition of the earth they were not specialists in geo-chemistry. In the truest sense they were philosophers. The surroundings in which they lived forced them to realise with special clearness the transitory nature of much that had long been thought permanent, and the uncertain character of much that had long been accepted without dispute. The object of their quest was ultimate reality. They were emerging from a crude materialistic period, and almost inevitably in their search for the true nature of things they turned first to the material universe out of which our world presumably came. The sort of part played by purely physical speculations in their general outlook may be illustrated from Heraclitus, whose views are known to us rather better than

those of Thales, Anaximander, or Anaximenes. We know, for instance, that he had doubts as to the evidence of the senses: "Eyes and ears," he tells us, "are bad witnesses to men if they have souls that understand not their language." He is the first of a long line of thinkers, ancient and modern, who have attempted to interpret sense experiences in the light of the critical reason so as to form a truer notion of the underlying reality. His solution of the problem in some respects strikingly resembles that of Hegel. The world of appearances, the world we know through our eyes and ears, is one of contradictory opposites, such as life and death, war and peace, heat and cold, surfeit and hunger. In the world of reality all these apparent contradictions are reconciled. Even good and evil are one in the world of God. "To God all things are fair and good and right, but men hold some things wrong and some right." "It is the same thing in us that is quick and dead, awake and asleep, young and old; the former are shifted and become the latter, and the latter in turn are shifted and become the former." As to how this metaphysical teaching about opposites was combined with the physical doctrine about fire some idea may be gleaned from other fragments: "God is day and night, winter and summer, war and peace, surfeit and

hunger, just as fire when it is mingled with spices is named according to the savour of each." "Fire lives the death of air, and air lives the death of fire; water lives the death of earth, and earth that of water." With Heraclitus it is plain that natural science played a secondary and subordinate rôle to metaphysics; but there was no such sharp distinction between the two subjects as has been drawn in modern times. This comes out particularly plainly in the teaching of Anaximander, who introduced curious ideas of justice and injustice into his explanations of purely material phenomena: "And into that form from which things take their rise they pass away once more as is ordained; for they make reparation and satisfaction to one another for their injustice according to the appointed time."

But of all the men who speculated on the nature of things a generation or so after Thales the most interesting is perhaps Pythagoras. More than any of the thinkers just mentioned Pythagoras struck the general imagination, and, as so often happens, it was not his main doctrine that most interested the public, but the circumstance that he founded brotherhoods to live in accordance with them, and still more perhaps the fact that he was peculiar in his diet and had a conscientious objection to

eating beans. The Pythagoreans sought ultimate truth by the road of advanced mathematics. Much of their researches dealt with problems of musical notes and sound generally. Some of the discoveries that they made in this direction were epoch-making. They are the pioneers who led the way to the advanced mathematics of the present day. On certain other sides, however, the teaching of Pythagoras and his school was reactionary and obscurantist. He seems to have accepted a whole system of taboos. His disciples were, for instance, forbidden to touch a white cock, to sit on a quart measure, or to look in a mirror beside a light. When a Pythagorean took a pot off the fire, he was not to leave the mark of it in the ashes but stir them together. When he rose from bed, he must roll the bedclothes together and smooth out the impress of his body. Even in the region of pure mathematics, where the school did such epoch-making work, serious research went hand in hand with the most childish fancies. Numbers became a sort of fetish, the origin and explanation of all things. Things, in fact, were numbers, justice, for instance, being identified with four, marriage with three. It is instructive to bear in mind how closely the wheat and tares grew up together in the systems of these great thinkers.

There can be no question that the system of Pythagoras made a tremendous appeal. Ultimately, however, the mystical fervour of the school caused its members to be generally suspected as bad unpatriotic persons and they were extirpated, but fortunately for us their mathematical studies were followed up in the fourth century by Plato and his school.

