# Part One

# Problems in Epistemology

# Introduction to Part One

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*Epistemology* is that branch of philosophy that is concerned with the nature, scope, and justification of knowledge. The question, "What do we know and how do we know it?" is a simple way of expressing most of what epistemology deals with. The chapters in part one of this volume, explore the historical roots of six epistemological problems related to this all-important question: the problem of skepticism, the structure of justification, the internalism/externalism debate, the question of whether or not religious beliefs require evidence, the question of what science can tell us about reality, and the problem of the scope of possible scientific explanations.

## Skepticism

The first, and perhaps most weighty, question in the field of epistemology is the question of whether or not we have any knowledge at all. *Skepticism* answers in the negative: we have no knowledge. Chapter one includes selections from the two most influential and widely quoted historical sources that challenge our claims to know.

First is Sextus Empiricus's *Outlines of Pyrrhonism* which defends what is called *Pyrrhonian skepticism,* a view that denies that have any knowledge whatsoever. According to Sextus Empiricus (2nd century A.D.?) and Pyrrho of Elis (360 – 270 B.C.) who inspired him, for any proposition that we might believe, there is an equally plausible proposition that asserts the opposite. So, when confronted with any knowledge claim, the appropriate response is to suspend judgement—to neither affirm nor deny the proposition in question. This is the only way, say Sextus and Pyrrho, to have peace of mind.

Second is the "First Meditation" in Rene Descartes's (1596 – 1650) *Meditations on First Philosophy*. Descartes presents the less radical, but no less serious, *Cartesian skepticism*. This form of skepticism is primarily concerned about our alleged knowledge of the external world. Descartes points out that, for any claim that we perceive some "external world" object, there are alternative explanations for what we think we perceive. Perhaps I'm actually asleep right now and the tree I seem to perceive is actually part of a dream that I'm having. Therefore, it would seem that none of our beliefs about the external world can be justified.

## The Structure of Justification: Foundationalism Vs. Coherentism

A difficult epistemological problem is knowing under what conditions our beliefs are justified. An important aspect of that problem has to do with the *structure of justification*. At least some of the things we believe depend upon other things we believe. For example, some beliefs are inferred logically or probabilistically from other beliefs. Some beliefs are explained by others. The way a person's beliefs are related via these (and other) kinds of connections is called a *noetic structure*. Let's just say then that a person's noetic structure is his entire set of beliefs together with the logical and explanatory relations among those beliefs.

The philosophical problem addressed in chapter two is the problem of understanding how a person's noetic structure should ideally be arranged so that his beliefs are justified. In the history of philosophy there have been two major theories for understanding the structure of justification. The first is called *foundationalism*. According to foundationalism, the ideal (or justification-conferring) noetic structure is hierarchical or "tree-like" with beliefs at the foundation or "roots" that are immune (or at least resistant) to doubt. Other beliefs are then "built-up" from these

foundational beliefs and are justified in virtue of ultimately being based on or traceable back to (through logical and explanatory connections) those foundational beliefs.

The second theory for understanding the structure of justification is *coherentism*. For the coherentist, the ideal noetic structure is "web-like." Every belief in the "web" depends for its justification in some way on every other belief. For the coherentist, there are no foundational beliefs that are not based on other beliefs. Rather, beliefs are justified if they cohere with—i.e., are consistent with and explained by—all the other beliefs in a person's noetic structure.

Most epistemologists in the past and today have held to some version of foundationalism, however. Chapter two therefore consists of Descartes's *Sixth Meditation* in which he argues for the existence of mind-independent material objects. Beginning with his famous *cogito ergo sum* ("I think, therefore I am"—see chapter eight), Descartes argues for the existence of God, an all-powerful, all-knowing, and morally perfect being. On these two foundational premises—his own existence and God's existence—Descartes attempts to establish the reliability of his sensory faculties which appear to present to him an external world filled with material things. Descartes's *Sixth Meditation* is included here not only because it offers a fascinating (albeit controversial) solution to the external-world skepticism he introduced in the *First Meditation*, but it is also a grand example of *classical foundationalism*—an early form of the theory that seeks to ground knowledge on absolutely certain foundations.

## Internalism Vs. Externalism

Another crucial aspect of the justification of belief and its role in acquiring knowledge is the debate over internalism and externalism. *Internalism* is the view that justification and/or knowledge depend upon our having "internal access" to the grounds of our knowledge. Such

internal access can take many forms (remembering, seeing, an argument, an experiment, testimony, etc.), but the key idea is that the grounds of knowledge are somehow accessible to the knower.

*Externalism* is the view that justification and/or knowledge depend upon "external" factors that make the belief in question likely to be true. Whether the knower has access to the grounds of his or her knowledge is irrelevant. Such external factors might include, for example, the fact that your belief was produced in you by a reliable belief-forming mechanism such as vision or memory.

The historical works in chapter three include a brief selection from Plato's (427 – 347 B.C.) *Meno*. This passage is often cited as one of the earliest examples of an internalist account of knowledge. Here Socrates (469 – 399 B.C.), Plato's mentor, argues that what distinguishes mere opinion from knowledge is *having a reason* for one's belief. Only by "working out the reason" can an opinion be stable enough to count as knowledge.

The second historical selection is the more recent classic by Edmund Gettier (1927 – ), "Is Justified True Belief Knowledge?" Traditionally, going as far back as Plato, knowledge has been defined as *justified true belief*. Call this the "tripartite analysis of knowledge" or the *JTB Account* of knowledge. It may be stated more formally this way (where *S* stands for some person and *p* stands for a proposition):

*S* knows *p* if and only if:

(i) *S* believes *p*,

(ii) *p* is true, and

(iii) *S* is justified in believing *p*.

Gettier dropped a bombshell in epistemology by offering two simple counterexamples to the JTB Account of knowledge. Both counterexamples involve a person who meets the tripartite conditions for knowledge but seems to lack knowledge. Gettier believed (and most philosophers have agreed) that his counterexamples show that justified true belief is not sufficient for knowledge. The so-called *Gettier Problem*, then, is the problem of finding an adequate analysis of knowledge in light of Gettier'either by (1) showing that Gettier's counterexamples don't undermine the JTB Account after all, or, if they do, (2) discovering what else is required for knowledge in addition to justified true belief, or (3) replacing the justification condition in the JTB Account with some other condition necessary for knowledge. The primary value of Gettier's piece for purposes of this chapter, is that it provides the major impetus for the debate between internalism and externalism. A few internalists opt for strategy (1) in response to the Gettier Problem, the majority go for (2), but all insist that what matters most is that justification involve something accessible to the knower. The externalist opts for either strategy (2) or (3), insisting in either case that external constraints (like belief-forming reliability) are necessary for knowledge.

## Religious Beliefs and Evidence

Most of the people in the world are followers of some religion—Christianity, Judaism, Islam, Hinduism, Buddhism, and many others. It goes without saying that these people have religious beliefs, such as the belief in the existence of an omnipotent, omniscient, and omnibenevolent God, or the belief that people are reincarnated after death, or that Jesus of Nazareth is divine, etc. No doubt most religious believers think that their religious beliefs are epistemically justified. Many think that they have religious *knowledge*. But do they?

A significant challenge to the justification of religious belief comes from a view called *evidentialism*, a view that has dominated Western thought since the time of the Enlightenment. Perhaps the most famous advocate of evidentialism was W. K. Clifford (1845-1879). Chapter four presents his classic piece, "The Ethics of Belief," in which he argued that it is actually immoral to believe *anything*—religious or otherwise—apart from sufficient evidence. Given that religious beliefs are unsupported by evidence, as many today believe, Clifford's view would imply that religious beliefs are not only unjustified, but immoral.

## Scientific Realism Vs. Nonrealism

The *philosophy of science* is a sub-discipline within philosophy that addresses philosophical questions and problems that arise within the context of the natural sciences. Because some such questions overlap with the concerns of epistemology, it is appropriate that we include discussion of some issues in the philosophy of science in Part One of this book.

