

REASON AND THE ART OF LIFE

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Presented to The Friends of Goddard Library
at Clark University

November 19, 2014

The following quote, attributed to Albert Einstein, is inscribed at the entrance of the
Goddard Library:

"It has become appallingly obvious that our technology has exceeded our humanity."

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REASON AND THE ART OF LIFE

“The function of reason is to promote the art of life”
(Alfred North Whitehead)¹

In the 20th century, science and technology took center stage as the custodians of reason. The arts and the humanities were sent to central casting and summoned when the script called for a bit of comic relief or to provide a pleasant interlude between the acts. In the 21st century things have become even worse for the humanities, as is clear from a 2013 report called “The Heart of the Matter” published by The American Academy of Arts and Sciences. In recent years there has been a severe reduction in funding for the arts and the humanities, the number of tenure-track positions has decreased substantially, and the role of the humanities in the curriculum has diminished. Priority is now given to STEM courses—Science, Technology, Engineering, and Mathematics—because they create jobs and, above all, contribute to the global economy. The media coverage of this current trend and the response from the academic world largely miss its deeper meaning. To grasp what is happening, we need to go beyond the various economic and political battles and consider the role of reason in promoting the art of life.

In the 17th century, reason became identified with what is now called “the scientific method.” Today, whatever does not meet its criteria can play no role in

¹ Alfred North Whitehead, *The Function of Reason* (Millis, MA: Agora Publications), 2014.

serious intellectual inquiry. The extreme version of so-called “scientific philosophy” came out of Austria in the 1920s. The Vienna Circle had a diverse but lasting impact, even though few people ever identified themselves as “logical positivists.” Today, the adherents of “scientific philosophy” would probably call themselves “pragmatists,” but labels and movements are out of fashion; all that really matters is the fruit of your labor. A careful look at what counts in current academic circles—in government-sponsored research (no matter what government) and in scholarly publications—reveals that the fundamental criteria today are almost identical with the standards of the Vienna Circle.

The two most important attributes of what currently counts as scientific rationality are: (1) formulation in truth-functional propositions (preferably in a computer language) and (2) empirical verifiability. To illustrate those criteria in action, consider the life and work of Robert H. Goddard. His Ph.D. in physics from Clark University prepared him to formulate his ideas in truth-functional propositions, and his experiments verified his theories. Partly because of Goddard’s efforts, human beings now frequently travel into space and regularly engage in devastating military activity using rocket technology. What will be the ultimate worth of the fruit of Goddard’s labor? Whatever it turns out to be, his form of inquiry clearly met the standards of scientific rationality. Taking physics as their model, contemporary biology, medicine, geology, chemistry, computer science, and numerous other “hard sciences,” along with their various practical applications, have profoundly shaped the lives of all human beings and the other species that have evolved on earth. The “social sciences” have tried to follow the same path, so

the inflexible criteria of scientific rationality have largely prevailed in psychology, sociology, politics, and a variety of other “soft sciences.”

Now consider another name that history has connected with Clark University: Sigmund Freud. His education in Vienna, culminating in an M.D. degree, was based in the “hard sciences.” In his case, physiology and zoology were the disciplines in which the criteria of scientific rationality prevailed. But for Freud things became a bit more complicated. He was fluent in several languages, allowing him to read Greek drama in Attic Greek and Shakespeare in English. When he turned from zoology and physiology to human psychology, he attempted to integrate the sciences with the humanities. However, his work (along with that of C. G. Jung, who also visited Clark University) transgressed the canon of scientific rationality. When Freud began to think of people as more than objects to be studied by zoology and physiology, both the language of truth-functional logic and the process of empirical verification were inadequate. His writings are filled with images from Greek drama, visual art, and literature. His subject matter includes dreams, sexual fantasies, and a host of unconscious entities that defy empirical investigation. Psychology gets its name from two Greek words—*psûche* and *logos*; both of those terms transcend the current criteria of scientific rationality. The meaning of *logos* goes far beyond truth-functional logic and the language of computers; this violates the first criterion of scientific rationality. *Psûche* is best translated into English as “soul,” which cannot be seen, heard, touched, tasted, or smelled. That violates the second criterion of scientific rationality. Jung wandered even farther off the dominant scientific path by studying archetypes, spirituality, synchronicity, mysticism, and a variety of religious

topics. It is not surprising that the medical community, which once embraced them, has largely cast aside both Freud and Jung. Most physicians now ignore depth psychology and psychotherapy and choose pharmaceutical solutions for a brain that does not function as it should.

