> Science has changed the conditions of man's life. It has changed its material conditions; by changing them it has altered our labor and our rest, our power, and the limits of that power, as men and as communities of men, the means and instruments as well as the substance of our learning, the terms and the form in which decisions of right and wrong come before us. ...The ideas of science have changed the way men think of themselves and of the world. [J. **Robert Oppenheimer**][8]

CHAPTER 2

THE SEARCH FOR ABSOLUTE KNOWLEDGE

Social scientists, generally, face the often frustrating challenge of attempting to identify patterns in their observations and data relating to human behavior. And, for very good reasons, economists have one of the more difficult assignments taken on by social scientists. Although their educational and professional training requires many years of intensive course work and research and they have become a permanent fixture within nearly all large public and private organizations, the bottom line result of their aggregate efforts is distressingly meager. As one of their colleagues, Seymour Zucker, observed a number of years ago, "*More often than not, economists have been giving policy makers bad*

forecasts and poor policy advice."[9] Despite a dramatic increase in available data for statistical measurement and analysis and the development of sophisticated econometric models, economists simply have not been successful in taking the risk out of decision-making—particularly those decisions where large investments of human, financial and material resources are involved. The reasons are not that difficult to grasp.

We live on a planet characterized by great localized diversity in climate, topography and availability of resources required to support life. The various forms of socio-political institutions and arrangements we rely on simultaneously advance or thwart group survival and what we in the so-called "developed" societies think of as the advance of civilization. Faced with such complexity, the economist as social scientist desperately needs to identify, if possible, what aspects of human behavior operate in a fashion similar to the fundamental laws painstakingly developed by the physical scientists. This has proved elusive.

The political economists described this quest as a search for *natural law*. The identification of a natural law at work may be substantiated by direct observation or, indirectly, by association of effect to cause. In the latter case, one often relies on suggestive evidence that is consistent with the theoretical (i.e., rationalistic or *a priori*) construct of a principle at work. With respect to human behavior, the concern is to identify patterns of behavior that are consistent over time and not specific to place or circumstance. Absent behavior that meets these tests—evidence of fundamental laws in operation—one is left anchorless in the analysis of individual behavior and group dynamics. The potential for obtaining absolute knowledge, or true understanding, requires the existence of natural laws governing human behavior.

NATURAL LAWS AS SCIENTIFIC PRINCIPLES

The investigation of human behavior began in earnest with the ancient Greeks and reached a high level of sophistication in the writings of Plato. One of Plato's extraordinary contributions to science in his own time and for the future (when rediscovered by Arab scholars and passed on to Europeans during the Renaissance) was that he set down rigid standards for scientific investigation, limiting the scientific disciplines to those "*yielding* ***a priori*** *certain knowledge of immutable and eternal objects and truths.*"[10] The study of human behavior was to Plato and the ancient philosophers highly suspect as a legitimate arena for scientific investigation because human actions could not be predicted with any certainty. Social scientists have worked to overcome this negative bias against their work supplementing (and, in some cases, supplanting) field observations and analysis of causal relationships with a reliance on abstract theorems. This has been accomplished at great expense; namely, the loss of accumulated knowledge and insight gained by political economists during the previous centuries.

If, for the sake of argument, we are willing to accept Plato's *a priori* conditions,[11] then political economy must also yield eternal truths if truly a science. The difficulty is in answering the question of whether we can be absolutely certain about anything; and, if we cannot, then how should we proceed in the pursuit of knowledge? Principles we generally accept as immutable laws may in the future require revision or even abandonment; however, when developed based on repeated and objective observation and analysis of information, the usefulness of such laws toward a more complete understanding of our universe is immeasurable. As toolmakers, we continuously work at utilizing knowledge gained to convert the natural environment into one that more fully (or, so it seems at the time) satisfies our desires for material comfort. Along the way, unproven theories may find acceptance as actual principles because of ignorance and superficial indications of

accuracy, or because of pressure from vested institutional interests more powerful than the force of scientifically-derived evidence. With the passage of time, however, conventional wisdoms not supported by observed phenomena and objective testing are eventually discarded. One would expect, then, that the present-day efforts of investigators are directed with an unreserved and open-ended search for truth. Up to a point, this is certainly more the case today than ever before. Yet, the relationship between scientists and the socio-political institutional environments within which they conduct research and perform experiments or make detailed observations is often complex. The competition for funding from public and private sources is intense, and many such funding sources have deeply entrenched vested interests in obtaining results consistent with those interests.