To the man-in-the-street these thinkers were a curious phenomenon. People used to tell how Thales was so absent-minded and incapable of looking after himself that he fell down a well while looking at the stars. But there was at the same time an uncomfortable feeling abroad that, even measured by the wisdom of the generation in which they lived, perhaps these philosophers were not such fools as they looked. It was a money-making age (we owe to it the proverb, " Money maketh man "), and Thales, so the story tells us, was criticised for following so profitless an occupation. There seemed in those days to be no money in natural science. But Thales was among other things a meteorologist, and he foresaw a particularly good olive harvest. With this in view he quietly made a corner in oil presses, proceeded without excessive profiteering to make a fortune in oil, and then at once got on with his researches.

On the whole, science in this early period did not turn itself to practical applications as it has done in recent times with such varied and notable effects. But there were other ways in which it did come into collision with every-day life. Greek religion had hitherto been a chaotic medley of all sorts of beliefs and traditions clustering round all sorts of devils and divinities. In Homer gods and goddesses mingle freely with men, and being stronger and cleverer than mortals allow themselves all sorts of licences that the human beings in the poem fear to take. The gods to whom Hesiod devotes his "Theogony" are mostly gloomy forbidding beings whom the poet tells us about for the strictly practical purpose of enabling us to influence or placate them or get out of their way. These two poets in course of time had become a sort of Bible to the Greeks, and the result was what always happens in similar cases. Many really religious natures with a natural capacity for conformity found it easy enough, by fixing their attention on the more edifying parts of the medley, to draw from it the spiritual nourishment that they needed; but with the masses the immorality and worse of their sacred books and stories must have found a congenial reflexion in their own lives, and probably did much to prevent any general

raising of their moral standards. No doubt these orthodox upholders of the old immoralities were often enough shocked by the views of the new scientists.[1] The feeling, however, was reciprocated, as we know from a fragment of Xenophanes', who survived as an old man into the fifth century B.C., but lived most of his life in the sixth and had been a pupil of Anaximander. The views of the new science on the old religion cannot be better expressed than in Xenophanes' own words :

God is one : alone of gods and men the most mighty,
Neither in bodily form like men nor in understanding,
All of him seeing and all of him thinking and all of him hearing.
Labouring not by the thought of his heart he ordereth all things.
Ever the same unchanged he abides nor doth anything move him.
How were it fitting that he should go seeking now hither now thither ?
Only mortals imagine that gods are made after their image
Having the selfsame senses as men and voices and bodies.
But if fingers and hands were possessed by oxen and lions,
And they could paint with their hands and perform the work that men can,
Horses would paint the gods like horses and oxen like oxen,

[1] In the fifth century B.C. an Athenian philosopher was suspected of immorality and atheism for saying that the moon was as big as the Morea.

Making the shapes and forms of their bodies such as their own are.
All things Homer ascribed to the gods and Hesiod also,
All that is held among men a reproach and utterly blameful,
Picking and stealing, committing adultery, cheating each other.[1]

The Greek word for research was historia, and it is only in comparatively recent times that "history" has been narrowed down to embrace nothing but the recorded activities of the human race. A relic of the wider use is still to be found in the term "natural history." History as we now understand it developed in Greece rather later than the "natural history" or inquiry into the works of nature pursued by the Ionian philosophers. The reason for this order of events may have been accidental. The Dark Ages had left the Greeks with little of their own past except a mass of legend which the best minds were beginning to regard as valueless as records of fact. Political circumstances were also against their taking a broad view of history, since the city state with all its good qualities tended to make its citizens deeply and disastrously regardless of

[1] Readers interested in early Greek Science and Philosophy are recommended to consult *Early Greek Philosophy*, by J. Burnet (3rd edition, 1920), whose versions have been adopted in all the fragments here quoted except the last, where the writer has attempted to reproduce the original metrical form.

all that went on outside it.[1] Chroniclers, indeed, arose in the sixth century B.C., but to judge from the scanty fragments that have been preserved none of them showed any very remarkable abilities. The first great Greek historian, one of the greatest of the world's historians, was not born till a generation or so after the close of our period. But he was a native of Asia Minor and wrote in the dialect of the Ionic philosophers, and a short account of him may reasonably be included in this chapter, which would, indeed, be incomplete without it. We have already had occasion to quote him more than once.

