BELIEVING SCIENCE AND UNBELIEVING SCIENCE

REFLECTIONS ON THE BASIC CONFLICT OF ANCIENT AND MODERN PHILOSOPHY OF SCIENCE

by Harry Neumann

It is not belief that is opposed to science. Believing science stands opposed to unbelieving science.—F. ROSENZWEIG.

There can be no living science unless there is a widespread instinctive conviction of the existence of an Order of Things, *and, in particular of an* Order of Nature. . . . *Some variant of Hume's philosophy has generally prevailed among men of science. But scientific faith has risen to the occasion, and has tacitly removed the philosophic mountain.*—A. N. WHITEHEAD.

As for philosophy, its profession of operating on the basis of the eternal and the immutable is what commits it to a function and a subject matter which, more than anything else, are the cause of the growing popular disesteem and distrust of its pretensions. —J. DEWEY.

Faith is man's inescapable basic essence. Knowledge can never replace it.—K. JASPERS.

One sometimes hears of a basic conflict between science or philosophy and religion. Science, it is claimed, discourages the recourse to faith on which religion is based. Scientific knowledge is said to arise from rational insight, while religious commitment is dependent upon a faith incapable of scientific verification. The present paper contends that modern notions of scientific cognition are not so antithetical to biblical faith as is the concept of science championed by Greek philosophy. The real enemies of a "believing science" (a science based on some hypothesis, faith, or opinion and not on infallible, rational insight) are Plato and Aristotle, not Bacon and Galileo, or even Nietzsche.

In a famous passage in Plato's *Republic* (519b7–520c3), political

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necessities force philosophers to abandon contemplative activities. Their return to the "cave" of political concerns is not voluntary, since the life of theory is their true love. The ethos preventing them from coveting kingship foreshadows the Aristotelian ideal of purely theoretical philosophers who, as such, experience no obligation to serve their fellowmen.[1] Citing Thales and Anaxagoras as men of theoretical wisdom (*sophia*), Aristotle finds their knowledge marvelous and divine (*Nicomachean Ethics* 1141b4–8). Their insight is superior to practical wisdom (*phronêsis*) as astronomy is more choiceworthy for its own sake than is political science. Indeed, practical wisdom exists to create the proper conditions for the theoretical life, as medicine exists to bring about health (*Nicomachean Ethics* 1145a6–11).

In Plato's dialogues, theoretical and practical wisdom, *sophia* and *phronêsis,* are interchangeable terms.[2] Permitting the idealist, Socrates, to regard himself as a genuine statesman (*Gorgias* 521d6–522e6), this identity of practical and theoretical virtue seems to preclude an Aristotelian independence of philosophy or science from politics. Yet Socrates compels a return to the "cave" of politics only in the perfect regime, not in any actual (i.e., inferior) state. In practice, then, Socrates too encourages philosophy's flight from politics.[3] His quarrel with Aristotle exists solely in theory, since the ideal polity governed by philosopher-kings is hardly a practical alternative.

Neither Platonic nor Aristotelian philosophers regard themselves as guardians of their actual cities. And if Aristotelian thought is the peak of classical philosophy[4] that philosophy was not primarily interested in serving others. The present paper examines the connection between this lack of altruism and the "unbelieving science" of Greek thought. I contend that the ancients were not fundamentally altruistic, since their notion of unassisted reason as infallible denied the more skeptical evaluation of mind made by common sense and presupposed by any altruistic world view or "believing science." Rational insight, from the ancient standpoint, is essentially private and for the few, not public or common as is common sense. Ancient thought is therefore incapable of becoming a majority view.

I further contend that the conflict of classical philosophy and common sense, of unbelieving and believing science, is, in principle, conterminous with human thought. Thus what has been called "the battle of the ancients and the moderns" is not restricted to any particular time. Consciously or unconsciously, "modern" thought is always informed by common-sense doubts about reason's innate perfection and by the various faiths intended to remedy it. Not subject to these doubts,

the "ancients" perceive no need to embrace any of the faiths. The perennial struggle between "ancients" and "moderns" is, then, one between unbelief and faith.[5] In order to support these contentions, we turn first to the ancient concept of philosophy, the view of "unbelieving science."

Ancient philosophy's aversion to political involvement naturally rendered it suspect to many public-spirited citizens. The antagonism is well illustrated by an anecdote concerning Anaxagoras. Annoyed that the philosopher's scientific pursuits left him no time for family or politics, a fellow citizen asked him whether he cared for his country. Indeed he did, and very much, too, was the reply, but he pointed to the sky to indicate his country.[6] Whether idealists like Plato and Aristotle or materialists like Anaxagoras and Lucretius, classical philosophers regarded themselves as citizens of the whole universe, not of one country or even of one planet. Their cosmopolitanism arose from love of pure theory: "Felix qui potuit rerum cognoscere causas." The hedonist, Eudoxus, for example, found the peak of pleasure in astronomical studies.[7] His passion for theory was hardly conducive to wholehearted concern for his fellow citizens. One can, therefore, perhaps better comprehend why it pleased the Athenians to condemn philosophers for teaching youth to prefer philosophic insight over the old, established religion.

In his comedy, the *Clouds,* Aristophanes shows the consequences of Socratic disrespect for traditional values unable to weather Socrates' dialectic. A pupil of Socrates beats his father when the old man proves incapable of defending himself rationally or dialectically. Since Socrates regards those living unexamined lives as hardly human (*Apology* 38a1–6), the comedian deduces that Socratic morality permits one to treat one's parents as recalcitrant beasts if they refuse to listen to reason.

In certain Platonic dialogues, the Aristophanic warning is, perhaps unintentionally, sounded even more clearly. In the *Euthyphro* (11b1–4, 15d4–e1) and *Gorgias* (480b7–d6; cf. 507c8–508b7), Socrates objects to punishing one's father only if the chastisement arises from inadequate knowledge of absolute justice.[8] Given the prerequisite knowledge, prosecution is incumbent. Thus Socrates, in this sense like the sophists, substitutes his own insight for traditional religious sanctions forbidding sons to punish fathers. For the sophists—at least those presented in Platonic dialogues—insist that genuine virtue arises solely from knowledge.[9]

The Socratic equation of virtue and knowledge was shared by many sophists and materialists opposed to Socratic idealism. In the *Republic* (340d1–341a4) the un-Socratic rhetorician, Thrasymachus, insists that

erring or stupid rulers are no rulers at all. Without perfect knowledge of governing, one cannot be a ruler. Indeed, it is Thrasymachus and not Socrates who introduces this view. Scholars frequently question the consistency or sincerity of this Thrasymachean argument.[10] Yet, he refuses to avail himself of the suggestion that rulers need only ordain what they believe will be good; they must, according to Thrasymachus, *know* what will prove advantageous (*Republic* 340b6–c7). Claiming to arise from infallible knowledge, his morality is not a relativism rejecting absolute goods by which relative goods may be measured. Similarly, Protagoras, perhaps the greatest sophist, has only contempt for those denying reason's power to guide (*Protagoras* 352a8–9).

