

The History of Western Philosophy

Bertrand
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BERTRAND RUSSELL

**A HISTORY OF WESTERN PHILOSOPHY And Its Connection with Political and Social
Circumstances from the Earliest Times to the Present Day**

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BY SIMON AND SCHUSTER, INC. ROCKEFELLER CENTER, 1230 SIXTH AVENUE
NEW YORK 20, N. Y.

Fourth Printing

MANUFACTURED IN THE UNITED STATES OF AMERICA BY AMERICAN BOOK
STRATFORD PRESS, INC., N. Y.

TABLE OF CONTENTS

Preface by Author	ix
Introduction xiii	
BOOK ONE. ANCIENT PHILOSOPHY	
Part I. The Pre-Socratics	
	3
Chapter I. The Rise of Greek Civilization	
	3
Chapter II. The Milesian School	
	24
Chapter III. Pythagoras	
	29
Chapter IV. Heraclitus	
	38
Chapter V. Parmenides	
	48
Chapter VI. Empedocles	
	53
Chapter VII. Athens in Relation to Culture	
	58
Chapter VIII. Anaxagoras	
	61

Chapter IX. The Atomists	<u>64</u>
Chapter X. Protagoras	<u>73</u>
Part II. Socrates, Plato, and Aristotle	<u>82</u>
Chapter XI. Socrates	<u>82</u>
Chapter XII. The Influence of Sparta	<u>94</u>
Chapter XIII. The Sources of Plato's Opinions	
Chapter XXIII. Aristotle's Physics	<u>203</u>
Chapter XXIV. Early Greek Mathematics and Astronomy	<u>208</u>
Part III. Ancient Philosophy after Aristotle	<u>218</u>
Chapter XXV. The Hellenistic World	<u>218</u>
Chapter XXVI. Cynics and Sceptics	<u>228</u>
Chapter XXVII. The Epicureans	<u>240</u>
Chapter XXIX. Stoicism	<u>252</u>
Chapter XXIX. The Roman Empire in Relation to Culture	<u>270</u>
Chapter XXX. Plotinus	<u>284</u>
BOOK TWO. CATHOLIC PHILOSOPHY	
Introduction	<u>301</u>
Part I. The Fathers	<u>308</u>

Chapter I. The Religious Development of the Jews	308
Chapter II. Christianity During the First Four Centuries	324
Chapter III. Three Doctors of the Church	334
Chapter IV. Saint Augustine's Philosophy and Theology	352
Chapter V. The Fifth and Sixth Centuries	366
Chapter VI. Saint Benedict and Gregory the Great	375
Part II. The Schoolmen	388
Chapter VII. The Papacy in the Dark Ages	388
Chapter VIII. John the Scot	400
Chapter IX. Ecclesiastical Reform in the Eleventh Century	407
Chapter X. Mohammedan Culture and Philosophy	419
	-vi-
Chapter XI. The Twelfth Century	428
Chapter XII. The Thirteenth Century	441
Chapter XIII. Saint Thomas Aquinas	452
Chapter XIV. Franciscan Schoolmen	463
Chapter XV. The Eclipse of the Papacy	476
BOOK THREE. MODERN PHILOSOPHY	
Part I. From the Renaissance to Hume	491

Chapter I. General Characteristics	491
Chapter II. The Italian Renaissance	495
Chapter III. Machiavelli	504
Chapter IV. Erasmus and More	512
Chapter V. The Reformation and CounterReformation	522
Chapter VI. The Rise of Science	525
Chapter VII. Francis Bacon	541
Chapter VIII. Hobbes's Leviathan	546
Chapter IX. Descartes	557
Chapter X. Spinoza	569
Chapter XI. Leibniz	581
Chapter XII. Philosophical Liberalism	596
Chapter XIII. Locke's Theory of Knowledge	604
Chapter XIV. Locke's Political Philosophy	
Chapter XXIV. Schopenhauer	753
Chapter XXV. Nietzsche	760
Chapter XXVI. The Utilitarians	773

Chapter XXVII. Karl Marx

[782](#)

Chapter XXVIII. Bergson

[791](#)

Chapter XXIX. William James

[811](#)

Chapter XXX. John Dewey

[819](#)

Chapter XXXI. The Philosophy of Logical Analysis [828](#)

Index

[837](#)

PREFACE

MANY histories of philosophy exist, and it has not been my purpose merely to add one to their number. My purpose is to exhibit philosophy as an integral part of social and political life: not as the isolated speculations of remarkable individuals, but as both an effect and a cause of the character of the various communities in which different systems flourished. This purpose demands more account of general history than is usually given by historians of philosophy. I have found this particularly necessary as regards periods with which the general reader cannot be assumed to be familiar. The great age of the scholastic philosophy was an outcome of the reforms of the eleventh century, and these, in turn, were a reaction against previous corruption. Without some knowledge of the centuries between the fall of Rome and the rise of the medieval Papacy, the intellectual atmosphere of the twelfth and thirteenth centuries can hardly be understood. In dealing with this period, as with others, I have aimed at giving only so much general history as I thought necessary for the sympathetic comprehension of philosophers in relation to the times that formed them and the times that they helped to form.

One consequence of this point of view is that the importance which it gives to a philosopher is often not that which he deserves on account of his philosophic merit. For my part, for example, I consider Spinoza a greater philosopher than Locke, but he was far less influential; I have therefore treated him much more briefly than Locke. Some men--for example, Rousseau and Byron--though not philosophers at all in the academic sense, have so profoundly affected the prevailing philosophic temper that the development of philosophy cannot be understood if they are

ignored. Even pure men of action are sometimes of great importance in this respect; very few philosophers have influenced philosophy as much as Alexander the Great, Charlemagne, or Napoleon. Lycurgus, if only he had existed, would have been a still more notable example.

In attempting to cover such a vast stretch of time, it is necessary to have very drastic principles of selection. I have come to the conclusion, from reading standard histories of philosophy, that very short accounts convey nothing of value to the reader; I have therefore omitted altogether (with few exceptions) men who did not seem to me to deserve a fairly full treatment. In the case of the men whom I have discussed, I have mentioned what seemed relevant as regards their lives and their social surroundings; I have even sometimes recorded intrinsically unimportant details when I considered them illustrative of a man or of his times.

Finally, I owe a word of explanation and apology to specialists on any part of my enormous

subject. It is obviously impossible to know as much about every philosopher as can be known about him by a man whose field is less wide; I have no doubt that every single philosopher whom I have mentioned, with the exception of Leibniz, is better known to many men than to me. If, however, this were considered a sufficient reason for respectful silence, it would follow that no man should undertake to treat of more than some narrow strip of history. The influence of Sparta on Rousseau, of Plato on Christian philosophy until the thirteenth century, of the Nestorians on the Arabs and thence on Aquinas, of Saint Ambrose on liberal political philosophy from the rise of the Lombard cities until the present day, are some among the themes of which only a comprehensive history can treat. On such grounds I ask the indulgence of those readers who find my knowledge of this or that portion of my subject less adequate than it would have been if there had been no need to remember "time's winged chariot."

This book owes its existence to Dr. Albert C. Barnes, having been originally designed and partly delivered as lectures at the Barnes Foundation in Pennsylvania.

As in most of my work during the last thirteen years, I have been greatly assisted, in research and in many other ways, by my wife, Patricia Russell.

BERTRAND RUSSELL

INTRODUCTION

THE conceptions of life and the world which we call "philosophical" are a product of two factors: one, inherited religious and ethical conceptions; the other, the sort of investigation which may be called "scientific," using this word in its broadest sense. Individual philosophers have differed widely in regard to the proportions in which these two factors entered into their systems, but it is the presence of both, in some degree, that characterizes philosophy.

"Philosophy" is a word which has been used in many ways, some wider, some narrower. I propose to use it in a very wide sense, which I will now try to explain.

Philosophy, as I shall understand the word, is something intermediate between theology and science. Like theology, it consists of speculations on matters as to which definite knowledge has, so far, been unascertainable; but like science, it appeals to human reason rather than to authority, whether that of tradition or that of revelation. All *definite* knowledge--so I should contend--belongs to science; all *dogma* as to what surpasses definite knowledge belongs to theology. But between theology and science there is a No Man's Land, exposed to attack from both sides; this No Man's Land is philosophy. Almost all the questions of most interest to speculative minds are such as science cannot answer, and the confident answers of theologians no longer seem so convincing as they did in former centuries. Is the world divided into mind and matter, and, if so, what is mind and what is matter? Is mind subject to matter, or is it possessed of independent powers? Has the universe any unity or purpose? Is it evolving towards some goal? Are there really laws of nature, or do we believe in them only because of our innate love of order? Is man what he seems to the astronomer, a tiny lump of impure carbon and water impotently crawling on a small and unimportant planet? Or is he what he appears to Hamlet? Is he perhaps both at once? Is there a way of living that is noble and another that is base, or are all ways of living merely futile? If there is a way of living that is noble, in what does it consist, and how shall we achieve it? Must the good be eternal in order to deserve to be valued, or is it worth seeking even if the uni

verse is inexorably moving towards death? Is there such a thing as wisdom, or is what seems such merely the ultimate refinement of folly? To such questions no answer can be found in the laboratory. Theologies have professed to give answers, all too definite; but their very definiteness causes modern minds to view them with suspicion. The studying of these questions, if not the answering of them, is the business of philosophy.

Why, then, you may ask, waste time on such insoluble problems? To this one may answer as a historian, or as an individual facing the terror of cosmic loneliness.

The answer of the historian, in so far as I am capable of giving it, will appear in the course of this work. Ever since men became capable of free speculation, their actions, in innumerable important respects, have depended upon their theories as to the world and human life, as to what is good and

what is evil. This is as true in the present day as at any former time. To understand an age or a nation, we must understand its philosophy, and to understand its philosophy we must ourselves be in some degree philosophers. There is here a reciprocal causation: the circumstances of men's lives do much to determine their philosophy, but, conversely, their philosophy does much to determine their circumstances. This interaction throughout the centuries will be the topic of the following pages.

There is also, however, a more personal answer. Science tells us what we can know, but what we can know is little, and if we forget how much we cannot know we become insensitive to many things of very great importance. Theology, on the other hand, induces a dogmatic belief that we have knowledge where in fact we have ignorance, and by doing so generates a kind of impertinent insolence towards the universe. Uncertainty, in the presence of vivid hopes and fears, is painful, but must be endured if we wish to live without the support of comforting fairy tales. It is not good either to forget the questions that philosophy asks, or to persuade ourselves that we have found indubitable answers to them. To teach how to live without certainty, and yet without being paralyzed by hesitation, is perhaps the chief thing that philosophy, in our age, can still do for those who study it.

Philosophy, as distinct from theology, began in Greece in the sixth century B.C. After running its course in antiquity, it was again submerged by theology as Christianity rose and Rome fell. Its second

great period, from the eleventh to the fourteenth centuries, was dominated by the Catholic Church, except for a few great rebels, such as the Emperor Frederick II (1195-1250). This period was brought to an end by the confusions that culminated in the Reformation. The third period, from the seventeenth century to the present day, is dominated, more than either of its predecessors, by science; traditional religious beliefs remain important, but are felt to need justification, and are modified wherever science seems to make this imperative. Few of the philosophers of this period are orthodox from a Catholic standpoint, and the secular State is more important in their speculations than the Church.

Social cohesion and individual liberty, like religion and science, are in a state of conflict or uneasy compromise throughout the whole period. In Greece, social cohesion was secured by loyalty to the City State; even Aristotle, though in his time Alexander was making the City State obsolete, could see no merit in any other kind of polity. The degree to which the individual's liberty was curtailed

by his duty to the City varied widely. In Sparta he had as little liberty as in modern Germany or Russia; in Athens, in spite of occasional persecutions, citizens had, in the best period, a very extraordinary freedom from restrictions imposed by the State. Greek thought down to Aristotle is dominated by religious and patriotic devotion to the City; its ethical systems are adapted to the lives of citizens and have a large political element. When the Greeks became subject, first to the Macedonians, and then to the Romans, the conceptions appropriate to their days of independence were no longer applicable. This produced, on the one hand, a loss of vigour through the breach with tradition, and, on the other hand, a more individual and less social ethic. The Stoics thought of the virtuous life as a relation of the soul to God, rather than as a relation of

the citizen to the State. They thus prepared the way for Christianity, which, like Stoicism, was originally unpolitical, since, during its first three centuries, its adherents were devoid of influence on government. Social cohesion, during the six and a half centuries from Alexander to Constantine, was secured, not by philosophy and not by ancient loyalties, but by force, first that of armies and then that of civil administration. Roman armies, Roman roads, Roman law, and Roman officials first created and then preserved

a powerful centralized State. Nothing was attributable to Roman philosophy, since there was none.

During this long period, the Greek ideas inherited from the age of freedom underwent a gradual process of transformation. Some of the old ideas, notably those which we should regard as specifically religious, gained in relative importance; others, more rationalistic, were discarded because they no longer suited the spirit of the age. In this way the later pagans trimmed the Greek tradition until it became suitable for incorporation in Christian doctrine.

Christianity popularized an important opinion, already implicit in the teaching of the Stoics, but foreign to the general spirit of antiquity --I mean, the opinion that a man's duty to God is more imperative than his duty to the State. This opinion--that "we ought to obey God rather than Man," as Socrates and the Apostles said--survived the conversion of Constantine, because the early Christian emperors were Arians or inclined to Arianism. When the emperors became orthodox, it fell into abeyance. In the Byzantine Empire it remained latent, as also in the subsequent Russian Empire, which derived its Christianity from Constantinople. * But in the West, where the Catholic emperors were almost immediately replaced (except, in parts of Gaul) by heretical barbarian conquerors, the superiority of religious to political allegiance survived, and to some extent still survives.

The barbarian invasion put an end, for six centuries, to the civilization of western Europe. It lingered in Ireland until the Danes destroyed it in the ninth century; before its extinction there it produced one notable figure, Scotus Erigena. In the Eastern Empire, Greek civilization, in a desiccated form, survived, as in a museum, till the fall of Constantinople in 1453, but nothing of importance to the world came out of Constantinople except an artistic tradition and Justinian's Codes of Roman law.

During the period of darkness, from the end of the fifth century to the middle of the eleventh, the western Roman world underwent some very interesting changes. The conflict between duty to God and duty to the State, which Christianity had introduced, took the form of a conflict between Church and king. The ecclesiastical jurisdiction of the Pope extended over Italy, France, and Spain, Great

* That is why the modern Russian does not think that we ought to obey dialectical materialism rather than Stalin.

Britain and Ireland, Germany, Scandinavia, and Poland. At first, outside Italy and southern France, his control over bishops and abbots was very slight, but from the time of Gregory VII (late eleventh century) it became real and effective. From that time on, the clergy, throughout western Europe, formed a single organization directed from Rome, seeking power intelligently and relentlessly, and usually victorious, until after the year 1300, in their conflicts with secular rulers. The conflict between Church and State was not only a conflict between clergy and laity; it was also a renewal of the conflict between the Mediterranean world and the northern barbarians. The unity of the Church echoed the unity of the Roman Empire; its liturgy was Latin, and its dominant men were mostly Italian, Spanish, or southern French. Their education, when education revived, was classical; their conceptions of law and government would have been more intelligible to Marcus Aurelius than they were to contemporary monarchs. The Church represented at once continuity with the past and what was most civilized in the present.

The secular power, on the contrary, was in the hands of kings and barons of Teutonic descent,

who endeavoured to preserve what they could of the institutions that they had brought out of the forests of Germany. Absolute power was alien to those institutions, and so was what appeared to these vigorous conquerors as a dull and spiritless legality. The king had to share his power with the feudal aristocracy, but all alike expected to be allowed occasional outbursts of passion in the form of war, murder, pillage, or rape. Monarchs might repent, for they were sincerely pious, and, after all, repentance was itself a form of passion. But the Church could never produce in them the quiet regularity of good behaviour which a modern employer demands, and usually obtains, of his employees. What was the use of conquering the world if they could not drink and murder and love as the spirit moved them? And why should they, with their armies of proud knights, submit to the orders of bookish men, vowed to celibacy and destitute of armed force? In spite of ecclesiastical disapproval, they preserved the duel and trial by battle, and they developed tournaments and courtly love. Occasionally, in a fit of rage, they would even murder eminent churchmen.

All the armed force was on the side of the kings, and yet the Church was victorious. The Church won, partly because it had almost a monopoly of education, partly because the kings were perpetually at war with each other, but mainly because, with very few exceptions, rulers and people alike profoundly believed that the Church possessed the power of the keys. The Church could decide whether a king should spend eternity in heaven or in hell; the Church could absolve subjects from the duty of allegiance, and so stimulate rebellion. The Church, moreover, represented order in place of anarchy, and consequently won the support of the rising mercantile class. In Italy, especially, this last consideration was decisive.

