

Principle

INTRODUCTION

OF the three ways in which principles are considered in the tradition of the great books, the most familiar sense of the word is the one in which we speak of moral principles, principles of action, or political principles. The connotation of the word in this usage seems to be twofold. We think of principles as rules of conduct and we think of them as standards by which to measure and judge human acts or political events. Either conception attributes a certain generality to principles. Just as rules apply to an indefinite number of particular cases, so any principle we appeal to in order to decide a practical problem or to weigh the merits of an action undertaken, can be applied again and again in other circumstances. "In all our knowledge of general principles," Russell writes, "what actually happens is that first of all we realize some particular application of the principle, and then we realize that the particularity is irrelevant, and that there is a generality which may equally truly be affirmed."

In addition to this characteristic of generality, principles seem to have the quality of *underlying* or being the *source* of other things. In jurisprudence the search for principles consists in the attempt to discover those few most fundamental precepts from which the more detailed rules of law can be derived. The constitution of a state provides the principles which underlie its particular laws and sets the standards by which their legality is to be measured. Governments are judged by the principles they attempt to apply as well as by their success in putting these principles into practice. To say of a government that its acts are *unprincipled* is not to condemn the particular acts as wrong, but to accuse the government

of having no uniform policy to serve as a foundation for its acts.

This aspect of the meaning of principle—as the source from which a set of consequences follows—seems to be more characteristic of the idea of principle than the aspect of generality. According to its Latin derivation and the equivalent root in Greek, "principle" means a beginning or a foundation. Sometimes it means that which comes first absolutely, in the sense of being before everything else; sometimes it means that which comes first only relatively, taking precedence over some things, but having others prior to itself. Since priority may be either absolute or relative—first without qualification or first only in a certain respect—the traditional phrase "first principle" does not have the redundancy of "first first" or "beginning beginning."

If there are absolutely first beginnings, to which nothing else can be prior, they can legitimately be called "first principles" to distinguish them from principles which come first only in a certain respect. Only if there are first principles can regression to infinity be avoided in the search for origins. The propositions which lie at the foundation of a science may, for example, constitute its principles, but they may also be derived in turn from some prior science. Only the principles of a science which is prior to or independent of all others can be truly first principles.

THE FOREGOING example brings us to the other meaning of principle that is popularly recognized. It is the sense in which men speak of principles in relation to conclusions, or of principles as the foundations of a science.

The priority which belongs to principles in

the domain of thought need not be temporal. Principles may or may not be first in the order of learning. But if they are not first in the temporal order, they must be first logically, as premises are logically prior to a conclusion, or, as in Euclid's *Elements*, his principles—his definitions, postulates, and axioms—are logically prior to all the theorems he demonstrates by means of them.

It may be asked whether, among propositions related as premises and conclusions, the logical priority of one proposition to another is sufficient to make the prior proposition a principle. Can a proposition be a principle if, even though it is used as a premise in reasoning, it lacks generality? For example, is the particular proposition—that this bottle contains poison—a principle underlying the practical conclusion that its contents should not be swallowed?

Aristotle answers affirmatively. In the order of practical thinking, he holds, we deliberate neither about the end to be sought nor about the particular facts on which a choice of the means depends. "The end cannot be a subject of deliberation," he writes, "but only the means; nor indeed can the particular facts be a subject of it, as whether this is bread or has been baked as it should; for these are matters of perception." The perceived particulars thus function as principles along with the most general of all practical propositions, namely, what the end should be. Calling the faculty which apprehends first principles "intuitive reason," Aristotle says that "the intuitive reason involved in practical reasonings grasps the last and variable fact, *i.e.*, the minor premise. For these variable facts are the starting-points for the apprehension of the end, since the universals are reached from the particulars; of these therefore we must have perception, and this perception is intuitive reason."

