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Confessions of a Philosopher

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He had, indeed, made propaganda for it in every way open to him: by perpetually bombarding people across the abnormally wide range of his personal acquaintanceship, many of them influential; by teaching and lecturing; by writing books and articles; by broadcasting, first on radio, then television; by standing for Parliament; by founding a school; and by drawing attention to the work of whoever else held similar views. All this had been done with not only a seemingly unshakeable self-confidence but also verve and style, together with that wonderful clarity, and that ever-present humour. He was the supreme prophet, and the supreme articulator, of a way of looking at life that became characteristic of liberal society in Britain in the last third of the twentieth century. It is difficult to see how any future historian of that age will be able to understand it without familiarizing himself with Bertrand Russell.

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Getting to Know Popper

IN the same year, 1959, I became personally acquainted with what I thought were the two best living philosophers in the English language, Bertrand Russell and Karl Popper. When I met Popper he was fifty-six and I was twenty-eight. When I met Russell he was eighty-seven and I was twenty-nine. These differences were to affect how the two relationships developed. Popper became a lifelong friend. Russell I saw quite a lot of for three or four years, but then I shared with many other people the experience of being cut off from him by Ralph Schoenman. Long before he died in 1970 at the age of ninety-seven we had lost contact.

The first time I set eyes on Popper was when he delivered the Presidential Address to a meeting of the Aristotelian Society in London on 13 October 1958. I had seen an announcement of this meeting in a philosophical journal, and was curious to see him in action. At that time there were only two books by him in the English language (compared with a dozen subsequently): *The Open Society* and *The Poverty of Historicism*. They caused me to think of him as a political philosopher, albeit a great one. I had read *The Open Society* twice, and already it had influenced my political thinking more than the work of any other writer. I was curious to see him in the flesh.

The audience, consisting almost entirely of professional philosophers, many of them well known, was seated and waiting when the speaker and chairman entered side by side, making their way along the back of the auditorium and down the centre aisle to the platform. At that moment I realized that I did not know which of

the two was Popper. It was an unsettling experience to be looking at them so closely, knowing that one of them was the person who had influenced me so much, but not knowing which. However, since one was a solid, self-confident figure and the other small and unimpressive, it looked as if the former must be Popper. Needless to say, it was the latter, the little man with no presence. However, he lacked presence only for so long as he was not speaking – though even then what compelled attention was not his manner but the content of what he said. I listened to his paper utterly engrossed – and to the ensuing discussion with disbelief and dismay.

The address was called 'Back to the Pre-Socratics' and appears under that title in Popper's subsequent book *Conjectures and Refutations*, published in 1963. Its main contention is that the only practicable way of expanding human knowledge is by an unending feedback process of criticism. Put like that it might seem self-evident, but the real clout of the thesis lies in what it denies. It denies that we get far if we attempt to base the extension of our knowledge on observation and experiment. Observations and experiments, it contends, play the same role as critical arguments; that is to say, they may be used to test theories, challenge theories, even refute theories, but are only ever relevant in so far as they constitute potential criticisms of theories. The way we add to our knowledge is by thinking up plausible explanations of hitherto unexplained phenomena, or possible solutions to problems, and then testing these to see if they fit or work. We subject them to critical examination, try them out on other people and see if anyone can point out flaws in them, devise observations or experiments that will expose any errors they may contain. The logic of the situation is this: we start with a problem – it can be practical, but it need not, it can be purely theoretical, something we wish to understand or explain; then we use our understanding of the problem plus our powers of insight and imagination to come up with a possible solution; at this stage our possible solution is a theory which might be true and might be false, but has hitherto not been tested; so we then submit this conjecture to tests, both the tests of critical discussion and the tests of observation and experiment – all of which, if they are to be tests at all, must

constitute potential refutations of the theory. Hence the title *Conjectures and Refutations*, which encapsulates a whole epistemology.

How the pre-Socratics come into the picture is this. Popper claims it was they who inaugurated the tradition of critical discussion as a consciously used way of expanding human knowledge. Before them, he says, all societies regarded knowledge as something to be handed down inviolate and uncontaminated from each generation to the next. For this purpose institutions came into being – mysteries, churches, and at a more advanced stage schools. Great teachers and their writings were treated as authorities that it was impossible to dispute: indeed, merely to show that something had been said by them was to prove its truth. Dissent, in primitive societies, was normally punishable by death. The upshot of this was that a society's core body of knowledge and doctrine tended to remain almost static, especially if inscribed in writings that were regarded as holy. It was against this historical background that the pre-Socratic philosophers of ancient Greece introduced something wholly new and revolutionary: they institutionalized criticism. From Thales onwards each of them encouraged his pupils to discuss, debate, *criticize* – and to produce a better argument or theory if he could. Such, according to Popper, were the historical beginnings of rationality and scientific method, and they were directly responsible for that galloping growth of human knowledge that characterizes not only ancient Greece but the whole Western culture that has seen itself, since the Renaissance, as the legatee of the ancient world.

There are, of course, two theses here, one a commended method, the other a historical claim. And they are extremely unequal in importance. What matters most is whether the method commended has anything like the power Popper says it has. Compared with this the question who used it first is of very minor significance, and not even logically related to the main question. Whether the pre-Socratics did not use it after all – or whether they did but someone else used it before them – has no bearing on its validity or power. If the method is valid it overthrows an empirical tradition in philosophy of several hundred years' standing, a tradition whose most important single tenet is that all our knowledge of the world

must begin with experience. It is therefore, despite appearances, a theory that is radical – revolutionary in a historic sense, and epic in its implications. It demolishes, almost incidentally, hundreds of years of philosophizing. And this was the first time that many of the people in that room, including me, had encountered it. It must be remembered that *The Logic of Scientific Discovery* had not yet been published in English; and although Popper had expounded some of these ideas in other lectures, those lectures were not to become generally available in print until several years after the event I am describing. I was intellectually thrilled by the argument – unable, of course, to know instantly, off the top of my head, whether I could go along with it or not, but finding it brilliantly argued and not at all implausible, perceiving many implications, longing to hear it discussed, and agog to see it pounced on by this particular audience, which contained some of the most distinguished philosophers in Britain (most of whom were identified, and identified themselves, with empiricism).