Chapter five asks the question, "Can science discover the truth about reality?" This question take us into the debate between *scientific realism* and *scientific nonrealism*. The former is the view that science can discover the truth about reality and, more specifically, that scientific theories offer accurate or near-accurate descriptions of the way the world actually is. The latter is the perspective that scientific theories do *not* offer accurate or near-accurate descriptions of reality, and that science does not (or at least should not) even aim to tell us the truth about reality. Science, for the nonrealist, has other less ambitious goals such as helping us solve practical problems.

The chapter begins with the famous essay by David Hume (1711 – 1776), "Sceptical Doubts Concerning the Operations of the Understanding," in which he argues that we have no

knowledge of cause and effect relationships. Imagine a billiard ball that moves across a billiard table to strike another billiard ball. The second ball then moves as well. We are all inclined to believe that the impact of the first ball caused the second ball to move. But Hume says that we simply cannot know this. We certainly cannot infer as a matter of logic that the impact of the first ball caused the second ball to move because we can imagine almost an infinite number of other logically possible outcomes of that event. And past experience is no help either—the fact that we have seen many times before that one ball moves after being struck by another is no proof that it will happen that way next time. Further, when we pay careful attention to what we actually observe in this case, we do not see or otherwise experience this mysterious thing called "causation." All that we actually see is one event occurring (the first ball striking the second ball) followed by a second event occurring (the second ball moving). What we *don't* see is any necessary connection or causation between these two events. So, Hume concludes that all causal inferences are invalid; and all causal statements of the form "X causes Y" are unknowable. If he is right about this, then there is a huge problem for science because a large part of science involves making causal claims and inferences.

The second historical piece in chapter five is a chapter from Thomas Kuhn's (1922 – 1996) iconic book, *The Structure of Scientific Revolutions*. It is widely believed that the history of science is a history of progress in which scientists, through careful observation and rigorous experimentation, gradually accumulate more and more knowledge and offer better and more refined theories that reveal the truth about the natural world. Kuhn strongly challenges this picture of scientific history. He argues that the history of science is actually characterized by intellectual revolutions in which old theories and paradigms are overturned and replaced by new ones—and this replacement is largely based not on the discovery of new data but on non-rational

factors. Kuhn's arguments, as you might surmise, provide much impetus to nonrealist views of science.

## The Scope of Scientific Explanations

Scientists seek to explain things. But what counts as a good scientific explanation? Now there are several things that one might say to answer that question. But one thing that many (most?) scientists and philosophers of science would say about good scientific explanations is that they appeal only to *natural causes*. That is, if any explanation for some phenomenon X is going to count as a *scientific* explanation (as opposed to, say, a pseudo-scientific explanation), then that explanation cannot involve any *super*natural causes or entities (e.g., God). Scientific explanations are limited to natural causes.

Chapter six contains David Hume's famous and influential essay, "Of Miracles." Though perhaps not directly relevant to the contemporary debate over the nature of scientific explanations, it does clearly address the question of when, if ever, claims of divine intervention in nature are epistemically justified. Hume, of course, argues that they can never be justified because our confidence in any testimony for the occurrence of a miracle will never be as strong as our confidence in the regularity of natural laws.

# 1

# Can We Have Knowledge?

## *Outlines of Pyrrhonism*[*]

Sextus Empiricus

Sextus Empiricus (2nd century A.D.?) was an ancient Greek physician and philosopher. He was an advocate of the skeptical school of philosophy founded by Pyrrho of Elis. His most influential work was *Outlines of Pyrrhonism*.

***Study Questions***

1. How does Sextus define skepticism? What is its results?
2. How does Sextus argue that the skeptic avoids dogmatism?
3. What is the skeptics stance toward "appearances" and judgments about them?
4. What is the criterion of skepticism? How does this lead the skeptic to live?
5. What is the goal of skepticism? How is it achieved?
6. How does the skeptic arrive at "suspension of judgment"? How does Sextus illustrate this process?
7. What are the "ten modes of doubt"? What are examples of each?

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[*] From *Sextus Empiricus*, vol. I, translated by R. G. Bury, Loeb Classical Library Vol. 273. Cambridge, Mass.: Harvard University Press. First published 1933. Loeb Classical Library ® is a registered trademark of the President and Fellows of Harvard College.

## Book 1

### Chapter IV.—What Scepticism Is

Scepticism is an ability, or mental attitude, which opposes appearances to judgements in any way whatsoever, with the result that, owing to the equipollence of the objects and reasons thus opposed, we are brought firstly to a state of mental suspense and next to a state of "unperturbedness" or quietude. Now we call it an "ability" not in any subtle sense, but simply in respect of its "being able." By "appearances" we now mean the objects of sense-perception, whence we contrast them with the objects of thought or "judgements." The phrase "in any way whatsoever" can be connected either with the word "ability," to make us take the word "ability," as we said, in its simple sense, or with the phrase "opposing appearances to judgements"; for inasmuch as we oppose these in a variety of ways—appearances to appearances, or judgements to judgements, or alternando appearances to judgements,—in order to ensure the inclusion of all these antitheses we employ the phrase "in any way whatsoever." Or, again, we join "in any way whatsoever" to "appearances and judgements" in order that we may not have to inquire how the appearances appear or how the thought-objects are judged, but may take these terms in the simple sense. The phrase "opposed judgements" we do not employ in the sense of negations and affirmations only but simply as equivalent to "conflicting judgements." "Equipollence" we use of equality in respect of probability and improbability, to indicate that no one of the conflicting judgements takes precedence of any other as being more probable. "Suspense" is a state of mental rest owing to which we neither deny nor affirm anything. "Quietude" is an untroubled and tranquil condition of soul. And how quietude enters the soul along with suspension of judgement we shall explain in our chapter (XII.) "Concerning the End."

## Chapter V.—Of the Sceptic

In the definition of the system there is also implicitly included that of the Pyrrhonean philosopher: he is the man who participates in this "ability."

## Chapter VI.—Of the Principles of Scepticism

The originating cause of Scepticism is, we say, the hope of attaining quietude. Men of talent, who were perturbed by the contradictions in things and in doubt as to which of the alternatives they ought to accept, were led on to inquire what is true in things and what false, hoping by the settlement of this question to attain quietude. The main basic principle of the Sceptic system is that of opposing to every proposition an equal proposition; for we believe that as a consequence of this we end by ceasing to dogmatize.

## Chapter VII.—Does the Sceptic Dogmatize?

When we say that the Sceptic refrains from dogmatizing we do not use the term "dogma," as some do, in the broader sense of "approval of a thing" for the Sceptic gives assent to the feelings which are the necessary results of sense-impressions, and he would not, for example, say when feeling hot or cold "I believe that I am not hot or cold"; but we say that "he does not dogmatize" using "dogma" in the sense, which some give it, of "assent to one of the non-evident objects of scientific inquiry"; for the Pyrrhonean philosopher assents to nothing that is non-evident. Moreover, even in the act of enunciating the Sceptic formulae concerning things non-evident—such as the formula "No more (one thing than another)," or the formula "I determine nothing," or any of the others which we shall presently mention he does not dogmatize. For whereas the dogmatizer posits the things about which he is said to be dogmatizing as really existent, the

Sceptic does not posit these formulae in any absolute sense; for he conceives that, just as the formula "All things are false" asserts the falsity of itself as well as of everything else, as does the formula "Nothing is true," so also the formula "No more" asserts that itself, like all the rest, is "No more (this than that)," and thus cancels itself along with the rest. And of the other formulae we say the same. If then, while the dogmatizer posits the matter of his dogma as substantial truth, the Sceptic enunciates his formulae so that they are virtually cancelled by themselves, he should not be said to dogmatize in his enunciation of them. And, most important of all, in his enunciation of these formulae he states what appears to himself and announces his own impression in an undogmatic way, without making any positive assertion regarding the external realities. . . .

