

GREEK THINKERS

A HISTORY OF ANCIENT PHILOSOPHY

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AUTHORIZED EDITION

VOLUME I

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LONDON

JOHN MURRAY, ALBEMARLE STREET

1901

LONDON: PRINTED BY WILLIAM CLOWES AND SONS, LIMITED, STAMFORD STREET AND CHARING CROSS.

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MEMORY OF HIS MOTHER

DEC. 19, 1792 : APRIL 30, 1881

THE AUTHOR

DEDICATES THIS VOLUME

TRANSLATOR'S PREFACE.

THE present version of the first volume of Griechische Denker has been rendered directly from the German edition of 1896, published by Veit & Company of Leipsic, which was placed in my hands in June, 1899. In the later stages of my work I have incurred a considerable obligation to the author, whose masterly knowledge of English has helped to purge the proof-sheets of my translation from the errors into which I had been betrayed. The confidence with which I now present it to English readers is largely due to the fact that every doubtful point has been thoroughly discussed in proof and revise between Professor Gomperz and myself. In no single instance has he failed to make his meaning clear to me, and I must take the sole responsibility for any errors that may remain. welcome this opportunity, too, of expressing my cordial thanks to Frau Professor Gomperz, whose interest in the book and complete command of its subject have been of the utmost service to me throughout the course of my labours.

It would be a work of supererogation on my part, though it would add considerably to my pleasure, to introduce this book to English scholars; but I may at least express the hope that I have not been entirely unsuccessful in conveying in the English language something of the brilliance and charm of style which the author's German readers recognize and admire in his own. In many of the

passages quoted by Professor Gomperz from Plato and Thucydides I have availed myself of the renderings by the late Dr. Jowett, now the property of Balliol College, Oxford, and I am glad to acknowledge the benefit which my work has derived from them.

The second volume of "Greek Thinkers," dealing mainly with Socrates and Plato, will, it is hoped, be published in the course of this year; and since, to my regret, I am not at leisure to continue the work myself, steps have already been taken to find a competent translator. volume of the German edition will include the author's indexes, but I have thought it advisable to supply the present instalment of the work with a provisional index of subjects and names. I should add that, in translating the notes and additions to this volume. I have, with the author's sanction, introduced sundry technical changes. chiefly in reference to English books or to foreign works in In the instance of Zeller's Philosophie English editions. der Griechen, I have made an exception to this practice. Professor Gomperz quotes uniformly from the last German edition of that work, which has been considerably modified and enlarged since the English rendering was effected.

L. M.

London, Fan. 1, 1901.

AUTHOR'S PREFACE.

My design in the present undertaking is to compose a comprehensive picture of the department of knowledge in which, during several decades past, I have been at pains to increase the material and to sift the problems. The work, which summarizes the labours of a lifetime, will be complete in three volumes, and will, it is hoped, be accessible to wide circles of cultivated readers. The point of view from which I have written is not that of any onesided and exclusive school. I endeavour to do equal justice to the different tendencies of ancient thought, every one of which has contributed its part to the complete structure of modern intellectual civilization, to consider them all impartially, and to judge them fairly. historical relief in which the narrative is set will not be unduly contracted, and its subjective features will be confined to emphasizing what is essential as sharply as possible, and to sundering as thoroughly as possible what is enduring and significant from what is indifferent and transient. Portions of the story of religion, of literature, and of the special sciences, indispensable to an understanding of the speculative movement, its causes and effects, will be incorporated in the work. The boundaries dividing these provinces appear to me in all cases to be floating. ideal I have in view could only completely be realized in an exhaustive universal history of the mind of antiquity. When so monumental an undertaking has been successfully effected I shall be the first to admit that the present far more modest attempt is superseded and antiquated.

The second volume and the third or concluding volume will comprise the remaining six books, entitled respectively, (4) "Socrates and the Socratics," (5) "Plato and the Academy," (6) "Aristotle and his Successors," (7) "The Older Stoa," (8) "The Garden of Epicurus," and (9) "Mystics, Sceptics, and Syncretists." In order not unduly to increase the compass of the work, the evidence of authorities has had to be reduced to the smallest dimensions, and, with regard to references to the later literature of the subject, economy has had to be practised in all cases excepting those where my own exposition may claim the greatest originality and those, again, where it can claim the least. In the latter instance the obligation has arisen of acknowledging my close dependence on predecessors, and, in the former, of advancing grounds for my radical divergence from traditional views.

Finally, I may be permitted, not to palliate, but to apologize for, the shortcomings of my work in the phrase employed in a letter of Gustave Flaubert to Georges Sand: "Je fais tout ce que je peux continuellement pour élargir ma cervelle, et je travaille dans la sincérité de mon cœur; le reste ne dépend pas de moi."

TH. GOMPERZ.

VIENNA.

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BOOK I.

THE BEGINNINGS.

"To one small people . . . it was given to create the principle of Progress. That people was the Greek. Except the blind forces of Nature, nothing moves in this world which is not Greek in its origin."—SIR HENRY SUMNER MAINE.

GREEK THINKERS.

INTRODUCTION.

ALL beginnings are obscure, whether owing to their minuteness or their apparent insignificance. Where they do not escape perception, they are liable to elude observation. The sources of history, too, can only be tracked at a foot-pace. They must be followed to their fount, like the current of a stream which springs in a mountain fastness. Such steps or paces are called inferences. They are of two kinds, according as they proceed from causes or from effects. In the second case, we try to infer the existence and the nature of causes from the existence and the nature of effects. Inferences of that type are indispensable, but frequently fallacious. For though every cause, taken by itself, produces the same invariable effect, yet the converse proposition does not by any means hold good. Each effect is not invariably the product of one and the same cause. The condition known as "plurality of causes" plays an important part in the intellectual no less than in the physical universe. The contrary process vields more trustworthy results. It starts from the causes. from the series of great and tangible factors, plainly manifest or readily to be found, which must have influenced the events to be accounted for, and in which the degree of such influence is the sole object of doubt. In the present instance, where we are dealing with the higher intellectual life of a nation, the first place is VOL I. B 2

claimed by its geographical conditions and the peculiar character of its homes.

Hellas is a sea-girt mountain-land. The poverty of her soil corresponds to the narrowness of her river-valleys. And here we find the first clue to some of the essential features of Hellenic evolution proper. It is clear, for instance, that a permanent home and a steady and manifold care and attention were offered to any seeds of civilization which might be deposited in her soil. Her mountainbarriers served her in the office of stone walls, breaking the force of the storm of conquest which sweeps unchecked across the plains. Each hilly canton was a potential seat of culture. Each could develop a separate type of that strongly marked individualism, which was ultimately to prove so favourable to the rich and many-sided civilization of Greece, so fatal to the political concentration of her powers. The country was full of piquant contrasts. Her Arcadia---an inland canton, sunk in torpid provincialism-was matched at the opposite extreme by the extent and curvature of the coast. Her sea-board was larger than Spain's, her mainland smaller than Portugal's. Other conditions. too, fostered this variety of natural gifts. The most diverse trades and professions were practised in the closest proximity. Seamen and shepherds, hunters and husbandmen, flourished side by side, and the fusion of their families produced in ater generations a sum of talents and aptitudes complementary to each other. Again, the good fairies who presided at the birth of Greece could have laid no more salutary blessing in her cradle than the "poverty which was ever her familiar friend." It worked powerfully in three ways for the advancement of her civilization. It acted as a spur to compel her to exert all her powers; it served as a further defence against invasion, for the comparatively poor country must have seemed but indifferent booty—a fact noted in connection with Attica by the most philosophical historian of antiquity; and last, and chiefly, it lent a forcible impulse to commerce, navigation, emigration, and the foundation of colonies.

The bays that offer the best harbourage on the Greek

peninsula open towards the east, and the islands and islets, with which that region is thickly sown, afford, as it were, a series of stepping-stones to the ancient seats of Asiatic civilization. Greece may be said to look east and south. Her back is turned to the north and west, with their semi-barbaric conditions. Another circumstance of quite exceptional good fortune may be ranged with these natural advantages. There was Greece in her infancy on the one side, and the immemorial civilizations on the other: who was to ply between them? The link was found—as it were by deliberate selection—in those hardy adventurers of the sea, the merchant-people of Phœnicia, a nation politically of no account, but full of daring and eager for gain. Thus it happened that the Greeks acquired the elements of culture from Babylon and Egypt without paying the forfeit of independence. The benefits of this ordinance are obvious. The favoured country enjoyed a steadier rate of progress, a more unbroken evolution, a comparative immunity from the sacrifice of her national resources. And if further proof be required, take the fate of the Celts and Germans, whom Rome enslaved at the moment that she civilized; or take the sad lot of the savage tribes of to-day, who receive the blessing of civilization at the hands of almighty Europe, and wear it too often as a curse.