I simply could not believe it when, in the question and discussion period, not one single person raised this issue or referred to it. The entire discussion, which became impassioned, turned on whether or not this or that particular pre-Socratic philosopher had been correctly represented by Popper, which in turn meant arguing about whether an important fragment might be better understood in a different way, and whether the ambiguities of a key word in the original Greek had been properly accounted for. While this was going on I looked around the room, incredulous. These people were like passengers on the *Titanic* fussing over the deckchairs while the ship approached the iceberg. We had just been presented with a possible turning point in the ongoing history of philosophy, one which would have the effect of relegating to the past the foundations on which many of us had based some of our most important assumptions, and no one in the room was sufficiently interested even to discuss it. As the evening went by, and it became obvious that there was never going to be any discussion of it, I grew angry. This anger stayed with me, and caused me when I got home to write a letter to Popper. In it I said that although the intellectual frivolity of the audience was inexcusable, he himself

was partly to blame for what had occurred. Instead of presenting his revolutionary idea head-on, he had presented it indirectly, in the form of a historical claim about the pre-Socratics, and this had misled the audience into thinking that his main thesis was something to do with the pre-Socratics. He had, I went on, made a similar mistake in the way he had written *The Open Society*, with similar consequences. Instead of presenting the most important arguments directly, he had put them forward in the course of discussing other people's ideas, chiefly Plato's and Marx's, with the result that most academics seemed to come away from the book thinking it was about Plato and Marx. He really must stop doing this, I said. His ideas were immensely important, but he was presenting them in a way that almost ensured that they would be misunderstood.

Popper replied, in a letter, that he was currently revising *The Open Society* for a new edition, and said that if I happened to have any criticisms of it that might be incorporated in it he would be pleased to see them. He obviously knew, as I did, that regardless of any inclination he might or might not have to agree with my basic criticism of the book, to accept it would have involved radically restructuring it, and this was not feasible. So I sent him several foolscap pages of detailed criticisms, which were incorporated in the fourth edition. It was after this that he wrote saying he would like to meet me, and invited me to visit him in his room at the London School of Economics, where he was Professor of Logic and Scientific Method.

My chief impression of him at our early meetings was of an intellectual aggressiveness such as I had never encountered before. Everything we argued about he pursued relentlessly, beyond the limits of acceptable aggression in conversation. As Ernst Gombrich – his closest friend, who loved him – once put it to me, he seemed unable to accept the continued existence of different points of view, but went on and on and on about them with a kind of unforgiveness until the dissenter, so to speak, put his signature to a confession that he was wrong and Popper was right. In practice this meant he was trying to subjugate people. And there was something angry about the energy and intensity with which he

made the attempt. The unremittingly fierce, tight focus, like a flame, put me in mind of a blowtorch, and that image remained the dominant one I had of him for many years, until he mellowed with age.

All this was the grossest possible violation of the spirit of liberalism exemplified and advocated in his writings. Freedom is the heart of liberalism, as the word itself implies; and if you really do viscerally believe in freedom you accept that others have a right to do a great many things of which you disapprove, including the holding of a wide range of opinions with which you disagree. In a word, pluralism – a belief in the acceptance of the coexistence of the incompatible – is of the essence of liberalism. As a liberal in this sense I claim for myself the right to criticize others and argue with them: but if our argument reaches a stage at which we begin to repeat ourselves, then at that point we must usually agree to differ. All my life I have been that sort of liberal – by individual temperament, by education and personal development, and by the good fortune of national inheritance, having grown up in a country in which it is taken for granted that each individual has a right to his own opinion. Emotionally, Popper understood little if anything of this. He behaved as if the proper thing to do was to think one's way carefully to a solution by the light of rational criteria and then, having come as responsibly and critically as one can to a liberal-minded view of what is right, impose it by unremitting exercise of will, and never let up until one gets one's way. 'The totalitarian liberal' was one of his nicknames at the London School of Economics, and it was a perceptive one.

I did not approve of this, and as a result all of Popper's early discussions with me were carried on by him in a kind of rage, regardless of the subject matter. Luckily I had a temperament that made me calmer and quicker-thinking the angrier he got. I believe it was this that made him change his behaviour towards me in the end, for he found that in spite of his greater knowledge and intelligence it was as often as not I who ended up in control of the situation. Only so as not to be at a disadvantage in that sense, which was intolerable to him, did he finally give in and accept the brute fact of my intellectual independence. After that moment I

got on with him better than all but a small handful of people. In later years he said that in those early meetings I was frequently rude to him, but I do not believe this to be true: after I had grown out of the immaturity of my student days it was seldom my way to be personally rude in controversy. The truth, I think, is that I stood up to his intellectual bullying and hit back hard, and that he was taken aback by this, coming from someone half his age, and he resented it – and then, because he resented it, saw it as offensive.

What kept me coming back in spite of his outrageous attempts to domineer was the sheer bigness of the man, and of everything he had to say. As the biographer of Wittgenstein and Russell, Ray Monk, commented to me thirty-three years later, after his first meeting with Popper: 'You knew you were talking to a great philosopher and not just a very clever man.' Popper and I talked about problems we had, and addressed the biggest of them because we had them, without self-consciousness or affectation – no hint of Oxford self-consciousness here. Every question was met head-on, yet seen in the context of Western thought since the pre-Socratics, a living tradition that was in the room with us like a presence. There were invisible participants in every conversation: it was as if Plato, Hume, Kant and the rest were taking part in our discussion, so that everything we said had naturally to be referred to them, and then back again to us for our critical and often dissenting responses. In this situation Popper functioned as an independent thinker: he was, as it were, in his element. Everything he said was existentially *his*, something he had thought for himself because he cared about it; and then, driven by the same involvement, had thought through properly from the bottom up. The whole phenomenon had a quite different character from anything I had known. I felt as someone might who, having listened with passionate involvement to some of Brahms's piano music, visits Brahms and finds him composing a new work and impatient to try it out on the next visitor, to get a critical reaction. A visitor who finds himself in such a position may even exert influence by what he says. One quotation to which I drew Popper's attention, and which he put at the front of subsequent editions of *The Open*

Society, was Burke's: 'In my course I have known and, according to my measure, have co-operated with great men; and I have never yet seen any plan which has not been mended by the observations of those who were much inferior in understanding to the person who took the lead in the business.'

A moment ago it came to me naturally to use a musical analogy because – not least on account of his defects of character – I came to see the relationship between Popper and his work as being more like an artist's than an intellectual's. It is quite common for an artist's work to be in some profound way compensatory, and thus to embody what the artist lacks in himself. For example, when Wagner decided to compose *Tristan and Isolde* he wrote to Liszt: 'Since I have never in my life enjoyed the true happiness of love, I want to erect a monument to this most beautiful of dreams in which, from beginning to end, this love will for once be properly sated.' He composed *Tristan* not because he was immersed in love but because he was not immersed in love. This is characteristic of how a lot of great art comes to be created (and helps to explain why the popular notion that artists are articulating their personal experience is so uncomprehending). The relationship between Popper and his writing has a good deal of this about it. His work is a monument to his deficiencies. Central to his philosophy is the claim that criticism does more than anything else to bring about growth and improvement, including the growth and improvement of our knowledge; yet Popper the man could not abide criticism. His political writings contain the best statement ever made of the case for freedom and tolerance in human affairs; yet Popper the man was intolerant, and did not really understand freedom. The input of the unconscious into anyone's intellectual work is great, but in Popper's case it was altogether exceptional; yet he believed we should put our faith in reason and make that our supreme regulative ideal. This high input of the unconscious into his work is, I am sure, related to its high emotional voltage, and also to the fact that it has the quality of genius. That he failed to live in accordance with his own ideas no more invalidates them than Christianity is invalidated by the fact that most Christians do not live in accordance with that. It is on their own demerits alone that

ideas are to be criticized, not on the demerits of the people who profess them. As Schopenhauer put it, it is a very strange doctrine indeed to say that no one should commend any morality other than what he himself practises.

