

erroneous ideas. If ideas reflected reality, reality and thought would have to correspond. But how does one account for the emergence of utopian thought? Moreover, to say that force is a necessary element of revolution showed that Marx had not understood how a society could move through self-criticism and change, and even revolution, without physical violence. What did come as a genuine contribution from Marx was his insight that the economic order is capable of creating an ideology whereby some are led to believe that the *status quo* rests upon eternal and immutable principles. His insistence upon self-reflection to discover the subtle disguise of self-interest was an important aspect of social analysis. Still, it is a matter of fascination that Marxism as a philosophy should have spread chiefly among underdeveloped peoples rather than in the advanced capitalist states where, presumably, it was supposed to have its greatest relevance.

22
FR

Nietzsche

Friedrich Nietzsche died on August 25, 1900, at the age of fifty-five, leaving a legacy of brilliant writings whose impact and influence were delayed until the twentieth century. His life was full of sharp contrasts. The son and grandson of Lutheran ministers, he was nevertheless the herald of the judgment that "God is dead" and undertook a "campaign against morality." He was nurtured in an environment thoroughly dominated by females yet advocated the most masculine philosophy of the superman. He called for the fullest expression of human vitality in the name of the Will to Power, and yet believed that sublimation and control are the truly human characteristics. His writings rank among the most lucid ever written, yet he ended his days in hopeless insanity.

Named after the reigning King of Prussia, Friedrich Wilhelm Nietzsche was born in Röcken, in the province of Saxony, on October 15, 1844. His father died when he was four years old, and he grew up in a household consisting of his mother, sister, grandmother, and two maiden aunts. At age fourteen he was sent to the famed boarding school at Pforta, where for six years he underwent rigorous intellectual discipline, excelling particularly in the classics, reli-



Friedrich Nietzsche (The Bettmann Archive)

gion, and German literature. It was here that he came under the spell of the Greek genius, discovering it especially in Aeschylus and Plato. In October of 1864 he went to the University of Bonn but stayed only one year as he was unimpressed by the caliber of his fellow students and decided to follow his excellent teacher of classics and philology, Friedrich Ritschl, who was invited to accept a chair at the University of Leipzig. While at Leipzig he came upon the main work of Schopenhauer, whose atheism and antirationalism deeply influenced Nietzsche for a while and confirmed his own revolt against contemporary European culture, which he had come to despise as decadent. It was here also that Nietzsche came under the spell of Wagner's music. "I could not have stood my youth without Wagner's music," Nietzsche said later. "When one wants to rid oneself of an intolerable pressure, one needs hashish. Well, I needed Wagner."

When the University of Basel was looking for someone to fill the chair of philosophy, Nietzsche's name figured prominently. He had not yet completed his doctor's degree, but some of his published papers had attracted notice for their exceptional scholarship. On the additional strength of his teacher Ritschl's enthusiastic recommendation, Nietzsche was appointed a university professor

at the age of twenty-four. After the University of Basel confirmed his appointment, the University of Leipzig conferred the doctor's degree upon Nietzsche without examination. In May, 1869, he delivered his inaugural lecture on *Homer and Classical Philology*. During his years at Basel, Nietzsche visited Richard Wagner frequently at his villa on Lake Lucerne. While this friendship was not destined to last, Wagner did exert an influence upon Nietzsche's thought in his first book (1872), *The Birth of Tragedy from the Spirit of Music*. Of longer duration was Nietzsche's friendship with his older colleague Jacob Burckhardt, the eminent historian, with whom he shared a common fascination for ancient Greece and Renaissance Italy. Nietzsche's wretched health and his dislike of his duties at the university led him to resign his professorship in 1879 at the age of thirty-four. For the next decade, he wandered through Italy, Switzerland, and Germany searching for some place where his health might be restored. In spite of his poor health, he wrote several books during the six-year period 1881-1887 including *The Dawn of Day*, *Joyful Wisdom*, the famous *Thus Spake Zarathustra*, *Beyond Good and Evil*, and *A Genealogy of Morals*.

