

Chapter One

A Place to Begin



The person asking questions is merely exercising the right that has been given him (in serious dialogue): to remain unconvinced, to perceive a contradiction, to require more information, to emphasize different postulates, to point out faulty reasoning, and so on.

—Michel Foucault, “Polemics, Politics,
and Problematizations”

Curiosity and Wonder

Ultimately, are not wonder and curiosity poles apart?

—Henry Bugbee

Always, no matter how much or how often we satisfy our never-ending curiosity with facts, something profound remains untouched. That which remains—something far apart from curiosity—is the experience of wonder. We might call our experience of this, and thus harken back to the ancient Greeks, suffering wonder. We are persuaded when it comes to asking how we ought to make a way of life together no

number of facts can provide a risk-free blueprint for living well. This is not to say, of course, that we should be done with curiosity and facts or with the practices and the institutions of science that produce the vast majority of our factual knowledge. To the contrary, we may never have enough facts for our curiosity, and yet curiosity and facts are never and never will be enough to answer all our pressing questions. The practice called philosophy understood in its broadest and least professional sense can provide, albeit without any guarantees, the risky and responsibility-laden understandings that we turn toward these perennial questions surrounding our attempts at living well.

This way of wonder is, thankfully, open to all because each of us, as we move through the world, already has and expresses a philosophy. However, to have a philosophy does not necessarily mean one has chosen it. Many of us find ourselves with philosophies, and they remain in a strange sense both ours and unknown to us. This situation can be overcome, we believe, by engaging in various and varied philosophical exercises. Briefly stated, the practice of philosophy advocated herein sets itself on the path of continual attempts to reflect on the form, content, and consequences of the philosophies we choose to hold. We shall pay special attention to those positions that in this techno-scientific age, with all its supporting structures from education to popular culture, are disseminated everywhere and always. Engaging in philosophy will be seen as a radically important endeavor as we realize that when they remain uninterrogated, the philosophies we currently hold can have a cruel hold on us.

The story is a long and complicated one so much so that there are many possible versions of it. It is a story abundant in detail as well as one filled with numerous contestations and conflicts. In light of this, we shall tell but one version of this rich narrative. Because the practices of science are the foremost producers of facts, we tell our version in a manner that focuses on a certain type of Western scientific thinking. All the while, of course, we have our eyes

on a path that leads to an understanding of the essential place philosophy broadly thought might be said to have still in a techno-scientific age.

A Place to Begin

By the mid-eighteenth century, The Royal Society of England, that great institution of modern science, was already firmly established. It was an exciting time for European science. Physicists and chemists were discovering the laws that govern the behavior of gasses and the composition of bodies. Rigorous experimentation coupled with elegant mathematical equations were changing our notions about nature and giving us an unprecedented control over its secrets.

It was during this time that the British artist Wright of Derby painted *The Experiment on a Bird in an Air Pump*, illustrated here. The traveling representative of science, half in light, half in shadow, has put a white-feathered bird into the glass globe of the air pump. Upon the evacuation of the air from the globe, the bird will die, thus illustrating the then-still novel phenomenon of the vacuum. The child and her family are strongly illuminated; she has a stricken look, her mother cannot bear to watch, and her father patiently explains the theory of the vacuum. The other onlookers are curious, thoughtful, yet the two lovers turn their interests and thoughts toward one another.

We can see the four most prominent figures, those focused in the center of the painting, as symbolic of the issues and concerns we wish to address in what follows. The experimenter's piercing and seemingly single-minded look dominates the scene, indeed is directed at us. His gaze seems symbolic of an unswerving conviction in the power of the newly developing theory; his is the hand poised to let the bird either live or die based on which choice he makes, how he chooses to let the inevitable laws of nature play themselves out. This much we know, without oxygen the bird will perish and access to this oxygen is dependent on his hand,

but the laws of the physics of the vacuum are inevitable. His look suggests a fascination with the power that knowledge of these laws gives him. The bird's death or even near asphyxiation proves the power of the physical fact to the as yet uninitiated public.

The experimenter alone is not enough. He needs disciples in the public realm to spread the new doctrine. This public face is exemplified by the husband. He consoles the woman who cannot bring herself to watch the bird's demise at the hand of the experimenter, nor watch its suffering. Perhaps she believes that it does not require the risk of the bird's breath to prove the science of the vacuum. In any case, the consoler's arm around her shoulder tells her "everything will be all right."