Popper's ideas go so deep, and are so unobviously revolutionary in their consequences, that it is rare to find someone who has a good grasp of them. In any case he is a thinker whom other thinkers tend to know about rather than to know – it is obvious that even most people in the world of professional philosophy have not read most of his books, though they think they know as much about him as they need to. Two or three big ideas are generally associated with his name – falsifiability, the denial that there is any such thing as inductive logic, assaults on Plato and Marx – but knowledge of his work rarely goes beyond that. He has never been in the eye of fashion; and, big though his reputation is, his time has yet to come. My guess is that it will come, though. Just as Wittgenstein's work is an object of special study in universities all over the world half a century after his death, so, I suspect, will Popper's be. And it is well fitted to stand up to this kind of scrutiny, for among its most striking characteristics are richness and wide-rangingness.

Popper considered it a waste of time for a thinker to address himself merely to a topic. If he does so, anything whatsoever that he then chooses to say about it is relevant. At the end there is often a feeling of so-what-ness hanging in the air, since no particular problem has been solved, or question answered. The whole procedure is arbitrary. So Popper suggests as a general principle that a thinker should address himself not to a topic but to a problem, which he chooses for its practical importance or its intrinsic interest, and which he tries to formulate as clearly and as consequentially as he can. His task is then manifest, namely to solve this problem, or at least to contribute to its better understanding. This provides criteria of relevance that rule out most of what might be said on the topic in general, criteria by which we are also in a position to say at the end whether the discussion has achieved anything. The thinker's job is to identify a worthwhile problem, and then to propose a possible solution to it, and to perceive the wider implications of his own proposal, and to acknowledge the most powerful

possible objections to it, and to provide convincing answers to those objections. Because this is the way Popper himself writes, every page of his work, at least of his best work, is rich in arguments, and always has a specific purpose and a sense of direction. It is always written in response to a challenge, and itself throws out challenges. This makes it not only exhilarating to read but thought-provoking. He achieves this across an extraordinary range of subject matter: the theory of knowledge, politics, sociology, history, the history of ideas, the philosophy of science, physics, quantum mechanics, probability theory, logic, evolutionary biology, the body-mind problem.

The best way to 'locate' Popper is to see him as a reconstructed Kantian. To demonstrate this might have involved a lot of lengthy exposition were it not for the fact that there is one particular passage in his published writings in which he traces his own immediate descent from – and also what is in his own eyes his most important difference with – Kant. It so happens that this was not the purpose of the passage, and Popper was surprised when I pointed out to him that it does this, but he agreed that it did. Although the passage is two pages long in the original,* it is worth quoting in full. (Perhaps I should explain that the chapter in which it occurs started life as a radio talk, and it is this that accounts for what would otherwise be the puzzling fact that so many words and sentences are printed with emphasis: he wanted to remind himself to stress them in delivery.)

In order to *solve* the riddle of experience, and to explain how natural science and experience are at all possible, Kant constructed his *theory of experience and of natural science*. I admire this theory as a truly heroic attempt to solve the paradox of experience, yet I believe that it answers a false question, and hence that it is *in part* irrelevant. Kant, the great discoverer of the riddle of experience, was in error about one important point. But his error, I hasten to add, was quite unavoidable, and it detracts in no way from his magnificent achievement.

* Popper: *Conjectures and Refutations*, pp. 190–2.

What was this error? As I have said, Kant, like almost all philosophers and epistemologists right into the twentieth century, was convinced that Newton's theory was *true*. This conviction was inescapable. Newton's theory had made the most astonishing and exact predictions, all of which had proved strikingly correct. Only ignorant men could doubt its truth. How little we may reproach Kant for his belief is best shown by the fact that even Henri Poincaré, the greatest mathematician, physicist and philosopher of his generation, who died shortly before the First World War, believed like Kant that Newton's theory was true and irrefutable. Poincaré was one of the few scientists who felt about Kant's paradox almost as strongly as Kant himself; and though he proposed a solution which differed somewhat from Kant's, it was only a variant of it. The important point, however, is that he fully shared Kant's error, as I have called it. It was an unavoidable error – unavoidable, that is, before Einstein.

Even those who do not accept Einstein's theory of gravitation ought to admit that his was an achievement of truly epoch-making significance. For his theory established at least that Newton's theory, no matter whether true or false, was certainly *not the only possible* system of celestial mechanics that could explain the phenomena in a simple and convincing way. For the first time in more than 200 years Newton's theory became *problematical*. It had become, during these two centuries, a dangerous *dogma* – a dogma of almost stupefying power. I have no objection to those who oppose Einstein's theory on scientific grounds. But even Einstein's opponents, like his greatest admirers, ought to be grateful to him for having freed physics of the paralysing^g belief in the incontestable truth of Newton's theory. Thanks to Einstein we now look upon this theory as a hypothesis (or a system of hypotheses) – perhaps the most magnificent and the most important hypothesis in the history of science, and certainly an astonishing approximation to the truth.

Now if, unlike Kant, we consider Newton's theory as a hypothesis whose truth is problematic, then we must radically

alter Kant's problem. No wonder then that his solution no longer suits the new post-Einsteinian formulation of the problem, and that it must be amended accordingly.

Kant's solution of the problem is well known. He assumed, correctly I think, that *the world as we know it is our interpretation of the observable facts in the light of theories that we ourselves invent*. As Kant puts it: 'Our intellect does not draw its laws from nature . . . but imposes them upon nature.' While I regard this formulation of Kant's as essentially correct, I feel that it is a little too radical, and I should therefore like to put it in the following modified form: 'Our intellect does not draw its laws from nature, but tries – with varying degrees of success – to impose upon nature laws which it freely invents.' The difference is this. Kant's formulation not only implies that our reason attempts to impose laws upon nature, but also that it is invariably successful in this. For Kant believed that Newton's laws were successfully imposed upon nature by us: that we were bound to interpret nature by means of these laws; from which he concluded that they must be true *a priori*. This is how Kant saw these matters; and Poincaré saw them in a similar way.

Yet we know since Einstein that very different theories and very different interpretations are also possible, and that they may even be superior to Newton's. Thus reason is capable of more than one interpretation. Nor can it impose its interpretation upon nature once and for all time. Reason works by trial and error. We invent our myths and our theories and we try them out: we try to see how far they take us. And we improve our theories if we can. The better theory is the one that has the greater explanatory power: that explains more; that explains with greater precision; and that allows us to make better predictions.

