

The rise and fall of logical positivism: Key issues in 20th century philosophy

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Summary

One of the most contested issues in 20th century philosophy was between those like A.J. Ayer (with his best-selling book *Language, Truth and Logic*) who sought clarity and down-to-earth empirical certainty at all costs, and those like Karl Popper (with his speculations about an 'open universe') who, while giving science an important role, believed that philosophy should explore issues that embrace wider traditional metaphysical questions. Debates on these issues, which arose out of the work of Russell and Wittgenstein early in the century, ranged from science to politics, from the public world of language to the more private world of mind, and from the turmoil of inter-war Vienna to the relative tranquillity of post-war Oxford.

A.J. Ayer at UCL

Mini-biog – history at QMC – transfer to UCL

Ayer was leading exponent of radical empiricist philosophy

Jump into the dragon's den

His philosophy was called Logical Positivism – or Logical Empiricism

It took me a while to realise that I had landed in the midst of a philosophical revolution

Ayer: *Language, Truth and Logic* (1936)

Principle of verification (A statement about the world is meaningful if and only if it can be (at least in principle) be empirically verified. This implies that – QUOTE p.34. "Other side of the moon")

I.e. ancient philosophical question for meaning, purpose, values, free-will, determinism, mind and consciousness, God, the spiritual world, immortality

What did this leave for philosophy to do?

Philosophy - **analysis of language** - rather than tradition reflections on metaphysical issues.

E.G. What do we mean by words like meaning – purpose – explanation – right/wrong – good and evil – spirit – God - eternity

"It all depends on what you mean by"

Some of these may not mean anything at all

Ayer visit to study with the Vienna Circle in 1933

Vienna Circle 1924-1936 – ‘logical empiricism’ –

Membership – scientists, mathematicians, philosophers

Aim: to make philosophy scientific - ie to progress

Negative: Rejection of metaphysics - meaningless

Positive: 19th century idea of **progress** – through science –

Forerunners: **Comte, Herbert Spencer** (prophet of progress)

Behind it lay a **political aim** of human progress through science – reshaping of human society - interest in **Marxist** and communist politics

Manifesto in 1929 - struggle between metaphysics and scientific world-conception is not only between philosophies, but it is also between different political, social, and economical attitudes

A.J. Ayer – did not mix politics with philosophy – largely a personal matter – life-long Labour Party member and activist

Linguistic philosophy did not mix philosophy with politics

Key ideas of the Vienna Circle

Cf Russell: Logical Atomism

Consequences:

Reductionism: Rudolf Carnap: *Der Logische Aufbau der Welt* (1929)

Implies - Scientific method is induction

Implies – unity of science – cf TOE/GUT Steven Hawking

Universal determinism – underlying laws of nature

World as machine – magnificent clockwork

Humans are machines, hence No free-will

Moral ideals are simply matters of emotional inclination

So, these were some of the ideas and ideals that Ayer took back to Britain

Another inspiree of the Circle and its ideas was **Karl Popper**

But who moved in a very different philosophical direction

Outline of his life (1902-94)

Carnap etc., held to a mistaken view of science & human knowledge

And their view of philosophy was far too narrow – emphasis on language

Major influence of **Einstein** on Popper – and revolutions in science itself

1919 Arthur Eddington – **eclipse** of the sun

Einstein general theory of relativity - its implications

Thought experiments – trying things out in his mind

Exposed to the possibility of falsification

Times QUOTE *The Times* banner headline "Revolution in Science – New Theory of the Universe – Newtonian Ideas Overthrown".

Quantum theory – link with Einstein and Schrodinger

Eg questions about space & time – absolutes – eg Euclidean space

Reverberations throughout science – science had been supposed at turn of the century to be all but complete

William Thomson (Lord Kelvin) advised son against a career in science

It was this revolution which put Popper on the path of a different view of science and of philosophy, and indeed of the world

It brought into focus a sharp distinction between science and pseudo - science – the so-called demarcation issue - falsifiability

Contrast with **Marxism** and **Freudianism** as claimant to title of sci

Building metaphor - misplaced

Rejected **bucket** view of science – advocated **searchlight view**

At its best, science adopts a highly self-critical method

In short – a highly dynamic view of science and of human rationality

In more detail

1. Critical of sense-data theory – all observations are theory-laden

Sense data – observation statements – always interpretations

E.g. Measurement at Teddington - metrology

No such thing as 'pure observation' as basis for knowledge

2. Scientific investigations don't begin with basic observations, but with begin with **problems**, e.g. aether - dark matter/energy

