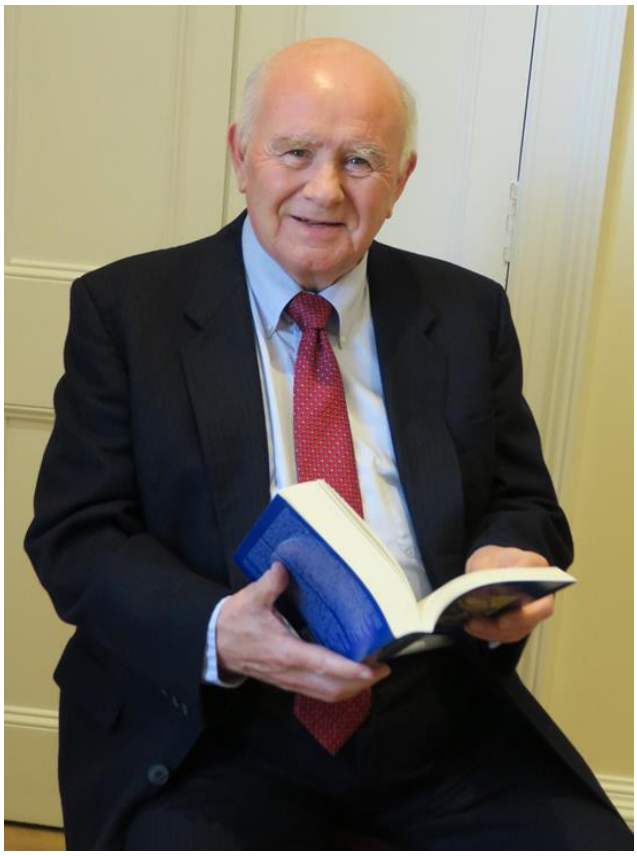
Opinion Piece: *Abusing Popper*, Jeremy Shearmur, Emeritus Fellow, Australian National University



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He has taught at the University of Edinburgh, the University of Manchester, and at George Mason University. He was also director of studies at the Centre for Policy Studies in London.

After briefly pursuing studies in librarianship, he worked for eight years as assistant to Karl Popper.

Among his books are: *Hayek and After* (1996); *The Political Thought of Karl Popper* (1996); *Karl Popper, After the Open Society* (2008) edited with Piers Norris Turner; *The Cambridge Companion to Popper* (2016) edited with Geoffrey Stokes. His edition of *Law, Legislation and Liberty* in Friedrich Hayek's *Collected Works* will be published in 2021.

Introduction

This essay is a critical comment on Charlotte Sleigh's 'The Abuses of Popper' which first appeared in February this year as an Aeon essay and then was reproduced in the HPSST Newsletter (April 2021).

Briefly my concerns are:

- Sleigh presents a mistaken account of Popper's philosophy and methodology of science.
- She claims that: 'For all its appealing simplicity, falsification was quickly demolished by philosophers' saying 'Generally, we don't conclude that we have disproved well- established laws of physics – rather, that our experiment was faulty'.
- She says that it was a group of biologists that gave Popper his first scientific hearing.
- She comments: 'One person's modesty, however, can be another person's denial of responsibility. A darker way of rendering the Popper vs Strangelove story is to say that falsification offers moral non-accountability to its adherents.'
- She makes various insinuations – emphasised by the listing of the original article 'how-popperian-falsification-enabled-the-rise-of-neoliberalism' (which was presumably the work of Aeon editors) – that Popper was encouraging 'neoliberalism'.

- She concludes that what would seem to be poor understandings of Popper's ideas have been made use of for poor purposes.

I will comment on all this under several different headings.

Popper's Philosophy of Science

Professor Sleigh tells us:

> For all its appealing simplicity, falsification was quickly demolished by philosophers, who showed that it was an untenable way of looking at science. In any real experimental set-up, they pointed out, it's impossible to isolate a single hypothetical element for disproof.

