What Kind of Inquiry Can Best Help Us Create a Good World?

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In order to create a good world, we need to learn *how to do it—how to resolve our appalling problems and conflicts in more cooperative ways than at present. And in order to do this, we need* traditions and institutions of learning *rationally devoted to this end. When viewed from this standpoint, what we have at present—academic inquiry devoted to the pursuit of knowledge and technological know-how—is an intellectual and human disaster. We urgently need a new, more rigorous kind of inquiry that gives intellectual priority to the tasks of articulating our problems of living and proposing and critically assessing possible cooperative solutions. This new kind of inquiry would have as its basic aim to improve, not just knowledge, but also personal and global* wisdom *— wisdom being understood to be the capacity to realize what is of value in life. To develop this new kind of inquiry, we will need to change almost every branch and aspect of the academic enterprise.*

Humanity is in deep trouble. Despite all the world's wealth and resources and despite all the concern for Third World development during the last thirty to forty years, it is still the case that about one-fifth of all people alive today live in conditions of abject poverty, undernourished, often without access to such basic amenities as safe water, health care, and education. In some places in Africa and Asia, things actually appear to be getting worse. UNICEF estimates that nearly 15 million young children die unnecessarily every year, from malnutrition or from curable or preventable diseases, deaths often being related to malnutrition. Millions of those who survive do so with stunted brain growth, as a result of malnutrition, incapable for this reason alone of realizing their potential as human beings. And yet the world produces sufficient food for everyone to get enough to eat. All over the world governments devote precious resources to building up armies and armaments. Needless to say, the

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result is not an end to war. During the twentieth century 99 million people have been killed in wars so far, and the mutual slaughtering continues. Millions of people live out their lives politically enslaved by dictatorships of the left or right, in many cases brutal military dictatorships, with sometimes even the criminally insane seizing and holding onto power. And as if all this were not enough, there are the environmental problems created by population growth and industrial and agricultural development: the destruction of tropical rain forests, the massive extinction of species, the impending threat of global warming.[1]

When I wrote the first draft of this article, a mere three or four years ago, I included an even more severe threat to the future well-being of humanity, namely, the cold war, the nuclear balance of terror, the arms race, star wars, the apparent ever-increasing likelihood of nuclear armageddon. We now really do seem to have overcome this particular form of global insanity, thanks largely to Mikhail Gorbachev; and this surely ought to be a source of great hope. Released from the paralyzing insanities of the cold war, we may now begin to take seriously the possibility of resolving our other major global problems.

If we are to create a more just, peaceful, generally prosperous, democratic, and humane world—a good world[2]—the global problems that we will need progressively to solve include the following.

1. an end to Third World poverty; a more just relationship between the First and Third Worlds, including a more just distribution of the world's resources
2. worldwide elimination of tyranny, whether of the left or right, and the establishment of democracy everywhere
3. the creation of an ecologically sustainable world industry and agriculture; an end to current massive extinction of plant and animal species through hunting or through destruction or pollution of natural habitats; an end to the destruction of tropical rain forests; an end to the impending threats of global warming and the destruction of the ozone layer
4. an end to population growth
5. an end to war and to the threat of war
6. the creation of more cooperative institutions and social arrangements,[3] both local and global

In order to solve these problems, thus creating a better, more civilized world, we need to *learn* how to do it. Above all, we need to learn how to resolve our problems and conflicts in more cooperatively rational ways than at present. And for this in turn we require traditions and institutions of learning rationally designed and devoted to achieving this end.

This brings me to the basic problem of my article. What kind of inquiry can best help us create a good world (in the sense just indicated)? How well

designed, how rational, are our traditions and institutions of inquiry when judged from this standpoint of helping us build a good world? What changes, if any, need to be made to the academic enterprise—science, technological research, social inquiry, the humanities, education—if it is to be rationally designed and devoted to helping us create a better world? More generally and fundamentally: What ought to be the overall intellectual aims and methods of organized inquiry, granted that the basic aim is to help us realize what is of value to us insofar as this is an aspect of, or is compatible with, a good world?

What I have to say in response to these questions, put crudely and bluntly, can be summed up like this. What we have at present—an academic enterprise devoted by and large to improving *knowledge* and technological *know-how*—is, from the standpoint of helping us create a good world, grossly and damagingly irrational. In a world in which international affairs are conducted at the intellectual and moral level of gang warfare (as they all too often are), the mere provision of new knowledge and technology, dissociated from a more fundamental concern to help humanity resolve its conflicts and problems of living in more cooperative ways, is an obvious recipe for disaster. It merely increases our power to *act*, without at the same time increasing our power to act humanely, cooperatively, and rationally. At present we do not possess traditions and institutions of learning rationally designed to help us build a better world: No wonder we do not succeed at the task very well. We urgently need a new, more rational kind of academic inquiry, which gives intellectual priority to the tasks of articulating our problems of living, proposing and critically assessing possible cooperative solutions, tackling problems of knowledge and technological know-how only in an intellectually subordinate way. This new kind of inquiry would have, as its basic aim to improve, not just knowledge, but rather personal and global *wisdom*—wisdom being understood to be the capacity to realize what is of value in life, for oneself and others (and thus including knowledge, know-how, and understanding). To develop this urgently needed kind of inquiry, we will need to change almost every branch and aspect of the academic enterprise. Above all, we will need to change social inquiry and the humanities, so that they take up their proper task, *at the intellectual heart of inquiry as a whole*, of helping humanity resolve conflicts and problems of living in increasingly cooperative ways—the tasks of the natural and technological sciences being subordinate and secondary. This new kind of inquiry, rationally devoted to the growth of wisdom, would do better justice to both practical and cultural dimensions of inquiry—to both technological research and pure science and scholarship—than that which we have at present.