**Chapter IX.—Does the Sceptic Deal with Physics?**

We make a similar reply also to the question "Should the Sceptic deal with physical problems?" For while, on the one hand, so far as regards making, firm and positive assertions about any of the matters dogmatically treated in physical theory, we do not deal with physics; yet, on the other hand, in respect of our mode of opposing to every proposition an equal proposition and of our theory of quietude we do treat of physics. This, too, is the way in which we approach the logical and ethical branches of so-called "philosophy."

**Chapter X.—Do the Sceptics Abolish Appearances?**

Those who say that "the Sceptics abolish appearances," or phenomena, seem to me to be unacquainted with the statements of our School. For, as we said above, we do not overthrow the affective sense-impressions which induce our assent involuntarily; and these impressions are

"the appearances." And when we question whether the underlying object is such as it appears, we grant the fact that it appears, and our doubt does not concern the appearance itself but the account given of that appearance,—and that is a different thing from questioning the appearance itself. For example, honey appears to us to be sweet (and this we grant, for we perceive sweetness through the senses), but whether it is also sweet in its essence is for us a matter of doubt, since this is not an appearance but a judgement regarding the appearance. And even if we do actually argue against the appearances, we do not propound such arguments with the intention of abolishing appearances, but by way of pointing out the rashness of the Dogmatists; for if reason is such a trickster as to all but snatch away the appearances from under our very eyes, surely we should view it with suspicion in the case of things non-evident so as not to display rashness by following it.

**Chapter XI.—Of the Criterion of Scepticism**

That we adhere to appearances is plain from what we say about the Criterion of the Sceptic School. The word "Criterion" is used in two senses: in the one it means "the standard regulating belief in reality or unreality," (and this we shall discuss in our refutation); in the other it denotes the standard of action by conforming to which in the conduct of life we perform some actions and abstain from others; and it is of the latter that we are now speaking. The criterion, then, of the Sceptic School is, we say, the appearance, giving this name to what is virtually the sense-presentation. For since this lies in feeling and involuntary affection, it is not open to question. Consequently, no one, I suppose, disputes that the underlying object has this or that appearance; the point in dispute is whether the object is in reality such as it appears to be.

Adhering, then, to appearances we live in accordance with the normal rules of life, undogmatically, seeing that we cannot remain wholly inactive. And it would seem that this regulation of life is fourfold, and that one part of it lies in the guidance of Nature, another in the constraint of the passions, Another in the tradition of laws and customs, another in the instruction of the arts. Nature's guidance is that by which we are naturally capable of sensation and thought; constraint of the passions is that whereby hunger drives us to food and thirst to drink; tradition of customs and laws, that whereby we regard piety in the conduct of life as good, but impiety as evil; instruction of the arts, that whereby we are not inactive in such arts as we adopt. But we make all these statements undogmatically.

**Chapter XII.—What Is the End of Scepticism?**

Our next subject will be the end of the Sceptic system. Now an "end" is "that for which all actions or reasonings are undertaken, while it exists for the sake of none"; or, otherwise, "the ultimate object of appentency." We assert still that the Sceptic's End is quietude in respect of matters of opinion and moderate feeling in respect of things unavoidable. For the skeptic, having set out to philosophize with the object of passing judgment on the sense impressions and ascertaining which of them are true and which false, so as to attain quietude thereby, found himself involved in contradictions of equal weight, and being unable to decide between them suspended judgment; and as he was thus in suspense there followed, as it happened, the state of quietude in respect of matters of opinion. For the man who opines that anything is by nature good or bad is for ever being disquieted: when he is without the things which he deems good he believes himself to be tormented by things naturally bad and he pursues after the things which are, as he thinks, good; which when he has obtained he keeps falling into still more perturbations

because of his irrational and immoderate elation, and in his dread of a change of fortune he uses every endeavor to avoid losing the things which he deems good. On the other hand, the man who determines nothing as to what is naturally good or bad neither shuns nor pursues anything eagerly; and, in consequence, he is unperturbed.

The Sceptic, in fact, had the same experience which is said to have befallen the painter Apelles. Once, they say, when he was painting a horse and wished to represent in the painting the horse's foam, he was so unsuccessful that he gave up the attempt and flung at the picture the sponge on which he used to wipe the paints off his brush, and the mark of the sponge produced the effect of a horse's foam. So, too, the Sceptics were in hopes of gaining quietude by means of a decision regarding the disparity of the objects of sense and of thought, and being unable to effect this they suspended judgment; and they found that quietude, as if by chance, followed upon their suspense, even as a shadow follows its substance. We do not, however, suppose that the Sceptic is wholly untroubled; but we say that he is troubled by things unavoidable; for we grant that he is cold at times and thirsty, and suffers various affections of that kind. But even in these cases, whereas ordinary people are afflicted by two circumstances,—namely, by the affections themselves and, in no less a degree, by the belief that these conditions are evil by nature, —the Sceptic, by his rejection of the added belief in the natural badness of all these conditions, escapes here too with less discomfort. Hence we say that, while in regard to matters of opinion the Sceptic's End is quietude, in regard to things unavoidable it is "moderate affection." But some notable Sceptics have added the further definition "suspension of judgment in investigations."

**Chapter XIII.—Of the General Modes Leading to the Suspension of Judgement**

Now that we have been saying that tranquillity follows on suspension of judgment, it will be our next task to explain how we arrive at this suspension. Speaking generally, one may say that it is the result of setting things in opposition. We oppose either appearances to appearances or objects of thought to objects of thought or *alternando*. For instance, we oppose appearances to appearances when we say "The same tower appears round from a distance, but square from close at hand"; and thoughts to thoughts, when in answer to him who argues the existence of providence from the order of the heavenly bodies we oppose the fact that often the good fare ill and the bad fare well, and draw from this the inference that providence does not exist. And thoughts we oppose to appearances, as when Anaxagoras countered the notion that snow is white with the argument, "Snow is frozen water, and water is black; therefore snow also is black." With a different idea we oppose things present sometimes to things present, as in the foregoing examples, and sometimes to things past or future, as, for instance, when someone propounds to us a theory which we are unable to refute, we say to him in reply, "Just as, before the birth of the founder of the school to which you belong, the theory it holds was not as yet apparent as a sound theory, although it was really in existence, so likewise it is possible that the opposite theory to that which you now propound is already existent, though not yet apparent to us, so that we ought not as yet to yield assent to this theory which at the moment seems to be valid."

But in order that we may have a more exact understanding of these antitheses I will describe the modes by which suspension of judgment is brought about, but without making any positive assertion regarding either their number or their validity; for it is possible that they may be unsound or there may be more of them than I shall enumerate.

## Chapter XIV.—Concerning the Ten Modes

The usual tradition amongst the older skeptics is that the "modes" by which "suspension" is supposed to be brought about are ten in number; and they also give them the synonymous names of "arguments" and "positions." They are these: the first, based on the variety in animals; the second, on the differences in human beings; the third, on the different structures of the organs of sense; the fourth, on the circumstantial conditions; the fifth, on positions and intervals and locations; the sixth, on intermixtures; the seventh, on the quantities and formations of the underlying objects; the eighth, on the fact of relativity; the ninth, on the frequency or rarity of occurrence; the tenth, on the disciplines and customs and laws, the legendary beliefs and the dogmatic convictions. This order, however, we adopt without prejudice.

