AS IN ALL CIVILIZATIONS, so in the Greek, there had been a long tradition of nonrational belief expressed in myth and realized in religious practices. Fear of the gods and of semidivine powers of earth and sky made itself felt in various rites which are known to every student of ancient religions. Recent investigations into cultural anthropology have discovered the survival of barbarous superstitions among the Greeks as indeed among modern Americans. Sometimes such superstitions were rationalized as symbolic of deeper truths, though in what sense one truth is any deeper than another has never been satisfactorily explained. Sometimes they were held openly as literal accounts of supernatural forces which could influence the lives of men for better or for worse. If we may judge by our own times, there is a nostalgia even on the part of the more sophisticated members of a society for the practices of one's early forebears. As in the history of an art obsolete instruments become beautiful in and for themselves, so it looks as if in the history of ideas the loss of literal truth is balanced by the acquisition of figurative truth and what once was a straightforward statement of fact turns into a metaphor. When
one surveys the history of civilization in Europe, one gets the impression that nothing is lost, but that ideas, institutions, and artifacts are retained by investing them with what I can only call a new significance. If one's ancestors loaded a scapegoat with their sins and put it to death, their children give a god the same horrible function. The survival of armies and their use in settling international disputes, in spite of the clear fact that almost all members of society think of them as ineffectual tools and of their acts as abominations, is as good evidence of the conservation of obsolete instruments as any that could be found.

What is even more curious is that there seems to come a time in the history of a people when the conflict between ideas which can be held with some show of reason and those which are grounded in folklore eventuates in the victory of the latter. One would imagine that when a certain state of education had been reached, folklore and superstition would surrender and thought disciplined by philosophy would take over. But on the contrary the rational way of founding belief seems always to be conquered by the irrational or the nonrational, and such phrases as "the traditions of the race," "the ways of our fathers," "the cry of the blood," are pronounced with such solemnity and heartfelt conviction that they seem to mean more to those who hear them than the theorems of scientists and the syllogisms of the philosophers. Whether this is because people require the sentiment of close attachment to the past, however obtained, or because reason cannot answer all the questions which we ask of it, I do not know. What explanations I have seen all turn out to be the question rephrased in declarative form. Such terms as the Collective Unconscious, the Spirit of the Race, or the Social Memory do have an emotional aura which gives them an explanatory appearance. But one might just as well say that a symbol is retained even when what it used to symbolize is rejected, as to say that it has a deeper meaning stored up in the memory of the people as a whole.

That the intellectual climate of Greece changed after the days
of the early Stoics and Epicureans, that the critical powers of an Aristotle or a Plato became ineffectual in the third century B.C., is common knowledge. But an intellectual climate consists in what people, flesh-and-blood individuals, believe and express. There is no society which ever existed in which all its members were agreed about everything. A cross section of the most enlightened society of today would show a stratification of belief running from the most savage superstition to the most critical philosophies. But nevertheless there is a statistical predominance of certain shared ideas at any time and in any society and it is that which determines the climate in question. One has only to read the newspapers of the United States to see that scientific knowledge is far from having gained a foothold in the minds of most of the people. Pseudosciences, such as astrology and folk medicine, race prejudice, savage religious rites, are probably embedded in the lives of more people than a cool appraisal of evidence. It would be folly to think that higher education could uproot these growths. In the very nature of things higher education can never be spread throughout a whole population. Even if everybody is capable of understanding the more difficult branches of the sciences and philosophy, someone has to do the work of a society, and in actuality more people, vastly more, have to do it than can be engaged in mathematics, astronomy, physics, logic, chemistry, and their companion studies. The educated class never controls a free society, for in the first place it has not the numbers, and in the second, its special work is too absorbing of time and energy to permit political and social control.

But also there is something self-defeating in the rational scrutiny of any area of inquiry. Reasoning is based on premises, on basic metaphors, on ritualized methods of verification, and all of these may turn out to be shaky foundations on which to build a way of life. From one point of view all philosophy is skeptical. Philosophy asks questions not only about the nature of things, the an-

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1 See E. R. Dodds, *The Greeks and the Irrational*, p. 248, for an excellent brief statement of both the disease and attempted explanations of it.
stances to which are the natural sciences, but also about beliefs, experiences, traditions, customs, which are accepted with docility by the people in general. Xenophanes was a skeptic about the theological beliefs of his contemporaries; the Milesians doubted the veracity of their sensory impressions, for otherwise they never would have advanced such a view as that everything was water, or air, or some primordial mixture of things; Heraclitus doubted the stability of what seemed permanent; Socrates doubted the customary definitions of the various virtues; Plato doubted the veneration in which the poets were held; the Sophists were notorious doubters of ethical and political traditions. As soon as a man criticizes sensory experience, he is properly called a skeptic. Philosophy and science as well, for, as everyone knows, there was no distinction between the two in ancient times, feed on doubt. If nothing were doubted, there would be no science and rational inquiry would cease to exist.

But there is another type of skepticism, which is a criticism of knowledge itself, any sort of knowledge, and which in its extreme form maintains that we cannot arrive at the truth. It is an old story, which needs no repetition here, that such skepticism is self-refuting, since it holds to the truth of at least one proposition, the invalidity of all knowledge. But most skeptics have maintained a more limited form of doubt, holding that most knowledge is subject to severe criticism and yet that some beliefs, if only that life requires the holding of certain assumptions, are accepted either for their pragmatic value or for the peace of mind which they will bring one. Sometimes it has been said that such assumptions fit in with the general experience of the race or tribe or social group with which one's lot is cast, and that was more or less the position of Aristophanes in his caricatures of Socrates and Euripides. Sometimes, as in the case of William James, it is held that one has a right to believe in certain ideas, such as the existence of God, though no sound proof could be given for it, on the ground that a man who believed in God would live a better life than one who did not. James never explained how a person could be in-
duced to believe in something which he knew could not be proved. The Abbé Bautain maintained that what one could not justify by reason could be justified by faith. Tertullian in the second century, speaking of the Incarnation, pronounced the famous sentence, *Credo quia ineptum*, as if anyone could believe in something which was based on evidence but only a saint could believe in the logically absurd. Kant was to say that though a belief in the existence of God, the freedom of the will, and the immortality of the soul was contrary to reason, yet we needed such beliefs in order to live a moral life. He never doubted the possibility of being moral in the world as described by science. But it is questionable that, when one reaches such beliefs, one is induced to change one's mind by demonstration. The beliefs in question, vague as they are in meaning, are ground into one in childhood and the force of habit makes one cling to them with devotion.

Again, the idea that the experience of the race as a whole is worth more than the experience of any individual is not an implausible doctrine, assuming that one knows what racial experience is. If all people have believed in gods, incest taboos, the superiority of their own tribe to all others, then such beliefs may be held to be identical with common sense. Common sense was said to be the test of some truths by the Stoics, the French Traditionalists at the end of the eighteenth century, and the Scottish philosophers who followed Reid. But this differs little from the notion that the value of a work of art is to be determined by something called the Judgment of Posterity. When a literary critic says that Homer, Vergil, Dante, and Shakespeare have always been admired and that therefore they are among the greatest of Occidental poets, what is he doing other than basing his opinion on the collective opinion of a group? The appeal to authority in religious, ethical, and aesthetic matters is a commonplace, nor does the appeal actually involve counting each and every nose, but only those noses which have been sniffing at the questions at issue. There is no logic in this, to be sure; if there were, no one would appeal to
authority, to tradition, to common sense. No serious person ever maintained that in matters of fact, such as the shape of the earth, the atomic weights of the elements, the velocity of light, the average rainfall of Java, one should look in the books and see what mankind has always thought about them. But in matters of policy, questions of better and worse, there is a certain justice perhaps in first discovering what the consensus has been. If there has been a consensus, it may be wise to follow it, if only for the sake of social peace. And if social peace is more desirable than discussion and the steady illumination of the problems of life, then there is all the more reason to pursue it.

There are some problems, such as the squaring of the circle or the invention of a perpetual motion machine, which have been proved to be insoluble. People who persist in working for their solution are usually given bad names. No one at the time of my writing these lines, to take another type of example, has discovered a formula for the occurrence of the prime numbers, but still, one imagines, there are mathematicians working away at one. It has not by any means been proved that such a formula is undiscoverable. To refuse to bother one's head about the former type of problem would be wise; to turn away from the latter would be foolish. But periodically there have appeared on the philosophic scene men who, contemplating the disagreements of philosophers, have maintained that there was nothing but sorrow to be gained from such investigations, and they saw no value in making themselves miserable over matters which could only eventuate in misery. Socrates, for that matter, when he turned away from cosmological questions to ethical questions, presumably did so because the former could do nothing toward the betterment of life. Whenever men put peace of mind ahead of the search for truth, regardless of the field of inquiry in which it is to be found, they take much the same point of view. If the proper study of mankind is man, its propriety is measured by its proximity to man's immediate problems. If at the present time someone says that it

\*\* No one, that is, except the Legislature of the State of Tennessee.
would be more important to work for international peace than to explore the interplanetary spaces, he would not be saying anything foolish. But if the two major adversaries could use their energies in traveling through the heavens, it might divert their attention from killing off the human race. Unfortunately what they learn from their astronautical adventures will probably be put to military use anyway and one can understand the attitude of Candide in such cases, cowardly as it may appear.