Even a casual inspection of the recent scientific inquiry into the psyche shows that the study of brains—their structure and function—now dominates in medicine, psychology, and all other fields where scholarly publication, academic status, and public and private funding matter. Today the study of the brain is generally conducted in accordance with the standards of scientific rationality, utilizing the latest technology such as Magnetic Resonance Imaging, computer models, surgical procedures, and the dominant theories that have emerged from the revolution in biology that gave us genetic theory and testing, the Human Genome Project, and neo-Darwinian ways of thinking about evolution. Even if we do not like it, this shift from thinking about souls and minds to the study of the brain is easy to understand in a world that largely embraces materialism and empirical pragmatism. Unfortunately, what we have lost in the process is our humanity. With the eclipse of the arts and the humanities, we have entered what I would call “the new dark ages.”

Some people react to that unwelcome outcome by attacking reason itself. The European Enlightenment (in both its classical and modern forms) is frequently identified as the source of the problem, and some of the people who seek to preserve or restore humanity advocate abandoning reason and embracing a variety of irrational or non-rational alternatives. I do not favor that approach. Instead I propose taking another look at reason itself and seeking a way to retain and expand

it. Contemporary science and technology are too valuable to discard, because we need all the scientific and technological knowledge we can get if we hope to deal successfully with our current environmental crises (especially climate chaos); with various medical issues such as the spread of diseases like Ebola, cancer, and Alzheimer's; and with the explosion of human population that is out of control. The problem is that the scientific method simply cannot provide everything we need to know in order to shape, nurture, and implement the ideas that are essential for promoting the art of life.

I will begin my inquiry by referring to lectures given at American universities by two of the most important philosophers of the 20th century. In 1913 Henri Bergson came for the first time to the United States to lecture at Columbia University. According to the *Stanford Encyclopedia of Philosophy*, the enthusiasm generated by his appearance was responsible for the first ever traffic jam in the history of Broadway, probably generated by a long article about him that had appeared the week before in *The New York Times*. I think Bergson's popularity can be traced to his attempt to connect reason with the art of life. To achieve that goal we must know ourselves. In his essay called *An Introduction to Metaphysics*, Bergson tries to rescue both science and philosophy from relativism—the view that all judgments about truth and values lack universality and that nothing is absolutely true, good, beautiful, just, or holy. Here is the opening paragraph of that essay by Bergson:

If we compare various definitions of metaphysics with conceptions of the absolute, we realize that in spite of their apparent differences, philosophers agree in distinguishing two profoundly different ways of knowing. The first implies that we move around something and the second that we enter into it. The first one

depends on the viewpoint we take and on the symbol by which we encounter it. The second takes no point of view and does not rely on any symbol. Of the first kind of knowledge we say that it stops with something relative; of the second kind, where possible, that it reaches the absolute.²

According to Bergson, this second kind of knowing, the kind that reaches what is absolute, is how we know ourselves. To do that we must go beyond symbols and grasp the essence of things. This is the reality that we encounter from the inside, by intuition and not by analysis.³

Bergson's philosophy had a profound influence on Alfred North Whitehead, who gained his early fame as a logician and philosopher of science in England, and who spent his final years at Harvard University teaching and publishing in the area of metaphysics. Whitehead gave a series of three lectures at Princeton University in 1929 that were published as an essay with the title *The Function of Reason*. Following Bergson, Whitehead claims that reason must ultimately function as a single process, but it has two aspects that often appear as separate and seem to oppose each other. Whitehead chose two figures from the ancient Greek world to symbolize those two aspects: Plato and Ulysses. "The one shares reason with the gods; the other shares it with the foxes."⁴ The reason symbolized by Plato seeks complete understanding, the knowledge of essences, and that of Ulysses calls for an immediate method of action.

The primary idea that distinguishes these two forms of reason is what Plato's student, Aristotle, called "final causes." In the *Physics*—and later in the

² Henri Bergson, *An Introduction to Metaphysics*, translated by Albert A. Anderson and Lieselotte Anderson (Millis, MA: Agora Publications, 2014), p. 3.