Since Kant believed that it was our task to explain the uniqueness and the truth of Newton's theory, he was led to the belief that this theory followed inescapably and with logical necessity from the laws of our understanding. The modification of Kant's solution which I propose, in accord-

ance with the Einsteinian revolution, frees us from this compulsion. In this way, theories are seen to be the *free* creations of our own minds, the result of an almost poetic intuition, of an attempt to understand intuitively the laws of nature. But we no longer try to force our creations upon nature. On the contrary, we question nature, as Kant taught us to do; and we try to elicit from her *negative* answers concerning the truth of our theories: we do not try to prove or to *verify* them, but we test them by trying to *disprove* or to falsify them, to *refute* them.

In this way the freedom and boldness of our theoretical creations can be controlled and tempered by self-criticism, and by the severest tests we can design. It is here, through our critical methods of testing, that scientific rigour and logic enter into empirical science.

It was in relation to the philosophy of science that Popper worked out his most fundamental ideas: that we are never able to establish for certain the truth of any unrestrictedly general statement about the world, and therefore of any scientific law or any scientific theory (it is important to be clear that he is talking not about singular statements but about unrestrictedly general ones: it is possible sometimes to be sure of a direct observation, but not of the explanatory framework that explains it: direct observations and singular statements are always susceptible of more than one interpretation); that because it is logically impossible ever to establish the truth of a theory, any attempt to do so is *an attempt to do the logically impossible*, so not only must logical positivism be abandoned because of its verificationism but also all philosophy and all science involving the pursuit of certainty must be abandoned, a pursuit which had dominated Western thinking from Descartes to Russell; that because we do not, and never can in the traditional sense of the word 'know', know the truth of any of our science, all our scientific knowledge is, and will always remain, fallible and corrigible; that it does not grow, as for hundreds of years people believed that it did, by the perpetual addition of new certainties to the body of existing ones, but by the repeated overthrow of

existing theories by better theories, which is to say chiefly theories that explain more or yield more accurate predictions; that we must expect these better theories in their turn to be replaced one day by better theories still; and that the process will have no end; so what we call our knowledge can only ever be our theories; that our theories are the products of our minds; that we are free to invent any theories whatsoever, but before any such theory can be accepted as knowledge it has to be shown to be preferable to whatever theory or theories it would replace if we accepted it; that such a preference can be established only by stringent testing; that although tests cannot establish the truth of a theory they can establish its falsity – or show up flaws in it – and therefore, although we can never have grounds for believing in the truth of a theory, we can have decisive grounds for preferring one theory to another; that therefore the rational way to behave is to base our choices and decisions on 'the best of our knowledge' while at the same time seeking its replacement by something better; so if we want to make progress we should not fight to the death for existing theories but welcome criticism of them and let our theories die in our stead.

It was only after Popper had developed these ideas to a high level of sophistication with regard to the natural sciences that he realized that their implications for the social sciences were also compelling. A political or social policy is a prescription based to an important degree on empirical hypotheses – 'if we want to achieve x we must do A, but if we want to bring about y we must do B'. We can never be certain that such a hypothesis is right, and it is a matter of universal experience that they are nearly always flawed and sometimes completely wrong. The rational thing to do is to subject them to critical examination as rigorously as circumstances allow before committing real resources to them, and to revise them in the light of effective criticism; and then, after they have been launched, to keep a watchful eye on their practical implementation to see if they are having undesired consequences; and to be prepared to change them in the light of such negative test-results. Again, the idea is to sacrifice hypotheses rather than human beings or valuable resources (including time). A society

that goes about things in this way will be more successful in achieving the aims of its policy-makers than one in which they forbid critical discussion of their policies, or forbid critical comment on the practical consequences of those policies. Suppression of criticism means that more mistakes than otherwise will go unperceived in the formulation of policy, and also that after mistaken policies have been implemented they will be persisted in for longer before being altered or abandoned. On this basis Popper builds a massive structure of argument to the effect that even in purely practical terms, and regardless of moral considerations, a free (or what he calls an 'open') society will make faster and better progress over the long term than any form of authoritarian rule. Fundamental to his political philosophy, as to his epistemology and philosophy of science, are the ideas that it is easy to be wrong but impossible ever to be certain that we are right, and that criticism is the agent of improvement.

In politics (as against economics) this is a profoundly original argument, and one whose practical importance is incalculable. Before Popper it was believed by almost everyone that democracy was bound to be inefficient and slow, even if to be preferred in spite of that because of the advantages of freedom and other moral benefits; and that the most efficient form of government in theory would be some form of enlightened dictatorship. Popper showed that this is not so; and he provides us with an altogether new and deeper understanding of how it comes about that most of the materially successful societies in the world are liberal democracies. It is not – as, again, had been believed by most people before – because their prosperity has enabled them to afford that costly luxury called democracy; it is because democracy has played a crucial role in raising them out of a situation in which most of their members were poor, which had been the case in almost all of them when democracy began.

Even this brief sketch will have given some idea what sort of relationship exists between Popper's political and scientific thought. But at the time when I met him this was not generally understood, and I did not understand it myself. This is because his seminal work in the philosophy of science was almost impossible to

come by in its obscure pre-war German printing, and was not to appear in an English translation until later that same year, 1959, under the title *The Logic of Scientific Discovery*. It was then exactly a quarter of a century since its original publication in Vienna; but only after its appearance in English did it become generally familiar to philosophers in the post-war world.

The version current today in the German language is for more than half its bulk a translation back into German of the English edition. This unsatisfactory publishing situation is characteristic of Popper's work in general. His first book, *The Two Fundamental Problems of Epistemology*, was not published even in German until forty-six years after it was written, and as I write has not appeared in English yet, so it remains unknown in the English-speaking world. Three books that he wrote in English at the height of his powers – *Realism and the Aim of Science*, *The Open Universe: An Argument for Indeterminism*, and *Quantum Theory and the Schism in Physics* – languished for a quarter of a century in proof before being published. And some books have not yet been published at all. This excessive tardiness with which Popper's thought has crept out into the light is not unconnected with the tardiness of understanding and appreciation it has met with. Even I, who have a special familiarity with it, was unacquainted with his philosophy of science until after I got to know him personally – so it was only then that I was able fully to understand his political philosophy, despite the fact that I held it in high esteem. In more ways than one, then, Popper has been his own worst enemy when it comes to the satisfactory propagation of his ideas.