As superordinate to these there stand three Modes—that based on the subject who judges, that on the object judged, and that based on both. The first four of the ten Modes are subordinate to the Mode based on the subject (for the subject which judges is either an animal or a man or a sense, and existent in some condition): the seventh and tenth Modes are referred to that based on the object judged: the fifth, sixth, eighth, and ninth are referred to the Mode based on both subject and object. Furthermore, these three Modes are also referred to that of relation, so that the Mode of relation stands as the highest genus, and the three as species, and the ten as subordinate subspecies. We give this as the probable account of their numbers; and as to their argumentative force what we say is this:

The First argument (or Trope), as we said, is that which shows that the same impressions are not produced by the same objects owing to the differences in animals. This we infer both from the differences in their origins and from the variety of their bodily structures. Thus, as to origin,

some animals are produced without sexual union, others by coition. And of those produced without coition, some come from fire, like the animalcules which appear in furnaces, others from putrid water, like gnats; others from wine when it turns sour, like ants; others from earth, like grasshoppers; others from marsh, like frogs; others from mud, like worms; others from asses, like beetles; others from greens, like caterpillars; others from fruits, like the gall-insects in wild figs; others from rotting animals, as bees from bulls and wasps from horses. Of the animals generated by coition, some—in fact the majority—come from homogeneous parents, others from heterogeneous parents, as do mules. Again, of animals in general, some are born alive, like men; others are born as eggs, like birds; and yet others as lumps of flesh, like bears. It is natural, then, that these dissimilar and variant modes of birth should produce much contrariety of sense affection, and that this is a source of its divergent, discordant, and conflicting character.

Moreover, the differences found in the most important parts of the body, and especially in those of which the natural function is judging and perceiving, are capable of producing a vast deal of divergence in the sense-impressions [owing to the variety in the animals]. Thus, sufferers from jaundice declare that objects which seem to us white are yellow, while those whose eyes are bloodshot call them blood-red. Since, then, some animals have eyes which are yellow, others bloodshot, others albino, others of other colors, they probably, I suppose, have different perceptions of color. Moreover, if we bend down over a book after having gazed long and fixedly at the sun, the letters seem to us to be golden in color and circling round. Since, then, some animals possess also a natural brilliance in their eyes, and emit from them a fine and mobile stream of light, so that they can even see by night, we seem bound to suppose that they are differently affected from us by external objects. . . .

Of the other sense organs also the same account holds good. Thus, in respect of touch, how could one maintain that creatures covered with shells, with flesh, with prickles, with feathers, with scales, are all similarly affected? And as for the sense of hearing, how could we say that its perceptions are alike in animals with a very narrow auditory passage and those with a very wide one, or in animals with hairy ears and those with smooth ears? For, as regards this sense, even we ourselves find our hearing affected in one way when we have our ears plugged and in another way when we use them just as they are. Smell also will differ because of the variety in animals. For if we ourselves are affected in one way when we have a cold and our internal phlegm is excessive, and in another way when the parts about our head are filled with an excess of blood, feeling an aversion to smells which seem sweet to everyone else and regarding them as noxious, it is reasonable to suppose that animals too—since some are flaccid by nature and rich in phlegm, others rich in blood, others marked by a predominant excess of yellow or of black gall—are in each case impressed in different ways by the objects of smell. So too with the objects of taste; for some animals have rough and dry tongues, others extremely moist tongues. We ourselves, too, when our tongues are very dry, in cases of fever, think the food proffered us to be earthy and ill-flavored or bitter—an affection due to the variation in the predominating juices which we are said to contain. Since, then, animals also have organs of taste which differ and which have different juices in excess, in respect of taste also they will receive different impressions of the real objects. For just as the same food when digested becomes in one place a vein, in another an artery, in another a bone, in another a sinew, or some other piece of the body, displaying a different potency according to the difference in the parts which receive it;—and just as the same unblended water, when it is absorbed by trees, becomes in one place bark, in another branch, in another blossom, and so finally fig and quince and each of the other fruits;—and just

as the single identical breath of a musician breathed into a flute becomes here a shrill note and there a deep note, and the same pressure of his hand on the lyre produces here a deep note and there a shrill note,—so likewise is it probable that the external objects appear different owing to differences in the structure of the animals which experience the sense-impressions. . . .

But if the same things appear different owing to the variety in animals, we shall, indeed, be able to state our own impressions of the real object, but as to its essential nature we shall suspend judgment. For we cannot ourselves judge between our own impressions and those of other animals, since we ourselves are involved in the dispute and are, therefore, rather in need of a judge than competent to pass judgment ourselves. Besides, we are unable, either with or without proof, to prefer our own impressions to those of the irrational animals. For in addition to the probability that proof is, as we shall show, a nonentity, the so-called proof itself will be either apparent to us or non-apparent. If, then, it is non-apparent, we shall not accept it with confidence; while if it is apparent to us, inasmuch as what is apparent to animals is the point in question and the proof is apparent to us who are animals, it follows that we shall have to question the proof itself as to whether it is as true as it is apparent. It is, indeed, absurd to attempt to establish the matter in question by means of the matter in question, since in that case the same thing will be at once believed and disbelieved,—believed in so far as it purports to prove, but disbelieved in so far as it requires proof,—which is impossible. Consequently we shall not possess a proof which enables us to give our own sense impressions the preference over those of the so-called irrational animals. If, then, owing to the variety in animals their sense impressions differ, and it is impossible to judge between them, we must necessarily suspend judgment regarding the external underlying objects. . . .

Such, then, is the First of the Modes which induce suspense. The Second Mode is, as we said, that based on the differences in men; for even if we grant for the sake of argument that men are more worthy of credence than irrational animals, we shall find that even our own differences of themselves lead to suspense. For man, you know, is said to be compounded of two things, soul and body, and in both these we differ one from another.

Thus, as regards the body, we differ in our figures and "idiosyncrasies," or constitutional peculiarities. The body of an Indian differs in shape from that of a Scythian; and it is said that what causes the variation is a difference in the predominant humors. Owing to this difference in the predominant humors the sense impressions also come to differ, as we indicated in our first argument. So too in respect of choice and avoidance of external objects men exhibit great differences: thus Indians enjoy some things, our people other things, and the enjoyment of different things is an indication that we receive varying impressions from the underlying objects. In respect of our "idiosyncrasies," our differences are such that some of us digest the flesh of oxen more easily than rockfish, or get diarrhea from the weak wine of Lesbos. An old wife of Attica, they say, swallowed with impunity thirty drams of hemlock, and Lysis took four drams of poppy juice without hurt. Demophon, Alexander's butler, used to shiver when he was in the sun or in a hot bath, but felt warm in the shade: Athenagoras the Argive took no hurt from the stings of scorpions and poisonous spiders; and the Psyllaeans, as they are called, are not harmed by bites from snakes and asps, nor are the Tentyritae of Egypt harmed by the crocodile. . . .

Seeing, then, that men vary so much in body—to content ourselves with but a few instances of the many collected by the Dogmatists,—men probably also differ from one another in respect of the soul itself, for the body is a kind of expression of the soul, as in fact is proved by the science of Physiognomy. But the greatest proof of the vast and endless differences in men's

intelligence is the discrepancy in the statements of the Dogmatists concerning the right objects of choice and avoidance, as well as other things. Regarding this the poets, too, have expressed themselves fittingly. Thus Pindar says:

> The crowns and trophies of his storm-foot steeds
> Give joy to one; yet others find it joy
> To dwell in gorgeous chambers gold-bedeckt;
> Some even take delight in voyaging
> O'er ocean's billows in a speeding barque.

And the poet [Homer] says: "One thing is pleasing to one man, another thing to another." Tragedy, too, is full of such sayings; for example:

> Were fair and wise the same thing unto all,
> There had been no contentious quarrelling.

And again:

> Tis strange that the same thing abhorrd by some
> Should give delight to others.

