The Metaphysics of Science and Aim-Oriented Empiricism:

A Revolution for Science and Philosophy

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Preface

This book is about work that I have done on the metaphysics of science and its reception – or rather, lack of reception. It came in two waves.

The first wave was devoted to the mind-body problem – or to the broader and more general human world/physical universe problem: How can our human world exist and best flourish embedded as it is in the physical universe? My research was devoted to this problem from about 1964 to 1968. Snippets of this work had an immense impact on subsequent philosophy but, unfortunately for me, not via my publications but via the subsequent publications of others (for example Thomas Nagel and Frank Jackson). As a result, the most important part of what I discovered got permanently ignored. It is still ignored by work on the mind-body problem by philosophers today.

In chapter 1 I give an account of my early work on the mind-body problem. In chapter 2 I discuss its reception – the way in which snippets of this work came to have an immense impact via work of others published years after my publications, but the main body of what I put forward was ignored, and still is ignored, to the cost of subsequent philosophy. I describe how later work of mine on the mind-body problem, published in the years 1984 to 2001, developing my earlier work, has also been neglected. And I bring this work up to date by giving an account of my latest contributions to the mind-body problem.

The second wave of my early work on the metaphysics of science began around 1968. It began with a criticism of Karl Popper. In one way, Popper was a revolutionary; he held that theories cannot be verified in science, only refuted. In another way, Popper was highly traditional; he held the basic aim of science is truth, and the method is to assess theories impartially with respect to evidence. I discovered that this highly traditional idea is false. Physics only ever accepts unified theories even though endlessly many disunified rivals can always be concocted to be even more successful empirically. This persistent acceptance of unified theories only, when endlessly many empirically more successful disunified rivals exist, means that physics makes a persistent metaphysical assumption about the universe: it has some kind of unified dynamic structure. Precisely because this largely implicit assumption is profoundly influential, purely conjectural, and almost bound to be false in the specific form in which it is held at any stage in the development of physics, it is vital that it is made explicit within the context of physics, so that it can be critically assessed, so that alternatives can be developed and assessed, in the hope of improving the assumption that is made. All this leads, I discovered, to a new conception of science, and a new kind of science, which explicitly acknowledges the profoundly problematic aims of science, and seeks to improve aims and associated methods, as science proceeds. I published this work in two papers, "A Critique of Popper's Views on Scientific Method" (1972), and "The Rationality of Scientific Discovery" (1974).

It then dawned on me that this discovery about the irrationality of current orthodox conceptions of science, and the need to develop a new conception and kind of science which acknowledges the real, problematic aims of science, and seeks to improve aims and methods as science proceeds, has momentous implications for the whole academic enterprise. Judged

from the standpoint of helping to promote human welfare, academic inquiry devoted in the first instance to the pursuit of knowledge is damagingly irrational in a wholesale, structural way. And this damaging structural irrationality of humanity's institutions of learning is, in part, responsible for the genesis of our current grave global problems, and our current incapacity to resolve them. We urgently need to bring into existence a new kind of inquiry that has, as its basic intellectual aim, wisdom and not just knowledge – wisdom being the capacity, active endeavour and desire to realize what is of value in life, for oneself and others, wisdom including knowledge, technology and understanding, but much else besides. A basic task of the new kind of academic inquiry would be to help humanity improve aims and methods of great social endeavours – industry, agriculture, politics, the media, the law, economics – so that we may gradually make social progress in seeking to attain the profoundly problematic aim of a good world.

Granted that a proper basic aim of academia is to help promote human welfare, a basic task must be to (1) articulate, and try to improve the articulation of, our problems of living, and (2) propose and critically assess possible solutions – possible actions, policies, social arrangements, institutions, ways of living, philosophies of life. Inquiry as it is at present, devoted primarily to the pursuit of knowledge, cannot do this. It gives intellectual priority to tackling problems of knowledge, not problems of living. Modern science and technological research, pursued in this way, have been a mixed blessing. They have led to great benefits. They have made the modern world possible. But they have also made possible the development of almost all of our current global problems that threaten the future of humanity and our world. For science and technology have made possible modern industry, agriculture and fishing, modern hygiene and medicine, modern armaments, which in turn have made possible population growth, destruction of natural habitats, loss of wild life and rapid extinction of species, the lethal character of modern war, the threat posed by nuclear weapons, immense inequalities in wealth and power around the globe, pollution of earth, sea and air, and perhaps most serious of all, the impending disasters of climate change. We need to learn how to solve these immense problems. For that, we need in place institutions of learning rationally designed and devoted to the task. It is just that that we do not have at present. Indeed, academia as it exists at present, devoted in the first instance to acquiring knowledge and technology, is almost designed to help make matters worse, its past intellectual successes a part of what has made our current problems possible in the first place.

This discovery – or apparent discovery – that academia as at present constituted is an intellectual and humanitarian disaster, there being an urgent need for an academic revolution if humanity is going to be able to resolve the grave global problems that threaten its future, struck me as being of such overwhelming importance that I felt I was obliged to devote myself to doing what I could to communicate it to my fellow philosophers, to academics, and to the public at large. After a protracted struggle, I managed to get two books and a paper published: *What's Wrong With Science?* (1976), "Science, Reason, Knowledge and Wisdom: A Critique of Specialism" (1980), and *From Knowledge to Wisdom* (1984). The last work in particular spelled out the argument in considerable detail. It was widely and favourably reviewed at the time. It received a glowing review in *Nature*. And then was forgotten. And despite a steady flow of books, papers and lectures on the subject since, right up to the present, I have still failed, even today, to get the idea across to the academic world, and to the public.

Aside from a few who think well of my work, most philosophers ignore it. There is here a paradox. My books over the years have met with critical acclaim, but the main body of philosophy proceeds as if my publications simply do not exist.

A major reason for this, I believe, is the failure of my early work to the get the credit that it deserved. If it had got the attention received by the work of others who merely echoed

snippets from my earlier publications, I would have had no difficulty in getting due attention paid to the vitally important argument that we need to transform academia if humanity is to learn how to resolve the grave conflicts and global problems that threaten our future.

In this book, I try to set the record straight. In Part II – chapters 3 to 5 – I spell out the second wave of my work on the metaphysics of science about the need to transform science so that it acknowledges and seeks to improve metaphysical assumptions concerning the unity or physical comprehensibility of the universe as an integral part of scientific research. Since around 2007, a burgeoning new field of research in philosophy has come into existence, called "the metaphysics of science". Very strikingly, this work, from 2007 to the present, ignores my earlier work completely, very much to its cost. My earlier work, as I have tried to indicate, has revolutionary implications for the whole way one conceives of and approaches the metaphysics of science: and yet it is ignored.

Parts I and II are independent of one another to a considerable extent, so that Part II can be read without it being necessary to read Part I first.

In the final chapter, I say something about the most important aspect of all of this, the urgent need to transform our universities, our institutions of learning, so that they become able to help humanity learn what it so desperately needs to learn: how to resolve conflicts and problems of living in increasingly cooperatively rational ways.

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