There was, then, in Greek tradition much that would make for skepticism. There was the criticism of the senses which proved misleading in many situations: that form of skepticism was part and parcel of scientific inquiry. There was also skepticism about traditional mythology; the treatment of Homer as a mythographer whose stories must be interpreted allegorically is evidence of this. We have already referred (Chapter 2) to the debate between Apollo and the Furies in the *Eumenides* of Aeschylus, which illustrates the ethical problems which the favoritism of the gods aroused. Euhemerus, whose writings are lost, explained away the gods as culture heroes whose benefits had been so great that men deified them after their death. Among the sayings of Socrates we find the famous sentence interpreting the oracle which had pronounced him the wisest man in Greece: he was the wisest only because, whereas others knew nothing but thought they knew something, he alone knew nothing and knew that he knew nothing. In the early Platonic dialogues he is portrayed as a questioner, not as a dogmatist. But the very method of the dialogues, with its pros and cons, its satirical intention, its failure often to reach any solution of the problem which it had set out to investigate, could

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3 Later, rulers rather than culture heroes were deified during their lifetime. Dodds, *op. cit.*, p. 258, n. 32, gives the Greek text of a poem written by Hermocles on the occasion of the deification of Demetrius Poliorcetes. It runs:

Other gods are far distant,
Or have no ears,
Either they exist not or pay no heed to us,
But you we see before us,
Not wood nor stone, but real.
lead men to take a skeptical attitude toward many questions. Moreover, if all we can know is that with which we were endowed before birth, then why do more than try to bring that endowment into light? Finally, if knowledge is the contemplation of eternal ideas embedded in sensory objects, why do more than look and see? I am not saying that Plato himself would have approved of any of these inferences; in fact, I am fairly sure that he would have disapproved of them, but that does not mean that others took his point of view. In fact, as we shall see, his own school, the Academy, became the stronghold of skepticism.

The kind of skepticism in which we are interested here is that which results from a rational criticism of reason itself. This form of skepticism could not but fortify the other types.

I

Skepticism as an accepted name for a philosophy is usually said to begin with the mysterious figure of Pyrrho, one of the many ancient philosophers who did no writing. A fourth-century figure, his one aim seems to have been peace of mind. The earliest testimony to his philosophy, if we omit the eulogies of his disciple, Timon, comes to us from Cicero, who lived about three hundred years later than the man whom he was discussing. Cicero is not an exceptionally gifted thinker; he was after all a lawyer, a man who wrote in his book on duties (De officiis ii. 51) that one need have no scruples against defending a guilty person unless he be nefarious and impious. “The Multitude desire this, custom suffers it, humanity indeed permits it.” And he adds, “I should not dare write this, especially since I am writing about philosophy, except that it had been in agreement with that most serious of the Stoics, Panaeitius.” To his way of thinking Pyrrhonism had long been exploded. If so, there would seem to be no pressing reason to mention it, and indeed Cicero tosses the Skeptics aside as he does

4 De officiis i. 6; De finibus ii. 35, v. 23; Tusculanae disputationes v. 85.
the views of everyone with whom he happens to disagree. Yet there are hints of what Cicero believed to be the tenets of Pyrrhonism here and there. For instance, he tells us (Academica ii. 130) that according to Pyrrho, the Sage does not even feel those things which are indifferent morally but lives in a state of apathy. In the Tusculan Disputations (ii. 15) we learn that in agreement with Zeno and the dissident Stoic, Aristo, he held that pain was indeed an evil but that other things were worse. In the De finibus (ii. 43) we are told that he again agreed with Aristo in saying that there was no choice between the best of health and the most serious illness, that (iii. 11) all things were of equal value, that (iii. 12) the honestum "was not only the highest good but also the only good," that (iv. 43) Pyrrho's conception of virtue leaves nothing whatsoever to be sought for, though it might be replied that if peace of mind or apathy is the end, then we ought to seek for peace of mind.

Such snatches are not very rich in content. They tell us simply that according to a person who thought the views discreditable Pyrrho was essentially a moralist, that he saw nothing to choose between one value and another, and that virtue (the honestum) was the one and the highest good, though if it were the one good the adjective "highest" would be replaced. We have then to turn to a later authority and happily possess one in Sextus Empiricus, who not only did not think Pyrrhonism an exploded and rejected doctrine, but actually believed in it. Since Sextus lived in the latter part of the second century A.D., something must have occurred to keep the life in skepticism for one hundred and fifty years after the death of Cicero. A partisan of a philosophic or other doctrine is not usually its best historian, but in the absence of anyone else, we must rely mainly on Sextus.

See, for instance, his treatment of Epicurus. In De natura deorum i. 72, he speaks of Epicurus, Quae . . . oscitans halucinatus est; in ii. 46, he says that he was a person non aptissimus ad iocandum minimeque resipiens patriam; and earlier in the same work (i. 61) he asks, Quid dixit quod non modo philosophia dignum esset sed mediocr prudentia? But the indexes to any edition of Cicero will provide copious examples of his sectarianism.
Sextus opens his *Outlines of Pyrrhonism* by saying that there are three main kinds of philosopher: the Dogmatists—Aristotle, Epicurus, the Stoics “and some others”—who believe that they have discovered the truth; the Academics, Clitomachus and Carneades, to whom we ourselves must add Arcesilaus, who maintain that it cannot be grasped; and the Skeptics, who continue to seek it. Hence the skepticism which is upheld by Sextus is not the denial of the utter impossibility of knowledge. The skeptical way of thinking may be called (i. 7) either “investigative” or “suspensive” or “dubitative,” from its persistent search for answers, its suspension of judgment, or its habit of doubting. It has taken the name of Pyrrhonism from Pyrrho’s more weighty and more manifest application of the method. The Skeptic is essentially the man, he says (i. 8 ff.), who can test appearances by judgment and suspend judgment when there is no more probability on one side of a question than on the other.Appearances are simply sensory impressions, our perceptions, and they are opposed to noetic objects, our concepts. The distinction between sensation and thought was obviously traditional and was to continue into postclassical philosophy. But Sextus is thinking of the judgments which we make about perceptions or on the basis of perceptions, not on the sensory components of perception. If, for instance, we have come to a conclusion which is a generalization from a number of sensory impressions, we then test a new experience by applying to it that generalization in order to see whether the two agree or not. This process of comparison, Sextus is careful to say, may be applied to two impressions or to two judgments as well. In short the agreement between impressions, judgments, and generalizations is the test for reliability which he uses most frequently. This is surely an acceptance of the Law of Contradiction in extended form and, when utilized as a criterion of reliability—or truth for that matter—it turns reason against itself.

It is at this introductory moment that Sextus (i. 12) gives us the reason why the Skeptic behaves in this manner. He does so “in the hope of attaining calm” (*ataraxia*), a term also used by the
Epicureans. Presumably the ancient philosophers were more subject to unrest and perturbation when confronted by unsolved problems than the moderns. "Men of great innate ability, since they were troubled by the conflict in things and doubting which side they ought to agree with, came to seek what is the truth about things and what falsity, so that by the decision they would acquire calmness of spirit. The source of the skeptical program is above all the confronting of every proposition with an equally true proposition, for from this we believe we come to the point of no longer dogmatizing."

Pyrrho's disciple, Timon, is reported by Eusebius, via Aristocles (Praeparatio evangelica xiv. 18. 2), to have believed that there were three subjects of inquiry: (1) What sorts of things exist? (2) What attitude ought we to take toward them? (3) What benefit is there in them for us? Now one might imagine that the inevitable answer to the first question would be at least a classification of things, let us say, into material and immaterial, animate and inanimate, terrestrial and celestial. But not at all. Pyrrho, if Timon is right, was thinking of good and evil, and he replied to the question by saying that things appeared to be equally "indifferent and unstable and undecided" and "because of this opinions are neither true nor false. Consequently one ought to put no faith in them but be without opinion and without inclinations and unmoved, saying of each thing that it no more is than is not, or that it both is and is not, or that it neither is nor is not. Those behaving in this way, says Timon, will benefit by attaining first the ability not to speak and after that calm of spirit." It will be obvious that the epistemology behind this attitude is not unlike that of Gorgias, though the motivation is quite different. But Timon, as reported by Eusebius' report of Aristocles, gives us none of Pyrrho's reasons for his beliefs and we can only guess at them. One thing stands out, however, and that is that once again knowledge of the unstable seems to be impossible. Knowledge is still thought of as a mirroring of a stable object. Plato was willing to go as far as saying that one might reach true opinion of the sensible world,
but even Aristotle, so often hailed as a great empiricist in contrast with his master, maintained that there could be no knowledge of particulars.

The indifference of things, their instability, and their lack of "decision" in all probability meant that one thing was no better than another, no more fixed in the realm of Goodness than in that of Evil, no more capable of inducing one to decide in its favor than against it. For if what he was seeking was calm, to be attained by silence, he was not thinking of the metaphysical character of things but of their relation to the good life. That may justify Cicero's statement of the indifference of good health and serious illness, to which we have already referred. Men may prefer health to sickness, but in the scheme of things one is as good as another. So the Stoics preached resignation to whatever befell one; one might as well be resigned, since there was nothing which could undo the past. The apathy or calm or silence which resulted might seem like a kind of bovine stupidity, but, according to Diogenes Laertius (ix. 69) whom I quote reluctantly, among the Skeptics it resulted in gentleness. This quality of gentleness was the absence of anger and the refusal to condemn anything. When achieved, it was not much different from Stoic apathy; but it resulted from an entirely different cause. For the Stoic, like Spinoza later, reached his goal by understanding the causal law; once you knew why things happened, you would lose all emotional disturbances concerning them. You would neither rejoice over nor regret whatever might happen. But the Skeptic, believing that such understanding was always illusory, since it could not really be reached, accepting the inevitable state of ignorance, ceased to worry.