These two men at the center of the painting, the collaborators, are akin to the two aspects of science that we shall explore. The first is the undeniable beauty of pure theory, prediction, control, and reduction to the inevitability of the laws of nature. The latter, the consoler, represents the repeated claim that somehow it will turn out fine and that we (though perhaps not the bird) must in the end succumb to the inevitability of the theory and the law. We cannot help but wonder if the reassurance from the latter conflicts with the convictions of the former?² The consoler does not have the scientist's power, but the scientist needs the public to believe in and support his endeavors. For different reasons they both want to secure the conviction of the woman whose eyes cannot meet those of the bird as it becomes a scientific experimental object. Or perhaps she is consoled; in the end she may come to believe.

Regardless of the woman's ultimate position on this, there is yet another face and another look. The young girl, close enough to the consoler to hear his comforting words, does not turn his way. She looks back to the hand that is raised above the cage that traps the bird. She indeed feels for the bird and the viewer's thoughts come back around to what this might mean for her and for us.

Wright is clearly concerned with the power this new science has to elevate the value of knowledge over the value of life, over the humane value of recognizing a little girl's concern for the bird. Wright shows us that the objective world of science cannot be kept separate from the world of our day-to-day lives. Historically, science and the technology that comes with it have had the power to reorient our priorities and introduce new values into our lives. In the painting, though the pain of the little girl and her mother are recognized, no one stops the experiment. It is as if truth as a value trumps what concern one could have for the experience of those onlookers who have yet to be won over.

Mistaking the Abstract for the Concrete

There is a widespread belief, held to be common sense, that one great virtue of science and mechanistic analysis is that it gets to what is real or to reality itself and that it provides the only concrete descriptions and explanations we can have. Following from this belief is an assertion that those privileging literary, philosophical, or religious manners of understanding are, at best, engaged in abstract imaginings and, at worst, ideological propaganda. Contrary to being abstract, ours is an analysis that suggests our lived experience is the most concrete thing with which human thinking could begin.¹ Consequently, literature, philosophy, or religion that originate from our engagement with the world can be seen as more relevant to our concrete lived experience than the "reality" that science provides.

The American pragmatist John Dewey shares the following example that gets to the heart of this issue. In *Experience and Nature* Dewey writes: "To pass over in [the practice of] science the human meanings of the consequences of natural interactions is legitimate; indeed it is indispensable."² On this account, we begin not with the facts of science but with our lived experience and then abstract ourselves from

it *so that we can be scientific*. But this is not getting closer to reality; indeed, it moves in the other direction. Science is one of the most abstract social practices because it can, and *qua* scientific practice it is obligated to, bracket the lived world of experience so as to have room to do its work.

To demonstrate this point Dewey argues that the formula H_2O is an abstraction. This formula can say what it does about water, not because that is what water “really” is, but because water is already given to us in our lives and is first meaningful to us as we come to know it *within* the concrete dealings of our lived experience. Knowing water scientifically is one possible experience among others, nonetheless it remains one that comes to us, and must necessarily come to us, as an abstraction. Water is concretely meaningful because people use it in some of the most important ceremonies of their lives; it also has its concrete meaning in its literary and symbolic uses in art that have nothing to do with it being understood as H_2O . These lived meanings are the elemental meanings of water as it is understood and experienced in the fullness of a larger web of social relations.

Dewey links this understanding of truth and abstraction with our experiential concern for meaning when he writes:

Truth is a collection of truths; and the constituent truths are in keeping with the best available methods of inquiry and testing as to matters-of-fact; methods, which are, when collected under a single name, science. . . . But the realm of meanings is wider than that of true-and-false meanings; it is more urgent and more fertile. When the claim of meanings to truth enters in, then truth is indeed preeminent. But this fact is often confused with the idea that truth has claim to enter everywhere; that it has monopolistic jurisdiction. Poetic meanings, moral meanings, and a large part of the goods of life are matters of richness and freedom of

meanings, rather than truth; a large part of our life is carried on in realms of meaning to which truth and falsity as such are irrelevant.³

Phenomena are rich in their possible meanings and one perspective used to understand them is seldom, if ever, adequate, especially when that method is the abstraction of science. As Dewey makes clear the claims to Truth do not enter in everywhere, and for us one place where they ought not enter in as preeminent is the social space called the “public sphere” where we deliberate and reflect on questions of the common good as they relate to our shared lived experiences of the social world.

