



Why Can't Time Run Backwards?

Date: May 2, 2013 (Thur)
Time : 5:30 pm - 6:30 pm
(Light refreshments from 5 pm)
Venue: Theatre T2, Meng Wah Complex Building,
Main Campus, HKU
Medium: English



by
Sir Anthony J Leggett

Nobel Laureate in Physics 2003

Professor at the Department of Physics, University of Illinois

ABOUT THE SPEAKER

Sir Anthony J Leggett is one of the rare physicists who have made fundamental contributions in diverse fields he has worked on. His early work focused on the superfluidity of Helium three, for which he was awarded Nobel Prize in Physics in 2003. He later set directions for the research in quantum mechanics of macroscopic systems, making fundamental contributions to our understanding of quantum physics and its implications. His recent interests include conceptual issues in quantum theory, high temperature superconductors, ultra-cold atomic gases and topological states in condensed matter systems.

Among many honors and distinctions, Professor Leggett is a member of the National Academy of Sciences, the American Philosophical Society, the American Academy of Arts and Sciences, the Russian Academy of Sciences (foreign member), and is a Fellow of the Royal Society (UK), the American Physical Society, and the American Institute of Physics. He is an Honorary Fellow of the Institute of Physics (UK). He was knighted (KBE) by Queen Elizabeth II in 2004 for "services to physics."



ABSTRACT

We can all tell when a movie of some everyday event, such as a kettle boiling or a glass shattering, is run backwards. Similarly, we all feel that we can remember the past and affect the future, not vice versa. So there is a very clear "arrow" (direction) of time built into our interpretation of our everyday experience. Yet the fundamental microscopic laws of physics, be they classical or quantum-mechanical, look exactly the same if the direction of time is reversed. So what is the origin of the "arrow" of time? This is one of the deepest questions in physics; Professor Leggett will review some relevant considerations at the lecture, but will not pretend to have a complete solution.