This did not prevent Timon, whatever may have been true about Pyrrho, from castigating other philosophers in the most scurrilous manner. It was he apparently who invented the story that Plato had bought the books on which he based the *Timaeus* and to which he made no acknowledgment.\(^6\) Zeno the Stoic is

\(^6\) This is reported by Aulus Gellius, iii. 17.
described as a fussy old Phoenician woman in the shadowy gloom; she limps along holding her little fish basket, with a mind less able than a musical instrument which no one is playing (Diogenes Laertius, vii. 15). In fact, Eusebius reports Aristocles as saying that Timon railed at all philosophers except Pyrrho (Praeparatio evangelica xiv. 18. 6). This is hardly a spirit of either calm or gentleness. Moreover, in spite of his skepticism, in his Indalmoi (Images), as quoted by Sextus (Adv. math. xi. 20), he speaks as any other philosopher, saying, "Now I shall relate how things appear to me, possessing an account which is a correct criterion of truth, telling how the nature of the divine and the good lives forever, from which the most balanced life proceeds for mankind." One wonders whether the emphasis in these lines is put on how things appear to Timon or on the correct criterion of truth. Since the verses are quoted by Sextus, it is unlikely that they are presented in a wrong light. He cannot be claiming an insight into a truth which transcends appearance, and if he is simply telling us what criterion is embedded in phenomena, then it seems unlikely that they would give us any evidence of an eternal divinity or goodness. Moreover, in another fragment (Diogenes Laertius, ix. 105), he is quoted as saying, "But appearance prevails over all, whatever its source." Putting the two passages together, we may perhaps interpret them as maintaining that whatever criterion of truth exists, it will be found in appearances, and that one can base a theology and ethics on appearances which will supplant that based on dogma. But this is a fairly wild conjecture and is offered as no more than that.

7 Literally, this is "less able than 'what-you-will'" and is usually translated as a musical stringed instrument. The word is used, according to Liddell and Scott, "when one is uncertain about a word." But, assuming the meaning of a musical instrument, a musical instrument is stupid unless someone is playing it.
Athenian philosophy in the Middle Academy developed another skeptical tradition. We have seen how the Early Academy went in for metaphysical constructions whose foundations were largely allegory and number mysticism. The Middle Academy, whether because its members were disgusted with such vaporous phantasms or because they thought they were reverting to what they believed to be the true spirit of Platonism, turned to doubt. Sextus (Outlines of Pyrrhonism i. 1. 3) distinguishes between the Academics and the Pyrrhonists on the ground that the former flatly denied the possibility of reaching the truth, whereas the latter kept searching for it. Cicero in his book on the Academics (i. 4. 17) maintains that both the followers of Aristotle and those of Plato had “composed out of the fertility of Plato a certain fixed formula of doctrine, and this in fact was full and copious as well, but on the other hand they abandoned the Socratic manner of discussing problems in the light of universal doubt and the refusal to assert anything. The result of this was what Socrates would in no way have approved of, a certain art of philosophizing and an order of subjects and outline of doctrine.” Arcesilaus, the first of the skeptical Academics, may have been reacting against this dogmatism. For in the treatise On the Nature of the Gods (i. 5. 11) we find Cicero presenting Arcesilaus as one who followed Socrates in giving forth no positive assertions. If, in spite of Cicero’s weaknesses as a historian, we accept his accounts, we may also attribute to Arcesilaus the view that all sensory appearances are false (De natura deorum i. 25. 70). If all such appearances are false, then we might be expected to turn to purely conceptual knowledge, such as might be thought to be discoverable in mathematics, in their place. But this was not the way of Arcesilaus.

On the contrary, whether because he did not accept the Intel-

8 He is also inconsistent with what he said elsewhere—or what he was going to say—that Skepticism was an exploded doctrine; and he continues by adding that, though in Greece it had no longer any adherents, yet usque ad nostram viguit aetatem.
ligible World at all or because he thought all ideas were derived from perceptions, he simply maintained that we must suspend judgment (Academica ii. 18. 59). For what would be more absurd than to give assent to the unknown? In fact, he is reported, again by Cicero (i. 12. 45), to have maintained that "nothing whatsoever can be known, not even that which Socrates had retained"—to wit, that he knew he knew nothing. "Thus all things he thought were hidden in darkness, nor is there anything which can be either perceived or understood, wherefore nothing ought to be either asserted or approved of and one must always restrain one's rashness and prevent any lapse from restraint, for such rashness would be too obvious, should something either false or unknown be asserted, nor is there anything more shameful than for assent and approbation to run ahead of knowledge and perception. To this way of reasoning he was faithful, so that, arguing against the opinions of all men, he induced most to accept his point of view; consequently, when equally strong points were found for both sides of the same question, it was easier to withhold assent from either."9

It is clear that when a man says that appearances are false, he must have some criterion of falsity. But it might also be argued that, if one has a criterion of falsity, one must also have a criterion of truth. When Arcesilaus withholds assent from propositions both sides of which are equally probable, he is only being prudent; there is simply no sense in accepting or rejecting a proposition if the evidence pro is equal to the evidence con. It is certain, as Aristotle says, that you will be alive or dead tomorrow, but it is not certain which you will be. Today the chances are that you will more likely be dead than alive tomorrow, but after all we need not stickle at that. In such a case no assent can be given to either

9 Though it reduces Cicero's authority as a reporter, it should be pointed out that he then proceeds to say that this point of view is in harmony with that of Plato, "in whose books nothing is affirmed and many things presented on both sides of a question." The second clause is accurate, but how would the first apply to the Symposium, Timaeus, Republic, Laws, Phaedrus, Ion, Apology, Crito, or Phaedo?
alternative and suspension of judgment is certainly appropriate. But if we maintain that all knowledge is false, we are saying something quite different. I am merely raising the question of how one knows that it is all false rather than true.

On the other hand, once one has accepted the Law of Contradiction, one has at least a criterion for distinguishing between consistent and inconsistent sets of propositions, and if one is convinced that two propositions are contradictory or imply contradictory conclusions, one has at least that much ground for refusing to give assent to the pair. That fact alone would not prove that neither of them was true or false, for of two contradictory propositions, one may well be true. But if, alongside of their evidence of contradiction, a person also knows that the probability of each being true or false is the same, then all he can do is to reserve judgment. The matter is complicated by the question of the status of perception. Perceptions are always of individuals, never of universals, pace Santayana. This was agreed upon by all. Assuming that one would be able to put such perceptions into words, a manifest impossibility, for some words in any declarative sentence are bound to be universals, then one could not have any knowledge of a perceptual nature and no perception could ever contradict another. If at this moment I am suffering from the heat, that clearly is not contradicted by the proposition that earlier today I did not suffer from the heat or that later today I shall not suffer from the heat. Hence if Arcesilaus really believed that all phenomena were false, he may simply have meant that none was truer than any other, since all of them, when verbalized, would have to include date and place and respect. And since no two dates and places and respects, when attached to a given individual, are ever the same, clearly one would have to revise one's theory of truth in order to call any of them true or false.

Arcesilaus, we are told by Sextus (Adv. dogm. i. 150 f.), did not lay down any criterion. Combating the Stoics with their notion of self-evidence, the cataleptic image, he pointed out that fools as well as sages find certain beliefs self-evident and compell-
ing. If the catalepsis occurs in a case of perception, it is worthless, since one assents not to perceptions but to judgments. One cannot assent to anything which says nothing, and *red*, *hard*, *sweet* are inarticulate until they are incorporated into judgments. But the Stoic doctrine did apparently maintain that the cataleptic images were perceptual and the proper thing for the Stoics to do was to withhold assent. But at the same time Arcesilaus maintained something which is almost incredible in view of what we have already said. For he went on, again as Sextus tells us (i. 158), to hold that in all matters of choice and rejection, the wise man will follow that which is "reasonable" (*eulogos*) and that in so acting he will follow the right course. "For happiness comes from wisdom, and wisdom resides in right living, and right living is whatever is done with a reasonable justification. He then who pursues the reasonable will follow the right course and be happy." But we are given no indication of what the reasonable was or how it was discovered. This in fact gives some support to Sextus' comment that in reality Arcesilaus was a dogmatist (*Outlines of Pyrrhonism* i. 33, 234) and induced his pupils to doubt in order to instill into them "the dogmas of Plato." As the Chimaera of Homer (*Iliad* vi. 181) was a lion in front, a serpent in the rear, and a goat in the middle, so, said Aristo the Stoic, Arcesilaus was Plato in front, Pyrrho in the rear, and Diodorus the Megarian in the middle. This may well be a just estimate of him.

