IV

Thereupon one of the Egyptian priests, who was of a very great age, said: O Solon, Solon, you Hellenes are but children, and there was never an old man who was a Hellene. Solon in return asked him what he meant. I mean to say, he replied, that in mind you are all young; there is no old opinion handed down among you by ancient tradition; nor any science which is hoary with age.

PLATO'S *Timæus*, 22 (Jowett's translation)

The truth is that we are far more likely to underrate the originality of the Greeks than to exaggerate it, and we do not always remember the very short time they took to lay down the lines scientific inquiry has followed ever since.

JOHN BURNET

8. BEGINNING OF CRITICAL THINKING

THE Egyptians were the first people, so far as we know, who invented a highly artificial method of writing, about five or six thousand years ago, and began to devise new arts beyond those of their barbarous predecessors. They developed painting and architecture, navigation, and various ingenious industries; they worked in glass and enamels and began the use of copper, and so introduced metal into human affairs. But in spite of their extraordinary advance in practical, matter-of-fact knowledge they remained very primitive in their beliefs. The same may be said of the peoples of Mesopotamia and of the western Asiatic nations in general—just as in our own day the practical arts have got a long start compared with the revision of beliefs in regard to man and the gods. The peculiar opinions of the Egyptians do not enter directly into our intellectual heritage, but some of the fundamental religious ideas which developed in western Asia have, through the veneration for the Hebrew Scriptures, become part and parcel of our ways of thinking.

To the Greeks, however, we are intellectually under heavy obligation. The literature of the Greeks, in such fragments as escaped destruction, was destined, aloug with the Hebrew Scriptures, to exercise an incalculable influence in the formation of our modern civilized minds. These two dominating literary heritages originated about the same time—day before yesterday—viewed in the perspective of our race's history. Previous to the Greek civilization books had played no great part in the development, dissemination, and transmission of culture from generation to generation. Now they were to become a cardinal force in advancing and retarding the mind's expansion.

It required about a thousand years for the Greek shepherds from the pastures of the Danube to assimilate the culture of the highly civilized regions in which they first appeared as barbarian destroyers. They accepted the industrial arts of the eastern Mediterranean, adopted the Phœnician alphabet, aud emulated the Phœnician merchant. By the seventh century hefore our era they had towns, colonies, and commerce, with much stimulating running hither and thither. We get our first traces of new iutellectual enterprise in the Ionian cities, especially Miletus, and in the Italian colonies of the Greeks. Only later did Athens become the unrivalled centre in a marvellous outflowering of the human intelligence.

It is a delicate task to summarize what we owe to the Greeks. Leaving aside their supreme achievements in literature and art, we can consider only very briefly the general scope and nature of their thinking as it relates most closely to our theme.

The chief strength of the Greeks lay in their freedom from hampering intellectual tradition. They had no venerated classics, no holy books, no dead languages to master, no authorities to check their free speculation. As Lord Bacon reminds us, they had no antiquity of knowledge and no knowledge of antiquity. A modern classicist would have been a forlorn outlander in ancient Athens, with no hooks in a forgotten tongue, no obsolete inflexions to impose upon reluctant yonth. He wonld have had to use the everyday speech of the sandal-maker and the fuller.

For a long time no technical words were invented to give aloofness and seeming precision to philosophic and scientific discnssion. Aristotle was the first to nse words incomprehensible to the average citizen. It was in these conditions that the possibilities of human criticism first showed themselves. The primitive notions of man, of the gods, and of the workings

of natural forces began to be overhauled on an entirely new scale. Intelligence developed rapidly as exceptionally bold individuals came to have their suspicions of simple, spontaneous, and ancient ways of looking at things. Ultimately there came men who professed to doubt everything.

As Abélard long after put it, "By doubting we come to question, and by seeking we may come upon the truth." But man is by nature credulous. He is victimized by first impressions, from which he can only escape with great difficulty. He resents criticism of accepted and familiar ideas as he resents any unwelcome disturbance of routine. So criticism is against nature, for it conflicts with the smooth workings of our more primitive minds, those of the child and the savage.