³ *Ibid.*, p. 5.

⁴ Whitehead, p. 7.

Metaphysics—Aristotle says there are four factors or causes [*aitiai*] that are necessary for understanding anything.⁵ These are usually called the material, efficient, formal, and final causes. Although the debate about the nature of causality has a long history, Whitehead traced the modern view to Francis Bacon at the beginning of the 17th century. Bacon’s prescriptions concerning the scientific method still prevail, especially his demand that no consideration of final causes should be allowed to intrude into science.⁶ In modern science, material causes dominate. What is the “stuff” that explains not only what something is but also how it comes to be and passes away? Efficient causes are acceptable to the scientific method, but only if they are purged of any hint of agency that might invite us to go beyond the physical world. Formal causes are tolerated as long as they are limited to structures, such as the structure of the brain or the double helix that symbolizes the structure of the DNA molecule. Final causes are unwelcome in science, because any appeal to purpose or teleology might open the door to the supernatural. Gods and spirits are anathema in the modern scientific laboratory.

Here we must take great care to make sure that we properly understand Whitehead’s position. He is not opposed to scientific explanation. He says: “current scientific opinion is nearly infallible in selecting methods.”⁷ When scientists limit their work to seeking methods that lead to practical action, they can provide great benefits to humanity, but when they leave their proper domain they can be destructive. Whitehead says: “Some of the major disasters of humankind have been

⁵ Aristotle, *Physics*, Book II, Chapter 3.

⁶ Whitehead, p. 7.

⁷ *Ibid.*

produced by the narrowness of people with a good methodology. Ulysses has no use for Plato, and the bones of his companions are strewn on many a reef and many an isle.”⁸ There are good reasons to avoid final causes, purposes, and teleology in a scientific laboratory, especially when they become confused with religious, ethical, and political aims and goals. Galileo and some of the followers of Darwin learned that lesson the hard way.

The contemporary “theory of evolution” serves as a good example of the proper use of scientific methodology and of its limits. Whitehead offered a perceptive analysis that has unfortunately been ignored by many neo-Darwinians. He warned against equating evolution with “the survival of the fittest.” For example, rocks are better at surviving than are living beings. “This problem is not to be solved with any dogma that is the product of mere abstract thought elaborating its notions of the fitness of things. The solution requires that thought pay full attention to the empirical evidence—and to the whole of that evidence.”⁹ What kind of evidence does he mean? I think he means that once we leave the scientific laboratory and consider the function of reason that lies beyond the narrow limits of materialism we find a realm of experience that is essential to human existence, especially to “the art of life.”

There is no reasonable way to avoid teleology in explaining human beings and their practice of the art of life. The sciences, technology, and the STEM courses that prepare people to engage in medicine, engineering, business, agriculture, computer design, and similar professions are essential to our wellbeing in the

⁸ Ibid.

⁹ Ibid, p. 4.

contemporary world. However, limiting reason to scientific methodology eliminates the primary function of reason. The art of life requires purposes, aims, and goals. But not all goals are equal. Reason is required if we are to separate the good ones from the bad ones, to distinguish those that are just from those that are unjust, and to justify our choices when it is time to act. Whitehead describes the role of final causes in human life this way: "The conduct of human affairs is entirely dominated by our recognition of foresight determining purpose and purpose issuing in conduct. Almost every sentence we utter and every judgment we form presuppose our unflinching experience of this element of life."¹⁰ Whitehead called the attempt to eliminate final causes from human existence "a colossal example of anti-empirical dogmatism."¹¹ Those who do so might be compared to the members of the Christian clergy who refused to look through Galileo's telescope. Scientific rationality depends on experience to test its hypotheses, but Whitehead rightly reminded us that there is more to experience than sense experience. Our experience of formal and final causes is no less empirical than what we see, hear, taste, touch, and smell in the material realm. Whitehead is quite blunt: "The universe, as construed solely in terms of the efficient causation of physical interconnections, presents a sheer, insoluble contradiction."¹² What could be more absurd than a group of human beings whose primary purpose is to eliminate purpose from human existence? Unfortunately, that is precisely what happened when philosophers joined the scientific community and embraced Francis Bacon's expulsion of final causes. Is it

¹⁰ Ibid, p. 8.

¹¹ Ibid, p. 9.