The Teutonic attempt to preserve at least a partial independence of the Church expressed itself not only in politics, but also in art, romance, chivalry, and war. It expressed itself very little in the intellectual world, because education was almost wholly confined to the clergy. The explicit philosophy of the Middle Ages is not an accurate mirror of the times, but only of what was thought by one party. Among ecclesiastics, however--especially among the Franciscan friars --a certain number, for various reasons, were at variance with the Pope. In Italy, moreover, culture spread to the laity some centuries sooner than it did north of the Alps. Frederick II, who tried to found a new religion, represents the extreme of anti-papal culture; Thomas Aquinas, who was born in the kingdom of Naples where Frederick II was supreme, remains to this day the classic exponent of papal philosophy. Dante, some fifty years later, achieved a synthesis, and gave the only balanced exposition of the complete medieval world of ideas.

After Dante, both for political and for intellectual reasons, the medieval philosophical synthesis broke down. It had, while it lasted, a quality of tidiness and miniature completeness; whatever the system took account of was placed with precision with relation to the other contents of its very finite cosmos. But the Great Schism, the conciliar movement, and the Renaissance papacy led up to the Reformation, which destroyed the unity of Christendom and the scholastic theory of government that centered round the Pope. In the Renaissance period new knowledge, both of antiquity and of the earth's surface, made men tired of systems, which were felt to be mental prisons. The Copernican astronomy assigned to the earth and to man a humbler position than they had enjoyed in the Ptolemaic theory. Pleasure in new facts took the place, among intelligent men.

of pleasure in reasoning, analysing, and systematizing. Although in art the Renaissance is still orderly, in thought it prefers a large and fruitful disorder. In this respect, Montaigne is the most typical exponent of the age.

In the theory of politics, as in everything except art, there was a collapse of order. The Middle Ages, though turbulent in practice, were dominated in thought by a passion for legality and by a very precise theory of political power. All power is ultimately from God; He has delegated power to the Pope in sacred things and to the Emperor in secular matters. But Pope and Emperor alike lost their importance during the fifteenth century. The Pope became merely one of the Italian princes, engaged in the incredibly complicated and unscrupulous game of Italian power politics.

The new national monarchies in France, Spain, and England had, in their own territories, a power with which neither Pope nor Emperor could interfere. The national State, largely owing to gunpowder, acquired an influence over men's thoughts and feelings which it had not had before, and which progressively destroyed what remained of the Roman belief in the unity of civilization.

This political disorder found expression in Machiavelli's *Prince*. In the absence of any guiding principle, politics becomes a naked struggle for power; *The Prince* gives shrewd advice as to how to play this game successfully. What had happened in the great age of Greece happened again in Renaissance Italy: traditional moral restraints disappeared, because they were seen to be associated with superstition; the liberation from fetters made individuals energetic and creative, producing a rare florescence of genius; but the anarchy and treachery which inevitably resulted from the decay of morals made Italians collectively impotent, and they fell, like the Greeks, under the domination of nations less civilized than themselves but not so destitute of social cohesion.

The result, however, was less disastrous than in the case of Greece, because the newly powerful nations, with the exception of Spain, showed themselves as capable of great achievement as the Italians had been.

From the sixteenth century onward, the history of European thought is dominated by the Reformation. The Reformation was a complex many-sided movement, and owed its success to a variety of causes. In the main, it was a revolt of the northern nations against the renewed dominion of Rome. Religion was the force that had subdued the North, but religion in Italy had decayed: the papacy remained as an institution, and extracted a huge tribute from Germany and England, but these nations, which were still pious, could feel no reverence for the Borgias and Medicis, who professed to save souls from purgatory in return for cash which they squandered on luxury and immorality. National motives, economic motives, and moral motives all combined to strengthen the revolt against Rome. Moreover the Princes soon perceived that, if the Church in their territories became merely national, they would be able to dominate it, and would thus become much more powerful at home than they had been while sharing dominion with the Pope. For all these reasons, Luther's theological innovations were welcomed by rulers and peoples alike throughout the greater part of northern Europe.

The Catholic Church was derived from three sources. Its sacred history was Jewish, its theology was Greek, its government and canon law were, at least indirectly, Roman. The Reformation rejected the Roman elements, softened the Greek elements, and greatly strengthened the Judaic elements. It thus co-operated with the nationalist forces which were undoing the work of social cohesion which had been effected first by the Roman Empire and then by the Roman Church. In Catholic doctrine, divine revelation did not end with the scriptures, but continued from age to age through the medium of the Church, to which, therefore, it was the duty of the individual to submit his private opinions. Protestants, on the contrary, rejected the Church as a vehicle of revelation; truth was to be sought only in the Bible, which each man could interpret for himself. If men differed in their interpretation, there was no divinely appointed authority to decide the dispute. In practice, the State claimed the right that had formerly belonged to the Church, but this was a usurpation. In Protestant theory, there should be no earthly intermediary between the soul and God.

The effects of this change were momentous. Truth was no longer to be ascertained by consulting authority, but by inward meditation. There was a tendency, quickly developed, towards anarchism in politics, and, in religion, towards mysticism, which had always fitted with difficulty into the framework of Catholic orthodoxy. There came to be not one Protestantism, but a multitude of sects; not one philosophy opposed to scholasticism, but as many as there were philosophers; not, as in the thirteenth century, one Emperor opposed to the Pope, but a large number of heretical kings. The result, in thought as in literature, was a continually deepening subjectivism, operating at first as a wholesome liberation from spiritual slavery, but advancing steadily towards a personal isolation inimical to

social sanity.

Modern philosophy begins with Descartes, whose fundamental certainty is the existence of himself and his thoughts, from which the external world is to be inferred. This was only the first stage in a development, through Berkeley and Kant, to Fichte, for whom everything is only an emanation of the ego. This was insanity, and, from this extreme, philosophy has been attempting, ever since, to escape into the world of every-day common sense.

With subjectivism in philosophy, anarchism in politics goes hand in hand. Already during Luther's lifetime, unwelcome and unacknowledged disciples had developed the doctrine of Anabaptism, which, for a time, dominated the city of Münster. The Anabaptists repudiated all law, since they held that the good man will be guided at every moment by the Holy Spirit, who cannot be bound by formulas. From this premiss they arrive at communism and sexual promiscuity; they were therefore exterminated after a heroic resistance. But their doctrine, in softened forms, spread to Holland, England and America; historically, it is the source of Quakerism. A fiercer form of anarchism, no longer connected with religion, arose in the nineteenth century. In Russia, in Spain, and to a lesser degree in Italy, it had considerable success, and to this day it remains a bugbear of the American immigration authorities. This modern form, though anti-religious, has still much of the spirit of early Protestantism; it differs mainly in directing against secular governments the hostility that Luther directed against popes.

Subjectivity, once let loose, could not be confined within limits until it had run its course. In morals, the Protestant emphasis on the individual conscience was essentially anarchic. Habit and custom were so strong that, except in occasional outbreaks such as that of Münster, the disciples of individualism in ethics continued to act in a manner which was conventionally virtuous. But this was a precarious equilibrium. The eighteenth-century cult of "sensibility" began to break it down: an act was admired, not for its good consequences, or for its conformity to a moral code, but for the emotion that inspired it. Out of this attitude developed the cult of the hero, as it is expressed by Carlyle and Nietzsche, and the Byronic cult of violent passion of no matter what kind.

The romantic movement, in art, in literature, and in politics, is bound up with this subjective way of judging men, not as members of a community, but as aesthetically delightful objects of contemplation. Tigers are more beautiful than sheep, but we prefer them behind bars. The typical romantic removes the bars and enjoys the magnificent leaps with which the tiger annihilates the sheep. He exhorts men to imagine themselves tigers, and when he succeeds the results are not wholly pleasant.

Against the more insane forms of subjectivism in modern times there have been various reactions. First, a half-way compromise philosophy, the doctrine of liberalism, which attempted to assign the respective spheres of government and the individual. This begins, in its modern form, with Locke, who is as much opposed to "enthusiasm"--the individualism of the Anabaptists--as to absolute authority and blind subservience to tradition. A more thoroughgoing revolt leads to the doctrine of State worship, which assigns to the State the position that Catholicism gave to the Church, or even, sometimes, to God. Hobbes, Rousseau, and Hegel represent different phases of this theory, and their doctrines are embodied practically in Cromwell, Napoleon, and modern Germany. Communism, in theory, is far removed from such philosophies, but is driven, in practice, to a type of community very similar to that which results from State worship.

Throughout this long development, from 600 B.C. to the present day, philosophers have been divided into those who wished to tighten social bonds and those who wished to relax them. With this difference others have been associated. The disciplinarians have advocated some system of dogma, either old or new, and have therefore been compelled to be, in a greater or less degree, hostile to science, since their dogmas could not be proved empirically. They have almost invariably taught that happiness is not the good, but that "nobility" or "heroism" is to be preferred. They have had a sympathy with the irrational parts of human nature, since they have

felt reason to be inimical to social cohesion. The libertarians, on the other hand, with the exception of the extreme anarchists, have tended to be scientific, utilitarian, rationalistic, hostile to violent passion, and enemies of all the more profound forms of religion. This conflict existed in Greece before the rise of what we recognize as philosophy, and is already quite explicit in the earliest Greek thought. In changing forms, it has persisted down to the present day, and no doubt will persist for many ages to come.

It is clear that each party to this dispute--as to all that persist through long periods of time--is partly right and partly wrong. Social cohesion is a necessity, and mankind has never yet succeeded in enforcing cohesion by merely rational arguments. Every community is exposed to two opposite dangers: ossification through too much discipline and reverence for tradition, on the one hand; on the other hand, dissolution, or subjection to foreign conquest, through the growth of an individualism and personal independence that makes co-operation impossible. In general, important civilizations start with a rigid and superstitious system, gradually relaxed, and leading, at a certain stage, to a period of brilliant genius, while the good of the old tradition remains and the evil inherent in its dissolution has not yet developed. But as the evil unfolds, it leads to anarchy, thence, inevitably, to a new tyranny, producing a new synthesis secured by a new system of dogma. The doctrine of liberalism is an attempt to escape from this endless oscillation. The essence of liberalism is an attempt to secure a social order not based on irrational dogma, and insuring stability without involving more restraints than are necessary for the preservation of the community. Whether this attempt can succeed only the future can determine.

Book One ANCIENT PHILOSOPHY **Part I. The Pre-Socratics**

CHAPTER I The Rise of Greek Civilization

IN all history, nothing is so surprising or so difficult to account for as the sudden rise of civilization in Greece. Much of what makes civilization had already existed for thousands of years in Egypt and in Mesopotamia, and had spread thence to neighbouring countries. But certain elements had been lacking until the Greeks supplied them. What they achieved in art and literature is familiar to everybody, but what they did in the purely intellectual realm is even more exceptional. They invented mathematics * and science and philosophy; they first wrote history as opposed to mere annals; they speculated freely about the nature of the world and the ends of life, without being bound in the fetters of any inherited orthodoxy. What occurred was so astonishing that, until very recent times, men were content to gape and talk mystically about the Greek genius. It is possible, however, to understand the development of Greece in scientific terms, and it is well worth while to do so.

Philosophy begins with Thales, who, fortunately, can be dated by the fact that he predicted an eclipse which, according to the astronomers, occurred in the year 585 B.C. Philosophy and science--which were not originally separate--were therefore born together at the beginning of the sixth century. What had been happening in Greece and neighbouring countries before this time? Any answer must be in

* Arithmetic and some geometry existed among the Egyptians and Babylonians, but mainly in the form of rules of thumb. Deductive reasoning from general premisses was a Greek innovation.

part conjectural, but archeology, during the present century, has given us much more knowledge than was possessed by our grandfathers.

The art of writing was invented in Egypt about the year 4000 B.C., and in Babylonia not much later. In each country writing began with pictures of the objects intended. These pictures quickly became conventionalized, so that words were represented by ideograms, as they still are in China. In the course of thousands of years, this cumbrous system developed into alphabetic writing.

The early development of civilization in Egypt and Mesopotamia was due to the Nile, the Tigris, and the Euphrates, which made agriculture very easy and very productive. The civilization was in many ways similar to that which the Spaniards found in Mexico and Peru. There was a divine king, with despotic powers; in Egypt, he owned all the land. There was a polytheistic religion, with a supreme god to whom the king had a specially intimate relation. There was a military aristocracy, and also a priestly aristocracy. The latter was often able to encroach on the royal power, if the king was weak or if he was engaged in a difficult war. The cultivators of the soil were serfs, belonging to the king, the aristocracy, or the priesthood.

There was a considerable difference between Egyptian and Babylonian theology. The Egyptians were preoccupied with death, and believed that the souls of the dead descend into the underworld, where they are judged by Osiris according to the manner of their life on earth. They thought that the soul would ultimately return to the body; this led to mummification and to the construction of splendid tombs. The pyramids were built by various kings at the end of the fourth millennium B.C. and the beginning of the third. After this time, Egyptian civilization became more and more stereotyped, and religious conservatism made progress impossible. About 1800 B.C. Egypt was conquered by Semites named Hyksos, who ruled the country for about two centuries. They left no permanent mark on Egypt, but their presence there must have helped to spread Egyptian civilization in Syria and Palestine.

Babylonia had a more warlike development than Egypt. At first, the ruling race were not Semites, but "Sumerians," whose origin is unknown. They invented cuneiform writing, which the conquering Semites took over from them. There was a period when there were various independent cities which fought with each other, but in the end Babylon became supreme and established an empire. The gods of other cities became subordinate, and Marduk, the god of Babylon, acquired a position like that later held by Zeus in the Greek pantheon. The same sort of thing had happened in Egypt, but at a much earlier time. The religions of Egypt and Babylonia, like other ancient religions, were originally fertility cults. The earth was female, the sun male. The bull was usually regarded as an embodiment of male fertility, and bullgods were common. In Babylon, Ishtar, the earth-goddess, was supreme among female divinities. Throughout western Asia, the Great Mother was worshipped under various names. When Greek colonists in Asia Minor found temples to her, they named her Artemis and took over the existing cult. This is the origin of "Diana of the Ephesians." *
Christianity transformed her into the Virgin Mary, and it was a Council at Ephesus that legitimated the title "*Mother of God*" as applied to Our Lady. Where a religion was bound up with the government of an empire, political motives did much to transform its primitive features. A god or goddess became associated with the State, and had to give, not only an abundant harvest, but victory in war. A rich priestly caste elaborated the ritual and the theology, and fitted together into a pantheon the several divinities of the component parts of the empire. Through association with government, the gods also became associated with morality. Lawgivers received their codes from a god; thus a breach of the law became an impiety. The oldest legal code still known is that of Hammurabi, king of Babylon, about 2100 B.C.; this code was asserted by the king to have been delivered to him by Marduk. The connection between religion and morality became continually closer throughout ancient times.

Babylonian religion, unlike that of Egypt, was more concerned with prosperity in this world than with happiness in the next. Magic, divination, and astrology, though not peculiar to Babylonia, were more developed there than elsewhere, and it was chiefly through Babylon

that they acquired their hold on later antiquity. From Babylon come some things that belong to science: the division of the day into twenty-four hours, and of the circle into 360 degrees; also the discovery of a cycle

* Diana was the Latin equivalent of Artemis. It is Artemis who is mentioned in the Greek Testament where our translation speaks of Diana.

in eclipses, which enabled lunar eclipses to be predicted with certainty, and solar eclipses with some probability. This Babylonian knowledge, as we shall see, was acquired by Thales. The civilizations of Egypt and Mesopotamia were agricultural, and those of surrounding nations, at first, were pastoral. A new element came with the development of commerce, which was at first almost entirely maritime. Weapons, until about 1000 B.C., were made of bronze, and nations which did not have the necessary metals on their own territory were obliged to obtain them by trade or piracy. Piracy was a temporary expedient, and where social and political conditions were fairly stable, commerce was found to be more profitable. In commerce, the island of Crete seems to have been the pioneer. For about eleven centuries, say from 2500 B.C., to 1400 B.C., an artistically advanced culture, called the Minoan, existed in Crete. What survives of Cretan art gives an impression of cheerfulness and almost decadent luxury, very different from the terrifying gloom of Egyptian temples.

Of this important civilization almost nothing was known until the excavations of Sir Arthur Evans and others. It was a maritime civilization, in close touch with Egypt (except during the time of the Hyksos). From Egyptian pictures it is evident that the very considerable commerce between Egypt and Crete was carried on by Cretan sailors; this commerce reached its maximum about 1500 B.C. The Cretan religion appears to have had many affinities with the religions of Syria and Asia Minor, but in art there was more affinity with Egypt, though Cretan art was very original and amazingly full of life. The centre of the Cretan civilization was the so-called "palace of Minos" at Knossos, of which memories lingered in the traditions of classical Greece. The palaces of Crete were very magnificent, but were destroyed about the end of the fourteenth century B.C., probably by invaders from Greece. The chronology of Cretan history is derived from Egyptian objects found in Crete, and Cretan objects found in Egypt; throughout, our knowledge is dependent on archeological evidence.

