Week 9: Interpreting Relativity

Readings:

Additional background:

First read an excerpt from Einstein’s famous 1905 article on relativity. Does it read like a typical physics paper? Does it read like a revolutionary work? Note how Einstein uses the notions of the relative and the absolute. Why would traditional physicists find Einstein’s approach so unsettling?

Peter Galison of Harvard University is a prominent historian of physics. His article explores the cultural context of Einstein’s reevaluation of the notions of time and simultaneity. Galison discusses “two equally problematic positions on the relation of things to thoughts.” How do these two positions translate into two opposite historical explanations of Einstein’s innovation? Do you find this distinction helpful? Do you agree with Galison’s way out of this dilemma?

Loren Graham is Professor Emeritus at MIT and a leading historian of Russian science. He compares two interpretations of relativity theory in radically different political and cultural contexts. Do you agree that relativity theory was “distorted” in these interpretations? How can one distinguish between a correct and an incorrect cultural interpretation? Is there a boundary beyond which cultural interpretations of a scientific theory are no longer legitimate? Can you cite any examples of relativity reinterpreted in American culture?