¹² Ibid, p. 12.

not contradictory **freely** to embrace a cosmology based on materialistic **determinism** and to deny the existence of human freedom?

To counteract what Whitehead called “the narrowness of people with a good methodology,” we should incorporate the most recent stage of evolution into our cosmology. Strange as it might sound to followers of Ulysses, the emergence of soul in the evolutionary process is what transformed the world into a human habitat that promotes “the art of life.” That broader function of reason is at home in the arts and the humanities. Why have I chosen the term “soul” to designate that essential dimension of our humanity? It is, indeed, an old-fashioned word, usually connected with some religious tradition and shunned by serious scholars. Why not use the word “mind” to identify what transcends our body? As a translator of ancient Greek texts into contemporary American English, I have often struggled with this problem, and I believe it is better to use the word “soul” rather than “mind” to translate the Greek word *psûche*.” There is another Greek word, *nóos*, which is usually translated as “mind,” but we have a strong tendency to think of “mind” as confined to scientific rationality, the intellectual, analytical, logical process connected with mathematics and the scientific method. “Soul,” on the other hand, is deeply connected with passions and emotions, not just the intellect. The expanded meaning of “reason” that promotes the art of life includes that passionate and emotional dimension. Plato took “soul” as a topic in several of his dialogues, and for him it always has a strong passionate and emotional aspect. We do not need to choose between “mind” and “soul” if we think of mind as an aspect of the soul. For Plato three different aspects of the soul (passion, will, and reason) are necessary to promote the art of life.

There is, however, an even more important reason to focus on the soul at our stage of human evolution. Today we are in the habit of thinking of the soul as an individual and isolated entity, but “soul” also plays an important role in the way we think about ourselves as members of the human community. Our existence in society is the primary topic in Plato’s *Republic*, and the central focus is on the nature and distribution of justice. Socrates and Glaucon discuss the three different aspects of the soul and the qualities they manifest: passion manifests moderation; will manifests courage; and reason manifests wisdom. It is not clear whether the soul is different for every individual or is the same for everyone. Socrates begins by asking about wisdom: [*Plato’s Republic*, Book 4, Track 25]

Socrates: What about the wise person? Should we call wise those in whom the small aspect that rules and governs is based on knowledge of what is in the interest of all three aspects and what all three have in common?

Glaucon: Yes, let’s put it that way.

Socrates: And the moderate person has all three of these aspects in friendly harmony. Would you agree that in moderate people reason rules, and both passionate will and desire agree this is how it should be, and do not rebel?

Glaucon: I would agree with that account not only for the individual but also for the republic.

Socrates: We have characterized the just person several times. Do you still agree with that view?

Glaucon: I do.

Socrates: If we apply the form of justice to the individual, does it retain the sharp outline it had in the republic? Is there any reason that it should not fit both the individual and the republic?

Glaucon: Not as far as I can tell.

Socrates: Is the form of justice different in the individual or is it the same as in the republic?

Glaucon: In my opinion, Socrates, there is no difference.¹³

If the **form** of justice is the same, is it possible to achieve justice both in the individual and in the human community? This is a long story that is still being told.

¹³ Plato’s *Republic*, translated by Benjamin Jowett, revised by Albert A. Anderson (Millis, MA: Agora Publications, 2001), p. 442.

We do not know how it will end, but in the 21st century it is clear that the future existence and wellbeing of humanity depends on how we respond to this challenge.

Climate chaos, the threat of nuclear war, and our feeble efforts to achieve a reasonable political order on a global scale are some of the factors that make the question of soul in both its individual and communal forms more urgent than ever. We cannot find the answer to that question in scientific laboratories where the scientific method is confined to material and efficient causes. So, where should we look? In other words, where can we find the “laboratories of the soul”? To The Friends of Goddard Library, I say that we should turn once again to the arts and the humanities; a good place to look for them is in libraries. Although historically libraries have been largely devoted to acquiring, preserving, and distributing books, the changes in technology over the past two centuries have brought about a huge expansion of media for which libraries also now exist. The human soul is at home in books, and libraries provide an excellent context for reading, distributing, and discussing the ideas that exist and flourish there. But the addition of film, videos, audio performances, photography, and, of course, computers has enlarged the scope of what libraries can and do provide. As dramatic as this expansion of new media has been in recent decades, from the standpoint of the human psyche it is the ideas manifested in those media that are the most important part of the process. Whether it is a lonely reader at home with a borrowed book, a group of children listening to someone read a classic work, a public discussion of a new publication, a film forum with an opportunity for critical evaluation, or a roomful of people using computers, what matters most is the ideas they are sharing and evaluating.