The Cretans worshipped a goddess, or perhaps several goddesses. The most indubitable goddess was the "Mistress of Animals," who was a huntress, and probably the source of the classical Artemis. * She

* She has a male twin or consort, the "Master of Animals," but he is less prominent. It was at a later date that Artemis was identified with the Great Mother of Asia Minor. or another was also a mother; the only male deity, apart from the "Master of Animals," is her young son. There is some evidence of belief in an after life, in which, as in Egyptian belief, deeds on earth receive reward or retribution. But on the whole the Cretans appear, from their art, to have been cheerful people, not much oppressed by gloomy superstitions. They were fond of bull-fights, at which female as well as male toreadors performed amazing acrobatic feats. The bullfights were religious celebrations, and Sir Arthur Evans thinks that the performers belonged to the highest nobility. The surviving pictures are full of movement and realism.

The Cretans had a linear script, but it has not been deciphered. At home they were peaceful, and their cities were unwallled; no doubt they were defended by sea power.

Before the destruction of the Minoan culture, it spread, about 1600 B.C., to the mainland of Greece, where it survived, through gradual stages of degeneration, until about 900 B.C. This mainland civilization is called the Mycenaean; it is known through the tombs of kings, and also through fortresses on hill-tops, which show more fear of war than had existed in Crete.

Both tombs and fortresses remained to impress the imagination of classical Greece. The older art products in the palaces are either actually of Cretan workmanship, or closely akin to those of Crete. The Mycenaean civilization, seen through a haze of legend, is that which is depicted in Homer.

There is much uncertainty concerning the Mycenaeans. Did they owe their civilization to being conquered by the Cretans? Did they speak Greek, or were they an earlier indigenous race? No certain answer to these questions is possible, but on the whole it seems probable that they were conquerors who spoke Greek, and that at least the aristocracy consisted of fair-haired invaders from the North, who brought the Greek language with them. * The Greeks came to Greece in three successive waves, first the Ionians, then the Achaeans, and last the Dorians. The Ionians appear, though conquerors, to have adopted the Cretan civilization pretty completely, as, later, the Romans adopted the civilization of Greece. But the Ionians were disturbed, and largely dispossessed, by their successors the Achaeans. The Achaeans are

* See *The Minoan-Mycenaean Religion and Its Survival in Greek Religion*, by Martin P. Nilsson, p. 11 ff.

known, from the Hittite tablets found at Boghaz-Keui, to have had a large organized empire in the fourteenth century B.C. The Mycenaean civilization, which had been weakened by the warfare of the Ionians and Achaeans, was practically destroyed by the Dorians, the last Greek invaders. Whereas previous invaders had largely adopted the Minoan religion, the Dorians retained the original Indo-European religion of their ancestors. The religion of Mycenaean times, however, lingered on, especially in the lower classes, and the religion of classical Greece. was a blend of the two.

Although the above account seems probable, it must be remembered that we do not *know* whether the Mycenaeans were Greeks or not. What we do know is that their civilization decayed, that about the time when it ended iron superseded bronze, and that for some time sea supremacy passed to the Phoenicians.

Both during the later part of the Mycenaean age and after its end, some of the invaders settled down and became agriculturists, while some pushed on, first into the islands and Asia Minor, then into Sicily and southern Italy, where they founded cities that lived by maritime commerce. It was in these maritime cities that the Greeks first made qualitatively new contributions to civilization; the supremacy of Athens came later, and was equally associated, when it came, with naval power.

The mainland of Greece is mountainous and largely infertile. But there are many fertile valleys, with easy access to the sea, but cut off by the mountains from easy land communication with each other. In these valleys little separate communities grew up, living by agriculture, and centering round a town, generally close to the sea. In such circumstances it was natural that, as soon as the population of any community grew too great for its internal resources, those who could not live on the land should take to seafaring. The cities of the mainland founded colonies, often in places where it was much easier to find subsistence than it had been at home. Thus in the earliest historical period the Greeks of Asia Minor, Sicily, and Italy were much richer than those of the Greek mainland.

The social system was very different in different parts of Greece. In Sparta, a small aristocracy subsisted on the labour of oppressed serfs of a different race; in the poorer agricultural regions, the population consisted mainly of farmers cultivating their own land with the help of their families. But where commerce and industry flourished, the free citizens grew rich by the employment of slaves--male in the mines, female in the textile industry. These slaves were, in Ionia, of the surrounding barbarian population, and were, as a rule, first acquired in war. With increasing wealth went increasing isolation of respectable women, who in later times had little part in the civilized aspects of Greek life except in Sparta.

There was a very general development, first from monarchy to aristocracy, then to an alternation of tyranny and democracy. The kings were not absolute, like those of Egypt and Babylonia; they were advised by a Council of Elders, and could not transgress custom with impunity. "Tyranny" did not mean necessarily bad government, but only the rule of a man whose claim to power was not hereditary. "Democracy" meant government by all the citizens, among whom slaves and women were not included. The early tyrants, like the Medici, acquired their power through being the richest members of their respective plutocracies. Often the source of their wealth was the ownership of gold and silver mines, made the more profitable by the new institution of coinage, which came from the kingdom of Lydia, adjacent to Ionia. * Coinage seems to have been invented shortly before 700 B.C.

One of the most important results, to the Greeks, of commerce or piracy--at first the two are scarcely distinct--was the acquisition of the art of writing. Although writing had existed for thousands of years in Egypt and Babylonia, and the Minoan Cretans had a script (which has not been deciphered), there is no conclusive evidence that the Greeks knew how to write until about the tenth century B.C. They learnt the art from the Phoenicians, who, like the other inhabitants of Syria, were exposed to both Egyptian and Babylonian influences, and who held the supremacy in maritime commerce until the rise of the Greek cities of Ionia, Italy, and Sicily. In the fourteenth century, writing to Ikhnaton (the heretic king of Egypt), Syrians still used the Babylonian cuneiform; but Hiram of Tyre (969-936) used the Phoenician alphabet, which probably developed out of the Egyptian script. The Egyptians used, at first, a pure picture writing; gradually the pictures, much conventionalized, came to represent

* See P. N. Ure, *The Origin of Tyranny*.

syllables (the first syllables of the names of the things pictured), and at last single letters, on the principle of "A was an Archer who shot at a frog." * This last step, which was not taken with any completeness by the Egyptians themselves, but by the Phoenicians, gave the alphabet with all its advantages. The Greeks, borrowing from the Phoenicians, altered the alphabet to suit their language, and made the important innovation of adding vowels instead of having only consonants. There can be no doubt that the acquisition of this convenient method of writing greatly hastened the rise of Greek civilization.

The first notable product of the Hellenic civilization was Homer. Everything about Homer is conjectural, but the best opinion seems to be that he was a series of poets rather than an individual. Probably the *Iliad* and the *Odyssey* between them took about two hundred years to complete, some say from 750 to 550 B.C., while others hold that "Homer" was nearly complete at the end of the eighth century. ¶ The Homeric poems, in their present form, were brought to Athens by Peisistratus, who reigned (with intermissions) from 560 to 527 B.C. From his time onward, the Athenian youth learnt Homer by heart, and this was the most important part of their education. In some parts of Greece, notably in Sparta, Homer had not the same prestige until a later date.

The Homeric poems, like the courtly romances of the later Middle Ages, represent the point of view of a civilized aristocracy, which ignores as plebeian various superstitions that are still rampant among the populace. In much later times, many of these superstitions rose again to the light of day. Guided by anthropology, modern writers have come to the conclusion that Homer, so far from being primitive, was an expurgator, a kind of eighteenth-century rationalizer of ancient myths, holding up an upper-class ideal of urbane enlightenment. The Olympian gods, who represent religion in Homer, were not the only objects of worship among the Greeks, either in his time or later. There were other darker and more savage elements in popular religion, which were kept at bay by the Greek intellect at its best, but lay in wait to pounce in moments of weakness or terror. In the time of decadence,

* For instance, "Gimel," the third letter of the Hebrew alphabet, means "camel," and the sign for it is a conventionalized picture of a camel.

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€Beloch, *Griechische Geschichte*, Chap. XII.

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€Rostovtseff, *History of the Ancient World*, Vol. I, p. 399.

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beliefs which Homer had discarded proved to have persisted, half buried, throughout the classical period. This fact explains many things that would otherwise seem inconsistent and surprising.

Primitive religion, everywhere, was tribal rather than personal. Certain rites were performed, which were intended, by sympathetic magic, to further the interests of the tribe, especially in respect of fertility, vegetable, animal, and human. The winter solstice was a time when the sun had to be encouraged not to go on diminishing in strength; spring and harvest also called for appropriate ceremonies. These were often such as to generate a great collective excitement, in which individuals lost their sense of separateness and felt themselves at one with the whole tribe. All over, the world, at a certain stage of religious evolution, sacred animals and human beings were ceremonially killed and eaten. In different regions, this stage occurred at very different dates. Human sacrifice usually lasted longer than the sacrificial eating of human victims; in Greece it was not yet extinct at the beginning of historical times. Fertility rites without such cruel aspects were common throughout Greece; the Eleusinian mysteries, in particular, were essentially agricultural in their symbolism.

It must be admitted that religion, in Homer, is not very religious. The gods are completely human, differing from men only in being immortal and possessed of superhuman powers. Morally, there is nothing to be said for them, and it is difficult to see how they can have inspired much awe. In some passages, supposed to be late, they are treated with Voltairean irreverence. Such genuine religious feeling as is to be found in Homer is less concerned with the gods of Olympus than with more shadowy beings such as Fate or Necessity or Destiny, to whom even Zeus is subject. Fate exercised a great influence on all Greek thought, and perhaps was one of the sources from which science derived the belief in natural law.

The Homeric gods were the gods of a conquering aristocracy, not the useful fertility gods of those who actually tilled the soil. As Gilbert Murray says: *

"The gods of most nations claim to have created the world. The Olympians make no such claim. The most they ever did was to conquer it. . . . And when they have conquered their kingdoms, what do they do? Do they attend to the government? Do they promote

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Five Stages of Greek Religion, p. 67.

agriculture? Do they practise trades and industries? Not a bit of it. Why should they do any honest work? They find it easier to live on the revenues and blast with thunderbolts the people who do not pay. They are conquering chieftains, royal buccaneers. They fight, and feast, and play, and make music; they drink deep, and roar with laughter at the lame smith who waits on them. They are never afraid, except of their own king. They never tell lies, except in love and war."

Homer's human heroes, equally, are not very well behaved. The leading family is the House of Pelops, but it did not succeed in setting a pattern of happy family life.

"Tantalos, the Asiatic founder of the dynasty, began its career by a direct offence against the gods; some said, by trying to cheat them into eating human flesh, that of his own son Pelops. Pelops, having been miraculously restored to life, offended in his turn. He won his famous chariot-race against Oinomaos, king of Pisa, by the connivance of the latter's charioteer, Myrtilos, and then got rid of his confederate, whom he had promised to reward, by flinging him into the sea. The curse descended to his sons, Atreus and Thyestes, in the form of what the Greeks called *ate*, a strong if not actually irresistible impulse to crime. Thyestes corrupted his brother's wife and thereby managed to steal the 'luck' of the family, the famous golden-fleeced ram. Atreus in turn secured his brother's banishment, and recalling him under pretext of a reconciliation, feasted him on the flesh of his own children. The curse was now inherited by Atreus' son Agamemnon, who offended Artemis by killing a sacred stag, sacrificed his own daughter Iphigenia to appease the goddess and obtain a safe passage to Troy for his fleet, and was in his turn murdered by his faithless wife Klytaimnestra and her paramour Aigisthos, a surviving son of Thyestes. Orestes, Agamemnon's son, in turn avenged his father by killing his mother and Aigisthos." *

Homer as a finished achievement was a product of Ionia, i.e. of a part of Hellenic Asia Minor and the adjacent islands. Some time during the sixth century at latest, the Homeric poems became fixed in their present form. It was also during this century that Greek science and philosophy and mathematics began. At the same time events of fundamental importance were happening in other parts of the world. Confucius, Buddha, and Zoroaster, if they existed, probably belong to

* *Primitive Culture in Greece*, H. J. Rose, 1925, p. 193.

-12-

the same century. * In the middle of the century the Persian Empire was established by Cyrus; towards its close the Greek cities of Ionia, to which the Persians had allowed a limited autonomy, made a fruitless rebellion, which was put down by Darius, and their best men became exiles. Several of the philosophers of this period were refugees, who wandered from city to city in the still unenslaved parts of the Hellenic world, spreading the civilization that, until then, had been mainly confined to Ionia. They were kindly treated in their wanderings. Xenophanes, who flourished in the later part of the sixth century, and who was one of the refugees, says: "This is the sort of thing we should say by the fireside in the winter-time, as we lie on soft couches, after a good meal, drinking sweet wine and crunching chickpeas: 'Of what country are you, and how old are you, good Sir? And how old were you when the Mede appeared?'" The rest of Greece succeeded in preserving its independence at the battles of

Salamis and Plataea, after which Ionia was liberated for a time. €

Greece was divided into a large number of small independent states, each consisting of a city with some agricultural territory surrounding it. The level of civilization was very different in different parts of the Greek world, and only a minority of cities contributed to the total of Hellenic achievement. Sparta, of which I shall have much to say later, was important in a military sense, but not culturally. Corinth was rich and prosperous, a great commercial centre, but not prolific in great men.

Then there were purely agricultural rural communities, such as the proverbial Arcadia, which townsmen imagined to be idyllic, but which really was full of ancient barbaric horrors.

The inhabitants worshipped Pan, and had a multitude of fertility cults, in which, often, a mere square pillar did duty in place of a statue of the god. The goat was the symbol of fertility, because the peasants were too poor to possess bulls. When food was scarce, the statue of Pan was beaten. (Similar things are still done in remote Chinese villages.) There was a clan of supposed were-wolves, associated, probably,

* Zoroaster's date, however, is very conjectural. Some place it as early as 1000 B.C. See *Cambridge Ancient History*, Vol. IV, p. 207.

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As a result of the defeat of Athens by Sparta, the Persians regained the whole coast of Asia Minor, to which their right was acknowledged in the Peace of Antalcidas (387-86B.C.).

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About fifty years later, they were incorporated in Alexander's empire.

-13-

with human sacrifice and cannibalism. It was thought that whoever tasted the flesh of a sacrificed human victim became a werewolf. There was a cave sacred to Zeus Lykaios (the wolf-Zeus); in this cave no one had a shadow, and whoever entered it died within a year. All this superstition was still flourishing in classical times. *

Pan, whose original name was "Paon," meaning the feeder or shepherd, acquired his better known title, interpreted as meaning the All-God, when his worship was adopted by Athens in the fifth century, after the Persian war. â€

There was, however, in ancient Greece, much that we can feel to have been religion as we understand the term. This was connected, not with the Olympians, but with Dionysus, or Bacchus, whom we think of most naturally as the somewhat disreputable god of wine and drunkenness. The way in which, out of his worship, there arose a profound mysticism, which greatly influenced many of the philosophers, and even had a part in shaping Christian theology, is very remarkable, and must be understood by anyone who wishes to study the development of Greek thought.

Dionysus, or Bacchus, was originally a Thracian god. The Thracians were very much less civilized than the Greeks, who regarded them as barbarians. Like all primitive agriculturists, they had fertility cults, and a god who promoted fertility. His name was Bacchus. It was never quite clear whether Bacchus had the shape of a man or of a bull. When they discovered how to make beer, they thought intoxication divine, and gave honor to Bacchus. When, later, they came to know the vine and to learn to drink wine, they thought even better of him. His functions in promoting fertility in general became somewhat subordinate to his functions in relation to the grape and the divine madness produced by wine.

At what date his worship migrated from Thrace to Greece is not known, but it seems to have been just before the beginning of historical times. The cult of Bacchus was met with hostility by the orthodox, but nevertheless it established itself. It contained many barbaric elements, such as tearing wild animals to pieces and eating the whole of them raw. It had a curious element of feminism. Respectable matrons and maids, in large companies, would spend whole nights on the bare

* Rose, *Primitive Greece*, p. 65 ff.

€J. E. Harrison, *Prolegomena to the Study of Greek Religion*, p. 651.

hills, dances which stimulated ecstasy, and in an intoxication perhaps partly alcoholic, but mainly mystical. Husbands found the practice annoying, but did not dare to oppose religion. Both the beauty and the savagery of the cult are set forth in the *Bacchae* of Euripides.

The success of Bacchus in Greece is not surprising. Like all communities that have been civilized quickly, the Greeks, or at least a certain proportion of them, developed a love of the primitive, and a hankering after a more instinctive and passionate way of life than that sanctioned by current morals. To the man or woman who, by compulsion, is more civilized in behaviour than in feeling, rationality is irksome and virtue is felt as a burden and a slavery. This leads to a reaction in thought, in feeling, and in conduct. It is the reaction in thought that will specially concern us, but something must first be said about the reaction in feeling and conduct.