Moral relativism was generally rejected by classical thinkers because their speculations, however lofty, never lost sight of a very practical question: What is the best way for me to live, or how can I be happy? In short: What is the Good?[11] All participants in Plato's dialogues regard this as the main question. It is also the central concern for both parties in Thucydides' Melian Debate. It is, indeed, a universal question consciously or unconsciously asked by all men always. Yet, modern theorists often consider it unscientific to inform one's speculations with this practical concern.[12] They must, therefore, distinguish between themselves as objective scientists and as merely subjective mortals. For as scientists they make conscious efforts to avoid the value judgments necessarily made by them as men. The antagonists in Plato's dialogues saw no need to abandon "value judgments" in scientific activity, since their basic differences concerned not the existence but the mode of being of absolute goodness. Its existence, to put it in modern terms, was an objective "fact" and not a subjective "value" to them. Even the Socrates of Plato's *Apology*, whose claims to knowledge were surely modest, was convinced that scientific or philosophic activity constituted the only good life. Where the utility of rational activity was concerned, Socrates was no skeptic.

Although maintaining that man is the measure of everything, Plato's Protagoras nevertheless insists that the Good exists by nature and not merely by human fiat or convention.[13] Nobility, justice, and even truth itself are relative, he claims, but he also asserts that only men devoid of reason will want what merely seems good or what is relatively good for them. Sensible men—and they are the only ones who count for Protagoras—demand what is objectively good for themselves. He would readily second the Socratic or Aristotelian contention that men by nature desire the good. Nor would he have any use for the Nietzschean rejection of happiness as the final goal.[14]

In agreement that absolute values existed by nature and were rationally discernible, ancient thinkers nevertheless disagreed on their nature. For the materialists, the good was corporeal pleasure, while the idealists viewed the good as spiritual. Founded by Socrates, the latter school reached its zenith in Plato's greatest student, Aristotle. In one form or another, these two camps fought the noteworthy battles of ancient thought. To modern eyes, however, even ancient materialists and sophists often appear idealistic, for they too measure reality by rational absolutes.[15]

Plato's Thrasymachus and Callicles regard tyrannical power as the natural good for which men strive, unless blinded by convention or intimidated by superior force. For them, inability to attain dictatorial power—whether in fifth-century Athens or twentieth-century America—indicates an evil or defective nature unable to live up to the objective standard measuring all human efforts. They, therefore, disdain hoi polloi incapable of despotism. And, for them, idealists of the Socratic or Aristotelian schools are part of the deluded masses: Socrates is leading a morally reprehensible life based on quixotic values not conducive to attainment of tyrannical power (*Gorgias* 482c4 ff.).

Although far from sharing materialist or despotic concepts of man's nature, Socrates too claims to apprehend objective standards by which to measure reality's value. For him, however, man's natural good is a universal, far removed from all worldly attachments (*Republic* 517b7–c5, 518c4–d1). The life most worthy of man is, therefore, one devoted to intellectual inquiry transcending all corporeal concerns (*Theaetetus* 172c3 ff.). One learns to die to the body in order to become alive to one's true spiritual reality. Men not intellectually equipped for this enterprise are as contemptible to Socrates as unsuccessful tyrants are to Thrasymachus and Callicles. For, in each case, those falling short of the natural standard are, *ipso facto,* stupid and therefore evil. Morality is grounded in knowledge of reality itself.

Perhaps the best statement of the classical view is Aristotle's conception of scientific knowledge (*epistêmê*) and reason (*nous*). Aristotelian science is impossible unless the basic premises from which it arises are known (*Nicomachean Ethics* 1139b27–31, 1141a8; *Posterior Analytics* 100b3–17). In its perfect form, reason or rational activity (*noêsis*) is God himself, the divine work grasping and being the ultimate principles upon which the life of the whole universe depends.[16]

For Lucretius, the ultimate sources of life were atoms and void, not Aristotelian reason or Platonic ideas. Yet, both Plato and he would embrace the sophistic thesis condemning virtue not grounded in knowl-

edge as worthless. And they would all subscribe to the Aristotelian doctrine that scientific knowledge is generated by infallible rational insight, not mere opinion or hypothesis. They would, in Platonic terms, all agree that the fourth part of the "divided line," the realm of intelligible, non-hypothetical being (*Republic* 511b3–4) exists, although they would, to be sure, disagree on its nature (e.g., whether reality is essentially atoms or ideas). Aristotle is merely stating their agreement when he suggests that those basing their speculations on hypotheses without grasping the truth of their basic premises, are operating on a level suitable to immature minds. Children are capable of cranking out desired conclusions from given premises if their minds are "well-oiled." Their childishness comes to light in inability to comprehend the truth or falsity of their premises. They may, therefore, be good mathematicians, since mathematical objects, existing through abstraction from reality. may be understood without grasping reality itself. Lack of experience with reality precludes both theoretical and practical wisdom on the part of youth or youthfulness (*Nicomachean Ethics* 1142a11–20; cf. 1095a2–11, 1147a19–24).

From Aristotle's notion of scientific knowledge, one can perceive why Greek theorists would have rejected modern methods of experiment and hypothesis as a basis for science. Anyone familiar with the passion for truth animating Aristotle's research realizes the foolishness of maintaining that he would have refused to consider the theories of Galileo, Darwin, or Freud.[17] He would surely have accepted any theory for which he found adequate evidence. However, he would have rejected most emphatically any claim that science could be based ultimately on hypothetical certainty. For him, reason (*nous*) needs no scientific method or religious faith to guide it.[18] A "believing science" is a contradiction in terms from his standpoint.

Modern scientists readily admit that even their most basic hypotheses are tentative and therefore subject to partial or complete revision in the light of future experiments. No knowledge is infallible or timeless. Indeed, scientists generally pride themselves on their willingness to see their knowledge upset by new and better findings. Although prepared to experiment about lesser matters, classical thinkers would have rejected experimental methods as a basis for scientific knowledge. Science involves unerring knowledge of one's basic principles, or it is not science. Lucretius was convinced that no future insight or experiment could invalidate his knowledge that nothing comes from nothing by divine will (*nullam rem e nilo gigni divinitus umquam*). Basic to classical thought, this proposition, according to Lucretius, arose from in-

fallible cognition. Like most classical theorists, Lucretius believed that only a small minority had the intelligence to see reality for what it is. Classical thought, like Epicurus' garden, was for the few.

The exclusive character of ancient thought arises not from snobbishness but from a concept of reason unacceptable to most men at any time. For most would agree with Descartes and Bacon that unassisted reason is never infallible. Descartes' omnipotent deceiver[19] is merely a radical expression of this common-sense skepticism concerning reason's powers. In the eyes of common sense, then, classical philosophy's claim to infallible cognition does indeed represent a "superhuman or inhuman exaltation of reason."[20] On this point, Thrasymachus and Protagoras, no less than Aristotle, part company with the general consensus of mankind. Thus, the basic principle of classic thought, its concept of reason, is an indemonstrable insight unavailable to the vast majority (cf. *Republic* 527e3–5). One either has "eyes" to comprehend reason's true power, or one does not.[21] Only those not privy to this insight are necessarily open to the possibility that some Cartesian deity is deceiving their reason.[22] For classical thinkers, such a deity is not possible: Unassisted reason, freed from the shackles of conventional prejudice, is infallible.