In 1888, when he was forty-four, Nietzsche felt a brief period of respite from his prolonged cycle of sickness and recovery and during a span of six months produced with incredible speed five books, among which are to be found some of his best, *The Case Wagner*, *The Twilight of the Idols*, *Antichrist*, *Ecce Homo*, and *Nietzsche contra Wagner*. Shortly thereafter, in January, 1889, Nietzsche collapsed on a street in Turin. He was taken back to Basel to a clinic from which he was sent to an asylum in Jena and finally to the care of his mother and sister. For the last eleven years of his life, Nietzsche was irretrievably insane as a result of an infection that affected his brain. He was thus unable to complete his projected major work, the *Revaluation of All Values*. Nietzsche's books have great vivacity of style and are written with a passionate intensity; even though some of his later works show signs of impending difficulties, it is generally agreed that his writings cannot be discounted because of his subsequent mental collapse.

"GOD IS DEAD"

Nietzsche wrote philosophy in a manner calculated more to provoke serious thought than to give formal answers to questions. In this regard he resembled Socrates and Plato more than Spinoza, Kant, or Hegel. He produced no formal system because system building, he thought, assumes that one has at hand self-evident truths upon which to build. It was his conviction that building a system is to lack integrity, since honest thought must challenge precisely these self-evident truths upon which most systems are built. One must engage in dialectic and be willing at all times to declare himself against his previous opinions. Moreover, most philosophic system builders, he thought, try to solve all problems at once by acting as the "unriddler of the universe." Nietzsche believed that the philosopher must be less pretentious, pay more attention to questions of human values than to abstract systems, and concern himself with immediate

human problems with an attitude of fresh experimentation and a freedom from the dominant values of his culture. Because he took a variety of positions on important problems, it was inevitable that Nietzsche's ideas should be interpreted in contradictory ways. Moreover, he expressed his views on issues with brief aphorisms instead of detailed analyses, leaving the impression of ambiguity and ambivalence. Still, Nietzsche formulated many distinctive views, which emerge from his writings with considerable clarity.

While others saw in nineteenth-century Europe the symbols of power and security, Nietzsche grasped with prophetic insight the imminent collapse of the traditional supports of the values to which modern men had committed themselves. The Prussian army had made Germany a great power on the Continent, and the mood of optimism was further animated by the astonishing advances of science and technology, yet Nietzsche boldly prophesied that power politics and vicious wars were in store for the future. What he sensed was an approaching period of *nihilism*, the seeds of which had already been sown. The greatest fact for him was neither the military power of Germany nor the unfolding advances of science but rather the incontrovertible fact that belief in the Christian God had drastically declined to the point where he could say that "God is dead."

Although Nietzsche was by temperament an atheist, he contemplated the "death" of God with mixed reactions. He was appalled at the consequences that would follow once everyone had become fully aware of all the implications of the death of God, a cultural event that he said has not yet become apparent to modern man. Contemplating simultaneously the collapse of religious faith and the mounting belief in the Darwinian notion of a relentless evolution of the species, he could see in this combination the destruction of any basic distinction between man and animal. If this is what people will be asked to believe, he said, then nobody should be surprised if, in the arena of the future, there will be wars such as have never been seen on earth. At the same time, the death of God meant for Nietzsche the opening of a new day, a day when the essentially life-denying ethics of Christianity could be replaced with a life-affirming philosophy. "At last," he said, "the sea, *our* sea, lies open before us. Perhaps there has never been so open a sea." His ambivalent reaction to the nihilistic consequences of the death of God turned Nietzsche's mind to the central question of human values. In his search for a new foundation for values in a day when God could no longer be the goal and sanction of human conduct, Nietzsche turned to the aesthetic dimension of human nature as the most promising alternative to religion. Only as an aesthetic phenomenon, he said, are existence and the world eternally justified. It was the Greek genius, he believed, that had originally discovered the true meaning and mode of human endeavor. He initially drew his fundamental insights about man from the Greek conceptions of Apollo and Dionysus.

APOLLONIAN VERSUS DIONYSIAN

What concerned Nietzsche at first was whether in light of the encircling nihilism it was inevitable that men must become pessimistic about life and therefore re-

