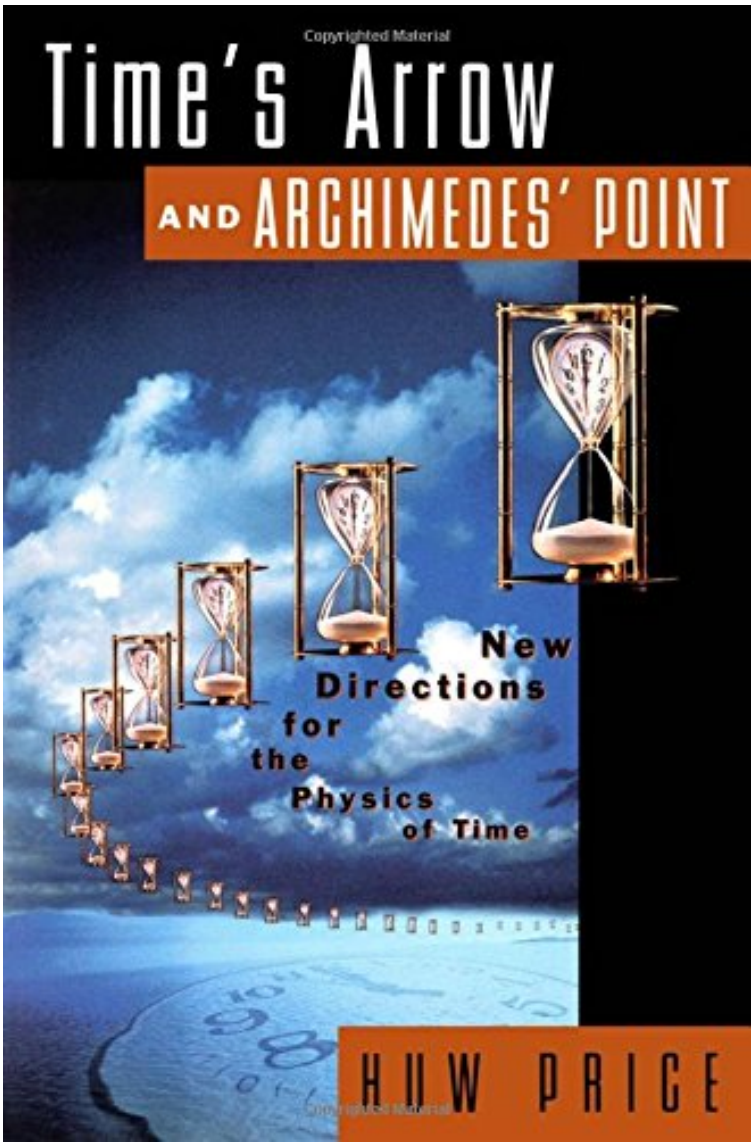
Time's Arrow and Archimedes' Point: New Directions for the Physics of Time

Huw Price
*DOC | *audiobook | ebooks | Download PDF | ePub*



#2302935 in Books Huw Price 1996-04-25Original language:EnglishPDF # 1 9.56 x 1.05 x 6.31l, 1.35 #File Name: 0195100956320 pagesTime s Arrow and Archimedes Point New Directions for the Physics of Time | File size: 29.Mb

Huw Price : Time's Arrow and Archimedes' Point: New Directions for the Physics of Time before purchasing it in order to gage whether or not it would be worth my time, and all praised Time's Arrow and Archimedes' Point: New Directions for the Physics of Time:

3 of 3 people found the following review helpful. A Signpost Along the RoadBy D. ChapmanThis is a very good

book, but I feel that something is missing.Imagine if someone in 1820 had written the definitive book about electricity and magnetism: It would have contained all kinds of information about Leyden jars, dynamos, induced current, electro-magnets, compasses, etc. It would not mention the electro-magnetic field, nor would it mention electro-magnetic radiation.This is not a criticism of the author: No one today could write a complete book on the subject of time, because we still do not really understand itThe author does a good job of covering entropy, causality, and quantum time asymmetry, but I believe that these phenomena are all aspects of the same thing. The scientific and philosophical study of time is still in the stage where we are "collecting stamps", rather like biology was in the period before Darwin.We are still waiting for an integrated theory of time, which can explain the direction of causality, the non-reversibility of radiation, and all of the other time-asymmetries in one package.1 of 1 people found the following review helpful. Time flies like an arrow.By I am not RappaportFruit flies like an orange.About the extent of what I got out of this very difficult to read book and I enjoy reading Virginia Wolfe! I know, apples and oranges.Book has point to make and failed to make it with this reader. Then again I posit that time is little more than an artifact of life and a hindrance to our understanding other dimensional systems. To me time is like gravity as we have no understanding of either beyond that of a facile observer - no ability to create either, control either, modify either ... yet!3 of 3 people found the following review helpful. Mostly over my headBy M. WaltersThe author is obviously extremely intelligent and well-versed in his areas of expertise. But he seems to have written this book for a limited audience of people like himself rather than a broader group of more average people who are interested in gaining more insight and understanding concerning the question of the nature of time. Unless a person is an expert in physics as well as philosophy, hopefully there are probably books somewhere more accessible than this one. I certainly will be looking for one.

