



## A Brief History of Timekeeping: The Science of Marking Time, from Stonehenge to Atomic Clocks

**Chad Orzel**

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Chad Orzel traces how human concepts of time have changed over millennia in *A Brief History of Timekeeping*.

Today, “what time is it?” is a basic question with an accessible answer: all one has to do is look at a clock. But the clocks we know—both analog types that hang on the wall, and digital ones on our phones—are the culmination of thousands of years of hard work by philosophers, scientists, mathematicians, craftspeople, and even religious and political leaders. Thanks to—or, in a few cases, in spite of—their efforts, human beings have access to the most accurate timekeeping devices in history—and are pushing forward toward ever more precise knowledge of how time works.

The text alternates between history and science, introducing the people behind timekeeping advances and the physics of time itself. It begins with a basic astronomical definition of time—the position of the sun and other bodies in the sky—and shows how early humans captured planetary movements in monuments that still stand today. From there, the book moves into more complex topics, including quantum mechanics, showing how developments in clock making contributed to, and benefited from, advancements in other scientific fields.

As the book makes clear through its meticulousness and occasional sardonic humor, timekeeping is not just about measuring time, but is about time itself: by examining nature in its largest (stars) and smallest (atoms) forms, scientists from Jean Richer to Albert Einstein have furthered our understanding of how time passes in different places and circumstances. Their work has inspired modern physicists to use lasers to create the next generation of ultra-accurate atomic clocks—but the story of time will continue far, far beyond that.

*A Brief History of Timekeeping* is a thorough, enjoyable exploration of the history and science behind measuring time.

EILEEN GONZALEZ (January / February 2022)

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