There are reasons for our concern that claims to the Truth threaten the public sphere. In an article in the highly respected popular science monthly *Scientific American*, we read the following promotion of evolutionary psychology that suggests our concern is justified:

Darwinian science inevitably will, and should, have legal, political and moral consequences; some of the most pressing issues . . . —abortion, birth control, sexual discrimination, homosexuality—are “on Darwin’s beat.” . . . at least one Supreme Court justice and several high-ranking Pentagon officials . . . have taken an interest in evolutionary psychology and are considering applying it in their realms. Ready or not, here comes the Darwinian society.⁴

There are similar assertions for the importance of “Darwinian” thinking in medicine, law, and politics as well as many other aspects of our lives. For example, Daniel Dennett argues, using Darwinian principles, that we should relegate religions to the status of mere relics.⁵ He believes that science is our only hope for the future and if we do not “quarantine” religion, then we shall seriously threaten our future. Despite Dennett’s best intentions, it is difficult not to see

this use of science, rationality, and truth as having dangerously authoritarian leanings.

In the light of these examples, we think it not hysterical, alarmist, or irrational to dissent not only on intellectual grounds, but also in the belief that these ideas are being disseminated, adopted, and advocated far too quickly and enthusiastically in the public sphere. Surely it is pressing social issues for which the most careful meditative thought is called. In the absence of the time, access to necessary tools of thought, and even the inclination of most citizens to think these issues through, there is the danger that such authoritarian scientific views will be taken up and acted on by those who have political power. We can only hope that it will not be in retrospect that we have to acknowledge the danger and power that such widely disseminated ideas may wield in our communities.

We can find in Wright's painting a perspective from which to raise questions concerning our experiential lives and the life described for us by science. Can moral or ethical prescriptions follow necessarily from the facts given to us by scientific investigation? A quick look at three well-publicized scientific works that attempt to use scientific methods as the means to think and also to ground claims about the ultimate workings of the social world provides us with evidence of the distance between scientific abstraction and the concrete meanings of our lived experience. In these three cases E. O. Wilson, an expert on ants, pronounces the whole world to be selfish; James Lovelock, from his studies of bacteria, sees the great whole of Gaia as a self-regulating system and urges the truth of cooperation; while Humberto Maturana and Francisco Varela, from a physiological perspective, urge that only love can preserve our "autopoiesis."⁶

Concerning these three conflicting biological perspectives there are two important issues to be raised here. The first is that at the level of science each of these projects produces sound scientific analysis. This is to say, each has sets of data that were produced within the dictates of the scientific method. The results are repeatable, verifiable, and

lead to exciting questions to be undertaken as a continuation of the research project each has initiated.

Problems show themselves here because of the widespread assumption that somehow ethics must have a scientific foundation. These three scientific projects do not share a unified set of moral prescriptions. How is it that three research projects that all hold to the highest standards of producing scientific truth are then at odds with one another when we compare their respective moral claims? Why have three bodies of truth production not produced one set of moral prescriptions as one's faith in science might well expect? How do we decide now which of these pronouncements is correct? Surely not on the basis of the scientific facts. What is demonstrated here is that, on their own shared commitments to science and its ability to inform us about ethics, these three positions face troubling divergences in opinion when they present their competing and incompatible moral claims as scientifically based.

A second issue that emerges from consideration of these three projects together is that each, when it turns to philosophy, does so without taking philosophy seriously.⁷ These authors assert versions of philosophical positions in manners that suggest philosophy is immediately accessible to anyone, whether or not the reader has done any of the philosophical work necessary to produce a rigorous and sophisticated position. Books with page after page of wonderful science writing and thinking end with a few pages of watered down philosophy and social theory that ignores—in ways their scientific work would never—long traditions, other relevant insights, and important debates surrounding the philosophical principle they have chosen to embrace. In these three cases selfishness, cooperation, and love all appear on the scene as if they had no intellectual history and emerged as *necessary conclusions* from their scientific work. However, it is clear from the passionate rhetoric and prolific popular publications of scientists that these philosophical views are a vital, though perhaps not a well-examined, part of their intellectual lives.

We criticize scientists for what is perhaps best characterized as sweeping and unexamined philosophical claims that are intellectually appealing because of their simplicity and because they privilege science and its methods as the only road toward any sort of reliable truth. From this perspective, reason and scientific method claim to overcome previously relied on superstition and irrationality of all sorts. We wonder if these claims are justified.

Today's Popular Science

It is absolutely safe to say that, if you meet somebody who claims not to believe in evolution, that person is ignorant, stupid, or insane (or wicked, but I'd rather not consider that).