Perception, at least in the form of *sense* perception, seems to be only one of the two ways in which we apprehend the particular facts which are principles in practical reasoning. Like Aristotle, Aquinas uses the judgment, that *this is bread or iron*, as an example of "facts received through the senses" which are "principles . . . accepted in the inquiry of

counsel." But the moral quality inherent in particular acts does not seem to be perceptible by the senses alone; and such particular moral judgments are also involved in moral reasoning. Aristotle suggests that habit (*i.e.*, the moral habits or virtues) are the immediate source of such judgments, which can be called "perceptions of the particular" even though they are not simply sense perceptions.

"Of first principles," Aristotle explains, "we see some by induction, some by perception, some by a certain habituation." By induction we see the general truths; by sense perception, the sensible particulars; and by habituation, the moral particulars. Hence Aristotle insists that "anyone who is to listen intelligently to lectures about what is noble and just and, generally, about the subjects of political science must have been brought up in good habits. For the fact is the starting-point, and if this is sufficiently plain to him, he will not at the start need the reason as well; for the man who has been well brought up has or can easily get the starting-points."

The word "principle" is used by Kant in a much more restricted sense. He reserves the status of principle to the general propositions which serve as the major premises in reasoning. In both the theoretical and the practical sciences, principles express reason's understanding of universal and necessary relationships.

Kant differs from Aristotle in other respects. He differentiates between ordinary general propositions which merely serve as major premises in reasoning and the propositions he classifies as "synthetic judgements *a priori*." He regards the former as principles only in a relative sense and treats the latter alone as principles absolutely. He also distinguishes between those principles of the *understanding* which he thinks are "constitutive of experience," and those principles of the *reason* which should be used in what he calls a "regulative," not a constitutive manner. They determine the direction and goals of thought beyond experience. But such differences concerning the nature and kinds of principles do not affect the commonly accepted meaning of principle as that from which, in the temporal order of learning, knowledge devel-

ops or that upon which, in the logical order, knowledge rests.

THE THIRD AND relatively unfamiliar sense in which principles are discussed in the great books does not refer to the sources of man's moral decisions, political acts, or scientific conclusions. The discussion in question refers to reality apart from man. Just as men try to discover the elements of matter, or the causes of motion, so they try to discover the principles of existence and of change. The issues which arise from this concern with the principles of reality are discussed in such chapters as BEING, CAUSE, CHANGE, FORM, MATTER, and NATURE.

If the word "principle" always connotes a beginning, every special sense of principle should involve some kind of priority. As we have already observed, principles may be either prior in time or prior logically. But the principles of the universe or the principles of change are not usually thought to be prior in either of these ways. From them Aristotle specifies another kind of priority—priority in nature—to explain the primacy of those principles which constitute the nature of a thing. In his view, for example, matter and form are the principles of a physical substance. Since a substance composite of matter and form cannot exist until its matter and its form coexist, matter and form are not prior to the substance they compose. Their priority to substance consists only in the fact that that which has the nature of a composite substance *results* from the union of matter and form as its natural components. Because the substance is the *natural resultant*, matter and form can properly be called its *natural principles*.

This way of considering principles at once suggests a close relationship among principles, elements, and causes; and also indicates the connection between the present chapter and the chapters on CAUSE and ELEMENT. The ultimate parts into which a whole can be divided may be its principles as well as its elements. The form or matter of a substance may be, in Aristotle's theory, not only one of its principles, but also a cause—a formal or a material cause. Among the great authors Aristotle

and Aquinas alone seem to dwell upon the relationship of these three terms. They give instances in which the same thing is principle, element, and cause, as well as instances in which a principle is neither a cause nor an element, *e.g.*, privation. In the sphere of human conduct, an end is both a principle and a final cause, but not an element. The last end is the highest final cause and the first principle—first in intention though last in attainment.

THE TRADITIONAL issues concerning this idea differ according to the general context in which the question of principles is raised. The main controversy, for example, with regard to principles in the order of reality is over their number and order.