III

Carneades, a second-century figure, was also "head" of the Academy. There is a story in Lactantius (*Inst. div. v.* 14) to the effect

10 C. J. De Vogel in her *Greek Philosophy, a Collection of Texts* (Leyden: Brill, 1959), par. 1105, p. 199, says, "Surely this is not what was taught by Arcesilaus, but we may infer from the passage that A. replied to Stoic opponents saying that sceptics do have a rule for practical life in the eulogon, and that happiness, *which according to the Stoics is the end of life*, depends on it, since it is attained by phronesis." (Italics in text.) Arcesilaus may not have taught that happiness was the end of life, but the weakness of his position lies in his use of any criterion of choice whatsoever.
that when Carneades was on a mission to Rome, he debated on
the nature of justice in the presence of Galba and Cato the Censor.
On one day he gave all the arguments in favor of justice and on
the morrow all those against it—one would like to have seen the
faces of his Roman auditors as he did this. If the story has any
truth in it, he would have been a sort of Sophist to whom argu-
ment was a game and truth a matter of little importance. This may
have been the case, for according to Sextus (Adv. dogm. i. 159) he
maintained that there was absolutely no criterion of truth what-
soever, neither reason, nor perception, nor imagination. "For all
these deceive us collectively." But here again he does not tell us
what he means by "false" or deceptive, or how, if there is no cri-
teron of truth, one could possibly tell whether anything is false or
not. One learns that one is deceived by testing a statement with
what one knows is true. And, as a matter of fact, in practice
Carneades did have a criterion of truth, for he admitted that the
main trouble with perception was that sometimes its objects were
true and sometimes false. It was our inability to tell which is which
that puzzles us. This inability arises from our failure ever to pene-
trate the perceptual screen to whatever it is which it conceals.
But he does believe that it conceals something. If there is no self-
evidence in any of our perceptual experiences, then clearly we
have to devise some criterion which is not embedded in percep-
tion. To the Stoics that criterion was the cataleptic impression. To
David Hume, who took much the same starting point as that of
Carneades, it was the vivacity of impressions as contrasted with
what he called ideas, faint copies of impressions. To Descartes it
was the clarity and distinctness of our ideas, grasped apparently
by the "natural light." But none of these solutions would have
been satisfactory to Carneades, for the simple reason that they
too are criteria relative to the observer, fools being as convinced
of the truth of illusion as sages are dubious of it.

Carneades was not willing to leave the field to fools and sages
indifferently. He admitted that, as we have said, all images (sensory
impressions) are images of something—this he must have taken
for granted—and that something is both the sensible object (that from which the image comes) and the perceiving mind (that in which it occurs). But from here on his discussion, as presented by Sextus (i. 168 f.), becomes more cloudy. In relation to the perceived object, the image may be true or false, "true when it is harmonious with the perceived object, false when it is discordant with it." The crux of the matter is our ability to spot the harmony and the discord. Whether this is accomplished pragmatically, that is, by acting as if the presentation was harmonious and seeing what happens, I do not know. The example he gives is that of Orestes' mistaking his sister, Electra, for one of the Furies. But this will not do, since there was no way for Orestes while seeing the girl to know that she was not one of the Furies. We, who are on the outside of the situation and know that he was suffering from a hallucination, can easily tell that the experience was hallucinatory. But this begs the question. Carneades had no difficulty in saying that the hallucination was not harmonious with the object, that is, with Electra, but Orestes was not confronted with both his sister and his hallucination at the same moment and hence could not make the comparison, even if he had known what tests of harmony to apply. Hence Carneades reverts to something very like the Stoic catalectic impression, if not identical with it. If the impression is obscure, owing to the smallness of the object or to its distance or to the weakness of one's vision, then it cannot be trusted; if it is forceful and clear, then it is the criterion of which we are in search. But again, while one is presented with a perception, it will appear obscure only in reference to other similar impressions which were clearer, but that takes us well beyond the immediate experience in question. Carneades seems to recognize the extension of experience in time, for he says, once more in the words of Sextus (i. 173 f.), "when it is extended, one impression becomes more probable and more vivid in kind than another." It would seem then that, as in Hobbes, the repetition of a given kind of impression reinforces itself, presumably on the analogy of a habit. To paraphrase the conclusion, one might say that a repeated
impression, remembered to be like others, leads us to project a sort of objectivity into it. It becomes true. But this again is not unlike the theory of prolepsis. “In fact,” he concludes, “our judgments and our acts are tested by what happens on the whole.”

To this general criterion Carneades adds others. First (i. 176), he recognizes the fact that no impression occurs in isolation, but always in a context. It will be both probable and linked to others. Thus one does not simply see a man, but one also perceives his complexion, size, shape, motion, speech, in surroundings of air, light, day, heaven, earth, friends, “and all the other things.” When all these appear to be harmonious, we believe the more strongly in what we see. The harmony here might seem to be the harmony between the whole cluster of impressions; for instance, if we see the man in the daytime, we ought to be able to see also the color of his eyes, or if we see Socrates surrounded by other men, they ought to be his friends. But this is not the meaning of Carneades. On the contrary, he says that we know already what to expect of Socrates, and the harmony in question is that between what we are seeing now and what we expected to see. Sextus’ own example is drawn from his profession, medicine, and he points out that no diagnosis is made on the basis of one or two symptoms, but from a concurrence of symptoms. But here again one first knows what symptoms to look for, the concurrence of which is a sign of the disease which one suspects the patient to have, and the harmony is between one’s prolepsis and what is before one. This is doubtless a reasonable procedure, but it must nevertheless be pointed out that it could never arise out of immediate perceptions by themselves.

11 Cf. the frequently repeated Aristotelian slogan that the natural is that which happens on the whole. Since the truth is that which happens “according to nature,” the criterion of Carneades is not much different from the Aristotelian idea of the natural. My use of the date of a man’s experience in criticizing Carneades’ criterion of harmony is derived from A. O. Lovejoy’s The Revolt against Dualism (2d ed.; La Salle: Open Court, 1961).

12 R. G. Bury’s translation in the Loeb Classical Library is “irreversible.” But, though his knowledge of Greek is much greater than mine will ever be, the sense of the passage is that a perception occurs grouped with others.
Furthermore, if one is going to invoke the aid of memory or learning, then one has to devise some criterion of its truth also.

A third test, which is more trustworthy and the “most perfect,” produces judgment. It is contextual and is applied bit by bit. One runs through all the details of the configuration of impressions to see whether any of them are possibly false, as if one were applying the fourth stage of the Cartesian method. These details include the ability of the judge to see clearly, the medium in which the object is seen, and the object itself. The medium may be too dark, the distance at which it is seen too great, the time of looking at it too short, and so on. To cite but one example (i. 187), a man entering a dark room sees a coil of rope and jumps over it thinking it to be a snake. But finding that it does not move, he starts to think that maybe it is not a snake. But then he reasons that snakes sometimes are motionless when cold, and tests his tentative conclusion by poking at it with a stick. He then decides that it is not a snake after all. Here once more the judging subject has an idea in his mind of what a real snake should be, sees something which looks like a snake, tests it by his already-acquired knowledge of how true snakes behave. His perception is whatever it is; it is his judgment which turns out to be false. But its falsity is not demonstrated by any immediate experience; it is demonstrated on the contrary by the consistency of a set of judgments. The situation is as if he had framed the following set of propositions.

(1) I am seeing a snake.
(2) But this object is motionless and all snakes move.
(3) But snakes are motionless when cold.
(4) Yet when poked with a stick, a snake will move.
(5) I poke it.
(6) It still does not move.
(7) Therefore it is not a snake.

In what sense of the word this exhibits a harmony of images, I leave to others to decide. Yet Carneades, in view of his sorites proving that there are no gods, would surely have rejected my
version of his argument. He apparently thought that what was discordant was the complete set of impressions and not the judgments based upon them.

We should perhaps say a word about Carneades' sophistic arguments, which are also reported by Sextus, but as they add nothing to the development of the tradition whose evolution we are attempting to describe, we shall omit them.

IV

It was generally believed that without sensory impressions there would be no judgments, that in the final analysis all ideas are based upon perceptions. But perceptions were notoriously untrustworthy. Aristotle in his *Metaphysics* (1009b) had indicated some of their weaknesses, and Aenesidemus in the first century B.C. proceeded to systematize the bases of their untrustworthiness in his famous *tropes*. Carneades had said that color changes according to the percipient's age, state of health, whether he is dreaming or awake, the time of day, and so on (*Adv. math.* vii. 411–414). But Aenesidemus gives us a series of details which were incorporated into the epistemologies of almost every thinker who doubted the truth of sensory impressions. They are listed in Sextus (*Outlines of Pyrrhonism* i. 14. 36) and in Diogenes Laertius (ix. 79–88). We suspend our prejudice against the latter for this occasion and cite his version of them, since it is more detailed than that of Sextus and does not disagree with it. Perceptions then vary among individuals because of the following individual differences.

(1) *The difference among animals in regard to pleasure and pain, the harmful and the helpful*. "From this it may be concluded that they do not have the same impressions [as we] and that therefore in such arguments [as those about pleasure and pain] one should adopt a suspension of judgment."

13 See the sorites in *Adv. dogm.* iii. 182.
14 See *Adv. dogm.* iii. 138 ff.; also, Cicero *Academica* ii. 29. 95, 30. 98.
The natures of men and their peculiar temperaments. "Thus Demophon, the butler of Alexander, was comfortable in the shade but shivered with cold in the sunshine."

Conflicting impressions of two or more senses. "Thus an apple will look green but taste sweet and have a pleasant color. [Cf. Sextus Outlines of Pyrrhonism i. 94.] And the same shape, because of the difference in mirrors, seems different." In short, to what sense is one to give preference? Which mirror reflects the true shape?