—Richard Dawkins, *The Blind Watchmaker*

There is indeed a force devoted to enticing us into various pleasures that are (or once were) in our genetic interests. . . . You could call that force the “ghost of natural selection.” More concretely, you could call it “our genes” (some of our genes at least). If it will help to actually use the word *evil* there's no reason not to.

—Robert Wright, *The Moral Animal*

Inability to think is not stupidity; it can be found in highly intelligent people, and wickedness is hardly its cause, if only because thoughtlessness as well as stupidity are much more frequent phenomena than wickedness.

—Hannah Arendt,
“Thinking and Moral Considerations”

Considering the first two of the above passages from Dawkins and Wright, we confront some modern examples in which the values and views of scientists make their way into the lives of nonscientists. Both these quotations are from books about evolutionary theory written for the lay public. It might strike a reader as strange that even small stretches of a long deoxyribonucleic acid molecule could be termed evil, and furthermore, that persons who do not believe in the absolute effective power of large organic molecules could be called wicked. To put this question in a larger context: Why is it that such emotionally laden language is being used by scientists and promoters of science to convince us of the truth of their theories?

Far from being idle concerns or simple curiosities, we believe these questions illuminate some of the most important concerns for all of us in this age of science. Ethical language appears in the works of scientists that are written for other similarly trained scientists and is propagated in the work of journalists or scientists themselves writing for the general public.

The mainstream popular press including such monthly and weekly periodicals as *Newsweek*, *The New Yorker*, and *The Atlantic Monthly*, as well as the daily press, has published a barrage of articles on the subject of Darwinian science. Seldom does a week pass by without a headline article on some aspect of this subject. We are told that we and all living creatures are mere vehicles for the survival of selfish genes: "DNA neither cares nor knows. DNA just is. And we dance to its music." We are assured that once we realize that DNA is all humans are "for," we can use this insight to help us "reach goals, choose goals, distinguish practical and impractical goals and decide which goals are worthy of our pursuit."⁸ There is something rather cavalier in all of these assurances that may be far from reassuring to those who do not share these authors' presuppositions and foundational claims about the ultimate cause of human behavior. Their presuppositions seem to deny human agency and freedom, two qualities that would seem to be necessary if one is going to be responsible for making ethical and moral claims.

Those of us who do not share these authors' presuppositions may be excused for wondering why we should accept these "findings" or strive to live according to these "insights." Richard Dawkins scolds those of us who are tempted to ask such audacious "why" questions. In his words: "Now only the scientifically illiterate" ask "why" questions "where living creatures [are] concerned." He continues: "But 'only' conceals the unpalatable truth that we are still talking about an absolute majority of the world's population."⁹ We are particularly interested in why scientific writing for the lay public finds itself so closely intertwined with ethical and moral language. Is this simply a common rhetorical device, or is it part and parcel of the scientific arguments themselves?

As a first approach to these questions, we suggest that this close connection comes about because the ethical and material realms seem to be both in intimate relation with one another and, simultaneously, at odds. If we were to put our immediate concerns into the form of questions, we would find that the list includes at least the following:

1. What are the relations between scientific knowledge and ethical conduct?
2. Is scientific knowledge the same as truth?
3. If it is, what is the relation of truth to ethics?
4. How do we reconcile the knowledge gained from a scientific assessment of the world with the broader concerns that confront us in our day-to-day lives where we act as if we are in some sense free?

Granted these questions are not new in the history of Western thought. Yet, the influence of science in our time ought to bring these familiar questions into a sharp contemporary focus. Indeed, almost all of our actions in the world imply answers to each of these questions even if they are seldom, if ever, explicitly raised. That is to say, our actions embody answers to these questions and as such we ought to know what answers we are giving by reflecting on these issues.

One example that brings many of these issues to the fore is that of Alan Sokal, a physicist at New York University who published the paper “Transgressing the Boundaries: Toward a Transformative Hermeneutics of Quantum Gravity” in the leftist journal *Social Text*.¹⁰ The style of this essay imitates the worst excesses of postmodern writing while presenting claims that certain “findings” in the scientific field of quantum gravity support the postmodern view that truth is relative. The science “portrayed” in Sokal’s essay was very often amusingly wrong, and yet it was presented in the typical style of scientists who seem to think that everyone worth communicating with should have a working knowledge of their particular discipline.

This paper, as Sokal admitted concurrently in the journal of academic life *Lingua Franca*, was a hoax meant to dramatize the vacuousness and ignorance of the postmodern critics of science. The responses to this hoax have been various—from a condemnation of Sokal’s breach of professional ethics to wild self-congratulation by scientists—“Now,” they exulted, “we have finally got them!”