Still, the determining influence in the intellectual life of Greece must be sought in her colonial system. Colonies were founded at all times, and under every form of government. The Monarchy, a period of perpetual conflict, frequently witnessed the spectacle of settled inhabitants giving way to immigrating tribes, and seeking a new home beyond the seas. The Oligarchy, which rested entirely on the permanent alliance between noble birth and territorial possession, was often constrained to expel the "pauvre gentilhomme," the type and symbol of disorder, and to furnish him with fresh estates in foreign parts, whither he would speedily be followed by further victims of the incessant party strife Meantime, the growth of the maritime trade of Greece, the flourishing condition of her industries, and

her increasing population, soon made it necessary to establish fixed commercial stations, an uninterrupted supply of raw material, and safe channels for the importation of food. The same outlets were utilized, chiefly under the Democracy, to relieve the indigent poor and to draft off the surplus population. Thus, at an early period, there arose that vast circle of Greek plantations which stretched from the homes of the Cossacks on the Don to the oases of the Sahara, and from the eastern shore of the Black Sea to the coast-line of Spain. Great Greece and Greater Greece,-if the first name belong to the Hellenic portion of Southern Italy, the second might well be given to the sum of these settlements outside. The mere number and diversity of the colonies practically ensured the prospect that any seeds of civilization would happen on suitable soil, and this prospect was widened and brightened to an incalculable degree by the nature of the settlements and the manner of their founda-Their sites were selected at those points of the coast which offered the best facilities for successful commercial enterprise. The emigrants themselves were chiefly young men of a hardy and courageous disposition, who would bequeath their superior qualities to their numerous issue. Men of duller parts, who lived by rule and rote, were not likely to turn their backs on their homes except under stress of necessity. Again, though a single citystate took the lead in the foundation of each colony, it would frequently be reinforced by a considerable foreign contingent, and this cross-breeding of Hellenic tribes would be further extended by an admixture of non-Hellenic blood, owing to the preponderance of the men over the women among the original emigrants. Thus, every colony served the purpose of experiment. Greek and non-Greek racial elements were mixed in varying proportions, and the test was applied to their resulting powers of resistance and endurance. Local customs, tribal superstitions, and national prejudices swiftly disappeared before the better sense of the settlers. Contact with foreign civilizations, however imperfectly developed, could not but enlarge their

mental horizon to a very appreciable degree. The average of capacity rose by leaps and bounds, and the average of intellect was heightened by its constant engagement in new and difficult tasks. Merit counted for more than A man there was a man; good work could command a good wage, and poor work meant a hard bed and indifferent protection. The whole system of economic, political, and social life cried out to be reorganized and reformed, and in these circumstances the force of mere tradition and the reign of unintelligent routine were involved in rapid decline. True, some of the settlements succumbed to the attacks of hostile residents; others, again, were so far outnumbered by the natives that their individuality was gradually absorbed. But from first to last the communication of the colonies with their mothercity and mother-country-a communication fostered by religious ties and frequently strengthened by later arrivals —was sufficiently intimate to preserve in all its parts the reciprocal benefits which proved so eminently fruitful. Greece found in her colonies the great playground of her intellect. There she proved her talents in every variety of circumstances, and there she was able to train them to the height of their latent powers. Her colonial life retained for centuries its fresh and buoyant spirit. The daughtercities in most respects outstripped their mother in the race. To them can be traced nearly all the great innovations, and the time was to come when they would steep themselves in intellectual pursuits as well, when the riddles of the world and of human life were to find a permanent home and enduring curiosity in their midst.

2. There is a period in Greek history which bears a most striking resemblance to the close of our own Middle Ages, when the repetition of similar causes produced similar effects.

On the threshold of modern Europe stands the era of the great discoverers, and the geographical limits of the Greek horizon at this time were likewise wonderfully extended. On the far east and west of the world, as it was then known, the outline emerged from the mist. Precise and definite knowledge replaced the obscurity of legend. Shortly after 800 B.C., the eastern shore of the Black Sea began to be colonized by Milesians: Sinope was founded in 785, and Trapezunt about thirty years later. Soon after the middle of the same century. Eubœa and Corinth sent out the first Greek settlers to Sicily. where Syracuse was founded in 734 B.C., and before the century's end the ambition and enterprise of Miletus had taken fast foothold at the mouths of the Nile. conclusions are involved in the fact of this impulse to expansion. It points to a rapid growth of population on the Greek peninsula and in the older colonies. It presumes a considerable development of Greek industry and commerce; and, finally, it serves to measure the progress in ship-building and in kindred arts. Take navigation, for instance. Where vessels formerly had hugged the shore, and had not ventured in deep waters, now they boldly crossed the sea. The mercantile marine was protected by men-of-war. Seaworthy battleships came into use with raised decks and three rows of oars, the first of them being built for the Samians in 705 B.C. Naval engagements were fought as early as 664 B.C., so that the sea acquired the utmost significance in the civilization of Hellas for the commerce of peace and war. At the same time, the progress of industry was fostered by a notable innovation. A current coinage was created. The "bullocks" of hoary antiquity and the copper "kettles" and "tripods" of a later date successively passed into desuetude, and the precious metals replaced these rougher makeshifts as measures of value and tokens of exchange. Babylonian and Egyptian merchants had long since familiarized the market with silver and gold in the form of bars and rings, and the Babylonians had even introduced the official stamp as a guarantee of standard and weight. A convenient shape was now added to the qualities of worth and durability which make gold and silver the most practical symbols of exchange, and the metals were coined for current use. This invention, borrowed from Lydia about 700 B.C. by the Phocæans of Ionia, conferred remarkable benefits on commerce. It facilitated intercourse and extended its bounds, and its effects may be compared with those of the bill of exchange, introduced in Europe by lewish and Lombardy merchants at the close of the Middle Ages. Similar, if not greater, in effect was the change in the methods of warfare. The old exclusive service of the cavalry, which had flourished in the dearth of pastoral and corn-land as the privilege of wealthy landowners, was now reinforced by the hoplites, or heavy-armed infantry, who far exceeded the cavalry in numbers. The change was analogous-and its consequences were equal in importance -to that which enabled the armed peasantry of Switzerland to disperse the chivalry of Burgundy and Austria. New orders of the population achieved prosperity and culture, and were filled with a strong sense of self-esteem. A sturdy middle class asserted itself by the side of the old squirearchy, and bore with increasing impatience the yoke of the masterful nobles. But here, as elsewhere, the contradiction between actual conditions of strength and legal dues of prerogative became the cause of civil strife. A battle of classes broke out. It spread to the peasants, where persistent ill-usage and by no means infrequent serfdom had sown the seeds of revolt, and out of the rents and ruins of society there was hatched a brood of usurpers, who partly destroyed and partly set aside the existing order of things. They constructed in its place a form of government which, though commonly short-lived, was not without notable results. The Orthagorides, the Cypselides, the Pisistratides, a Polycrates, and many another, may be compared with the Italian tyrants of the late Middle Ages-the Medici, the Sforza, or the Visconti -precisely as the party feuds of the one epoch recall in the other the conflict between the lords and the guilds. The obscure origin and questionable title of these newly founded dynasties were discreetly veiled in the glitter of warlike undertakings, of alliances with foreign potentates, public works on a lavish scale, splendid buildings, and munificent benefactions, combined with an enhanced regard for the safety of the national sanctuaries and for the

encouragement of the fine arts. But we must look deeper for the most lasting result of this *entr'acte* in history. It tranquillized party feeling; it overthrew the rule of the nobles without breaking the foundations of social welfare; it poured new wine in the old vessels, revealing unsuspected possibilities in the extant forms of the constitution. The "tyranny" served as a bridge to the system of democracy, first in a moderate, and at last in its fully developed shape.

Meantime, the stream of intellectual culture found The ballads of the heroes, broader and deeper channels. which had been sung for centuries in the halls of Ionian nobles to the accompaniment of the lyre, slowly fell into desuetude. New forms of poetry began to emerge, and with them, in some instances, the poet's personality emerged from the material of his song. Subjective poetry came into existence, as was bound to happen, when, as now, men escaped in ever-increasing numbers from the groove of hereditary conventions. The State was involved in change and vicissitude, society was governed by uncertain conditions, and individual life accordingly acquired a more adventurous complexion. Men's talents would be more sharply defined, their independent activity stimulated, their self-reliance encouraged. In civic and party business a man would play his own part, advising and blaming as counsellor or critic, and boldly giving vent among his fellows to his sentiments of expectation or disappointment, his joy. his sorrow, his anger, and his scorn. He became a unit in society, self-made for the most part, and entirely selfdependent, and would deem his private concerns of sufficient importance to display them in the light of publicity. He poured out his heart to his fellow-citizens. making them the arbiters in his love-suits and law-suits. and appealing to their sympathy in the injuries he suffered. the successes he achieved, the pleasures he enjoyed. new spirit, too, was breathed in the older poetical forms. Myth and legend were refashioned by the masters of choric song in differing, if not in contradictory, modes. didactic poets still aimed at system, order, and harmony in their treatment of the material, but side by side with those endeavours a manifold diversity was to be remarked, and a licence in criticism, expressing itself in a prejudice or preference in respect to this or that hero or heroine of holy tradition. Thus, the neutral tints of the background were ever more and more relieved by strong, self-conscious figures standing out from the uniform mass. Habits of free-will and feeling were created, and with them there grew the faculty of independent thought, which was constantly engaged and exercised in wider fields of speculation.