I will develop my arguments in support of these claims as follows. First, I expound the conception of inquiry that by and large prevails at present, which I call *the philosophy of knowledge*. This, I will then argue, is damagingly irrational from the standpoint of enabling us to learn how to build a good world. I then expound a more intellectually rigorous conception of inquiry that if taken up and put into practice, really might enable humanity to learn how to build a good world. I conclude by indicating some of the changes that need to be made to academic inquiry to implement the philosophy of wisdom.

The Philosophy of Knowledge: Exposition

The philosophy of knowledge is a conception of inquiry that we have inherited from the past, from Francis Bacon, from the scientific revolution of the sixteenth and seventeenth centuries, and above all from the Enlightenment of the eighteenth century. I am not going to claim that the academic enterprise as it exists today in North America, Europe, and elsewhere entirely conforms in practice to the edicts of the philosophy of knowledge. I *do* claim, however, that the philosophy of knowledge is still a widely upheld *ideal* for rational inquiry that exercises a substantial influence over many aspects of the academic enterprise.

The basic ideal of the philosophy of knowledge is that the proper way for rational inquiry to help humanity build a better world is for inquiry, in the first instance, to restrict itself to the aim of improving knowledge and technological know-how. First, knowledge is to be acquired; subsequently and secondarily, it can be applied to help us solve those problems of living that we need to solve in order to create a good world.

Thus, according to the philosophy of knowledge, a sharp distinction needs to be made between the humanitarian or social aims of inquiry and the intellectual aim of acquiring knowledge. Arising from this, the basic *methodological* prescription of the philosophy of knowledge is to insist that the intellectual domain of inquiry be decisively dissociated from the rest of the social world—from politics, religion, values, economics, emotions, and desires. Only objective, impersonal factual claims to knowledge can enter the intellectual domain of inquiry; and these potential contributions to knowledge must be assessed solely by means of fact, truth, logic, evidence, and observational and experimental results—all other considerations being ruthlessly excluded from consideration. Intellectual problems must be decisively dissociated from human problems—the former being problems of knowledge, the latter being problems encountered by people in their lives.

Yet again, intellectual progress must be decisively dissociated from human or social progress, the former being progress in knowledge, the latter being progress toward a good social world. Human expressions of hopes and fears, desires and feelings, as well as literature and other forms of art, and moral, religious, ideological and political ideas and programs must all be excluded from the intellectual domain of inquiry – although of course claims to factual knowledge about such things can legitimately form a part of inquiry.

The reason for all this is, it seems, straightforward. The intellectual aim of inquiry is to improve knowledge of truth. We can only hope to achieve this aim if we allow only those factors relevant to the assessment of fact and truth to influence our choice of results and theories. The moment we allow personal feelings and desires, political objectives and so on, to influence our choice of results and theories, knowledge of objective fact must be corrupted. Objective knowledge must degenerate into mere prejudice and ideology.

It is not just the intellectual integrity of inquiry that is at issue here: The human value of inquiry is at issue as well. For the human value of inquiry resides precisely in its capacity to produce genuine, objective knowledge. Almost paradoxically, in short, in pursuing inquiry we must, within the intellectual domain, ruthlessly ignore all questions concerning human values and aspirations precisely so that inquiry may ultimately be of genuine human value and may help us to realize worthwhile social aspirations.

Proponents of the philosophy of knowledge usually point to the Lysenko episode in Soviet biology as providing a striking illustration of just how disastrous it can be to violate the methodological prescription of demarcating the intellectual from the social and political.[4]

At the center of the philosophy of knowledge, forming the paradigmatic core of the doctrine, there is a more specific philosophy of *science*, which I shall call *standard empiricism*. All that the philosophy of knowledge asserts about inquiry as a whole, standard empiricism also asserts about science; but in addition it makes the crucial assertion that scientific results – laws and theories – must be accepted and rejected solely on the basis of empirical success and failure, in an impartial way. Insofar as preference is given in science to laws and theories that are simple or explanatory, it is vital that this preference does not commit science to upholding, in a permanent way, and on nonempirical grounds, that the universe itself is simple or comprehensible. For a time, perhaps, in science, choice of theories may be biased in the direction of some metaphysical doctrine about the world, some paradigm or "hard core", in the kind of way described by Thomas Kuhn[5] or Imre Lakatos.[6] In the end, however, empirical success or failure alone must decide the fate of scientific theories. The context of discovery may be influenced by personal or social factors, but the context of justification must be free of them.

The reason for adopting this basic methodological prescription for science is again, it seems, straightforward. We do not and cannot possess any knowledge about the world independently of all experience. Only by comparing our theories about the world with the world itself via our experiences of it, in an impartial fashion, can we arrive at authentic scientific knowledge about the world. Thus, ultimately, evidence alone must decide the fate of scientific theories.

Two further points about the philosophy of knowledge deserve to be mentioned.

First, the doctrine tends to restrict rational thought to *academic* thought – the personal and social thinking we engage in as we live represent too intimate an intermingling of claims to knowledge with feelings, desires, intentions, and values to constitute rational thought. In order for our personal thinking in life to be rational, we must decisively *dissociate* within ourselves thinking intended to ascertain truth from thinking that is imbued with feelings, desires, and values, in just the way prescribed by the philosophy of knowledge.

Second, the doctrine holds that the empirical sciences can be ordered into a rough kind of hierarchy, with theoretical physics at the bottom as the most fundamental, the biological sciences in the middle, and the social sciences at the top as the least fundamental intellectually.

A science at one level presupposes and, where relevant, uses the results of science at lower, intellectually more fundamental levels, whereas the reverse is not the case. Theoretical physics does not presuppose or use theories from sociology, whereas sociology constantly uses, even if only in obvious and crude ways, theories and results of physics (such as the existence and persistence of gravitation).