nounce it, as Schopenhauer did, or whether there was some reason nevertheless for affirming life, as one of Nietzsche's idols, Goethe, had done in his career. Nietzsche found in Homer's account of Apollo and Dionysus that the birth of tragedy, that is, the emergence of art and the fullest development of the aesthetic element in man, is the result of a fusion between the two principles that these gods respectively represent and embody. Dionysus was for Nietzsche the symbol of the dynamic stream of life, which knows no restraints or barriers and defies all limitations. In the worship of Dionysus, the individual would lapse into a drunken frenzy and thereby lose his own identity in the larger ocean of life. Apollo, on the other hand, was the symbol of order, restraint, and form, the power to create beauty through art. If the Dionysian mood was best expressed in the feeling of abandonment in some types of music, the Apollonian form-giving force found its highest expression, according to Nietzsche, in Greek sculpture. Thus Dionysus symbolized man's unity with life where his own individuality is absorbed in the larger reality of the life force, whereas Apollo was the symbol of the "principle of individuation," that power that controls and restrains the dynamic processes of life in order to create a formed work of art or a controlled personal character. From another point of view, the Dionysian represents the negative and destructive dark powers of the soul, which culminate, when unchecked, in "that disgusting mixture of voluptuousness and cruelty" typical of "the most savage beasts of nature." Again, the Apollonian represents the power to deal with the powerful surge of vital energy, to harness destructive powers, and to transmute these into a creative act.

Greek tragedy, according to Nietzsche, is a great work of art. It represents the conquest of Dionysus by Apollo. But from this account Nietzsche drew the conclusion that man is not faced with a choice between the Dionysian and the Apollonian. To assume even that one has such a choice to make is to misunderstand the true nature of the human condition. The fact is that human life inevitably includes the dark and surging forces of passion. What Greek tragedy illustrates, according to Nietzsche, is that instead of abandoning oneself to the flood of impulse, instinct, and passion, the awareness of these driving forces becomes the occasion for producing a work of art, whether in one's own character through moderation or in literature or the plastic arts through the imposition of form upon a resisting material. Nietzsche saw the birth of tragedy or the creation of art as a response of the basically healthy element in man, the Apollonian, to the challenge of the diseased frenzy of the Dionysian. In this view, art could not occur without the stimulus of the Dionysian; at the same time, if the Dionysian were considered either the only element in human nature or the dominant element, one might very well despair and come finally to a negative attitude toward life. But for Nietzsche, the supreme achievement of human nature occurred in Greek culture where the Dionysian and Apollonian elements were brought together. To deny, as nineteenth-century culture seemed to do, that the Dionysian element had a rightful place in life was to postpone, as Nietzsche saw, to some later date the inevitable explosion of vital forces, which cannot be permanently denied expression. To ask whether life should dominate knowledge or knowledge dominate life is to provoke the question



Dionysus, symbol of the power of dynamic passions, whose devotees drank the fruit of the vine and engaged in sensuous and frenzied dance (Hinner Fotoarchiv, Munich)

which of these two is the higher and more decisive power. There is no doubt, said Nietzsche, that life is the higher and dominating power, but raw vital power is finally life-defeating. For this reason, Nietzsche looked to the Greek formula, the fusion of the Dionysian and Apollonian elements, by which human life is transformed into an aesthetic phenomenon. Such a formula, thought Nietzsche, could provide modern culture with a relevant and workable standard of behavior at a time when religious faith was unable to provide a compelling vision of man's destiny. What disqualified religious faith, in Nietzsche's mind, was the essentially life-denying negativity of the Christian ethics.

MASTER MORALITY VERSUS SLAVE MORALITY AND THE WILL TO POWER

Nietzsche rejected the notion that there is a universal and absolute system of morality that everyone must equally obey. People are different, he thought, and to conceive of morality in universal terms is to disregard basic differences between individuals. It is unrealistic to assume that there is only one kind of human nature, whose direction can be prescribed by one set of rules. There is,



Apollo and His Chariot with the Hours by John Singer Sargent, symbol of restraint, order, and rational control of the powerful passions (Museum of Fine Arts, Boston)

however, one thing that does characterize all human beings, says Nietzsche, and that is the drive to dominate the environment. This drive, so central to human nature, is the *Will to Power*. This Will to Power is more than simply the will to survive. It is, rather, an inner drive to express a vigorous affirmation of all of man's powers. As Nietzsche says, "the strongest and highest Will to Life does not find expression in a miserable struggle for existence, but in a Will to War. A Will to Power, a Will to Overpower!" Whenever someone proposes a universal moral rule, he invariably seeks really to deny the fullest expression of man's elemental vital energies. In this respect, Christianity, along with Judaism, is the worst offender, for the Judeo-Christian ethics is so contrary to man's basic nature that its antinatural morality debilitates man and produces only "botched and bungled" lives.