3. The Greeks were naturally keen-sighted. The faithful representation of sensible objects and occurrences constitutes one of the chief charms of the Homeric poems, and the imitation of figures and gestures by a hand that waxed in cunning now began to succeed to the arts of language and speech. Greece became the apprentice of older civilized countries, turning to Egypt above all for the paramount example of artistic instinct, natural joy, and engaging humour. But even in the limited sphere of the observation of men's ways and manners, fresh material was constantly collected. As travelling grew easier, its occasions would be multiplied. Not merely the merchant, ever intent on new gain, but the fugitive murderer, the exiled loser in the civil strife, the restless emigrant wandering on the face of the earth, the adventurer whose spear was at the service of the highest bidder, who would eat the bread of an Assyrian monarch to-day and to-morrow would pour down his burning throat the barley-water of Egypt, who was equally at home in the fruit-laden valley of the Euphrates and in the sands of the Nubian desert, all of these would add to the sum of knowledge about places, peoples, and mankind. The frequent meeting or regular congregation in certain centres of Greeks of all cities and tribes served the purpose of huge reservoirs, in which the observations of individuals and the reports they made to their fellow-townsmen were collected and stored. The shrine of the oracle at Delphi was a chief example of the first, while the second condition was fulfilled by the recurring festivals of the Games, among which those at

Olympia held the foremost rank. The sanctuary at Delphi. sacred to Pythian Apollo, was situated in the shadow of steep, beetling crags. Thither would come, and there would meet, an endless line of pilgrims from all parts of Greece and her colonies-private citizens, representatives of whole states, and, since the middle of the seventh century at least, occasional envoys from foreign courts. They all came to consult the god; but the answers they received were mostly the result of the priest's ingenious manipulation of the stock of useful knowledge deposited by former clients. And few indeed can have departed from that romantic mountain glen without finding their imagination quickened and their experience augmented by contact with their companions on the road. The Games which we have mentioned were celebrated in the broad river-valley of the Alpheius, and the attractiveness of that brilliant spectacle increased with each generation. programme was constantly extended by the inclusion of new kinds of competitions, and the spectators, who at first were drawn merely from the surrounding country, gradually began to arrive—as is shown by the winners' lists, extant since 776 B.C.—from all points in the circumference of the wide Hellenic world. Nor would their intercourse be confined to the exchange of news and information. Men would take one another's measure; opinions would be freely canvassed; the merits of the different institutions in that land of many subdivisions—their customs, habits. and beliefs—would form topics of general discussion. Comparison engendered judgment, and judgment brought reflection in its train to bear on the causes of the differences and on the permanent element in change. induced, that is to say, an inquiry for the common canons which obtained in the commerce and dogma of daily life. The observation of common things, growing keener and richer by experience, led to comparative discussion and estimation, and, finally, to reflective criticism. Many a proud stream was nourished by that source. To it we refer sententious poetry, the invention of types of human character, and the proverbial wisdom which thoughtful citizens and philosophic statesmen have sown broadcast in the world.

The art of writing, the main vehicle for the exchange of thought, helped to distribute the fresh acquisitions of knowledge. Writing, it is true, was no novelty in Greece. When we read in the Homeric poems of the intimate intercourse with Phœnicia, we readily conceive that the sharp-witted Greek would have borrowed that wonderful aid to the preservation and communication of thought from the Canaanitish dealers, for the customer must often have surprised the merchant making entries in his account-book. Nay, the art of writing would appear to have been familiar. to some of the Greeks at least, even before that date. It is no more possible that the syllabic writing on the recently discovered Cypric monuments, with its awkward and clumsy devices, could have been later than the use of the simple Semitic letters, than that the invention of the battle-axe could have followed that of the musket. All that was wanted was a convenient and easily fashioned material. The want took some time to supply. The remedy was not found till soon after 660 B.C., when Greek trade with Egypt under Psammetich I. received a notable impulse. Then a writing-material of a kind which can hardly be improved was afforded by the pulp of the papyrus shrub, split into slender and flexible strips. From city to city, from land to land, from century to century, the sheets of written symbols now began to fly. The circulation of thought was accelerated, the commerce of intellect enlarged, and the continuity of culture guaranteed, in a degree which can well-nigh be compared with that which marked the invention of the printing-press at the dawn of modern history. To the oral delivery of poems, designed to captivate the hearer, there was presently to be added their silent appeal to the solitary enjoyment of the reader. who could weigh, compare, and discriminate to the top of his critical bent. Yet a little while, and literary communication was to break the last of its bonds, and the beginnings of prose composition were to supersede the era of metric language.

4. The west coast of Asia Minor is the cradle of the intellectual civilization of Greece. Its line stretches from north to south, but the heart of the movement must be sought in the country enclosing the centre of the line, and in the adjacent islands. There nature poured her gifts with lavish profusion, and those on whom they fell belonged to the Ionian tribe, at all times the most talented among Hellenes. The birthplace of the Ionians is obscure. We know that their blood was mixed with elements from central Greece, if, indeed, they were not a mere product of such fusion, and their diverse origin is doubtless mainly accountable for the complexity of their natural gifts. least, it was not till they were settled in their new Asiatic home that their individuality reached its full powers. As bold seafarers and energetic traders, they enjoyed every benefit of the keen and fertilizing influence to be derived from intercourse with foreign nations in a more advanced state of civilization. They had the further advantage of intermarrying with other fine races, such as the Carians and Phœnicians, a fact which indisputably increased their original diversity of talent. The Ionians were the furthest removed of all Greeks from that fatal stagnation to which dwellers in isolated countries succumb so readily. It must be added that they lacked the sense of security which friendly mountain-barriers and an infertile soil bestow. The proximity of civilized nations, highly developed and united in a State, was as prejudicial to the political independence of the Ionians as it was beneficial to their intellectual progress. The yoke of foreign dominion which was laid on one part of the people, the compulsory exile in which another part was driven, the slow but sure corrosion of its manhood by the inroad of Oriental luxury,—these were among the consequences of the devastating attacks by barbarians from Cimmeria, followed by the victories of the Lydians and Persians. The nett result of this cross-series of good influences and bad was the rapid rise and swift decline of a period of prosperity. The ripe fruit fell all too soon, and the seeds it dropped were borne by fugitives from the foreigner's

yoke, who would return now and again to the safe protection of Attica's fertile soil.

The evolution we have been describing took its course in but a few centuries; its splendid results included the full bloom of heroic minstrelsy, the triumph of the new forms of verse we have mentioned as the heirs of epic poetry, and, lastly, the rise of scientific pursuits and philosophical speculation. New answers were given to the eternal question of mankind—What is the meaning of self, God, and the world? and these new answers gradually replaced or reshaped the former acceptations of religious belief.

5. Greek religion is a vessel which has been replenished from the treasury of enlightened minds. Poets and artists have combined to idealize its gods as types of perfect beauty. Still, its ultimate springs are those from which mankind has derived an infinite variety of figures and forms, partly beautiful and wholesome, partly hurtful and ugly.

Human thought follows twin channels. It obeys the law of likeness, and it obeys the law of contiguity. While similar ideas suggest one another, yet the same result is evolved by ideas which occur simultaneously or in immediate succession. An absent friend, for instance, may be recalled to our thoughts not merely by the sight of his portrait; the rooms in which he dwelt, the tools which he handled, serve the purpose just as well. laws are summarily known as the laws of the association of ideas, and the conception of natural phenomena, which may be called the personification of nature, is directly and inevitably due to their action. Whenever the savage perceives a motion or some other effect, which, whether by its rarity or by its intimate connection with his interests, strikes his mind strongly enough to set his associative faculties at work, he will infallibly conclude that the occurrence is the outcome of an exercise of will. The reason is extremely simple. A savage or civilized man perceives the connection of will-power with movement-or, indeed, with effects of any kind-every day and hour of his life; and no other combination whatever enters in his direct experience.

Observation of other living beings continually strengthens the association which springs from this inner experience. Indeed, effects of all kinds and the deliberate exercise of will-power are connected so frequently in our mind that where one of the two is found we confidently look for the This expectation has been gradually confined to narrower limits by the operation of experiences of a different order, chief of which may be mentioned the gradual dominion which man has usurped over nature. But in instances where the associative force of ideas is strengthened by powerful passions, or where it is insufficiently checked by experience of an opposite tendency, or, again, where it is reinforced by the second principle of association, which would here be expressed by a likeness between an unintentional and an intentional event, in such instances our expectation breaks all bounds, and reduces the civilized man, for moments at least, to the level of the primitive savage. These are cases in which we are enabled to test the truth of that explanation by a kind of experiment. Take the view of the savage, for example. A watch, or a gun, or any other unfamiliar mechanism. he regards as a living being. But in our own instance, we are not thrown back on such primitive conceptions. We do not unconditionally refer lightning and thunder, plague and volcano, to the activity of such beings. Nevertheless. there are moments when even a scientific man admits the thought of outside purpose and power, even though he be unable to assign a definite form to the power whose intervention he believes in. Among such occasions may be counted any exceptional windfall, or any unparalleled misfortune, especially when the obvious causes of the event happen not to be in adequate proportion to the effect that is produced. Even a trivial effect may afford an illustration of our argument when the conditions of its origin—as in the dispensations of the gambling-table defy all human calculation. Such inarticulate thoughts stand wholly apart from the religious beliefs held at this date by civilized mankind. It is not merely that the unbeliever is affected by them; the man of orthodox creed is frequently quite unable to bring the suggestions that flash across his mind into harmony with the dogmas that he has formed for himself or accepted from others as to the government of the world and the nature of its ruler. This Puck of superstition, from whose visitation no man is completely exempt, is the wan and spectral image of that mighty and universal generating power whence is derived an endless host of phantoms of all shapes and colours.

A second step towards the formation of religion follows imperceptibly on the first. We have marked the assumption that an effect is due to an exercise of will. comes the observation that a series of frequently recurring effects is to be referred to one and the same natural object. Thus natural objects would be regarded as the animate and volitional authors of such processes, and human instinct and inclination, human passion and design, were ascribed to them in their capacity of exercising an effective willpower after the human pattern. Wonder and admiration were paid to them, and according as their operations were useful and wholesome, or the reverse, they were regarded with love or fear. The great objects of nature exert a very considerable influence over human life, and it was chiefly in such cases that man would feel himself impelled to win their favour, to confirm their good will, and to turn their possible hostility to an auspicious disposition. He would endeavour to persuade the heaven to send fertilizing rain on earth instead of destructive storm; he would try to induce the sun to impart a gentle warmth instead of a scorching heat; he would implore the flood not to sweep away his dwelling, but to bear his frail craft uninjured on its mighty stream. He would seek to mollify the powers that govern his existence by petitions, thanksgivings, and offeringsmeans he found so efficacious in the instance of his earthly He would invoke their gracious protection, he would thank them for their benefactions in the past, and he would supplicate for their forgiveness when he feared

to have incurred their displeasure. In a word, he would employ both prayer and sacrifice in the forms suggested by his limited experience. He would possess a religion and a cult.