Aspects of the basic idea of the philosophy of knowledge can be traced back to the ancient Greeks, to Plato and Aristotle. It is, however, with the rise of modern science in the sixteenth and seventeenth centuries that the philosophy of knowledge really comes into its own – with the work of Copernicus, Kepler, Galileo, Descartes, and above all, Newton. More than anything else, it was the immense success of Newtonian theory that lent intellectual prestige to the associated doctrine of empiricism that, when generalized, becomes the philosophy of knowledge.

Even today, the philosophy of knowledge, more or less as I have just characterized it, is the official intellectual creed of the academic enterprise, exercising a profound influence over many aspects of science, the humanities, and education. By no means everything going on in universities conforms to the edicts of the philosophy of knowledge, and by no means

everyone would wish to uphold the doctrine as the proper ideal for rational inquiry. In recent years a number of developments have taken place that can be interpreted as piecemeal attempts to break away from aspects of the philosophy of knowledge. Despite this, it still exercises a substantial influence.

Rationality

Despite its long-standing and immense influence, the philosophy of knowledge is grossly and damagingly irrational. It violates the most elementary rules of reason conceivable. It is true that the natural and technological sciences have made astonishing progress in improving expert, specialized knowledge and technological know-how, even though the scientific community, by and large, upholds and seeks to implement standard empiricism and the philosophy of knowledge. However, as we shall see, progress in science has been achieved *despite* and not *because of* general belief in standard empiricism and the philosophy of knowledge. And when judged from the standpoint of helping us achieve what is of value to us in life—a better world—the success of modern science and technology is much less certain.

Reason, as I am using the term here, appeals to the idea that general methods, rules, or strategies exist that, if put into practice, give us our best chances (other things begin equal) of solving our problems and realizing our aims. All problem solving is aim pursuing, and in a certain sense all aim pursuing is problem solving. Rules of reason may be formulated either as rules for solving problems or as rules for realizing aims. I shall develop *two* arguments in criticism of the philosophy of knowledge and in support of the philosophy of wisdom. The first argument appeals to elementary rules of problem-solving rationality, the second to elementary rules of aim-pursuing rationality.

First Argument: Problem-Solving Rationality

The elementary rules of problem-solving rationality required by my first argument are the following.

1. Articulate and seek to improve the articulation of the basic problem(s) to be solved.
2. Propose and critically assess alternative possible solutions.[8]

These two rules are absolutely basic to reason. No enterprise can hope to be even remotely rational that systematically violates them.

Many problems are, however, too intractable to be solved by means of this direct approach alone. In these cases we need to put into practice a third rule of rational problem solving, namely:

3. When necessary, break up the basic problem to be solved into a number of preliminary, simpler, analogous, subordinate, specialized problems (to be tackled in accordance with rules 1 and 2), in an attempt to work gradually toward a solution to the basic problem to be solved.

The danger in putting this third rule into practice is that the activity of solving preliminary, specialized problems may obliterate all concern for the original, basic problem we seek to solve. We need therefore a fourth rule to counteract this danger, namely:

4. Interconnect attempts to solve basic and specialized problems, so that basic problem solving may guide, and be guided by, specialized problem solving.

Thus, if inquiry is to pursue its basic aim of helping us to realize what is of value in life in a way that satisfies the elementary requirements for rationality that I have just indicated, then inquiry must give intellectual priority to the dual tasks of (1) articulating our problems of living and (2) proposing and critically assessing possible solutions – possible personal and social actions. In addition, inquiry will need (3) to break up our basic problems of living into a number of subordinate, specialized problems, for example, problems of knowledge and technology. But it must also (4) interconnect attempts to solve basic problems of living and specialized problems of knowledge and technology, so that basic problem solving can guide and be guided by specialized problem solving.

Inquiry pursued in accordance with the philosophy of knowledge puts rule 3 into practice to splendid effect, in that it creates an immense maze of specialized problems of knowledge and technology secondary to our basic personal and social problems of living. *Absolutely disastrously, however, it fails to put into practice rules 1, 2, and 4.* The vital and fundamental intellectual tasks of articulating our problems of living, proposing, and critically assessing possible solutions are banished from the intellectual domain of inquiry altogether, just because these tasks have to do with what we might do, how we might live, and not with knowledge. Furthermore, the philosophy of knowledge demands that the intellectual domain of inquiry be decisively dissociated from all consideration of our problems of living – thus violating rule 4.

Hence inquiry pursued in accordance with the edicts of the philosophy of knowledge is irrational in the most elementary way conceivable. *It violates three of the four most basic rules of reason.*

Having traditions and institutions of learning that are grossly irrational in this way must lead to widespread disastrous consequences. Our whole capacity to realize what is of value, to create a good world, must be sabotaged. At a stroke, we are deprived of what we most need, a kind of learning that gives intellectual priority to articulating our problems of living, proposing, and assessing possible cooperative solutions. We need this if we are to *learn* how to resolve our conflicts and problems in more cooperative ways.

Furthermore, rapidly solving problems of scientific knowledge and technological know-how in a world that has not learned how to act cooperatively is as likely to do as much harm as good. It is a striking fact that a number of the global problems I indicated at the beginning of my article would not exist were it not for modern science and technology. The nuclear arms race, rapid population growth, the increasing destructiveness of war, immense differences in wealth between First and Third World countries, and ecological problems: These are all the outcome of increasing our power to act, made possible by science, without at the same time increasing our capacity to act humanely, cooperatively, and in our long-term interests. Even science itself suffers: Dissociating scientific problem solving from human problem solving in the way that the philosophy of knowledge demands is all but bound to ensure that the priorities of scientific research will come to reflect, not the interests of those whose needs are the greatest, the world's poor, but the interests of the powerful and wealthy – First World rather than Third World interests. This, by and large, is just what one does find.[9]

Second Argument: Aim-Pursuing Rationality

I come now to my second argument against the philosophy of knowledge and for the philosophy of wisdom, an argument that appeals to the following two elementary rules of aim-pursuing rationality.

a. Whenever our *aims* are problematic (as they often are) we need to try to improve our aims and methods as we act, as we proceed; that is, we need to try to develop more desirable or more realizable aims and more appropriate and effective methods.
b. We need to ensure that our aims are accurately represented and are not misrepresented or repressed.