How did human beings ever produce such unnatural systems of morality? There is, says Nietzsche, a "twofold early history of good and evil," which shows the development of two primary types of morality, namely, the *master morality* and the *slave morality*. In the *master morality*, good has always meant "noble" in the sense of "with a soul of high calibre," and evil meant "vulgar" or "plebeian." The noble type of man regards himself as the creator and determiner of values. He does not look outside of himself for any approval of his acts. He passes judgment upon himself. His morality is one of self-glorification. This noble individual acts out of a feeling of power, which seeks to overflow. He may help the unfortunate, but not out of pity, rather from an impulse generated by an abundance of power. He honors power in all its forms and takes pleasure in subjecting himself to rigor and toughness and has reverence for all that is severe and hard. By contrast, the *slave morality* originates with the lowest elements of society, the oppressed, the slaves, and those who are uncertain of themselves. For the slave, "good" is the symbol for all those qualities that serve to alleviate the existence of sufferers, such as "sympathy, the kind helping hand, the warm heart, patience, diligence, humility and friend-

liness.... " This slave morality, says Nietzsche, is essentially the morality of utility, where goodness refers to whatever is beneficial to those who are weak and powerless. Whereas for the slave morality the man who arouses fear is "evil," according to the master morality it is precisely the "good" man who is able to arouse fear.

The challenge to the master morality resulted from a deep-seated *resentment* on the part of the "slaves," a resentment, says Nietzsche, "experienced by creatures who, deprived as they are of the proper outlet of action, are forced to find their compensation in an imaginary revenge." This revenge took the form of translating the virtues of the noble aristocrat into evils. Nietzsche's great protest against the dominant Western morality was that it exalted the mediocre values of the "herd," which "knows nothing of the fine impulses of great accumulations of strength, as something high, or possibly as the standard of all things." Incredibly, the "herd mentality" in time overcame the master morality by succeeding in making all the noble qualities appear to be vices and all the weak qualities appear to be virtues. The positive affirmation of life in the master morality was made to seem "evil" and something for which one should have a sense of "guilt." The fact is, says Nietzsche, that "men with a still natural nature, barbarians in every terrible sense of the word, men of prey, still in possession of unbroken strength of will and desire for power, threw themselves upon weaker, more moral, more peaceful races.... At the commencement, the noble caste was always the barbarian caste: their superiority did not consist first of all in their physical, but in their psychological power—they were *complete* men." But the power of the master race was broken by the undermining of its psychic strength. Against the natural impulse to exert aggressive strength, the weak races had erected elaborate psychic defenses. New values, new ideals, such as peace and equality, were put forward under the guise of "the fundamental principle of society." This, said Nietzsche, was a not-so-subtle desire on the part of the weak to undermine the power of the strong. The weak have created a negative psychic attitude toward the most natural drives of man. This slave morality is, says Nietzsche, "a Will to the *denial* of life, a principle of dissolution and decay." But a skillful psychological analysis of the herd's resentment and its desire to exact revenge against the strong will show, says Nietzsche, what must be done, namely, that one must "resist all sentimental weakness: life is essentially appropriation, injury, conquest of the strange and weak, suppression, severity, obtrusion of peculiar forms... and at the least, putting it mildest, exploitation...." Nietzsche wanted particularly to emphasize that "exploitation" is not some depraved act, that it does not belong to an imperfect or primitive society. It belongs, he said, "to the nature of the living being as a primary function." Exploitation is, he said, "a consequence of the intrinsic Will to Power, which is precisely the Will to Life—a *fundamental fact* of all history...." Come now, he said, "let us be so far honest toward ourselves!"

European morality, by denying the primacy of the Will to Power, was basically dishonest, in Nietzsche's view. He assigned primary responsibility for this dishonest morality to Judaism and Christianity. With utter directness,

