## Urashima Effect: a Version

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We all know that when a human travels at a speed close to the speed of light, time slows down and so does the age process. If the travel speed is close enough to the speed of light, time slows more and more dramatically, almost to the point of stopping entirely.

What is described in the tale about the young fisherman Urashima Taro's trip to the undersea palace\* is evidence of visits of aliens to medieval Japan during the Kamakura and Muromachi

Riding on the turtle's back, Taro took in the beauty of the sea.





The author performing stage one of the Urashima effect experiment: fishing

periods. The aliens landed on Earth during the early Kamakura era and took the young fisherman on their spacecraft. Such extraterrestrial crafts at that time looked like flying saucers and thereby resembled the shape of a sea turtle. The aliens took Taro along for a few circles around the Milky Way at an unimaginable speed and performed nasty experiments on the poor guy. They wanted to find an explanation, obvious to any psychologist of the Freudian school of thought today, why, instead of beating on the outer shell of their spacecraft with sticks, like the younger generation of humans did, his brain took a different path and worked out a scheme of purchasing the unidentified lying object (ULO) for an undisclosed sum of money.

Before returning the young man to Earth a couple of hours later, the aliens erased his memory and filled it with images associated with having earthly good time: feasting and drinking in the company of beautiful young women in the surroundings of apparent wealth. When the young fisherman came

back to Earth, it turned out that three hundred years had elapsed, and the Muromachi shoguns had already established governance of the country. To Taro's great dismay, his house and mother had long been gone. He was of course still a young man, perhaps just a couple of hours older. However, relativity theory was not widely accepted in Japan at that time, and the contemporary storytellers could not admit that Taro had not aged; the risk of their losing the trust of the population and the shogunate was at stake. This is why they came up with the ridiculous story of the beautiful lacquered box that he had brought with him as a princess' gift. Some scientists at the Kavli Institute for the Physics and Mathematics of the Universe at the University of Tokyo still argue that the box was real and realized the evil plan of the aliens to scatter dark energy around our planet...

These days the effect of time dilation in the theory of relativity is sometimes called the Urashima effect.



Opening the box, Taro felt a dark energy he did not understand, but saw nothing else inside.

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A play of Japanese fable Urashima Taro Story, portrayed by past researchers at the Kavli IPMU during their Japanese class\*\* completion ceremony held in January 2012. (From left) Jyotirmoy Bhattacharya as a child in the village, Mikhail Verbitsky as Taro's father, Marcus Werner as the princess, John Kehayias as Urashima Taro, and Valentin Tonita as the turtle.

Tea Break

<sup>\*</sup> https://en.wikipedia.org/wiki/Urashima\_Tar%C5%8D

<sup>\*\*</sup>Kavli IPMU visitors have the possibility to study Japanese language and culture by taking Japanese classes with Masami Nishikawa, a Japanese Instructor at the Kavli IPMU.