If she had looked more carefully at Popper's *Logic of Scientific Discovery*, she would have noted that Popper tells us: 'no conclusive disproof of a theory can ever be produced' (§9). Indeed, an important theme in the book is his discussion of 'conventionalism'. Popper, referring particularly to Dingler, but also to Duhem and Poincaré, notes that a particular theory can be saved in the face of a prima facie refutation, by way of modifying our other theories and assumptions, or by questioning experimental results or arguing that discrepancies with a theory are only apparent.

Popper argues that this is possible, but that how we should react to this possibility depends on our view of what we should be aiming at. Popper favours what might be called an aspirational realism – as he would later say, that science should aim at trying to discover truth about the world. He distinguished between this and a 'conventionalist' approach which would save our pet ideas, by systematically making modifications elsewhere to a system of theories and initial conditions.

It was, for Popper, all a matter of a choice of methodology, to be made in the light of what we are aiming at – which is, itself, a matter of choice. One might see the heart of Popper's *Logic of Scientific Discovery* as elaborating the kind of methodological approach which he suggests that we should take up. Popper went on to elaborate his favoured realist approach in many subsequent works. Two particular aspects of this are worth noting here.

In 1963, he emphasised that scientists typically face a problem-situation posed by their wish to explain experimental 'facts which earlier theories successfully explained; others which they could not explain; and [others] by which they were actually falsified' (*Conjectures and Refutations* ch. 10). Popper then argues for the importance of three additional ideas. The first was that we should proceed from 'some powerful, unifying idea'. The second, that our new theory should be independently testable. While third, the new theory should pass 'some new, and severe, tests'.

There are also his ideas about 'metaphysical research programmes'. Popper had, from *The Logic of Scientific Discovery* onwards, stressed not only that metaphysics – e.g. untestable cosmological theories – are meaningful, but that they had played an important role in the development of science. Since the late 1940s, he had, in lectures, discussed the role of 'metaphysical research programmes' in science. He had written about these in his *Postscript* (proofs of which were available to members of his department in the 1960s) and in his *Unended Quest*. In the 'metaphysical epilogue' to his *Postscript*, he set out his ideas about this at some length. He also offered his own suggestions about a research programme for science, based on ideas

about probabilistic dispositions or 'propensities'.

In *Conjectures and Refutations* chapter 8, Popper also discussed the way in which metaphysical ideas themselves could be critically appraised, while in another paper dating from the same period, he discussed Leibniz's criticism of Cartesian physics, as, in effect, an illustration of this approach. His earlier 'Back to the Presocratics' (available in *Conjectures* chapter 5), offered a striking reconstruction of the history of presocratic philosophy as a critical dialogue about cosmology.

Thus, for Popper, scientific theories should be falsifiable: openness to empirical appraisal is really important. But there is much to appraise about a theory prior to its being tested. A refutation is, for Popper, a refutation of a system of theories (and initial conditions). As Popper noted:

> …we falsify the whole system (the theory as well as the initial conditions) which was required for the deduction … of the falsified statement. Thus it cannot be asserted of any one statement of the system that it is, or is not, specifically upset by the falsification. (*Logic of Scientific Discovery*, §18).

In the event of a refutation, it is up to us which element of this system we try to modify. But for Popper what is crucial is that we should not reduce the content of our theoretical system, and that the resulting ideas should be independently testable. If an existing successful theory is refuted, we should seek to replace it by something that can explain our existing success and also the refutation. However, we may also appraise our programmatic ideas for the development of testable science, and expose them to inter-subjective criticism even if they are not themselves testable. Indeed, as his discussion of quantum mechanics in and subsequent to *The Logic of Scientific Discovery* exemplifies, the critical discussion of purely theoretical ideas plays an important role in his work.

Popper and Science

Professor Sleigh suggests:

> It was a group of biologists that gave Popper his first scientific hearing. They met as the Theoretical Biology Club in the 1930s and '40s, at the University of Oxford, at house parties in Surrey, and latterly in London too.

Adding:

> Meanwhile the club's leading light, Joseph Henry Woodger, hoped for a philosophically tight way of clarifying the notoriously flaky biological concept of 'organicism'. Perhaps Popper's clarifying rigour could help to sort it all out.