Are written texts or oral exchange the best way to seek and express the truth? This issue was already posed in Plato's *Phaedrus*. Interpreters of that dialogue usually focus on the claim that writing is inferior to speaking, because written words remain fixed and cannot respond to questions and to criticism. This dispute became much more complex when other media were introduced and both writing and speaking were forced to contend with photography, film, video, and computer languages that have been spread throughout the globe on the Internet. A close reading of Plato's *Phaedrus* shows that there is a deeper insight that helps us sort out the relative value of all forms of expression. Consider this exchange between Phaedrus and Socrates: [*Phaedrus* Disk 2, Track 25]

Socrates: Now, Phaedrus, tell me this. Is there not another kind of language that is the legitimate sibling of the one we have just been discussing? Is it not better both because of its power and how it is generated?

Phaedrus: What kind of language do you mean, and how is it produced?

Socrates: The kind that is inscribed knowingly in the mind of the person who understands. It is able to defend itself and knows whom to address and when to remain silent.

Phaedrus: I think you mean the living and dynamic thought of someone who truly knows. The written word is properly called a shadow image of it.

Socrates: That is exactly what I mean. Now tell me whether a prudent farmer who has seeds and wishes to produce fruit would hastily force them to bloom in pots during the summer so that their beauty emerges in eight days—simply for amusement, possibly to celebrate some holiday. Or would a serious farmer follow the rules of the art and sow the seeds in suitable soil, tending them until the fruit reaches its perfection in the eighth month?

Phaedrus: Yes, Socrates, a serious farmer would follow those rules and not the other ones.

Socrates: Now consider the people who know about what is just and beautiful and good. Do you suppose that they would be less prudent about their seeds than the farmer?

Phaedrus: Of course not.

Socrates: So if they were serious they would not expect to write in black water or sow with a pen words that are powerless to defend themselves and cannot adequately teach the truth.

Phaedrus: They probably would not do that.

Socrates: No, but it is likely that when they do write they will plant gardens filled with letters to pass the time pleasantly and to store away memories for themselves when they reach the forgetfulness of old age and for all others who follow in their footsteps. While other people indulge in various amusements such as getting soaked at drinking-parties, they will delight in passing the time by watching those young plants put forth their delicate leaves.

Phaedrus: Socrates, you are contrasting the most trivial ways of passing time with the finest—namely your pleasure in telling stories and myths about justice and the other things you talk about.

Socrates: Yes, Phaedrus, that is true. But I think that nurturing serious reflection on those topics by practicing the art of dialectic is an even finer way of spending time. That art takes hold of a fertile soul and plants and sows knowledgeable words that are able to help themselves as well as the one who planted them. They are not barren but produce new seeds that germinate in other minds, and, when maintained, forever allow those who master this art to attain the highest state of wellbeing that is possible for humans.¹⁴

The “art of dialectic” is a form of thinking that begins with particulars and seeks to go beyond them to essences. It is prior to speaking, writing, and all other symbolic forms. Above all, it seeks as its goal—its final cause—“the highest state of wellbeing that is possible for humans.” In other words, its ultimate purpose is “to promote the art of life.”

As part of a research university, the science section of Goddard library is important for the preservation and distribution of ideas needed by future scientists and engineers. The library also plays an essential role for the soul, which is understandably ignored in scientific laboratories. A “free library” lies at the heart of a free society. Not only does such a library provide access for all members of the community, it promotes freedom of thought in ways that are increasingly hard to find in a world dominated by global capitalism. Radio, television, newspapers, and the other aspects of the so-called “fourth estate,” have been widely indicted for, as

¹⁴ Plato, *Phaedrus*, translated by Albert A. Anderson (Millis, MA: Agora Publications, 2013), pp. 276-277.