We need also to understand that an important variable in the process of scientific investigation is the quality of training as well as the inherent ability of the scientist. As history reveals, many inappropriate conclusions go unchallenged for long periods of time or are not detected until technologies sufficiently advance to permit the testing of established principles in more effective ways.

In the realm of human behavior, we are gaining knowledge from the findings of archaeologists and cultural anthropologists in the form of increasingly detailed descriptions of how individuals have lived and worked together since the very beginnings of our presence on the earth. Aided by this information, we are certainly in a better position than ever before to search for common threads in the behavior of people who lived even thousands of years ago, and, from this information, formulate principles (i.e., *natural laws*) that appear to govern such behavior as supported by the historical and contemporary evidence.

A not inappropriate analogy to the political economist's quest for knowledge is, I suggest, that of Albert Einstein's work on *relativity* in the physical sciences. Einstein had trained long and hard in physics and mathematics; yet, what triggered his breakthroughs in understanding

was the intangible combination of instinctive intellect and imagination. He wrote of this unique journey into not merely the unknown but the previously not thought of possibilities:

> [I]t [became] clear to me...that neither mechanics nor thermodynamics could claim exact validity. By and by I despaired of the possibility of discovering the true laws by means of constructive efforts based on known facts. The longer and the more despairingly I tried, the more I came to the conviction that only the discovery of a universal formal principle could lead us to assured results.[12]

For Einstein, the answers had to come from outside the realm of possible experience. Using his imagination and intuition he postulated what the world would look like to someone sitting on a beam of light; and, recalling what went through his mind at the time, explained how he came to reason the existence of such a profound vision of unseen realities:

> From the beginning it appeared to me intuitively clear that, judged from the standpoint of such an observer, everything would have to happen according to the same laws as for an observer who, relative to the earth, was at rest. For how, otherwise, should the first observer know, i.e., be able to determine, that he is in a state of fast uniform motion?[13]

Although subjected to ongoing re-examination, Einstein's theory of relativity has guided the investigations of his contemporaries and successors ever since. His work brought us closer to absolute knowledge, at least insofar as the operation of the known universe. Nevertheless, relativity does not explain the origin of newly-identified phenomena revealed by recent observations made possible by enhanced technology not available to Einstein. Advances in space travel and communications technologies have brought the theoretical world of Einstein into actual focus for modern era physicists. Einstein knew this

would be the case; he thought of himself as a pioneer and member of a vanguard opening the door wider for later discoveries. His loyalty was to the quest for truth. Characteristic of Einstein's sense of place is the debt he acknowledged to those whose life-work centered more directly on the meaning rather than the origin and workings of life, noting that "*[t]he type of critical reasoning which was required for the discovery of [relativity] was decisively furthered, in my case, especially by the reading of David Hume's and Ernst Mach's philosophical writings.*"[14]

Space exploration, observation of the galaxies by satellite-carried telescopes and the analysis of accumulated data by powerful computers have provided the means to test in new ways the mathematics and physics formulated by Einstein. New and in many ways more exotic hypotheses concerning the operation of the universe are also being celebrated. We should not be surprised that answering the ultimate question of how the universe was created, and whether this was the conscious act of some greater power, is only in part a challenge for scientists. As part of the nature of being human is to be spiritual as well, many scientists must work in their own way through the seeming conflict between faith and the objectivity demanded by scientific work.

While political economists must work within the far less orderly environment of human behavior, their investigations are no less subject to the dilemma of how to reconcile certain religious or spiritual beliefs with the evidence provided by history and human experience. To the political economist's advantage, such investigations require no journeys similar to Einstein's into unseen, theoretical worlds. All that is required to investigate political economy is readily at hand.

