Learning to Live a Life of Value

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Much of my working life has been devoted to trying to get across the point that we urgently need to bring about a revolution in the aims and methods of academic inquiry, so that the basic aim becomes to seek and promote wisdom rather than just acquire knowledge.

Early Experiences

To begin with, I wanted to understand the nature of the universe. When still a boy I became enthralled, mystified and horrified by theoretical physics - space-time curved, particles no more than waves of probability, the real world so utterly different from the way we ordinarily experience it. It was the mystery, the utter strangeness, of the physical universe that caught my imagination. None of this, by the way, should be taken to mean that I was horribly precocious. Not at all. In those far off days in England, 11 year olds had to take an exam which decided whether they would be able to go on to grammar school or not. Failure to pass this exam more or less condemned you to leaving school without qualifications (unless your parents could pay for your education). I failed this crucial exam, not once, but twice!

Then, with adolescence, I began to feel it was much more important to understand the hearts and souls of people, the way to do that being via the novel. Instead of reading Jeans, Eddington, and Fred Hoyle, I plunged into the worlds of Dostoevsky, Kafka, Stendhal, Chekhov, D. H. Lawrence, Virginia Woolf and Flaubert. My real education began. I would become a novelist and dare to reveal dark secrets of the human heart no one before had uttered. I would depict worlds with such imaginative power that they would seem more real than reality itself. But my parents insisted that, first, I must go to University, to secure my future economically (of no significance to me at all at the age of 17). The educational system, fiercely classificatory in those days, had labelled me "science" and not "humanities". (And in any case I knew doing English at University would ruin any chance I might have of becoming a novelist.) I had read Eddington, who informed me that physics is really mathematics, and for a time, earlier, I had been dazzled by this invisible, esoteric world of mathematics. So off I went to University College London to do mathematics, convinced I could write my novels between and after lectures.

But I was miserable; I didn't know what to write about; and mathematics seemed both hollow and very difficult. It did not seem to be about anything. I passed all my exams but, abruptly, in my second year, my grant was stopped because I had not attended enough lectures.

So I did my National Service. I became a Sergeant in the Educational Corps. And then I went to Manchester University to do Philosophy. I had failed miserably as a physicist, and as a novelist, but I was interested in philosophical problems, so I would do that for three years, and then join the grey shuffle of ordinary, uncreative life (as I then saw it).

Visions and Confusion

But then, in the summer of 1961, while working in a factory during the day, I began to keep a diary, noting down my thoughts and feelings. And the outcome was a series of psychic explosions which tore me apart and changed the rest of my life. I decided that my earlier desire to be a great theoretical physicist and master the universe, and my desire to be a great novelist and master of human life, were both, when pushed to the limit, aspects of the desire to become God. Not only was this absurd; it was undesirable. Far more desirable was to be something that, up to then, had seemed too insignificant to deserve any consideration at all: myself. This long-neglected, fragile, worthless scrap of almost nothing now seemed to me to be, for me, the most precious thing in existence, something holy and sacrosanct. But what was it? What was I? I had no idea. Having ignored myself, in some sense, for so long, in my striving to become acquainted with, identified with, some profoundly significant otherness (ultimate physical reality, ultimate human reality), my self had become a stranger to me. It felt like a young plant, fragile from neglect and lack of nourishment, needing attention and care to grow and flourish.

When we are born, I wrote in the diary, we do not know how to distinguish "me" from "not me": there is just things happening. But then we do discover how to make the distinction, and we discover we are tiny and vulnerable in a vast, strange, and sometimes terrifying world. We falsely half remember the earlier state as a time when we were "everything", and our life project, in one way or another, becomes to return to this earlier, God-like state. One strategy is to try to convert the "not me" into "me", by conquering it, knowing and understanding it, acquiring power over it, or even literally trying to swallow it. Another standard strategy is to do just the opposite: shrink the "me" until it disappears, and there is only "everything". This is the strategy of the mystic who seeks mystical union with God; it is the strategy of the humble, and of those who commit suicide.

But both these conventional and absurd strategies rest on a mistaken view about the nature of the "me", the nature of personal identity. Our identity is not what is inside us. What lies within us is just as mysterious as what lies without us. Our identity exists in the interplay between what lies within and without. If the distinction between "me" and "not me" is depicted as a circle on a surface, the "me" is not, as we ordinarily assume, what lies within the circle; it is rather the line of the circle itself. We should not, ludicrously, try to increase the circle until, in the limit, everything is incorporated within it; nor should we, almost equally ludicrously, try to decrease the circle until it becomes a dot and disappears and there is just "everything": instead, we should "relax the muscles of identity" (as I wrote in my diary) so that the line of the circle becomes permeable, and there can be an easy interplay between what lies within and without, and we become our authentic selves, without striving to expand until, in the limit, we become everything, or shrink until we become nothing (and there is only everything).