Less noted by those responding to this so-called hoax was Sokal’s commentary on “correct” science that took the form of extravagant and insincere compliments to scientists espousing unorthodox views, and extravagant and insincere vitriol directed against scientists who support the banner of science against any and all of its critics. Apparently, only scientists who support a particular view of science are really in the club. Missing from Sokal’s and other scientists’ criticisms of those who do not share their views of science is any self-critical effort to assess whether there are substantive issues that they themselves may not have adequately considered or which they do not understand.

The Sokal incident has led to much public discussion of the relations among science, philosophy, and social criticism. For some, this event marked the beginning of the discussion, as many who do not follow such debates first heard of the “science wars” and their escalation when the

event was covered by large numbers of news and opinion weeklies and daily newspapers. Others, who follow such things closely and were sympathetic to Sokal and his ruse, see it as the end and the final word, believing (or at least hoping) that this event will have shamed those who question science into silence. Yet to our minds, neither of these views quite gets it right. The Sokal event and its aftermath adds no new insight and states no new positions. The science wars, though now brought to the bright light of public discourse, remain, when seen from the perspective we develop, in the same standoff positions as before.

This standoff is exemplified, we think, by the meeting that occurred between principles (the editors of *Social Text* and Sokal) after the hoax. *The New Yorker* reports that Sokal presented two versions of how Native Americans came to occupy a particular place in North America, one the current scientific account from archeological evidence and the other the mythical account given by a Native American tribe and then asked which was true? The audience, led by *Social Text* editor Andrew Ross, responded by questioning the question. In essence he asked: "Who wants to know?" and "Why do you ask?" According to the article, these questions in answer to his question puzzled Sokal—he was thinking, no doubt, that the answer was obvious and the questions themselves showed the unwillingness of members of his audience to see the truth so obviously before them. Sokal assumed that the context of the scientists is automatically assumed to be the universal context in which such questions could be asked and answered.

Sokal's most recent book *Fashionable Nonsense* contains much cogent criticism of the use of science in what he classes postmodern thought. Nonetheless, he holds to his above noted position. This is exemplified when he remarks: "It is perfectly legitimate to turn to intuition or literature in order to obtain some kind of nonscientific understanding of those aspects of human experience that cannot, at least at present, be tackled more rigorously."¹¹ Sokal indicates here

that science is the final arbiter of all questions and all literature can do, it seems, is to help us bide our present time until science gets to its next set of rigorously won truths.

This view of Sokal's does not belong to him alone, indeed it is shared by many others: *that science is the proper and exclusive foundation for thinking about and answering every question*. We follow others who call this "scientism," a world view characterized by its authoritarian attitudes, its totalizing drive to encompass every question, and its disregard and disdain for alternative views.¹² Thus, whether a piece of research is either good or bad science is rightly judged from the perspective of scientific rules and conventions. By scientism we understand a way of thinking and the public statements associated with it that extend the legitimacy of scientific thinking as such to issues and contexts outside the purview of science as a practice. A most troubling claim and one central to scientism is made by nearly all the scientists whose work we examine here, namely, that science has its limits. Yet this proclamation does not then restrict, in fact it sets up, the transgression of these limits that inevitably follows. Consequently, there is always one line of text that proclaims the recognition that science has its limits, to which all critics are referred, that is meant to act as some sort of vaccination against critique. But recognition is not respect; one can recognize limits and still transgress them as do most of the scientific authors we cite. As John Lyne puts it with respect to his critique of E. O. Wilson's *Sociobiology*: "Genetic determinism was affirmed in image and story, even while being denied in theory."¹³ We shall not be silenced by referral to one or two lines in books and articles that, as a whole, already have no respect for their own caveats.

The current hotly contested debate between science and its critics suggests that we ought to take these questions seriously even if we feel we have heard them before. Our overall goal is to explore these questions by refocusing them, by viewing them through some intellectual lenses not usually

associated with these debates. We take evolutionary biology, specifically its recent sociobiological and evolutionary psychological forms, to be an exemplar for our reflections. We will see that debates over evolutionary biology take us to the heart of many broader and more fundamental issues raised by our scientific age.