It should not be forgotten that the Greek people were no exception in this matter. Anaxagoras and Aristotle felt it prudent to leave Athens, thinking as they did; Euripides was an object of abhorrence to the conservative of his day, and Socrates was actually executed for his godless teachings. The Greek thinkers furnish the first instance of intellectual freedom, of the "self-detachment and self-abnegating vigour of criticism" which is most touchingly illustrated in the honest "know-nothingism" of Socrates. *They discovered scepticism in the higher and proper significance of the word, and this was their supreme contribution to human thought.*

One of the finest examples of early Greek scepticism was the discovery of Xenophanes that man created the gods in his own image. He looked abont him, observed the current conceptions of the gods, compared those of different peoples, and reached the conclusion that the way in which a tribe pictnred its gods was not the outcome of any knowledge of how they really looked and whether they had black eyes or blue, but was a reflection of the familiarly human.

If the lions had gods they would have the shape of their worshippers.

No more fundamentally shocking revelation was ever made than this, for it shook the very foundations of religious belief. The home life on Olympus as described in Homer was too scandalous to escape the attention of the thoughtful, and no later Christian could have denounced the demoralizing influence of the current religious beliefs in hotter indignation than did Plato. To judge from the reflection of Greek thought which we find in Lucretius and Cicero, none of the primitive religious beliefs escaped mordant criticism.

The second great discovery of the Greek thinkers was *metaphysics*. They did not have the name, which originated long after in quite an absurd fashion,[1] but they revelled in the thing. Nowadays metaphysics is revered by some as our noblest effort to reach the highest truth, and scorned by others as the silliest of wild-goose chases. The Greeks found that the mind conld carry on an absorbing game with itself. We all engage in reveries and fantasies of a homely, everyday type, concerned with our desires or resentments, but the fantasy of the metaphysician busies itself with conceptions, abstractions, distinctions, hypotheses, postulates, and logical inferences. Haviug made certain postulates or hypotheses, he finds new conclusions, which he follows in a seemiugly convincing manner. This gives him the delightful emotion of pursuing Truth, something as

[1] When in the time of Cicero the long-hidden works of Aristotle were recovered and put into the hands of Andronicus of Rhodes to edit, he found certain fragments of highly abstruse speculation which he did not know what to do with. So he called them "addenda to the Physics"—*Ta meta ta physica*. These fragments, under the caption "Metaphysica," became the most revered of Aristotle's productions, his "First Philosophy" as the Scholastics were wont to call it.

the simple man pursues a maiden. Only Truth is more elusive than the maiden and may continue to beckon her follower for long years, no matter how grey and doddering he may become.

Let me give two examples of metaphysical reasoning.[1] We have an idea of an omnipotent, all-good, and perfect being. We are incapable, knowing as we do only imperfect things, of framing such an idea for ourselves, so it must have been given us by the being himself. And perfection must include existence, so God must exist. This was good enough for Anselm and for Descartes, who went on to build a whole closely concatenated philosophical system on this foundation. To them the logic seemed irrefragable; to the modern student of comparative religion, even to Kant, himself a metaphysician, there was nothing whatsoever in it but an illustration of the native operations of a mind that makes a wholly gratuitous hypothesis and is victimized by an orderly series of spontaneous associations.

A second example of metaphysics may be found in the doctrines of the Eleatic philosophers, who early appeared in the Greek colonies on the coast of Italy, and thought hard about space and motion. Empty space seemed as good as nothing, and, as nothing could not be said to exist, space must be an illusion; and as motion implied space in which to take place, there could be no motion. So all things were really perfectly compact and at rest, and all our impressions of change were the illusions of the thoughtless and the simple-minded. Since one of the chief satisfactions of the metaphysicians is to get away from

[1] John Dewey deduces metaphysics from man's original reverie and then shows how in time it became a solemn form of rationalizing current habits and standards. *Reconstruction in Philosophy*, lectures i–ii. It is certainly surprising how few philosophical writers have ever reached other than perfectly commonplace conclusions in regard to practical "morality."

the welter of our mutable world into a realm of assurance, this doctrine exercised a great fascination over many minds. The Eleatic conviction of unchanging stability received a new form in Plato's doctrine of eternal " ideas," and later developed into the comforting conception of the " Absolute," in which logical and world-weary souls have songht refuge from the times of Plotinus to those of Josiah Royce.