The civilized man is distinguished from the savage mainly by *prudence*, or, to use a slightly wider term, *forethought*. He is willing to endure present pains for the sake of future pleasures, even if the future pleasures are rather distant. This habit began to be important with the rise of agriculture; no animal and no savage would work in the spring in order to have food next winter, except for a few purely instinctive forms of action, such as bees making honey or squirrels burying nuts. In these cases, there is no forethought; there is a direct impulse to an act which, to the human spectator, is obviously going to prove useful later on. True forethought only arises when a man does something towards which no impulse urges him, because his reason tells him that he will profit by it at some future date. Hunting requires no forethought, because it is pleasurable; but tilling the soil is labour, and cannot be done from spontaneous impulse.

Civilization checks impulse not only through forethought, which is a self-administered check, but also through law, custom, and religion. This check it inherits from barbarism, but it makes it less instinctive and more systematic. Certain acts are labelled criminal, and are punished; certain others, though not punished by law, are labelled wicked, and expose those who are guilty of them to social disapproval. The institution of private property brings with it the subjection of women, and usually the creation of a slave class. On the one hand the purposes of the community are enforced upon the individual, and, on the other hand the individual, having acquired the habit of viewing his life as a whole, increasingly sacrifices his present to his future.

It is evident that this process can be carried too far, as it is, for instance, by the miser. But without going to such extremes, prudence may easily involve the loss of some of the best things in life. The worshipper of Bacchus reacts against prudence. In intoxication, physical or spiritual, he recovers an intensity of feeling which prudence had destroyed; he finds the world full of delight and beauty, and his imagination is suddenly liberated from the prison of every-day preoccupations. The Bacchic ritual produced what was called "enthusiasm," which means, etymologically, having the god enter into the worshipper, who believed that he became one with the god. Much of what is greatest in human achievement involves some element of intoxication, *some sweeping away of prudence by passion. Without the Bacchic element, life would be uninteresting; with it, it is dangerous. Prudence versus passion is a conflict that runs through history. It is not a conflict in which we ought to side wholly with either party.

In the sphere of thought, sober civilization is roughly synonymous with science. But science, unadulterated, is not satisfying; men need also passion and art and religion. Science may set limits to knowledge, but should not set limits to imagination. Among Greek philosophers, as among those of later times, there were those who were primarily scientific and those who were primarily religious; the latter owed much, directly or indirectly, to the religion of Bacchus. This applies especially to Plato, and through him to those later developments which were ultimately embodied in Christian theology.

The worship of Bacchus in its original form was savage, and in many ways repulsive. It was not in this form that it influenced the philosophers, but in the spiritualized form attributed to Orpheus, which was ascetic, and substituted mental for physical intoxication.

Orpheus is a dim but interesting figure. Some hold that he was an actual man, others that he was a god or an imaginary hero. Traditionally, he came from Thrace, like Bacchus, but it seems more probable that he (or the movement associated with his name) came from Crete. It is certain that Orphic doctrines contain much that seems to have its first source in Egypt, and it was chiefly through Crete that

* I mean mental intoxication, not intoxication by alcohol.

Egypt influenced Greece. Orpheus is said to have been a reformer who was torn to pieces by frenzied Maenads actuated by Bacchic orthodoxy. His addiction to music is not so prominent in the older forms of the legend as it became later. Primarily he was a priest and a philosopher. Whatever may have been the teaching of Orpheus (if he existed), the teaching of the Orphics is well known. They believed in the transmigration of souls; they taught that the soul hereafter might achieve eternal bliss or suffer eternal or temporary torment according to its way of life here on earth. They aimed at becoming "pure," partly by ceremonies of purification, partly by avoiding certain kinds of contamination. The most orthodox among them abstained from animal food, except on ritual occasions when they ate it sacramentally. Man, they held, is partly of earth, partly of heaven; by a pure life the heavenly part is increased and the earthly part diminished. In the end a man may become one with Bacchus, and is called "a Bacchus." There was an elaborate theology, according to which Bacchus was twice born, once of his mother Semele, and once from the thigh of his father Zeus.

There are many forms of the Bacchus myth. In one of them, Bacchus is the son of Zeus and Persephone; while still a boy, he is torn to pieces by Titans, who eat his flesh, all but the heart. Some say that the heart was given by Zeus to Semele, others that Zeus swallowed it; in either case, it gave rise to the second birth of Bacchus. The tearing of a wild animal and the devouring of its raw flesh by Bacchae was supposed to re-enact the tearing and eating of Bacchus by the Titans, and the animal, in some sense, was an incarnation of the God. The Titans were earth born, but after eating the god they had a spark of divinity. So man is partly of earth, partly divine, and Bacchic rites sought to make him more nearly completely divine.

Euripides puts a confession into the mouth of an Orphic priest, which is instructive: *

Lord of Europa's Tyrian line, Zeus-born, who holdest at thy feet
The hundred citadels of Crete,
I seek to Thee from that dim shrine,

* The verse translations in this chapter are by Professor Gilbert Murray.

Roofed by the Quick and Carven Beam, By Chalyb steel and wild bull's blood. In
flawless joints of Cypress wood Made steadfast. There in one pure stream

My days have run. The servant I, Initiate, of Idaean Jove; * Where midnight Zagreus ^{â€} loves, I
rove; I have endured his thunder-cry;

Fulfilled his red and bleeding feasts; Held the Great Mother's mountain flame; I am set free
and named by name A Bacchos of the Mailed Priests.

Robed in pure white I have borne me clean From man's vile birth and coffined clay, And
exiled from my lips away Touch of all meat where Life hath been.

Orphic tablets have been found in tombs, giving instructions to the soul of the dead person as to how to find his way in the next world, and what to say in order to prove himself worthy of salvation. They are broken and incomplete; the most nearly complete (the Petelia tablet) is as follows:

Thou shalt find on the left of the House of Hades a Well-spring, And by the side thereof standing a white cypress. To this well-spring approach not near. But thou shalt find another by the Lake of Memory, Cold water flowing forth, and there are Guardians before it. Say: "I am a child of Earth and of Starry Heaven; But my race is of Heaven (alone). This ye know yourselves. And lo, I am parched with thirst and I perish. Give me quickly The cold water flowing forth from the Lake of Memory." And of themselves they will give thee to drink from the holy well-spring, And thereafter among the other heroes thou shalt have lordship. . . .

* Mystically identified with Bacchus.

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€ One of the many names of Bacchus.

Another tablet says:--"Hail, Thou who has suffered the suffering . . . Thou art become God from Man." And yet in another:--"Happy and Blessed One, thou shalt be God instead of mortal."

The well-spring of which the soul is not to drink is Lethe, which brings forgetfulness; the other well-spring is Mnemosyne, remembrance. The soul in the next world, if it is to achieve salvation, is not to forget, but, on the contrary, to acquire a memory surpassing what is natural.

The Orphics were an ascetic sect; wine, to them, was only a symbol, as, later, in the Christian sacrament. The intoxication that they sought was that of "enthusiasm," of union with the god. They believed themselves, in this way, to acquire mystic knowledge not obtainable by ordinary means. This mystical element entered into Greek philosophy with Pythagoras, who was a reformer of Orphism, as Orpheus was a reformer of the religion of Bacchus. From Pythagoras Orphic elements entered into the philosophy of Plato, and from Plato into most later philosophy that was in any degree religious.

Certain definitely Bacchic elements survived wherever Orphism had influence. One of these was feminism, of which there was much in Pythagoras, and which, in Plato, went so far as to claim complete political equality for women. "Women as a sex," says Pythagoras, "are more naturally akin to piety." Another Bacchic element was respect for violent emotion. Greek tragedy grew out of the rites of Dionysus. Euripides, especially, honoured the two chief gods of Orphism, Bacchus and Eros. He has no respect for the coldly self-righteous well-behaved man, who, in his tragedies, is apt to be driven mad or otherwise brought to grief by the gods in resentment of his blasphemy.

The conventional tradition concerning the Greeks is that they exhibited an admirable serenity, which enabled them to contemplate passion from without, perceiving whatever beauty it exhibited, but themselves calm and Olympian. This is a very one-sided view. It is true, perhaps, of Homer, Sophocles, and Aristotle, but it is emphatically not true of those Greeks who were touched, directly or indirectly, by Bacchic or Orphic influences. At Eleusis, where the Eleusinian mysteries formed the most sacred part of Athenian State religion, a hymn was sung, saying: With Thy wine-cup waving high, With Thy maddening revelry, To Eleusis' flowery vale, Comest Thou--Bacchus, Paeon, hail!

In the *Bacchae* of Euripides, the chorus of Maenads displays a combination of poetry and savagery which is the very reverse of serene. They celebrate the delight in tearing a wild

animal limb from limb, and eating it raw then and there:

O glad, glad on the Mountains To swoon in the race outworn, When the holy fawn-skin
clings And all else sweeps away,

To the joy of the quick red fountains, The blood of the hill-goat torn, The glory of
wild-beast ravens Where the hill-top catches the day,

To the Phrygian, Lydian mountains 'Tis Bromios leads the way.

(Bromios was another of the many names of Bacchus.) The dance of the Maenads on the
mountain side was not only fierce; it was an escape from the burdens and cares of civilization
into the world of nonhuman beauty and the freedom of wind and stars. In a less frenzied mood
they sing:

Will they ever come to me, ever again, The long, long dances, On through the dark till the dim
stars wane? Shall I feel the dew on my throat and the stream Of wind in my hair? Shall our white
feet gleam In the dim expanses? O feet of the fawn to the greenwood fled, Alone in the grass and
the loveliness; Leap of the hunted, no more in dread, Beyond the snares and the deadly press.
Yet a voice still in the distance sounds, A voice and a fear and a haste of hounds, O wildly
labouring, fiercely fleet, Onward yet by river and lien--

Is it joy or terror, ye storm-swift feet? To the dear lone lands untroubled of men, Where no
voice sounds, and amid the shadowy green The little things of the woodland live unseen.

Before repeating that the Greeks were "serene," try to imagine the matrons of
Philadelphia behaving in this manner, even in a play by Eugene O'Neill.

The Orphic is no more "serene" than the unreformed worshipper of Bacchus. To the Orphic, life
in this world is pain and weariness. We are bound to a wheel which turns through endless cycles
of birth and death; our true life is of the stars, but we are tied to earth. Only by purification and
renunciation and an ascetic life can we escape from the wheel and attain at last to the ecstasy of
union with God. This is not the view of men to whom life is easy and pleasant. It is more like the
Negro spiritual:

I'm going to tell God all of my troubles When I get home.

Not all of the Greeks, but a large proportion of them, were passionate, unhappy, at war with
themselves, driven along one road by the intellect and along another by the passions, with the
imagination to conceive heaven and the wilful self-assertion that creates hell. They had a maxim
"nothing too much," but they were in fact excessive in everything--in pure thought, in poetry, in
religion, and in sin. It was the combination of passion and intellect that made them great, while
they were great. Neither alone would have transformed the world for all future time as they
transformed it. Their prototype in mythology is not Olympian Zeus, but Prometheus, who
brought fire from heaven and was rewarded with eternal torment.

If taken as characterizing the Greeks as a whole, however, what has just been said would be as
one-sided as the view that the Greeks were characterized by "serenity." There were, in fact,
two tendencies in Greece, one passionate, religious, mystical, other-worldly, the other cheerful,
empirical, rationalistic, and interested in acquiring knowledge of a diversity of facts.

Herodotus represents this latter tendency; so do the earliest Ionian philosophers; so, up to a
point, does Aristotle. Beloch (*op. cit.* I, 1, p. 434), after describing Orphism, says:

"But the Greek nation was too full of youthful vigour for the general acceptance of a belief which
denies this world and transfers real life to the Beyond. Accordingly the Orphic doctrine remained
confined to the relatively narrow circle of the initiate, without acquiring the smallest influence on
the State religion, not even in communities which, like Athens, had taken up the celebration of the
mysteries into the State ritual and placed it under legal protection. A full millennium was to
pass before these ideas--in a quite different theological dress, it is true--achieved victory in the

mysteries into the State ritual and placed it under legal protection. A full millennium was to
pass before these ideas--in a quite different theological dress, it is true--achieved victory in the

Greek world."

It would seem that this is an overstatement, particularly as regards the Eleusinian mysteries, which were impregnated with Orphism. Broadly speaking, those who were of a religious temperament turned to Orphism, while rationalists despised it. One might compare its status to that of Methodism in England in the late eighteenth and early nineteenth centuries.

We know more or less what an educated Greek learnt from his father, but we know very little of what, in his earliest years, he learnt from his mother, who was, to a great extent, shut out from the civilization in which the men took delight. It seems probable that educated Athenians, even in the best period, however rationalistic they may have been in their explicitly conscious mental processes, retained from tradition and from childhood a more primitive way of thinking and feeling, which was always liable to prove victorious in times of stress. For this reason, no simple analysis of the Greek outlook is likely to be adequate.

The influence of religion, more particularly of non-Olympian religion, on Greek thought was not adequately recognized until recent times. A revolutionary book, Jane Harrison *Prolegomena to the Study of Greek Religion*, emphasized both the primitive and the Dionysiac elements in the religion of ordinary Greeks; F. M. Cornford's *From Religion to Philosophy* tried to make students of Greek philosophy aware of the influence of religion on the philosophers, but cannot be wholly accepted as trustworthy in many of its interpretations, or, for that matter, in its anthropology. The most balanced statement known to me is in John Burnet *Early Greek Philosophy*, especially Chapter II, "Science and Religion." A conflict between science and religion arose, he says, out of "the religious revival which

swept over Hellas in the sixth century B.C.," together with the shifting of the scene from Ionia to the West. "The religion of continental Hellas," he says, "had developed in a very different way from that of Ionia. In particular, the worship of Dionysus, which came from Thrace, and is barely mentioned in Homer, contained in germ a wholly new way of looking at man's relation to the world. It would certainly be wrong to credit the Thracians themselves with any very exalted views; but there can be no doubt that, to the Greeks, the phenomenon of ecstasy suggested that the soul was something more than a feeble double of the self, and that it was only when 'out of the body' that it could show its true nature. . . .

"It looked as if Greek religion were about to enter on the same stage as that already reached by the religions of the East; and, but for the rise of science, it is hard to see what could have checked this tendency. It is usual to say that the Greeks were saved from a religion of the Oriental type by their having no priesthood; but this is to mistake the effect for the cause. Priesthoods do not make dogmas, though they preserve them once they are made; and in the earlier stages of their development, the Oriental peoples had no priesthoods either in the sense intended. It was not so much the absence of a priesthood as the existence of the scientific schools that saved Greece.

"The new religion--for in one sense it was new, though in another as old as mankind--reached its highest point of development with the foundation of the Orphic communities. So far as we can see, the original home of these was Attika; but they spread with extraordinary rapidity, especially in Southern Italy and Sicily. They were first of all associations for the worship of Dionysus; but they were distinguished by two features which were new among the Hellenes. They looked to a revelation as the source of religious authority, and they were organized as artificial communities. The poems which contained their theology were ascribed to the Thracian Orpheus, who had himself descended into Hades, and was therefore a safe guide through the perils which beset the disembodied soul in the next world." Burnet goes on to state that there is a striking similarity between Orphic beliefs and those prevalent in India at about the same time, though he holds that there cannot have been any contact. He then comes on to the original meaning of the word "orgy," which was used

by the Orphics to mean "sacrament," and was intended to purify the believer's soul and enable it to escape from the wheel of birth. The Orphics, unlike the priests of Olympian cults, founded what we may call "churches," i.e. religious communities to which anybody, without distinction

of race or sex, could be admitted by initiation, and from their influence arose the conception of philosophy as a way of life.

CHAPTER II The Milesian School

IN every history of philosophy for students, the first thing mentioned is that philosophy began with Thales, who said that everything is made of water. This is discouraging to the beginner, who is struggling--perhaps not very hard--to feel that respect for philosophy which the curriculum seems to expect. There is, however, ample reason to feel respect for Thales, though perhaps rather as a man of science than as a philosopher in the modern sense of the word.

Thales was a native of Miletus, in Asia Minor, a flourishing commercial city, in which there was a large slave population, and a bitter class struggle between the rich and poor among the free population. "At Miletus the people were at first victorious and murdered the wives and children of the aristocrats; then the aristocrats prevailed and burned their opponents alive, lighting up the open spaces of the city with live torches." * Similar conditions prevailed in most of the Greek cities of Asia Minor at the time of Thales.