Hosts of spirits and demons, not wholly disembodied, and yet not wholly material, speedily range themselves in line with these objects of worship, which we may call natural fetishes. Savage man, unacquainted as he was with the finer distinctions of scientific thought, was led to believe in these beings by a triple set of inferences. The first was drawn from real or apparent observations of the outer world; the second from the inner or moral life; and the third depended on observations taken at the transition from life to death in the human and animal creation.

The smell of a flower teaches the primitive man that there are objects not the less real because they evade his sight and touch. The wind, whose material nature he can but partially understand, makes him acquainted with objects that can be felt, but not seen. Shadows, that contain the outline of an object without its material resistance, and still more the coloured images reflected in a sheet of water, bring astonishment and confusion to the mind of primitive man. In both instances he is aware of something precisely resembling the material object, which vet mocks his endeavour to seize it and touch it. Dreampictures serve but to increase his confusion. He perceived them, he thought, with all his senses at once; they stood in bodily shape before his eyes, and still in the morning the doors of his hut were as firmly closed as overnight. Men and beasts, plants, stones, and tools of all kinds. stood indisputably before him, plainly perceptible to sight. hearing, and touch, and yet in many instances there could actually have been no room for them in the limited accommodation of his dwelling. Thus he is driven to the conclusion that, like perfumes and winds, shadows and reflections, they were the souls of things. Occasionally it happens that the visions of sleep require and demand a different sort of explanation. The dreamer is not always

receiving visits from the souls of other persons or things. Frequently he believes himself to be traversing long distances, and conversing with his friends in far-off homes. Hence he concludes that something—his own soul or one of his souls, the belief in a plurality of souls being both natural and common,—has temporarily left his body. is subject to the same experiences with the same train of inferences in the state which we have learnt to call hallucination. The irregular life led by primitive man. with its long fastings and sudden excesses, rendered him as liable to such attacks as to heavy and exciting dreams. Those souls or essences of things must be taken as standing in the closest relation with the things themselves, which are affected by whatever affects their souls. In popular belief it is still a bad omen to tread on a man's shadow. and in one of the tribes of South Africa the crocodile is believed to get a man in its power if it merely snaps at the reflection of the man which is thrown on the water from the bank. So the doings and sufferings of persons in dreams is of the gravest import to the living originals.

But popular belief endows the soul with far greater power and with practical independence by a second series of considerations, depending, not on the observations of sense, but on those of the processes of will. So long as the inner life of primitive man moves in a uniform and even groove, he has little cause to reflect on the seat and origin of his will and endeavour. It is when the blood begins to surge in his veins, when he glows and thrills with emotion, that his beating heart teaches him of its own accord how that region of his body is the theatre of occurrences which he is impelled to explain to himself by the light of his own perception and of the analogies already at his disposal. Hitherto he has been accustomed to connect each particular effect with a particular Being; and the more violent and sudden the change, the less he will be able to rid himself of the impression that some Being of the kind is stirring and ruling in his own breast. There are moments when he is seized by an overpowering passion. Rage, for instance, fills his heart and drives him

to a deed of bloodshed that he may presently bitterly repent. Or, again, in the very act of committing it. a sudden impulse makes him hold his hand; and it is in moments such as these that he is overcome by an irresistible belief in one or more Beings, within him or without him, who drive him to action or restrain him from the Man's belief in the soul reaches its most effective point in the circumstances which accompany the extinction of the individual life. It is once more the cases of sudden change which make the deepest impression on the observer, and give the lead to his reflection. If dying were always a gradual decay and a final folding of the hands to sleep, or if the dead man were always changed beyond recognition, the inferences drawn from the cessation of life might have taken a different form. Frequently, however, no outward changes disturb the features of the dead. Death comes as a sudden transition from complete vigour to complete silence, and the spectator asks himself to what causes is due this dread and terrifying transformation. Something, he says in answer to himself, has departed from the dead man that lent him life and movement. A cessation of powers and qualities which a moment ago were in evidence is taken literally as a departure and as a separation in space. The warm breath, so mysterious in its origin, which the living body always exhaled, has been extinguished, and the reflection is obvious that the source of the arrested processes of life has perished simultaneously with the breath. Violent deaths, when life seems to leave the body with the blood pouring from the wound, awaken sometimes a belief that life itself is borne on that crimson stream. A second theory is to be remarked among some other peoples. The reflection in the pupil of the eye which vanishes at the approach of death is there regarded as the source of the processes of life and animation. But these attributes, after all, are most commonly ascribed to the warm breath or steam which proceeds from within the living organism, and by far the most of the words which are used in different languages to signify "soul" and "spirit" express that primary meaning. We saw in both explanations of the visions of sleep that the soul was supposed to be separable from the body. Their temporary separation accounts for states of unconsciousness, catalepsy, and ecstasy, just as the explanation of pathological conditions of all kinds, such as madness, convulsions, and the like, may best be sought in the entry of a foreign soul into the body. The instance of demonic possession is a case in point. The difference is that the separation of the two elements in death is regarded as enduring and final.

We see, then, that the breath is regarded as an independent being, but there is no ground to assume that when it has left the body it must perish as well. On the contrary, the picture of the beloved dead is an unfading possession; his soul, in other words, hovers round us. And how—so primitive man asked himself—should it be otherwise? The soul is plainly impelled to haunt as long as it can the old familiar places, and to linger about the objects which it cared for and loved. The last doubt on this question is dispelled by the frequent visitation of the image of the departed in the dreams of survivors in the night-time.

Two results ensue from the assumption of independent souls or spirits outliving their connection with the human and maybe the animal body. In the first place, it gave rise to a second class of objects of worship parallel to the natural fetishes. Secondly, it supplied a pattern on which imagination could mould a series of other Beings, which either existed independently or temporarily occupied a visible habitation. There was no lack of urgent motives for the adoption of this creed, and for such operations of the fancy on the part of primitive man. He was governed by outward circumstances in a hardly conceivable degree. His desire to enlighten the darkness that surrounded him at every step was only matched by his inability to give it practical satisfaction. Sickness and health, famine and plenty, success and failure in the chase, in sport, and in war, followed one another in bewildering succession. Savage man naturally wished to recognize the agents of his fortune, and to influence them on his own behalf, but his powerlessness to fulfil that longing in any rational manner was stronger than the wish itself. A maximum of curiosity in each individual was combined with a minimum of collective knowledge. Fancy was set in motion on every side with hardly a noticeable exception in order to span that gulf, and it is difficult to form an approximate conception of the amount of imagination at play. For the protective roof which civilization has built over man is at the same time a party-wall interposed between him and nature. The objects of natural worship were indefinitely extended. Forest and field, bush and fountain, were filled with them. But the needs of primitive man outgrew their rate of increase; he could not but observe that his weal and woe. his success and misfortune, were not invariably connected with objects perceptible to sense. He observed a sudden scarcity where game had formerly been abundant; he found himself all at once no match for the foe he had frequently routed; he felt a paralysis creep through his limbs, or a mist obstruct his consciousness, and in none of these instances could he blame any visible being. He seized on any outward circumstance which gave a momentary direction to his bewildered thought as an He would assume a close and definite infallible guide. connection between occurrences that happened in fortuitous coincidence or succession. If an unknown animal, for instance, were suddenly to burst from the thicket at a time when a pestilence was raging, he would straightway worship it and implore its good graces as the author of the plague; and through all this uncertainty primitive man never ceased anxiously to look for the agents of his good luck and ill. His longing for help and salvation remained insatiable throughout. Presently he turned for aid to those who had watched over him in life, and addressed his prayers to the spirits of his departed kinsfolk, parents. and forefathers. The worship of ancestors was started, and with it went the supplication of spirits not confined to natural objects, but associated in thought with the ordinances and occurrences of life. Spirits were assumed

with powers of protection and mischief. We are thus presented with three classes of objects of worship, overlapping one another at various points. They began to react on one another, and to pass into one another's spheres.

The legendary figure of some remote ancestor, the forefather of a whole tribe or race, would be ranked on a footing of equality with the great natural fetishes. It might happen, indeed, that just as a nation or an illustrious tribe would regard and worship the sun or the sky as the author of its existence, so this legendary forefather would be identified with one of those fetishes. Nor need it arouse our surprise that objects of nature or art should come to be looked on as the homes of ancestral or other spirits, and as such should receive a form of worship and be ranked as secondary fetishes. They would owe these honours not so much to any palpable influence they exercised as to their strangeness, their unaccustomed shape or colour, or their accidental connection with the memory of some important event. Finally, it is obvious that spirits or demons, originally confined to no fixed abode, would be confused at times with a natural fetish through their similarity in name or qualities, and would at last be merged with it in a single being. It is wholly illegitimate to infer from occurrences of this more or less isolated character that any of the three great classes of objects of worship, natural fetishes or independent spirits, for example, is foreign to the original belief of the people, or of later and adventitious derivation. As well might one conclude from the proved worship of animals, as such, or from the deification of men, which has been frequently observed, and which still obtains through the great Hindoo civilization, that these are the sole or even the chief sources of religious belief. It is always difficult and often hopeless to attempt to follow the details of such a process of transformation, and to sift the nucleus of a religion from its gradual accretions. But the fact that such transformation took place, and that the course of religious development was thereby deeply affected, is a truth which may be stated without

reserve. At this point, however, it will be well to return to the more modest path from which we have digressed.