It has been said that all men are either Platonists or Aristotelians. The distinction between those accepting classical philosophy's view of reason and those embracing popular doubts concerning its perfection is surely more basic. For Plato and Aristotle, however great their differences, have more in common with each other than either has with deniers of reason's essential infallibility. One may, of course, accept any doctrines, including Platonic or Aristotelian ones, without subscribing to the concept of reason championed by ancient thought. In that case, one does not accept them in a Platonic or Aristotelian way. For classical philosophy was undemocratic or exclusive not so much in its conclusions or doctrines as in its basic conception of intellect. Thraymachus is therefore closer to Plato than one accepting that basic conception as a hypothesis, however probable, rather than as objective truth. Neither Plato nor Aristotle regarded thinking based on hypothesis as genuine scientific reasoning (*Republic* 510c2–511a8, 533b6–e2). By insisting on rational grasp of objective knowledge, Thrasymachus is more Platonic in the decisive respect, however un-Platonic he may be in lesser matters. His introspection has made him alive to the essential infallibility of genuine cognition. Those whose self-examination discloses no such infallibility will necessarily side with the *consensus gentium* against both Thrasymachus and Plato (e.g., *Republic* 340b6–8); they will seek hu-

man or superhuman methods to rectify reason's shortcomings. No such remedies are required, if mind is essentially perfect. In that case, the only problem is elimination of unnatural factors created by heredity or environment but extrinsic to reason, impeding its natural excellence. Classical thought viewed education as emancipation of reason, not as a method for guiding an intrinsically deficient reason.

Since most men were unable to comprehend its concept of reason, classical thought hardly encouraged altruistic concern for mankind. At most, one is encouraged to admire the few capable of apprehending truth. Thus, in Plato's *Republic,* Socrates pays virtually no attention to the education of the vast majority in his ideal state, regarding them as unteachable, except through theological indoctrination or "royal lies."[23] Yet, he frequently insists that man's soul is lost without genuine education. Men whose virtue arises from indoctrination or faith, and not rational insight, are being prepared for tyrannical, subhuman lives (*Republic* 619b7–d1; *Phaedo* 82a10–c1).

The Socrates of Plato's *Apology* does seem inclined to educate all his fellow citizens. In this he obviously differs from the hero of the *Republic.* Yet, even in the *Apology* (31e1–32a3; cf. *Crito* 44d8–10, 47e6–48c6), he taught that non-philosophers, among whom were to be found most Athenians, were scarcely human. Aristophanes, we noted above, was alive to the dangerous political and social implications of this doctrine. Socrates, he warned, taught rejection of parental authority and of the religious law sanctifying it. Grounded solely in reason, Socratic morality disdained traditional Athenian worship (cf. *Euthyphro* 6a6–c4). Just as a Thrasymachus would interpret emphasis on rational insight as encouragement of tyranny, so other un-Socratic minds would take it as license to act on whatever they viewed as knowledge. Aristophanes' Pheidippides is a comic, but serious, example of perils necessarily accompanying theories arising from premises indemonstrable except through an immediate cognition possible only to a small minority. Thus the exclusive character of ancient thought necessarily, if sometimes unintentionally, emancipated what Hegel and Nietzsche call the principle of subjectivity.[24] Contrary to Nietzsche's view, the sophists, no less than Socrates, were responsible for this. No longer is youth taught to appeal to commonly accepted authorities or common sense; the sole appeal is to one's own unassisted reason. Those not sharing classical thought's optimism about reason naturally viewed its emancipation as attempted corruption of youth.

Cognizant of the political hazards inherent in his rationalism, Socrates forbids the discussion of philosophy with those under thirty (*Repub-*

lic 538e5 ff.). Premature introduction to dialectic will deprive potential philosophers of the crutches of convention before they can walk by unassisted reason alone. Thus Socrates' prohibition is a temporary measure, safeguarding the immature. Fully developed reason, however, may safely discard artificially inspired attachment to old, inherited values. For those who, like Hobbes, deny the existence of "a right reason constituted by nature," classical thought's contempt for convention will always mean encouragement to subvert law and order.[25] And Hobbes here embraces the common-sense view of mankind, the *consensus gentium.* In the name of humanity, he takes up the cudgels against ancient thought. For the desire to serve mankind is hardly furthered by classical philosophy's love of pure theory.

Not classical philosophy but biblical revelation first fostered the conviction that man as man, irrespective of his intellectual capacities, has dignity and worth. Denying to mind perfect apprehension of the ultimate source of reality, the Bible rejects the very foundation of ancient thought. According to the Christian, Paul, believers walk by faith and not by sight. For him, the morality of Greek philosophy is merely the wisdom of this world and its reason, things of little substance in the eyes of God.[26]

The biblical denial of reason's infallibility makes possible moral values more acceptable to most men.[27] For the ancients, this democratization of morality means betrayal of philosophy to common sense's skepticism about mind, a skepticism foreign to Socratics and Protagoreans alike. From the biblical standpoint, men pluming themselves on infallible, exclusive knowledge are guilty of Satanic presumption, the sin of pride. To tempt Eve, Milton's Satan utilizes arguments which might have been employed by a Socrates, a Lucretius, or a Thrasymachus.[28] Even Thomas Aquinas, striving to fit Aristotle into a Christian context, was forced to deny the evaluation of reason shared by Aristotle with most classical theorists. Indeed, Thomas attempted to prove that the highest and most authoritative science cannot rationally comprehend the essence of the God who is its fundamental presupposition "because man is directed to God as to an end that surpasses the grasp of his reason."[29]

For theologians, science, like all human activity, is dependent on the inscrutable divine will creating it and permitting it to exist. The fundamental biblical doctrine, creation *ex nihilo,* must be accepted on faith since it can never become evident to reason, at least not in this life.[30] One can, therefore, hardly imagine a greater moral or theoretical opposition than the one separating Aristotle from Thomas, Greek

reason from biblical faith. Only in lesser matters is genuine synthesis possible between those affirming and those denying that life's ultimate source is cognizable by unassisted reason. It is, then, no exaggeration to say that Aristotle and Lucretius (or Socrates and Protagoras) have more in common with each other than either has with Thomas. But, to repeat, it is Thomas, and not the ancients, who is in harmony with the common-sense view of reason.[31] From that viewpoint, the "unbelieving science" of classical thought must seem a "superhuman or inhuman exaltation of reason."[32]

By affirming faith as the cornerstone of the most authoritative science, Thomas made room for something other than unerring rational insight as a basis for science. He was, in this way, a forerunner of the hypothetical-experimental methods of modern science.[33] Indeed, any science or theory informed by common sense's misgivings about pure mind would tend to employ some method to correct reason's inherent vagaries. Of course, as a devout Christian, Thomas felt no need to treat the articles of his faith as scientific hypotheses to be tested by experiment. Such experimentation would seem blasphemous to any orthodox Moslem, Jew, or Christian. As a Christian, Thomas was certain that his faith constituted the only secure basis for the most authoritative morality or science. Yet, different men embrace different faiths, for example, in the biblical God, or in the Buddha, or in Hitler, or in Lenin, or in Darwin, or in the experimental methods of modern science.