Why is the future so different from the past? Why does the past affect the future and not the other way around? What does quantum mechanics really tell us about the world? In this important and accessible book, Huw Price throws fascinating new light on some of the great mysteries of modern physics, and connects them in a wholly original way. Price begins with the mystery of the arrow of time. Why, for example, does disorder always increase, as required by the second law of thermodynamics? Price shows that, for over a century, most physicists have thought about these problems the wrong way. Misled by the human perspective from within time, which distorts and exaggerates the differences between past and future, they have fallen victim to what Price calls the "double standard fallacy": proposed explanations of the difference between the past and the future turn out to rely on a difference which has been slipped in at the beginning, when the physicists themselves treat the past and future in different ways. To avoid this fallacy, Price argues, we need to overcome our natural tendency to think about the past and the future differently. We need to imagine a point outside time -- an Archimedean "view from nowhen" -- from which to observe time in an unbiased way. Offering a lively criticism of many major modern physicists, including Richard Feynman and Stephen Hawking, Price shows that this fallacy remains common in physics today -- for example, when contemporary cosmologists theorize about the eventual fate of the universe. The "big bang" theory normally assumes that the beginning and end of the universe will be very different. But if we are to avoid the double standard fallacy, we need to consider time symmetrically, and take seriously the possibility that the arrow of time may reverse when the universe recollapses into a "big crunch." Price then turns to the greatest mystery of modern physics, the meaning of quantum theory. He argues that in missing the Archimedean viewpoint, modern physics has missed a radical and attractive solution to many of the apparent paradoxes of quantum physics. Many consequences of quantum theory appear counterintuitive, such as Schrodinger's Cat, whose condition seems undetermined until observed, and Bell's Theorem, which suggests a spooky "nonlocality," where events happening simultaneously in different places seem to affect each other directly. Price shows that these paradoxes can be avoided by allowing that at the quantum level the future does, indeed, affect the past. This demystifies nonlocality, and supports Einstein's unpopular intuition that quantum theory describes an objective world, existing independently of human observers: the Cat is alive or dead, even when nobody looks. So interpreted, Price argues, quantum mechanics is simply the kind of theory we ought to have expected in microphysics -- from the symmetric standpoint.Time's Arrow and Archimedes' Point presents an innovative and controversial view of time and contemporary physics. In this exciting book, Price urges physicists, philosophers, and anyone who has ever pondered the mysteries of time to look at the world from the fresh perspective of Archimedes' Point and gain a deeper understanding of ourselves, the universe around us, and our own place in time.

"Particularly illuminating in that Price shows how philosophers and physicists have failed to see temporal symmetries because of the influence of their own temporally asymmetric perspective.... A real advance in the interpretation of quantum mechanics. Not only philosophy of science but theoretical physicists should be excited about by this lovely book."--J.J.C. Smart, Emeritus Professor, Australian National UniversityFrom the Back CoverWhy is the future so different from the past? Why does the past affect the future and not the other way around? What does quantum mechanics really tell us about the world? In this important and accessible book, Huw Price throws fascinating new light on some of the great mysteries of modern physics, and connects them in a wholly original way. Price begins with

the mystery of the arrow of time. Why, for example, does disorder always increase, as required by the second law of thermodynamics? Price shows that, for over a century, most physicists have thought about these problems the wrong way. Misled by the human perspective from within time, which distorts and exaggerates the differences between past and future, they have fallen victim to what Price calls the "double standard fallacy": proposed explanations of the difference between the past and the future turn out to rely on a difference which has been slipped in at the beginning, when the physicists themselves treat the past and future in different ways. To avoid this fallacy, Price argues, we need to overcome our natural tendency to think about the past and the future differently. We need to imagine a point outside time - an Archimedean "view from nowhen" - from which to observe time in an unbiased way. Price then turns to the greatest mystery of modern physics, the meaning of quantum theory. He argues that in missing the Archimedean viewpoint, modern physics has missed a radical and attractive solution to many of the apparent paradoxes of quantum physics. Many consequences of quantum theory appear counter-intuitive, such as Schrodinger's Cat, whose condition seems undetermined until observed, and Bell's Theorem, which suggests a spooky"nonlocality", where events happening simultaneously in different places seem to affect each other directly. Price shows that these paradoxes can be avoided by allowing that at the quantum level the future does, indeed, affect the past. This demystifies nonlocality, and supports Einstein's unpopular intuition that quantum theory describes an objective world, existing independently of human observers: the Cat is alive or dead, even when nobody looks. So interpreted, Price argues, quantum mechanics is simply the kind of theory we ought to have expected in microphysics - from the symmetric standpoint.About the AuthorAbout the Author: Huw Price is Reader in Philosophy at the University of Sydney, Australia. He is the author of Facts and the Function of Truth (1988) and a wide range of articles in leading journals such as The Journal of Philosophy, Mind, and Nature.