His name was Herodotus, and his native city was Halicarnassus, which lay in the south-west corner of Asia Minor, not far from the island of Rhodes. The date of his birth was about 484 B.C., and his history mentions events of 430 B.C., but is conspicuously silent about the events of 415–413 B.C., and appears to be ignorant of what happened in 424. He was a great traveller and made far journeys north, south, east, and west, including a visit to Egypt and a prolonged stay in South Italy. The subject of his work is the great war between

[1] Again and again in later Greek history we find great foreign powers like Persia and Macedonia regarded merely as sources from which to raise money, munitions, or men to help in some petty domestic quarrel.

Persia and Greece, of which the main events were the unsuccessful invasion of Greece by the fleet of King Darius I of Persia in 490 B.C., and the much more serious but equally unsuccessful invasion by Xerxes, the son and successor of Darius, in 480–479 B.C. But our historian took a broad view of his subject. He saw these Persian wars as one phase in the age-long struggle between Europe and Asia, in which the most famous incident previous to the age of Herodotus had been the siege of Troy by the Greeks, and of which later periods have been marked by the Crusades, the Turkish invasion of Europe, and the various steps by which the Turks have been driven out of the lands they had enslaved.

From the point of view of Herodotus it was impossible to understand the Persian wars without some knowledge of the Persians and the various countries that they had overthrown and incorporated in their empire. Accordingly the first half of his work deals mainly with the history and habits of such nations as the Lydians, Babylonians, Medes, Egyptians, Scythians, and Thracians. But even within these broad limits Herodotus allows himself the most discursive treatment. For instance, the section on Egypt, which covers a ninth of the whole work, describes the best way to catch a

crocodile, the method of constructing a pyramid, the various explanations of the periodic inundations of the Nile, and the habits and appearance of the phœnix, the last from a picture since, as the writer himself informs us, it was only in pictures that he had encountered that particular bird. Not only is the history full of good stories, but the stories are told extremely well, so that for many ages Herodotus was regarded rather as a first-class story-teller than a great historian. We realise now that he is both. His arrangement of his material may be criticised, but no serious historian will now complain of its character. If Herodotus describes the nature of the crocodile in his history of the great war of his own period, the most notable history so far written as the result of a corresponding catastrophe in our own day describes creatures quite as extraordinary as the crocodile or phœnix. It is only the more recent and scientific school of historians (as distinguished from the old-fashioned writers on politics and strategy) that have realised the absolute relevance of Herodotus' excursions into natural history, geography, economics, sociology and all the other sciences of which the discovery and development forms one of the main chapters in human history.

A proper conception of the scope of history

profits little, however, if it is not combined with a proper appreciation of and regard for concrete facts, and on this latter ground Herodotus has been frequently assailed. These attacks must go back almost to his own days, since he is charged with carelessness and inaccuracy by Thucydides, who cannot have been much more than twenty years his junior. But the charges made by Thucydides tend rather to vindicate than to damage the reputation that he attacks. The points which he selects as typical of his predecessor's alleged inaccuracy are a very minor matter about the royal vote in the Spartan senate and the name of a regiment of the Spartan army. Inaccuracies are in a sense always unpardonable in a historian, but within limits they are almost inevitable in a work of any length, and it is hard to imagine cases more trivial than those specified by Thucydides. Two other criticisms of Herodotus need to be noticed. In the first place he certainly did record a number of assertions that are not facts. But in most of these cases he quotes his authorities and tells us that he does not accept them. Some of these false assertions and opinions are among the most valuable parts of his work. Few chapters of history are more important and illuminating and more worthy of a faithful record than that