he said that "I regard Christianity as the most fatal and seductive lie that has ever yet existed—as the greatest and most *impious* lie." He was appalled that Europe should be subjected to the morality of that small group of wretched outcasts who clustered around Jesus. Imagine, he said, "the *morality of patty people* as the measure of all things...." This he considered "the most repugnant kind of degeneracy that civilization has ever brought into existence." Worse yet was the fact that New Testament ethics is still hanging, under the name of "God," over men's heads. To Nietzsche it was incredible that in the New Testament "the least qualified people... have their say in its pages in regard to the greatest problems of existence." With what impudent levity "the most unwieldy problems are spoken of here (life, the world, God, the purpose of life) as if they were not problems at all, but the most simple things which these little bigots know all about!!" Christianity contradicts nature when it requires us to love our enemies, for Nature's injunction is to *hate* your enemy. Moreover, the natural origin of morality is denied by requiring that before man can love anything, he must first love God. To inject God into men's affections, said Nietzsche, is to subvert the immediate, natural moral standard of the affirmation of life. All the vital energies of the strong are diluted by routing men's thinking toward God. Again, this is the revenge that the *resentment* of the weak has engendered. Among men there is always a surplus of "defective, diseased, degenerating, infirm, and necessarily suffering individuals." These are the "failures," which the Judeo-Christian religions seek to keep alive and preserve. Nietzsche was willing to admit that the "spiritual men" of Christianity had rendered invaluable services to Europe by offering comfort and courage to the suffering. But at what price was Christian charity achieved? asked Nietzsche. The price, he said, was "the deterioration of the European race." It was necessary "to *reverse* all estimates of value—that is what they had to do! And to shatter the strong, to spoil great hopes, to cast suspicion on the delight in beauty, to break down everything autonomous, manly, conquering, and imperious." In addition, all instincts that are natural to the full "men" had to be transmuted into "uncertainty, distress of conscience, and self-destruction." Christianity succeeded in inverting "all love of the earthly and of supremacy over the earth into hatred of the earth and earthly things...."

Nietzsche was willing for the weak and the herd to have their own morality, provided that they did not impose it upon the higher ranks of men. Why should men of great creative powers be reduced to the common level of mediocrity characteristic of the herd? When Nietzsche spoke of rising "beyond good and evil," he had in mind simply rising above the dominant herd morality of his day. He envisioned a new day, when once again the truly complete man would achieve new levels of creative activity and thereby become a higher type of man. This new man will not reject morality; he will reject only the negative morality of the herd. Again, Nietzsche argued that the morality based upon the Will to Power is only an honest version of what the slave morality has carefully disguised. If the Superman is "cruel," said Nietzsche, one must recognize that, actually, almost everything that we now call "higher culture" is simply a

spiritualized intensification of cruelty. "This is my thesis," he said, that "the 'wild beast' has not been slain at all, it lives, it flourishes, it has only been—transfigured." He refers to the Romans' pleasures in the arena, the Christian ecstasy of the cross, the Spaniards' delight at the gory sight of the bullfight, the Parisian workman's homesickness for a bloody revolution, and the Wagnerienne who "with unhinged will" *undergoes* a performance of *Tristan und Isolde*. "What all these enjoy and strive with mysterious ardour to drink in," said Nietzsche, "is the philtre of the great Circe 'cruelty'." Looked at from the vantage point of the master morality, the word *cruelty* refers simply to the basic Will to Power, which is a natural expression of strength. Men are differentiated into ranks, and it is, he says, "quanta of power, and nothing else, which determine and distinguish ranks." For this reason, such ideals as equality among men are nonsensical. There can be no equality where there are in fact different quanta of power. Equality can only mean the leveling downward of everyone to the mediocrity of the herd. Nietzsche wanted to preserve the natural distinction between the two ranks or types of men, namely, between that "type which represents ascending life and a type which represents decadence, decomposition, weakness." To be sure, a higher culture will always require as its basis a strongly consolidated mediocre herd, but only to make possible the development and emergence of the higher type of man, the "superman." If the superman is to emerge, he must go beyond good and evil as conceived by the lower ranks of men.

REVALUATION OF ALL MORALS

What would Nietzsche want to put in the place of the traditional morality, which he believed was clearly dying? His positive prescriptions are not so clear as his critical analysis. Much of the content of his new values can, however, be inferred from his rejection of the slave morality. If the slave morality originated in resentment and revenge, there must again occur a *revaluation* of all values. By *revaluation* Nietzsche did not intend the creation of a new table of moral values. He meant rather to declare war upon the presently accepted values, as Socrates, "applying the knife vivisectionally to the very virtues of the time..." Since traditional morality is a perversion of original natural morality, *revaluation* must consist in rejecting traditional morality in the name of honesty and accuracy. Revaluation implies, said Nietzsche, that all the "stronger motives are still exalted, but that now they appear under false names and false valuations, and have not yet become conscious of themselves." It is not necessary to legislate new values but only to reverse values once again. Just as "Christianity was a revaluation of all the values of antiquity," so today the dominant morality must be rejected in favor of man's original and deepest nature. Thus Nietzsche's program of *revaluation* was essentially a critical analysis of modern man's ideals. He showed that what modern man called "good" was not at all virtuous, that his so-called truth was disguised selfishness and weakness, and that his religion was a skillful creation of psychological weapons with which moral pygmies domes-

ticated natural giants. Once the disguise is removed from modern morality, he thought, the true values will emerge.