6. The gods of Greece assembled in Olympus round the throne of Zeus, hearkening the song of Apollo and the Muses, sipping nectar from golden goblets, involved in adventures of war and love—we cannot but perceive how little they resemble the earliest and roughest products of religious imagination. They are severed by a yawning gulf which it would seem to be impossible to bridge over. Nevertheless, the appearance is fallacious. The exact observer will remark a vast number of links and stepping-stones, till he will hardly venture to distinguish between the beginning of the one series of beings and the end of the other; above all, between the end of the natural fetish and the beginning of the anthropomorphic god. Comparative philology tells us that Zeus, the chief of the gods of Olympus, was originally no other than the sky itself. Hence he was said to rain, to hurl the lightnings, and to gather the clouds, himself still entitles the Earth-goddess "broad-bosomed" or "broad-wayed" indifferently, and thus shifts, like the colours of the chameleon, between two quite contrary conceptions. When Earth is represented by an old theological poet as giving birth to high mountains and to the starry heaven that it may wholly encompass her, or when Earth as the bride of Heaven is represented as the mother of deep-eddying Ocean, and Ocean again with Tethys as engendering the rivers, we are plainly standing with both feet in the realm of the pure worship of nature. Presently. however, we are confronted with a different set of stories. Fair-flowing Xanthus is represented by Homer as subject to a wrathful mood; Achilles fills his bed with dead men; he is sorely pressed by the flames ignited by Hephæstus. smith of the gods; he is in danger of defeat; he stays his course in order to escape from the conflagration; and he implores Hera the white-armed, the woman-like consort of the king of the gods, to help him to resist the savage onslaught of her son. In all these instances we are surely conscious of two fundamentally different kinds of religious imagination, of two strata, as it were, which a volcanic eruption has thrown into hopeless confusion.

The following reply may be attempted to the question why Greek religion, like that of countless other peoples, has undergone this transformation. It was an intrinsic tendency of the associative faculty, which led to the personification of nature, to lend more and more of a human character to the objects of worship. First came the connection in thought between movements or effects and the impulses of the human will. Next volition was connected with the whole range of human emotion; and, finally, the range of human emotion was associated in thought with the external form of man and the sum of the conditions of human life. This development took a slow It was delayed by man himself, who, on the confines of savagery, knowing no law but that of need, and harassed as he was by real and imaginary dangers, was not yet sufficiently in conceit with himself to form these supreme powers in his own mean and ignoble image. Still, the gradual beginnings of civilization tended to level the differences and to reduce the distance between the heights and the depths. No people, we may conjecture, ever yet came to regard the great powers of nature as savages living on roots and berries in a state of semi-starvation. But a tribe with an abundance of rich hunting-grounds might conceive a heavenly huntsman such as the Germanic Wotan, or, like the farmers of ancient India, would figure the god of heaven and his clouds as a shepherd with his flock. And this tendency was notably strengthened by the auspicious circumstances of external life, which awoke the desire for clearness, distinctness, and a logical sequence of ideas. It is now the exception, and no longer the rule, to meet with such vague, indefinite, and contradictory conceptions as that of a sensitive stream, or of a river brought to birth by generation. We may not be able to assert conclusively whether the worship of ancestors or of fetishes was the earlier in time, but we can assert that, old as demonism may have been, it must have been extended by the division

of labour and the growing diversity of life. Fresh demons had to be created to meet the multiplicity of human business and experience. But these independent spirits offer less opposition to the personifying faculty than objects of natural worship, and they presently formed the model on which the last-named were moulded. Demons, like souls, were conceived as entering human bodies. remarks about demonic possession will recur in this connection, and the process which nothing prevented and many conditions assisted was speedily adapted to the case Spirits and gods whose habitation is of natural fetishes. confined to external things, which they use as their instruments, now replace or accompany the volitional and conscious objects of nature. Thus the god and the external thing are no longer completely identified. They merely stand in the relation of tenant and abode. becomes more independent of the destiny of the object he inhabits; his sphere of activity is no longer confined to it, but he obtains an allowance of free action.

The graceful feminine figures which the Greeks worshipped as nymphs afford an instructive example of this transformation. Homer's hymn to Aphrodite takes cognizance of dryads who share in the dance of the Immortals and sport with Hermes and the fauns under the shadows of the rocks. But the pines and the high-branching oaks they inhabit are something more than their mere dwellingplace. These beings are but half divine; they are born. they grow, and they die together with the abodes they haunt. Other nymphs are exempt from that fate. They dwell in water-brooks, meadows, and groves, but they are numbered with the Immortals, and they are not missing from the great council of the gods when Zeus gathers them in his gleaming halls. We may draw the following conclusion. There was a time when the tree itself was personified and worshipped. Next came a period when the spirit of its life was regarded as an independent being. separable from it, but closely bound up with its destiny. Finally, this last bond was severed as well: the divine being was liberated, as it were, and hovered indestructibly

over the perishable object of its care. This final and decisive step put polytheism in the place of fetishism. Traces of the era of fetishes linger about but a few of the great unique objects of nature, such as the earth, the stars, and the legendary Oceanus. And even in these instances fresh figures were created under the influence of the new thought to accompany the older deities, barely touched as they were by the finger of anthropomorphism. A further development may here be remarked. These natural spirits. released from their external objects, were set an appointed task just as certain independent deities presided over whole categories of occupation. They were appointed to wood or garden, to the fountain, the wind, and so forth, and became what has appropriately been termed "class-gods." This transformation was assisted, apart from the influence of demonism, by the progressive perception of the intrinsic likeness in whole series of beings. Man's generalizing powers found here their earliest satisfaction, and his artistic and inventive faculties were provided with inexhaustible material in the contemplation of the free action of the gods.

The Greeks were furnished in a pre-eminent degree with the conditions requisite for the progress of personification, and for the idealization of the divine powers which depended on it. The demand for clearness and distinctness may have been a birthright of the Greeks; it was obviously strengthened by the bright air and brilliant sky enjoyed through the greater part of Hellas, by the sharp outline of its hills, by its wide and yet circumscribed The Greek sense of beauty was constantly fed on landscapes combining in the smallest compass all the Green pastures and snowv loveliest elements of nature. peaks, dusky pine-woods and smiling meadows, wide prospects over land and sea, fascinated the eye at every turn. And the inventive spirit which was later to display itself in the rich and teeming inheritance of Greek poetry and art must surely have seized on the first material at its disposal, and therein have spent the powers which were denied expression elsewhere.

It is difficult to follow the course of this evolution in detail, and our difficulty is enhanced by the character of the literary monuments that have reached us. a cherished belief of former generations that Homer's poems were produced in the infancy of Greece. mann's spade has destroyed this illusion. A notable degree of material civilization clearly distinguished the eastern portions of Greece—the islands, and the shore of Asia Minor-soon after 1500 B.C. The conditions of human life depicted by the Homeric poems are the result of a comparatively long development contaminated by Egypt and the East. When we recall the splendid banqueting-halls, with their plates of beaten metals, their blue glazed friezes on a gleaming alabaster ground, their ceilings artistically carved, and their drinkingcups of embossed gold, we look in vain for traces of primitive man in the princes and nobles whose Round Table was the theme of the Homeric poems. passions, it is true, were still uncontrolled. Otherwise the insatiable wrath of Achilles or Meleager would never have become a favourite subject for poetic description. recall the period in which the Niebelungenlied was composed, when the original and untamed force of passionate sensibility fell on an era of foreign manners and imported refinement of taste. But we find no trace in these heroes of the timidity and awe with which the almighty forces of nature were regarded by primitive man. The gods were fashioned by the nobles after the pattern of their own existence, as they acquired more and more self-esteem, more and more security, in the stress of life. Olympus became a mirror of heroic experience, and its gorgeous and frequently tumultuous features were faithfully reproduced. Gods and men approached each other with a familiarity never since repeated. Men wore no little of divine dignity; the gods took no mean share of human weakness. The virtues ascribed to the gods were the virtues dearest to those warriors—qualities of valour and pride, and steadfastness in friendship and hate. Gods, like men, were affected by strong individual motives; the obligation of duty was almost always a matter of personal loyalty, and in the Iliad at least they but rarely appear as the champions of abstract justice. To their worshippers who lavished precious gifts on them, to the cities that dedicated splendid temples to them, to the tribes and races which traditionally enjoyed their favour, they lent their faithful protection with a loyalty as resolute as it was untiring. They were but little restrained by any scruples of morality; nay, their special favourites were endowed by them with talents for perjury and theft. They seldom paused to consider the rights or wrongs of the matter to which they devoted their assistance, else how could some of the gods have been found on the side of the Greeks. while others with equal interest and trouble supported the Trojan cause? How, again, could Poseidon in Odyssey have persecuted patient Ulysses with inexhaustible hate, while Athene proved herself in every danger his trusty counsellor and shield? Their obedience was solely due to the god of heaven, chief of the gods. and more often than not they obeyed him with reluctance. and used every artifice of deceit and guile to evade the obligation of his command. Moreover, the heavenly overlord resembled his earthly prototype in that his power did not rest on the immovable foundation of law. found himself frequently obliged to extort the fulfilment of his orders by the employment of threats, and even by violent maltreatment. There was a single peremptory exception to the chaos induced by the acts and passions of the Immortals. Moira, or Fate, was supreme over gods and men alike, and in her worship we recognize the faint and earliest perception of the operation of law throughout the range of experience. Thus the oldest monuments of the Greek intellect that have reached us show us the gods in as human a form as is compatible with reverent worship, and instances indeed could be found where that last limit was transgressed. Take, for example, the lovestory of Ares and Aphrodite; it stirred the Phæacians to ribald mirth, and it evinces a worldliness in religious conception which, like the exclusive cult of beauty of the Cinquecento, could hardly have spread over wide classes of the population without seriously affecting the heart of religious belief. The majesty of the ancient Greek religion is not to be found in the confines of the courtly epic, where the joys of the world and the flesh and the frank deliciousness of life disperse the gloomier aspects of belief, and clothe them, so to speak, with their brilliance. The exceptional occurrences that seem to contradict this view will be found to be its clearest illustration.