My earlier projects to know and understand the nature of the universe by means of physics, and to know and understand humanity by means of literature, now seemed variants of the strategy to expand and expand the circle of identity. Pushed to the limits of absurdity, it was as if my ultimate aspiration had been to become God. But an infinitely more worthwhile goal lay before me, up till now neglected as worthless: to become myself. "The riddle of the universe" I wrote "is the riddle of our desires". The fundamental question of philosophy is not "How do I acquire knowledge?" but rather "What do I want? How should I live?".

These ideas, which now seem to me somewhat absurd, exaggerated and dubious at best, were for me, at the time, the stuff of my life; they were experienced and lived. Before these "revelations", I had half believed in Descartes' picture of the self being the mind, linked to the brain but utterly different from anything physical, the whole experienced world being locked away within the prison of one's skull. This picture was shattered. What was within was just as much a mystery as what lay without: "I" was the region of interplay between these two mysteries. I became whatever I saw or experienced, my self being created and dying many times during the day. In one of his letters, John Keats spoke of becoming the bird he saw pecking on a path. That was how it now was with me. I would be whatever I experienced: seeing a blade of grass, I became that blade of grass; talking with a friend, I became that "talking with the friend". For six weeks it was as if I was high on some hallucinatory drug: visions of exhilarating and terrifying intensity came before breakfast, and throughout the day. I had become a prophet, and my prophecy was: be your own prophet, discover for yourself your own true self, what you really desire in life.

In the end I found having a great message for the world such a contradiction that I finally hit upon the idea: there are only stories or myths. One is that of science; another is that of personal experience. Not till I read Karl Popper did I free myself of this nonsense - so fashionable in some quarters.

I vowed that when I got back to Manchester University in the autumn, I would tell the Philosophy Department about my earth-shaking discoveries of the summer - especially, that philosophy should be about how to live, and not about how to acquire knowledge. I found I could not even open my mouth. Ecstasy gave way to persistent black despair.

Becoming a Professional Philosopher

The visions of the summer of 1961 had gone, but I continued, somehow, to believe I had discovered something of great significance, even though now I no longer knew what it was. I decided to devote my MA thesis to the question: How can the world of physics be reconciled with the world of experience, feeling and art? I was aware that I was grappling with the two worlds of my abandoned childhood megalomaniacal ambitions: to grasp the physical universe by means of science, and to grasp the human world by means of the novel.

In those days philosophy in England was dominated by "Oxford" philosophy, conceptual analysis in the manner of Wittgenstein, Ryle and Austin, the sterility of which filled me with horror. However, I discovered the works of two contemporary philosophers which were of great help to me: Karl Popper and J. J. C. Smart. Here were two philosophers who took science seriously, and were concerned to tackle profound problems with intellectual integrity (not being content to dissolve pseudo-problems). I became a visiting graduate student at the London School of Economics and attended Popper's Seminars. I was profoundly impressed.

I was especially impressed by the following line of argument running through Popper's early work. In **The Logic of Scientific Discovery**, Popper defends falsificationism, the view that scientific knowledge is irredeemably conjectural in character, scientific theories being falsifiable, but not verifiable. According to this view, scientific knowledge grows by a process of conjecture and refutation. Conjectures are subjected to an onslaught of attempted empirical falsification. When a theory is falsified, we discover the need to develop a better theory, and it is this which drives science forward, and makes scientific progress possible.

Falsificationism was then generalized by Popper to become critical rationalism. This holds that, quite generally, we cannot justify or prove our theories or beliefs. The best that we can do is subject them to sustained criticism, in this way giving ourselves the best chance of discovering error, where it exists, this making it possible for us to improve our theories and beliefs. In particular, we need to look critically at the capacity of our ideas to solve the problems they were invented to solve, and we need to consider whether rival ideas do better. Criticism demands that a number of rival ideas are available; criticism does not make sense unless there is the idea that the view being criticized is perhaps false, some other view being correct. Science is just a special case of all this, empirical falsification being just an especially devastating form of criticism.

