

Maxwell's Demon: Is It Dead Yet?

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A thought experiment by Maxwell postulated a demon that could violate the Second Law of Thermodynamics. The statistical nature of many particle systems such as a gas led to the development of statistical mechanics as a framework for understanding the macroscopic properties of systems. This is a highly successful theory that can explain, for example, the tendency for heat to flow from hot to cold objects. The existence of Maxwell's demon would undermine the principle embodied in the Second Law, so much effort has gone into creating such a demon and then more effort into what would be needed to kill each form of demon. Now 155 years after its conjuring by Maxwell, is the demon dead, mostly dead or just resting?

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