Fluctuations in disposition, such as health, disease, sleeping, waking, joy, grief, youth, old age, courageousness, fear. All of these will influence our sensory impressions, and every perceiver has some disposition of which he cannot rid himself.

Education, customs, traditional beliefs, national conventions, and philosophic assumptions. These give rise to different notions of beauty and ugliness, truth and falsity, good and evil. They determine our ideas of the gods and the genesis and destruction of all phenomena. In short, no perceiver can emerge out of his educational background and see everything afresh and as if for the first time. His judgments therefore will be determined by that background and are in themselves no more than a reflection of it.

Mixtures and compounds. Nothing appears purely or in accordance with its own peculiar nature. It is always in the air, in a certain light, in moisture or dryness, heated or cooled. But all these details influence the way the object will be perceived and it cannot be perceived entirely removed from any physical environment.

Distances, positions, places. The size, shape, smoothness, straightness, and color of objects vary with the distance at which they are seen, the position in which they are placed, the angle from which they are viewed. This, by the way, is pretty good proof that the Greeks knew more about perspective than their medieval successors.

The quantity and quality of an object, whether it is hot or
cold, its velocity, whether its color is pale or variegated, will all
determine the way in which it will be perceived.

(9) If an object is familiar or strange or rare, it will be perceived
differently from the way in which it would be perceived if it were
commonplace. Aenesidemus exemplified this by earthquakes and
sunshine: people who are used to earthquakes do not wonder at
them, nor do we wonder at the sun since it shines during the day
and we are used to it.

(10) The relation of things to one another, the light in relation
to the heavy, the strong in relation to the weak, the better to the
worse, the up to the down, determine how we shall perceive them.
Many of our perceptions are precipitated out of relational
schemata and we overlook the fact that when we feel something
to be heavy, it is because it is heavier than something else which
we are accustomed to. Thus nonrelational terms have their origin
in relations. The comparisons we have made are forgotten and we
judge the terms out of relation.

These ten tropes are grouped into three types by Sextus (Out-
lines of Pyrrhonism i. 14. 38): one which is based on the perceiving
subject, whether an animal or man, whether this sense organ or
that, whether the subject is healthy or sick or otherwise; the sec-
ond, which is based on the object about which a judg-
ment is being made, its quantity and qualities; the third, on a composition of the
two, for such matters as spatial relations and mixtures are dyadic
relations subsisting between subject and object. Sextus then pro-
ceeds to investigate in detail the various tropes. Though his ar-
rangement of them is not the same as that of Aenesidemus, we
shall roughly summarize what he has to say in his order, thus
making reference to his text easier.

Of the differences among animals, in so far as these differences
affect perception, one may infer, he says (i. 14. 40), that since
some are produced spontaneously from fire (the salamander?),
others from putrid water, others from vinegar, others from mud,
others from rotting meat—my list is incomplete but will serve as
a sample—it is likely that the dissimilarities and differences in mode of birth should produce equal dissimilarities and differences in what they perceive. The same would be true of animals produced through sexual union, or animals born from eggs or born alive, like men. Why this should be true may seem puzzling to the modern reader, but it should be remembered that the element, earth or water or air, out of which an animal is spontaneously produced would determine its “nature” and the question of whether we perceive like by like was by this time settled in the affirmative. Thus, though I am embroidering upon the text of Sextus, an earthly animal would be less capable of perceiving fiery, aqueous, and aerial things than an animal in which those elements were congenital. As for the animals, like men, who are born through sexual union, they come into the world predominantly either hot or cold, moist or dry, though some contain all the elemental qualities. Even men, it should not be forgotten, may be predominantly sanguine or melancholy, bilious or choleric, though the other humors will usually be present also. To do full justice to Sextus, one can say that if he failed to point this out in detail, it was because his contemporaries took it for granted. The question of how anyone knew whether the various origins of animals determined their perceptions or not, we can omit discussing. It was one of those *a priori* principles which even skeptics do not question.

As for differences in sense organs and other organs, he points out that men who suffer from jaundice say that what we see as white, they see as yellow, and men whose eyes are bloodshot see the same things as blood-red. “Since then of the beasts, some have yellow eyes and others bloodshot eyes, and some have transparent eyes and others eyes of other colors, it is likely, I think, that they perceive colors differently” (i. 14. 44). He then mentions a case of negative afterimages, the supposed nocturnal vision of some animals, optical illusions, such as those produced by pressing on one eyeball. Since mirrors can distort visual objects because of their diverse shapes, so the lenses of the eyes must change them
also according to their shapes.\textsuperscript{15} Hence it is likely that dogs, fish, lions, and men have visual perceptions which vary in size and shape. Similar differences should be expected in the case of the other sensory organs, for they all differ in their constitution. We can also learn something of the varieties of perceptual experience from the likes and dislikes of the various animals (i. 14. 55). “Sweet oil appears very pleasant to men, but to beetles and bees it is intolerable; olive oil is beneficial to men, but when it is poured on wasps and bees, it is destructive; sea water to men is a disagreeable and poisonous drink, but fishes find it very agreeable and potable.” Pigs prefer to wallow in the mire rather than to bathe in clean water. Some animals eat grass, others bushes, others are shrub eaters. Some live on seeds, some on flesh, some on milk. The paragraph is a compilation of all the curious feeding habits, repugnances, desires of the various animals, which were of so much interest to the ancients, who seem to have thought that according to Nature food should be uniform and behavior as well. But concludes Sextus (i. 14. 58), or Aenesidemus through Sextus, “If the same things are unpleasant to some and pleasant to others, and the pleasant and unpleasant reside in perceptions, then different perceptions arise in animals from the underlying objects.” We see once more that the existence of an underlying object was not doubted.

This being so, we retain our ability to express our human impressions, but we have no evidence of the “nature” of things and must suspend judgment about it. For we have no way of appraising our impressions as superior to those of the beasts in so far as they are reliable witnesses to reality. In fact, there is reason to doubt their superiority in all cases. The dog, for instance (i. 14. 64), has more acute vision than we have, better olfaction and hearing. Moreover, it chooses the agreeable and avoids the disagreeable; it possesses the art of hunting; it recognizes friends and

\textsuperscript{15} Visual impressions were generally supposed to be a function of a beam which flowed out of the eye and met a beam which emanated from the object.
distinguishes between them and strangers—witness the recognition of Odysseus by his dog Argus—and it can also reason, using "the fifth complex indemonstrable syllogism." Then follows one of the most famous animal stories in European intellectual history, used constantly to prove the intelligence of the beasts well into the seventeenth century. The story was originally told by Chrysippus. A dog tracking his prey comes to a triple fork in the road. (For reasons not given, the prey in question held to the road instead of darting off into the woods.) The dog sniffs down the first branch without scenting his quarry, then the second with similar results, and then without sniffing dashes down the third. He therefore must have said to himself, "My prey went by this road, or by that, or by the third; it did not go by the first two; therefore it must have gone by the third, and I do not have to sniff at the road to prove this." But this is not the end of canine talents. The dog can relieve his suffering, removing thorns from his pads and when a foot hurts, he raises it and limps along on the three others. He knows enough to eat grass when he needs an emetic. He is in short as virtuous and intelligent as man and, as far as his sensory powers are concerned, he is better-equipped than we are.

So much as a sample of the comparison between men and beasts. But we next come to differences among men, who differ from one another in both soul and body. The argument is the same. Individuals vary as much in what they perceive and in what they like as men and beasts do. Who then is to be chosen as the critical man? What individual has perceptions which are the standards for all perceptions? Not only that, but there is a striking disagreement among the testimony of the various senses themselves. Paintings look to the eye as if they were in relief, but to the touch they are felt to be flat. Honey tastes pleasant to some but it looks unpleasant. Most objects, moreover, are likely to be a complex of different sensory qualities. The apple, cited by Diogenes Laertius, seems smooth, odorous, sweet, and yellow.

Does it have all these qualities in itself, or has it one quality which varies according to the sense which perceives it? The issue becomes still more complicated when one brings in the condition of the observer, conditions which may be natural or unnatural: age, motion or rest, confidence or fear, grief or joy. All such conditions are accompanied by perceptions which are peculiar to them and once more we are in the situation of not being able to set up one condition which is more authoritative than any of the others. Are the young man's perceptions or the old man's correct, the well man's or the sick man's? Since there is no way of finding a person who is not in some condition at the time of perceiving something, it is a hopeless task to select any single condition as determinative of truth. There is hardly any need to go painfully through the long list of individual variations in perceptions for they all come down to the same thing: perceptions vary with a set of circumstances which are inescapable and of which none are uniform. The only reasonable solution is suspension of judgment.

There are two or three observations about this argument which are of some interest, for the dispute still is pertinent in empirical circles. First, if we really are confined to our impressions which are so variable, where did the idea of a permanent underlying or real object come from? That things have their own nature independent of anyone's perceptions is never doubted by any of the Skeptics. They simply conclude that, whatever it is, it is unknowable. Assuming that their premise of what R. B. Perry felicitously called the egocentric predicament was true, would it not be impossible for anyone to have the idea of such a nature? Upon what would it be based? Certainly not upon the stream of perceptions. Yet we do have the idea. If, however, all ideas reflect perceptions, it must come from perceptions. And it cannot do so.