Bnt there was one group of Greek thinkers whose general notions of natnral operations correspond in a striking manner to the conclusions of the most recent science. These were the Epicureans. Democritus was in no way a modern experimental scientist, but he met the Eleatic metaphysics with another set of speculative considerations which happened to be nearer what is now regarded as the truth than theirs. He rejected the Eleatic decisions against the reality of space and motion on the ground that, since motion obviously took place, the void must be a reality, even if the metaphysician could not conceive it. He hit upon the notion that all things were composed of minute, indestructible particles (or atoms) of fixed kinds. Given motion and sufficient time, these might by fortuitous concourse make all possible combinations. And it was one of these combinations which we call the world as we find it. For the atoms of various shapes were inherently capable of making up all material things, even the soul of man and the gods themselves. There was no permanence anywhere; all was no more than the shifting accidental and fleeting combinations of the permanent atoms of which the cosmos was composed. This doctrine was accepted by the noble Epicurus and his school and is delivered to us in the immortal poem of Lucretius " On the Nature of Tbings."

The Epicureans believed the gods to exist, perhaps because, like Anselm and Descartes, they thought we had an innate idea of them. But the divine

beings led a life of elegant ease and took no account of man; neither his supplications, nor his sweet-smelling sacrifices, nor his blasphemies, ever distnrbed their calm. Moreover, the human soul was dissipated at death. So the Epicureans flattered themselves that they had delivered man from his two chief apprehensions, the fear of the gods and the fear of death. For, as Lucretins says, he who understands the real nature of things will see that both are the illnsions of ignorance. Thus one school of Greek thinkers attained to a complete rejection of religious beliefs in the name of natural science.

9. INFLUENCE OF PLATO AND ARISTOTLE

In Plato we have at once the scepticism and the metaphysics of his contemporaries. He has had his followers down through the ages, some of whom carried his scepticism to its utmost bounds, while others availed themselves of his metaphysics to rear a system of arrogant mystical dogmatism. He put his speculations in the form of dialogues—ostensible discussions in the market-place or the houses of philosophic Athenians. The Greek word for logic is *dialectic*, which really means " discussion," argumentation in the interest of fuller analysis, with the hope of more critical conclusions. The dialogues are the drama of his day, employed in Plato's magical hand as a vehicle of discursive reason. Of late we have in Ibsen, Shaw, Brieux, and Galsworthy the old expedient applied to the consideration of social perplexities and contradictions. The dialogue is indecisive in its outcome. It does not lend itself to dogmatic conclusions and systematic presentation, but exposes the intricacy of all important questions and the inevitable conflict of views which may seem altogether irreconcilable. We much need to eucourage and elaborate opportunities for profitable dis-

cussion to-day. We should revert to the dialectic of the Athenian agora and make it a chosen instrument for clarifying, co-ordinating, and directing our co-operative thinking.

Plato's indecision and urbane fair-mindedness is called irony. Now irony is seriousness without solemnity. It assumes that man is a serio-comic animal, and that no treatment of his affairs can be appropriate which gives him a consistency and dignity which he does not possess. He is always a child and a savage. He is the victim of conflicting desires and hidden yearnings. He may talk like a sentimental idealist and act like a brute. The same person will devote anxious years to the invention of high explosives and then give his fortune to the promotion of peace. We devise the most exquisite machinery for blowing our neighbours to pieces and then display our highest skill and organization in trying to patch together such as offer hope of being mended. Our nature forbids us to make a definite choice between the machine-gun and the Red Cross nurse. So we use the one to keep the other busy. Human thought and conduct can only be treated broadly and truly in a mood of tolerant irony. It belies the logical precision of the long-faced, humourless writer on politics and ethics, whose works rarely deal with man at all, but are a stupid form of metaphysics.

Plato made terms with the welter of things, but sought relief in the conception of supernal models, eternal in the heavens, after which all things were imperfectly fashioned. He confessed that he could not bear to accept a world which was like a leaky pot or a man running at the nose. In short, he ascribed the highest form of existence to ideals and abstractions. This was a new and sophisticated republication of savage animism. It invited lesser minds than his to indulge in all sorts of noble vagueness and

impertinent jargon which continue to curse our popular discussions of human affairs. He consecrated one of the chief foibles of the human mind and elevated it to a religion.