Aristotle argues against an infinite number of principles as incompatible with the very notion of principle itself. In his analysis of change or motion, he tries to prove that no more than three principles are necessary, and no fewer will do. These are, as the chapter on CHANGE explains, matter, form, and privation. Considering the principles of the universe as a whole, Plotinus also enumerates three and tries to prove that none can be added or subtracted. But whereas Aristotle treats the three principles of change as coordinate, Plotinus places the cosmic principles in the absolute order of first, second, and third.

"We need not go seeking any other Principles," writes Plotinus. "This—the One and the Good—is our First, next to it follows the Intellectual Principle, the Primal Thinker, and upon this follows Soul. Such is the order in nature. The intellectual realm allows no more than these and no fewer. Those who hold to fewer Principles must hold the identity of either Intellectual Principle and Soul, or of Intellectual Principle and The First . . . To increase the Primals by making the Supreme Mind engender the Reason-Principle, and this again engender in the Soul a distinct power to act as mediator between Soul and the Supreme Mind, this is to deny intellection to the Soul, which would no longer derive its Reason from the Intellectual Principle, but from an intermediate . . . Therefore, we must affirm no more than these three Primals."

In the sense in which Plotinus conceives the three primals, they are not only principles in the order of reality, but are themselves the ultimate grades or modes of reality. Similarly for Plato soul is not only the principle of life and thought in the universe, but it also has its own existence in the realm of being. For Aristotle, in contrast, the principles of change do not have existence in and of themselves. Matter, form, and privation are not substances, but aspects of substance. They are present in every changing substance and in every change, but they are only the principles of mutable being; they are not mutable beings in themselves.

Lucretius states two principles as the basic laws of nature. The first is that nothing comes into being out of nothing; the second, that nothing is ever completely reduced to nothingness. The word "principle" is obviously not being used in the same sense here as when it designates The One for Plotinus, soul for Plato, matter for Aristotle, or the atoms which Lucretius calls the "first beginnings." Here it does not refer to an entity, or even to an aspect of some real being, but rather to a law—the statement of a universal and necessary condition which governs all that is or happens. It is in this sense that the proposition traditionally called "the law of contradiction"—that the same thing cannot both be and not be in the same respect at the same time—is said by Aristotle to be the first principle of being as well as of thought.

The conception of the law of contradiction and the related laws of identity and excluded middle as principles of thought raises problems about logical principles in general—whether they are axioms or postulates, whether they are merely rules of reasoning and demonstration or are themselves premises from which conclusions can be deduced. If, for example, the law of contradiction is *only* a rule of thought, which forbids the mind to affirm and deny the same proposition, then it is not a principle of knowledge in the sense in which the definitions and axioms of geometry function as premises in the demonstration of theorems. No conclusion can be drawn from it concerning the nature of things. But if, in addition to being a rule of thought, it is

a metaphysical axiom, which states the most fundamental fact about existence, then like the axioms in geometry it may be the source of conclusions in metaphysics.

On this second point Locke seems to differ sharply from Aristotle and Aquinas. He denies that the laws of identity and contradiction are fruitful principles of knowledge. "These magnified maxims," he writes, "are not the principles and foundations of all our other knowledge." Nor have they been, he adds, "the foundations whereon any science hath been built. There is, I know, a great deal of talk, propagated from scholastic men, of sciences and the maxims on which they are built; but it has been my ill luck, never to meet with any such sciences, much less any one built upon these two maxims, 'what is, is' and 'it is impossible for the same thing to be and not to be.'"

Bergson points out that the existence of principles in science does not imply the existence of metaphysical principles: "if all possible experience can be made to enter . . . into the rigid and already formed framework of our understanding, it is . . . because our understanding itself organizes nature, and finds itself again therein as in a mirror. Hence the possibility of science, which owes all its efficacy to its relativity, and the impossibility of metaphysics, since the latter finds nothing more to do than to parody with phantoms of things the work of conceptual arrangement which science practices seriously on relations."