Second, what is the basis for the argument that we are confined to the perceptual screen? This is a universal proposition and, if Aenesidemus is right, there could be no grounds whatsoever on which such a proposition could be erected, and, what is more, there would be nothing but accident which would ever give
anyone the idea that universal propositions existed. Each man would be confined to his own special idiosyncratic world nor would he ever discover this, since even the people with whom he might be talking would be merely his perceptions, as far as he could tell. To know that people vary in what they see according to age, health, acuity of perception, and so on, is to have compared them with one another, to have accepted bona fide their reports on what they perceive, to have communicated with them as if they were as real and independent as one is oneself. But the moment one communicates with another person, one accepts at least the possibility of interpersonal meanings of both terms and sentences. It would seem wiser to follow Pyrrho and learn to say nothing. Certainly it would make no sense to say that what I taste as sweet you are tasting as bitter, for there would be no evidence of the existence of any one thing which would be sweet or bitter, of anything, that is, which might be the “underlying object” in which such qualities inhere. At most one might conclude that two tastes have been reported on a given occasion.

Third, regardless of underlying objects and real natures, it seems to be assumed by Aenesidemus that there ought to be agreement in our reports of what we severally observe. There ought to be some way for men to “get together,” as if it were anomalous for a group of human beings to have conflicting impressions. But ever since the publication of the Double Words it had been known that people neither believe nor feel the same things. The Skeptic could at most note this and perhaps indicate the conditions under which the differences arise. This would be a protopositivism and no question about the reference of the observations to anything beyond or below or above them would be relevant. But apparently the tradition that all qualities inhered in stable external objects was too strong to be resisted and, by accepting it, the Skeptic was confronted with a problem which did not emerge from his positivism but from the tradition against which it was a protest. The Skeptic, it would seem, should not have suspended judgment about real natures, but should have denied their existence. As far
as the ethical problems were concerned, the question of good and evil, justice and injustice, that is still being debated in terms which Aenesidemus himself laid down. But here again, one might reasonably ask why anyone should imagine that all men ought to find the same acts good and evil. That there might be more chances of social harmony if men did agree in their moral judgments—and acted in accordance with them—is probably true. But, if one is laying down the foundations for a system of “values,” it seems absurd so to construct it that it will conflict with all the facts of valuation which are known.

To return now to Aenesidemus, he was not satisfied with denying the interpersonal validity of perceptual judgments; he also attacked the current methods of causal explanation. As reported by Sextus (Outlines of Pyrrbonism i. 17. 180), this concept can be tested by Eight Tropes. First, since all causal explanations deal with unperceived beings, there is no perceptual evidence for them. Presumably here he is assuming that “real” causes, or perhaps the causal influence itself, the transmission of power from cause to effect, are never perceived. Similarly Malebranche and Hume were to deny the empirical nature of causation some centuries later, a denial on which Kant was to build still later. Second, there is a tendency always to look for one cause of each type of event, whereas there is always the possibility of explaining any event in a variety of ways. For instance, though Sextus gives us no examples of a multiplicity of causes, if a man is shot down in the street, is the cause of the shooting, which could not have occurred unless the assassin happened to meet his victim, to be found in the chain of events which brought the assassin to that spot at that time or in that which brought the slain there? Is it to be found in the psychological condition of the assassin or in something done previously by the victim which brought on that condition? If we define the cause as that in the absence of which the event would not have occurred—we are talking here of a particular event and not of a class of events—one can see that the number of such things is very great and any one of them would do. Third,
the causalists assign to orderly events causes which are not ordered. This would seem to rest upon the assumption of a parallelism in the order of causes and effects, or it may mean simply that in a series of events which occur in a determinate order, such as the fall of rain and subsequent growth of vegetation followed by decay, the Dogmatists who are under attack introduce one cause for the fall of rain, such as the intervention of Zeus, another for the growth of the vegetation, such as some vital principle in the seeds, and a third for the decay of the vegetation, such as the summer’s drought. In this case, if it be one of which Sextus or Aenesidemus would approve, the first series is orderly, one factor following another in observable regularity, whereas the second is disorderly in that three different and unrelated causes are invoked. Fourth, the Dogmatists project into the unperceived world the linkages of the phenomenal world, whereas no one knows—or can know—how the world beyond phenomena proceeds. Without accepting the distinction between phenomenal and subphenomenal worlds, one can see that there is always a tendency to universalize the formulas which describe the known world so that they will be applicable to that which lies beyond its frontiers. Thus it seems strange and indeed incredible to some that the dynamics of the macroscopic world, the world of billiard balls, should not be true of the subatomic world. It has been pointed out by Hunsaker\(^1\) that in the early period of aeronautics it was taken for granted that, since air was a fluid, it would follow the same laws as water. But it was discovered that the laws of hydrodynamics could not be transformed into those of aerodynamics. The “unknown” in these sentences of mine is clearly not the unknown of Aenesidemus, but the principle may well be the same. Fifth, and this seems too severe a criticism, the Dogmatists “explain things according to their own hypotheses about the elements, rather than according to common and generally accepted methods” (i. 17. 183). But

what common and generally accepted methods were there in the first century B.C.? Or, if it is Sextus who is in question, in the second century A.D.? It seems a bit unfair to blame a theorist for trying to apply his own methods since he believes them to be right and proper. Sixth, and this was to be repeated by Bacon, they neglect negative instances. Seventh, they are often self-contradictory. Eighth, and this too was one of Bacon's criticisms of his contemporaries, they try to explain the unknown by things equally unknown.

Whether Aenesidemus was attacking a particular school of philosophers, as Bréhier thought, the Stoics and Epicureans, or all aetiological explanation, need not disturb us. For there are no details available on other types of explanation dating from this period, though we may surmise that Peripatetics and Platonists still existed and published their thoughts. We can see by an examination of his criticisms that he believed (1) that all explanations should be confirmed by observation; (2) that one should admit the possibility of multiple causes; (3) that the causes assigned to a series of events should exhibit some order, though not necessarily the order of the problematic events; (4) that one should work from generally accepted hypotheses; (5) that attention should be paid to negative instances; and (6) that an explanation should be at least as certain as that which is being explained. We shall see below that Sextus attacked the very idea of causation and shall postpone a discussion of his personal views for the time being. But as far as Aenesidemus is concerned, the questions which emerge from his criticisms are (1) whether causality is observable or not, and (2) whether there are any generally accepted methods. We shall see that Sextus himself did not believe in the possibility of observing causation, and if the Stoics and Epicureans disagreed with this, and if the Peripatetics were still teaching and writing—and they were—and since primitive Neoplatonism was flourishing along with all

sorts of theological and pseudotheological schools, and since the new allegorical method was being extended from the interpretation of texts to the interpretation of nature, and since belief in sacred texts which by their very nature were incontrovertible was spreading, then if the criticism comes from Sextus, he must have been thinking only of his own empirical method in medicine. But the germs of this chaos were already present in the time of Aenesidemus.

The remaining critical comments of Aenesidemus need not occupy us much longer. He argued against the objective existence of good and evil on the ground of man’s disagreement over what they are. Men all agree (Sextus Adv. math. xi. 42) that the good is what appeals to them, but they differ on what this is. They agree that a woman should be well formed, but disagree over what beauty of form is. And indeed one might think that at least in matters of sexual attraction taste would be uniform. Analogous disagreements pervade the whole area of valuation, and since the good is what men find good and there can be no superhuman standard of goodness, then arguments about the “nature” of good and evil are futile. Nothing could be true in the opinion of Aenesidemus unless most people agreed about it. This was as true of matters of fact, the sensible world (Sextus Adv. dogm. ii. 8), as of matters of policy. He was willing to assert, in spite of his Ten Tropes, that “some things appear to all in common and some only to an individual,” and the former are true. But he does not, as Sextus reports, tell us what such things are. As Bury points out in the introduction to his translation of Sextus, “Aenesidemus was not consistent in his Scepticism.” This is

19 This might seem to be one of the strangest features of human nature. Leaving the Greeks out of the discussion, one has only to look at a series of paintings of the female nude, from Botticelli, through the Mannerists, Rubens, Boucher, Ingres, Delacroix, Courbet, to Matisse and Picasso, to see how taste in women has changed. See, for example, the illustrations in Kenneth Clark, The Nude, a Study in Ideal Form (New York: Pantheon Books, 1956), esp. chaps. 3 and 4. It is true that Sir Kenneth is speaking of ideal form as contrasted with real nakedness. But actually a reference to the book is superfluous, for if anything is commonly accepted, it is that men’s taste in women varies.

no doubt true, but some of the blame may lie on the shoulders of his reporter.

V

It is with a sense of relief that one turns to a man whose writings are extant in bulk and for whose views we need not turn to secondhand reports. The works of Sextus Empiricus (second century A.D.) have survived in large measure and were frequently copied. Since skepticism was one of the most potent forces in the breakdown of ancient rationalism and therefore as part of the praeparatio evangelica, a person who would understand exactly what happened to the intellectual life of the pagans would do well to study Sextus with care. We shall not repeat all of his arguments in detail, but confine ourselves to those criticizing the criterion of truth, the "real" existence of good and evil, and the concept of causality. For clearly it is these three which are the main supports of any rational philosophy.