To achieve this refocusing, we need a backdrop against which to see the importance of our questions. We are persuaded that we can learn much from asking and attempting to answer questions that may turn out to have many answers or even remain perpetually unanswerable. We wish to give those not familiar with the various traditions of philosophical discourse access to new tools for thinking about these and other questions. These philosophic tools are not only valuable for the new insights they can give, but are necessary conceptual understandings if we hope to understand humanity's place in that world that science describes for us. So as not to be mistaken let us repeat, we believe scientific thinking plays a critical role in our pursuit of understanding and we offer reasons why other perspectives, while not negating or disregarding the scientific, also *must* play an essential role. Consequently, we are not focusing on the intra-scientific issues of logic, statistics, or experimental methods, we are instead willing to take them (for the most part) at face value. We rather want to step outside the scientific domain to raise questions that we believe cannot be asked from the inside.

The distinction we are drawing between philosophical thinking and scientific reasoning is central to our task. To make a place for these reflections, we turn here to the spirit of Socrates to emphasize the gulf between the type of argumentation characterized in the first two epigraphs at the start of this section and the type of philosophical reasoning we are highlighting. This allows us to invoke the spirit of the great Athenian philosopher whose style and motivation for questioning and investigating all aspects of our lives ought to be a living part of our intellectual heritage.

The Spirit of Socrates

In the Platonic dialogues, the subjects with which Socrates and his interlocutors deal range from the nature of the physical world to questions of knowledge, justice, truth, virtue, and love. While inquiring about these matters, Socrates spoke with slaves, craftsmen, teachers of rhetoric, powerful politicians, students, and anyone else willing to raise and explore questions. One aspect of Socrates' character we particularly want to stress is his willingness to trust in the capacity of his interlocutors. To this end he claimed to be a midwife—helping his friends to bring the truth to fruition within themselves and helping them to give birth to their own ideas rather than insisting they bow to his authority. Indeed, logical reasoning plays as large a role in the dialogues as it does in modern science, philosophy of science, and analytic philosophy, but missing from these latter fields is the constant questioning of all presuppositions, especially the inquiry about highest human goals and the way to lead the best life. It is these latter types of questioning that, in our view, quintessentially define the task of philosophical thinking.

Here Socrates' passion for certain types of questions is instructive. From the question "Is it better to do a wrong or suffer a wrong?" in the dialogue *Gorgias* to the question motivating the *Republic* "What is justice?" Socrates asks questions that go to the heart of our lived experiences and our relations with others. He does not ask out of idle curiosity but because he believes the answers to these types of questions can lead us toward living well and freely rather than living as slaves to ignorance. Living well includes not just searching for answers to these questions, but taking a certain pleasure in the asking itself and pleasure in the ensuing dialogue and conversations with other human beings. Part of living well is having the courage to engage in just these types of questioning dialogues.

In contrast to many of the scientific thinkers with whose work we deal in this essay, Socrates never gets angry with

those who disagree with him, never resorts to *ad hominem* arguments, never doubts people's ability to understand, and never refuses to speak with anyone interested in dialogue. It is obvious that he is not threatened by those who disagree with his positions because he is interested in the truth, goodness, and fruitfulness of the idea, and does not judge it by the one who holds it. Perhaps most important for our current purposes, Socrates always believes himself free enough to ask "Why?"

The sense of philosophy that is at work in our essay is indebted, even if it cannot live up fully, to the Socratic spirit we have just described. Thus, when we turn to other philosophers and thinkers who in some sense share this spirit, it is to invite examination of sometimes familiar questions from new points of departure.

No doubt the means of delivering the newest scientific discoveries have changed greatly since the time of Wright's painting with which we began. Today, for those not involved in scientific practice, such demonstrations occur in the popular press propagated by scientists themselves and those reporters eager to take such news to the general public. Certain similarities remain between the two times if we but imagine ourselves gathered around the latest book or article that seeks to promote the newest scientific truth. In this light we may well wonder: who or what shall comfort us as we observe each successive demonstration?

In the next chapter, we first offer a brief historical overview, examining the various ways in which important Western thinkers have conceived of the relationship between the material and ethical realms, between right knowledge and right action. Informed by this discussion, in the third chapter, we examine the evolutionary and moral thought of Darwin and Nietzsche, two of the most influential thinkers of the nineteenth century and founders, respectively, of major theoretical schools in contemporary biology and philosophy. Lastly, the final three chapters draw on contemporary philosophical

positions that take both science and our lived experience of the world seriously. We hope our study, which proceeds with equal respect for science and philosophy, will act as an invitation to dialogue. We are attempting to create a public space in which informed discourse might take place where what comes to matter to us are not only questions of truth but more importantly questions of living well.