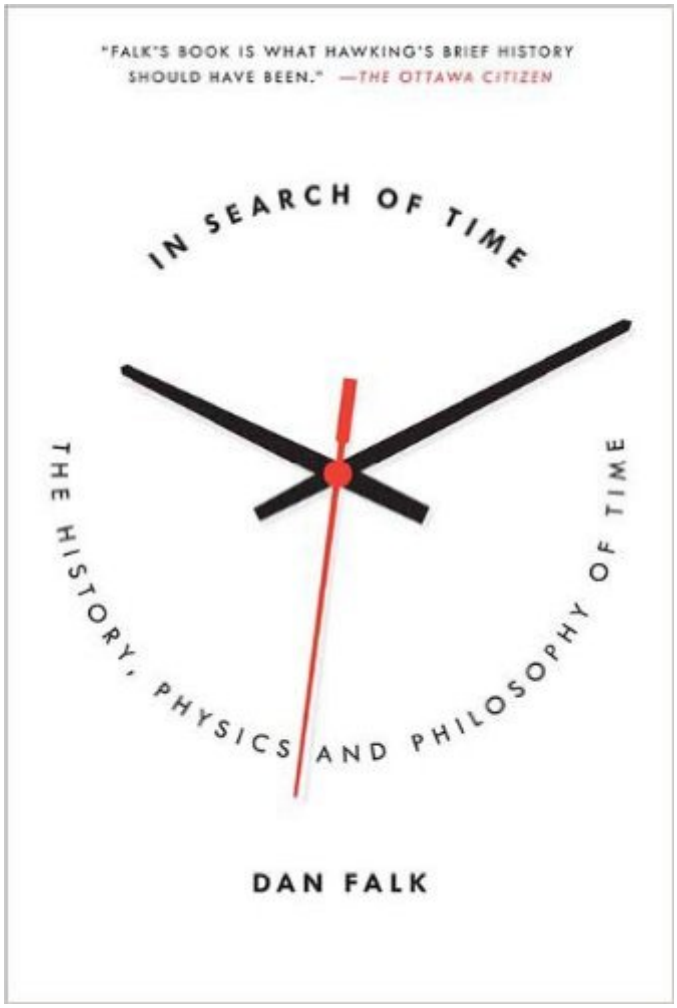
In Search Of Time: The History, Physics, And Philosophy Of Time



Synopsis

Time surrounds us. It defines our experience of the world; it echoes through our every waking hour. Time is the very foundation of conscious experience. Yet as familiar as it is, time is also deeply mysterious. We cannot see, hear, smell, taste, or touch it. Yet we do feel itâ •or at least we think we feel it. No wonder poets, writers, philosophers, and scientists have grappled with time for centuries.In his latest book, award-winning science writer Dan Falk chronicles the story of how humans have come to understand time over the millennia, and by drawing from the latest research in physics, psychology, and other fields, Falk shows how that understanding continues to evolve. In Search of Time begins with our earliest ancestors' perception of time and the discoveries that ledâ •with much effortâ •to the Gregorian calendar, atomic clocks, and "leap seconds." Falk examines the workings of memory, the brain's remarkable "bridge across time," and asks whether humans are unique in their ability to recall the past and imagine the future. He explores the possibility of time travel, and the paradoxes it seems to entail. Falk looks at the quest to comprehend the beginning of time and how timeâ •and the universeâ •may end. Finally, he examines the puzzle of time's "flow," and the remarkable possibility that the passage of time may be an illusion.Entertaining, illuminating, and ultimately thought provoking, In Search of Time reveals what some of our most insightful thinkers have had to say about time, from Aristotle to Kant, from Newton to Einstein, and continuing with the brightest minds of today.