I urge social scientists to discard the conventional wisdom that specialization and narrow arenas of investigation are appropriate paths to understanding human behavior. The correct mode of investigation is interdisciplinary and broad. Political economy serves this objective far better than any of the individual social sciences. In much the same way as the physicist might look to the work of Einstein as fundamentally

sound and pioneering, so is the work of Henry George in political economy sound and pioneering. From George one gains a core body of analysis upon which to evaluate existing socio-political arrangements and institutions operating in every society. George constructed his principles of political economy guided by the requirement that they meet the tests of reason and real world observation. This was a standard George adhered to in the most exact manner.

A FEW MORE WORDS ABOUT ECONOMICS

As already mentioned, there is a growing tendency in both the popular and scholarly literature to interchangeably use the terms *economics* or *political economy* to describe the arena in which professional economists work. One reason is the significant number of economists who have become spokespersons for particular points of view that are inherently socio-political. Much of what these economists write or speak about reflects on the proper relation between the individual and the State, or various private entities and the State. These economists also tend to be the most vocal critics of theoretical economics, suggesting that what many of their colleagues do has little value in solving real world problems. Take, for example, the following comments by one fairly well-known economics professor concerning some members of his profession:

> When bright people say stupid things, the question inevitably arises, why is their perception of reality so blurred? Good economists are bright men and women. They are possessed of splendid academic credentials and arcane analytical techniques. They speak in tongues as difficult to comprehend as the dialects of nuclear physicists, molecular biologists, structural linguists, or respectable literary critics. Moreover, most economists are individuals of good will, eager to extirpate poverty, redeem the cities, diminish pollution, feed the hungry, heal the sick, and house the unsheltered.

All the same, economists do make the oddest statements and promulgate undue quantities of faulty prophecy and policy prescription[15]

The above statement comes from the late Robert Lekachman, a long-time professor of economics at the City University of New York, an unapologetic advocate of *democratic socialism* (as he understood the term) and a strong advocate of government oversight and planning in economic affairs. Another equally eminent member of the economics profession adds this:

Economics is today in the position of astronomy in Tycho's time. The new analytical concepts and tools are giving us a tremendous volume of observations and facts. They make it impossible for us to be economic innocents any longer. They force us to have economic policies based on rational argument rather than on "feel." Yet our information and tools also make it daily more apparent that we lack adequate economic theory for effective policy. In crucial areas such as economic development, the world economy, or the "microeconomy" of business, markets, producers, and consumers, we hardly have anything yet that deserves to be called folklore, let alone theory.[16]

This second, equally critical assessment, is provided by Peter Drucker, a trained economist who has long been recognized as a leading expert on corporations and organizational management. Drucker is also generally considered an adherent to a *conservative* socio-political philosophy, although as this work will discuss at some length the terms *conservative* and its accepted opposite, *liberal*, are not nearly so different in practical terms as some would have us believe.[17] On the subject of economics, Drucker goes on to say that an absence of hard data no longer serves to explain the failure of economics to fulfill its anticipated role. What now seems most likely is that the cause and effect (and coincidental) relationships upon which econometric models are constructed are far too simplistic or in some ways structurally flawed. I

suggest to the economist—including those among this group of professionals who see their work as important to solving serious social, political and economic problems—that a far greater understanding is possible within the framework of classical political economy than what is possible relying on the abstract theories of how markets operate free of or subject to the variables economists call *externalities.*

POLITICAL ECONOMY AS SOCIAL SCIENCE

Political economy is concerned with our behavior as it affects the well-being of individuals within and between socio-political groups. Examining these issues requires that the investigator dispassionately accept that we have at least a degree of *free will*; that is, we are able to make rational and irrational choices. The political economist must also operate from a presumption that *competent*[18] persons have a considerable degree of free will to make choices and decisions, and are thereby inherently responsible for their actions. Absent acceptance of free will, there is left to the political economist no basis for evaluating human actions within the context of moral constraints imposed by principles of justice, liberty, or equality of opportunity.

