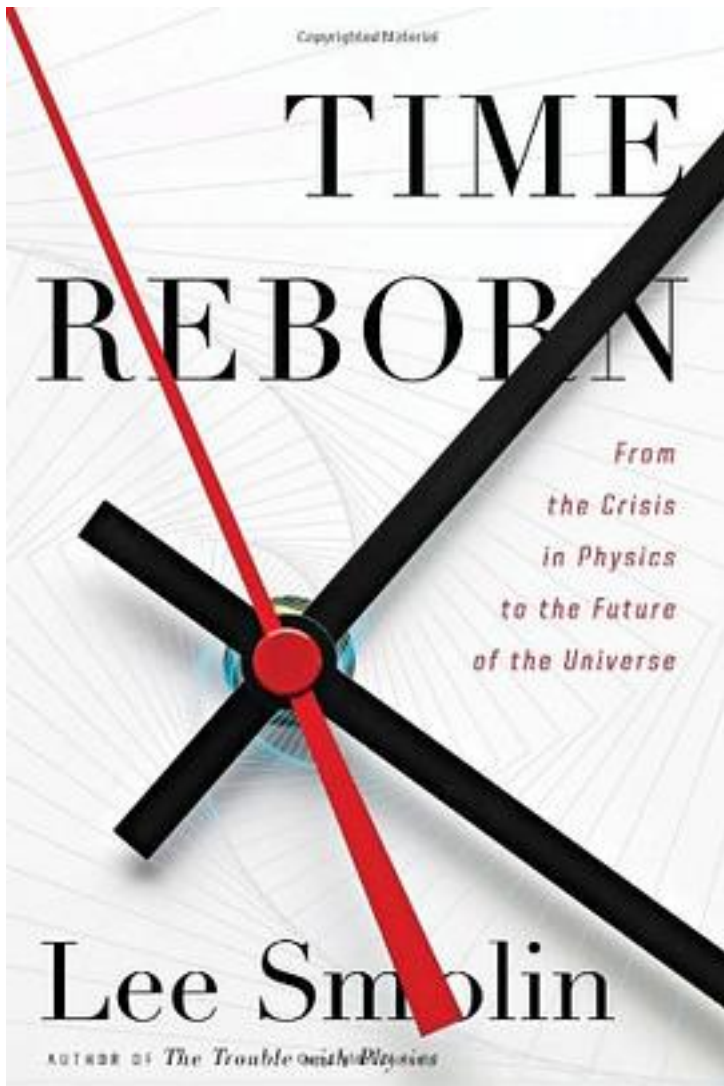


Time Reborn



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著者:Lee Smolin

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From one of our foremost thinkers and public intellectuals, a radical new view of the nature of time and the cosmos

What is time?

This deceptively simple question is the single most important problem facing science as we probe more deeply into the fundamentals of the universe. All of the mysteries physicists and cosmologists face—from the Big Bang to the future of the universe, from the puzzles of quantum physics to the unification of forces and particles—come down to the nature of time.

The fact that time is real may seem obvious. You experience it passing every day when you watch clocks tick, bread toast, and children grow. But most physicists, from Newton to Einstein to today's quantum theorists, have seen things differently. The scientific case for time being an illusion is formidable. That is why the consequences of adopting the view that time is real are revolutionary.

Lee Smolin, author of the controversial bestseller *The Trouble with Physics*, argues that a limited notion of time is holding physics back. It's time for a major revolution in scientific thought. The reality of time could be the key to the next big breakthrough in theoretical physics.

What if the laws of physics themselves were not timeless? What if they could evolve? *Time Reborn* offers a radical new approach to cosmology that embraces the reality of time and opens up a whole new universe of possibilities. There are few ideas that, like our notion of time, shape our thinking about literally everything, with huge implications for physics and beyond—from climate change to the economic crisis. Smolin explains in lively and lucid prose how the true nature of time impacts our world.

作者介绍:

LEE SMOLIN has made influential contributions to the search for a unification of physics. He is a founding faculty member of the Perimeter Institute for Theoretical Physics. His previous books include *The Trouble with Physics*, *The Life of the Cosmos*, and *Three Roads to Quantum Gravity*.

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标签

物理

LeeSmolin

cosmology

哲学

Math

科普

时间

英文原版

评论

期待过高，以为会有新模型提出，其实也只是复杂系统放到宇宙尺度而已。但对科学方法的质疑值得思考

A valuable radical idea. Wish to see more models.

Lee对科学的方法论提出了新的意见，认为过去的科学是建立在研究宇宙的局部被称为Newtonian paradiam的范式，而如果是研究整个宇宙，这个范式会失效，需要新的范式，把整个宇宙看做整体，同时时间不再只是不变的规律的逻辑结果，时间本身是宇宙的重要变量。

虽然搞弦论的看不起smolin，不过在当代物理学家中，他对柏拉图主义的解读还算相当深刻的，眼前一亮。

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书评

“The only field which has not admitted any evolutionary question is physics. Here are the laws, we say, ... but how did they get that way, in time? ... So, it might turn out that they are not the same [laws] all the time and that there is a historical, evo...

半个月来读了两遍，做了十几大页笔记，画了一堆逻辑图，才好像是读懂了这本《时间重生》。与《时间简史》不同的是，《时间重生》的研究对象是宇宙规律而不仅仅是宇宙，由于不包含公式且语言优美，实在是比《时间简史》好看太多且深刻太多。作者从牛顿范式、相对论、量子力学入...

【读后总评】：

熟悉相对论的朋友们应该都了解，爱因斯坦对宇宙的看法中，有三条核心原则（或者说假设）不容违背，即：1.因果律（因与果在时间上的先后顺序在任何地方都不可颠倒）；2.确定性（事件都存在着唯一的事实，不因观察者不同而变化）；3.定域性（任何事物不可能同时存...

If there's an ultimate fixed law of physics - of the whole universe, then everything is already determined by the law. If the law is the only and true, then how and where's the evolution - the mistakes and accidental incidents in nature coming from? If th...

这本脑洞大开的书让我断断续续读了一个多月，作者用非常激进的理论为时间的真实性进行“辩护”，特别是提出“形状动力学”理论，该理论为“广义相对论”的对偶理论，他假设宇宙中存在“全局最佳时间”，在时间重新变为刚体后，空间和距离变为了相对的概念。书里还有很多其他大...

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