From Popper's perspective, science and philosophy are intimately inter-related. Popper had a strong interest in science and was involved in substantive issues about its interpretation and development. In *The Logic of Scientific Discovery* he discussed issues to do with quantum theory. The English translation includes – with permission – a letter that Einstein sent him written in 1935, expressing some agreement, but also criticism, of his ideas. He met with Schrōdinger and Bohr; and presented a paper at Karl Menger's *mathematisches Colloqium*. When Popper visited Otago, New Zealand, he discussed the substance of John Eccles' research work with him. Popper published a number of short pieces in Nature about 'The Arrow of Time' (from 1956 to 1967), and an article on 'Birkhoff and von Neumann's Interpretation of Quantum Mechanics' (1968).

He wrote quite extensively on quantum theory in his *Postscript*, and in subsequent papers, and he also undertook extensive work relating to other areas in physics (he had a part-written book in which he undertook extensive work, on special relativity, general relativity, quantum theory and statistical mechanics). Some of this is reported on in his *Unended Quest*. A wide-ranging paper on the search for invariants in physics, delivered in 1965, was eventually published in his *The World of Parmenides*.

The point that I wish to make here, is that Popper's interactions with scientists – for whom he frequently expressed great admiration – was not a matter of offering 'clarifying rigour', but of a passionate concern with the substance of science. In addition, his concern with what I have referred to as 'aspirational realism' led naturally to a wish to see if scientific ideas which were at odds with such an approach might be open to criticism and reinterpretation.

Popper and Popular Views about Science

A key feature of Popper's approach was a respect for what had been achieved in science, but also a concern with its fallibility. He thought that a knowledge of science was important, and that a study of the history of science was essential for anyone interested in the philosophy of science. He stressed the interplay between imagination and criticism (it is worth recalling his reference to Bergson's ideas about '"an irrational element" or "a creative intuition"' in discovery), and his repudiation of foundationalism. It is in this context not surprising that Medawar should have warmed to his approach. Medawar's 'Is the scientific paper a fraud?' represents a striking exploration of Popperian themes in an area of practical importance (*The Listener* 70, 1963, pp.377–8).

In addition, as Steve Fuller brought out in his *Kuhn vs. Popper*, Popper's approach opens up the social organization of science for critical scrutiny and improvement. Despite Popper's own personal aversion to work in the sociology of science as can be seen in his discussion of his experiences with an anthropologist, in 'The Logic of the Social Sciences', it is possible to take a sociological reading of Popper's epistemology. On this, see Ian Jarvie's Republic of Science, and also my article, 'Popper, Social Epistemology and Dialogue'.

Popper, at the same time, thought that Kuhn had played an important role in throwing light on the way in which 'normal scientists' are currently trained. But Popper saw this as an intellectual betrayal, and faulted their education for not exposing them properly to the intellectual adventure involved in the pursuit of science (see, for some striking points about this, his 'The Moral Responsibility of the Scientist' in *The Myth of the Framework*, pp.123-4.).

Neoliberalism

Professor Sleigh's paper also contains a variety of comments about Popper and neoliberalism. An important issue in this general area, is that one needs to distinguish between critical engagement with the ideas of a particular thinker who is deemed a 'neoliberal', and the policies of governments, one influence on which might have been some aspects of 'neoliberal' ideas. In the case of Popper, this problem does not arise as it is simply mistaken to view him as a neoliberal.

In his youth, Popper had been a socialist – and, indeed, a Marxist. Many aspects of his *Open Society* can be seen as critical reflections on the

conduct of the Marxist-influenced Austrian Social Democrats in the inter-war years. His own preferred view became an undogmatic espousal of piecemeal humanitarian social improvement, controlled by critical feedback from all citizens. In response to a query from Rudolf Carnap – who had known Popper as a socialist, in Vienna – as to whether he was still a socialist, Popper offered an interesting and nuanced response (See 'Correspondence with Carnap on Social Philosophy', now in *After the Open Society*). In correspondence with his friend Bryan Magee – who had just become a Labour MP – Popper was, in 1974, willing to contemplate the government taking a 51% share in all public companies!