Although I regard Popper as a great philosopher I have, and always have had, fundamental differences with him – as I do, if it comes to that, with every other great philosopher. He himself considered the most important of all philosophical issues to be that between idealism and realism, and he was a realist through and through, whereas I am some sort of transcendental idealist, even if I am not sure *what* sort. The most important experiences we human beings have in life – which I take to be first and foremost our awareness of our own existence, followed by our relationships with one another, especially those involving sex and its conse-

quences, and then our experiences of the arts – are dealt with scarcely at all in Popper's writings; so he simply has not written about what interests me most. Like Kant, he believes that rationality is also the rationale of ethics, whereas I am sure that this is not so. In all sorts of ways, then, he and I are a long way apart in our thinking. The respect in which I am most Popperian is in my approach to political and social questions: there it would be difficult for me to exaggerate how much I have learnt from him. He is, I am sure, a political philosopher of genius. I think he has also made contributions of great profundity to the theory of empirical knowledge, and in particular to the philosophy of science – in fact I agree with Peter Medawar that he is the best philosopher of science there has ever been. These combined achievements make him, I should say, the outstanding philosopher of the twentieth century. But having said that, let me try to indicate where I think his limitations lie.

I hold the greatest single achievement in the history of philosophy to be Kant's distinction between the noumenal and the phenomenal. It embodied a fundamentally new, indeed revolutionary conception of how the limits of intelligibility were themselves to be understood; and although not in itself right, it was on the right lines. Since it constituted the longest forward stride in understanding of the human situation that there has ever been, it is scarcely surprising that in his pioneering formulations Kant made major mistakes. After him, philosophy's most pressing need was for correction of his chief errors, and for further illumination of what the relationship between the noumenal and the phenomenal is. There happens to be a philosopher who offers us these things, namely Schopenhauer, but I was not to discover his work until many years later, and meanwhile had an entirely mistaken idea of what sort of philosopher he was – I imagined him to be something like Hegel. Since in Britain virtually no professional philosophers read Schopenhauer he was scarcely ever referred to, so this mistaken assumption of mine was to continue uncorrected for many years. After studying Kant I knew what I was looking for, but did not realize how great a deal of it was already available. It was obvious that Popper did not provide it. He corrected one

very important error of Kant's, the one dealt with in the long quotation on pages 236–9; and to a significant extent Popper's original contribution to epistemology consisted of his expansion of this insight, as he himself fully realized. But at no point does he write as if he believes in the existence of the noumenal in a sense relating to Kant's. He does, indeed, believe that reality is hidden, and permanently so, but he believes that this hidden reality is transcendently real.

Kant was an empirical realist but a transcendental idealist; Popper is an empirical realist and a transcendental realist also. His epistemology centres on the relationship between what he takes to be a transcendently real but not directly accessible material world (which exists independently of us) and the knowledge we human beings have of it (which is a human creation). He has thus given himself a new formulation of the classic and insoluble problem at the heart of empiricism. Because I believe that the empirical world is almost certainly transcendently ideal I do not believe that Popper has effectively written about what he supposes himself to have written about. What I believe he has done is to provide a profoundly original and substantially correct analysis of the nature of empirical knowledge whose true place, unrealized by him, is within a larger *empirical realism/transcendental idealism* frame of reference, the necessity for which he does not acknowledge. In other words I think he has performed, better, one of the tasks the young Wittgenstein set out to accomplish in the *Tractatus*, even though Wittgenstein had greater self-awareness about the wider context in which what he was doing was embedded. Wittgenstein consciously took over from Schopenhauer the Kantian *empirical realism/transcendental idealism* view of total reality, and acknowledged that nearly all of what mattered most to us inhabited the transcendently ideal part of it, within which nothing could be known and therefore no factual propositions asserted. Within this total frame of reference he tried to set the knowledge available to the human inhabitants of the empirical world on a philosophically defensible footing. He fully acknowledged how little would have been done when that had been done, but in spite of that he did not succeed in doing it, as he himself came eventually to

acknowledge. Popper has had much greater success at the same task, though he does not see it as being the same task, because he does not accept the metaphysical framework. He does not so much reject as ignore the Kantian distinction which I regard as Kant's greatest achievement.

The reason why Popper's epistemology is able to be so successful in spite of what I consider an inadequate and mistaken metaphysics lies in the fact that he, like Kant and Schopenhauer, fully understands that ultimate reality is hidden and unknowable. The fact that he takes this view for reasons entirely different from theirs is beside the point. The crucial fact is that he does not see knowledge as attached to reality, or even as being in direct contact with it, and it is this that makes it possible for his account of knowledge to be painlessly removed from a framework in which ultimate reality is seen as transcendently real and incorporated in a framework in which it is seen as transcendently ideal. For these purposes it does not matter that the ultimate reality that Popper regards knowledge as condemned for ever to fall short of is a material world existing independently of our experience, whereas both Kant and Schopenhauer regard it as being an un-get-at-able level of non-material reality that stands *behind* the material world, something the material world hides from us, screens us off from, while being at the same time some sort of manifestation of. It is enough that Popper regards independent reality as something which human knowledge can approach only asymptotically, never to grasp or make direct and immediate contact with. This, as I say, renders his epistemology accommodatable within the *empirical realism/transcendental idealism* frame of reference, within which the ultimate reality with which it fails to make contact can be viewed as something different from what he takes it to be. In this crucial respect the underlying Kantianism of his epistemology saves it, and what is more is the chief source of its formidable explanatory power.

Taken on his own terms, what Popper has done is combine a fundamentally empiricist view of reality with a fundamentally rationalist view of knowledge—an empiricist ontology with a rationalist epistemology. Because he believes above all that knowledge

is a product of our minds which has then to withstand and survive all the tests of confrontation with an independently existing empirical reality, the term he has coined for his own philosophy is 'critical rationalism'. It is worked out on such a scale, and yet in such detail, that it constitutes an intellectual achievement of the front rank. It is the most highly developed philosophy yet to have appeared that incorporates within itself a belief in an independently existing material world subsisting in independently existing space and time. It constitutes a huge advance beyond Russell, and embodies a depth of originality and imagination altogether outside Russell's scope. Anyone who is determined to cling to the empiricist tradition will find in Popper's philosophy the richest and most powerful instantiation of it that the ongoing development of Western philosophy has made available to us so far. At the point we have reached around the year 2000, to be a self-aware and sophisticated empiricist has to mean either being a Popperian or being a critical and reconstructed Popperian. And to be any sort of transcendental idealist ought to involve embracing something like a Popperian account of empirical reality. On either presupposition, he is the foremost philosopher of the age. On the first presupposition his work is itself the cutting edge of philosophical advance. Seen in the light of the second presupposition it appears somewhat incidental ('how little has been done when that has been done') but is still of significance, and a great improvement on the *Tractatus*.