Noam Chomsky puts it, “manufacturing consent.”¹⁵ Broadway, Hollywood, the major television networks, Cable TV, and most of the other forms of public media are even more pernicious. Neil Postman presented that critique in a book called *Amusing Ourselves to Death*.¹⁶ Written almost 30 years ago, this book has turned out to be prophetic, announcing the plague that has infected the souls of innumerable young people who today spend much of their time staring at small screens, amusing themselves to death. As colleges and universities have increasingly become devoted to preparing people for the workplace, and as “STEM education” has eclipsed the arts and the humanities, libraries are more important than ever to provide access to these laboratories of the soul. In both public and private academic communities, the library does not belong to any particular discipline or department. Outside the academy, public libraries exist to serve all members of the community, regardless of income, political affiliation, religious preference, gender, or age. Today the Internet provides an important extension of the public library, but that will be true only as long as it remains part of the public domain. Once it is taken over for commercial purposes or controlled by special interests of any kind, the Internet will lose its ability to contribute to the common good.

Thinking of the arts and the humanities and the libraries that preserve them as “laboratories of the soul” suggests that there are patterns and structures that can be identified and studied, just as there are natural laws and principles to be discovered in laboratories by using the scientific method. If so, we need to use a

¹⁵ Edward S. Herman and Noam Chomsky, *Manufacturing Consent: The Political Economy of the Mass Media* (New York: Pantheon Books, 1988).

¹⁶ Neil Postman, *Amusing Ourselves to Death: Public Discourse in the Age of Show Business* (New York: Penguin Books, 1985).

different method, one that is appropriate for the subject matter. Aristotle provides one good example of that method in the *Poetics*. Although scholars often dwell on their differences, Plato and Aristotle both use reason to seek and promote the art of life. The fundamental principles that Aristotle articulates and analyzes in the *Poetics* are shared among the arts and humanities. These fundamental principles belong to the soul. They differ from the laws and patterns studied in scientific laboratories, because they pertain to a realm where freedom prevails. This is why Aristotle says that “poetry is more philosophical and more significant” than history. He explains it this way:

Poetry presents what is universal, whereas history recounts particulars. By universal I mean the way a certain kind of person will speak or act based on what is either probable or necessary. Even when it names individual characters, poetry aims at the universal—what a certain kind of person might do and say.¹⁷

The fundamental principles of the soul include universals that pertain to what *might* be and to what *should* be.¹⁸ How might we restore this inquiry into the fundamental principles of the soul? The first step is to distinguish what I have been calling “the scientific method” from what Plato calls “dialectic.”

Plato practiced the art dialectic in his dialogues, which are a form of poetry. I will offer an example of how this dialectical process works. Plato’s dialogue *Phaedo* presents Socrates in prison where he is awaiting execution. He was accused and convicted of being an atheist and corrupting young people, and the jury condemned him to death. Plato’s version of that story, which does have a historical basis,

¹⁷ *Aristotle’s Poetics*, translated by Albert A. Anderson, in *Beauty and Truth* (Millis, MA: Agora Publications, Inc., 2007), 1451b.

¹⁸ *Ibid*, 1460b.

features a careful examination of the nature and destiny of the soul. For Socrates, the issue of what happens to him after they kill his body is not an abstract puzzle but an immediate existential question. This laboratory of the soul allows all of us who read or listen to the dialogue to participate in the drama. Socrates will die at sunset, and when he does the bell that tolls also tolls for thee. What, exactly, is the soul? Is it immortal? If so, what does that mean?

Plato's *Phaedo* offers not one but four different views of the soul and provides separate arguments for each one. The dialectical process in Plato's *Phaedo* follows a sinuous path because it examines several popular beliefs about the nature and destiny of the soul. This requires both explication and refutation, and it must follow the argument wherever it leads. Socrates tells about his own youthful quest for an explanation of causality and his excitement when he heard someone reading from a book by Anaxagoras. The book said that mind is the cause of everything, leading Socrates to hope that Anaxagoras would explain not only how things come to be and pass away but also why it is best for them to do so. [*Plato's Phaedo*, Disk 3, Track4]