As to 'neoliberalism', one needs to distinguish between the work of theorists such as, say, Hayek, and the policies followed by governments. It is also worth noting that Hayek had very different views from Soros – who has been critical, at some length, of 'neoliberalism', and whose Foundation has tended to support causes that are 'liberal' in the U.S. sense. Hayek has expressed some agreement with Popper's epistemological ideas. But this played no role in Hayek's social and political writings. Popper's methodological ideas (which is all that has been discussed by them) have met with only limited support among economists.

There are some striking parallels between his *Open Society* and Hayek's *Road to Serfdom* though the first was completed prior to publication of the second. But the books were written from very different perspectives. (On this, see my H*ayek and After* and *The Political Thought of Karl Popper*, as well as the editorial introduction to my edition of Hayek's *Law, Legislation and Liberty*, forthcoming 2021.)

Popper was no 'neoliberal'. He was personally grateful to Hayek for his assistance in placing *The Open Society* with Routledge, and also for helping create the readership in scientific method at the LSE for which Popper was able to apply. He was happy to join the Mont Pelerin Society. But Popper saw it as an organisation of people opposed to tyranny. Prior to its first meeting, he wrote to Hayek urging on him the importance of including socialists among its members, so as not to split the camp of humanitarianism. And while he was – along with other members of the Mont Pelerin Society – a sponsor of a 'Principles of Freedom' series, he wrote to complain that all that they were publishing was books on economic liberty. (See, on this, my editorial introduction to Friedrich Hayek's Law, Legislation and Liberty.)

Popper was also critical of Hayek's views about 'social justice' (although he seems to have been reluctant to go into print because of his feeling of personal indebtedness to Hayek). In comments about the collapse of the Soviet Union, Popper stressed the importance of the introduction of a reformed system of law and an appropriate judicial system. He was also critical of approaches which advocated wholesale privatisation, arguing instead for a piecemeal approach. On this see 'A Letter to my Russian Readers' in *After the Open Society*, and George Urban's interview with Popper, 'The Best World We Have Yet Had', in Urban's *End of Empire: The Demise of the Soviet Union*.

Ethics

Professor Sleigh makes a variety of points about ethical issues, suggesting that a Popperian approach offered a way of avoiding them. Popper had an aversion to pretentious ethical theorising, and his concerns were typically with practical measures. However, in his 'The Moral Re-

sponsibility of the Scientist' (Most easily accessible in his *The Myth of the Framework*) Popper starts by making a few of his general views very clear:

> Formerly, the pure scientist or the pure scholar had only one responsibility beyond those which everyone else has – that is, to search for truth…. Today not only all pure science may become applied science, but even all pure scholarship. (p. 121)

Popper goes on to recommend that prospective students should have the opportunity to discuss ethical issues from the beginning of their studies, and, as a practical suggestion, moots that they and their teachers should have the opportunity to 'hammer out a modern form of an undertaking analogous to the Hippocratic Oath' (The Myth of the Framework, p. 122). See also Popper and McIntyre's piece 'The Critical Attitude in Medicine: the need for a new ethics', in *After the Open Society*. Popper's tentative suggestions for this include (p. 123):

> The Overriding Loyalty. This [the student] owes neither to his teacher not to his colleagues, but to mankind – just as the physician owes his overriding loyalty to his patients. The student must be constantly aware of the fact that every kind of study may produce results which may affect the lives of many people, and he must constantly try to foresee, and to guard against, any possible danger or possible misuse of his results, even if he does not wish to have his results applied…. One of the few things we can do about our main issue is to try to keep alive, in all scientists, the consciousness of their responsibility.

Concluding Comments

In her essay, Professor Sleigh refers to a large range of different issues. At the heart of what she has written, however, seems to me a bad misunderstanding of Popper's work. I have, in consequence, concentrated upon that, and on clarifying what Popper's views actually were on a number of the other issues upon which she touches.