Opposite Thought Experiment FLORENTIN SMARANDACHE, University of New Mexico — Let's consider the opposite case: when we have the astronaut measures the elapse interval time of the event on the earth. It is alike the rocket stands still and the Earth is moving in the opposite direction with speed v. The observer on earth measures the elapsed proper time of the event on earth, $\Delta t'_E$ The elapsed non-proper time of the event on earth as measured by the astronaut is Δt_E. Using the same calculations, with $\Delta t'_E$ and Δt_E as the elapsed proper and respectively non-proper time of the event on earth as measured by the observer on earth and respectively by the astronaut, we get: $\Delta t_E = \dfrac{\Delta t'_E}{\sqrt{1-\frac{v^2}{c^2}}}$. Therefore the time dilation is measured by the astronaut in the rocket. This result is contradictory with the time dilation on the earth from the previous thought experiment. But, according to Einstein's Thought Experiment with the Light Clocks, one has: $\Delta t = \dfrac{\Delta t'}{\sqrt{1-\frac{v^2}{c^2}}}$, where Δt is the elapsed time interval in the rocket as measured by the observer on earth, and $\Delta t'$ is the elapsed time interval in the rocket, as measured by the astronaut. Then who is right, the observer on earth or the astronaut? Where is really the time dilation: on earth or in the rocket? The advocates of special theory of relativity say that there is no answer to this question. They pretend that's okay. But what kind of theories are those that have undecidable propositions? Incomplete or inconsistent ones!

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