Homeric man believed himself to be constantly and universally surrounded by gods and dependent on them. He attributed his good luck and ill. his successful spearthrust or his enemy's escape, to the friendship or hostility of a demon. Every cunning plan, every sound device. was credited to divine inspiration, and every act of infatuated blindness was ascribed to the same cause. It was the aim of all his endeavours to win the favour of the Immortals and to avert their wrath. But despite this dependence, and despite the occurrence, in the Iliad especially. with its shifting battle-scenes, of situations fraught with dire peril, it is to be noted that man himself, the costliest of human possessions, is never offered as a sacrifice to the gods. The religion of the Greeks, like that of most other peoples, was familiar with human sacrifices; but though it survives till the full light of historic times, it is completely missing from the picture of civilization displayed by the Homeric poems. Or rather, the abominable custom is mentioned therein on one single occasion, as the exception which proves the rule. At the splendid obsequies devised by Achilles in honour of Patroclus, the well-beloved, we are told that, besides innumerable sheep and oxen, besides four horses and two favourite hounds, twelve Trojan youths were first slaughtered and then burnt with the body of his dead friend. This complete consumption of the offering by fire is proved by more recent ritual evidence to have been the ceremony in vogue among worshippers of the infernal deities. The blood of the slaughtered beasts and men is first suffered to trickle over the corpse, and the soul is supposed to be present and to be refreshed and honoured by the gifts it receives. Achilles performs by this act a solemn obligation to the dead, and narrates it to the soul. when it appears to him by night, and again at the funeral itself. But, strangely enough, the description of this revolting deed has none of that sensuous breadth and detail which we correctly call the epic style, and find so characteristic of Homer. Rather the poet glides, as it were, with deliberate haste over the horrible story. and his audience seem to shrink from it; it is the legacy of a world of thought and feeling from which the vitality has departed, and this impression is strengthened by other and kindred observations. Except for this single instance, hardly any trace whatsoever is found in the Homeric poems of the whole series of rites connected with and dependent on the belief in the protracted existence of powerful beings rising with spectral influence from the grave, and constantly demanding fresh tokens of propitia-There are no sacrifices to the dead, whether bloody or bloodless, there is no purification for homicide, no worship of souls or ancestors. The souls, it is true, survive the bodies, but they are well-nigh exclusively confined to the far infernal realms of death, where they wander as "powerless heads," vagrant shadows, and bloodless ghosts, of no efficacy and of little account. It was quite different in later times, and, as we learn from trustworthy discoveries and equally trustworthy conclusions, in earlier times too. We may appropriately dwell on this point, which is of great importance to the history of the belief in souls and to religious history in general.

7. The sacrifice of prisoners or slaves is a funeral custom of remote antiquity, and one which is widely spread in our own times. The Scythians, when they buried their king, used to strangle one of his concubines and five of his slaves—the cook, the cup-bearer, the chamberlain, the groom, and the doorkeeper—and these, together with his favourite horses, and with a quantity of costly vessels, of golden goblets and so forth, would be committed to the royal grave. After the lapse of a year, fifty more chosen slaves were strangled, set upon as many

slaughtered horses, and stationed round the tomb like a guard of honour.

Many pages and chapters might be filled with the enumeration of similar customs, from which the Hindoo suttee is also derived. Naturally they show a long course of gradations, varying from the savage and barbarous to the tender and refined. Human sacrifices were followed by animal sacrifices, and these in their turn by drink sacrifices Æschvlus and Sophocles and other bloodless offerings. represent Agamemnon's tomb in Mycenæ as the recipient of libations of milk, locks of hair, and garlands of flowers. But newly discovered tombs of the kings in that city. dating from hoary antiquity, show traces of sacrificial offerings of a far more substantial kind. Bones of animals, and human remains too, were found there, besides innumerable most costly weapons, drinking-cups, and other Taking these objects in connection with the vessels. altars discovered in the vaulted tomb at Orchomenus in Bœotia, we may infer that the souls of the dead enjoyed adoration and worship in the proper sense of the word. The cult of ancestors and souls has been in almost universal vogue. It is still as widely spread among the most debased savages in all regions of the earth as among the highly civilized Chinese, in whose state-religion it plays the most important part. It takes precedence, too, in the beliefs of nations of Aryan descent. The Romans observed it no less than the Greeks, and the "Manes" of ancient Rome were the "pitaras" of the Hindoos. The extinction of a family at Athens was regarded as ominous, inasmuch as its ancestors would be deprived of the honours that were due to them. The whole population of Greece, and the communities of which it was composed in a series, as it were, of concentric circles, addressed their prayers to real or imaginary forefathers. And so imperious was this need that professional brotherhoods or guilds would invent a common ancestor. should they otherwise not possess one. The custom was bound up with the origins of state and society, which were originally ranked as merely extended family groups. But our immediate interest is confined to the deepest root of this custom—the belief in the protracted existence of the soul as a powerful being with enduring influence on the success and failure of its living descendants. We have already discussed the source of this belief, and we shall later be occupied with the changes that it underwent. At present we have to dispel a misunderstanding which might darken our historical insight.

The souls depicted by Homer have dwindled to pale and ineffectual shadows. Their worship, and the customs that arise from it, are practically obsolete in his poems, but it would be erroneous to conclude from these facts that the evidence from comparative ethnology should be neglected, or that the oldest form of this part of the Greek religion is preserved in epic poetry. The discoveries dating from the period of civilization which is now called the Mycenæan have shattered the last foundation of every possible doubt. The causes that induced this change in religious ideas can only be arrived at by conjecture. It plainly depended, not merely on temporal, but also on local conditions, and at first, at least, it was probably confined to certain classes of the population. At the period of which we are speaking the custom of burning the dead body prevailed, and the consequent belief obtained, and was clearly expressed by Homer, that the consuming flames finally severed body from soul, and consigned the soul to the realm of shadows. In connection with the development of Greek religion, considerable influence has been attached to this custom and its results. Of hardly secondary account may be reckoned the local separation of colonists from their ancestral tombs, and from the seats of worship appertaining to them in the mother-country. But of greater importance than all was the joy in life and the world, so repellent to melancholy and gloom, which pervades the Homeric poems. It shrank from the sinister and the spectral with the same invincible optimism that banished the ugly and the grotesque from its purview. Nor was it only the shades of the dead that had to recede into Spectral godheads such as Hecate, the background. horrible spirits such as the Titans with their hundred arms

and fifty heads, coarse and revolting myths such as that of the emasculation of Uranus, were similarly compelled to give way to the instinct of joy; and monsters of the type of the round-eyed Cyclops were treated in a more playful humour. Two alternative inferences present themselves. We may either regard the gradual growth of the sense of beauty and the rise in the standard of life dependent on the progress of material civilization as the chief factor of development; or we may ascribe to the people who invented philosophy and natural science the possession, even in those early times, of the elements of rationalistic enlightenment. In other words, is the change in the soul-idea which confronts us in Homer to be attributed in the first instance to the lightness or to the brightness of the Ionian genius? This question does not yet admit of a definite answer. We owe the possibility of its discussion to the brilliant intellectual and analytical powers of a contemporary student in these fields.

8. The personification of Nature must, then, primarily be thanked for the inexhaustible material it supplied to the play, first of imagination and next of imagination heightened to art. But it must further be recognized as having been the earliest to satisfy the curiosity of man. and his craving for light in the deep darkness in the midst of which we live and breathe. The "why" and "wherefore" of sensible phenomena are questions that cannot be avoided, and the spontaneous presumption that everything which happens is due to the impulse of volitional beings—a presumption springing from the unlimited dominion of the association of ideas-affords, it must be admitted, a sort of answer in itself. It is a kind of philosophy of nature, capable of infinite extension in proportion to the increase of the number of phenomena observed, and to the more and more clearly defined shapes of the powers of nature, regarded as living beings. Primitive man is not merely a poet, believing in the truth of his inventions; he is, in his way, a kind of investigator as well. The mass of answers which he gives to the questions continually pressing on him is gradually composed to an all-embracing weft,

and the threads thereof are myths. As evidence of this, we may instance the popular legends of all times and countries with their remarkable points of likeness and their no less striking points of difference. The two greatest heavenly bodies figure in almost every nation as a related pair, whether in the relation of husband and wife or of sister and brother. Numberless myths represent the phases of the moon as the wandering of the lunar goddess, and the occasional eclipses of sun and moon as the consequences, partly of domestic strife, partly of the hostile attacks of dragons and monsters. The Semite, for example, explained the weakness of the sun in winter by the story of Samson's -the sun-god's-bewitchment by the seductive goddess of the night, who robbed him of his shining hair; as soon as his long locks, the sunbeams, in which his strength resided. were cut off, it was an easy task to blind him. ancient Indian regarded the clouds as cows-as soon as they were milked the fruitful rain poured down; if the quickening moisture were long delayed, the drought was ascribed to evil spirits who had stolen the herds and hidden them in rocky caves, and Indra, the god of heaven. had to descend on the storm-wind to free them from their bondage, and rescue them from the robbers. The dreadful spectacle afforded to the gaze of primitive man by a mountain emitting flames would forthwith seem to him the work of a demon dwelling in the bowels of the earth. Many tribes would content themselves with this explanation, but one or another would presently ask why it was that so mighty a spirit should be confined in infernal darkness. The answer would suggest itself spontaneously. that he had been vanquished in conflict with a yet more powerful being. Thus Typhon and Enceladus were looked on by the Greeks as the vanquished opponents of the great god of heaven, bearing the heavy penalty of their crime. Or take the instance of the earth, from whose womb came forth a constant procession of fruits. How natural it was to represent her as a woman impregnated by the heaven above her, who sent down his life-giving rain. This worldwide myth has been turned to various forms. The Maoris

and Chinese, the Phœnicians and Greeks, would ask why husband and wife were kept so far apart from each other. instead of dwelling in the intimate relations of a conjugal pair. The inhabitants of New Zealand replied with the story that the offspring of Rangi (heaven) and Papa (earth) had no room to live as long as their parents were united. So at last they made up their minds to relieve themselves from the pressure and the darkness, and one of them-the mighty god and father of the forests-succeeded, after many vain attempts on the part of his brethren, in sundering their parents by force. But the love of heaven and earth survived their separation. Passionate sighs, which men call mist, still rise to heaven from the breast of motherearth, and tears still trickle from the eyes of the sad god of heaven, and are called by men drops of dew. This ingenious and highly poetical myth of the Maoris gives the key to a similar but far coarser legend which obtained in Greece, and of which merely fragments have come down to us. Hesiod tells us that the earth was cramped and oppressed by her teeming burden of children, of which heaven was the father. But heaven, adds the poet, would not suffer them to come to birth, but thrust them back in their mother's womb. Panting from her labours, she devises a cunning scheme, and confides its execution to one of her sons. Cronos whets his sickle and mutilates Uranus his father, so that he is debarred from further procreation, and Gaia is released thenceforward from her husband's embraces, and is enabled, we may add, to find room for the offspring with whom she is teeming.