In large measure, political economy depends on a reasoned understanding of human behavior and an evaluation of the consequences of individual actions on the individual taking such actions and on others. The obvious challenge in the study of human behavior is, then, one of identifying patterns of behavior to which is attached a high degree of consistency, and from which principles of operation arise. Experience and observation confirm that our ability to predict what individuals will do under any given set of circumstances is far more difficult to anticipate than, say, when we will experience the next eclipse of our sun by the moon. As with the physical sciences, in

political economy the value of scientific investigation depends upon the formation of principles able to explain human actions.

One group of economists has relied on an evaluation of aggregate behavior patterns in its assessment of how to stimulate and/or direct economic choices made by individuals. They have come to be called *rational expectationists*[19] because of their view that we cannot be easily lured into acting a certain way, particularly more than once, if such actions are not in our perceived self-interest. For example, the conventional wisdom of central bankers and other policy makers when they identify a need to stimulate consumption of goods and services is to lower interest rates (i.e., the fee for temporarily acquiring the use of another's purchasing power). The central bank lowers the rate of interest charged to make loans to commercial banks, which is then passed on to business and individual borrowers doing business with the commercial banks. The rational expectationist observes that, historically, when the cost of borrowing is lowered, this new level of affordability is eventually absorbed by higher prices of goods and services. Buyers compete with one another to acquire goods and services at existing prices before sellers are able to raise prices in response to the lower cost of borrowing from the banks. Sophisticated participants in the market, knowing precisely what the central bank will do and what effect it will have, put into place strategies that will ensure their own interests are not adversely affected.

In a very real sense, political economy incorporates much of the same approach to understanding human behavior as does the rational expectationist economist. Henry George, in particular, achieved a crucial advance in political economy by identifying a characteristic in our behavior possessed by all persons at least in some degree; namely, that *we seek to satisfy our desires with the least amount of exertion.*

Another characteristic we share (one that George took for granted as being universally accepted) is our dependency on nature for our very existence. Our survival is linked absolutely to the delicate balance that

supports life as we know it in this portion of the universe. Although we are part of the scheme of things on our planet, the continued existence of the universe as a whole or the earth specifically is in no way dependent upon our survival. As a species, we have survived and (to some degree) prospered because of our unique capacity to contemplate our action, visualize change to our physical environment and act upon the earth as our reason directs us. We then learn from our experiences, modifying our behavior in increasingly shortened time frames as our knowledge base expands.

Spoken and then written language skills evolved out of the necessity to record information that could no longer be conveyed with the use of picture graphs, chants or other methods of communication. Jacob Bronowski, one of the twentieth century's most respected mathematicians, scientists and philosophers, observed that we are constantly reaching beyond the confines of our physical constraints in search of what awaits us over an unlimited array of horizons. Einstein serves as an example to us all in this regard. Yet, Bronowski did not believe a complete understanding of the universe was within the grasp of the human intellect. In ***Identify of Man***, he writes:

> Our experiences do not merely link us to the outside world; they are us and they are the world for us; they make us part of the world. We get a false picture of the world if we regard it as a set of events that have their own absolute sequence and that we merely watch. ...If we write the laws of nature as if we ourselves had no part in them, we get the wrong answers to quite elementary questions. The basic mistake ...springs, Einstein showed, from supposing that nature is an imperturbable machine at which we peek from the outside. That is the false picture, in physics and in philosophy. Nature is a network of happenings that do not unroll like a red carpet into time, but are intertwined between every part of the world; and we are among those parts. In this nexus, we cannot reach certainty because it is not there to be reached; it goes with the wrong model, and the certain answers ironically are the wrong answers. Certainty is a

demand that is made by philosophers who contemplate the world from outside; and scientific knowledge is knowledge for action, not contemplation.[20]

Thus, Bronowski reminds us that the more we learn about ourselves and our universe the more we find there is yet to uncover. Of equal importance to me is his caution that quantitative analysis produces the highest degree of long run uncertainty, in that its inherent demands for specificity are subject to distortion by our own actions in a changing environment. For the time being, such distortions are largely confined to our earth and the changes we bring to our physical and socio-political environments. These are, however, not of minor consequence, as history tells us and our everyday experience increasingly confirms.