WE SHALL PRESENTLY consider the issue concerning axioms or postulates—whether the principles of the sciences are self-evident truths or are only provisional assumptions. Those who are willing to admit the existence of axioms do not all agree, however, that such truths refer to reality. Hume, for example, limits the content of axioms to knowledge of the relations between our own ideas. They are not truths about real existence or matters of fact.

Locke also grants self-evidence only to perceptions of the agreement or disagreement between ideas. "Concerning the real existence of all other beings" except ourselves, and God, we have, he writes, "not so much a demonstrative, much less a self-evident, knowledge; and

therefore concerning these there are no maxims." But Locke does think that our demonstrative knowledge of God's existence depends upon an intuitive knowledge of our own existence; and in addition to knowing our own existence directly or without proof, he also thinks we have through our senses an equally direct knowledge of the existence of other things. Such intuitive and sensitive knowledge of particular existences is, like the truth of axioms, immediate—that is, something known directly or without proof, without any appeal to prior propositions. Hence Locke is not denying that we know some immediate truths about reality, but only that such truths consist exclusively of propositions about particular existences. Since axioms, or what Locke calls "maxims," are always general propositions, the self-evident truths which they express do not apply to reality.

William James uses the word "intuitive"—in a different sense from Locke—to characterize propositions that state "the necessary and eternal relations" which the mind "finds between certain of its ideal conceptions." Intuitive propositions are for him, therefore, what maxims are for Locke; and like Locke, James also denies that such axioms of reason hold for reality. "Only *hypothetically*," he says, "can we affirm intuitive truths of real things—by supposing, namely, that real things exist which correspond exactly with the ideal subject of the intuitive propositions . . . The intuitive propositions of Locke leave us as regards outer reality none the better for their possession. We still have to 'go to our senses' to find what the reality is.

"The vindication of the intuitionist position," James continues, "is thus a barren victory. The eternal verities which the very structure of our mind lays hold of do not necessarily themselves lay hold on extramental being, nor have they, as Kant pretended later, a legislating character for all possible experience. They are primarily interesting only as subjective facts. They stand waiting in the mind, forming a beautiful ideal network; and the most we can say is that we *hope* to discover outer realities over which the network may be flung so that ideal and real may coincide."

The opposite view seems to be taken by Plato, Aristotle, Aquinas, Francis Bacon, Descartes, Spinoza, and Kant. Though they are far from being in complete agreement concerning the principles of knowledge, the propositions which they call axiomatic, self-evident, intuitive, or *a priori* synthetic judgments, are not restricted by them to the mind's perception of the relations between *its own* ideas. There are self-evident or immediate truths in physics and metaphysics, as well as in mathematics and logic. Whether these are inductions from experience or innate possessions of the mind, whether they are intuitive apprehensions of intelligible being or *a priori* judgments having a transcendental origin, these propositions are held to describe the world of experience, or the nature and existence of things outside the human mind.

THERE SEEM TO BE TWO DEGREES OF SKEPTICISM with regard to principles in the order of knowledge. Complete skepticism would consist in denying principles in every sense. That would be the same as denying any beginning or basis for even the opinions which men hold. No one seems to go that far.

The issue with respect to the foundations of knowledge or opinion is therefore not between those who affirm and those who deny principles, but between different views of what the starting points are. It is sometimes said, for example, that sensations are the principles or beginnings of all human learning. This view is shared both by those who think that all our ideas or concepts are abstracted from the materials provided by the senses and by those who account for all the other contents of the mind—its memories and imaginations, its complex formations—in terms of the simple impressions originally received by the senses.

