

# POPPER'S CONJECTURES & REFUTATIONS

the 30-second philosophy

## 3-SECOND THRASH

Science grows by a process of conjecture and refutation.

## 3-MINUTE THOUGHT

The financier and philanthropist George Soros was Popper's student at the London School of Economics. He made billions of dollars with his investments and currency trading. Soros says that he used Popper's method of conjecture and refutation to help decide on investments, and credits it with his success.

Karl Popper rejected the view that science proceeds by the inductive inference of regularities from observations. To the contrary, he claimed that scientific knowledge grows by a process he called 'conjecture and refutation'. His mantra is: 'You can't prove a hypothesis true, or even have evidence that it is true by induction, but you can refute it if it is false'. Popper held that a good scientific hypothesis is one from which many surprising predictions deductively follow. His crucial point is that if an observation deductively follows from a theory, and if our experiments do not result in the predicted observation, then it follows that the theory itself is false. Popper's view is that scientists should put forward such hypotheses and try their hardest to refute them. If a prediction fails, we learn that the hypothesis is false. This process, he thinks, describes the growth of scientific knowledge from Aristotelian physics, to Newtonian physics, to Einstein's theories of relativity. Popper adds that what makes the claims of astrology, Freudian theory, and Marxism pseudo-scientific is that their practitioners don't even try to refute them, and argue away apparent refutations.

## RELATED PHILOSOPHIES

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HUME'S PROBLEM OF  
INDUCTION  
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KUHN'S SCIENTIFIC  
REVOLUTIONS  
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## 3-SECOND BIOGRAPHIES

KARL POPPER  
1902-1994

GEORGE SOROS  
1930-

## 30-SECOND TEXT

Barry Loewer

*Karl's brain grew  
so large that he  
realized that the only  
thing that he knew  
to be true was that  
he would never know  
what was true, only  
what was false.*