The thing I tried hardest to get Popper to do, without success, was to bring his mind to bear on the interface between the phenomenal and the noumenal, perhaps even to indulge in what could only be temperament-based conjecture about the noumenal. But trying to get a creative person to do something different from what he does is hopeless, unless he feels within himself already the impulse to change direction. His creativity is not under the direction of his own will, let alone anyone else's. My motivation, mistaken though I may have been, was this. It seemed to me that what made Kant's philosophy uniquely great was that he for the first time delineated the limits of all possible experience and showed that although the content of our experience is determined

by what there contingently is and what contingently happens, its forms, its structure and its limits are determined by the nature of our apparatus; and so long as we are human beings at all this is a constant that cannot be transcended. The fact that he was mistaken in his specification of what some of the factors are, or how they work, creates a need for revision of his philosophy, but leaves his fundamental insight intact. And ever since Kant the most compelling issue in philosophy has been this question of the limits of intelligibility. One could give innumerable illustrations of this – it was the subject of Wittgenstein's *Tractatus*, the central pre-occupation of the logical positivists, the title of Russell's last and culminating philosophical work *Human Knowledge: Its Scope and Limits*. As the central question of Western philosophy, 'What can I know?' goes back to Descartes, but Kant set it in a new light that has cast brilliant illumination on it ever since. It seems to me that if philosophy now can be said to have a most important single task it is to work on these limits and enrich our understanding of what they are and why they are limits – and perhaps even (greatest prize of all) by means of such increased understanding to occupy territory near the frontier which is at present unoccupied because we do not know where the frontier is, and thus extend our philosophical knowledge at the highest possible level. This is, after all, what Schopenhauer did; and the fact that it has been done once offers hope that it may be done again. It may be done more than once: there may be several great advances to come in philosophy, each of which will consist in just such an extension. And of course there may be other kinds of advance too.

In Popper I thought I saw the only contemporary who might possibly have the ability to accomplish this. So I tried to persuade him to address himself to the task. But my attempts were in vain. Since it was a fundamental tenet of his philosophy that reality is unknowable, he agreed that there must be some sort of no-man's-land within which what we know ends and reality begins; and that whether it was actually a fixed frontier (as Kant believed) or a perpetually moving one (as he believed) was a separate question. But it remains a striking fact that the things that are most important of all to us, which Kant (and for that matter also the

Wittgenstein of the *Tractatus*) saw as rooted in the world of the unknowable – the meaning of life as a whole, the meaning of death; morality; values; the significance of art – are things that Popper has not written about, or at any rate not very much. Their supreme importance for us is something he not only conceded but asserted, and he was dismissive of so-called philosophers who denied their philosophical significance. Other philosophers, he said, might very well have something new and important to say about them: the only thing was, he did not. So he got on with work on the problems about which he did have something to say – and these were in any case the problems that fascinated him. It was this in the end that prevented him, I think, from being a philosopher in the Kant and Schopenhauer class. Unlike them, he did not offer us a view of total reality within which empirical reality was a part but not the whole. All his work was enclosed within the unattainable horizons of the empirical realm. Even the question of whether or not there is anything beyond those horizons was one to which he did not address himself, believing it to be inherently unanswerable. So he takes his place alongside those philosophers who have philosophized as if the empirical world were all there is. Having said that, I must add that I regard him as being as good as all but the very best of these (the best, I take it, being Hume and Locke).

This question of whether or not there is anything that lies permanently outside the range of all possible knowledge is one on which Popper remains unbudgingly agnostic to the end of the road. We simply cannot know, he says, and it is pointless to have an opinion in the matter one way or the other. It is possible that there is something, obviously, and anyone who denies that possibility is wrong; but it is possible that there is not, and anyone who denies that is wrong too. And there is no point in speculating, because we do not have even the concepts with which to do the speculating. The nature of concepts is such that if they are to have genuine content about what is or might be factually the case they need to be derived, if only indirectly, from somebody or other's experience, and no such concepts of the kind we are now talking about could be so derived.

From that point onwards the gap between Popper and me becomes one of personal temperament. I feel an ungovernable urge to grapple with these unanswerable questions: I am, whether I like it or not, infuriatingly baffled and perplexed by them, and cannot leave them alone; and because of this I am involuntarily involved with them, enmeshed in them; and there is a high energy-charge involved. With Popper none of this is so. Having satisfied himself that certain questions are unanswerable he is able with almost Buddhist calm to turn his back on them and not think about them. His temperament has inclined him to proceed on the basis of what can be known (in his conjectured and testable sense of the term 'known'); and so he has proceeded *as if* there were no more to total reality than what can be known. For instance, he has proceeded *as if* all morality and values are human creations – one of the respects in which he is most Kantian of all is in his insistence on viewing morality as an instantiation of rationality. Even so, he not just admits but argues at some length that in the last resort it is impossible to put rationality itself on rational foundations. When all analysis has come to an end, our belief in rationality is an act of faith, and an act of faith that can be justified, if at all, only by our success in meeting criticisms and surviving tests. He does not believe in ultimate foundations, neither for morality, nor for rationality, nor for knowledge, and his philosophy asserts that they do not need to be postulated in any of these fields. 'Man has created new worlds – of language, of music, of poetry, of science; and the most important of these is the world of the moral demands ...' (*The Open Society and Its Enemies*, vol. i, p. 65). This means he has to be ready to account for the existence of such things as human creations. He does in fact believe that they develop, like human knowledge, by processes of negative feedback in which perpetually revised attitudes and expectations are unendingly exposed to confrontation with experience, and changed again; that there is no more a beginning to this process than there is an answer to the question 'Which came first, the chicken or the egg?'; and that there need be no end to it either. So although he regards values as instantiating human decisions, and not as being ultimately defensible in rational terms, he does not rest on a simple utilitarian

analysis. Just as he had demolished the Verification Principle of the logical positivists and come up with falsifiability, not as an alternative but as a principle of something else, so he demolished the utilitarian principle that 'the greatest good of the greatest number is the foundation of morals and legislation' and came up with 'minimize avoidable suffering', not as the foundation of anything, since he does not believe in foundations, but as the first rule of thumb in the perpetually ongoing formulation of public policy.

There are some unknowable things about which Popper does have negative beliefs, by which I mean that there are things he does not see any grounds for believing, and therefore does not believe. In this sense he does not believe that there is a God, and he does not believe that our selves survive our deaths. Of himself, he said that he had no wish for an existence after his bodily death; and he thought that people who yearned for one were rather pathetic egotists – perhaps, as it were, collective egotists who failed to appreciate the near-nothingness of humanity in the cosmic scheme of things.

If there could be said to be one insight that pervaded Popper's metaphysical outlook as a whole it might be expressed in the words: 'We don't know anything.' He regarded the special greatness of Socrates, and such figures as Xenophanes, as lying in their grasp of this. If one is in search of a reason why he did not, for all his gifts, address himself to some of the most important questions in philosophy, it lies here: he did not feel that he had anything to say – or at least not enough, and not enough that was new – about the problems involved. He once made a remark about Moore and mathematics that applied to himself on many important subjects. 'First of all, Moore knew some mathematics. He didn't write about it because he didn't know enough, and he had no original ideas in the field. But he knew enough mathematics to understand quite a bit of what Russell was doing, and he even published some criticism of Russell's logic ...'* (Incidentally, in Popper's case it was not by him but by Imre Lakatos that his ideas were given their

* *Modern British Philosophy*, p. 137.

most fruitful application to mathematics. And when challenged to say why he had written so little about the arts, when in his intellectual autobiography he made it clear that considerations of music played a seminal role in the development of his fundamental idea about problem-solving, he replied that Ernst Gombrich had made a more imaginative and better-informed application of his ideas to art than anything he could have done himself.)

