

Time Travel reading passage

Time Travel

When astronomers recently disclosed that sub-atomic particles known as neutrinos—the offspring of the sun's radiological debris—can transcend the lethal velocity, time travel pushed a little step away from speculative fiction and toward the phenomenon. The unassuming piece is on its way to becoming a rock star in the science center. It is electronically apathetic, small but with an "– anti-mass," and capable of insinuating the human form undetected.

Experimenters from the European Organisation for Nuclear Research (CERN) in Geneva sent the neutrinos hurtling through an underground corridor toward their colleagues at the Oscillation Project with Emulsion-Tracing Apparatus (OPERA) team 730 kilometers away in Gran Sasso, Italy. The neutrinos arrived expeditiously—so promptly, in fact, that they initiated what scientists are calling the unimaginable—that everything they have comprehended, understood, or taught stemming from the last 100 years in the physics discipline may need to be considered once again.

A very small period of time - specifically sixty nanoseconds - is at hand (which is sixty billionths of a second). The neutrinos were able to exert force at a constant rate and at a speed that is significantly faster than the speed of light (15,000 neutrinos were sent over three years). This demonstrates that it is conceivable to contend with light and triumph, even with a margin of error of 10 billionths of a second. The experimentation period was also taken into deliberation, and it annihilated any potential moon consequences or tidal bulges in the Earth's crust.

Nevertheless, there's an abundance of explanations to remain skeptical about. Harvard University Science historian Peter Galison said that Einstein's relativity theory is really harder than any theory in the history of physical sciences. Yet each prior challenge has come to nothing, and relativity has so far refused to buckle.

So, is time travel on the horizon? The notion has obviously moved considerably closer to reality now that a significant physical barrier - the speed of light - has been overcome. Reaching into the past is theoretically conceivable if particles can travel faster than light. However, how anyone uses that to some type of beneficial end is significantly beyond the ability of any current technology and will be left to future generations to investigate.

Certainly, any would-be time traveler would have to overcome more physical and philosophical obstacles than simply exceeding the velocity of light. One such problem, posited by René Barjavel in his 1943 text *Le Voyageur Imprudent*, is the so-called grandfather paradox. Barjavel theorized that, if it were possible to go back in time, a time traveler could potentially kill his own grandfather. If this were to happen, however, the time traveler himself would not be born, which is already known to be true. In other words, there is a paradox in circumventing an already known future; time travel is able to facilitate past actions, which means time travel itself cannot occur.

However, several plausible paths have been suggested. Time travel is conceivable within certain limits, according to Igor Novikov, the astrophysicist who developed the self-consistency principle in the 1980s. Novikov contended that every occurrence resulting in a paradox had a 0% probability. However, if travelers avoided all inconsistencies, they might "influence" rather than "alter" historical events. Averting the Titanic's disaster, for example, would nullify any future obligation to do so - it would be impossible. Saving a few people from the ocean and replacing them with realistic corpses as long as the historical record is not tampered with.

A further possibility is that of parallel universes. In the 1960s, Bryce Seligman DeWitt popularized the notion of many-worlds interpretation that holds that an alternative pathway for every conceivable occurrence actually exists. We can't expect a person if we send a person back in time because if we do that it will divert him to a new historical trajectory.

A concluding notion, of unknown origin, scrambles itself fairly effectively around the grandfather paradox. The quasi-idea proposes that if a person changed their ancestry in ways that hampered their own birth, they would simply cease to exist. They would still exist in person if they returned to the present, but any chain reactions caused by their acts would be lost. Their "chronological personality" would be obliterated.

So, will humankind ever rupture this very same limit that neutrinos do? Stephen Hawking, a universe astronomer, forecasts that once spacecraft can sail more quickly than the speed of light, humankind could potentially go millions of years into the future to inhabit the earth in the case of an imminent collapse. This is because, as the spaceships rev into the future, time would delay around them (Hawking divulges that bygone eras are off limits – this would violate the fundamental rule that cause comes before effect).

Hawking is therefore pessimistic yet optimistic. Time travel was once deemed scientific iconoclasm, and I used to avoid talking about it for fear of being labeled a crank. These days I'm not so prudent. "

Time Travel IELTS reading questions

Questions (28-33)

Do the following statements agree with the information given in Reading Passage 3?
In boxes 28–33 on your answer sheet, write

True - if the statement agrees with the information

False - if the statement contradicts the information

Not Given - if there is no information on this

28. It is non obvious where neutrinos come from.

29. Neutrinos can pass through a person's body without causing any problems.

30. To send the neutrinos from Geneva to Italy, it took scientists about 50-70 nanoseconds.

31. Researchers accounted for consequences the moon might have had on the experiment.
 32. The relativity theory has often been called into question unsuccessfully.
 33. This experiment could possibly give way to some practical uses for time travel.

Questions 34-39

Complete the table below.

For each answer, choose no more than three words from the passage.

Write your answers in boxes 34-39 on your answer sheet.

Original Theorist	Theory	Principle
Igor Novikov	Self-consistency principle	It is only possible to change history in ways that result in no 35.....
36	Many-worlds interpretation	Each possible event has an 37....., so a time traveler altering the past would simply end up in a different history branch than the one he left.
René Barjavel	Grandfather paradox	Time travel would allow for 34 that would actually make time travel without any possibilities.
Unknown	38	If a time traveler changed the past to protect and enhance his future life, he would not have a 39..... as the person never existed.

Question 40

Choose the correct letter, A, B, C, or D.

Write the correct letter in box 40 on your answer sheet.

40. Stephen Hawking has stated that

- A.** Human time travel is possible in theoretical terms but is unlikely to ever actually happen.
- B.** Human time travel could be possible, but only moving backward in time.
- C.** There is a possibility of Human time travel, but only moving forward in time.
- D.** All time travel is not possible.