Moral values must in the last analysis be built upon the true nature of man and his environment. Unlike Darwin, who laid great stress upon external circumstances when describing the evolution of the species, Nietzsche focused upon the internal power within man, which is capable of shaping and creating events, "a power which uses and exploits the environment." Nietzsche's grand hypothesis was that everywhere and in everything the Will to Power is seeking to express itself. "This world," he says, "is the Will to Power—and nothing else." Life itself is a plurality of forces, "a lasting form of processes of assertions of force..." Man's psychological makeup shows that his preoccupation with pleasure and pain reflects a striving after an increase of power. Pain can be the spur for exerting power to overcome an obstacle, whereas pleasure can represent a feeling of increased power.

THE SUPERMAN

The Will to Power has its greatest relevance for Nietzsche's philosophy in his notion of the *superman*. We have already seen that Nietzsche rejected the concept of equality. He also indicated that morality must suit each rank of man. Even after the *revaluation* of all values, the "common herd" will not be intellectually capable of reaching the heights of the "free spirits." There can, in short, be no "common good." Great things, says Nietzsche, remain for the great, "everything rare for the rare." The superman will be rare, but he is the next stage in human evolution. History is moving not toward some abstract developed "humanity" but toward the emergence of some exceptional men: "Superman is the goal," says Nietzsche. But the superman will not be the product of a mechanical process of evolution. Only when superior individuals have the courage to revalue all values and respond with freedom to their internal Will to Power can the next stage be reached. "Man is something to be surpassed," and it is the superman who represents the highest level of development and expression of physical, intellectual, and emotional strength. The superman will be the truly free man for whom nothing is forbidden except what obstructs the Will to Power. He will be the very embodiment of the spontaneous affirmation of life.

Nietzsche did not contemplate that his superman would be a tyrant. To be sure, there would be much of the Dionysian element in him. But his passions would be controlled and his animal nature harmonized with his intellect, giving style to his behavior. Such a superman is not to be confused with a totalitarian bully. Nietzsche had in mind as a model his hero Goethe, suggesting also as an ideal "the Roman Caesar with Christ's soul." As Nietzsche's thought matured, his ideal man would have to possess a balanced unity of the Dionysian and Apollonian elements. Earlier, when his thought was influenced by Wagner and Schopenhauer, Nietzsche had criticized Socrates for having caused Western man to take a wrong turn in history, the turn toward rationality. Even at the end, Nietzsche believed that knowledge and rationality must be used in

the service of life and that life must not be sacrificed for knowledge. Still, Socrates was important historically precisely because he saved men from self-destruction, which would have occurred if, says Nietzsche, "this whole incalculable sum of energy [in human striving was] *not* employed in the service of knowledge..." The lust for life, he says, would then have led to wars of annihilation. The Dionysian element by itself leads to pessimism and destruction. That it was necessary to harness man's vital energies already suggested a basic decadent tendency in man, which could be halted only by the kind of influence Socrates represented. But while the Apollonian element could subvert the vital streams of life, Nietzsche did not see how, in the end, life could be lived without its form-giving guidance. Socrates became important for Nietzsche precisely because this ancient philosopher was the first to see the proper relation between thought and life. Socrates recognized, said Nietzsche, that thought serves life, while for previous philosophers life served thought and knowledge. Here, then, was Nietzsche's ideal: the passionate man who has his passions under control.

27 ✻

Two

Twentieth-Century Metaphysicians: Bergson and Whitehead

Just when modern science was reaching its most impressive heights of achievement, two bold speculative philosophers called into question the basic assumptions of the scientific mode of thought. Neither Bergson nor Whitehead wished to deny that the scientific method had given man considerable control over nature and to that extent was a brilliantly successful enterprise. What concerned them primarily was a philosophical question, namely, whether reality, the basic nature of things, was what science assumed it to be. As late as the second half of the nineteenth century, and the early decades of the twentieth, the major assumption of science was that nature consists of material objects located in space. Matter, it was held, is the final irreducible stuff out of which all things are formed. The model for thinking about the contents and behavior of nature was the model of a machine. All the particular things in nature were thought to be parts of a large mechanism. This meant that the behavior of each part could in time be described with mathematical exactness, since material objects moved in space in accordance with precise rules or laws. Moreover, as parts of a mechanism, things were related to each other in a tight sequence of cause and effect. Human nature