Concepts, as distinct from sense perceptions, are also sometimes regarded as principles of knowledge by those who think that concepts originate by abstraction from sensory materials, as well as by those who think that ideas are primary principles, *i.e.*, having no origin in any prior apprehensions. On either view, ideas or concepts function as principles insofar as they are the simples from which the more

complex acts of the mind develop, such as the acts of judgment and reasoning. Just as on the level of language, words are the principles of all significant speech, out of which sentences and paragraphs are formed; just as, in the logical order, terms are said to be the principles of propositions and syllogisms; so concepts are the principles of judgments and reasonings. The definitions of Euclid, for example, state the notions of point, line, triangle, etc., which underlie his theorems and demonstrations.

One common characteristic of either sensations or concepts as principles of knowledge seems to be simplicity. Nothing more elementary, of which they can be formed, is prior to them. Another characteristic is that they are principles of knowledge or opinion without being themselves acts of knowledge or opinion. This point is made by all who hold that only propositions—whether statements of opinion or of knowledge—can be true or false.

The terms which express the simple apprehensions of the mind—its sensations or concepts—cannot be true or false, because, unlike propositions, which are composed of terms, they do not assert anything. If sensations and concepts cannot be true or false in the sense in which propositions or judgments are, then they lack the distinctive property of knowledge or opinion. In contrast, propositions or judgments—which are supposed to be principles, whether axioms or assumptions—can be treated as themselves expressions of knowledge or opinion, not merely as its starting points or sources.

THE TWO DEGREES of skepticism previously mentioned apply only to those principles of knowledge which are themselves capable of being regarded as knowledge or opinion and hence as either true or false.

We have already considered the skepticism of those who, admitting that the truth of some propositions can be immediately recognized by the mind, nevertheless deny that such self-evident truths describe reality. This may or may not be accompanied by a further depreciation of axioms on the ground that they are merely analytic propositions and hence trifling, uninformative, or tautological.

The chapter on JUDGMENT considers the issue which revolves around the derogatory use of such words as "tautology" or "truism" to designate self-evident truths. Though the invidious connotation of the word "truism" does not make the truth to which this epithet is applied any less true, the dignity of a truth does seem to be affected by the refusal to regard it as a statement of reality. Furthermore, a certain degree of skepticism results from such refusal. Hume exemplifies this. He holds that self-evident truths are possible only in mathematics, which deals not with matters of fact, but with the relations between our own ideas. In consequence, he denies to the study of nature the certitude or demonstrative character which he finds in mathematical science. Since physics is concerned with real existences, no axioms or self-evident principles are available to it; and so, according to Hume, it cannot demonstrate its conclusions, but must advance them as probabilities.

A more thoroughgoing skepticism seems to consist in holding that there are absolutely no matters at all about which men have axiomatic knowledge. This appears to be the position of Montaigne. No truths are self-evident. None commands the universal assent of mankind; none belongs to the nature of the mind so that all men must agree to it. Montaigne almost holds it to be axiomatic that there are no axioms, for if there were, he says, "there would be one thing in the world . . . that would be believed by all men with universal consent. But this fact, that no proposition can be seen which is not debated and controverted among us, or which may not be, well shows that our natural judgment does not grasp very clearly what it grasps."

If it is objected that, in the absence of such principles, there is no starting point or foundation for science, Montaigne seems willing to accept the consequence. He does not flinch from an infinite regression of reasons. "No reason," he writes, "can be established without another reason; there we go retreating back to infinity." To those who say that there is no disputing with persons who deny principles, he replies that "there cannot be first principles for men, unless the Divinity has

revealed them; all the rest—beginning, middle, and end—is nothing but dreams and smoke.”

If, however, for practical purposes, a beginning must be made somewhere, Montaigne suggests that it can be done by taking things for granted and then getting others to grant our presuppositions. “It is very easy,” he writes, “upon accepted foundations, to build what you please . . . By this path we find our reason well founded, and we argue with great ease. For our masters occupy and win beforehand as much room in our belief as they need in order to conclude afterward whatever they wish, in the manner of the geometricians with their axioms; the consent and approval that we lend them giving them the wherewithal to drag us left or right, and to spin us around at their will.”