We may mark at this point the following conclusion. The process of personification was not confined to mere objects, but was extended to forces, states, and qualities. Night, darkness, death, sleep, love, appetite, infatuation, were all looked on by the Greeks as individual beings more or less successfully personified. Some are completely embodied, others stand out from the background of their content as imperfectly as a bas-relief. The relations existing between these forces or states are explained by analogies from human or animal life. Likeness, for

instance, figures as relationship, death and sleep are twin brothers; consecution figures as generation, so that day is the offspring of night, or night of day indifferently. All groups of like nature appear as tribes, kindred, or families. and traces of this process of thought are to be found in our language to this day. Finally, the habit of explaining an enduring condition or the recurring incidents of the world by mythical fictions led to the attempt to solve the great riddles of human life and fate in a similar manner. The Greek in his dark hour of pessimism would ask why the evils of life were so much in excess of its blessings. and the question immediately suggested a second one-Who and what brought evil in the world? And his answer mainly resembles that of the modern Frenchman, the sum of whose researches into the source of innumerable transgressions was contained in the words "cherchez la femme." But the ancient Greek cast his indictment of the weaker and fairer sex in the form of a single charge. He relates that Zeus, with the help of the rest of the gods, in order to punish Prometheus for his theft of fire and the consequent arrogance of mankind, created a woman adorned with all the graces as the mother of the female race, and sent her down to the earth. At another time the Greek. still groping for enlightenment on this subject, accused curiosity or the thirst for knowledge as the root of all evil. If the gods, he said, had endowed us with every blessing, and had locked up all evils in a box, and had straightly warned us not to open it, human-and chiefly woman'scuriosity would have set at nought the divine prohibition. Both myths are merged in one: Pandora, the woman, as her name implies, adorned with every seductive gift, is the woman, stung by curiosity, who lifts the lid of the fateful box and lets its perilous contents escape. more we are astounded at the similarity of mythical invention obtaining among the most diverse peoples, and one almost involuntarily recalls the allied Hebraic story of Eve-the mother of all life-and the ominous consequences of her sinful curiosity.

9. The multiplicity of myths and the crowd of deities

must at last have proved a weariness and a stumblingblock to the orthodox Greek. Legends clustered like weeds in a pathless and primeval forest, obstructed by ever-fresh undergrowth. The thinning axe was wanted. and a hand was presently found to wield it with thew and sinew. A peasant's vigour and a peasant's shrewdness accomplished the arduous task, and we reach in him the earliest didactic poet of the Occident. Hesiod of Ascra, in Bœotia, flourished in the eighth century B.C. He sprang from a soil where the air was less bright than in the rest of Greece, and man's heart was less light in his breast. His intellect was clear but clumsy; he was versed in the management of house and field, and was not a stranger to lawsuits. His imaginative powers were of comparatively restricted range, and his disposition was vet more unvielding. A Roman among Greeks, the author of "Works and Days" was distinguished by sober sensibilities, by a strict love of order, and by the parsimonious thrift of a good business man trained in the manufacture of smooth account-books, averse from any hint of contradiction, and shy of all superfluity. It is in this spirit, so to speak, that he took an inventory of Olympus, fitting each of the Immortals in the framework of his system by the genealogical clamps. pruned the luxuriance of epic poetry, reviving the immemorial but dimly understood traditions extant among the lower orders of Greece without respect to their claims to beauty. Thus his theogony comprised a complete and comprehensive picture, with but rare gleams of true poetry and hardly a breath of the genuine joy of life. The names of Homer and Hesiod were coupled in remote antiquity as the twin authors of Greek religion. But they stand, in point of fact, in strong contrast. The unchecked imagination of Ionian poets, which made light of the contradictions and diversities of legend, differed as widely from the home-keeping, methodical wisdom of the Bœotian peasant as the brilliant insouciance of their noble audience from the gloomy spirit of the meek hinds and farmers for whom Hesiod's poems were composed.

The "Theogony" is at once a cosmogony; the "Origin of the Gods" included the origin of the world. We are chiefly concerned with the last named of these pairs, and may let the poet speak for himself. At the beginning, he tells us, there was Chaos: then come Gaia, the broadbosomed earth, and next. Eros, loveliest of the gods, who compels the senses of mortals and immortals alike, and melts the strength of their limbs. Chaos engendered Darkness and Black Night, and Air and Dav—Æther and Hemera—sprang from their union. Gaia first created of her own accord the starry heaven, the high mountains, and Pontus, the sea; then, as the bride of Uranus, she brought forth Oceanus, the stream that encompasses the earth, and a long series of children, some of them mighty monsters, and others of an almost allegorical description, besides the gods of the lightning called Cyclopes, and Tethys, the great goddess of the sea. From the marriage of Ocean and Tethys sprang fountains and the streams. The sun-god, the moon-goddess, and the Dawn were born to two other children of Heaven and Earth. Dawn is united to her cousin Astræus, god of the stars, and the Winds, the Morning-star, and the rest of the luminaries were born of that marriage.

Part of this exposition is so puerile in its simplicity. that hardly a word of comment is required. "The greater is the author of the less:" hence the mountains were born of the Earth; mighty Oceanus and the smaller streams and rivers stood in the relation of father and sons; the little Morning-star was the son of the widespreading Dawn, and the rest of the stars were clearly to be set down as his brothers. It is less obvious why the Day should have sprung from the Night, for the opposite theory would have been equally admissible, and an old Indian hymn-writer actually poses the question whether Day or Night was created first. Still, Hesiod's opinion may perhaps be called the more natural. Darkness appears to us as a permanent state requiring no explanation; light, at each manifestation, is due to a special event, whether it be the rise of the sun, the lightning of the storm-cloud, or the ignition of a flame by human hand. So far, then, we have merely had to deal with the earliest reflections of thoughtful and bewildered man. These tell their own story, but a more attentive examination is required when we come to the most important part of Hesiod's work, where he discusses the origin of the world.

The brief and arid character of this exposition is the first point that we notice, and it arouses our astonish-The stage-bell rings, as it were, and Chaos, Gaia, and Eros appear as the curtain rises. No hint is vouchsafed as to the reason of their appearance. A bare "but then" connects the origin of Earth with the origin of Chaos. Not a single syllable of explanation is given of the When and How of this process, whether Earth was born of Chaos or not, and what were the aids to birth; and the same unbroken silence is preserved on the promotion of the Love-god to the prominent part which he fills. course one may say, the principle of love or generation must have entered the world before any procreation could take place. But why should the didactic poet drop it without a word, why should he never refer to that function of Eros at all, and why should he rather disguise it, as we plainly perceive to be the fact? Various epithets are here predicated of the Love-god, and in a later passage he is given a place next to Himeros-craving-in the train of Aphrodite. But none of these allusions recalls in the remotest degree the mighty, vitalizing creative Being who alone is appropriate in this connection, and whom we shall meet later on in other cosmogonic experiments, where the origin and function of Eros come to adequate expression. One thing is as clear as noonday. A wide gulf is fixed between the summary and superficial methods of Hesiod's inquiry into origins and the devotion of those who applied the whole force of their immature philosophy to the solution of the great enigma. Hesiod's system is a mere husk of thought which must once have been filled with life. It has survived the loss of its contents, just as the shell survives the shell-fish. We seem to be gazing

at a hortus siccus of conceptions, the growth and development of which we are no longer able to watch. Inference has to take the place of direct observation, and a start must be made at the terms the poet used, presumably with but partial comprehension. These terms will help us to construct the process of thought of which they are the dead deposit. We shall be assisted herein by the consideration of kindred phenomena, not merely in Greece, but in other countries as well. We have already briefly described the nature of Eros, and may now proceed to discuss the meaning of Chaos.

Chaos resembles empty space as closely as the inexact thought of primitive man approximates to the speculative conceptions of advanced philosophers. Primitive man endeavours to imagine the primordial condition of things, in all its striking contrast to the world as he knows it. The earth, and all that is therein, and the dome of the sky were not extant. All that remained was a something stretching from the topmost heights to the uttermost depths, and continuing immeasurably on either side the hollow emptiness interposed between the Heaven and the The Babylonians called it apsu, "the abyss," or tiamat, "the deep." The Scandinavians knew it as ginnunga gap, "the yawning gap," a term of which the first word belongs to the same root as the Greek Chaos. gaping void, this abysmal deep, was conceived as obscure and dark simply because—in accordance with the principles of this system-none of the sources of light had as yet been put in action. For the same reason, the observer confined his imagination to the depths rather than the heights of Chaos, height and light being hardly distinguishable in his mind. Chaos filled the whole space known to or even suspected by primitive man. Earth and her complement—the dome of heaven with its luminaries -sufficed for his knowledge and his thought; even his vague and aspiring curiosity was content to flutter in those limits. His intellect stopped short at the idea of the distance between heaven and earth stretching into the infinite. The two other dimensions of space troubled him

scarcely at all, and whether he believed in their finite or infinite extension it would be equally futile to inquire.

