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## Quantum processes and the flow of time

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It is often thought that the directionality of many natural processes toward what we call 'the future,' as well as our own sense of the 'flow of time,' must be attributed to the directionality of entropy increase, as codified in the Second Law of Thermodynamics. It is observed that this line of reasoning is circular, since one actually needs that sort of directedness in order to obtain the Second Law. It is argued that the origin of temporal directionality remains logically unsupported unless we allow for a fundamentally time-asymmetric process at the quantum level. That process is non-unitary 'wave function collapse'. A specific account of this non-unitarity is provided that avoids the pitfalls commonly associated with this process, and it is shown how this approach naturally yields both the directionality of temporal flow and the Second Law.

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