Some modern thinkers even claim to have faith in reason itself. A contemporary philosopher, Karl Jaspers, speaks of "der philosophische Glaube," the faith on which philosophy rests.[34] One often hears the remark that it is necessary to believe in something. All these faiths—perhaps especially faith in reason itself—share what the ancients would have regarded as the crucial error of Thomas Aquinas: All of them accept a belief or an opinion, a faith, as the ultimate guide. For there is no need for either biblical faith or modern scientific experimentation about something *known* to one. Lucretius feels no necessity to experiment or have faith in regard to the impossibility of creating something out of nothing. Unlike the modern scientists who did not deny the biblical God's existence, but felt no need to hypothesize him, Lucretius simply denied the possibility of the doctrine central to biblical thought.

The insight or alleged insight permitting Lucretius to discard biblical creation would also have led most ancient philosophers to deny modern science's claim to yield knowledge. At bottom, modern science is not continuation or improvement of classical science; it arises from radical rejection of the classical assessment of reason. Bacon, Descartes,

and other modern pioneers stood on the shoulders of biblical revelation more than on those of classical thought. Or, instead, they built on the common-sense view of reason rather than on the classical one.

Modern scientists and intellectuals sometimes, though by no means always, view themselves as emancipated from what they choose to regard as biblical or medieval superstition. Yet their view of science has, as we noted, more in common with biblical faith than with Greek reason. For under the influence of the biblical tradition, Bacon and Descartes no longer felt it possible to grasp the ultimate source of truth and justice. On such theological or metaphysical matters, one must have faith; the light of reason is too dim to permit their apprehension. Even in scientific matters, reason cannot be left to itself lest it fall into error. As the full title of Descartes' famous *Discourse on Method* indicates, methods must be found by which reason may be rightly guided to find truth in the sciences: "The understanding, unless directed and assisted, is a thing unequal and quite unfit to contend with the obscurity of things."[35]

As in the case of the Bible[36] the Baconian-Cartesian view of reason made possible an egalitarian or humanitarian concept of reason's role. All men, Descartes insists, are basically equal in intelligence; the superior are so by following a better method of reasoning.[37] Even modern philosophers like Nietzsche who reject egalitarianism nevertheless share the concept of mind from which it arose. No less than Descartes or Marx, Nietzsche denies that unassisted reason can determine an objective hierarchy of worth. Reason, for him, is the impotent tool of an omnipotent will to power.[38] Thus he rejects both theological (Thomas) and scientific (Bacon, Descartes) methods as aids for fallible reason, assuming instead that reason is manipulated fortuitously by a cosmic power drive. The alleged superiority of his "superman" therefore arises from an irrational urge to gain power. Aristotle, on the other hand, regarded some men as natural slaves, however free they happened to be by convention.[39] Confident of this insight, he felt no need to enslave arbitrarily simply to assert his greatness.[40]

From the standpoint of Greek philosophy, it makes little difference whether one follows the scientific method of Galileo and Descartes or the religious method of Loyola. The very notion that unassisted reason requires a method to grasp reality constitutes an implicit rejection of "unbelieving science." Methods to correct reason are needed only if unassisted reason is, as common sense claims, subject to error and temporal vicissitudes:

> The new thinking, like the age-old thinking of sound common sense, knows that it cannot have cognition independent of time—though heretofore one of philosophy's boasts has been that it is able to do this very thing . . . no one who is making a purchase seriously believes that what he sees, colored by his desire to buy, will look the same to him later when he regrets having bought it. Yet, this is equally true of great, ultimate matters that we think we behold only as something timeless.[41]

The most basic principles of any science arising from this concept of reason must be continually tested by experiment; one can never have final, infallible knowledge concerning them. Thus scientific research is, in principle, incapable of completion.[42] It constitutes a "believing science," since God alone could verify its truth once and for all.[43]

Without faith in God, all knowledge remains tentative or "historical," if reason is incapable of grasping final truths. Desire for unending experimental verification of one's faith will then replace desire for final, rational insight.[44] In this sense, modern, experimental science is a branch of history.[45] Apart from their role in the actual process of history, scientific truths have no validity, if reason cannot comprehend unchanging, trans-historical truth:

> Die Frage, ob dem menschlichen Denken gegendständliche Wahrheit zukomme, ist keine Frage der Theorie, sondern eine praktische Frage. In der Praxis muss der Mensch die Wahrheit . . . seines Denkens beweisen.[46]

Incapable of transcending its hypothetical-experimental method, modern "believing science" cannot restrict its appeal to a philosophic elite as did Greek philosophy. No man's intellect is, by nature, better than another's; all are dependent on faith of one sort or another.[47] Thus modern thought tends to be silent, if not disdainful, on questions of ultimate truth, regarding these as questions of "value" as distinct from questions of "fact." Ultimate truth or justice are "values" and are, as such, not amenable to (modern) scientific treatment. Man's reason, as Kant put it, cannot comprehend things in themselves. God alone can do this, if anyone can. Thus, although the founders of modern science intended it to serve mankind, that science, by its very nature, cannot say why one should be altruistic: Humanitarianism is a "value" not a "fact." Not even the value of scientific research can be scientifically demonstrated.[48] Radicalizing this view, Nietzsche questioned the very distinction between facts and values: For him there is nothing "given," no "thing in itself" existing apart from the values or interpretations

which posit its existence. Scientific facts are the scientist's values or articles of faith: "Gegen den Positivismus, welcher bei den Phänomenon stehn bleibt 'es gibt nur Tatsachen' wurde ich sagen: nein, gerade Tatsachen gibt es nicht, nur Interpretationen . . . 'es ist alles subjektiv' sagt ihr: schon das ist Auslegung. Das 'Subjekt' ist nichts Gegebendes, sondern etwas hinzu—Erdichtetes. . . . Ist es zuletzt nötig, den Interpreten noch hinter die Interpretation zu setzen? Schon das ist Dichtung, Hypothese. . . . Unser Bedürfnisse sind es, die die Welt auslegen, unsere Triebe und deren Für und Wider."[49]

By utilizing the facts or values created by modern scientific methods, man can provide himself with means to serve humanity, if that is desired; however, as this generation is all too aware, science can also teach man to annihilate himself. Capable of serving the values of Soviet tyranny as readily as those of Isaiah, it receives its ultimate goals from the individuals or groups controlling it. Modern scientific values such as truth and objectivity are subordinated to these goals which constitute the ultimate values served by science.[50] From the point of view of these ultimate values, science is merely a tool. Of itself it is morally neutral. Its moral indifference reflects the common-sense view of reason from which it arose. According to that view, unassisted reason cannot escape the "idols of the tribe," as Bacon called its innate deficiencies.

Scientific technology is an attempt to save reason from itself.[51] How can a reason congenitally incapable of objective insight create scientific techniques permitting it to obtain objectivity?[52] The devaluation of reason by Nietzsche and the existentialists is based on the conviction that reason's inherent failings cannot be corrected by its attempt to pull itself up by its own bootstraps. Lacking miraculous, superhuman aid, mind is doomed to its own imperfection and subjectivity. Thus, atheistic existentialism is an outgrowth of the commonly accepted evaluation of reason, if no divine grace is available.