Seeing, then, that choice and avoidance depend on pleasure and displeasure, while pleasure and displeasure depend on sensation and sense-impression, whenever some men choose the very

things which are avoided by others, it is logical for us to conclude that they are also differently affected by the same things, since otherwise they would all alike have chosen or avoided the same things. But if the same objects affect men differently owing to the differences in the men, then, on this ground also, we shall reasonably be led to suspension of judgment. For while we are, no doubt, able to state what each of the underlying objects appears to be, relatively to each difference, we are incapable of explaining what it is in reality. For we shall have to believe either all men or some. But if we believe all, we shall be attempting the impossible and accepting contradictories; and if some, let us be told whose opinions we are to endorse. For the Platonist will say "Plato's", the Epicurean, "Epicurus's"—and so on with the rest; and thus by their unsettled disputations they will bring us round again to a state of suspense. Moreover, he who maintains that we ought to assent to the majority is making a childish proposal, since no one is able to visit the whole of mankind and determine what pleases the majority of them—for there may possibly be races of whom we know nothing amongst whom conditions rare with us are common, and conditions common with us rare,—possibly, for instance, most of them feel no pain from the bites of spiders, though a few on rare occasions feel such pain; and so likewise with the rest of the "idiosyncrasies" mentioned above. Necessarily, therefore, the differences in men afford a further reason for bringing in suspension of judgment. . . .

This Third Mode is, we say, based on differences in the senses. That the senses differ from one another is obvious. Thus, to the eye paintings seem to have recesses and projections, but not so to the touch. Honey, too, seems to some pleasant to the tongue but unpleasant to the eyes; so that it is impossible to say whether it is absolutely pleasant or unpleasant. The same is true of sweet oil, for it pleases the sense of smell but displeases the taste. So too with spurge: since it pains the

eyes but causes no pain to any other part of the body, we cannot say whether, in its real nature, it is absolutely painful or painless to bodies. Rain-water, too, is beneficial to the eyes but roughens the windpipe and the lungs; as also does olive oil, though it mollifies the epidermis. The cramp-fish, also, when applied to the extremities produces cramp, but it can be applied to the rest of the body without hurt. Consequently we are unable to say what is the real nature of each of these things, although it is possible to say what each thing at the moment appears to be.

A longer list of examples might be given, but to avoid prolixity, in view of the plan of our treatise, we will say just this. Each of the phenomena perceived by the senses seems to be a complex: the apple, for example, seems smooth, odorous, sweet, and yellow. But it is non-evident whether it really possesses these qualities only; or whether it has but one quality but appears varied owing to the varying structure of the sense organs; or whether, again, it has more qualities than are apparent, some of which elude our perception. That the apple has but one quality might be argued from what we said above regarding the food absorbed by bodies, and the water sucked up by trees, and the breath in flutes and pipes and similar instruments; for the apple likewise may be all of one sort but appear different owing to differences in the sense organs in which perception takes place. And that the apple may possibly possess more qualities than those apparent to us we argue in this way. Let us imagine a man who possesses from birth the senses of touch, taste, and smell, but can neither hear nor see. This man, then, will assume that nothing visual or audible has any existence, but only those three kinds of qualities which he is able to apprehend. Possibly, then, we also, having only our five senses, perceive only such of the apple's qualities as we are capable of apprehending; and possibly it may possess other underlying qualities which affect other sense organs, though we, not being endowed with those organs, fail to apprehend the sense objects which come through them.

"But," it may be objected, "Nature made the senses commensurate with the objects of sense." What kind of "Nature"? we ask, seeing that there exists so much unresolved controversy amongst the Dogmatists concerning the reality which belongs to Nature. For he who decides the question as to the existence of Nature will be discredited by them if he is an ordinary person, while if he is a philosopher he will be a party to the controversy and therefore himself subject to judgment and not a judge. If, however, it is possible that only those qualities which we seem to perceive subsist in the apple, or that a greater number subsist, or, again, that not even the qualities which affect us subsist, then it will be non-evident to us what the nature of the apple really is. And the same argument applies to all the other objects of sense. But if the senses do not apprehend external objects, neither can the mind apprehend them; hence, because of this argument also, we shall be driven, it seems, to suspend judgment regarding the external underlying objects.

In order that we may finally reach suspension by basing our argument on each sense singly, or even by disregarding the senses, we further adopt the Fourth Mode of suspension. This is the Mode based, as we say, on the "circumstances," meaning by "circumstances" conditions or dispositions. And this Mode, we say, deals with states that are natural or unnatural, with waking or sleeping, with conditions due to age, motion or rest, hatred or love, emptiness or fullness, drunkenness or soberness, predispositions, confidence or fear, grief or joy. Thus, according as the mental state is natural or unnatural, objects produce dissimilar impressions, as when men in a frenzy or in a state of ecstasy believe they hear demons' voices, while we do not. Similarly they often say that they perceive an odor of storax or frankincense, or some such scent, and many other things, though we fail to perceive them. Also, the same water which feels very hot when

poured on inflamed spots seems lukewarm to us. And the same coat which seems of a bright yellow color to men with bloodshot eyes does not appear so to me. And the same honey seems to me sweet, but bitter to men with jaundice. . . .

Sleeping and waking, too, give rise to different impressions, since we do not imagine when awake what we imagine in sleep, nor when asleep what we imagine when awake; so that the existence or non-existence of our impressions is not absolute but relative, being in relation to our sleeping or waking condition. Probably, then, in dreams we see things which to our waking state are unreal, although not wholly unreal; for they exist in our dreams, just as waking realities exist although non-existent in dreams.

Age is another cause of difference. For the same air seems chilly to the old but mild to those in their prime; and the same color appears faint to older men but vivid to those in their prime; and similarly the same sound seems to the former faint, but to the latter clearly audible. Moreover, those who differ in age are differently moved in respect of choice and avoidance. For whereas children—to take a case—are all eagerness for balls and hoops, men in their prime choose other things, and old men yet others. And from this we conclude that differences in age also cause different impressions to be produced by the same underlying objects.

Another cause why the real objects appear different lies in motion and rest. For those objects which, when we are standing still, we see to be motionless, we imagine to be in motion when we are sailing past them.

Love and hatred are a cause, as when some have an extreme aversion to pork while others greatly enjoy eating it. Hence, too, Menander said:

> Mark now his visage, what a change is there

Since he has come to this! How bestial!

‘Tis actions fair that make the fairest face.

Many lovers, too, who have ugly mistresses think them most beautiful.

Hunger and satiety are a cause; for the same food seems agreeable to the hungry but disagreeable to the sated.

Drunkenness and soberness are a cause; since actions which we think shameful when sober do not seem shameful to us when drunk.

Predispositions are a cause; for the same wine which seems sour to those who have previously eaten dates or figs, seems sweet to those who have just consumed nuts or chickpeas; and the vestibule of the bathhouse, which warms those entering from outside, chills those coming out of the bathroom if they stop long in it.

Fear and boldness are a cause; as what seems to the coward fearful and formidable does not seem so in the least to the bold man.

Grief and joy are a cause; since the same affairs are burdensome to those in grief but delightful to those who rejoice.

Seeing then that the dispositions also are the cause of so much disagreement, and that men are differently disposed at different times, although, no doubt, it is easy to say what nature each of the underlying objects appears to each man to possess, we cannot go on to say what its real nature is, since the disagreement admits in itself of no settlement. For the person who tries to settle it is either in one of the aforementioned dispositions or in no disposition whatsoever. But to declare that he is in no disposition at all—as, for instance, neither in health nor sickness, neither in motion nor at rest, of no definite age, and devoid of all the other dispositions as well—is the

height of absurdity. And if he is to judge the sense-impressions while he is in some one disposition, he will be a party to the disagreement, and, moreover, he will not be an impartial judge of the external underlying objects owing to his being confused by the dispositions in which he is placed. The waking person, for instance, cannot compare the impressions of sleepers with those of men awake, nor the sound person those of the sick with those of the sound; for we assent more readily to things present, which affect us in the present, than to things not present. . . .

The Fifth Argument (or Trope) is that based on positions, distances, and locations; for owing to each of these the same objects appear different; for example, the same porch when viewed from one of its corners appears curtailed, but viewed from the middle symmetrical on all sides; and the same ship seems at a distance to be small and stationary, but from close at hand large and in motion; and the same tower from a distance appears round but from a near point quadrangular.