Ever since his time men have discussed the import of names. Are there such things as love, friendship, and honour, or are there only lovely things, friendly emotions in this individual and that, deeds which we may, according to our standards, pronounce honourable or dishonourable? If you believe in beauty, truth, and love *as such* you are a Platonist. If you believe that there are only individual instances and illustrations of various classified emotions and desires and acts, and that abstractions are only the inevitable categories of thought, you would in the Middle Ages have been called a "nominalist."

This matter merits a long discussion, but one can test any book or newspaper editorial at his leisure and see whether the writer puts you off with abstractions —Bolshevism, public welfare, liberty, national honour, religion, morality, good taste, rights of man, science, reason, error—or, on the other hand, casts some light on actual human complications. I do not mean, of course, that we can get along without the use of abstract and general terms in our thinking and speaking, but we should be on our constant guard against viewing them as forces and attributing to them the vigour of personality. Animism is, as already explained, a pitfall which is always yawning before us and into which we are sure to plunge unless we are ever watchful. Platonism is its most amiable and complete disguise.

Previous to Aristotle, Greek thought had been wonderfully free and elastic. It had not settled into compartments or assumed an educational form which would secure its unrevised transmission from teacher to student. It was not gathered together in systematic treatises. Aristotle combined the supreme

powers of an original and creative thinker with the impulses of a text-book writer. He loved order and classification. He supplied manuals of Ethics, Politics, Logic, Psychology, Physics, Metaphysics, Economics, Poetics, Zoölogy, Meteorology, Constitutional Law, and God only knows what not, for we do not have by any means all the things he wrote. And he was eqnally interested, and perhaps equally capable, in all the widely scattered fields in which he labonred. And some of his manuals were so overwhelming in the conclnsiveness of their reasoning, so all-embracing in their scope, that the mediæval universities may be forgiven for having made them the sole basis of a liberal education and for imposing fines on those who ventnred to differ from "*The* Philosopher." He seemed to know everything that could be known, and to have ordered all earthly knowledge in an inspired codification which would stand the professors in good stead down to the day of judgment.

Aristotle combined an essentially metaphysical taste with a preternatural power of observation in dealing with the workings of natnre. In spite of his inevitable mistakes, which became the curse of later docile generations, no other thinker of whom we have record can really compare with him in the distinction and variety of his achievements. It is not his fault that posterity used his works to hamper further progress and clarification. He is the father of book knowledge, and the grandfather of the commentator.

After two or three hundred years of talking in the market-place, and of philosophic discussions prolonged until morning, such of the Greeks as were predisposed to speculation had thought all the thonghts and uttered all the criticisms of commonly accepted beliefs and of one another that could by any possibility occur to those who had little inclination to fare forth and extend their knowledge of the so-called realities of nature by painful and specialized research

and examination. This is to me the chief reason why, except for some advances in mathematics, astronomy, geography, and the refinements of scholarship, the glorious period of the Greek mind is commonly and rightfully assumed to have come to an end about the time of Aristotle's death. Why did the Greeks not go on, as modern scientists have gone on, with vistas of the unachieved still ahead of them?

In the first place, Greek civilization was fonnded on slavery and a fixed condition of the industrial arts. The philosopher and scholar was estopped from fumbling with those everyday processes that were associated with the mean life of the slave and servant. Consequently there was no one to devise the practical apparatus by which alone profound and ever-increasing knowledge of natural operations is possible. The mechanical inventiveness of the Greeks was slight, and hence they never came upon the lens; they had no microscope to reveal the minute, no telescope to attract the remote; they never devised a mechanical timepiece, a thermometer, nor a barometer, to say nothing of cameras and spectroscopes. Archimedes, it is reported, disdained to make any record of his ingenious devices, for they were unworthy the noble profession of a philosopher. Such inventions as were made were usually either toys or of a heavy practical character. So the next great step forward in the extension of the buman mind awaited the disappearance of slavery and the slowly dawning suspicion, and final repudiation, of the older metaphysics, which first became marked some three hundred years ago.