Nietzsche's followers, if not Nietzsche himself, tend to reduce all morality to "will" or "commitment" which, in the absence of "a right reason constituted by nature," determines what values are choiceworthy. The impotence of reason necessitates a tragic, ultimately irreconcilable conflict of wills. Precisely this situation renders freedom of choice morally relevant. For one would not need to choose one of many relative goals if one knew the true, absolute goal. In the absence of this knowledge, all values are often regarded as equally defensible if those embracing them are prepared to die in their defense. Linking this concept of morality with the problem of experimentation,[53] Rosenzweig rightly speaks of the "messianic theory of knowledge that values truths

according to what it has cost to verify them."[54] According to Heidegger, therefore, it is not the truth which makes men free but freedom which makes men true.[55]

The problem of freedom, as it appears to a "believing science" aware of its need for faith of some sort, has no place in Greek philosophy. The ancients, as we noted at the beginning, refuse to descend from the heights of pure theory to what they regard as the political banality of the "cave." For them, the "cave" is life animated by the inherited wisdom or common sense of mankind. According to that wisdom, no man's intellect can enjoy infallible insight. Timeless, objective cognition is precluded by dependence on the historical conditions molding one's subjectivity.[56] Thus mores in the "cave" encourage viewing oneself as radically social or political, incapable of transcending the particular circumstances of one's time and station. In this context, reason is truly a kind of common or communal sense, open to Jasper's demand for "boundless communication"[57] and therefore hostile to the emancipation of unassisted, self-sufficient reason, its flight from the "cave" to eternity. In the "cave," two alternatives exist: faith in religious or scientific methods of curing reason's ills, or the despair of something like atheistic existentialism.[58] Scorning any faith as an ultimate guide, the ancients, in practice, declined to return to the "cave." In theory, of course, even the "cave" presented an interesting object of speculation for their "unbelieving science" (cf. Plato *Parmenides* 130c1–e4; Aristotle *Parts of Animals* 644b22–645a36; *Politics* 1297b11–15). For those who like Kierkegaard, are committed to biblical values, this "aesthetic"[59] attitude must ultimately collapse into despair, unless it operates within the framework of a "believing science," acknowledging its dependence on the omnipotent will of God. In a similar spirit, if somewhat less biblically, the modern physicist, Heisenberg, interprets the ultimate basis of Western civilization:

> Die ganze Aktivität des Abendlandes rührt ja nicht von einer theoretischen Einsicht her, auf Grund deren unsere Vorfahren sich berechtigt gefühlt hätten zu handeln, sondern es war ganz anders. Am Anfang stand und steht in solchen Fällen immer der Glaube. Ich meine damit nicht nur den christlichen Glauben an den von Gott gegebenen sinnvollen Zusammenhang der Welt, sondern auch einfach den Glauben an unsere Aufgabe in dieser Welt. Glauben heisst dabei natürlich nicht, dies oder jenes für wahr halten, sondern glauben heisst immer: Dazu entschliesse ich mich, darauf stelle ich meine Existenz! . . . Diese Formel (ich glaube, um zu handeln, ich handle, um einzusehen) passt auf die ganze Naturwissenschaft des Abendlandes, wohl auf die ganze Sendung des Abendlandes. Sie umgreift humanistiche Bildung und Naturwissenschaft.[60]

NOTES

1. E. Zeller, *Aristotle and the Earlier Peripatetics* (3d ed.; London: Longmans, Green & Co., 1897), I, 170; E. Voegelin, *Plato and Aristotle* (Baton Rouge: Louisiana State University Press, 1957), pp. 116–17; H. Cherniss, *Aristotle's Criticism of Plato and the Academy* (Baltimore: Johns Hopkins Press, 1944), pp. 207–8.

2. G. R. G. Mure, *Aristotle* (New York: Oxford University Press [paperback], 1964), pp. 128 ff.; W. Jaeger, *Aristotle,* trans. Richard Robinson (Oxford: Clarendon Press [paperback], 1948), pp. 371–72, 436 ff.

3. Voegelin (n. 1 above), pp. 304, 116–17; Plato, *Apology,* 31e1–32a3; *Theaetetus* 172c3–4; my article, "Phaedra's Death in Euripides and Racine: Moral Responsibility in Closed and Open Societies," *Cithara,* VI (1967), 26–29.

4. On the practicality of the *Republic's* ideal state, see J. Adam (ed.), Plato, *Republic* (2d ed.; New York: Cambridge University Press, 1963), II, 38, 44, 369–70. On Aristotle as the peak of classical thought, see E. Zeller, *Outlines of the History of Greek Philosophy* (13th ed.; New York: World Publishing Co. [Meridian paperback], 1959), p. 336.

5. In this regard consider Goethe, *Noten und Abhandlungen zum besseren Verstandnis der West-östlichen Divans* (Weimar: H. Böhlau, 1888): "Das eigentliche, einzige und tiefste Thema der Welt- und Menschengeschichte, dem alle übrigen untergeordnet sind, bleibt der Konflickt des Unglaubens und Glaubens."

6. Jaeger (n. 2 above), p. 428.

7. E. Frank, "Die Begründung der Mathematischen Naturwissenschaft durch Eudoxus," in *Wissen, Wollen, Glauben* (Zurich: Artemis-Verlag, 1955), pp. 154–55.

8. G. Grote, *Plato* (2d ed.; London: J. Murray, 1888), I, 439, n. 2; 442–43; cf. S. Kierkegaard, *Of the Differences Between a Genius and an Apostle* and *The Present Age and Two Minor Ethico-Religious Treatises* (bound together; Magnolia, Mass.: Peter Smith, Publisher, 1949), p. 153: "To honor one's father because he is intelligent is impiety." On this point, see my article, "Kierkegaard and Socrates on the Dignity of Man," *Personalist,* XLVIII (1967), 453–60.

9. E. R. Dodds, *The Greeks and the Irrational* (Berkeley: University of California Press, 1963), pp. 184 ff.; 197, n. 29; G. B. Kerferd, "The Doctrine of Thrasymachus in Plato's *Republic,*" *Durham University Journal* (1947–48), pp. 19–27; A. W. H. Adkins, *Merit and Responsibility* (New York: Oxford University Press, 1960), pp. 239–40, 270–78; G. Krüger, *Einsicht und Leidenschaft* (2d ed.; Frankfurt: V. Klosterman, 1948), pp. 96 ff. See also the contrast between Protagoras and Descrates by M. Heidegger, *Nietzsche* (Pfullingen: Neske, 1961), II, 135–73. Cf. my article, "The Sophistry of Plato's Protagoras and Cleitophon" (to be published in *Sophia*). The difference between Socratics and sophists is one of moral intention as Plato's Stranger (*Sophist* 253c6–254b1) and Aristotle (*Rhetoric* 1355b17–22) observe; cf. Aristotle, *Metaphysics,* 1004b22–25.

10. E.g., R. C. Cross and A. D. Woozley, *Plato's Republic* (New York: St. Martin's Press, 1964), pp. 47–48, 58–59. Against this view, see Kerferd (n. 9 above); and my article, "Plato's *Republic:* Utopia or Dystopia?", *Modern Schoolman* (May, 1967), pp. 319–30.

