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Time as a dynamical variable CHRISTOPHER THRON, Texas AM University-Central Texas — Since the time of Galileo, the equations of physics have expressed dynamical variables such as particle position or electromagnetic field strength as functions of time. In this paper, we argue that this assumption reflects observational bias, and that there are many good reasons for viewing time also as a dynamical variable. We hypothesize that the spacetime universe is an outcome of a process, rather than a process unfolding in time. This new viewpoint gives rise to a physical interpretation of the wavefunction as a complex vibrational amplitude in a non-spacetime independent variable. It resolves quantum mechanical paradoxes involving wavefunction entanglement, and gives a much simpler solution to the problem of wavefunction collapse than the many-worlds interpretation. The Born rule is also shown to be a natural consequence. We also show that small deviations from conventional quantum probabilities are predicted.

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