Miletus, like other commercial cities of Ionia, underwent important economic and political developments during the seventh and sixth centuries. At first, political power belonged to a land-owning aristocracy, but this was gradually replaced by a plutocracy of merchants. They, in turn, were replaced by a tyrant, who (as was usual) achieved power by the support of the democratic party. The kingdom of Lydia

lay to the east of the Greek coast towns, but remained on friendly terms with them until the fall of Nineveh (612 B.C.). This left Lydia free to turn its attention to the West, but Miletus usually succeeded in preserving friendly relations, especially with Croesus, the last Lydian king, who was conquered by Cyrus in 546 B.C. There were also important relations with Egypt, where the king depended upon Greek mercenaries, and had opened certain cities to Greek trade. The first Greek settlement in Egypt was a fort occupied by a Milesian garrison; but the most important, during the period 610-560 B.C., was Daphnae. Here Jeremiah and many other Jewish refugees took refuge from Nebuchadnezzar (*Jeremiah* 43:5 ff); but while Egypt undoubtedly influenced the Greeks, the Jews did not, nor can we suppose that Jeremiah felt anything but horror towards the sceptical Ionians.

As regards the date of Thales, the best evidence, as we saw, is that he was famous for predicting an eclipse which, according to the astronomers, must have taken place in 585 B.C. Other evidence, such as it is, agrees in placing his activities at about this time. It is no proof of extraordinary genius on his part to have predicted an eclipse. Miletus was allied with Lydia, and Lydia had cultural relations with Babylonia, and Babylonian astronomers had discovered that eclipses recur in a cycle of about nineteen years. They could predict eclipses of the moon with pretty complete success, but as regards solar eclipses they were hampered by the fact that an eclipse may be visible in one place and not in another. Consequently they could only know that at such and such a date it was worth while to look out for an eclipse, and this is probably all that Thales knew. Neither he nor they knew why there is this cycle.

Thales is said to have travelled in Egypt, and to have thence brought to the Greeks the science of geometry. What the Egyptians knew of geometry was mainly rules of thumb, and there is no reason to believe that Thales arrived at deductive proofs, such as later Greeks discovered. He seems to have discovered how to calculate the distance of a ship at sea from observations taken at two points on land, and how to estimate the height of a pyramid from the length of its shadow. Many other geometrical theorems are attributed to him, but probably wrongly.

He was one of the Seven Wise Men of Greece, each of whom was specially noted for one wise saying; his, according to tradition, was "water is best."

According to Aristotle, he thought that water is the original substance, out of which all

others are formed; and he maintained that the earth rests on water. Aristotle also says of him that he said the magnet has a soul in it, because it moves the iron; further, that all things are full of gods. *

The statement that everything is made of water is to be regarded as a scientific hypothesis, and by no means a foolish one. Twenty years ago, the received view was that everything is made of hydrogen, which is two thirds of water. The Greeks were rash in their hypotheses, but the Milesian school, at least, was prepared to test them empirically. Too little is known of Thales to make it possible to reconstruct him at all satisfactorily, but of his successors in Miletus much more is known, and it is reasonable to suppose that something of their outlook came from him. His science and his philosophy were both crude, but they were such as to stimulate both thought and observation.

There are many legends about him, but I do not think more is *known* than the few facts I have mentioned. Some of the stories are pleasant, for instance, the one told by Aristotle in his *Politics* (1259a): "He was reproached for his poverty, which was supposed to show that philosophy is of no use. According to the story, he knew by his skill in the stars while it was yet winter that there would be a great harvest of olives in the coming year; so, having a little money, he gave deposits for the use of all the olive-presses in Chios and Miletus, which he hired at a low price because no one bid against him. When the harvest time came, and many were wanted all at once and of a sudden, he let them out at any rate which he pleased, and made a quantity of money. Thus he showed the world that philosophers can easily be rich if they like, but that their ambition is of another sort."

Anaximander, the second philosopher of the Milesian school, is much more interesting than Thales. His dates are uncertain, but he was said to have been sixty-four years old in 546 B.C., and there is reason to suppose that this is somewhere near the truth. He held that all things come from a single primal substance, but that it is not water, as Thales held, or any other of the substances that we know. It is infinite, eternal

* Burnet (*Early Greek Philosophy*, p. 51) questions this last saying.

and ageless, and "it encompasses all the worlds"--for he thought our world only one of many. The primal substance is transformed into the various substances with which we are familiar, and these are transformed into each other. As to this, he makes an important and remarkable statement:

"Into that from which things take their rise they pass away once more, as is ordained, for they make reparation and satisfaction to one another for their injustice according to the ordering of time."

The idea of justice, both cosmic and human, played a part in Greek religion and philosophy which is not altogether easy for a modern to understand; indeed our word "justice" hardly expresses what is meant, but it is difficult to find any other word that would be preferable. The thought which Anaximander is expressing seems to be this: there should be a certain proportion of fire, of earth, and of water in the world, but each element (conceived as a god) is perpetually attempting to enlarge its empire. But there is a kind of necessity or natural law which perpetually redresses the balance; where there has been fire, for example, there are ashes, which are earth. This conception of justice --of not overstepping eternally fixed bounds--was one of the most profound of Greek beliefs. The gods were subject to justice just as much as men were, but this supreme power was not itself personal, and was not a supreme God.

Anaximander had an argument to prove that the primal substance could not be water, or any other known element. If one of these were primal, it would conquer the others. Aristotle reports him as saying that these known elements are in opposition to one another. Air is cold, water is moist, and fire is hot. "And therefore, if any one of them were infinite, the rest would have ceased to be

by this time." The primal substance, therefore, must be neutral in this cosmic strife.

There was an eternal motion, in the course of which was brought about the origin of the worlds. The worlds were not created, as in Jewish or Christian theology, but evolved. There was evolution also in the animal kingdom. Living creatures arose from the moist element as it was evaporated by the sun. Man, like every other animal, was descended from fishes. He must be derived from animals of a different sort, because, owing to his long infancy, he could not have survived, originally, as he is now.

Anaximander was full of scientific curiosity. He is said to have been the first man who made a map. He held that the earth is shaped like a cylinder. He is variously reported as saying the sun is as large as the earth, or twenty-seven times as large, or twenty-eight times as large.

Wherever he is original, he is scientific and rationalistic.

Anaximenes, the last of the Milesian triad, is not quite so interesting as Anaximander, but makes some important advances. His dates are very uncertain. He was certainly subsequent to Anaximander, and he certainly flourished before 494 B.C., since in that year Miletus was destroyed by the Persians in the course of their suppression of the Ionian revolt.

The fundamental substance, he said, is air. The soul is air; fire is rarefied air; when condensed, air becomes first water, then, if further condensed, earth, and finally stone. This theory has the merit of making all the differences between different substances quantitative, depending entirely upon the degree of condensation.

He thought that the earth is shaped like a round table, and that air encompasses everything: "Just as our soul, being air, holds us together, so do breath and air encompass the whole world." It seems that the world breathes.

Anaximenes was more admired in antiquity than Anaximander, though almost any modern world would make the opposite valuation. He had an important influence on Pythagoras and on much subsequent speculation. The Pythagoreans discovered that the earth is spherical, but the atomists adhered to the view of Anaximenes, that it is shaped like a disc.

The Milesian school is important, not for what it achieved, but for what it attempted. It was brought into existence by the contact of the Greek mind with Babylonia and Egypt. Miletus was a rich commercial city, in which primitive prejudices and superstitions were softened by intercourse with many nations. Ionia, until its subjugation by Darius at the beginning of the fifth century, was culturally the most important part of the Hellenic world. It was almost untouched by the religious movement connected with Bacchus and Orpheus; its religion was Olympic, but seems to have been not taken very seriously. The speculations of Thales, Anaximander, and Anaximenes are to be regarded as scientific hypotheses, and seldom show any undue intrusion of anthropomorphic desires and moral ideas. The questions they asked were good questions, and their vigour inspired subsequent investigators.

The next stage in Greek philosophy, which is associated with the Greek cities in southern Italy, is more religious, and, in particular, more Orphic--in some ways more interesting, admirable in achievement, but in spirit less scientific than that of the Milesians.

CHAPTER III Pythagoras

PYTHAGORAS, whose influence in ancient and modern times is my subject in this chapter, was intellectually one of the most important men that ever lived, both when he was wise and when he was unwise. Mathematics, in the sense of demonstrative deductive argument, begins with him, and in him is intimately connected with a peculiar form of mysticism. The influence of mathematics on philosophy, partly owing to him, has, ever since his time, been both profound and unfortunate.

Let us begin with what little is known of his life. He was a native of the island of Samos, and flourished about 532 B.C. Some say he was the son of a substantial citizen named Mnesarchos, others that he was the son of the god Apollo; I leave the reader to take his choice between these alternatives. In his time Samos was ruled by the tyrant Polycrates, an old ruffian who became immensely rich, and had a vast navy.

Samos was a commercial rival of Miletus; its traders went as far afield as Tartessus in Spain, which was famous for its mines. Polycrates became tyrant of Samos about 535 B.C., and reigned until 515 B.C. He was not much troubled by moral scruples; he got rid of his two brothers, who were at first associated with him in the tyranny, and he used his navy largely for piracy. He profited by the fact that Miletus had recently submitted to Persia. In order to obstruct any further westward expansion of the Persians, he allied himself with

-29-

Amasis, King of Egypt. But when Cambyses, King of Persia, devoted his full energies to the conquest of Egypt, Polycrates realized that he was likely to win, and changed sides. He sent a fleet, composed of his political enemies, to attack Egypt; but the crews mutinied and returned to Samos to attack him. He got the better of them, however, but fell at last by a treacherous appeal to his avarice. The Persian satrap at Sardes represented that he intended to rebel against the Great King, and would pay vast sums for the help of Polycrates, who went to the mainland for an interview, was captured and crucified.

Polycrates was a patron of the arts, and beautified Samos with remarkable public works. Anacreon was his court poet. Pythagoras, however, disliked his government, and therefore left Samos. It is said, and is not improbable, that Pythagoras visited Egypt, and learnt much of his wisdom there; however that may be, it is certain that he ultimately established himself at Croton, in southern Italy.

The Greek cities of southern Italy, like Samos and Miletus, were rich and prosperous; moreover they were not exposed to danger from the Persians. * The two greatest were Sybaris and Croton. Sybaris has remained proverbial for luxury; its population, in its greatest days, is said by Diodorus to have amounted to 300,000, though this is no doubt an exaggeration. Croton was about equal in size to Sybaris. Both cities lived by importing Ionian wares into Italy, partly for consumption in that country, partly for re-export from the western coast to Gaul and Spain. The various Greek cities of Italy fought each other fiercely; when Pythagoras arrived in Croton, it had just been defeated by Locri. Soon after his arrival, however, Croton was completely victorious in a war against Sybaris, which was utterly destroyed (510 B.C.). Sybaris had been closely linked in commerce with Miletus. Croton was famous for medicine; a certain Democedes of Croton became physician to Polycrates and then to Darius.

At Croton Pythagoras founded a society of disciples, which for a time was influential in that city. But in the end the citizens turned against him, and he moved to Metapontion (also in southern Italy), where he died. He soon became a mythical figure, credited with miracles and magic powers, but he was also the founder of a school

* The Greek cities of Sicily were in danger from the Carthaginians, but in Italy this danger was not felt to be imminent.

of mathematicians. * Thus two opposing traditions disputed his memory, and the truth is hard to disentangle. Pythagoras is one of the most interesting and puzzling men in history. Not only are the traditions concerning him an almost inextricable mixture of truth and falsehood, but even in their barest and least disputable form they present us with a very curious psychology. He may be described, briefly, as a combination of Einstein and Mrs. Eddy. He founded a religion, of which

the main tenets were the transmigration of souls ^{â€} and the sinfulness of eating beans. His religion was embodied in a religious order, which, here and there, acquired control of the State and established a rule of the saints. But the unregenerate hankered after beans, and sooner or later rebelled. Some of the rules of the Pythagorean order were:

1. To abstain from beans.
2. Not to pick up what has fallen.
3. Not to touch a white cock.
4. Not to break bread.
5. Not to step over a crossbar.
6. Not to stir the fire with iron.
7. Not to eat from a whole loaf.
8. Not to pluck a garland.
9. Not to sit on a quart measure.
10. Not to eat the heart.
11. Not to walk on highways.
12. Not to let swallows share one's roof.
13. When the pot is taken off the fire, not to leave the mark of it in the ashes, but to stir them together.
14. Do not look in a mirror beside a light.

* Aristotle says of him that he "first worked at mathematics and arithmetic, and afterwards, at one time, condescended to the wonder-working practised by Pherecydes."

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Clown: What is the opinion of Pythagoras concerning wildfowl?

€

Malvolio: That the soul of our grandam might haply inhabit a bird.

Clown: What thinkest thou of his opinion?

Malvolio: I think nobly of the soul, and no way approve his opinion.

Clown: Fare thee well; remain thou still in darkness: thou shalt hold the opinion of Pythagoras ere I will allow of thy wits.

(Twelfth Night)

15. When you rise from the bedclothes, roll them together and smooth out the impress of the body. *

All these precepts belong to primitive tabu-conceptions.

Cornford (*From Religion to Philosophy*) says that, in his opinion, "The School of Pythagoras represents the main current of that mystical tradition which we have set in contrast with the scientific tendency." He regards Parmenides, whom he calls "the discoverer of logic," as "an offshoot of Pythagoreanism, and Plato himself as finding in the Italian philosophy the chief source

of his inspiration." Pythagoreanism, he says, was a movement of reform in Orphism, and Orphism was a movement of reform in the worship of Dionysus. The opposition of the rational and the mystical, which runs all through history, first appears, among the Greeks, as an opposition between the Olympic gods and those other less civilized gods who had more affinity with the primitive beliefs dealt with by anthropologists. In this division, Pythagoras was on the side of mysticism, though his mysticism was of a peculiarly intellectual sort. He attributed to himself a semi-divine character, and appears to have said: "There are men and gods, and beings like Pythagoras." All the systems that he inspired, Cornford says, "tend to be otherworldly, putting all value in the unseen unity of God, and condemning the visible world as false and illusive, a turbid medium in which the rays of heavenly light are broken and obscured in mist and darkness."

Dikaiarchos says that Pythagoras taught "first, that the soul is an immortal thing, and that it is transformed into other kinds of living things; further, that whatever comes into existence is born again in the revolutions of a certain cycle, nothing being absolutely new; and that all things that are born with life in them ought to be treated as kindred." ^{â€}It is said that Pythagoras, like Saint Francis, preached to animals.

In the society that he founded, men and women were admitted on equal terms; property was held in common, and there was a common way of life. Even scientific and mathematical discoveries were deemed collective, and in a mystical sense due to Pythagoras even

* Quoted from Burnet *Early Greek Philosophy*.

Cornford, op. cit., p. 201.

-32-

after his death. Hippasos of Metapontion, who violated this rule, was shipwrecked as a result of divine wrath at his impiety.

But what has all this to do with mathematics? It is connected by means of an ethic which praised the contemplative life. Burnet sums up this ethic as follows:

"We are strangers in this world, and the body is the tomb of the soul, and yet we must not seek to escape by self-murder; for we are the chattels of God who is our herdsman, and without his command we have no right to make our escape. In this life, there are three kinds of men, just as there are three sorts of people who come to the Olympic Games. The lowest class is made up of those who come to buy and sell, the next above them are those who compete. Best of all, however, are those who come simply to look on. The greatest purification of all is, therefore, disinterested science, and it is the man who devotes himself to that, the true philosopher, who has most effectually released himself from the 'wheel of birth.'" *

The changes in the meanings of words are often very instructive. I spoke above about the word "orgy"; now I want to speak about the word "theory." This was originally an Orphic word, which Cornford interprets as "passionate sympathetic contemplation." In this state, he says, "The spectator is identified with the suffering God, dies in his death, and rises again in his new birth." For Pythagoras, the "passionate sympathetic contemplation" was intellectual, and issued in mathematical knowledge. In this way, through Pythagoreanism, "theory" gradually acquired its modern meaning; but for all who were inspired by Pythagoras it retained an element of ecstatic revelation. To those who have reluctantly learnt a little mathematics in school this may seem strange; but to those who have experienced the intoxicating delight of sudden understanding that mathematics gives, from time to time, to those who love it, the Pythagorean view will seem completely natural even if untrue. It might seem that the empirical philosopher is the slave of his material, but that the pure

mathematician, like the musician, is a free creator of his world of ordered beauty.

It is interesting to observe, in Burnet's account of the Pythagorean

* *Early Greek Philosophy*, p. 108.

-33-

ethic, the opposition to modern values. In connection with a football match, modern-minded men think the players grander than the mere spectators. Similarly as regards the State: they admire more the politicians who are the contestants in the game than those who are only onlookers. This change of values is connected with a change in the social system--the warrior, the gentleman, the plutocrat, and the dictator, each has his own standard of the good and the true. The gentleman has had a long innings in philosophical theory, because he is associated with the Greek genius, because the virtue of contemplation acquired theological endorsement, and because the ideal of disinterested truth dignified the academic life. The gentleman is to be defined as one of a society of equals who live on slave labour, or at any rate upon the labour of men whose inferiority is unquestioned. It should be observed that this definition includes the saint and the sage, insofar as these men's lives are contemplative rather than active.