Cf Bacon's bucket theory

3. It does not proceed simply by piling on confirmatory observations itical of inductive logic – rather lazy
 - All knowledge is fallible – no final certainty
 - Much better thought of a method trial and error
 - Russell’s story – chicken fed daily by farmer
4. **Laws are conjectures – created** – temporary way-stations – nothing is ever finally fixed and completed – no experimental test is ever final
5. **Creative imagination** – and **bold ideas** – ready to make mistakes - important element in scientific method
 - “Art creates, science describes”?
 - “Our theories are our inventions, though they may be merely ill-reasoned guesses, bold conjectures, hypotheses. Out of these we create a world. Not the real world but our own nets in which we try to catch the real world” (*Unended Quest* p.60)

Some further implications

1. Metaphysics – even mysticism – useful as stimulus to science
Cf both Newton and Einstein held deep metaphysical views
“God does not play dice”
2. Problem-solving – universal – basis of science & all rationality
Eg where to go for a holiday?
3. Compare Evolution – Darwinism
4. Human thinking is always (potentially) creative

Clearly Popper is moving away from Logical Positivism

My discovery of the wider application of Popper’s thinking

The Self and its Brain (1977) QUOTE p.61

Summary of P’s view - QUOTE Miller (1977) 240 – 241

History is open - i.e., unpredictable

Poverty of Historicism (1944)

History is not a science – as Marx claimed.

There are no Laws of progress in history – Comte, Mill

History is OPEN. – like politics! – critique of holism

“The law of unvarying evolution [in either biology or human history] cannot possibly fall within the scope of scientific method. My reasons are simple. The evolution of life on earth, or of human society, is a unique historical process”

Open Society and its Enemies (1945)

Attack on totalitarianism – defence of democracy

An open society is one in which the government can be changed without violence and in accordance with the wishes of the people expressed through freedom of speech.

Contrast between CLOSED (DOGMATIC) and OPEN (CRITICAL) scientific thinking echoed in contrast between closed and open society. Hong Kong

Fascist and Communist societies throwbacks primitive hierarchical societies ruled by a semi-divine dictator, and shaped by ideological (quasi religious) absolutes

Closed societies identified with UTOPIAN SOCIAL ENGINEERING contrast with PIECEMEAL SOCIAL ENGINEERING

The universe is open – unpredictable in the last analysis

“Science suggests to us a picture of the universe which is inventive, even creative, a universe in which new things emerge, on new levels”

Three world theory – all are open worlds, ie not necessarily subject to universal deterministic laws – perhaps a plurality of worlds - contrast with Carnap on unified science

Evolved and emergent – self-creative – each level has degree of autonomy

World 1 – material universe –subject to laws of physics and chemistry – emergence of life - evolves, sometimes unpredictably – some elusive aspects e.g. quantum

World 2 – subjective conscious mind – evolves from W1 – freedom central to it

World 3 – objective mind e.g., language, body of science, maths, law, culture generally

We create the third world - becomes objective and largely autonomous

But at the same time it remains open to our creative acts.

Relevance to 20th c. philosophy

What is the scientific method and how does it achieve knowledge?

What is knowledge anyway – its scope and limits?

What about metaphysics? Moral beliefs?

What role does language play in all of this?

How do mind and consciousness fit into a material universe?

On the whole, a modest contributory role –not an imperial one

Concluding comments:

Ayer was a frustrated rationalist: Brian Magee: *Men of Ideas* broadcast: 'I was wrong', Over time Ayer's philosophy has gradually lost its influence, and Ayer's own criticisms of it has contributed to its decline

Popper was a frustrated romantic: "Science is the greatest spiritual adventure that man has yet known"

"Optimism is a moral duty"

Popper's philosophy, though largely unfinished in spite of a long life, has pointed a promising way forward for us, as well as for philosophy. I'm not sure that we can say that optimism is our moral duty. But I do think that we should keep on smiling.

PS Einstein¹"The most beautiful and profound emotion we can experience is the sensation of the mystical. It is the same of all true science. To know that what is impenetrable to us really exists – this knowledge, this feeling, is the centre of true religion. All true art, religion and science come from the same place"