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Temporal asymmetry and causality

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The temporal asymmetry between past and future permeates virtually every aspect of the world of our experience. It has no counterpart, as far as we know, in the laws of fundamental physics. One reaction to this is to trace this asymmetry to a fact about the early state of the universe, either taken as a brute, unexplained fact, or as a consequence of some physical principle. In this talk I will suggest an alternate route to explaining temporally asymmetric phenomena, one that is better in accord with how work on the process of equilibration is done. This doesn't involve any hypothesis about the past, but a condition of independence of incoming influences, closely related to the concept of cause, that may be invoked at any time. I will argue that the absence of temporal asymmetry in the fundamental laws is no obstacle to explaining that asymmetry. What is invoked is a temporal asymmetry in the very notion of explanation.

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