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Customer Reviews

Join Dan Falk for a bus tour of all the major tourist spots of science history where time played an

important role. After exploring the history of time and its measurement, you'll enjoy the impressive views of all the big names (Newton, Einstein etc), and stop to chat with some contemporary players in the scientific fields that play with notions of time.The book's weakness is the same as that of the science it surveys: we spend a lot of time exploring what we do with time as a concept (its epistemologies) but don't really explore what time really is (ontologically or phenomenologically). There are some brief and dismissive philosophical side-bars but it's clear the author is out of his depth when wrestling with the philosophy behind the science and the interpretation of the science. For example, he claims the measurability of time dilation is proof of time travel to the future, which it isn't - it's just slower travel through now; his juvenile single-sentence dismissal of "presentism" is indicative of the philosophical rigour.None of this takes away from the enjoyable and highly readable text and if you don't want to go deep into time, this is a tour worth taking.I must mention the deplorable state of the typesetting and layout, which frequently justifies single words over whole lines and in some places actually cuts off the footnotes mid sentence. Either the publisher's software is buggy or they don't know how to use it, which makes for a visually bumpy ride .

Way back in 1995 I read a fascinating book by Paul Davies called `About Time'. What makes the topic of time so interesting is that most people believe that they intuitively understand time and yet our perception and reality can be at odds. Unlike most things in nature science cannot stand outside of time and study it. We also have a very limited understanding of time based on that fact that we have no personal experiences with the very fast, the very distant and the very massive. This is why from our perspective Newtonian physics, which fundamentally misinterprets time, works perfectly fine in everyday life. My expectation for the book was to read more about the science of time possibly updated with research done within the past decade and a half. I don't think my expectation was unreasonable given the subtitle of the book, `The SCIENCE of a curious DIMENSION'. Note the prominence of the word `science'. To say I was disappointed would be a great understatement.The first half of the book is about the history of timekeeping going back thousands of years. It's mildly interesting but certainly not why I purchased the book. About halfway through we finally get to Einstein's Theory of Relativity and the book briefly became intriguing although it never expands on ideas I've already read in many other books. In fact the second half of the book was sort of a primer on modern physics in general with the author touching on the big bang, black holes, dark matter, the smoothness of background radiation, grand unified theory, string theory (including m-branes), paradoxes of time travel and so on and so forth. What he doesn't do is ever delve into any one topic long enough to do anything more than scratch the surface. Quite frankly this book

could have been written by a layman like me and why would I want to read a book I could have written. You can argue that the aforementioned topics are all related to time but you can also argue that paint drying is related to time but I don't want to read a book about drying paint.In the end this book appears to be little more than a beginner's physics book along with some history of keeping time. For me it ended up being a waste of time (how ironic) and quite frankly was a chore to get through. Paul Davies' book delved far far deeper into the physics of time and was much more fascinating and better written. The author even refers back to Paul Davies book several times and inspired me to reread it. After just a few pages I could immediately recognize it as a far superior book. `In Search of Time' might be interesting to someone who hasn't spent much or any time reading popular science books but if you really want to get into the subject go with Davies.

In this book, Mr. Falk gives the reader a broad survey of current and ancient thinking about a question that has vexed humanity since the beginning: what is the nature of time? One of the difficulties with the question is that we don't even have a universally accepted definition of what time actually "is". For most of recorded history the topic of time was the domain of philosphy and physics. Mr. Falk walks the reader through the main philosophical theories about time and then shows how Isaac Newton decisively brought time into the grip of physical science. A couple of centuries later, Einstein overthrew some of our misconceptions about time and showed that time, like space, is not absolute but relative. Mr. Falk explains some of the key conclusions of Einstein's theories of special and general relativity in a way that a general reader can easily follow. In more recent times, Mr. Falk informs us, psychologists and cognitive scientists have begun tackling the subject of time as they systematically probe the nature of the human mind. By the way, the mind and the nature of consciousness is another 'little' subject that will continue to defy us for the forseable future. In addition to the philosophical and scientific theories about time, the book also covers cultural and sociological aspects of how humans deal with time. The language and diction of book are of high caliber.

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