IF THE ONLY principles upon which reasoning can be based or from which conclusions can be drawn are assumptions, postulates, or hypotheses rather than axioms, then everything is a matter of opinion and probability; nothing can have the certitude of knowledge. As indicated in the chapters on KNOWLEDGE and OPINION, one theory of that distinction makes knowledge an act of the mind independent of our wishes or will and treats opinion as a judgment voluntarily accepted or rejected. Accordingly, assumptions or postulates are perfectly representative of opinion, and axioms express the very essence of knowledge. To assume or postulate anything is to take it for granted—voluntarily! A postulate neither compels assent, nor does it ever exclude the possibility of taking the opposite for granted. Where men make postulates, there dispute is possible. But to assert something as an axiom is to command assent on the ground that its opposite can be immediately recognized as impossible. No proposition can be regarded as an axiom if its acceptance or rejection is in any way a matter of choice.

For Aristotle the area in which men can dispute with some reason on both sides belongs to what he calls “dialectic,” whereas what he calls “science” is the area from which dispute is excluded by demonstrations which rest on self-evident truths. One is the area of prob-

ability and opinion; the other, of certainty and knowledge. Contrary assumptions are the starting point of dialectical argument, whereas science begins with axioms. These may be the first principles which Aristotle and Bacon call “common notions” because they are common to diverse sciences; or they may be the axioms peculiar to a single subject matter.

The word “dialectic” is used by Plato in a quite different sense. It names the highest science. Whereas the mathematical sciences start from hypotheses which require further support, dialectic—in the conception of Plato—rises to the first principles of all knowledge. In the hierarchical ordering of the sciences, Plato’s dialectic, Aristotle’s metaphysics, and Bacon’s *philosophia prima* seem to occupy respectively the same primary position and to perform the same function in virtue of being the discipline which contemplates or considers the absolutely first or most universal principles. For Bacon, as for Aquinas, the only higher science is sacred theology, whose principles are articles of supernatural faith, not axioms of reason.

These matters are more fully discussed in the chapters on DIALECTIC, METAPHYSICS, and THEOLOGY; questions concerning different kinds of principles or the principles of different sciences are considered in HYPOTHESIS and LOGIC. The chapter on INDUCTION, furthermore, discusses the inductive origin of axioms, as well as the disagreement between Bacon and Aristotle on the point of whether the highest axioms or first principles are immediately intuited from the particulars of experience, or are reached only through intermediate stages of generalization.

Since axioms are indemonstrable, they cannot be derived by reasoning as conclusions from any truths prior to themselves. Their indemonstrability is regarded by Aristotle and Pascal as a virtue rather than a defect, for if they were demonstrable, they could not be the principles or starting points of demonstration. If there were no axioms, then nothing could be demonstrated, because everything in turn would require proof in an endless regression.

To the ancient counterparts of the skeptical Montaigne, Aristotle replies that unless

the law of contradiction is an indisputable axiom, any form of reasoning, even probable reasoning from assumptions, is impossible. The principle which underlies all disputation cannot itself be disputed. To those who, with skeptical intent, insist upon having everything demonstrated before they will accept it, Aristotle offers an indirect defense of the law of contradiction by asking the questioner to try denying that self-evident principle without reducing himself to absurdity.

Those who acknowledge the existence of axioms generally agree that they are indemonstrable truths, but some, like Descartes and Kant, do not agree that they are inductions from experience. The alternatives seem to be that axioms are innate possessions of the intellect or that they are transcendental *a priori* principles of pure reason, independent of experience. Yet Locke, who denies innate ideas and principles, or anything prior to experience, does not treat what he calls self-evident maxims as inductions from experience. They are rather direct perceptions of agreement or disagreement among the ideas we have acquired through experience.