Modern definitions of truth, such as those of pragmatism and instrumentalism, which are practical rather than contemplative, are inspired by industrialism as opposed to aristocracy.

Whatever may be thought of a social system which tolerates slavery, it is to gentlemen in the above sense that we owe pure mathematics. The contemplative ideal, since it led to the creation of pure mathematics, was the source of a useful activity; this increased its prestige, and gave it a success in theology, in ethics, and in philosophy, which it might not otherwise have enjoyed.

So much by way of explanation of the two aspects of Pythagoras: as religious prophet and as pure mathematician. In both respects he was immeasurably influential, and the two were not so separate as they seem to a modern mind.

Most sciences, at their inception, have been connected with some form of false belief, which gave them a fictitious value. Astronomy was connected with astrology, chemistry with alchemy. Mathematics was associated with a more refined type of error. Mathematical knowledge appeared to be certain, exact, and applicable to the real world; moreover it was obtained by mere thinking, without the need of observation. Consequently, it was thought to supply an ideal, from which every-day empirical knowledge fell short. It was supposed, on the basis of mathematics, that thought is superior to sense, intui-

-34-

tion to observation. If the world of sense does not fit mathematics, so much the worse for the world of sense. In various ways, methods of approaching nearer to the mathematician's ideal were sought, and the resulting suggestions were the source of much that was mistaken in metaphysics and theory of knowledge. This form of philosophy begins with Pythagoras.

Pythagoras, as everyone knows, said that "all things are numbers." This statement, interpreted in a modern way, is logically nonsense, but what he meant was not exactly nonsense. He discovered the importance of numbers in music, and the connection which he established between music and arithmetic survives in the mathematical terms "harmonic mean" and "harmonic progression." He thought of numbers as shapes, as they appear on dice or playing cards. We still speak of squares and cubes of numbers, which are terms that we owe to him. He also spoke of oblong numbers, triangular numbers, pyramidal numbers, and so on. These were the numbers of pebbles (or, as we should more naturally say, shot) required to make the shapes in question. He presumably thought of the world as atomic, and of bodies as built up of molecules composed of atoms arranged in various shapes. In this way he hoped to make arithmetic the fundamental study in physics as in

aesthetics.

The greatest discovery of Pythagoras, or of his immediate disciples, was the proposition about right-angled triangles, that the sum of the squares on the sides adjoining the right angle is equal to the square on the remaining side, the hypotenuse. The Egyptians had known that a triangle whose sides are 3, 4, 5 has a right angle, but apparently the Greeks were the first to observe that $3^2 + 4^2 = 5^2$, and, acting on this suggestion, to discover a proof of the general proposition.

Unfortunately for Pythagoras, his theorem led at once to the discovery of incommensurables, which appeared to disprove his whole philosophy. In a right-angled isosceles triangle, the square on the hypotenuse is double of the square on either side. Let us suppose each side an

inch long; then how long is the hypotenuse? Let us suppose its length is m/n inches. Then

$(m/n)^2 = 2$. If m and n have a common factor, divide it out; then either m or n must be odd. Now $m^2 = 2n^2$, therefore m^2 is even, therefore m is even; therefore n is odd. Suppose $m = 2p$. Then $4p^2 = 2n^2$, therefore $n^2 = 2p^2$ and therefore n is even,

-35-

contra hyp. Therefore no fraction m/n will measure the hypotenuse. The above proof is substantially that in Euclid, Book X. *

This argument proved that, whatever unit of length we may adopt, there are lengths which bear no exact numerical relation to the unit, in the sense that there are no two integers m, n , such that m times the length in question is n times the unit. This convinced the Greek mathematicians that geometry must be established independently of arithmetic. There are passages in Plato's dialogues which prove that the independent treatment of geometry was well under way in his day; it is perfected in Euclid. Euclid, in Book II, proves geometrically many things which we

should naturally prove by algebra, such as $(a + b)^2 = a^2 + 2ab + b^2$. It was because of the difficulty about incommensurables that he considered this course necessary. The same applies to his treatment of proportion in Books V and VI. The whole system is logically delightful, and anticipates the rigour of nineteenth-century mathematicians. So long as no adequate arithmetical theory of incommensurables existed, the method of Euclid was the best that was possible in geometry. When Descartes introduced co-ordinate geometry, thereby again making arithmetic supreme, he assumed the possibility of a solution of the problem of incommensurables, though in his day no such solution had been found.

The influence of geometry upon philosophy and scientific method has been profound.

Geometry, as established by the Greeks, starts with axioms which are (or are deemed to be) self-evident, and proceeds, by deductive reasoning, to arrive at theorems that are very far from self-evident. The axioms and theorems are held to be true of actual space, which is something given in experience. It thus appeared to be possible to discover things about the actual world by first noticing what is self-evident and then using deduction. This view influenced Plato and Kant, and most of the intermediate philosophers. When the Declaration of Independence says "we hold these truths to be self-evident," it is modelling itself on Euclid. The eighteenth-century doctrine of natural rights is a search for Euclidean axioms in politics. ^{â€}The form of Newton *Principia*, in spite of its admittedly empirical

* But not by Euclid. See Heath, *Greek Mathematics*. The above proof was probably known to Plato.

€"Self-evident" was substituted by Franklin for Jefferson's "sacred and undeniable."

-36-

material, is entirely dominated by Euclid. Theology, in its exact scholastic forms, takes its style from the same source. Personal religion is derived from ecstasy, theology from mathematics; and both are to be found in Pythagoras.

Mathematics is, I believe, the chief source of the belief in eternal and exact truth, as well as in a super-sensible intelligible world. Geometry deals with exact circles, but no sensible object is *exactly* circular; however carefully we may use our compasses, there will be some imperfections and irregularities. This suggests the view that all exact reasoning applies to ideal as opposed to sensible objects; it is natural to go further, and to argue that thought is nobler than sense, and the objects of thought more real than those of sense-perception. Mystical doctrines as to the relation of time to eternity are also reinforced by pure mathematics, for mathematical objects, such as numbers, if real at all, are eternal and not in time. Such eternal objects can be conceived as God's thoughts. Hence Plato's doctrine that God is a geometer, and Sir James Jeans' belief that He is addicted to arithmetic. Rationalistic as opposed to apocalyptic religion has been, ever since Pythagoras, and notably ever since Plato, very completely dominated by mathematics and mathematical method.

The combination of mathematics and theology, which began with Pythagoras, characterized religious philosophy in Greece, in the Middle Ages, and in modern times down to Kant. Orphism before Pythagoras was analogous to Asiatic mystery religions. But in Plato, Saint Augustine, Thomas Aquinas, Descartes, Spinoza, and Kant there is an intimate blending of religion and reasoning, of moral aspiration with logical admiration of what is timeless, which comes from Pythagoras, and distinguishes the intellectualized theology of Europe from the more straightforward mysticism of Asia. It is only in quite recent times that it has been possible to say clearly where Pythagoras was wrong. I do not know of any other man who has been as influential as he was in the sphere of thought. I say this because what appears as Platonism is, when analysed, found to be in essence Pythagoreanism. The whole conception of an eternal world, revealed to the intellect but not to the senses, is derived from him. But for him, Christians would not have thought of Christ as the world; but for him, theologians would not have sought logical *proofs* of God and immortality. But in him all this is still implicit. How it became explicit will appear.

-37-

CHAPTER IV Heraclitus

TWO opposite attitudes towards the Greeks are common at the present day. One, which was practically universal from the Renaissance until very recent times, views the Greeks with almost superstitious reverence, as the inventors of all that is best, and as men of superhuman genius whom the moderns cannot hope to equal. The other attitude, inspired by the triumphs of science and by an optimistic belief in progress, considers the authority of the ancients an incubus, and maintains that most of their contributions to thought are now best forgotten. I cannot myself take either of these extreme views; each, I should say, is partly right and partly wrong. Before entering upon any detail, I shall try to say what sort of wisdom we can still derive from the study of Greek thought.

As to the nature and structure of the world, various hypotheses are possible. Progress in metaphysics, so far as it has existed, has consisted in a gradual refinement of all these hypotheses, a development of their implications, and a reformulation of each to meet the objections urged by adherents of rival hypotheses. To learn to conceive the universe according to each of these systems is an imaginative delight and an antidote to dogmatism. Moreover, even if no one of the hypotheses can be demonstrated, there is genuine knowledge in the discovery of what is involved in making each of them consistent with itself and with known facts. Now almost all the hypotheses that have dominated modern philosophy were first thought of by the Greeks;

their imaginative inventiveness in abstract matters can hardly be too highly praised. What I shall have to say about the Greeks will be said mainly from this point of view; I shall regard them as giving birth to theories which have had an independent life and growth, and which, though at first somewhat infantile, have proved capable of surviving and developing throughout more than two thousand years.

-38-

The Greeks contributed, it is true, something else which proved of more permanent value to abstract thought: they discovered mathematics and the art of deductive reasoning. Geometry, in particular, is a Greek invention, without which modern science would have been impossible. But in connection with mathematics the one-sidedness of the Greek genius appears: it reasoned deductively from what appeared self-evident, not inductively from what had been observed. Its amazing successes in the employment of this method misled not only the ancient world, but the greater part of the modern world also. It has only been very slowly that scientific method, which seeks to reach principles inductively from observation of particular facts, has replaced the Hellenic belief in deduction from luminous axioms derived from the mind of the philosopher. For this reason, apart from others, it is a mistake to treat the Greeks with superstitious reverence. Scientific method, though some few among them were the first men who had an inkling of it, is, on the whole, alien to their temper of mind, and the attempt to glorify them by belittling the intellectual progress of the last four centuries has a cramping effect upon modern thought.

There is, however, a more general argument against reverence, whether for the Greeks or for anyone else. In studying a philosopher, the right attitude is neither reverence nor contempt, but first a kind of hypothetical sympathy, until it is possible to know what it feels like to believe in his theories, and only then a revival of the critical attitude, which should resemble, as far as possible, the state of mind of a person abandoning opinions which he has hitherto held. Contempt interferes with the first part of this process, and reverence with the second. Two things are to be remembered: that a man whose opinions and theories are worth studying may be presumed to have had some intelligence, but that no man is likely to have arrived at complete and final truth on any subject whatever. When an intelligent man expresses a view which seems to us obviously absurd, we should not attempt to prove that it is somehow true, but we should try to understand how it ever came to *seem* true. This exercise of historical and psychological imagination at once enlarges the scope of our thinking, and helps us to realize how foolish many of our own cherished prejudices will seem to an age which has a different temper of mind.

Between Pythagoras and Heraclitus, with whom we shall be con-

-39-

cerned in this chapter, there was another philosopher, of less importance, namely Xenophanes. His date is uncertain, and is mainly determined by the fact that he alludes to Pythagoras and Heraclitus alludes to him. He was an Ionian by birth, but lived most of his life in southern Italy. He believed all things to be made out of earth and water. As regards the gods he was a very emphatic free thinker. "Homer and Hesiod have ascribed to the gods all things that are a shame and a disgrace among mortals, stealings and adulteries and deceivings of one another. . . . Mortals deem that gods are begotten as they are, and have clothes like theirs, and voice and form . . . yes, and if oxen and horses or lions had hands, and could paint with their hands, and produce works of art as men do, horses would paint the forms of gods like horses, and oxen like oxen, and make their bodies in the image of their several kinds. . . . The Ethiopians make their gods black and snub-nosed; the Thracians say theirs have blue eyes and red hair." He believed in one God, unlike men in form and thought, who "without toil swayeth all things by the force of his mind." Xenophanes made fun of the Pythagorean doctrine of transmigration: "Once, they say, he (Pythagoras) was passing by when a dog was being ill-treated. 'Stop,' he said, 'don't hit it! It is the soul of a friend! I knew it when I heard its voice.'" He believed it impossible to ascertain the truth in matters of theology. "The certain truth there is no man who knows, nor ever shall be, about the gods and all the things whereof I speak. Yea, even if a man should chance to say something utterly right, still he himself knows it not--there is nowhere anything but guessing." *

Xenophanes has his place in the succession of rationalists who were opposed to the mystical tendencies of Pythagoras and others, but as an independent thinker he is not in the first rank.

The doctrine of Pythagoras, as we saw, is very difficult to disentangle from that of his disciples, and although Pythagoras himself is very early, the influence of his school is mainly subsequent to that of various other philosophers. The first of these to invent a theory which is still influential was Heraclitus, who flourished about 500 B.C. Of his life very little is known, except that he was an aristocratic citizen of Ephesus. He was chiefly famous in antiquity for his doctrine

* Quoted from Edwyn Bevan, *Stoics and Sceptics*, Oxford, 1913, p. 121.

-40-

that everything is in a state of flux, but this, as we shall see, is only one aspect of his metaphysics.

Heraclitus, though an Ionian, was not in the scientific tradition of the Milesians. * He was a mystic, but of a peculiar kind. He regarded fire as the fundamental substance; everything, like flame in a fire, is born by the death of something else. "Mortals are immortals, and immortals are mortals, the one living the other's death and dying the other's life." There is unity in the world, but it is a unity formed by the combination of opposites. "All things come out of the one, and the one out of all things"; but the many have less reality than the one, which is God.

From what survives of his writings he does not appear as an amiable character. He was much addicted to contempt, and was the reverse of a democrat. Concerning his fellow-citizens he says: "The Ephesians would do well to hang themselves, every grown man of them, and leave the city to beardless lads; for they have cast out Hermodorus, the best man among them, saying: 'We will have none who is best among us; if there be any such, let him be so elsewhere and among others.'" He speaks ill of all his eminent predecessors, with a single exception. "Homer should be turned out of the lists and whipped." "Of all whose discourses I have heard, there is not one who attains to understanding that wisdom is apart from all." "The learning of many things teacheth not understanding, else would it have taught Hesiod and Pythagoras, and again Xenophanes and Hecataeus." "Pythagoras . . . claimed for his own wisdom what was but a knowledge of many things and an art of mischief." The one exception to his condemnations is Teutamius, who is signalled out as "of more account than the rest." When we inquire the reason for this praise, we find that Teutamius said "most men are bad."

His contempt for mankind leads him to think that only force will compel them to act for their own good. He says: "Every beast is driven to the pasture with blows"; and again: "Asses would rather have straw than gold."

As might be expected, Heraclitus believes in war. "War," he says, "is the father of all and the king of all; and some he has made gods and some men, some bond and some free." Again: "Homer was

* Cornford, *op. cit.* (p. 184), emphasises this, I think rightly. Heraclitus is often misunderstood through being assimilated to other Ionians.

-41-

wrong in saying: 'Would that strife might perish from among gods and men!' He did not see that he was praying for the destruction of the universe; for, if his prayer were heard, all things would pass away." And yet again: "We must know that war is common to all and strife is justice, and that

all things come into being and pass away through strife."

His ethic is a kind of proud asceticism, very similar to Nietzsche's. He regards the soul as a mixture of fire and water, the fire being noble and the water ignoble. The soul that has most fire he calls "dry." "The dry soul is the wisest and best." "It is pleasure to souls to become moist." "A man, when he gets drunk, is led by a beardless lad, tripping, knowing not where he steps, having his soul moist." "It is death to souls to become water." "It is hard to fight with one's heart's desire. Whatever it wishes to get, it purchases at the cost of soul." "It is not good for men to get all that they wish to get." One may say that Heraclitus values power obtained through self-mastery, and despises the passions that distract men from their central ambitions.

The attitude of Heraclitus to the religions of his time, at any rate the Bacchic religion, is largely hostile, but not with the hostility of a scientific rationalist. He has his own religion, and in part interprets current theology to fit his doctrine, in part rejects it with considerable scorn. He has been called Bacchic (by Cornford), and regarded as an interpreter of the mysteries (by Pfeleiderer). I do not think the relevant fragments bear out this view. He says, for example: "The mysteries practised among men are unholy mysteries." This suggests that he had in mind possible mysteries that would not be "unholy," but would be quite different from those that existed. He would have been a religious reformer, if he had not been too scornful of the vulgar to engage in propaganda.

The following are all the extant sayings of Heraclitus that bear on his attitude to the theology of his day.

The Lord whose is the oracle at Delphi neither utters nor hides his meaning, but shows it by a sign.

And the Sibyl, with raving lips uttering things mirthless, unbedizened, and unperfumed, reaches over a thousand years with her voice, thanks to the god in her.

Souls smell in Hades.

-42-

Greater deaths win greater portions. (Those who die then become gods.)

Night-walkers, magicians, priests of Bacchus and priestesses of the wine-vat, mystery-mongers.

The mysteries practised among men are unholy mysteries.

And they pray to these images, as if one were to talk with a man's house, knowing not what gods or heroes are.