11. Cf. Mure (n. 2 above), p. 127; Krüger (n. 9 above), *passim.*

12. E.g., M. Weber, "Science as a Vocation," in H. H. Gerth and C. W. Mills (eds.), *From Max Weber* (New York: Oxford University Press [paperback], 1961), pp. 143 ff.; A. J. Ayer, "The Claims of Philosophy," in M. Natanson (ed.), *Philosophy of the Social Sciences* (New York: Random House, 1963), pp. 478 ff.; K. Löwith, "Max Weber und Karl Marx," *Gesammelte Abhandlungen* (Stuttgart: W. Kohlhammer, 1960), pp. 9 ff.; and n. 47 below. Also A. N. Whitehead, *Science and the Modern World* (New York: Mentor Press [paperback], 1949), pp. 4 ff.

13. *Theaetetus* 166c1–167d4, 169d3–8, 171d1–172b6, 177c6–179a9. On these passages,

see L. Versényi, *Socratic Humanism* (New Haven, Conn.: Yale University Press, 1963), pp. 31–32.

14. Krüger (n. 9 above), p. 159; cf. Weber (n. 12 above), p. 143; K. Jaspers, *Nietzsche und das Christentum* (Munich: R. Piper, 1952), pp. 51 ff.; F. W. Nietzsche, *Will to Power* (Pfullingen: Neske, 1961), aphorisms 222, 393, 433–34, 437, 453, 686–88, 696, 704, 751, 781, 888–89, 911, 930–32.

15. See Krüger (n. 9 above), pp. 110 and 196, on the "ontological tendency to teleology" in ancient materialism. On the difference between ancient and modern notions of philosophy and science in this regard, see W. K. C. Guthrie, *A History of Greek Philosophy* (New York: Cambridge University Press, 1962), II, xiii, 554. Thus, Guthrie (*ibid.*, p. 500) rightly contends against a modern scientific interpretation of Democritus that "it can hardly be right to say that, besides being too small to be seen, his atoms 'only existed in a manner of speaking, since one could discover what was *really* going on in the world only by hypothesis and rational inference.' This is not the logic of Democritus, who had learned his lesson from the Eleatics: What is reached by rational inference is the *only* thing that has absolute and unqualified existence. At the same time, it belonged to the physical—that is, material—world, since, for him there was no other"; cf. the criticism of ancient thought by J. Dewey, *Reconstruction in Philosophy* (New York: Mentor Press [paperback], 1950), *passim*, esp. pp. 12–16, 28, 87, 102.

16. Frank, "The Fundamental Opposition of Plato and Aristotle" (n. 7 above), pp. 115–19; A. E. Taylor, *Aristotle* (2d ed.; New York: Dover Publications [paperback], 1955, pp. 55, 99; Zeller, *Aristotle and the Earlier Peripatetics* (n. 1 above), pp. 397, 403 ff.; Cherniss (n. 1 above), pp. 458–59, n. 406. On reason's capacity to grasp the basic premises of science, see also M. Grene, *A Portrait of Aristotle* (Chicago: University of Chicago Press, 1963), pp. 110 ff., 241 ff.; K. R. Popper, *The Open Society and its Enemies* (4th ed.; New York: Harper & Row [paperback], 1963), II, 10 ff.; Cherniss (n. 1 above), pp. 78 ff. How reason in man participates in the divine reason is a perennial problem of Aristotelian studies. On this difficulty, see G. Boas, "Some Assumptions of Aristotle," *Transactions of the American Philosophical Society*, N.S., XLIX, Part VI (1959), 73 ff.; W. D. Ross (ed.), Aristotle's *Metaphysics* (New York: Oxford University Press, 1958), I, 141 ff.; Mure (n. 2 above), pp. 171 ff. In spite of this *aporia*, Aristotle is obviously conviced that participation in divine reason occurs; e.g., see *Metaphysics* 1072b15 and 24; *Nicomachean Ethics* 1177a17. See the remarks on these passages by Krüger (n. 9 above), p. 196; cf. Ross, *op. cit.*, II, 379.

17. On Aristotle's attitude, see L. Edelstein, review of J. H. Randall's *Aristotle*, in *Journal of Philosophy*, LIX (1962), 159.

18. See n. 16 above.

19. See n. 42 below.

20. W. Barrett, *Irrational Man* (New York: Doubleday & Co. [Anchor paperback], 1958), p. 73. Barrett refers to Plato here, although, we noted in n. 10 above, the same charge could be made against his Thrasymachus; see G. P. Grant, "Tyranny and Wisdom," *Social Research*, XXXI (1964), 66.

21. H. Arendt, *Between Past and Future* (New York: World Publishing Co. [Meridian paperback], 1963), p. 132. Those lacking the requisite intellectual equipment must be persuaded by "royal lies" or religious myths. On this point, see L. Edelstein, "The Function of the Myth in Plato's Philosophy," *Journal of the History of Ideas*, X (1949), 478. Although Arendt and Edelstein refer to Plato here, a similar attitude to religious myth characterizes Plato's Protagoras (*Theaetetus* 162d5–e7). In any case, reason, as Greek philosophy understood it, is not to be identified with some religious or mystical experience; see Barrett (n. 20 above), pp. 71 ff.; and my article, "The Problem of Piety in Plato's *Euthyphro*," *Modern Schoolman*, XLIII (1966), 265–72.

22. See n. 42 below.

23. See n. 21 above.

24. G. W. F. Hegel, "Die Schicksale des Sokrates," *Vorlesungen über die Geschichte der Philosophie*2 (Berlin: Duncker und Humblot, 1842), pp. 81–105; F. W. Nietzsche, "Das Problem des Sokrates," *Götzen-Dammerung* (Munich: W. Goldmann, 1964); Numa Denis Fustel de Coulanges, *The Ancient City* (New York: Doubleday & Co. [Anchor paperback], 1956), pp. 355 ff.; Dodds (n. 9 above), pp. 189 ff.; A. Koyré, *Discovering Plato* (New York: Columbia University Press [paperback], 1960), p. 13, n. 10.

25. T. Hobbes, *Leviathan*, M. Oakeshott (ed.) (Oxford: B. Blackwell, 1946), chap. xxi, pp. 140–1; chap xv, p. 100. Hobbes even insists that men by nature superior to others nevertheless regard themselves as equal. The sophist, Hippias, on the other hand, regards the wise as related by nature, while the masses, related by the tyranny of convention (*nomos*), are by nature inferior (Plato, *Protagoras*, 337c6–e2); my article, "Phaedra's Death in Euripides and Racine" (n. 3 above), pp. 26–31; my article, "Plato's *Republic:* Utopia or Dystopia?" (n. 10 above), p. 320, nn. 2 and 3.

26. Frank, "Faith and Reason" (n. 7 above), pp. 373 ff.; E. Frank, *Philosophical Understanding and Religious Truth* (New York: Oxford University Press, 1945), pp. 159–60. In a similar spirit, I Cor. 1:20–22 is cited against the wisdom of Greek philosophy by M. Heidegger, *Was ist Metaphysik?* (7th ed.; Frankfurt: V. Klosterman, 1955), p. 20. On Heidegger in this regard, see J. Robinson and J. B. Cobb (eds.), "The German Discussion of the Later Heidegger," in *The Later Heidegger and Theology* (New York: Harper & Row, 1963), pp. 36 ff., 75; J. Collins, *The Existentialists* (Chicago: Henry Regnery Co. [paperback], 1963), pp. 179, 209, 241–42. Consider also the remark by Thomas Acquinas quoted by V. J. Bourke, *St. Thomas and the Greek Moralists* (Milwaukee, Wisc.: Marquette University Press, 1947), p. 42: "Not one of the philosophers before the coming of Christ could with all his striving know as much about God and the things needed for eternal life, as would an old woman, by faith, after the coming of Christ."