That which we strive to achieve may be problematic, because it is not as desirable or as realizable as we suppose, because the aim contains unforeseen undesirable consequences, or because it conflicts with other aims or is an inadequate resolution of such conflict. Our personal aims in life are often problematic in these ways. So are our social, institutional, and cultural aims. And so, above all, is the aim of building a good world. The history of ideas for a good world is, as much as anything else, the history of ideas for totalitarian nightmares (even if this was not usually the intention). In all these cases, in order to give ourselves the best chances of achieving what is genuinely desirable and of value, it is essential that we seek to improve our aims and methods as we proceed, as rule a stipulates. In order to do this it helps to be clear about what our aims are. Unfortunately, it is just when our aims are problematic, and they need our attention, that we are most likely to repress and misrepresent them: hence the importance of rule b.

Inquiry pursued in accordance with the philosophy of knowledge violates both these rules in at least *four* major respects.

Consider first physical science. According to standard empiricism, the paradigmatic core of the philosophy of knowledge, the basic *aim* of physics is to improve knowledge about the world, nothing being presupposed in a permanent, a priori way about the nature of the world, the basic *method* being to assess physical theories impartially with respect to empirical success and failure. This standard empiricist conception of the aim and methods of physics is untenable. Given any physical theory, T, however empirically successful, there must always be infinitely many rival theories to T that will fit the available evidence just as well as T does. Inevitably, T will have infinitely many empirical consequences never put to the test. In order to create as many rivals to T as we please, all as empirically successful as T, all we need to do is to modify T, in a grotesquely ad hoc way, for some untested consequences of T, in any way we please. Indeed, since most physical theories conflict with some experimental results, we can even develop as many rivals to T as we please, by means of such ad hoc adjustments, all of which are even more empirically successful than T. Thus any honest attempt to pursue physics in accordance with standard empiricism would overwhelm physics with infinitely many different grossly ad hoc theories, as empirically successful as currently accepted physical theories such as T, if not more so. This would bring physics to an instant standstill. If on the other hand we persistently *reject* these infinitely many rivals to T, not on empirical grounds, but on the grounds that they are all grossly ad hoc, then we no longer assess theories impartially with respect to evidence. Science, indeed our whole methodology, becomes permanently biased toward the presupposition that

the universe itself is non ad hoc. Our allegiance to standard empiricism becomes hypocritical and dishonest.

What has gone wrong is that the basic *aim* of physics has been misrepresented (in violation of rule b). The aim cannot be to improve knowledge about the world, nothing being presupposed about the nature of the world. On the contrary, as Einstein insisted,[10] in order to make rational sense of physics, we must construe its basic aim to be to improve knowledge about a world *permanently presupposed to be comprehensible in some way or other.* The basic standard empiricist claim that we do not and cannot possess knowledge about the world a priori, independently of all experience, is *wrong*: Entirely independently of all experience, we *know*, as a central and permanent item of the entire body of our conjectural scientific knowledge, that the universe is comprehensible *in some way or other.* We are justified in upholding this as a permanent item of scientific knowledge because, bereft of it, science becomes impossible – and ultimately life as well. In adopting the conjecture as a basic item of scientific knowledge, we have everything to gain, and nothing to lose.

A physical theory, in order to be acceptable, must promise to help us improve our knowledge of how the universe is comprehensible by rendering this knowledge more precise and complete. Grossly ad hoc theories, however empirically successful they might potentially be, are rejected. Indeed they are not even considered or formulated in physics, because they cannot help realize the aim of improving knowledge of how the universe is comprehensible. They are excluded from physics not on empirical grounds but because they clash with the metaphysical presupposition of comprehensibility. Thus, in physics, two kinds of criteria govern choice of theory: empirical criteria and nonempirical criteria having to do with compatibility with the metaphysical presupposition of the comprehensibility or unity of the universe – having to do with satisfying basic principles of conservation, invariance, and symmetry.

This aim of physics, in the context of justification, of improving knowledge about some kind of unified pattern of law presupposed to be inherent in all phenomena is, of course, profoundly problematic. However, instead of *repressing* this problematic aim, as standard empiricism does, and creating the neurotic, sterile, insoluble problem of induction as a result, we need to do just the opposite: We need to acknowledge the problematic aim, make it *explicit*, and try to improve it as we proceed. At any given stage in its development, physics is committed to a more or less specific assumption as to how the universe is comprehensible – an assumption that is implicit in the current basic concepts about such things as space, time, mass, force, energy, conservation, and invariance. This more or less specific assumption is,

however, almost certainly *wrong*, even if the universe really is comprehensible in some way or other. It is thus essential that physics seeks to improve the assumption as it proceeds. It is essential, in other words, that physics seeks to improve its aim and its methods as it proceeds. It is just this that the history of physics reveals, from the pre-Socratics to the present. It is the striking capacity of physics, and of natural science more generally, to improve its aims and methods as it proceeds, which helps to explain the explosive growth in scientific knowledge. Improving knowledge has led to improving aims and methods, improving knowledge about how to improve knowledge. According to this view, the philosophy of physics properly construed—the endeavor to improve aims and methods, to develop new blueprints for theories and new physical principles in terms of which theories may be both built up and assessed—is a vital, integral part of physics itself, without which progress in physics would have been impossible.