These effects are due to distances; among effects due to locations are the following: the light of a lamp appears dim in the sun but bright in the dark; and the same oar bent when in the water but straight when out of the water; and the egg soft when inside the fowl but hard when in the air; and the jacinth fluid when in the lynx but hard when in the air; and the coral soft when in the sea but hard when in the air; and sound seems to differ in quality according as it is produced in a pipe, or in a flute, or simply in the air.

Effects due to positions are such as these: the same painting when laid flat appears smooth, but when inclined forward at a certain angle it seems to have recesses and prominences. The necks of doves, also, appear different in hue according to the differences in the angle of inclination.

Since, then, all apparent objects are viewed in a certain place, and from a certain distance, or in a certain position, and each of these conditions produces a great divergency in the sense-impressions, as we mentioned above, we shall be compelled by this mode also to end up in suspension of judgment. For in fact anyone who purposes to give the preference to any of these impressions will be attempting the impossible. For if he shall deliver his judgment simply and without proof, he will be discredited; and should he, on the other hand, desire to adduce proof, he will confute himself if he says that the proof is false, while if he asserts that the proof is true he will be asked for a proof of its truth, and again for a proof of this latter proof, since it also must be true, and so on ad infinitum. But to produce proofs to infinity is impossible; so that neither by the use of proofs will he be able to prefer one sense impression to another. If, then, one cannot hope to pass judgment on the afore-mentioned impressions either with or without proof, the conclusion we are driven to is suspension; for while we can, no doubt, state the nature which each object appears to possess as viewed in a certain position or at a certain distance or in a certain place, what its real nature is we are, for the foregoing reasons, unable to declare.

The Sixth Mode is that based on admixtures, by which we conclude that, because none of the real objects affects our senses by itself but always in conjunction with something else, though we may possibly be able to state the nature of the resultant mixture formed by the external object and that along with which it is perceived, we shall not be able to say what is the exact nature of the external reality in itself. That none of the external objects affects our senses by itself but always in conjunction with something else, and that, in consequence, it assumes a different appearance, is, I imagine, quite obvious. Thus, our own complexion is of one hue in warm air, of another in cold, and we should not be able to say what our complexion really is, but only what it

looks like in conjunction with each of these conditions. And the same sound appears of one sort in conjunction with rare air and of another sort with dense air; and odors are more pungent in a hot bathroom or in the sun than in chilly air; and a body is light when immersed in water but heavy when surrounded by air.

But to pass on from the subject of external admixture,—our eyes contain within themselves both membranes and liquids. Since, then, the objects of vision are not perceived apart from these, they will not be apprehended with exactness; for what we perceive is the resultant mixture, and because of this the sufferers from jaundice see everything yellow, and those with bloodshot eyes reddish like blood. And since the same sound seems of one quality in open places, of another in narrow and winding places, and different in clear air and in murky air, it is probable that we do not apprehend the sound in its real purity; for the ears have crooked and narrow passages, which are also befogged by various vaporous effluvia which are said to be emitted by the regions of the head. Moreover, since there reside substances in the nostrils and in the organs of taste, we apprehend the objects of taste and smell in conjunction with these and not in their real purity. So that, because of these admixtures, the senses do not apprehend the exact quality of the external real objects.

Nor yet does the mind apprehend it, since, in the first place, its guides, which are the senses, go wrong; and probably, too, the mind itself adds a certain admixture of its own to the messages conveyed by the senses; for we observe that there are certain humors present in each of the regions which the Dogmatists regard as the seat of the "Ruling Principle"—whether it be the brain or the heart, or in whatever part of the creature one chooses to locate it. Thus, according to this Mode also we see that, owing to our inability to make any statement about the real nature of external objects, we are compelled to suspend judgment.

The Seventh Mode is that based, as we said, on the quantity and constitution of the underlying objects, meaning generally by "constitution" the manner of composition. And it is evident that by this Mode also we are compelled to suspend judgment concerning the real nature of the objects. Thus, for example, the filings of a goat's horns appear white when viewed simply by themselves and without combination, but when combined in the substance of the horn they look black. And silver filings appear black when they are by themselves, but when united to the whole mass they are sensed as white. And chips of the marble of Taenarum seem white when planed, but in combination with the whole block they appear yellow. And pebbles when scattered apart appear rough, but when combined in a heap they produce the sensation of softness. And hellebore if applied in a fine and powdery state produces suffocation, but not so when it is coarse. And wine strengthens us when drunk in moderate quantity, but when too much is taken it paralyzes the body. So likewise food exhibits different effects according to the quantity consumed; for instance, it frequently upsets the body with indigestion and attacks of purging because of the large quantity taken. Therefore in these cases, too, we shall be able to describe the quality of the shaving of the horn and of the compound made up of many shavings, and that of the particle of silver and of the compound of many particles, and that of the sliver of Taenarean marble and of the compound of many such small pieces, and the relative qualities of the pebbles, the hellebore, the wine, and the food,—but when it comes to the independent and real nature of the objects, this we shall be unable to describe because of the divergency in the sense impressions which is due to the combinations.

As a general rule, it seems that wholesome things become harmful when used in immoderate quantities, and things that seem hurtful when taken to excess cause no harm when in minute quantities. What we observe in regard to the effects of medicines is the best evidence in support

of our statement; for there the exact blending of the simple drugs makes the compound wholesome, but when the slightest over-sight is made in the measuring, as sometimes happens, the compound is not only unwholesome but frequently even most harmful and deleterious. Thus the argument from quantities and compositions causes confusion as to the real nature of the external substances. Probably, therefore, this Mode also will bring us round to a suspension of judgment, as we are unable to make any absolute statement concerning the real nature of external objects.

The Eighth Mode is that based on relativity; and by it we conclude that, since all things are relative, we shall suspend judgment as to what things are absolutely and really existent. But this point we must notice—that here as elsewhere we use the term "are" for the term "appear," and what we virtually mean is "all things appear relative." And this statement is twofold, implying, firstly, relation to the thing which judges (for the external object which is judged appears in relation to that thing), and, in a second sense, relation to the accompanying percepts, for instance the right side in relation to the left. Indeed, we have already argued that all things are relative—for example, with respect to the thing which judges, it is in relation to some one particular animal or man or sense that each object appears, and in relation to such and such a circumstance; and with respect to the concomitant percepts, each object appears in relation to some one particular admixture or Mode or combination or quantity or position.

There are also special arguments to prove the relativity of all things, in this way: Do things which exist "differentially" differ from relative things or not? If they do not differ, then they too are relative; but if they differ, then, since everything which differs is relative to something (for it has its name from its relation to that from which it differs), things which exist differently are

relative. Again,—of existing things some, according to the Dogmatists, are summa genera, others infimae species, others both genera and species; and all these are relative; therefore all things are relative. Further, some existing things are "pre-evident," as they say, others nonevident, and the apparent things are significant, but the non-evident signified by the apparent; for according to them "the things apparent are the vision of the non-evident." But the significant and the signified are relative; therefore all things are relative. Moreover, some existent things are similar, others dissimilar, and some equal, others unequal; and these are relative; therefore all things are relative. And even he who asserts that not all things are relative confirms the relativity of all things, since by his arguments against us he shows that the very statement "not all things are relative" is relative to ourselves, and not universal.

When, however, we have thus established that all things are relative, we are plainly left with the conclusion that we shall not be able to state what is the nature of each of the objects in its own real purity, but only what nature it appears to possess in its relative character. Hence it follows that we must suspend judgment concerning the real nature of the objects.