Popper then applied critical rationalism to social and political problems, and problems concerning the nature of the social sciences in **The Poverty of Historicism**, and in his greatest work **The Open Society and Its Enemies**. In these books Popper mounts a ferocious criticism of the totalitarian doctrines of Plato and Marx, and sets out to demolish historicism - the doctrine that there are laws of historical development. But Popper also transforms the whole idea of what "the rational society" might be. Given pre-Popperian notions of rationality, the rational society could only be some kind of highly oppressive, rule-bound society dominated by reason, a kind of rational totalitarianism. But given Popper's new notion of critical rationalism, a rational society is one which sustains diversity of beliefs, values, ways of life, and one which values learning through criticism, criticism only being possible if there is a diversity of ideas around. The rational society is, in short, granted critical rationalism, one and the same thing as the open society. At a stroke, reason has ceased to have totalitarian connotations, and has become basic to liberalism.

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Impressed by Popper's integrity and passion, I decided it might be possible after all to work inside academia with honour. I finished my MA thesis, taught Philosophy of Science for a year at Manchester University, and then joined the Department of History and Philosophy of Science at University College London as a Lecturer (later Reader). I taught and pursued my research at UCL for some 28 years, taking early retirement in 1994, so that I could devote myself to my work.

To begin with, I published three papers extracted from my MA thesis: "*Physics and Common Sense*" (1966), "*Can there be Necessary Connections between Successive Events?*" (1968), and "*Understanding Sensations*" (1968). These papers were way ahead of their time and, as a result, failed to have the impact I hoped they would have. Together they tackled the problem of how the experiential world can exist embedded in the physical universe. Physics, I argued, is concerned only with a highly selected aspect of that which exists, namely that aspect which determines (perhaps probabilistically) the way events unfold. For all we know, physical reality may determine necessarily how events unfold: in so far as David Hume denied this, he was wrong. The silence of physics about the experiential is thus no grounds whatsoever for holding that the experiential does not exist. The experiential or mental aspect of a brain process is that aspect we become aware of as a result of having the process occur in our own brain. The experiential cannot, I argued, be reduced to the physical. In order to know what redness is one must oneself have experienced redness, but this is not the case as far as any physical feature is concerned (an argument made famous, some 16 years later, by Frank Jackson in his paper "*What Mary didn't Know*").

Dismayed by the lack of any response to these papers, I gave up publishing for a time, and concentrated on pursuing my interests. I began to appreciate that Popper had not done what he claimed to do, solve the problem of induction, not because he failed to show how theories can be verified, but because he failed to do justice to the scientific aim of discovering explanations for phenomena. This discovery led me back into the business of publishing papers. I spelled out the point in a paper that appeared in 1972 called "*A Critique of Popper's Views on Scientific Method*" (Philosophy of Science 39, 131-52).

A New Conception of Science

But then, with mounting excitement, even before the "Critique" paper was published, I realized that the implication of the argument was that we needed a whole new conception of science. In persistently only accepting unified, explanatory theories, to the extent of rejecting infinitely many theories more empirically successful but grossly disunified, science in effect makes a big, persistent, and highly problematic assumption about the universe: it is comprehensible, in the sense that it is such that explanations for phenomena exist to be found. The fundamental aim of science, in presupposing that the universe is comprehensible, is so profoundly problematic that it has been repressed and replaced with the apparently unproblematic aim of seeking truth, nothing being presupposed about the truth. But this latter view is hopeless; it creates the unsolvable

problem of induction. Science is much more rational if big, problematic, implicit metaphysical assumptions concerning comprehensibility are made explicit, so that they can be criticized and, we may hope, improved. Science must be depicted as accepting, as a part of (conjectural) scientific knowledge, that the universe is comprehensible, more or less specific empirically untestable (and thus metaphysical) theses about how the universe is physically comprehensible being criticized and improved as scientific knowledge improves, associated methods being improved as well. There is something like positive feedback between improving scientific knowledge and improving aims and methods - improving knowledge-about-how-to-improve-knowledge - the methodological key to the ever-accelerating progress of modern science.

Problematic Aims

Then, walking home one day from UCL, it suddenly struck me: this idea of representing the real problematic aims of science in the form of a hierarchy, aims becoming increasingly unspecific and unproblematic as one goes up the hierarchy, in this way a framework of relatively unproblematic, fixed aims and methods being created within which more specific, problematic aims and methods can be improved as knowledge improves - all this has implications for any worthwhile human endeavour with problematic aims. Just as Popper had generalized and applied falsificationism, so too I could generalize and apply my much better conception of scientific method of aim-oriented empiricism. I could tread a parallel path to Popper's footsteps, starting from a radically improved initial view, and the outcome would be a radical improvement over what Popper had to say.