For if it were not to Dionysus that they made a procession and sang the shameful phallic hymn, they would be acting most shamelessly. But Hades is the same as Dionysus in whose honour they go mad and keep the feast of the wine-vat.

They vainly purify themselves by defiling themselves with blood, just as if one who had stepped into the mud were to wash his feet in mud. Any man who marked him doing this, would deem him mad.

Heraclitus believed fire to be the primordial element, out of which everything else had arisen. Thales, the reader will remember, thought everything was made of water; Anaximenes thought air was the primitive element; Heraclitus preferred fire. At last Empedocles suggested a statesmanlike compromise by allowing four elements, earth, air, fire and water. The chemistry of the ancients stopped dead at this point. No further progress was made in this science until the Mohammedan alchemists embarked upon their search for the philosopher's stone, the elixir of life, and a method of transmuting base metals into gold.

The metaphysics of Heraclitus are sufficiently dynamic to satisfy the most hustling of moderns:

"This world, which is the same for all, no one of gods or men has made; but it was ever, is now, and ever shall be an ever-living Fire, with measures kindling and measures going out."

"The transformations of Fire are, first of all, sea; and half of the sea is earth, half whirlwind."

In such a world, perpetual change was to be expected, and perpetual change was what Heraclitus believed in.

He had, however, another doctrine on which he set even more store than on the perpetual flux; this was the doctrine of the mingling of opposites. "Men do not know," he says, "how what is at variance agrees with itself. It is an attunement of opposite tensions, like that of the bow and the lyre." His belief in strife is connected with this

-43-

theory, for in strife opposites combine to produce a motion which is a harmony. There is a unity in the world, but it is a unity resulting from diversity:

"Couples are things whole and things not whole, what is drawn together and what is drawn asunder, the harmonious and the discordant. The one is made up of all things, and all things issue from the one."

Sometimes he speaks as if the unity were more fundamental than the diversity: "Good and ill are one."

"To God all things are fair and good and right, but men hold some things wrong and some right." "The way up and the way down is one and the same."

"God is day and night, winter and summer, war and peace, surfeit and hunger; but he takes various shapes, just as fire, when it is mingled with spices, is named according to the savour of each."

Nevertheless, there would be no unity if there were not opposites to combine: "it is the opposite which is good for us."

This doctrine contains the germ of Hegel's philosophy, which proceeds by a synthesising of opposites.

The metaphysics of Heraclitus, like that of Anaximander, is dominated by a conception of cosmic justice, which prevents the strife of opposites from ever issuing in the complete victory of either.

"All things are an exchange for Fire, and Fire for all things, even as wares for gold and gold for wares."

"Fire lives the death of air, and air lives the death of fire; water lives the death of earth, earth that of water."

"The sun will not overstep his measures; if he does, the Erinys, the handmaids of Justice, will find him out."

"We must know that war is common to all, and strife is justice."

Heraclitus repeatedly speaks of "God" as distinct from "the gods." "The way of man has no wisdom, but that of God has. . . . Man is called a baby by God, even as a child by a man. . . . The wisest man is an ape compared to God, just as the most beautiful ape is ugly compared to man."

God, no doubt, is the embodiment of cosmic justice.

The doctrine that everything is in a state of flux is the most famous of the opinions of Heraclitus, and the one most emphasised by his disciples, as described in Plato *Theaetetus*.

-44-

"You cannot step twice into the same river; for fresh waters are ever flowing in upon you." *

"The sun is new every day."

His belief in universal change is commonly supposed to have been expressed in the phrase "all things are flowing," but this is probably apocryphal, like Washington's "*Father, I cannot tell a lie*" and Wellington's "*Up Guards and at 'em.*" His works, like those of all the philosophers before Plato, are only known through quotations, largely made by Plato or Aristotle for the sake of refutation. When one thinks what would become of any modern philosopher if he were only known through the polemics of his rivals, one can see how admirable the pre-Socratics must have been, since even through the mist of malice spread by their enemies they still appear great. However this may be, Plato and Aristotle agree that Heraclitus taught that "nothing ever is, everything is becoming" (Plato), and that "nothing steadfastly is" (Aristotle).

I shall return to the consideration of this doctrine in connection with Plato, who is much concerned to refute it. For the present, I shall not investigate what philosophy has to say about it, but only what the poets have felt and the men of science have taught.

The search for something permanent is one of the deepest of the instincts leading men to philosophy. It is derived, no doubt, from love of home and desire for a refuge from danger; we find, accordingly, that it is most passionate in those whose lives are most exposed to catastrophe. Religion seeks permanence in two forms, God and immortality. In God is no variability, neither shadow of turning; the life after death is eternal and unchanging. The cheerfulness of the nineteenth century turned men against these static conceptions, and modern liberal theology believes that there is progress in heaven and evolution in the Godhead. But even in this conception there is something permanent, namely progress itself and its immanent goal. And a dose of disaster is likely to bring men's hopes back to their older super-terrestrial forms: if life on earth is despaired of, it is only in heaven that peace can be sought.

The poets have lamented the power of Time to sweep away every object of their love.

* But cf. "We step and do not step into the same rivers; we are, and are not."

-45-

Time doth transfix the flourish set on youth,
And delves the parallels in beauty's brow,
Feeds on the rarities of nature's truth,
And nothing stands but for his scythe to mow.

They generally add that their own verses are indestructible:

And yet to times in hope my verse shall stand,
Praising thy worth, despite his cruel hand.

But this is only a conventional literary conceit.

Philosophically inclined mystics, unable to deny that whatever is in time is transitory, have invented a conception of eternity as not persistence through endless time, but existence outside the whole temporal process. Eternal life, according to some theologians, for example, Dean Inge, does not mean existence throughout every moment of future time, but a mode of being wholly

independent of time, in which there is no before and after, and therefore no logical possibility of change. This view has been poetically expressed by Vaughan:

I saw Eternity the other night, Like a great ring of pure and endless light, All calm, as it was bright; And round beneath it, Time in hours, days, years, Driven by the spheres Like a vast shadow moved; in which the world And all her train were hurled.

Several of the most famous systems of philosophy have tried to state this conception in sober prose, as expressing what reason, patiently pursued, will ultimately compel us to believe.

Heraclitus himself, for all his belief in change, allowed *something* everlasting. The conception of eternity (as opposed to endless duration), which comes from Parmenides, is not to be found in Heraclitus, but in his philosophy the central fire never dies: the world "was ever, is now, and ever shall be, an ever-living Fire." But fire is something continually changing, and its permanence is rather that of a process than that of a substance--though this view should not be attributed to Heraclitus.

Science, like philosophy, has sought to escape from the doctrine of perpetual flux by finding some permanent substratum amid chang-

-46-

ing phenomena. Chemistry seemed to satisfy this desire. It was found that fire, which appears to destroy, only transmutes: elements are recombined, but each atom that existed before combustion still exists when the process is completed. Accordingly it was supposed that atoms are indestructible, and that all change in the physical world consists merely in re-arrangement of persistent elements. This view prevailed until the discovery of radio-activity, when it was found that atoms could disintegrate.

Nothing daunted, the physicists invented new and smaller units, called electrons and protons, out of which atoms were composed; and these units were supposed, for a few years, to have the indestructibility formerly attributed to atoms. Unfortunately it seemed that protons and electrons could meet and explode, forming, not new matter, but a wave of energy spreading through the universe with the velocity of light. Energy had to replace matter as what is permanent. But energy, unlike matter, is not a refinement of the common-sense notion of a "thing"; it is merely a characteristic of physical processes. It might be fancifully identified with the Heraclitean Fire, but it is the burning, not what burns. "What burns" has disappeared from modern physics.

Passing from the small to the large, astronomy no longer allows us to regard the heavenly bodies as everlasting. The planets came out of the sun, and the sun came out of a nebula. It has lasted some time, and will last some time longer; but sooner or later--probably in about a million million years--it will explode, destroying all the planets, and reverting to the condition of a widely diffused gas. So at least the astronomers say; perhaps as the fatal day draws nearer they will find some mistake in their calculations.

The doctrine of the perpetual flux, as taught by Heraclitus, is painful, and science, as we have seen, can do nothing to refute it. One of the main ambitions of philosophers has been to revive hopes that science seemed to have killed. Philosophers, accordingly, have sought, with great persistence, for something not subject to the empire of Time. This search begins with Parmenides.

-47-

CHAPTER V Parmenides

THE Greeks were not addicted to moderation, either in their theories or in their practice. Heraclitus maintained that everything changes; Parmenides retorted that nothing changes. Parmenides was a native of Elea, in the south of Italy, and flourished in the first half of the fifth century B.C. According to Plato, Socrates in his youth (say about the year 450 B.C.) had an

interview with Parmenides, then an old man, and learnt much from him. Whether or not this interview is historical, we may at least infer, what is otherwise evident, that Plato himself was influenced by the doctrines of Parmenides. The south Italian and Sicilian philosophers were more inclined to mysticism and religion than those of Ionia, who were on the whole scientific and sceptical in their tendencies. But mathematics, under the influence of Pythagoras, flourished more in Magna Grecia than in Ionia; mathematics at that time, however, was entangled with mysticism. Parmenides was influenced by Pythagoras, but the extent of this influence is conjectural. What makes Parmenides historically important is that he invented a form of metaphysical argument that, in one form or another, is to be found in most subsequent metaphysicians down to and including Hegel. He is often said to have invented logic, but what he really invented was metaphysics based on logic.

The doctrine of Parmenides was set forth in a poem *On Nature*. He considered the senses deceptive, and condemned the multitude of sensible things as mere illusion. The only true being is "the One," which is infinite and indivisible. It is not, as in Heraclitus, a union of opposites, since there are no opposites. He apparently thought, for instance, that "cold" means only "not hot," and "dark" means only "not light." "The One" is not conceived by Parmenides as we conceive God; he seems to think of it as material and extended, for he

-48-

speaks of it as a sphere. But it cannot be divided, because the whole of it is present everywhere.

Parmenides divides his teaching into two parts, called respectively "the way of truth" and "the way of opinion." We need not concern ourselves with the latter. What he says about the way of truth, so far as it has survived, is, in its essential points, as follows:

"Thou canst not know what is not--that is impossible--nor utter it; for it is the same thing that can be thought and that can be."

"How, then, can what is be going to be in the future? Or how could it come into being? If it came into being, it is not; nor is it if it is going to be in the future. Thus is *becoming* extinguished and *passing away* not to be heard of.

"The thing that can be thought and that for the sake of which the thought exists is the same; for you cannot find thought without something that is, as to which it is uttered." *

The essence of this argument is: When you think, you think *of* something; when you use a name, it must be the name *of* something. Therefore both thought and language require objects outside themselves. And since you can think of a thing or speak of it at one time as well as at another, whatever can be thought of or spoken of must exist at all times. Consequently there can be no change, since change consists in things coming into being or ceasing to be.

This is the first example in philosophy of an argument from thought and language to the world at large. It cannot of course be accepted as valid, but it is worth while to see what element of truth it contains.

We can put the argument in this way: if language is not just nonsense, words must mean something, and in general they must not mean just other words, but something that is there whether we talk of it or not. Suppose, for example, that you talk of George Washington. Unless there were a historical person who had that name, the name (it would seem) would be meaningless, and sentences containing the name would be nonsense. Parmenides maintains that not only must George Washington have existed in the past, but in some sense he must still exist, since we can still use his name significantly. This seems obviously untrue, but how are we to get round the argument?

* Burnet's note: "The meaning, I think, is this. . . . There can be no thought corresponding to

a name that is not the name of something real."

-49-

Let us take an imaginary person, say Hamlet. Consider the statement "Hamlet was Prince of Denmark." In some sense this is true, but not in the plain historical sense. The true statement is "Shakespeare says that Hamlet was Prince of Denmark," or, more explicitly, "Shakespeare says there was a Prince of Denmark called 'Hamlet.'" Here there is no longer anything imaginary. Shakespeare and Denmark and the noise "Hamlet" are all real, but the noise "Hamlet" is not really a name, since nobody is really called "Hamlet." If you say "'Hamlet' is the name of an imaginary person," that is not strictly correct; you ought to say "It is imagined that 'Hamlet' is the name of a real person."

Hamlet is an imagined individual; unicorns are an imagined species. Some sentences in which the word "unicorn" occurs are true, and some are false, but in each case not directly. Consider "a unicorn has one horn" and "a cow has two horns." To prove the latter, you have to look at a cow; it is not enough to say that in some book cows are said to have two horns. But the evidence that unicorns have one horn is only to be found in books, and in fact the correct statement is: "Certain books assert that there are animals with one horn called 'unicorns.'" All statements about unicorns are really about the *word* "unicorn," just as all statements about Hamlet are really about the *word* "Hamlet."

But it is obvious that, in most cases, we are not speaking of words, but of what the words mean. And this brings us back to the argument of Parmenides, that if a word can be used significantly it must mean *something*, not nothing, and therefore what the word means must in some sense exist.

What, then, are we to say about George Washington? It seems we have only two alternatives: one is to say that he still exists; the other is to say that, when we use the words "George Washington," we are not really speaking of the man who bore that name. Either seems a paradox, but the latter is less of a paradox, and I shall try to show a sense in which it is true.

Parmenides assumes that words have a constant meaning; this is really the basis of his argument, which he supposes unquestionable. But although the dictionary or the encyclopaedia gives what may be called the official and socially sanctioned meaning of a word, no two

-50-

people who use the same word have just the same thought in their minds.

George Washington himself could use his name and the word "I" as synonyms. He could perceive his own thoughts and the movements of his body, and could therefore use his name with a fuller meaning than was possible for any one else. His friends, when in his presence, could perceive the movements of his body, and could divine his thoughts; to them, the name "George Washington" still denoted something concrete in their own experience. After his death they had to substitute memories for perceptions, which involved a change in the mental processes taking place when they used his name. For us, who never knew him, the mental processes are again different. We may think of his picture, and say to ourselves "yes, that man." We may think "the first President of the United States." If we are very ignorant, he may be to us merely "The man who was called 'George Washington.'" Whatever the name suggests to us, it must be not the man himself, since we never knew him, but something now present to sense or memory or thought. This shows the fallacy of the argument of Parmenides.

This perpetual change in the meanings of words is concealed by the fact that, in general, the change makes no difference to the truth or falsehood of the propositions in which the words occur. If you take any true sentence in which the name "George Washington" occurs, it will, as a rule, remain true if you substitute the phrase "the first President of the United States." There are exceptions to this rule. Before Washington's election, a man might say "I hope George Washington will be the first President of the United States," but he would not say "I hope the first

President of the United States will be the first President of the United States" unless he had an unusual passion for the law of identity. But it is easy to make a rule for excluding these exceptional cases, and in those that remain you may substitute for "George Washington" any descriptive phrase that applies to him alone. And it is only by means of such phrases that we know what we know about him.

Parmenides contends that, since we can now know what is commonly regarded as past, it cannot really be past, but must, in some sense, exist now. Hence he infers that there is no such thing as change. What we have been saying about George Washington meets

-51-

this argument. It may be said, in a sense, that we have no knowledge of the past. When you recollect, the recollection occurs now, and is not identical with the event recollected. But the recollection affords a *description* of the past event, and for most practical purposes it is unnecessary to distinguish between the description and what it describes.

This whole argument shows how easy it is to draw metaphysical conclusions from language, and how the only way to avoid fallacious arguments of this kind is to push the logical and psychological study of language further than has been done by most metaphysicians.

I think, however, that, if Parmenides could return from the dead and read what I have been saying, he would regard it as very superficial. "How do you know," he would ask, "that your statements about George Washington refer to a past time? By your own account, the direct reference is to things now present; your recollections, for instance, happen now, not at the time that you think you recollect. If memory is to be accepted as a source of knowledge, the past must be before the mind *now*, and must therefore in some sense still exist."

I will not attempt to meet this argument now; it requires a discussion of memory, which is a difficult subject. I have put the argument here to remind the reader that philosophical theories, if they are important, can generally be revived in a new form after being refuted as originally stated. Refutations are seldom final; in most cases, they are only a prelude to further refinements.

What subsequent philosophy, down to quite modern times, accepted from Parmenides, was not the impossibility of all change, which was too violent a paradox, but the indestructibility of *substance*. The word "substance" did not occur in his immediate successors, but the *concept* is already present in their speculations. A substance was supposed to be the persistent subject of varying predicates. As such it became, and remained for more than two thousand years, one of the fundamental concepts of philosophy, psychology, physics, and theology. I shall have much to say about it at a later stage. For the present, I am merely concerned to note that it was introduced as a way of doing justice to the arguments of Parmenides without denying obvious facts.