The Mode which, as we said, comes Ninth in order is based on constancy or rarity of occurrence, and we shall explain it as follows. The sun is, of course, much more amazing than a comet; yet because we see the sun constantly but the comet rarely, we are so amazed by the comet that we even regard it as a divine portent, while the sun causes no amazement at all. If, however, we were to conceive of the sun as appearing but rarely and setting rarely, and illuminating everything all at once and throwing everything into shadow suddenly, then we should experience much amazement at the sight. An earthquake also does not cause the same alarm in those who experience it for the first time and those who have grown accustomed to such things. How much

amazement, also, does the sea excite in the man who sees it for the first time! And indeed the beauty of a human body thrills us more at the first sudden view than when it becomes a customary spectacle. Rare things too we count as precious, but not what is familiar to us and easily got. Thus, if we should suppose water to be rare, how much more precious it would appear to us than all the things which are accounted precious! Or if we should imagine gold to be simply scattered in quantities over the earth like stones, to whom do we suppose it would then be precious and worth hoarding?

Since then, owing to the frequency or rarity of their occurrence, the same things seem at one time to be amazing or precious and at another time nothing of the sort, we infer that though we shall be able perhaps to say what nature appears to belong to each of these things in virtue of its frequent or rare occurrence, we are not able to state what nature absolutely belongs to each of the external objects. So because of this Mode also we suspend judgment regarding them.

There is a Tenth Mode, which is mainly concerned with Ethics, being based on rules of conduct, habits, laws, legendary beliefs, and dogmatic conceptions. A rule of conduct is a choice of a way of life, or of a particular action, adopted by one person or many—by Diogenes, for instance, or the Laconians. A law is a written contract amongst the members of a state, the transgressor of which is punished. A habit or custom (the terms are equivalent) is the joint adoption of a certain kind of action by a number of men, the transgressor of which is not actually punished; for example, the law proscribes adultery, and custom with us forbids intercourse with a woman in public. Legendary belief is the acceptance of unhistorical and fictitious events, such as, amongst others, the legends about Cronos; for these stories win credence with many. Dogmatic conception is the acceptance of a fact which seems to be established by analogy or some form of

demonstration, as, for example, that atoms are the elements of existing things, or homoeomeries, or minima, or something else.

And each of these we oppose now to itself, and now to each of the others. For example, we oppose habit to habit in this way: some of the Ethiopians tattoo their children, but we do not; and while the Persians think it seemly to wear a brightly dyed dress reaching to the feet, we think it unseemly; and whereas the Indians have intercourse with their women in public, most other races regard this as shameful. And law we oppose to law in this way: among the Romans the man who renounces his father's property does not pay his father's debts, but among the Rhodians he always pays them; and among the Scythian Tauri it was a law that strangers should be sacrificed to Artemis, but with us it is forbidden to slay a human being at the altar. And we oppose rule of conduct to rule of conduct, as when we oppose the rule of Diogenes to that of Aristippus or that of the Laconians to that of the Italians. And we oppose legendary belief to legendary belief when we say that whereas in one story the father of men and gods is alleged to be Zeus, in another he is Oceanos—"Ocean sire of the gods, and Tethys the mother that bare them." And we oppose dogmatic conceptions to one another when we say that some declare that there is one element only, others an infinite number; some that the soul is mortal, others that it is immortal; and some that human affairs are controlled by divine Providence, others without Providence.

And we oppose habit to the other things, as for instance to law when we say that amongst the Persians it is the habit to indulge in intercourse with males, but amongst the Romans it is forbidden by law to do so; and that, whereas with us adultery is forbidden, amongst the Massagetae it is traditionally regarded as an indifferent custom, as Eudoxus of Cnidos relates in the first book of his Travels; and that, whereas intercourse with a mother is forbidden in our country, in Persia it is the general custom to form such marriages; and also among the Egyptians

men marry their sisters, a thing forbidden by law amongst us. And habit is opposed to rule of conduct when, whereas most men have intercourse with their own wives in retirement, Crates did it in public with Hipparchia; and Diogenes went about with one shoulder bare, whereas we dress in the customary manner. It is opposed also to legendary belief, as when the legends say that Cronos devoured his own children, though it is our habit to protect our children; and whereas it is customary with us to revere the gods as being good and immune from evil, they are presented by the poets as suffering wounds and envying one another. And habit is opposed to dogmatic conception when, whereas it is our habit to pray to the gods for good things, Epicurus declares that the Divinity pays no heed to us; and when Aristippus considers the wearing of feminine attire a matter of indifference, though we consider it a disgraceful thing.

And we oppose rule of conduct to law when, though there is a law which forbids the striking of a free or well-born man, the pancratiasts strike one another because of the rule of life they follow; and when, though homicide is forbidden, gladiators destroy one another for the same reason. And we oppose legendary belief to rule of conduct when we say that the legends relate that Heracles in the house of Omphale "toiled at the spinning of wool, enduring slavery's burden," and did things which no one would have chosen to do even in a moderate degree, whereas the rule of life of Heracles was a noble one. And we oppose rule of conduct to dogmatic conception when, whereas athletes covet glory as something good and for its sake undertake a toilsome rule of life, many of the philosophers dogmatically assert that glory is a worthless thing. And we oppose law to legendary belief when the poets represent the gods as committing adultery and practicing intercourse with males, whereas the law with us forbids such actions; and we oppose it to dogmatic conception when Chrysippus says that intercourse with mothers or sisters is a thing indifferent, whereas the law forbids such things. And we oppose legendary belief to

dogmatic conception when the poets say that Zeus came down and had intercourse with mortal women, but amongst the Dogmatists it is held that such a thing is impossible; and again, when the poet relates that because of his grief for Sarpedon Zeus "let fall upon the earth great gouts of blood," whereas it is a dogma of the philosophers that the Deity is impassive; and when these same philosophers demolish the legend of the hippocentaurs, and offer us the hippocentaur as a type of unreality.

We might indeed have taken many other examples in connection with each of the antitheses above mentioned; but in a concise account like ours, these will be sufficient. Only, since by means of this Mode also so much divergency is shown to exist in objects, we shall not be able to state what character belongs to the object in respect of its real essence, but only what belongs to it in respect of this particular rule of conduct, or law, or habit, and so on with each of the rest. So because of this Mode also we are compelled to suspend judgment regarding the real nature of external objects. And thus by means of all the Ten Modes we are finally led to suspension of judgment.

# *First Meditation*[*]

Rene Descartes

Rene Descartes (1596-1650) is considered the father of modern philosophy. He is best known for his response to Cartesian skepticism and his defense of substance dualism (the idea that human beings are composed of two distinct substances, a material body and an immaterial soul or mind. His major works include *Discourse on Method* (1637) and *Meditations on First Philosophy* (1641).

***Study Questions***

1. Why did Descartes come to question many of the opinions of his youth?
2. What is the standard that Descartes uses for rejecting any belief?
3. Why does Descartes not have to examine each and every one of his beliefs individually?
4. Why does Descartes doubt what he receives from his senses?
5. What hypothesis does Descartes entertain to bring into doubt everything related to his current experience of sitting by the fire?
6. How does Descartes finally come to doubt nearly all of his beliefs?

## MEDITATION ONE: Concerning Those Things That Can Be Called into Doubt

Several years have now passed since I first realized how numerous were the false opinions that in my youth I had taken to be true, and thus how doubtful were all those that I had subsequently

[*] From Descartes's *Meditations on First Philosophy*, trans. Donald A. Cress (1993). Reprinted with permission from Hackett Publishing Company.

built upon them. And thus I realized that once in my life I had to raze everything to the ground and begin again from the original foundations, if I wanted to establish anything firm and lasting in the sciences. But the task seemed enormous, and I was waiting until I reached a point in my life that was so timely that no more suitable time for undertaking these plans of action would come to pass. For this reason, I procrastinated for so long that I would henceforth be at fault, were I to waste the time that remains for carrying out the project by brooding over it. Accordingly, I have today suitably freed my mind of all cares, secured for myself a period of leisurely tranquility, and am withdrawing into solitude. At last I will apply myself earnestly and unreservedly to this general demolition of my opinions.