Even more striking, for me, was my realization that I had rediscovered my great explosive idea of the summer of 1961: philosophy should be about life; the riddle of the universe is the riddle of our desires. But my initial idea had been radically transformed. It was no longer just philosophy which should be concerned with our problems of living, but the whole academic enterprise. "The riddle of our desires" had become "the profoundly problematic character of our fundamental aims in life, both personal and institutional, including even the aims of science". The outcome of generalizing aim-oriented empiricism to form a general conception of rationality, aim-oriented rationality, and then applying this to the task of creating a better world, was an entirely new conception, not just of science, but of academic inquiry, with implications for all of life. I have even written a long paper (never published) called "science as the methodological key to the salvation of humanity", the basic idea being that scientific method, when accurately captured as aim-oriented empiricism and properly generalized to become aim-oriented rationality, is indeed the methodological key to the salvation of humanity.

Initially, I wrote up an account of my new conception of science: this was published as a two part paper called "*The Rationality of Scientific Discovery*" (Philosophy of Science 41, 1974). In the winter of 1972 I visited Pittsburgh University, and lectured for three hours (my watch had stopped) on my new conception of science. During the visit I had a long debate with Larry Laudan about my new aim-oriented empiricist conception of

science; he held onto his problem-solving view (but later published views which showed the influence of my ideas).

Back in England I finished a manuscript called "*The Aims of Science*" setting out my new view. After years being considered for publication by Macmillan's it was finally rejected. Then, in three weeks, to meet the publisher's deadline, I wrote my first book **What's Wrong With Science?** (Brans Head Books, 1976), which takes the form of a debate between a scientist and a philosopher, and is perhaps the most vivid and accessible account of my overall view. At last a more thorough exposition of the whole argument appeared in my second book **From Knowledge to Wisdom** (Blackwell 1984, pbk. 1987 & 1988). This got some terrific reviews, in Nature for example, and one by Mary Midgley, and a few less terrific reviews, mostly from uncomprehending philosophers. In the book I argue that there is an urgent need to bring about a revolution in the overall aims and methods of academic inquiry so that, instead of just seeking knowledge, the basic aim of inquiry becomes to seek and promote wisdom – wisdom being the capacity, and the active desire, to realize what is of value in life, for oneself and others, wisdom thus including knowledge and technological know- how, but much else besides. This revolution would affect every branch and aspect of the academic enterprise. The social sciences would become social *philosophy*, or social *methodology* (rather than social *science*), devoted to promoting more cooperatively rational solving of conflicts and problems of living in the world. Social inquiry, so pursued, would be intellectually more fundamental than natural science. The natural sciences would recognize three domains of discussion: evidence, theories, and aims. Problems concerning research aims would be discussed by both scientists and non-scientists alike, involving as they do questions concerning social priorities and values. Philosophy would become the sustained rational exploration of our most fundamental problems of understanding; it would also take up the task of discovering how we may improve our personal, institutional and global aims and methods in life, so that what is of value in life may be realized more successfully. Education would change so that problems of living become more fundamental than problems of knowledge, the basic aim of education being to learn how to acquire wisdom in life. Academic inquiry as a whole would become somewhat like a people's civil service, having just sufficient power to retain its independence and integrity, doing for people, openly, what civil services are supposed to do, in secret, for governments. These and many other changes all result from replacing the aim to acquire knowledge by the aim to promote wisdom by cooperatively rational means.

Quantum Theory

Having set out the case for a new kind of inquiry, rationally designed to help us learn how to live lives of value, I then plunged into the task of trying to develop a comprehensible version of quantum theory. Quantum theory may seem a far cry from wisdom, but in fact there is a connection. My new conception of science holds that science presupposes that the universe is physically comprehensible; furthermore, it provides us with a rational, if fallible, method for the discovery of new fundamental physical theories. Quantum theory is bafflingly incomprehensible; furthermore, because

