

Time travel: fantasy or reality?

Business



Throughout the world, a major dilemma has rattled and perplexed even the most ingenious minds. Time travel.

To begin with, time travel is the concept of moving between different points in time in a manner analogous to moving between different points in space. In other words, time travel is either sending objects to a moment before the present, or transporting objects to the future without the need to experience moments in between. “Is it possible?” is the very question universally uttered and discussed by scientists. We may never know, but there are certainly theories that prove that time travel is possible. To begin with, time travelling is something you do each and every day.

Although it is on an extremely negligible scale, whenever you hear, see, or feel, you have travelled through time. For a better understanding, let's take a simple, daily example. Assume that someone says “Hi!” and waves to you. In this situation, how are you time travelling? When the person waves, light travels from their hand to your eyes. After that, your eyes translate the light into signals the brain can interpret.

These signals are transformed into pictures, and your brain analyzes the pictures. Subsequently, the sonic waves penetrate through the air and into your ears. Similar to the eyes, a chain reaction of events directs these waves from your ears to the brain to be analyzed. Ultimately, you comprehend that someone has just greeted and waved to you. Basically, you have just listened and viewed something someone did in the past.

Fascinating, but true. Although, this entire process is consummated in just a few nanoseconds (a nanosecond is a billionth of a second), it is considered as

time travelling. Likewise, when you touch something very hot, you yank your hand back. Nonetheless, after you touch something, neurons in your nerves are triggered. They form an electrical impulse carrying a message, which travels through billions of neurons until it reaches your brain. After your brain decodes the signal sent by the electrical impulse, you feel pain.

Because of an action committed in the past, you are experiencing a difference in the present. Time travelling on a much larger scale occurs when you view the Sun or its light. To properly apprehend this, we must first understand how the Sun functions. It all starts with a nebula; immense quantities of dust and remains of other stars. The dust consists primarily of hydrogen. These dust particles combine because of gravity, and form a bigger particle.

Because this particle is more extensive than the surrounding bits and pieces, it attracts more and more particles. This procedure is continued for about a half million years until an immense ball of hydrogen, a baby star, is fashioned, held together by the Herculean force of gravity. Throughout this process, colossal amounts of heat are created. The heat charges up the hydrogen atoms, which whiz about faster and faster, until they are travelling at such a speed, several atoms collide, overcoming all repelling forces. When hydrogen atoms collide, helium atoms are formed. Nonetheless, one helium atom is lighter than two hydrogen atoms.

The rest of the mass is converted into energy; one photon, or particle of light. The combining of hydrogen atoms is how stars make their own energy, and is commonly known as nuclear fusion. Using nuclear fusion, numerous

photons are created. These photons must find their way from the core of the Sun, through other particles, and out the crust. One photon takes thousands of years to charge through all these obstacles.

Even after passing through the crust of the Sun, the light takes around 8 minutes to find its way to Earth. Hence, when you glance at sunlight, you are actually seeing thousands of years and eight minutes into the past. The Theory of Relativity, instituted by the ingenious Albert Einstein, also abets the proof of time travelling. That's right. A simple equation, $e = mc^2$, proves that humans can travel back and forth through time.

Nevertheless, some theories based on the Theory of Relativity include an infinitely long cylinder that spins at extremely high speeds. Also known as a Tipler Cylinder, if a spacecraft makes contact with this cylinder, it will be propelled into the past or future. Unfortunately, Frank Tipler's idea requires immeasurable density and speed, and cannot be devised by means of ordinary matter. Anyway, how does this theory work? There are unbelievably complicated mathematical proofs that can be derived from the Theory of Relativity, proofs that you may perhaps learn in the future by selecting a physics course. Another simpler theory is based on the fact that light travels approximately 5, 878, 625, 370, 000 miles per hour in all directions.

This theory suggests that if we can teleport, we can effortlessly travel to (only) the past. Simply, if we want to go back one year, you teleport to a planet 5, 878, 625, 370, 000 miles away! Thus, you will see the events of last year. However, you cannot live the past; you can merely view it. This theory also possesses its share of flaws. For instance, a preponderance of the light

does not have the ability to infiltrate Earth's atmosphere. Even if we want to view the landing of Apollo 7 (the moon has no atmosphere), if an object such as a comet or star had already blocked and deflected the light, we will no longer be able to view the past.

Nevertheless, even if some light survives all these obstacles, it will be impossible to secure an accurate image of what occurred in the past. There are various ways in which a person could “travel into the future” in a limited sense. Among these methods includes constructing a technique in which a trifling amount of someone's own time is actually equivalent to a greater amount of elapsed time for Earth dwellers. For example, an extraterrestrial tourist might take a trip away from the Earth and back, the trip only lasting a few years according to the observer's own clocks, and return to find that thousands of years had passed on Earth. As a matter of fact, according to relativity, there is no specific answer as to how much time really passed during the trip; it would also be valid to say that the trip only lasted a few years, and that you really had travelled into the future, or that the trip had lasted thousands of years, depending on your reference source.

Nonetheless, this is also a currently unrealistic method, as we currently do not have access to the necessary materials to create something that can slow down time, even if $E=mc^2$ does prove it is possible. Of course, there is always the Grandfather Paradox obstructing the path to the discovery of time travel. This paradox is a hypothetical situation in which a man goes back in time, and kills his grandfather before his grandfather encountered his grandmother. As a result, the man's parents couldn't have been born, and the man himself wouldn't have been born and able to travel back into the

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past. Hence, we can determine that humans haven't accomplished a colossal amount in the mysterious, baffling subject of time travel. However, it is not time to give up yet.

Alexander Graham Bell didn't formulate the telephone on his first attempt. Thomas Edison withstood an ostensibly insurmountable quantity of failure before inventing the light bulb, and didn't let being called a "fraud" by media sojourn him from following his heart. Instead, he announced, "Genius is 1% inspiration and 99% perspiration!" We have already been inspired, and now mankind is facing the perspiration stage. Like a person who must pass through numerous stages to become an adult, we must also clear the required number of stages to become successful innovators of the futuristic "time machine". Therefore, we can conclude that it is only a matter of time before we have enough cognition to discover something that retains the ability to flawlessly escort us back and forth through time at will.