Our discussions and arguments about these questions were among the most interesting conversations I had with Popper over many years. After our first few meetings at his office in LSE he asked me to come instead to his home in Penn, Buckinghamshire, where we could talk at greater length and leisure. I would go there every three or four months, arriving either just before or just after lunch, and leaving in the late afternoon or early evening. Between these meetings we talked frequently on the telephone, sometimes several times a week.

When he first gave me directions about how to get to his home he told me I should take the train from St Marylebone to Havacombe and then get a taxi. I had never heard of Havacombe, but saw no reason to anticipate difficulty. However, when I tried to buy the ticket at St Marylebone they told me there was no such station as Havacombe. Only in the ensuing discussion did it emerge that what Popper had been saying was High Wycombe. From High Wycombe station the taxi was driven then, and for many years subsequently, by a driver of Greek extraction called Plato. He always asked with a great show of interest after 'the Professor'. A typical exchange between him and me was:

'What's the Professor working on these days?'

'He's writing an autobiography.'

'Really? What about?'

Usually, as soon as I entered the house, Popper would grab me by the arm and plunge with almost fearsome energy, but also bubbling enthusiasm, into whatever problem he was currently struggling with. Unless it was raining he would head straight out into the garden without the slightest pause in his flow of words, and there we would pace around slowly, he frequently pulling the two of us to a dead stop as he tightened his grip on my arm and

stood there gazing fiercely into my eyes while he vehemently urged some point on me. His emotional input into these disquisitions was something of a phenomenon: 'blazing intensity' would not be an excessive term for it. Not only was he existentially engaged with his problems: they had taken him over, he was living them from the inside. His expositions of them, and his urgings of their significance, were exhilarating. But his criticisms of his own first attempts at solving them could also be devastating. However, if I criticized him, or disagreed with him, he would become enraged. In that same conversation he would never yield, though weeks or months later he would sometimes revert to what I had said, and remark, as if we had not previously discussed it, that there was something to be said here that was interesting and strong. Occasionally he would then come round to my point of view. More often he would (as in his books) produce a substantially improved version of my case, on which it was obvious he had spent a good deal of trouble and thought, and then attack it savagely. When this happened I often got the impression he was saying what he wished he had thought of on our first encounter – he had not, so to speak, done my case enough damage the first time round and was now putting that right. These discussions stretched me to my limit, and I became uninhibited about hitting him with all the artillery I could muster. Needless to say, I won fewer battles than I lost. In competitive games the sort of opponent we most enjoy playing is one who forces us to give our utmost but whom we usually beat, and I believe Popper saw in me that sort of opponent. The degree of resistance I offered him was just about right for his needs: I forced him to give his all while only rarely inflicting on him what he felt to be significant setbacks. Although he turned every discussion into the verbal equivalent of a fight, and appeared to become almost uncontrollable with rage, and would tremble with anger, there is no doubt that he found a deep satisfaction in it all. He was always keen for us to meet again for more.

I discovered on these visits that there was almost nothing to be gained by my raising any matter in which Popper had not at some time in his life been involved. If I talked about what I had recently been doing myself, apart from philosophy – friends, music, theatre,

travel, the current political situation – his lack of interest was unconcealed, and if I persisted he would find an excuse to bring our meeting to an early close. He needed to talk about what directly involved *him*, and could sustain interest only in what he himself had done at some time or other, or was currently doing. For a long time I thought that nothing of importance was lost by this, because the white heat of his involvement always gave the objects of his enthusiasm compelling interest for me, even if they were matters in which I had not been involved myself. For example, my interest in the philosophy of science had been ignited at Yale by Pap and Northrop, who had given me a grounding in it, but when I met Popper I was not actively pursuing it. However, the discussions of it I had with him over many years, combined with my study of his output on the subject, plus the sources his writings referred to, gradually gave me a first-class education in it. But in the long run I realized that, although I learnt so much from him, a high price was paid for the exclusive intellectuality of our relationship, and the fact that it focused so much on his concerns and so little on mine. After thirty years of such meetings he knew almost nothing about my life, had met scarcely any of my friends, had never been to my home. And he was in this situation with regard to almost everyone he knew apart from the Gombriches, his lifelong friends. Yet he seemed unaware of this self-centred cut-offness. When he read my published memoir of Deryck Cooke, who died much too young after integrating Mahler's posthumous sketches with incredible skill into what is now the standard performing version of his tenth (and arguably greatest) symphony, Popper said wonderingly: 'This man was obviously a master: why have you never talked to me about him?' The truth is that Popper was always snortingly dismissive of Mahler ('He never grew up beyond the age of sixteen') and if I had talked to him about Deryck's work he would have demonstrated his boredom and changed the subject. That was precisely the sort of thing that my experience of him had taught me not to do.

Popper said more than once that in all the years he had lived in England he had never been invited into anyone's home. I knew this to be false because I had invited him myself, and I knew

others who had. Hennie, his wife, told me that they were invited frequently, but that Karl never wanted to go, because he preferred to spend his time working. He was the most intense workaholic I have ever known. On a normal day he would get up quite early in the morning and work solidly through the day until he went to bed again, with breaks for fairly spartan meals and possibly a walk. He refused to have a record player or a television set in the house, on the ground that they would waste his time, and he refused to have a newspaper delivered in case it distracted his thoughts. He knew that if anything important happened his friends would tell him about it, and they always did – I quite often telephoned him to tell him of some major public event. Well into his eighties there would usually be one night in a week when he got so excitedly involved in his work that he was unable to leave it to go to bed: many is the time I have been pulled out of a deep sleep at eight or so in the morning by the telephone, with Popper on the other end of it bubbling with excitement about what he had been working on all night, bursting to talk to somebody about it.

He did everything he could think of to isolate himself for the sake of his work. His house in Penn was in a private road with artificial bumps at short intervals to slow down traffic and make driving unpleasant. He told me that he deliberately chose to live several miles outside London, in as out-of-the-way a place as he could find, to discourage people from visiting him, and to eliminate casual dropping-in. When his colleagues at LSE presented him with a farewell gift on his retirement he returned it, saying he had not been there often enough, or played an active enough part in its affairs, to warrant it. When after Hennie's death he moved to Kenley, Surrey, he again bought an out-of-the-way house on a private road with bumps in it. There were other ways, too, in which he purposely made things difficult for people who wanted to see him. When, late in his life, he gave a regular seminar at Vienna University, he held it at a weekend, at a location on the outer edge of the city, so as to discourage (so he told me) all but those who were determined to come.