of the failure to solve the quantum wave/particle problem, the orthodox version of the theory is couched as a theory about the results of performing measurements. Orthodox quantum theory (OQT) is silent about what is going on physically when no measurement is being performed. But this has the disastrous consequence that OQT consists of two mutually incoherent parts: a quantum component, and a component made up of some part of classical physics for a treatment of measurement. OQT is, as a result, ad hoc, disunified, vague, ambiguous, non-explanatory, limited in scope, and resistant to unification with general relativity (as I have pointed out in a series of publications on quantum theory). It struck me that the transition from classical to quantum physics might be, in essence, the transition from determinism to probabilism. If so, what needed to be done to develop a decent, unified, explanatory version of quantum theory was to specify precisely, in quantum mechanical terms, when probabilistic transitions occur. Electrons, atoms and other quantum systems are neither waves nor particles: they are a new kind of probabilistic entity I dubbed the propensiton. Propensitons interact probabilistically, I conjectured, when new so-called "particles" are created, new bound or stationary systems, as a result of inelastic interactions. All measurements that actually detect quantum systems invariably involve interactions of this kind, to leave a record of what has occurred. My new propensity version of quantum theory is free of the above defects of OQT, recovers all the empirical success of OQT, and furthermore is experimentally distinct from OQT, although the relevant crucial experiments, difficult to perform, have not yet been done. This work is recorded in papers in the American Journal of Physics, Foundations of Physics, British Journal for the Philosophy of Science, culminating with a paper published in Physics Letters A in 1994. An account of the work is also to be found in chapter 7 of my book **The Comprehensibility of the Universe** (OUP, 1998, pbk, 2003).

My Campaign on Behalf of From Knowledge to Wisdom

Over the years I have written countless papers expounding the basic thesis and argument of **From Knowledge to Wisdom**. I have given endless lectures expounding the idea in different ways, in the UK, in Europe and the USA and Canada. Much has changed since **From Knowledge to Wisdom** first appeared in the Orwellian year of 1984, but we are as far away as ever from putting wisdom-inquiry into academic practice. As I see it, there is hardly any more important task confronting us, as far as the long-term interests of humanity are concerned, than to bring about the revolution in aims and methods of our institutions of learning, so that the basic aim becomes to promote wisdom.

In 1994 I took early retirement from UCL because of horrible things going on in my Department. I retired to be able to get on with my work. For a time I was a visiting Academic at the London School of Economics. I have published three books since retiring: **The Comprehensibility of the Universe**, **The Human World in the Physical Universe**, and **Is Science Neurotic?**. The first develops further aim-oriented empiricism and, most important, shows how the problem explicating what the simplicity or unity of physical theories is can be solved within this framework - a problem even Einstein was unable to solve, although he thought a solution should be possible. The second book sets out to solve the problem of how our human world, imbued with colour and other

perceptual qualities, consciousness, free will, meaning and value, can exist embedded in the physical universe. In this book I put forward a suggestion as to how it may be possible to explain correlations between sensations and brain processes. The book also reinterprets Darwinism so that evolution gives a better account of how human consciousness, free will, meaning and value have evolved in the physical universe. **Is Science Neurotic?** argues that science is neurotic because it represses problematic assumptions, associated with the aims of science, having to do with the comprehensibility of the universe, values and politics. It is not just natural science that is neurotic; social inquiry and the humanities are, if anything, even more neurotic (neurosis being interpreted throughout as a methodological condition that arises when aims are repressed or misrepresented). Academic inquiry as a whole is neurotic in that it seeks to acquire knowledge rather than promote wisdom. This book updates and further develops the argument of **From Knowledge to Wisdom.**

Conclusion

Has this 45 year effort to develop and communicate the idea that we need institutions of learning devoted to helping us realize what is of value in life been worth it? I am not sure. So far, by and large, I have failed even to get the idea across, let alone get it accepted – let alone help get it implemented in academic practice. Scattered about in the world there are individuals who see things more or less as I do – who believe, as I do, that we need to devote *reason* to acquiring *wisdom*. But they, like me, struggle with general indifference and incomprehension. Of course, in comparison with thousands of others in my life-time who have struggled on behalf of humanity, my life has been blessed. I have not been imprisoned, tortured or executed as so many others have been. I have had the incredible good fortune to be able to explore the problems that have preoccupied me, and I have been able to earn my living teaching and writing what has emerged from my passionate concern to understand – to understand, above all, how we can learn to create a better world. There have been times of great joy and exhilaration when problems, long struggled with, are suddenly resolved in an apparent flood of illumination, and new vistas seem to emerge. I am inclined to agree with Einstein when he says "The most beautiful experience we can have is the mysterious. It is the fundamental emotion that stands at the cradle of true art and true science." The search for understanding can have its own rewards. Nevertheless, I have failed, so far, to get what I see as my simple, profoundly important idea across, and this induces an immense sense of failure and shame. It is, of course, a mistake to identify the value of a life with the value of some life-project. And who knows, what I have devoted so much of my life working for, may gradually come to pass, and humanity may acquire what it so urgently needs, rational inquiry devoted to promoting wisdom. Perhaps I should feel proud to be associated with the effort to bring this about. In any case, few of us, perhaps, know where what is of most value in our life lies. It remains a mystery.