Yet to bring this about I will not need to show that all my opinions are false, which is perhaps something I could never accomplish. But reason now persuades me that I should withhold my assent no less carefully from opinions that are not completely certain and indubitable than I would from those that are patently false. For this reason, it will suffice for the rejection of all of these opinions, if I find in each of them some reason for doubt. Nor therefore need I survey each opinion individually, a task that would be endless. Rather, because undermining the foundations will cause whatever has been built upon them to crumble of its own accord, I will attack straightaway those principles which supported everything I once believed.

Surely whatever I had admitted until now as most true I received either from the senses or through the senses. However, I have noticed that the senses are sometimes deceptive; and it is a mark of prudence never to place our complete trust in those who have deceived us even once.

But perhaps, even though the senses do sometimes deceive us when it is a question of very small and distant things, still there are many other matters concerning which one simply cannot doubt, even though they are derived from the very same senses: for example, that I am sitting

here next to the fire, wearing my winter dressing gown, that I am holding this sheet of paper in my hands, and the like. But on what grounds could one deny that these hands and this entire body are mine? Unless perhaps I were to liken myself to the insane, whose brains are impaired by such an unrelenting vapor of black bile that they steadfastly insist that they are kings when they are utter paupers, or that they are arrayed in purple robes when they are naked, or that they have heads made of clay, or that they are gourds, or that they are made of glass. But such people are mad, and I would appear no less mad, were I to take their behavior as an example for myself.

This would all be well and good, were I not a man who is accustomed to sleeping at night, and to experiencing in my dreams the very same things, or now and then even less plausible ones, as these insane people do when they are awake. How often does my evening slumber persuade me of such ordinary things as these: that I am here, clothed in my dressing gown, seated next to the fireplace—when in fact I am lying undressed in bed! But right now my eyes are certainly wide awake when I gaze upon this sheet of paper. This head which I am shaking is not heavy with sleep, I extend this hand consciously and deliberately, and I feel it. Such things would not be so distinct for someone who is asleep. As if I did not recall having been deceived on other occasions even by similar thoughts in my dreams! As I consider these matters more carefully, I see so plainly that there are no definitive signs by which to distinguish being awake from being asleep. As a result, I am becoming quite dizzy, and this dizziness nearly convinces me that I am asleep.

Let us assume then, for the sake of argument that we are dreaming and that such particulars as these are not true: that we are opening our eyes, moving our head, and extending our hands. Perhaps we do not even have such hands, or any such body at all. Nevertheless, it surely must be admitted that the things seen during slumber are, as it were, like painted images, which could

only have been produced in the likeness of true things, and that therefore at least these general things—eyes, head, hands, and the whole body—are not imaginary things, but are true and exist. For indeed when painters themselves wish to represent sirens and satyrs by means of especially bizarre forms, they surely cannot assign to them utterly new natures. Rather, they simply fuse together the members of various animals. Or if perhaps they concoct something so utterly novel that nothing like it has ever been seen before (and thus is something utterly fictitious and false), yet certainly at the very least the colors from which they fashion it ought to be true. And by the same token, although even these general things—eyes, head, hands and the like—could be imaginary, still one has to admit that at least certain other things that are even more simple and universal are true. It is from these components, as if from true colors, that all those images of things that are in our thought are fashioned, be they true or false.

This class of things appears to include corporeal nature in general, together with its extension; the shape of extended things; their quantity, that is, their size and number; as well as the place where they exist; the time through which they endure, and the like.

Thus it is not improper to conclude from this that physics, astronomy, medicine, and all the other disciplines that are dependent upon the consideration of composite things are doubtful, and that, on the other hand, arithmetic, geometry, and other such disciplines, which treat of nothing but the simplest and most general things and which are indifferent as to whether these things do or do not in fact exist, contain something certain and indubitable. For whether I am awake or asleep, two plus three make five, and a square docs not have more than four sides. It does not seem possible that such obvious truths should be subject to the suspicion of being false.

Be that as it may, there is fixed in my mind a certain opinion of long standing, namely that there exists a God who is able to do anything and by whom I, such as I am, have been created.

How do I know that he did not bring it about that there is no earth at all, no heavens, no extended thing, no shape, no size, no place, and yet bringing it about that all these things appear to me to exist precisely as they do now? Moreover, since I judge that others sometimes make mistakes in matters that they believe they know most perfectly, may I not, in like fashion, be deceived every time I add two and three or count the sides of a square, or perform an even simpler operation, if that can be imagined? But perhaps God has not willed that I be deceived in this way, for he is said to be supremely good. Nonetheless, if it were repugnant to his goodness to have created me such that I be deceived all the time, it would also seem foreign to that same goodness to permit me to be deceived even occasionally. But we cannot make this last assertion.

Perhaps there are some who would rather deny so powerful a God than believe that everything else is uncertain. Let us not oppose them; rather, let us grant that everything said here about God is fictitious. Now they suppose that I came to be what I am either by fate, or by chance, or by a connected chain of events, or by some other way. But because being deceived and being mistaken appear to be a certain imperfection, the less powerful they take the author of my origin to be, the more probable it will be that I am so imperfect that I am always deceived. I have nothing to say in response to these arguments. But eventually I am forced to admit that there is nothing among the things I once believed to be true which it is not permissible to doubt—and not out of frivolity or lack of forethought, but for valid and considered reasons. Thus I must be no less careful to withhold assent henceforth even from these beliefs than I would from those that are patently false, if I wish to find anything certain.

But it is not enough simply to have realized these things; I must take steps to keep myself mindful of them. For long-standing opinions keep returning, and, almost against my will, they take advantage of my credulity, as if it were bound over to them by long use and the claims of

intimacy. Nor will I ever get out of the habit of assenting to them and believing in them, so long as I take them to be exactly what they are, namely, in some respects doubtful, as has just now been shown, but nevertheless highly probable, so that it is much more consonant with reason to believe them than to deny them. Hence, it seems to me I would do well to deceive myself by turning my will in completely the opposite direction and pretend for a time that these opinions are wholly false and imaginary, until finally; as if with prejudices weighing down each side equally, no bad habit should turn my judgment any further from the correct perception of things. For indeed I know that meanwhile there is no danger or error in following this procedure, and that it is impossible for me to indulge in too much distrust, since I am now concentrating only on knowledge, not on action.

Accordingly, I will not suppose a supremely good God, the source of truth, but rather an evil genius, supremely powerful and clever, who has directed his entire effort at deceiving me. I will regard the heavens, the air, the earth, colors, shapes, sounds, and all external things as nothing but the bedeviling hoaxes of my dreams, with which he lays snares my credulity. I will regard myself as not having hands, or eyes, or flesh, or blood, or any senses, but as nevertheless falsely believing that I possess all these things. I will remain resolute and steadfast in this meditation, and even if it is not within my power to know anything true, it certainly is within my power to take care resolutely to withhold my assent to what is false, lest this deceiver, however powerful, however clever he may be, have any effect on me. But this undertaking is arduous, and a certain laziness brings me back to my customary way of living. I am not unlike a prisoner who enjoyed an imaginary freedom during his sleep, but, when he later begins to suspect that he is dreaming, fears being awakened and nonchalantly conspires with these pleasant illusions. In just the same way, I fall back of my own accord into my old opinions, and dread being awakened, lest the

toilsome wakefulness which follows upon a peaceful rest must be spent thenceforward not in the light but among the inextricable shadows of the difficulties now brought forward.

## Questions for Reflection

1. Do you agree with Sextus Empiricus that the skeptic doesn't dogmatize? Why?
2. Are you convinced that you should suspend judgment on all or any of the things that Sextus discusses under his "ten modes"? Why?
3. Can you rule out the possibility, suggested by Descartes, that you are dreaming right now or being systematically deceived by an "evil genius"? If so, how?