Several decades of self-isolation exacted a great toll on Popper's knowledge and understanding of the world around him, an iso-

lation all the greater because he did not take up residence in his adopted country until he was in his mid-forties. There is the starkest of contrasts between his early and later lives as far as his sociability is concerned. As a young man in Vienna he was an active supporter of the Social Democratic Party, a dedicated voluntary worker with mentally disturbed children under the supervision of the psychoanalyst Alfred Adler, a chorister and junior helper with rehearsals in the Society for Private Concerts founded by Schoenberg (where he got to know Webern); and all this in addition to being one of the most enthusiastic and prominent young participants in the philosophical ferment taking place in Vienna at that time. He wooed and won a noted student beauty, and the two of them would often go mountaineering with their friends. One way and another he involved himself in a life of perpetual activity across an astonishingly wide range, along with others of his generation. It was a preparation for a life of exceptional richness. But psycho-emotionally he lived off it for the second half or more of his life. He abandoned it in 1937 to go to New Zealand, a decision which saved his life; but he felt himself cut off from the rest of the world throughout the Second World War. Then in 1946 he came to live in England, where his way of life was as I have described. That he became so unworldly is not in itself surprising, especially for so creative a person. What is surprising, at least to me, is that he did not realize it. *The Open Society* and *The Poverty of Historicism* were the products of prolonged and intensive thought applied to material which included a rich input of social experience throughout the 1920s and 1930s. After that he ceased to have much social experience; and because he directed his mind predominantly towards problems in the philosophy of science he also stopped thinking about social questions with his former degree of involvement. The result is that what he had to say on such matters became undernourished and thin. But that did not stop him from holding forth about them with the same burning self-confidence as he would have shown if he had known what he was talking about. He also had a tendency to give people firm-sounding advice about their careers or their private lives, though he had little understanding of either. All this, of course, was in direct

contravention of his professed (and indeed genuine) beliefs, and practices, in philosophy.

Karl Popper died on Saturday 17 September, 1994, at the age of ninety-two. Next day three of the four leading Sunday newspapers in Britain described him, or quoted him as being described, as the outstanding philosopher of the twentieth century. By the end of the month articles in the same vein had appeared all over the world. Of course, who comes eventually to be seen as the greatest philosopher of the twentieth century will not be decided by the newspapers. But the short-list of genuine possibles is indeed short: Russell, Wittgenstein, Heidegger, Popper – it seems to me most unlikely not to be one of those. In any event Popper's work will be an object of growing interest for a very long time to come, I think, because so many of his ideas are radically original yet still comparatively little explored.

Up to now he has been seen primarily as a critic. This is not surprising, for he has been the most formidable and effective critic of not just one but several of the large-scale orthodoxies of the twentieth century. It was his magnificent demolition of Marxism, in his two-volume masterpiece *The Open Society and Its Enemies*, that made his international reputation. His destruction of claims to scientific status for Freud's ideas also achieved renown. Within the world of professional philosophy he was the first truly insightful critic of logical positivism, which in the end was destroyed by arguments which he had been putting forward all along. Most of his subsequent criticisms of linguistic philosophy, largely unpublished by him but given publicity in a somewhat brash form by his junior colleague Ernest Gellner, came in the end to be accepted by linguistic philosophers themselves. To this list of critical achievements are to be added many more. Popper and Einstein between them did more than anyone else to destroy a view of the nature of science that was almost universally held at the beginning of the twentieth century, the view that scientific knowledge is built up on the basis of direct observation and experience, and that what makes it special is its incorrigible certainty. This seems still to be the view of science most widely held by non-scientists,

though in the upper reaches of science itself, as in philosophy, it has been superseded.

No other thinker of the twentieth century has come anywhere near matching this range of effectiveness as a destroyer of the dominant myths of the age, and this alone is likely to make Popper a figure of historical importance. But in each case he put forward an alternative to the thought-system he attacked – in politics, in logic, in philosophy of language, in psychology, in science, in every one of the fields in which he was active. To the end of his life he was astonishingly fertile in new ideas. However, his positive views have received only a fraction of the attention bestowed on his critiques. Yet they are of exceptional creative originality and richness. It is in the belated discovery, development and criticism of his positive doctrines that I expect the main future of Popper's ideas to lie.

To give only one example, he developed a theory of human knowledge that rejects the fundamental premiss of most epistemology in the English-speaking world, namely that all our empirical knowledge is built up ultimately on the basis of our sensory experience. In doing this he broke with a tradition going back to Aristotle, and one that has dominated most of the important Western philosophy of recent centuries. Such a denial is still unthinkable for many philosophers writing in English. If Popper is justified in it, and I think he is, the consequences for Western philosophy are seismic. He himself unpacked a great many of what these consequences are, and developed a radically new epistemology which sooner or later philosophers are going to have to come to terms with.

For a long time now a very large number of professional philosophers have believed that the true task of philosophy is analysis, the clarification of our ideas, the elucidation of our concepts and our methods. It is not to be expected that philosophers who take this view will put forward large-scale positive ideas. And it explains why, in the attention they paid to Popper, his contemporaries concentrated almost entirely on his critiques. But Popper himself rejected that whole conception of philosophy. He believed that the world presents us with innumerable problems of a genuinely

philosophical nature, and that no problem of substance is to be solved by analysis. New explanatory ideas are what is called for, and they form the chief content of worthwhile philosophy, and have always done so. Because he believed this, and practised it, always from outside the main thought-systems of the age, he was never in the fashion. And because he spent so much of his time attacking and severely damaging the ideas of people he disagreed with he was never popular. But what matters is the quality of the work itself – and the sheer substance and weight, as well as originality and range, of Popper's work are altogether unmatched in that of any philosopher now living.



Getting to Know Russell

MOST people must go through life without ever getting to know anyone of genius, so I count it a piece of great good fortune that I have known two. In 1959 I was earning my living as a programme maker for ATV, one of the independent television companies that had come into existence when commercial television began in Britain in 1955. I did not as yet appear on the screen: my designation was Editor, and my job was to think of subjects and contributors for features and documentaries, assembling the necessary components and delivering them to a producer in such a form that he could turn the package I gave him into a programme without himself knowing much about the subject. Towards the end of the year I was allotted my first one-hour documentary, having previously made only half-hour programmes. I decided to devote it to the threat of global over-population. It seemed to me important in so long a programme to vary the content and pace, so in addition to assembling a good deal of dramatic and unusual film, and trying to think of ingenious ways of animating statistics by means of graphics, I also decided to include two studio interviews. My chosen contributors were Julian Huxley, who was at that time the best-known biologist in Britain, and Bertrand Russell.

Some time in December I telephoned Russell at his home in North Wales. He answered the telephone himself, which surprised me slightly. From the beginning of our conversation it was obvious that he was interested in the project, but before committing himself wanted to be sure that I and the enterprise were going to be serious. At that time so-called educated people were deeply