The standard empiricist conception of physics grossly misrepresents the basic aim of physics in the context of justification, thus violating rule b; it tries to make rational sense of physics in terms of this fixed misrepresented aim and fixed methods, thus violating rule a. The standard empiricist conception of science thus violates both elementary rules of aim-pursuing rationality. It should occasion no surprise that it proves impossible to make rational sense of science within the grossly irrational framework of standard empiricism. Traditional attempts to solve the problem of induction have failed because they have sought to justify the unjustifiable.[11]

The basic aim of physics of improving knowledge of *explanatory truth*—as we may call it—is a special case of the more general aim of natural and technological science as a whole of improving knowledge of *valuable truth*—whether of value in its own right, because of its intrinsic interest or significance, or of value because it enables us to achieve other things of value. A science that rapidly accumulated a vast store of knowledge that is all utterly and irredeemably trivial and useless would not—should not—be said to be making splendid progress. Values quite properly exercise a pervasive influence in science, even in the context of justification, in influencing what we have chosen to develop knowledge about—and what we have chosen *not* to develop knowledge about. But this general aim of science of improving knowledge of valuable truth is, if anything, even more problematic than the more specific problematic aim of physics. If science is to pursue this problematic aim rationally—in such a way as to give the greatest hope of developing knowledge of most value to humanity—it is vital that the scientific enterprise include sustained imaginative and critical discussion of its problematic aim in an attempt to improve its aim and methods as it proceeds. This discussion of aims will need to bring together conjectures about what it

is of value to discover and conjectures about what it is scientifically possible to discover, in an attempt to reveal research aims that are both of value and possible to realize.

Once again, standard empiricism and the philosophy of knowledge repress the real, problematic, evolving aims of science, and misrepresent science as having a fixed aim and fixed methods.

It is not just *science* that has problematic aims. Many personal, social, and cultural aims are problematic. Above all, the aim of building a good world is profoundly problematic. Science has been able to make such astonishing progress in improving knowledge of explanatory truth and valuable truth more generally because, despite standard empiricism, it has successfully put into practice its progress-achieving methodology of improving aims and methods in accordance with the rules of aim-pursuing rationality. If we are to achieve a comparable kind of progressive success in life in achieving what is genuinely of value to us, then we need to discover how to put into practice in life appropriate generalizations of the progress-achieving methodology that has proved to be so successful in science.

Discovering how to do this is the fundamental task of *social inquiry*. According to this view, social inquiry is *social methodology* or *social philosophy*. It has the task of helping us build rules of aim-pursuing rationality into our personal and social lives, into our economic and political endeavors and institutions, so that in life we achieve what is of value to us, a more just and cooperative world, in something approaching the spectacularly progressive way in which knowledge has been achieved by science. From this perspective, then, what a properly constituted philosophy of science is to science, diverse branches of social inquiry are to the corresponding diverse branches of life.

In particular, a properly constituted sociology of science *is* the philosophy of science. The sociology of any institution is the methodology, the philosophy, of that institution, and this holds good for the particular institutional enterprise of science as well. An important general task for social inquiry is to help us discover how to interconnect methodologies or philosophies of our diverse worthwhile endeavors, so that methods developed and successfully implemented in one area, can be transported and appropriately modified to become fruitfully applicable in other areas, successful learning in one area — wherever it may occur — thus becoming generalizable to other areas as well, whenever possible. Given the spectacular success of the natural sciences, the philosophy of sociology of science, construed in the way I have indicated, deserves to occupy a prominent place within social philosophy as a whole.

The philosophy of knowledge does even greater injustice to social inquiry than it does to natural science. For, according to the philosophy of knowledge,

social inquiry is not social methodology or philosophy at all but, rather, social *science* having as its aim to improve *knowledge* of the social world.

This gross mistake can be traced back to the Enlightenment. The basic idea of the Enlightenment was the one I have just described: to learn from the progress of science how to make progress in life toward a more enlightened world. But instead of understanding that this required getting into life an appropriately generalized progress-achieving methodology so successfully exploited by science, the *philosophers* of the Enlightenment – Voltaire, Diderot, and the rest – thought that what was required was the development of social *science* alongside natural science. And just this came to pass during the nineteenth and twentieth centuries. This mistake is perhaps the central intellectual disaster behind our twentieth-century human disasters: It is this, above all, that has subverted our capacity to make progress toward a more enlightened world. If, from the eighteenth century onward, social inquiry had been developed, not as *science*, but as *social methodology*, designed to help us put into practice in life appropriately generalized versions of the progress-achieving methodology of natural science, human progress toward enlightenment might have proceeded in step with progress in science and technology.

Finally, and most disastrously of all, the philosophy of knowledge misrepresents the basic intellectual aim of the whole of rational inquiry. This is not to improve expert, specialized knowledge: It is, rather, to improve personal, social, and global wisdom in life.[12]

The Philosophy of Wisdom: Exposition

This brings me at last to the conception of inquiry that I wish to advocate: the philosophy of wisdom. Whereas philosophy-of-knowledge inquiry violates elementary rules of reason when judged from the standpoint of helping us create a good world, philosophy-of-wisdom inquiry is designed specifically to implement these rules.

A basic intellectual task of philosophy-of-wisdom inquiry is to help all of us imbue our personal and social lives with vividly imagined and criticized possible actions, so that we may discover, and perform where possible, those actions that enable us to realize what is of value – happiness, health, sanity, friendship, love, freedom, justice, prosperity, democracy, creative endeavor, productive work – all that is of value and that is compatible with or conducive to building a good world – it being understood, of course, that knowledge and understanding can in themselves be of value in life and that they are vital dimensions to almost everything else of value.