-52-

CHAPTER VI Empedocles

THE mixture of philosopher, prophet, man of science, and charlatan, which we found already in Pythagoras, was exemplified very completely in Empedocles, who flourished about 440 B.C., and was thus a younger contemporary of Parmenides, though his doctrine had in some ways more affinity with that of Heraclitus. He was a citizen of Acragas, on the south coast of Sicily; he was a democratic politician, who at the same time claimed to be a god. In most Greek cities, and especially in those of Sicily, there was a constant conflict between democracy and tyranny; the leaders of whichever party was at the moment defeated were executed or exiled. Those who were exiled seldom scrupled to enter into negotiations with the enemies of Greece--Persia in the East, Carthage in the West. Empedocles, in due course, was banished, but he appears, after his banishment, to have preferred the career of a sage to that of an intriguing refugee. It seems probable that in youth he was more or less Orphic; that before his exile he combined politics and science; and that it was only in later life, as an exile, that he became a prophet.

Legend had much to say about Empedocles. He was supposed to have worked miracles, or what

seemed such, sometimes by magic, sometimes by means of his scientific knowledge. He could control the winds, we are told; he restored to life a woman who had seemed dead for thirty days; finally, it is said, he died by leaping into the crater of Etna to prove that he was a god. In the words of the poet:

Great Empedocles, that ardent soul Leapt into Etna, and was roasted whole.

Matthew Arnold wrote a poem on this subject, but, although one of his worst, it does not contain the above couplet.

Like Parmenides, Empedocles wrote in verse. Lucretius, who was

-53-

influenced by him, praised him highly as a poet, but on this subject opinions were divided. Since only fragments of his writings have survived, his poetic merit must remain in doubt.

It is necessary to deal separately with his science and his religion, as they are not consistent with each other. I shall consider first his science, then his philosophy, and finally his religion.

His most important contribution to science was his discovery of air as a separate substance. This he proved by the observation that when a bucket or any similar vessel is put upside down into water, the water does not enter into the bucket. He says:

"When a girl, playing with a water-clock of shining brass, puts the orifice of the pipe upon her comely hand, and dips the waterclock into the yielding mass of silvery water, the stream does not then flow into the vessel, but the bulk of the air inside, pressing upon the close-packed perforations, keeps it out till she uncovers the compressed stream; but then air escapes and an equal volume of water runs in."

This passage occurs in an explanation of respiration.

He also discovered at least one example of centrifugal force: that if a cup of water is whirled round at the end of a string, the water does not come out.

He knew that there is sex in plants, and he had a theory (somewhat fantastic, it must be admitted) of evolution and the survival of the fittest. Originally, "countless tribes of mortal creatures were scattered abroad endowed with all manner of forms, a wonder to behold." There were heads without necks, arms without shoulders, eyes without foreheads, solitary limbs seeking for union. These things joined together as each might chance; there were shambling creatures with countless hands, creatures with faces and breasts looking in different directions, creatures with the bodies of oxen and the faces of men, and others with the faces of oxen and the bodies of men. There were hermaphrodites combining the natures of men and women, but sterile. In the end, only certain forms survived.

As regards astronomy: he knew that the moon shines by reflected light, and thought that this is also true of the sun; he said that light takes time to travel, but so little time that we cannot observe it; he knew that solar eclipses are caused by the interposition of the moon, a fact which he seems to have learnt from Anaxagoras.

-54-

He was the founder of the Italian school of medicine, and the medical school which sprang from him influenced both Plato and Aristotle. According to Burnet (p. 234), it affected the whole tendency of scientific and philosophical thinking.

All this shows the scientific vigour of his time, which was not equalled in the later ages of Greece.

I come now to his cosmology. It was he, as already mentioned, who established earth, air, fire, and water as the four elements (though the word "element" was not used by him). Each of these was everlasting, but they could be mixed in different proportions, and thus produce the changing

complex substances that we find in the world. They were combined by Love and separated by Strife. Love and Strife were, for Empedocles, primitive substances on a level with earth, air, fire, and water. There were periods when Love was in the ascendant, and others when Strife was the stronger. There had been a golden age when Love was completely victorious. In that age, men worshipped only the Cyprian Aphrodite. The changes in the world are not governed by any purpose, but only by Chance and Necessity. There is a cycle: when the elements have been thoroughly mixed by Love, Strife gradually sorts them out again; when Strife has separated them, Love gradually reunites them. Thus every compound substance is temporary; only the elements, together with Love and Strife, are everlasting.

There is a similarity to Heraclitus, but a softening, since it is not Strife alone, but Strife and Love together, that produce change. Plato couples Heraclitus and Empedocles in the *Sophist* (242):

There are Ionian, and in more recent time Sicilian, muses, who have arrived at the conclusion that to unite the two principles (of the One and the Many), is safer, and to say that being is one and many, and that these are held together by enmity and friendship, ever parting, ever meeting, as the severer Muses assert, while the gentler ones do not insist on the perpetual strife and peace, but admit a relaxation and alternation of them; peace and unity sometimes prevailing under the sway of Aphrodite, and then again plurality and war, by reason of a principle of strife.

Empedocles held that the material world is a sphere; that in the Golden Age Strife was outside and Love inside; then, gradually, Strife

-55-

entered and Love was expelled, until, at the worst, Strife will be wholly within and Love wholly without the sphere. Then--though for what reason is not clear--an opposite movement begins, until the Golden Age returns, but not for ever. The whole cycle is then repeated. One might have supposed that either extreme could be stable, but that is not the view of Empedocles. He wished to explain motion while taking account of the arguments of Parmenides, and he had no wish to arrive, at any stage, at an unchanging universe.

The views of Empedocles on religion are, in the main, Pythagorean. In a fragment which, in all likelihood, refers to Pythagoras, he says: "There was among them a man of rare knowledge, most skilled in all manner of wise works, a man who had won the utmost wealth of wisdom; for whensoever he strained with all his mind, he easily saw everything of all the things that are, in ten, yea twenty lifetimes of men." In the Golden Age, as already mentioned, men worshipped only Aphrodite, "and the altar did not reek with pure bull's blood, but this was held in the greatest abomination among men, to eat the goodly limbs after tearing out the life."

At one time he speaks of himself exuberantly as a god:

Friends, that inhabit the great city looking down on the yellow rock of Acragas, up by the citadel, busy in goodly works, harbour of honour for the stranger, men unskilled in meanness, all hail. I go about among you an immortal god, no mortal now, honoured among all as is meet, crowned with fillets and flowery garlands. Straightway, whenever I enter with these in my train, both men and women, into the flourishing towns, is reverence done me; they go after me in countless throngs, asking of me what is the way to gain; some desiring oracles, while some, who for many a weary day have been pierced by the grievous pangs of all manner of sickness, beg to hear from me the word of healing. . . . But why do I harp on these things, as if it were any great matter that I should surpass mortal, perishable men?"

At another time he feels himself a great sinner, undergoing expiation for his impiety:

There is an oracle of Necessity, an ancient ordinance of the gods, eternal and sealed fast by broad oaths, that whenever one of the daemons, whose portion is length of days, has sinfully polluted his hands with blood, or followed strife and foresworn himself, he

must wander thrice ten thousand years from the abodes of the blessed, being born throughout the time in all manners of mortal forms, changing one toilsome path of life for another. For the mighty Air drives him into the Sea, and the Sea spews him forth upon the dry Earth; Earth tosses him into the beams of the blazing Sun, and he flings him back to the eddies of Air. One takes him from the other, and all reject him. One of these I now am, an exile and a wanderer from the gods, for that I put my trust in insensate strife.

What his sin had been, we do not know; perhaps nothing that we should think very grievous. For he says:

"Ah, woe is me that the pitiless day of death did not destroy me ere ever I wrought evil deeds of devouring with my lips! . . .

"Abstain wholly from laurel leaves . . .

"Wretches, utter wretches, keep your hands from beans!"

So perhaps he had done nothing worse than munching laurel leaves or guzzling beans.

The most famous passage in Plato, in which he compares this world to a cave, in which we see only shadows of the realities in the bright world above, is anticipated by Empedocles; its origin is in the teaching of the Orphics.

There are some--presumably those who abstain from sin through many incarnations--who at last achieve immortal bliss in the company of the gods:

But, at the last, they *appear among mortal men as prophets, song-writers, physicians, and princes; and thence they rise up as gods exalted in honour, sharing the hearth of the other gods and the same table, free from human woes, safe from destiny, and incapable of hurt.

In all this, it would seem, there is very little that was not already contained in the teaching of Orphism and Pythagoreanism.

The originality of Empedocles, outside science, consists in the doctrine of the four elements and in the use of the two principles of Love and Strife to explain change.

He rejected monism, and regarded the course of nature as regulated

* It does not appear who "they" are, but one may assume that they are those who have preserved purity.

by chance and necessity rather than by purpose. In these respects his philosophy was more scientific than those of Parmenides, Plato, and Aristotle. In other respects, it is true, he acquiesced in current superstitions; but in this he was no worse than many more recent men of science.

CHAPTER VII Athens in Relation to Culture

THE greatness of Athens begins at the time of the two Persian wars (490 B.C. and 480-79 B.C.). Before that time, Ionia and Magna Graecia (the Greek cities of south Italy and Sicily) produced the great men. The victory of Athens against the Persian king Darius at Marathon (490), and of the combined Greek fleets against his son and successor Xerxes (480) under Athenian leadership, gave Athens great prestige. The Ionians in the islands and on part of the mainland of Asia Minor had rebelled against Persia, and their liberation was effected by Athens after the Persians had been driven from the mainland of Greece. In this operation the Spartans, who cared only about

their own territory, took no part. Thus Athens became the predominant partner in an alliance against Persia. By the constitution of the alliance, any constituent State was bound to contribute either a specified number of ships, or the cost of them. Most chose the latter, and thus Athens acquired naval supremacy over the other allies, and gradually transformed the alliance into an Athenian Empire. Athens became rich, and prospered under the wise leadership of Pericles, who governed, by the free choice of the citizens, for about thirty years, until his fall in 430 B.C.

The age of Pericles was the happiest and most glorious time in the history of Athens. Aeschylus, who had fought in the Persian wars, inaugurated Greek tragedy; one of his tragedies, the *Persae*, departing from the custom of choosing Homeric subjects, deals with the defeat of Darius. He was quickly followed by Sophocles, and Sophocles by Euripides, who, however, extends into the dark days of

-58-

the Peloponnesian War that followed the fall and death of Pericles, and reflects in his plays the scepticism of the later period. His contemporary Aristophanes, the comic poet, makes fun of all isms from the standpoint of robust and limited common sense; more particularly, he holds up Socrates to obloquy as one who denies the existence of Zeus and dabbles in unholy pseudo scientific mysteries.

Athens had been captured by Xerxes, and the temples on the Acropolis had been destroyed by fire. Pericles devoted himself to their reconstruction. The Parthenon and the other temples whose ruins remain to impress our age were built by him. Pheidias the sculptor was employed by the State to make colossal statues of gods and goddesses. At the end of this period, Athens was the most beautiful and splendid city of the Hellenic world.

Herodotus, the father of history, was a native of Halicarnassus, in Asia Minor, but lived in Athens, was encouraged by the Athenian State, and wrote his account of the Persian wars from the Athenian point of view.

The achievements of Athens in the time of Pericles are perhaps the most astonishing thing in all history. Until that time, Athens had lagged behind many other Greek cities; neither in art nor in literature had it produced any great man (except Solon, who was primarily a lawgiver). Suddenly, under the stimulus of victory and wealth and the need of reconstruction, architects, sculptors, and dramatists, who remain unsurpassed to the present day, produced works which dominated the future down to modern times. This is the more surprising when we consider the smallness of the population involved. Athens at its maximum, about 430 B.C., is estimated to have numbered about 230,000 (including slaves), and the surrounding territory of rural Attica probably contained a rather smaller population. Never before or since has anything approaching the same proportion of the inhabitants of any area shown itself capable of work of the highest excellence.

In philosophy, Athens contributes only two great names, Socrates and Plato. Plato belongs to a somewhat later period, but Socrates passed his youth and early manhood under Pericles. The Athenians were sufficiently interested in philosophy to listen eagerly to teachers from other cities. The Sophists were sought after by young men who wished to learn the art of disputation; in the *Protagoras*, the

-59-

Platonic Socrates gives an amusing satirical description of the ardent disciples hanging on the words of the eminent visitor. Pericles, as we shall see, imported Anaxagoras, from whom Socrates professed to have learned the pre-eminence of mind in creation.

Most of Plato's dialogues are supposed by him to take place during the time of Pericles, and they give an agreeable picture of life among the rich. Plato belonged to an aristocratic Athenian family, and grew up in the tradition of the period before war and democracy had destroyed the wealth and security of the upper classes. His young men, who have no need to work, spend most

of their leisure in the pursuit of science and mathematics and philosophy; they know Homer almost by heart, and are critical judges of the merits of professional reciters of poetry. The art of deductive reasoning had been lately discovered, and afforded the excitement of new theories, both true and false, over the whole field of knowledge. It was possible in that age, as in few others, to be both intelligent and happy, and happy through intelligence.

But the balance of forces which produced this golden age was precarious. It was threatened both from within and from without—from within by the democracy, and from without by Sparta. To understand what happened after Pericles, we must consider briefly the earlier history of Attica.

Attica, at the beginning of the historical period, was a self-supporting little agricultural region; Athens, its capital, was not large, but contained a growing population of artisans and skilled artificers who desired to dispose of their produce abroad. Gradually it was found more profitable to cultivate vines and olives rather than grain, and to import grain, chiefly from the coast of the Black Sea. This form of cultivation required more capital than the cultivation of grain, and the small farmers got into debt. Attica, like other Greek states, had been a monarchy in the Homeric age, but the king became a merely religious official without political power. The government fell into the hands of the aristocracy, who oppressed both the country farmers and the urban artisans. A compromise in the direction of democracy was effected by Solon early in the sixth century, and much of his work survived through a subsequent period of tyranny under Peisistratus and his sons. When this period came to an end, the aristo-

-60-

crats, as the opponents of tyranny, were able to recommend themselves to the democracy. Until the fall of Pericles, democratic processes gave power to the aristocracy, as in nineteenth century England. But towards the end of his life the leaders of the Athenian democracy began to demand a larger share of political power. At the same time, his imperialist policy, with which the economic prosperity of Athens was bound up, caused increasing friction with Sparta, leading at last to the Peloponnesian War (431-404), in which Athens was completely defeated.

In spite of political collapse, the prestige of Athens survived, and throughout almost a millennium philosophy was centred there. Alexandria eclipsed Athens in mathematics and science, but Aristotle and Plato had made Athens philosophically supreme. The Academy, where Plato had taught, survived all other schools, and persisted, as an island of paganism, for two centuries after the conversion of the Roman Empire to Christianity. At last, in A.D. 529, it was closed by Justinian because of his religious bigotry, and the Dark Ages descended upon Europe.

CHAPTER VIII Anaxagoras

THE philosopher Anaxagoras, though not the equal of Pythagoras, Heraclitus, or Parmenides, has nevertheless a considerable historical importance. He was an Ionian, and carried on the scientific, rationalist tradition of Ionia. He was the first to introduce philosophy to the Athenians, and the first to suggest mind as the primary cause of physical changes.

He was born at Clazomenae, in Ionia, about the year 500 B.C., but he spent about thirty years of his life in Athens, approximately from 462 to 432 B.C. He was probably induced to come by Pericles, who was bent on civilizing his fellow-townsmen. Perhaps Aspasia, who

-61-

came from Miletus, introduced him to Pericles. Plato, in the *Phaedrus*, says:

Pericles "fell in, it seems with Anaxagoras, who was a scientific man; and satiating himself with the theory of things on high, and having attained to a knowledge of the true nature of intellect and folly, which were just what the discourses of Anaxagoras were mainly about, he drew from that source whatever was of a nature to further him in the art of speech."

It is said that Anaxagoras also influenced Euripides, but this is more doubtful.

The citizens of Athens, like those of other cities in other ages and continents, showed a certain hostility to those who attempted to introduce a higher level of culture than that to which they were accustomed. When Pericles was growing old, his opponents began a campaign against him by attacking his friends. They accused Pheidias of embezzling some of the gold that was to be employed on his statues. They passed a law permitting impeachment of those who did not practise religion and taught theories about "the things on high." Under this law, they prosecuted Anaxagoras, who was accused of teaching that the sun was a red-hot stone and the moon was earth. (The same accusation was repeated by the prosecutors of Socrates, who made fun of them for being out of date.) What happened is not certain, except that he had to leave Athens. It seems probable that Pericles got him out of prison and managed to get him away. He returned to Ionia, where he founded a school. In accordance with his will, the anniversary of his death was kept as a schoolchildrens' holiday.

Anaxagoras held that everything is infinitely divisible, and that even the smallest portion of matter contains some of each element. Things appear to be that of which they contain most. Thus, for example, everything contains some fire, but we only call it fire if that element preponderates. Like Empedocles, he argues against the void, saying that the clepsydra or an inflated skin shows that there is air where there seems to be nothing.

He differed from his predecessors in regarding mind (*nous*) as a substance which enters into the composition of living things, and distinguishes them from dead matter. In everything, he says, there