To begin with, Sextus makes a distinction between what I shall call validity, that is, logical consistency, and truth (Outlines of Pyrrhonism ii. 12. 138). This distinction is easily grasped, for we can all construct syllogisms, similar to those used by Sextus, which exhibit no formal fallacies and yet are not true to fact. Sextus' example is, "If it is night, it is dark; but it is night; therefore it is dark." This argument is valid, but since it actually is not night, the conclusion, though it follows from the premises, is false. But Sextus goes further and tries to show that the categorical syllogism is always a petitio principii (ii. 13. 163). He gives this example: "Socrates is a man; all men are animals; therefore Socrates is an animal." "If it is not immediately evident," he says, "that everything which might be a man is also an animal, the universal premise is not accepted, nor shall we grant it in the argument. But if it follows from the fact that a man exists and is also an animal, and therefore the premise, 'All men are animals,' is admittedly
true, then at the same time that we say that Socrates is a man, we also agree that he is an animal too, so that this very argument suffices, 'Socrates is a man; hence Socrates is an animal,' and the premise, 'All men are animals,' is superfluous." This criticism was to be repeated in the nineteenth century by John Stuart Mill. Its cogency, as is well known, depends on whether we take the major premise in extension or in intension. If in extension, we should theoretically have to include Socrates in our survey of men before we could phrase the universal proposition. But if the meaning of "man" is "rational animality," we might not know that humanity implied animality, and, since no one ever argued in this fashion anyway when he wished to discover something, but engaged in syllogisms exclusively as a technique of exposition, the categorical syllogism could still serve as a corrective of thinking. But Sextus is looking for formal arguments which are both valid and true at the same time and which also imply conclusions which were not evident at the start, but emerged from the premises (ii. 12 143). This has turned out to be a demand impossible to satisfy, unless one reduces all formal reasoning to sets of tautologies. In such reasoning one substitutes terms for other terms with which they are synonymous and produces, as in the words of Henri Poincaré, a cascade of equations. But no such arguments have existential import, though one can of course always insert an existential postulate as one pleases.

Sextus also attacks all five forms of Stoic reasoning, hypothetical syllogisms in the affirmative, hypothetical syllogisms in which the minor is denied and therefore the major, disjunctive syllogisms with both an affirmative and a negative minor, and conjunctive syllogisms with a negative major. These too seem to Sextus to beg the question (ii. 13. 159). Thus if we argue, "If it is day, it is light; but in fact it is day; therefore it is light," the antecedent either is agreed upon or is not self-evident. But if it is not self-evident, it will not be accepted; if it is evident, then why go to the trouble of drawing the conclusion from it, for the conclusion is superfluous? Hypothetical syllogisms then suffer from the
same weakness as categorical syllogisms, and this could, as a matter of fact, be tested by rephrasing them in the categorical form. Sextus makes no apologies for using hypothetical syllogisms in his proof of their circularity.

The question then resolves itself into finding some criterion of the truth of direct apprehensions or perceptions. We have already seen how Aenesidemus handled this question. Sextus adds little if anything to his predecessor. The problem is stated in this form (Adv. dogm. i. 25): Does there exist a criterion of things directly perceived or grasped by reasoning, and next is there a way of demonstrating by signs or by proof the existence of things not evident? If no such criteria exist, then the best we can do is to suspend judgment. Man, he says, is a truth-loving animal and moreover the most comprehensive philosophic schools act as arbiters on the most important problems. We have a vital interest then in discovering a criterion if one can be discovered.

The criterion, he says (i. 29), has two references, first to our acts, second to our assertions.21 Taking them up in that order, Sextus emphasizes the fact (Outlines of Pyrrhonism i. 11. 21) that the Skeptic does not deny that the appearances are appearances of underlying objects; the question is whether the latter are what they appear to be. He orders his life in accordance with the phenomena in the following fourfold set of rules. First, he is guided by Nature; second, he is under the control of the emotions;22 third, he conforms to traditional customs and manners; fourth, he is taught by the lessons of the arts. The guidance of Nature is the guidance of perceptions and thought; the control of the passions is exemplified by our giving in to hunger and thirst; tradition leads us to regard piety as good and impiety as bad; the arts in which we are skilled have taught us to apply them as useful. “But,” he says (i. 11. 24), “we say all these things un-

21 In Outlines of Pyrrhonism ii. 3. 15 ff., three references are given.
22 ἐν ἀνάγκῃ παθῶν. Bury translates, “in the constraint of the passions,” but does this mean “disciplining the passions” or “being constrained by the passions”?
dogmatically." The first two rules are clearly descriptive: we cannot live without perceiving things and thinking about what to do; nor can we live without eating and drinking. The second two, however, are regulative: we ought to follow tradition and we ought to profit from the arts. We recognize the demands of our nature as men and we have the power to modify our behavior for our good. But all this is only a modus vivendi the end of which is "calm (ataraxia) both in our opinions and in the moderation of our feelings toward the inevitable." Since he does not believe that anything is good or bad by nature, he remains unperturbed and does not worry about the course of events, taking calmly what the gods provide. The Dogmatists, on the other hand, make themselves miserable not only by arguing, but also by pursuing the good and avoiding the bad. The Skeptic is not in a state of absolute calm, for (i. 12. 29) there are certain experiences which are inevitable, such as feeling cold and thirst. But even here he is less disturbed than those who believe these evils to be rooted in the natural order. The Pyrrhonic tradition of seeking peace by the suspension of judgment thus continues unbroken. But even in its origins it was a surrender of the reason to the irrational.

The achievement of suspension of judgment arises through "the opposition of things" (i. 13. 31). The Skeptic opposes phenomena to other phenomena, thoughts to other thoughts. Phenomena are opposed when one notes that a tower which appears round at a distance, appears square close at hand. Thoughts are opposed to thoughts when the argument to the existence of Providence from the order of the heavenly bodies is met by the reflection that the good often fare badly and the evil well. From here he passes on to an exposition of the Ten Tropes. These in his opinion show not only that there is no such thing as self-evidence of the truth, but that, since all thoughts derive from phenomena, there can be no self-evident premises of formal arguments. For if there is no way of knowing that two people are experiencing the same

23 The noo mena of which he speaks are not of course Kant's things-in-themselves.
thing, regardless of their verbal reports, how can we know whether their judgments mean the same thing? And in view of such perplexity, one can only suspend judgment.

The criticism brought against the Skeptics of that day as well as of our own is that Skepticism is a self-refuting theory. If nothing is true, then Skepticism itself is not true. But Sextus clearly did not hold so extreme a form of Skepticism. He knew what a self-refuting position was (ii. 13. 185). But "since we do not think that any reasoning is certain and do not in every way say that those [arguments] in accordance with formal rules are not certain but that they appear probable to us," we are not in a condition of self-contradiction. "Those [arguments] that are probable are not necessarily certain" (ii. 13. 187). The probability of which he is speaking is of course not calculable probability, but psychological probability, i.e., that which seems plausible or convincing. What he is trying to avoid is dogmatism, by which he meant the conclusions of the systematic philosophers which went well beyond phenomena. Such conclusions he lists (Adv. dogm. i. 46) in so far as they concern the nature of a criterion. The list shows that philosophers are divided on this question, as they are on all others. But differences in opinions do not prove that none of the different opinions is right. At least one of his examples, that of Xenophanes, shows that the philosopher in question was not doubting man's ability to attain truth in every field, but only in regard to "reality." It is interesting to see how the notion of the two worlds survives even in those writers who believe that one of them is unknowable.

Sextus, as we have said, also turns his critical powers on the conception of causality. He follows his usual technique, to begin with, in pointing out the general disagreements about the meaning of the concept (Outlines of Pyrrhonism iii. 6. 13). He points to the three kinds of causation, which oddly enough correspond roughly to what is demonstrated by three of Mill's canons: "effective" or conclusive causes, the presence and absence of which are followed by the presence and absence of the effects, and varia-
tions in which are followed by variations in the effects; accessory
causes, which accompany other causes, being insufficient in them­
selves; and associate causes, which contribute a slight influence to
produce the effect. He is still thinking of causation in terms of
force exercised upon a patient, if one may judge from his exam­
ples. It is only the first type which is of any interest, since the
other two, which might have been conditions without which
the first type would be inoperative, turn out to be nothing more
than efficient causes of less than sufficient power. Sextus is willing
to grant “that the existence of causality is probable” (iii. 5. 17),
for, he says, “How could there be increase, decrease, genesis,
destruction, motion in general, each of the physical and psychical
effects, the ordering of the whole cosmos, and all the other things
if they did not occur in accordance with some cause? And even
if none of such things exists in the natural world, we shall say that
it is because of something that they appear to us in every way
to be such as they are not. Furthermore, anything could come
from anything whatsoever, were there no cause. For instance,
horses might come from flies, perhaps, elephants from ants.” Other
absurd events are cited to show that there is an order in nature,
repeated series of regular events, which to him, at any rate, re­
quire explanation in terms of something to which their regularity
is attributable. There is, to be sure, a paradox here, but one which
has been overlooked by all who use natural order in, for instance,
the cosmological proof of the existence of God as a First Cause.
For traditionally, when things move regularly in what has been
established as their normal condition, no reason is sought: reasons
are asked when the regularity is interrupted. But when philoso­
phers begin to talk about the world as a whole, the cosmos, the
universe, Nature as a single system, then the regularity seems to
demand an explanation. Sextus is aware that he is speaking of a
special kind of causality, the cause of universal order, for he
immediately proceeds to criticize the concept of causality when
it is applied to things this side of the whole.
“It is impossible,” he says (iii. 5. 20), “to conceive of a cause
until one has apprehended its effect as the effect produced by it.” For when we say that something is a cause, we have to think of what effect it is the cause; it cannot just be a cause of anything in general. And furthermore, when we think of something as an effect, we have already in the back of our minds that of which it is an effect. Thus, to use an example of our own, if we think of rain as a cause, we also are thinking of that which it causes, e.g., the sprouting of seeds; and when we say that the seeds have sprouted as the effect of something, and are not simply observing that they have sprouted, we have already supplied the rain in our minds as the cause. We are caught again in a circular argument, for we have broken up a long event into two parts, the first of which we call the cause and imagine that it exists as if cut off from other things, the second of which we call the effect since it has been cut off from the first. This can be done since, to revert to our example, it may rain without any germination of seeds, as in the late autumn, though the seeds, we may grant, will not germinate without rain or some other form of moisture. My language may well be anachronistic, for it looks as if Sextus was thinking of separated causal and effected beings, not of incidents in a total event. But the principle is the same and the criticism well taken, if we are willing to grant that we are dealing with our idea of causality and not with any specific causal series. On the other hand, Sextus does examine the relative dates of cause and effect (iii. 5. 25 ff.). People say, he continues, that the cause must exist either prior to the effect or simultaneously with it or after it. The third possibility he dismisses as ridiculous, though the teleological tradition might have given him pause, for the final cause never exists until the event is completed, except “potentially.” As for its priority, causation is a relation—of two terms—and things which are related have to be thought of together. (But do they have to exist together, synchronously?) But if the cause has to exist along with the effect, then it cannot bring the effect into being, for it would have to exercise its causal power before the effect came into being, in order to be its cause. The upshot of all this is that
we have no clear idea of causality and should suspend judgment when it is being discussed.

