



Einstein's Hot Time

GREAT THEORETICIANS KNOW THAT HYPOTHESIS MUST BE CONFIRMED WITH EXPERIMENT BY STEVE MIRSKY

A well-known quote from Albert Einstein, a member of the all-time time team, is his attempt to make relativity more accessible to the layperson: "When a man sits with a pretty girl for an hour, it seems like a minute. But let him sit on a hot stove for a minute and it's longer than any hour. That's relativity."

Some serendipitous research shows that the pretty girl/hot stove line turns out to be more than just a clever musing. On a recent troll through exceedingly dusty stacks at the local library, I stumbled upon the statement in its original form. Amazingly, the pretty girl/hot stove quote is actually the abstract from a short paper written by Einstein that appeared in the now defunct *Journal of Exothermic Science and Technology* (*JEST*, Vol. 1, No. 9; 1938). Apparently, the great theoretician tried his hand, and other body parts, at experimentation to derive his simple explanation for relativity. Here now, in its entirety, is that paper.

"On the Effects of External Sensory Input on Time Dilation." A. Einstein, Institute for Advanced Study, Princeton, N.J.

Abstract: When a man sits with a pretty girl for an hour, it seems like a minute. But let him sit on a hot stove for a minute and it's longer than any hour. That's relativity.

As the observer's reference frame is crucial to the observer's perception of the flow of time, the state of mind of the observer may be an additional factor in that perception. I therefore endeavored

to study the apparent flow of time under two distinct sets of mental states.

Methods: I sought to acquire a hot stove and a pretty girl. Unfortunately, getting a hot stove was prohibitive, as the woman who cooks for me has forbidden me from getting anywhere near the kitchen. However, I did manage to surreptitiously obtain a 1924 Manning-Bowman and Co. chrome waffle iron, which is a reasonable equivalent of a hot stove for this experiment, as it can attain a temperature of a very high degree. Finding the pretty girl presented more of a problem, as I now live in New Jersey. I know Charlie Chaplin, having attended the opening of his 1931 film *City Lights* in his company, and so I requested that he set up a meeting with his wife, movie star Paulette Goddard, the possessor of a *shayna punim*, or

pretty face, of a very high degree.

Discussion: I took the train to New York City to meet with Miss Goddard at the Oyster Bar in Grand Central Terminal. She was radiant and delightful. When it felt to me as if a minute had passed, I checked my watch to discover that a full 57 minutes had actually transpired, which I rounded up to one hour. Upon returning to my home, I plugged in the waffle iron and allowed it to heat up. I then sat on it, wearing trousers and a long white shirt, untucked. When it seemed that over an hour had gone by, I stood up and checked my watch to discover that less than one second had in fact passed. To maintain unit consistency for the descriptions of the two circumstances, I rounded up to one minute, after which I called a physician.

Conclusion: The state of mind of the observer plays a crucial role in the perception of time.

Einstein scholars disagree, but the pretty girl/hot stove experiment also may have led to another of his pithy remarks, namely: "If we knew what it was we were doing, it would not be called research, would it?" Then again, Einstein was a bit of a wag. Consider his explanation of wireless communication: "The wireless telegraph is not difficult to understand. The ordinary telegraph is like a very long cat. You pull the tail in New York, and it meows in Los Angeles. The wireless is the same, only without the cat." This quote reportedly kept Schrödinger awake well past his bedtime. SA