27. J. H. Hallowell, "Plato and the Moral Foundations of Democracy," in *Plato: Totalitarian or Democrat* (Englewood Cliffs, N.J.: Prentice-Hall, 1963), p. 136: "The life of wisdom and virtue, which Plato thought possible only for a few, is now conceived as being available through the grace of God to all men equally." See also Bacon, *Of the Advancement of Learning*, in James Spedding and Robert Leslie Ellis (eds.), *Philosophical Works of Francis Bacon* (London: Longmans & Co., 1905), p. 135: "There was never any philosophy, religion, or other discipline, which did so plainly and highly exalt the good which is communicative and depress the good which is private and particular, as the Holy Faith . . . [it] decides against Aristotle. For all the reasons which he brings for the contemplative [life] are private, and respecting the pleasure and dignity of a man's self." On the "private" character of classical morality, cf. nn. 10, 11, and 14 above, and n. 47 below.

28. J. Milton, *Paradise Lost*, IV, 11, 513–26, IX, 670–732; cf. Aristotle, *Nicomachean Ethics*, 1177b27–1179a33; *Metaphysics*, 982b28–983a5. From Aristotle's viewpoint, Satan's moral intention makes him a sophist, not a philosopher. On this point, see n. 9 above; F. W. Nietzsche, *Beyond Good and Evil*, trans. Helen Zimmern (New York: Modern Library, 1917), aphorism 152.

29. T. Aquinas, *Summa Theologiae* (New York: Modern Library, 1948), I, 4. On the relation of Thomas to Aristotle, see E. Cassirer, *The Problem of Knowledge* (New Haven, Conn.: Yale University Press, 1950), p. 13; Frank, "The Development of Mediaeval Philosophy and its Relation to Modern Thought" (n. 7 above), pp. 198–203; F. Copleston, "Mediaeval Philosophy," in *A History of Philosophy* (New York: Doubleday & Co. [paperback], 1962), II, Part II, 118–21, 128, 130–31, 137, 147–52; L. M. Régis, *Epistemology* (New York: Macmillan Co., 1959), p. 119; J. H. Randall, Jr., *Aristotle* (New York: Columbia University Press [paperback], 1960), pp. 96–97, 103, 136; E. Gilson, *Reason and Revelation in the Middle Ages* (New York: Charles Scribner's Sons [paperback], 1938), pp. 17, 76 ff.; E. Gilson, *God and Philosophy* (New Haven, Conn.:

Yale University Press [paperback], 1960), pp. 62–66, 76; H. V. Jaffa, *Thomism and Aristotelianism* (Chicago: University of Chicago Press, 1952), pp. 150–66. See also n. 26 above.

30. Aquinas, *Summa Theologiae* (n. 29 above), I, 252–57; see K. Löwith, "Schöpfung und Existenz," *Wissen, Glaube und Skepsis* (Göttingen: Vandenhoeck & Ruprecht, 1958), pp. 68–86; R. Bultmann, "The Meaning of the Christian Faith in Creation," in *Existence and Faith* (New York: World Publishing Co. [Meridian paperback], 1964), pp. 209 ff.; my article, "Phaedra's Death in Euripides and Racine" (n. 3 above), pp. 30–31.

31. In this sense one might indeed characterize Thomas' thought as "enlightened common sense." See M. C. D'Arcy (ed.), *Selected Writings of Thomas Aquinas* (New York: Dutton [Everyman's Library], 1946), p. xi.

32. See no. 20 above.

33. J. H. Randall, Jr., *The Role of Knowledge in Western Religion* (Boston: Beacon Press, 1958), p. 52; Löwith (n. 30 above), p. 86; M. B. Foster, "The Christian Doctrine of Creation and the Rise of Modern Natural Science," *Mind*, N.S. (1934), p. 452, n. 1.

34. See n. 47 below.

35. F. Bacon, *Novum Organum*, I, aphorism 21; see *ibid.*, aphorisms 2, 9, 10, 18, 30, 41, 48, 49, 61, 124. For a similar sentiment, see A. O. Lovejoy, "On Some Conditions for Progress in Philosophical Inquiry," *Philosophical Review* (1917), pp. 143 ff.; Nietzsche, *Will to Power* (n. 14 above), aphorism 466. On the need for faith, see Bacon (n. 27 above), p. 134; R. Descartes, *Discourse on Method* (Indianapolis, Ind.: Bobbs-Merrill Co. [Library of Liberal Arts paperback], 1956, I, 6; Foster (n. 33 above), pp. 448 ff.; nn. 42 and 45 below; P. Tillich, "All Is Yours," *The New Being* (New York: Charles Scribner's Sons, 1955), pp. 110–13; W. Herberg, *Judaism and Modern Man* (New York: World Publishing Co. [Meridian paperback], 1959), pp. 36 ff.

36. See n. 27 above.

37. Descartes (n. 35 above), VI, 40; Bacon (n. 35 above), I, end of aphorism 66; II, end of aphorism 52; Hobbes (n. 25 above); Locke, *The Second Treatise on Government* (Indianapolis: Bobbs-Merrill Co. [Library of Liberal Arts paperback], 1952), II, 4–7; VII, 87; IX, 123.

38. Nietzsche, *Beyond Good and Evil* (n. 28 above), aphorism 9; Nietzsche, *Will to Power* (n. 14 above), aphorisms 466–617, 1062, 1067.

39. Cf. Hippias (n. 25 above).

40. On this conflict of Nietzsche and classical thought, see K. Löwith, *Nietzsches Philosophie* (Stuttgart: W. Kohlhammer, 1956), pp. 181–84; G. Krüger, *Die Herkunft des Philosophischen Selbstbewusstseins* (Darmstadt: Wissenschaftliche Buchgesellschaft, 1958), pp. 45–57; Jaspers (n. 14 above), pp. 35 ff. If reason discerns no order of rank, the attempt to impose one can arise only from Satanic pride. Indeed, one can no longer legitimately distinguish between pride and vanity or arrogance as Aristotle had done. On this point, see A. O. Lovejoy, "Pride in Eighteenth Century Thought," *Essays in the History of Ideas* (New York: G. P. Putnam's Sons [Capricorn paperback], 1960), pp. 62–68.

41. F. Rosenzweig, *Franz Rosenzweig*, N. N. Glatzer (ed.) (New York: Schocken Books [paperback], 1961), pp. 196–97. On Rosenzweig, see K. Löwith, "M. Heidegger und F. Rosenzweig" (n. 12 above), pp. 68 ff.