One might imagine that Sextus had already given the Dogmatists enough to occupy them, but he had not yet finished. Among the other dogmas which he attacked was the idea of motion as something caused by movers. This involves us in an infinite regress (iii. 10. 67), for whatever thing causes another thing to move must also be in motion, motion which will demand its moving cause in turn, and so on. I have found no discussion of the Unmoved Mover as a cause which acts by attraction and we may perhaps take this as evidence either that Sextus had not read *Metaphysics* xi, or that he thought the idea frivolous, or that he was unable to combat it. Nor have I found any reference made to Aristotle's thesis that something can touch something else without being touched by it.24 If he had accepted the former of these ideas, he might have found a way out of the infinite regress. By accepting the latter thesis, he might have been able to accept also the idea of an unmoved mover, for if a mover is untouched, it is unmoved and the regress stops at it. I put more emphasis on this than may seem reasonable, but I do so because it is another indication of how little interest Sextus has in Aristotelianism. In fact, the references in his works to Aristotle are very few. Nor are they to what we think of as the salient doctrines. For instance, he is referred to as saying that length without breadth is conceivable,25 that a Thasian existed who thought he always saw an image of a man walking in front of him.26 He gives (*Outlines of Pyrrhonism* iii. 19. 137) Aristotle's definition of time as the measure of motion or rest, but is not sure that it does not come from Strato; he quotes him (*Adv. dogm.* i. 7) as saying that Zeno the Eleatic was the founder of dialectic and that Empedocles first studied rhetoric. He says that along with Theophrastus and other Peripatetics, he distinguished between the criteria of per-

24 *De generatione et corruptione* 323a 33.
25 Cited nowadays as fr. 29 (Rose); Sextus *Adv. dogm.* iii. 412.
26 *From Meteorologica* iii. 4; Sextus *Outlines of Pyrrhonism* i. 14. 84.
ception and of the intelligible (i. 217); that the number of Aristotle's adherents is as great as that of the Epicureans (i. 328); that Aristotle said that the conception of gods arose from men's observation of psychic and celestial phenomena (iii. 20). He makes a reference (ii. 33) to the Physics (iv. 5) and to De caelo (270b 6), and (ii. 37) to Categories (15a 14), on the six kinds of motion (or change). But in general his references show no detailed knowledge of Aristotle, and several of his references are from secondary sources. This may be an indication that Aristotelianism was a philosophy which had lost its hold on men's imagination by the end of the second century A.D., in spite of Sextus' remarks on the number of its adherents. Bréhier seems to be right in thinking that the target of his attack is the Stoics and, after them, the Epicureans.

If that is so, one of the reasons why he is interested in attacking the idea of causality is that the Stoics with their deterministic metaphysics and the ethical views which they based upon it would find their whole intellectual structure undermined if causality were proved to be unsubstantiated. The Epicureans were less vulnerable, for they believed in chance, though they made little of it. Their thesis that everything could be explained as falling atoms rested upon the hypothesis, announced much earlier by Democritus, that only atoms and the void were real. As a matter of fact, this doctrine should have proved helpful to Sextus, since it showed that our perceptions never tell us anything reliable about reality. But since it was held as a dogma and could not be proved, Sextus refrained from accepting it, as he refrained from accepting any dogmas about imperceptibles except as working hypotheses or as conventions which might or might not be true. Regardless of that, one can see that by his attacks on all metaphysical theories, on criteria of both perceptual and intellectual knowledge, on the doctrine of causality, he opened the door for any kind of nonrational belief that might care to enter. If there was any one thing which the rationalists stood for, it was the pursuit

27 Again a supposed fragment (fr. 10 in Rose).
of reason whithersoever it might lead them. From the days of Xenophanes down to Cleanthes and Epicurus, philosophers had found the one corrective to unfounded opinion, superstition, and dogmatism in the rigorous application of the rules of logic, as they knew them, to any thesis that might be advanced. The skepticism of Sextus was itself a rationalistic technique and, whatever he may have said against the weakness of syllogisms and other logical devices, he himself used them all when he needed them. There was nothing else, other than flat dogmatic assertion, that he could do. But the hunger for rationality and the love of truth were not so strong as the desire for escape, peace of mind, calm, and possibly salvation, and these could not be found in reason. Reason could tell one whether such ends were worthwhile perhaps, but it demanded a kind of devotion which was fatiguing, disturbing, and difficult.

It is curious that the first uses of the rational method, as found in Socrates and the Eleatics, possibly even in the early Sophists, seem to excite the Athenian intellectuals rather than to depress them. Though argument was used for satirical and destructive purposes, as it always has been, it was, at least among philosophers, a help to the creative imagination, restraining it when it tended to become too fantastic and yet suggesting new roads upon which it might venture. We know too little about the Milesians and the Pythagoreans to say more than that they translated the ancient myths of cosmic birth and decay into rational language. But when we come to the figures of Heraclitus, Parmenides, and Democritus, we meet with that independence of mind which seems to us characteristic of the great scientific investigators. The double role of reason, that of criticism and that of construction, was played wholeheartedly by them, and apparently the mere fact that a belief was traditional did not give it special plausibility. The same may be said of both Plato and Aristotle. One may not accept the theory of Ideas, but the problems which it strove to answer remain our problems; they are not simply quaint notions
that some antique thinker fabricated as one would tell a story or write a poem. If we still read with fascination the Platonic myths, it is not with the same kind of interest that we read the myths preserved in Ovid’s *Metamorphoses*; on the contrary, we have an uneasy feeling that they embody in concrete form philosophic ideas too difficult to expound in scientific language. And as for Aristotle, it would be insulting to any possible reader of these words to point out for him the contribution of the *Metaphysics*, the *Nichomachean Ethics*, the *Politics*, or even the *Poetics*, to the incorporated thought of the West. None of this means that the ancient rationalists saw our peculiar problems, to say nothing of solving them. But they did establish the rules of the game which we are still playing. Aristotle, for instance, clarified certain methodological assumptions which are rejected only after the most careful analysis. It is not out of a sense of piety to the past that we go back to him and to his master, but rather because we cannot avoid using their methods and puzzling over their problems. It is not so much a matter of their having found the right answers; many of their conclusions are absurd. But granted their premises, the conclusions usually follow. Moreover, the premises are intelligible. We know what Democritus meant by atoms, just as we know what Aristotle meant by purpose. The atoms of the former are not the atoms of Dalton nor are the purposes of the latter the purposes of Freud. But the meaning of the two terms is clear and what follows from their use is not shrouded in clouds of metaphor.

I am far from suggesting that reason creates its own premises, provides its own data, spins out of itself the questions which it tries to answer. I understand fully that no system of thought can be erected without basic metaphors, without observation, without the perception of problems, without myth, if one wishes. Even a mathematician has to know what he is trying to demonstrate before starting the process of reasoning. But nevertheless the rationalistic method is the only one which is self-correcting. By

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accepting as a rule of thought the Law of Contradiction, for instance, there is no escaping its power. One turns it upon oneself from moment to moment to restrain the flights of the imagination, to discipline one's power of invention, to supervise one's conclusions. The Skeptics did good service no doubt in calling men's attentions to fallacies both formal and material, but they did not and could not prove the unreliability of all knowledge. Nor did they even see the weakness of their own position. As a matter of fact, skepticism is symptomatic of a state of mind rather than a philosophic position. No one of any philosophic importance had maintained that there was absolute certainty to be found in his tenets. Most philosophers had recognized the indemonstrability of premises, the relativity of sensory perception, if not the difficulties in the notion of causality. But they had at least the courage of their convictions and continued the pursuit of truth. Philosophy began to totter as soon as someone gave it a moral, rather than an intellectual, purpose. For when one engages in an intellectual enterprise for peace of mind, the good of the state, or the greater glory of God, one tends to lose sight of one's errors and easily lapses into dream. This is amply illustrated in the rise of philosophic sects, the acceptance of authority, the justification of sacred texts.