Cebes, my friend, this wonderful hope soon flew away and disappeared. As I proceeded, I found that the man did not attribute to mind any genuine role in organizing things but appealed to air, ether, water, and many other strange things as the real causes. It was as if someone said that Socrates does everything he does with his mind, but when asked to explain any particular action—such as why I am currently sitting here in prison—responded by saying that I am sitting here because my body is made up of bones and tendons, that the bones are hard and have ligaments that connect them, and that the tendons are elastic and cover the bones, which also are covered by flesh and skin. As the bones are lifted at their joints by the contraction or relaxation of the muscles, it is possible to bend my limbs, and this is why I am sitting here with my legs bent. That is what he would say, and he would explain my talking to you in a similar way. He would attribute that to sound and air and hearing, and he would list ten thousand other causes of the same sort, forgetting to mention the true cause, which is that the Athenians thought it best to condemn me, and I thought it is

best to sit here and it is right to endure the penalty they imposed. By the dog of Egypt, I am inclined to think that these muscles and bones of mine would have gone off to Megara or Boeotia long ago, guided by the idea of what is best, if I had not decided that it is better and nobler to accept the sentence inflicted by the state rather than escape and run away.

It is absurd to call such things causes, but it would be right to say that without bones and tendons and other parts of my body I could not carry out my decisions. But to say that those are the causes of what I am doing — that I'm doing it with reason but not by choosing what is best — is an extremely careless and sloppy way of talking. Imagine being unable to distinguish between the true cause and a condition without which it could not act. Many people talk that way, but they are groping around in the dark—applying the term cause where it does not belong.¹⁹

This view of causality is remarkably similar to Whitehead's position in *The Function of Reason*, but Socrates is not Plato's "mouthpiece." It would be a mistake to confine our interpretation of Plato's philosophy to the words of only one of his characters. How we interpret Plato's dialogue (or any other serious work of philosophy) is much more important than what is said in any single part of that work. All of Plato's characters are essential to the unfolding of Plato's dialectical process.

Whitehead agreed with Bergson in thinking that evolution is a creative process. Evolution gave rise to the human species, but it was not until human consciousness evolved that we emerged from the realm of what Immanuel Kant calls "heteronomy" to the realm of "autonomy."²⁰ Heteronomy refers to laws imposed from the outside, whereas autonomy means that we impose laws on ourselves. Material and efficient causes dominated on Planet Earth before human beings evolved. When we humans began to question, challenge, and think for ourselves, we evolved to the point of making free choices based on values that were

¹⁹ Plato's *Phaedo*, Translated by Benjamin Jowett, revised by Albert A. Anderson (Millis, MA: Agora Publications, 2005), pp. 98-99.

²⁰ See Immanuel Kant, *Kant's Foundations of Ethics*, Second Edition, translated by Leo Rauch and revised by Lieselotte Anderson (Millis, MA: Agora Publications, Inc., 2007), pp. 54 ff.

previously unknown. Material and efficient causes suffice for heteronomy, but autonomy cannot function without formal and final causes. In an important sense, the Pythagorean theorem was discovered rather than invented. It was unknown until those ancient mathematicians formulated it. Only then was it able to shape the practice of architects, engineers, and builders. By analogy, artists, philosophers, and historians do not create ideas such as justice, beauty, and goodness in the laboratories of the soul. They manifest, formulate, examine, interpret, and evaluate such ideas so that they can be understood and used to practice the art of life. Whitehead's idea of teleology does not apply to a supernatural realm outside of nature. It is a natural process that evolves as human consciousness evolves, but once we include final causes in the process, the meaning of nature changes fundamentally. It provides a worldview that transcends the scientific materialism spawned by positivism; this idea of nature becomes a rich and dynamic cosmos that incorporates mind and soul as essential aspects. It cannot be explained without including what is just, good, and beautiful.

Final causes promote autonomy. That does not mean that they are spontaneous, irrational, or arbitrary. Autonomy does not mean "uncaused." Freedom, in this sense, means that purposes and goals are chosen rather than being determined by forces outside of our control. Heteronomy implies a scheme in which something or someone "other" causes what takes place in the world. Autonomy, especially when it embraces dialectical reason, leaves us responsible for what happens. Dialectical thinking goes beyond the narrow method of scientific rationality and follows the creative process wherever it leads. Socrates' experience

in that Athenian prison goes far beyond the limited criterion of sense experience that prevails in scientific laboratories. Reasoning about formal and final causes draws upon the imagination, especially as it is manifested works of art. As Aristotle explains in the *Poetics*, theater incorporates all of the other arts—painting, architecture, music, dance, film, sculpture, and all the other media that contribute to understanding the art of life. The arts are laboratories of the soul where we explore how to promote the art of life.