Aquinas, who, no less than Locke, denies innate ideas and insists upon sense-experience as the source of all human knowledge, refers to the assent we give first principles as a *natural habit* of the mind—the intellectual virtue he calls “understanding,” equivalent to what Aristotle calls “intuitive reason.” As the chapter on HABIT indicates, axioms are called “natural” truths, not in the sense of being innate, instinctive, or congenital, but only in the sense that if the human reason functions naturally or normally it will come to recognize these truths. Again, like Locke, Aquinas seems to be saying that the truth of axioms is perceived by the human understanding as soon as their terms are known, but he does not concur with Locke in thinking that therefore such truths hold only for relations between our own ideas.

THE THEORY OF the possession of principles by natural habit has, for Aquinas, more than a verbal connection with the theory of natural law. Of the various meanings of the phrase

“natural law” which are distinguished in the chapter on LAW, we are here concerned with what both Kant and Aquinas conceive as the moral law whose precepts are the fundamental principles of human conduct. Both also speak of the precepts of the natural law or the moral law as the first principles of man’s practical reason.

For Aquinas, these principles are primary in the order of practical truth and the moral sciences, as metaphysical first principles are primary in the order of speculative truth and the theoretical sciences. “The precepts of the natural law,” he writes, “are to the practical reason what the first principles of demonstration are to the speculative reason, because both are self-evident principles.” As the proposition that “*the same thing cannot be affirmed and denied at the same time*” is the first principle of the speculative reason, so “the first precept of law, that *good is to be done, and evil is to be avoided,*” is the first principle of the practical reason.

For Kant, the principles of the pure practical reason, which legislate *a priori* for the realm of freedom, play an analogous role to the principles of the pure speculative reason, which legislate *a priori* for the realm of nature or experience. It is this parallelism between the two sets of principles which Kant seems to have in mind when he conceives a *metaphysic of nature* and a *metaphysic of morals* as twin disciplines founded on the speculative and the practical employment of the transcendental principles of pure reason.

The same fundamental issues which we have considered in connection with the axioms of theoretical knowledge occur here in connection with the first principles of moral knowledge. Aquinas and Kant disagree, for example, about the way in which we come into possession of these principles. For Kant, the principles of morality, like the principles of nature, belong to the transcendental structure of pure reason itself. For Aquinas, as already suggested, the precepts of the natural law are known in the same way as the axioms of the speculative reason. As the truth of the principle of contradiction is known when we understand the meaning of ‘is’ and ‘not,’ so the

truth of the first command of natural law—"Seek the good"—is known when we understand the meaning of 'seek' and 'good.' We hold such truths by the natural habit of our minds, which in the case of the natural law is given the special name of *synderesis*.

Just as we find a certain skepticism with regard to the principle of contradiction and other axioms, so we find doubts about the existence of natural law, or about indisputable and universally acceptable principles of morality. Referring to those who think that there are some laws "firm, perpetual, and immutable, which they call natural, which are imprinted on the human race by the condition of their very being," Montaigne declares that "the only likely sign by which they can argue certain laws to be natural is universality of approval"; and he adds, "Let them show me just one law of that sort."

The consequences of skepticism are here the same as before. Without first principles,

moral science either fails entirely or is reduced to systems of belief based upon one set of assumptions or another. In either case, moral judgments express, not knowledge, but opinion. As J. S. Mill observes, the utilitarians must, despite all other differences, agree with Kant that if there is to be a science of ethics, "morality must be deduced from principles," and ultimately from one first principle, for "if there be several, there should be a determinate order of precedence among them."

What Mill says concerning the self-evidence of the first principle of morality—which he formulates as a statement of the ultimate end of human conduct—closely resembles what Aristotle says about the self-evidence of the law of contradiction. "Questions of ultimate ends are not amenable to direct proof," Mill writes. "To be incapable of proof by reasoning is common to all first principles: to the first premises of our knowledge, as well as to those of our conduct."