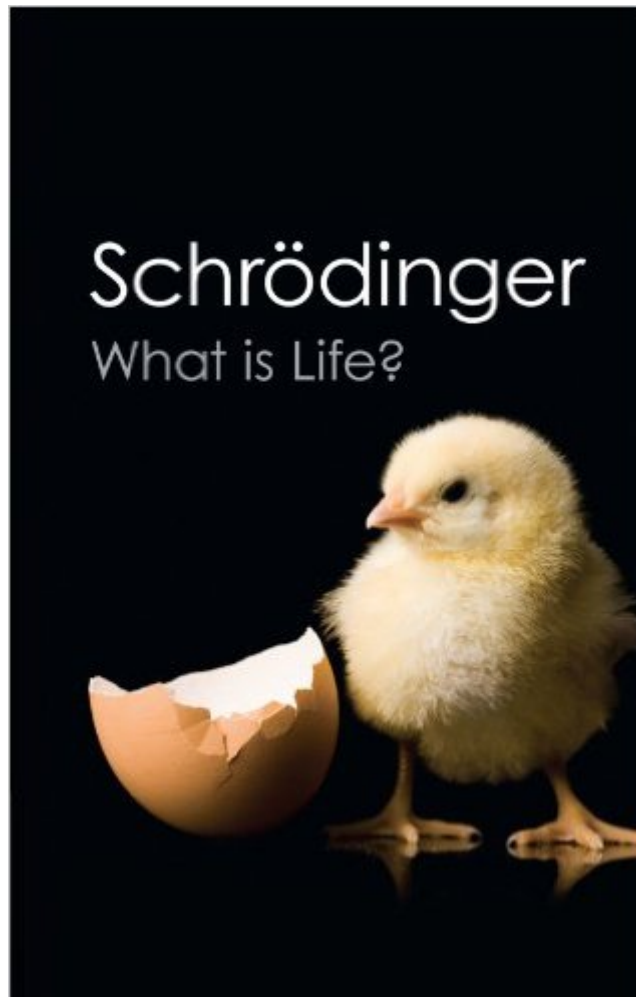


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# What Is Life?: With Mind And Matter And Autobiographical Sketches (Canto Classics)



## Synopsis

Nobel laureate Erwin Schrödinger's *What is Life?* is one of the great science classics of the twentieth century. It was written for the layman, but proved to be one of the spurs to the birth of molecular biology and the subsequent discovery of DNA. *What is Life?* appears here together with *Mind and Matter*, his essay investigating a relationship which has eluded and puzzled philosophers since the earliest times. Brought together with these two classics are Schrödinger's autobiographical sketches, which offer a fascinating account of his life as a background to his scientific writings.

## Book Information

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## Customer Reviews

It is not surprising that a genius would have interesting things to say. Physicist Erwin Schrodinger was an affable genius whose comments about life, molecular biology, mind, qualia, and a number of topics are interesting and relevant even today. This edition of 'What is Life?' by Cambridge University Press also contains Schrodinger's essay entitled 'Mind and Matter,' along with some autobiographical notes. *What is Life?* is a well paced 1944 version of molecular genetics that is still valid today. Crick and Watson didn't discover the structure of DNA til 1953, so Schrodinger didn't know of replisomes and error correcting polymerase III, but this essay shows how well developed molecular biology was by this time. Crick and Watson were certainly in the right place at the right time by clearing up a minor bottleneck in the broader science of molecular genetics. Mainly what Schrodinger, the formulator of the quantum mechanical wave equation of atoms, wants to

accomplish is to reconcile quantum effects with biology. *What is Life?* makes an excellent synthesis of quantum physics and biology. Where modern scientists like physicist Roger Penrose and chemist Graham Cairns-Smith fail at this correlation Schrodinger is eminently successful. Although this essay is somewhat dated it is stimulating and rewarding to read. The second essay entitled 'Mind and Matter' written in 1956 is very similar to modern efforts in describing abstract neuro and cognitive science. It tackles many of the same topics as moderns Daniel Dennett, Gerald Edelman, and Antonio Damasio do. Schrodinger artfully blends the idealism of Schopenhauer with his own personal physicist's point of view and crafts a perfectly enjoyable, reflective discussion on the concept of mind. I actually enjoyed *Mind and Matter* more than *What is Life?* as it showed the intellectual range of Schrodinger better. His discussion of what he calls objectivation, or how the subjective and objective dynamics of the scientific observer influence one another was great. Lastly, a brief selection of Schrodinger's writing about his own life rounds out this brief, thoughtful collection of essays by a world class scientist. This relaxing little book still exhibits the ability to invoke serious thought about the nature of life and the implications of consciousness.

**What Is Life? Erwin Schrodinger** This book is the compilation of a series of lectures by a Nobel Laureate in quantum physics and attempts to reconcile the biological requirements of living cells to the probabilistic nature of the atom as defined by quantum mechanics. These lectures were originally given in the 1940's and 50's prior to the discovery of DNA, RNA, gene mapping, and other techniques taken for granted by today's biologists. The basic tenant of quantum physics is that all atomic structure can be described only by the mathematics of probability. The exact orbit of an electron or its velocity cannot be determined. One can only state the probability of the location or velocity. Protons and neutrons are thought to change back and forth into one another in a random fashion. The very process of physical measurement introduces errors which preclude accurate measurements. This is modern physics - random events governed by probabilities. Compare this to the biology of living cells. Genetics reproduce specific inherited characteristics for generations. Why does the random atomic behavior not interrupt or change genetic traits? How does humanity think logically using randomly behaving atoms and hence molecules and compounds? This little book attempts and succeeds in theoretically reconciling these two worlds. The author predicts the structure of DNA. He anticipates current studies in how small numbers of randomly acting atoms are constrained to be deterministic. In the latter lectures, he enters the world of metaphysics to discuss "Mind and Matter, Determinism and Free Will, Ethics, and Science and Religion." This book is less than 300 pages long, but encyclopic in scope. Be warned that it must be savored to be understood. It

cannot be speed read nor can it be read only once to be understood. Finally, two much later in time companion books are "The Quantum Self" and "The Dancing Wu Li Masters" expand the concepts presented by this book. Both are available from . Joseph I. Schwartz, April 23, 1997

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