To reiterate, in accordance with rules 1 and 2 of problem-solving rationality, the central intellectual tasks of inquiry are to articulate our personal, social, and global problems of living and propose and critically assess possible solutions—possible *actions*. These tasks, at the intellectual heart of inquiry as a whole, are undertaken by social inquiry and the humanities. Social inquiry is also social methodology—endeavoring, in accordance with rules a and b of aim-pursuing rationality, to help us improve the aims and methods of our diverse personal, social, and cultural pursuits.

In addition, in accordance with rule 3 of problem-solving rationality, the academic enterprise tackles a host of subordinate, more specialized problems of knowledge and technology, work on these subordinate problems emerging out of and feeding back into the central concern with problems of living (in accordance with rule 4 of problem-solving rationality). This is the work of the formal, natural, and technological sciences and also of those aspects of social inquiry and the humanities concerned with improving knowledge and understanding of the human world. All this is intellectually subordinate to the central and fundamental concern with problems of living (in accordance with rules 1 and 2).

In the philosophy of wisdom, then, serious, prestigious inquiry is not primarily scientific or academic. If anything, it is the other way around: For each one of us, the most important and fundamental inquiry is the thinking we personally engage in (on our own or with others) in seeking to discover what is desirable in the circumstances of our life and how it is to be realized. Institutionalized inquiry is simply a development of our personal and social thinking and problem solving, so we may all the better realize what is of value to us in our personal and social lives. Whereas for the philosophy of knowledge the fundamental kind of rational learning is acquiring knowledge, for the philosophy of wisdom the fundamental kind of rational learning is learning how to live, learning how to see, to experience, to participate in and help create what is of value in existence.

The central task of inquiry may be said to be to devote *reason* to the growth of *wisdom*—wisdom being understood to be the desire, the active endeavor, and the capacity to discover and achieve what is desirable and of value in life, both for oneself and for others. Wisdom includes knowledge and understanding but goes beyond them in also including the desire and active striving for what is of value; the ability to experience value, actually and potentially, in the circumstances of life; the capacity to help realize what is of value for oneself and others; the capacity to help solve those problems of living that arise in connection with attempts to realize what is of value; the capacity to use and develop knowledge, technology, and understanding as

needed for the realization of value. Wisdom, like knowledge, can be conceived of not only in personal terms but also in institutional or social terms. We can thus interpret the philosophy of wisdom as asserting that the basic task of rational inquiry is to help us develop wiser ways of living; wiser institutions, customs, and social relations; a wiser world.

One assumption that tends to lie behind the philosophy of knowledge is that rational action only becomes possible once relevant knowledge has been obtained, the search for knowledge thus being intellectually more fundamental than the search for solutions to problems of living. This assumption is rejected by the philosophy of wisdom. Merely to have any idea as to what might be relevant knowledge, we must have some preliminary idea about what our problem of living is and what we might try to do about it. What is fundamental is not knowledge but life itself, our doing things more or less successfully in the world and our capacity so to do things. Our lives, our actions, are rational to the extent that we are able to exploit to our best advantage what we can already do in order to do new things so as to solve new problems. Being able to imagine possible actions can enormously increase our rational problem-solving power – if only because of the advantages to be accrued from trying out diverse actions in our imagination only and not in the real world. Our capacity to acquire knowledge encapsulated in language is but a development of our more fundamental capacity to act, and to imagine action, more or less successfully in the world.

Philosophy-of-wisdom inquiry can be conceived of as a rational development of animal inquiry, animal learning, which is in essence learning how to act, how to solve problems of living.[13] There is of course this difference: Whereas animals learn in order to survive and reproduce, we have the possibility of learning so that what survives and reproduces is of enhanced value.

Whereas the philosophy of knowledge insists that inquiry must be decisively dissociated from life and its problems in order to be rational, it is, according to the philosophy of wisdom, all the other way around: Inquiry can only rationally and effectively perform its basic task of helping us realize what is of value insofar as it is an integral part of our lives. Even academic and scientific inquiry need to be in close contact and communication with persons and institutions in the nonacademic world in order to be able rationally to aid the realization of value in life (thus implementing rule 4). It is not necessary to exclude moral, political, and religious ideas from inquiry in the interests of rationality. Far from it: Inquiry needs to devote itself to the imaginative development and critical scrutiny of such ideas in order to develop possible solutions to our problems of living in a rational way. Again, it is not necessary to banish desires and feelings from the intellectual domain

of inquiry in order to preserve its rationality. Instead desires and feelings must form an integral part of the intellectual domain of inquiry, at the most fundamental level (our own personal thinking) if inquiry is capable of rationally achieving its basic task. Not everything that feels good is good, and not everything that we desire is desirable; value illusions and hallucinations are very much more common than perceptual illusions and hallucinations. Nevertheless, bereft of our feelings and desires, we can make no value discoveries of our own; we can but echo or mimic the value discoveries and achievements of others. Thus, if inquiry is to help us realize what is of value, it must attend to our feelings and desires; the very articulation of problems of living requires the expression of feelings and desires.

According to the philosophy of wisdom, reason—rational action—consists of interrelating action, experience, feeling, desire, aim, imagination, knowledge, and doubt in a way that gives us the best chances, other things being equal, of realizing what is of value. Only by bringing together desires, aims, feelings, deeds, and objective facts imaginatively and critically can we hope to be rational and come to appreciate something of the value of what there is in the world. Whereas the philosophy of knowledge seeks to shield inquiry from an irrational world in order to preserve its rationality intact, the philosophy of wisdom, in contrast, and more optimistically, gives to inquiry the basic task of helping us gradually develop a more cooperatively rational world.[14]

Philosophy-of-wisdom inquiry may be regarded as unifying traditional rationalist and romantic ideals of intellectual integrity, in that it requires a synthesis of concern for impersonal logic, fact, evidence, on one hand, and emotional and motivational integrity on the other hand. Philosophy-of-wisdom inquiry may also be characterized as a kind of empiricism—except that experience, at its most fundamental, is to be interpreted as doing things in order to achieve goals of value—experience in this sense assessing, not claims to knowledge, but proposals for action, proposed solutions to problems of living.