Thus Hesiod's inventory included not merely the simple popular legends but also the oldest attempts at speculation. These last, indeed, are presented in so rough and incomplete a guise that his sparse allusions can only acquaint us with the existence of such attempts at his time, and with their barest and most general outline. We shall have to trust to later accounts to discover their contents more accurately, though our knowledge at the best can only be approximate. Then, too, we shall have occasion to examine the standard of thought to which such experiments belong. Meantime, our survey of Hesiod would be incomplete without a reference to one side of his scheme which also bears a more speculative character. Many of the beings he presents to us, and interweaves in his genealogies, show little or nothing of the vivid personification which marks the figures of simple popular "Lying Speeches," for instances, would hardly impress any one at first sight as individual personages. Yet they are found with "Toilsome Labour," "Tearful Pains," "Battles," and "Carnage" in the enumeration of the offspring of Eris, or Strife. The experience is repeated in the instance of the children of Night. These do not merely include mythical figures of a comparatively life-like kind, such as Eris herself, Sleep, Death, the Moiræ, or goddesses of Fate, and so forth, but also blank, spectral personifications, such as "Deceit" and "Ruinous Old Age." "Deceit's" title to that place would appear to rest on its habit of avoiding the light; Old Age is promoted to it on no other ground than that every untoward and unwelcome event seems appropriate to the region of darkness and gloom, very much in the same way as we ourselves speak of "gloomy thoughts" and "black cares." No one can exactly determine Hesiod's debt to his predecessors either here or elsewhere; but it is fair to believe that in such purely speculative excursions he was trusting to his own imagination.

CHAPTER I.

THE OLD IONIAN NATURE-PHILOSOPHERS.

BEFORE speculation could flourish a considerable mass of detailed knowledge had to be collected. In this respect the Greeks were exceptionally lucky in their inheritance. The cause of Greek science was unconsciously served by the ancient Chaldwans and Egyptians. The Chaldwans laid the foundations of astronomy, when they computed the empiric laws of eclipses in their observation of the courses of the stars in the crystal sky of Mesopotamia. The Egyptians invented an art which comprised the elements of geometry, when they measured the ploughland, alternately wasted and fertilized by the Nile, in order to determine the amount of taxes it should yield. Greeks were ever the favourites of fortune, and here again must be recorded what is perhaps the chief instance of their good luck. So far as the evidence of history extends, an organized caste of priests and scholars, combining the necessary leisure with the equally necessary continuity of tradition, was at all times indispensable to the beginnings of scientific research. But its beginning and its end in such cases were only too likely to coincide, for when scientific doctrines are mixed up with religious tenets, the same lifeless dogmatism will commonly benumb them both. The child's indispensable leading-strings become an intolerable chain when the child has grown to manhood. Thus we may account it a double blessing for the free progress of thought among the Greeks that their predecessors in civilization possessed an organized priesthood, and that they themselves lacked it. The pioneers

of human knowledge had all the advantages without any of the disadvantages derived from the existence of a learned priesthood in their midst. Supported on the shoulders of Egypt and Babylon, the genius of Greece could take wing without check or restraint, and could venture on a flight that was to lead it to the highest attainable goals. The relation between the Greeks and their forebears in the work of civilization, between the authors of true generalizing science and the purveyors and preparers of the necessary raw material, recalls Goethe's picture of himself as a citizen of the world, between a prophet on the right hand and a prophet on the left.

Two series of effects are to be traced from the extension of natural science and of human dominion over nature acquired by the Greeks in these centuries. Take the religious sphere first. The conception of the universe as a playground of innumerable capricious and counteracting manifestations of Will was more and more undermined. The subordination of the many separate deities to the supreme will of a single arbiter of destiny was here the expression of the steady growth of man's insight into the regularity of natural phenomena. Polytheism inclined more and more to monotheism, and we shall later have to deal with the gradual phases of this transformation. But the better knowledge and closer observation of the processes of nature led at the same time to speculations on the constitution of material factors; the eye of the student of nature was no longer exclusively occupied with the world of gods, spirits, and demons. Cosmogony began to free itself from theogony, and the problem of matter emerged into the foreground of men's thoughts. They began to wonder if matter existed in as many separate kinds as the difference of material things suggested to their senses, or if, on the contrary, it were possible that this endless variety could be reduced to a smaller, perhaps a very small, number, if not to unity itself. They observed that the plants, which depend for their nourishment on earth, air, and water, serve animals for nourishment in their turn; they observed that animal excretions helped to nourish the plants, and that both are finally resolved into earth, air, and water once more. So they would ask if these beings in their steady circular course were really of alien nature, or if they were not rather mere variations of originally homogeneous substances—nay, it might be of a single substance. The world, they would go on to conjecture, instead of springing from chaos, might have come from some such single substance and might return to it again, and they would look for a general rule by which to characterize the series of the variations of form that they observed. Such were the questions which began to occupy the mind of the more profound thinkers familiar with the beginnings of positive science. Even the Homeric poems are not absolutely free from traces of similar speculation. Take the passages, for instance, where earth and water are mentioned as the elements into which the human body is dissolved; or, better still. take the references to Oceanus as the source of all things, and to the derivation of all the gods from the marriage of Oceanus with Tethys, goddess of the seas. The last strains of immemorial fetishism and the overture of positive philosophy are combined in those passages. Now, however, a stricter method supervenes. The veil of mythology was rent and the ideas were pressed with ruthless consistency to their utmost logical content. Two of the corner-stones of modern chemistry—the existence of elements, and the indestructibility of matter-now come into sight: each is important in itself, and their importance is doubled in combination. A twofold series of considerations led to the belief in the indestructibility of matter. Matter was seen to emerge unhurt from the manifold phases of the course of organic life, and it was by no means a long step to the conjecture that matter could not be destroyed, and that its annihilation was never more than apparent. Moreover, a keener observation refuted the theory of absolute destruction, in the sense of a reduction to nothing, in instances which afforded the strongest presumption in its favour. When boiling water

dried up, or when solid bodies were burnt, there was seen to remain a residue of steam, smoke, or ashes. Here, then, we find that genius anticipated science. The full truth of these doctrines was not finally established till the great era of chemistry in the eighteenth century, led by Lavoisier with the balance in his hand. At another point the "physiologists" of Ionia actually outstripped the results of modern knowledge. The bold flight of their imagination did not stop at the assumption of a plurality of indestructible elements; it never rested till it reached the conception of a single fundamental or primordial matter as the source of material diversity. Here it may almost be said that inexperience was the mother of wisdom. The impulse to simplification, when it had once been aroused, was like a stone set in motion which rolls continuously till it is checked by an obstacle. It advanced from infinity to plurality, from plurality to unity; no inconvenient facts could place impediments in its path, nor could call a peremptory halt. Thus the impetuous uninstructed sense of that early epoch attained an intuition which is just beginning to dawn through countless doubts and difficulties on our own mature and enlightened knowledge. more the belief is breaking on the most illustrious of modern philosophers that the seventy-odd elements reckoned by chemistry to-day are not the ultimate destination in the journey of that science, but are merely a stage in its progress towards the final decomposition of matter.

2. Thales of Miletus is regarded as the forefather of this whole line of philosophers. This remarkable man was the product of a mixture of races; Greek, Carian, and Phœnician blood flowed in his veins. He was accordingly a type of the peculiar many-sidedness of Ionian descent, and his image flashes on our eyes in the most varied colours of tradition. Now he appears as the embodiment of the remote and contemplative sage, who tumbles headlong in the well while gazing at the stars of heaven; now he is represented as turning his knowledge to his private advantage; and in a third version we see him offering his fellow-countrymen, the Ionians of Asia Minor, counsels of extraordinary political

acumen directed to the creation of a federal state-a conception absolutely novel to the Greeks of that age. Indisputably he combined the rôles of merchant, statesman, engineer, mathematician, and astronomer. his rich intellectual training to travel in distant parts. had been as far as Egypt, where he devoted himself, among other problems, to that of the rise of the Nile. He was the first to raise the clumsy methods of land-surveying current among the Egyptians, and directed merely to the requirements of single cases, into a deductive science of geometry resting on general principles, and his name is still given to one of the most elementary geometrical demonstrations. We may readily credit the tradition that Thales supplied his Egyptian masters with the method they had sought in vain of computing the height of the towering pyramids which are the wonders of their home. He pointed out to them that at the time of day when a man's shadow-or that of any other object presenting no difficulty to mensuration is exactly equal to the size of the original, then, too, the shadow of the pyramid can neither be longer nor shorter than its actual height. He had probably familiarized himself in Sardis with the elements of Babylonian wisdom. and he borrowed from it the law of the periodicity of eclipses, which enabled him to foretell the total eclipse of the sun on May 28, 585 B.C., to the utmost astonishment of his fellow-countrymen. It is impossible that he could have reached this insight on theoretical lines, for he was still dominated by the old childish conception of the earth as a flat disc resting on the water. His weather prognostications were probably derived from the same source. He turned them to commercial uses, and would hire a number of oil-presses in order to exploit his advantage if he happened to foresee an exceptional harvest in the olive gardens. The knowledge of astronomy he acquired was put at the disposal of the seafarers, for his fellow-countrymen practised commerce and navigation more extensively than any of their contemporaries. He directed their attention to the Little Bear as the constellation which most precisely marks the north. It is doubtful if he wrote