**Time travel** is the concept of movement between certain points in [time](https://en.wikipedia.org/wiki/Time), [analogous](https://en.wikipedia.org/wiki/Analogy) to movement between different points in [space](https://en.wikipedia.org/wiki/Space) by an object or a person, typically with the use of a hypothetical device known as a **time machine**. Time travel is a widely recognized concept in [philosophy](https://en.wikipedia.org/wiki/Philosophy_of_space_and_time) and [fiction](https://en.wikipedia.org/wiki/Time_travel_in_fiction), particularly [science fiction](https://en.wikipedia.org/wiki/Science_fiction). The idea of a time machine was popularized by [H. G. Wells](https://en.wikipedia.org/wiki/H._G._Wells)'s 1895 novel [*The Time Machine*](https://en.wikipedia.org/wiki/The_Time_Machine).[[1]](https://en.wikipedia.org/wiki/Time_travel#cite_note-1)

It is uncertain if time travel to the past is physically possible. Forward time travel, outside the usual sense of [the perception of time](https://en.wikipedia.org/wiki/Time_perception), is an extensively observed phenomenon and well-understood within the framework of [special relativity](https://en.wikipedia.org/wiki/Special_relativity) and [general relativity](https://en.wikipedia.org/wiki/General_relativity). However, making one body advance or delay more than a few milliseconds compared to another body is not feasible with current technology. As for backward time travel, it is possible to find [solutions in general relativity](https://en.wikipedia.org/wiki/Exact_solutions_in_general_relativity) that allow for it, such as a rotating [black hole](https://en.wikipedia.org/wiki/Black_hole). Traveling to an arbitrary point in spacetime has very limited support in [theoretical physics](https://en.wikipedia.org/wiki/Theoretical_physics), and is usually connected only with [quantum mechanics](https://en.wikipedia.org/wiki/Quantum_mechanics_of_time_travel) or [wormholes](https://en.wikipedia.org/wiki/Wormhole).

## History of the time travel concept

Statue of [Rip Van Winkle](https://en.wikipedia.org/wiki/Rip_Van_Winkle) in [Irvington, New York](https://en.wikipedia.org/wiki/Irvington,_New_York)

Some ancient myths [depict a character skipping forward in time](https://en.wikipedia.org/wiki/Rip_Van_Winkle#Themes_and_literary_forerunners). In Hindu mythology, the [*Mahabharata*](https://en.wikipedia.org/wiki/Mahabharata) mentions the story of King Raivata [Kakudmi](https://en.wikipedia.org/wiki/Kakudmi" \o "Kakudmi), who travels to heaven to meet the creator [Brahma](https://en.wikipedia.org/wiki/Brahma) and is surprised to learn when he returns to Earth that many ages have passed.[[2]](https://en.wikipedia.org/wiki/Time_travel#cite_note-2) The Buddhist [Pāli Canon](https://en.wikipedia.org/wiki/P%C4%81li_Canon" \o "Pāli Canon) mentions the relativity of time. The [Payasi](https://en.wikipedia.org/wiki/Payasi" \o "Payasi) Sutta tells of one of the [Buddha](https://en.wikipedia.org/wiki/Gautama_Buddha)'s chief disciples, Kumara [Kassapa](https://en.wikipedia.org/wiki/Mah%C4%81k%C4%81%C5%9Byapa" \o "Mahākāśyapa), who explains to the skeptic Payasi that time in the Heavens passes differently than on Earth.[[3]](https://en.wikipedia.org/wiki/Time_travel#cite_note-3) The Japanese tale of "[Urashima Tarō](https://en.wikipedia.org/wiki/Urashima_Tar%C5%8D)",[[4]](https://en.wikipedia.org/wiki/Time_travel#cite_note-Yorke-4) first described in the [Manyoshu](https://en.wikipedia.org/wiki/Manyoshu" \o "Manyoshu) tells of a young fisherman named Urashima-no-ko (浦嶋子) who visits an undersea palace.

Early science fiction stories feature characters who sleep for years and awaken in a changed society, or are transported to the past through supernatural means. Among them *[L'An 2440, rêve s'il en fût jamais](https://en.wikipedia.org/wiki/The_Year_2440" \o "The Year 2440)* (*The Year 2440: A Dream If Ever There Was One*, 1770) by [Louis-Sébastien Mercier](https://en.wikipedia.org/wiki/Louis-S%C3%A9bastien_Mercier), [*Rip Van Winkle*](https://en.wikipedia.org/wiki/Rip_Van_Winkle) (1819) by [Washington Irving](https://en.wikipedia.org/wiki/Washington_Irving), [*Looking Backward*](https://en.wikipedia.org/wiki/Looking_Backward) (1888) by [Edward Bellamy](https://en.wikipedia.org/wiki/Edward_Bellamy), and [*When the Sleeper Awakes*](https://en.wikipedia.org/wiki/The_Sleeper_Awakes) (1899) by H.G. Wells. Prolonged sleep, like the later more familiar [time machine](https://en.wikipedia.org/wiki/Time_travel#Early_time_machines), is used as a means of time travel in these stories.[[7]](https://en.wikipedia.org/wiki/Time_travel#cite_note-7)

The earliest work about backwards time travel is uncertain. [Samuel Madden](https://en.wikipedia.org/wiki/Samuel_Madden)'s [*Memoirs of the Twentieth Century*](https://en.wikipedia.org/wiki/Memoirs_of_the_Twentieth_Century) (1733) is a series of letters from British ambassadors in 1997 and 1998 to diplomats in the past,

One of the first stories to feature time travel by means of a machine is "[The Clock that Went Backward](https://en.wikipedia.org/wiki/The_Clock_that_Went_Backward)" by [Edward Page Mitchell](https://en.wikipedia.org/wiki/Edward_Page_Mitchell),[[15]](https://en.wikipedia.org/wiki/Time_travel#cite_note-15) which appeared in the [*New York Sun*](https://en.wikipedia.org/wiki/The_Sun_(New_York)) in 1881. However, the mechanism borders on fantasy. An unusual clock,