According to the philosophy of wisdom, all intellectual aims and problems of all of science and scholarship are fundamentally personal and social in character. This does not mean, however, that the only kind of value that inquiry is recognized to have is a practical value. Quite to the contrary, the philosophy of wisdom emphasizes the profound value that inquiry can have when pursued for its own sake and not only as a means to some other end. Realization of value, the aim of all inquiry, includes the seeing, appreciation, and understanding of what is of value in people, in art, in the world, as well as the active creation of that which is of value. The philosophy of wisdom insists, however, on the profoundly personal and interpersonal character of

inquiry pursued for its own sake. The philosophy of knowledge, in seeking to dissociate the intellectual from the personal and social, fails to do justice to inquiry pursued for its own sake.

From the standpoint of the philosophy of wisdom, organized inquiry is perhaps best understood as arising in response to, and to help us solve, the problems of acting cooperatively in our vast, complex, diverse, rapidly changing, and interconnected modern world. When humanity lived in small, isolated hunting-and-gathering tribes, this problem did not exist. It is at least possible for a tribe of some fifty people who all speak the same language and share the same culture, skills, and values to solve problems cooperatively, without any elaborate institutional organization. Informal tribal meetings can be held to decide matters of concern to all, everyone being able to have a say without major logistic problems being encountered. A tribal meeting of humanity is, however, not a logistic possibility. Philosophy-of-wisdom inquiry can be construed to be an institutional substitute for such a meeting. It seeks in part to provide a framework within which diverse policies and philosophies of life (diverse religious, political, and moral views) may be cooperatively assessed and tested against the experiences of personal and social life. There is the possibility of cooperatively and progressively improving *philosophies of life* (views about what is of value in life and how it is to be achieved,) much as *theories* are cooperatively and progressively improved in science. In science, diverse theories are critically assessed with respect to each other and with respect to "experience" in the sense of observational and experimental results. In a somewhat analogous way, diverse philosophies of life may be critically assessed with respect to each other and with respect to "experience" in the sense of what we do, achieve and fail to achieve, enjoy, and suffer, the aim being so to improve philosophies of life (and more specific philosophies of more specific enterprises within life, such as government, education, or art) that they offer greater help with the realization of value in life. It is of course true that we understand and judge what we do, the extent to which we succeed and fail, and even our enjoyment and suffering, in terms of our explicit or implicit philosophies of life. As a result, experience and philosophy may simply reinforce each other to produce dogmatism and failure even to see the need for learning. An analogous situation can arise, however, within science: Observations and experiments are interpreted and judged in terms of theory and metaphysics, there thus always being the danger here too that experience and theory uncritically reinforce each other to produce dogmatism and an end to learning. The solution in both cases is to consider a number of rival ideas (theories or philosophies), there being tripartite assessment between idea, idea and experience. For this to occur, in science and in life, sympathetic person-to-

person understanding needs to develop between individuals and between theories and philosophies (or cultures). In this way, multiplicity of religions, philosophies, cultures, and ways of life can be enriching for us all (just as multiplicity of theories can enrich science), instead of such multiplicity being, as at present, a source of incomprehension, fear, and violence.

Implications

Moving from the philosophy of knowledge to the philosophy of wisdom involves implementing the following changes, at the very least.

1. There needs to be a change in the nature of academic *problems* – so that problems of living are included and are treated as intellectually more fundamental than problems of knowledge.

2. There needs to be a change in the nature of academic *ideas* – so that proposals-for-action are included as well as claims-to-knowledge.

3. What is meant by *intellectual progress* needs to change, from progress-in-knowledge to progress-in-ideas-relevant-to-achieving-a-cooperative-wise-world.

4. There needs to be a radical change in the whole nature of *social inquiry*. Economics, politics, sociology, and so on are not *sciences* at all; their proper basic task is not even to improve *knowledge*. Rather, their task is to articulate problems of living and to propose and critically assess possible solutions, possible actions or policies. At a more fundamental and long-term level, their task is to articulate and assess diverse possible aims-and-methods or philosophies of our various worthwhile human endeavors in such a way as to encourage the adoption of aim-pursuing rationality into the fabric of our personal, social, and global lives.

5. There needs to be a change in the nature of the natural and technological sciences. Instead of the intellectual domain of science consisting of just *two* parts – evidence and theory – it needs to consist of *three* parts: evidence, theory, and research aims. Sustained discussion of problems concerning research aims must bring together scientific, metaphysical, and evaluative considerations in an attempt to discover the most desirable and realizable aims possible. Furthermore, scientific discussion must include some discussion of problems of living related to scientific and technological developments (as in the case of the involvement of modern physics in problems of defense and war).

6. There needs to be a dramatic change in the way social inquiry and natural science are interrelated. Instead of the natural sciences being pursued as if intellectually more fundamental, it needs to be the other way around.

Social inquiry needs to be pursued as intellectually more fundamental – from the standpoint of the basic aim of tackling problems of living.

7. There needs to be an even more dramatic change in the way the academic enterprise as a whole is related to the rest of the human world. Instead of being intellectually dissociated from the rest of society, academic inquiry needs to be constantly learning from, speaking to, and criticizing the rest of society – in such a way as to promote cooperative rationality and social wisdom.