42. On Descartes in this regard, see Krüger (n. 40 above), p. 157. According to Krüger, Cartesian science intends to liberate man from any external authority, even from the omnipotence of the biblical God. However, this enterprise is doomed to fail, since Cartesian or modern thought lacks "die Antike Unbefangenheit," the classical confidence in the absolute reliability of unassisted reason. For Descartes, as for Popper and Jaspers (n. 47 below), reason's insights are always subject to doubt. Cartesians must, therefore, engage in endless experimentation, striving to prove a freedom and, indeed, an existence based on nothing more than an un-Christian faith.

Krüger places himself in this Cartesian tradition when he ascribes classical confi-

dence in reason to unreflective naïve forgetting of the role of subjectivity in knowledge; that is, the ancients, according to him, naïvely accepted their immediate apprehension of things as an awareness of self-subsistent reality, too readily discounting the possibility of something like Descartes' omnipotent deceiver. I have discussed Krüger's ascription of naïveté to the ancients in "On the Sophistry of Plato's Pausanias," *Transactions of the American Philological Association* (1964), pp. 265–66, n. 12.

43. Rosenzweig (n. 41 above), pp. 206–7; cf. A. Nygren, *Agape and Eros* (2d ed.; London: Society for Promoting Christian Knowledge, 1959), p. 670, n. 4 (citing W. Gundel); A. J. Ayer, "Demonstration of the Impossibility of Metaphysics," *Mind*, N.S. (1934), p. 336; Nietzsche, *Will to Power* (n. 14 above), aphorisms 253, 303, 344, 414, 530, 553–71, 786, 888–89, 1036; F. Nietzsche, *Joyful Wisdom*, tr. Thomas Common (New York: F. Ungar Pub. Co., 1960), aphorisms 122, 344, 377.

44. Cf. G. Lukacs, "Dostojewski," *Der Russische Realismus in der Weltliteratur* (Berlin: Aufbau-Verlag, 1948), pp. 179–82; *ibid.*, p. 183: "So ist das Experiment der verzweifelte Versuch in sich selbst einen festen Boden zu finden: zu wissen wer man ist. . . ."; A. J. Ayer, "Philosophy and Science," *Ratio*, V (1963), 162 ff.; Nietzsche, *Will to Power* (n. 14 above), aphorisms 676, 1041; Nietzsche, *Joyful Wisdom* (n. 43 above), aphorism 319.

45. Cf. R. G. Collingwood, *The Idea of Nature* (New York: Oxford University Press [paperback], 1960), pp. 176–77; H. Arendt, *The Human Condition* (New York: Doubleday & Co. [Anchor paperback], 1958), pp. 269 ff. For the contrast with ancient notions of history, see my article, "Che cos' è la Storia? Interpretazione di Tucidide," *Il Pensiero* (1965), pp. 153–70.

46. K. Marx, *Thesen über Feuerbach*, 2; cf. *ibid.*, 11: "Die Philosophen haben die Welt nur verschieden interpretiert, es kommt darauf an, sie zu verändern" (Berlin: Dietz Verlag, 1953). Consider also Nietzsche, *Will to Power* (n. 14 above), aphorisms 552, 585, 593, 605, 972, 979.

47. The exclusive, essentially private character of intellectual intuition renders it unscientific, according to Popper (n. 16 above), pp. 15 ff. Similarly, K. Jaspers condemns the "stable banality of rational directness" as "ontological perversion of philosophy," since genuine philosophy offers no final insight but a faith whose essential incompleteness necessarily leaves it open to the message of other faiths (*The Perennial Scope of Philosophy* [New York: Philosophical Library, 1949], pp. 10, 57, 59, 61, 91, 118 ff., 149, 154, 181–82). Thus, for both Jaspers and Popper, rational inquiry is radically co-operative or communal, not private as infallible, timeless cognition, if it exists, must be; cf. Grene (n. 16 above), pp. 241 ff.; Lovejoy (n. 35 above), pp. 139 ff., 146–47, 150 ff.

Popper wrongly discounts the possibility of unerring intellectual intuition on the grounds that different philosophers have held opposing propositions as self-evident; cf. Ayer (n. 12 above), pp. 470 ff.; Descartes (n. 35 above), pp. 5–6. However, this merely proves that they cannot all be right, not that one or more of them may not be right. Ultimately, I suppose, the sole "proof" of the impossibility of infallible cognition is inability to find it in one's self; cf. *Republic*, 527e3–5; Jaeger (n. 2 above), p. 452; Hobbes (n. 25 above), end of Introduction, p. 6. But lack of evidence in one's self can hardly be viewed as a universal rule by those denying the scientific relevance of private, mental experience.

48. See n. 12 above.

49. Nietzsche, *Will to Power* (n. 14 above), aphorism 481.

50. See n. 43 above.

51. See n. 35 above.

52. On this failure of science in its own domain, see Barrett (n. 20 above), pp. 32 ff.; Grene (n. 16 above), pp. 247 ff., on the different meaning of man's finitude in modern and ancient thought; cf. Aristotle *Nicomachean Ethics* 1170a20–25. The existentialist, according to Grene (*ibid.*, p. 249), "cultivates the internal wretchedness" of life

in the essentially unintelligible world presupposed by modern scientific experimentation; cf. n. 12 above, Jaspers (n. 14 above), pp. 46 ff.; Löwith, "Schöpfung und Existenz" (n. 30 above), pp. 75 ff.

53. See nn. 43 and 44 above.

54. Rosenzweig (n. 41 above), pp. 206–7; Dewey (n. 15 above), pp. 59, 128–31.

55. Löwith, "M. Heidegger und F. Rosenzweig" (n. 41 above), p. 91. On freedom of choice as the basis of morality, see I. Berlin, *Two Concepts of Liberty* (New York: Oxford University Press, 1958), pp. 53 ff.; Ayer (n. 12 above), pp. 482–83. Berlin maintains that civilized man is distinguished from barbarians by his unflinching commitment to moral values of whose relative validity he is aware (*op. cit.*, p. 57). In this regard, consider the statement made by the Nazi judge, Freisler, to the Christian resistance leader, von Moltke: Nazis and Christians have one thing—and only one—in common: Their respective faiths each demand the whole of man without reservations (cited by H. Rothfels, *The German Opposition to Hitler* [Chicago: Henry Regnery Co., 1948], p. 118); see my article, "Goethe's Faust and Plato's Glaucon: The Political Necessity for Philosophy," *Studium Generale*, XIX (1966), 627 ff.

On the notion of freedom as the basis of egalitarianism, see J. P. Sartre, "Cartesian Freedom," *Literary and Philosophical Essays* (New York: Macmillan Co. [Collier paperback], 1962), pp. 183 ff.

56. See n. 41 above.

57. See n. 47 above.

58. See n. 52 above.

59. Barrett (n. 20 above), pp. 145 ff.; see Bacon (n. 27 above), p. 135: "But men must know that in this theater of man's life it is reserved only for God and Angels to be lookers on"; J. Collins, *The Mind of Kierkegaard* (Chicago: Henry Regnery Co., 1953), p. 286, n. 30.

60. W. Heisenberg, *Das Naturbild der Heutigen Physik* (Rowohlts Deutsche Enzyklopädie, 1955), p. 45; see C. Schmitt, *Politische Theologie* (2d ed.; Munich: Duncker und Humblot, 1934), pp. 21–22, 41–45, 49–66, 82–83.