We also should not forget the relatively brief period of our existence in the universe. The period during which we have grouped ourselves into societies and constructed organized civilization accounts for only some ten to fifteen thousand years. As a species, we have been remarkably fortunate to survive an often hostile and threatening physical environment; our comparatively unimpressive physical strength, dull senses and slowness demanded the development of a large and active intellect to improve our prospects for survival. We continue to utilize intellect in ways no other species does. As observed by Henry George:

> All human actions—at least all conscious and voluntary actions—are prompted by desire, and have for their aim its satisfaction. It may be a desire to gain something or a desire to escape something, as to obtain food or to enjoy a pleasing odor, or to escape cold or pain or a noisome smell; a desire to benefit or give pleasure to others or a desire to do them harm or give them pain. But whether positive or negative, physical or mental, beneficent or injurious, so invariably is desire the antecedent of action that when our attention is called to any human action we feel perplexed if we do not

recognize the antecedent desire or motive, and at once begin to look for it, confident that it has to the action the relation of cause to effect.[21]

In this way does George establish the *satisfaction of desires* as the appropriate subject matter for observation and study by political economists. Chief among our desires, of course, is that of survival. One of our greatest fears is that of our death; and, our most passionate desire (at least when we are young and in good health) is for immortality. Most of us would agree intuitively with these observations; nevertheless, there is ample evidence available of our efforts over time and across space to prolong life (and, when life has ended, to rationalize the continuance of life in a different dimension).

The modern economist might observe that, in the *life market* the price one is willing to pay for state-of-the-art medical care and for a relatively few number of years added to one's longevity is quite high in relation to what we are willing to pay for other things we desire. What is also true is the relatively small number of us in a position financially to make such choices. Most people around the globe receive incomes barely sufficient to acquire a minimum of food, clothing and shelter. Among those who do possess the financial resources to make choices, far too many in this group behave recklessly toward the living machine that is our physical being, then expect physicians to bring them back from the brink of death by extraordinary means. These are but a few examples of the conflicting characteristics fundamental to our nature and our circumstance. Yet, there is a commonality, again observed by Henry George, that binds us together:

Whether it proceed from experience of the irksomeness of labor and the desire to avoid it, or further back than that, have its source in some innate principle of the human constitution, [the] disposition of men to seek the satisfaction of their desires with the minimum of exertion is so universal and unfailing that it constitutes one of

those invariable sequences that we denominate laws of nature, and from which we may safely reason.[22]

On the strength of this crucial premise, or axiom, political economy really stands or falls. "*It is this law of nature that is the fundamental law of political economy—the central law from which its deductions and explanations may with certainty be drawn,*" writes George, continuing, "*and, indeed, by which alone they become possible. It holds the same place in the sphere of political economy that the law of gravitation does in physics. Without it there could be no recognition of order, and all would be chaos.*"[23] Simply put, we will work only as hard as we must to obtain whatever it is that we desire. To do otherwise is irrational, although not being equally blessed in our possession of particular abilities or intelligence, the actual level of our exertions may differ greatly in pursuit of a similar result.

The historical evidence tells us also that we have repeatedly demonstrated a willingness to use force and fraud and theft to acquire that which we did not ourselves produce. This is the dark side of human behavior, a side that is suggestively commented on by historian Lewis Mumford:

> [T]here is plenty of support from the animal and insect world for the belief that the predators, given a choice, often prefer a soft mode of existence to a hard one, and become so addicted to the easier life that they become committed to parasitism, living off a passive, if not wholly complaisant, host.[24]

In a straightforward acknowledgment that our socio-political institutions and arrangements had produced this same result, one of the first-generation economists, Thorstein Veblen, added his own commentary to the voices calling for reform at the end of the nineteenth century. In ***The Theory of the Leisure Class***, Veblen observed that "*the institution of a leisure class has emerged gradually during the*

transition from primitive savagery to barbarism; or, more precisely, during the transition from a peaceable to a consistently warlike habit of life."[25] What Veblen and others observed in history is that as human civilization has advanced, one of the key strategies employed to satisfy desires with a minimum of effort has been to adopt the warlike habit of life. This change from a generally peaceable and *communitarian* group existence to one characterized by aggression and conflict accelerated with population growth, the appearance of hierarchy and the development of weaponry.