8. There need to be fundamental changes in the role that political and religious ideas, works of art, and expressions of our feelings, desires, and values have within rational inquiry. Instead of being excluded from inquiry, *repressed*, they need to be explicitly included and critically assessed, as possible indications and revelations of that which is of value – so that through an interplay of mind and heart, we can come to have mindful hearts and heartfelt minds.

9. There need to be changes in the aims, priorities, and character of pure science and scholarship. Pure science (or natural philosophy) needs to be treated like music, literature, or drama – esoteric and technical in some of its aspects but at its most vital and important, an integral part of life. What matters in the end is the personal knowledge and understanding that we seek, acquire, and share with others as we live: Expert, technical knowledge and understanding ought to be means to the growth of personal knowledge and understanding, active and alive in personal and social life. As Einstein once put it, "Knowledge exists in two forms – lifeless, stored in books, and alive in the consciousness of men. The second form of existence is after all the essential one; the first, indispensable as it may be, occupies only an inferior position."[15]

10. There need to be dramatic changes throughout education. Thus, for example, seminars devoted to the cooperative, imaginative, and critical exploration of problems of living need to be put at the heart of all education, from that of five-year-olds onward.

11. There need to be changes in the way that mathematics is understood, pursued, and taught. Mathematics is not a branch of *knowledge* at all. Rather, it is concerned to develop, systematize, and unify problem-solving methods and to explore – to help us to *see* – problematic *possibilities*.

12. History needs to be pursued in such a way that it brings into contemporary reality an awareness of relevant past problems and past successes and failures in an attempt to aid the rational tackling of present problems.

13. Literature needs to be put close to the heart of rational inquiry, in that it explores imaginatively our most profound problems of living and aids

person-to-person understanding in life by enhancing our ability to enter imaginatively into the problems and lives of others.

14. Psychology needs to be pursued as an extension of literature, promoting empathetic, person-to-person understanding in the real world—a kind of understanding that is so essential for cooperative action.

15. Finally, philosophy needs to change, so that it ceases to be a specialized discipline alongside other specialized disciplines and becomes instead that aspect of inquiry as a whole that is concerned with our most general and fundamental problems—those problems that cut across all disciplinary boundaries. In the end there is just one basic problem for philosophy and for inquiry as a whole: How can we realize what is of value in this strange world in which we find ourselves? All other problems of the sciences, humanities, and life are specialized aspects of this basic problem—including the problem I have tackled here: How can we best *learn* how to realize what is of value? Philosophy, in short, needs to become again what it was for Socrates: the attempt to devote reason to the growth of wisdom in life.

Notes

1. For a resume of statistics concerning global life and death, see Sivard (1987). The best overall account known to me of our global problems is Higgins's (1978) *The Seventh Enemy: The Human Factor in the Global Crisis*. Even though published over twelve years ago now and therefore in some respects out-of-date, it still provides a lucid and vivid survey of our most urgent problems—the seventh enemy being that combination of blindness of individuals and inertia of political institutions that prevents us from coming to grips with our problems (and that the kind of inquiry I advocate in this article is intended to help us overcome).

2. A little more pedantically, a good world can be defined as a world in which everyone shares equally in the creating, sustaining, and enjoying of what is of value in life, insofar as this is possible. It is absolutely vital for the overall argument of this article that a "good" world is defined in such a vague, open-ended way, almost all problems associated with what we ought to mean by a good world being left unresolved. For, as I shall emphasize, in order to set about creating a good world *rationally*, it is essential that we recognize the inherently problematic character of the aim and the need, therefore, to improve our more or less specific ideas as to what constitutes a good world as we proceed.

3. A group acts cooperatively insofar as all members of the group freely share responsibility for what is done and for deciding what is to be done, for proposals for action, and for the resolution of problems and conflicts—being judged on their merits from the standpoint of the interests of members of the group or the interests of the group as a whole, there being no permanent leadership or delegation of power. There are of course degrees of cooperativeness, from all-out violence at one extreme, through the settling of conflicts by means of threat, agreed procedures, or bargaining, to all-out cooperativeness at the other extreme. Competition is not opposed to cooperation if it proceeds within a framework of cooperation, as it does within science, for example.

4. The most recent invocation of Lysenko in this way that I am aware of – an invocation made, as it happens, in order to criticize the philosophy-of-wisdom conception of inquiry being advocated here – is to be found in Harré (1987, 30). For accounts of Lysenko's disastrous impact on Soviet biology see Z. A. Medvedev (1969) and R. Medvedev and Z.A. Medvedev (1971).

5. Kuhn (1962).

6. Lakatos (1970, 91-195).

7. For evidence that the philosophy of knowledge does still exercise a substantial influence throughout the academic enterprise, see Maxwell (1984, chap. 6).

8. Or, as Popper has put it: "The one method of all *critical discussion* . . . is that of stating one's problem clearly and of examining its various proposed solutions *critically*" (1959, 16).

9. See Norman (1981).

10. See Einstein (1973, part 5).

11. For further details of the argument outlined here see Maxwell (1972; 1974; 1977; 1979; and especially 1984, chap. 9).

12. For further details of the two arguments developed here, see Maxwell (1976; 1980; 1986; and especially 1984).

13. The philosophy of wisdom interconnects animal and human thought and learning much more naturally than does the philosophy of knowledge, within a general framework of neo-Darwinianism (see Maxwell 1984, 174-81 and 269-75).

14. Whereas philosophy-of-knowledge intellectual standards require that ideas are not imposed on *science* by mere political power, in the kind of way in which Stalin imposed Lysenko's ideas on Soviet biology, philosophy-of-wisdom intellectual standards, much more extensively and ambitiously, require that ideas are not imposed on *any* segment of society, science included, by mere political power. This is but one instance of the greater demands made by philosophy-of-wisdom intellectual standards.

15. Einstein (1973, 80).

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