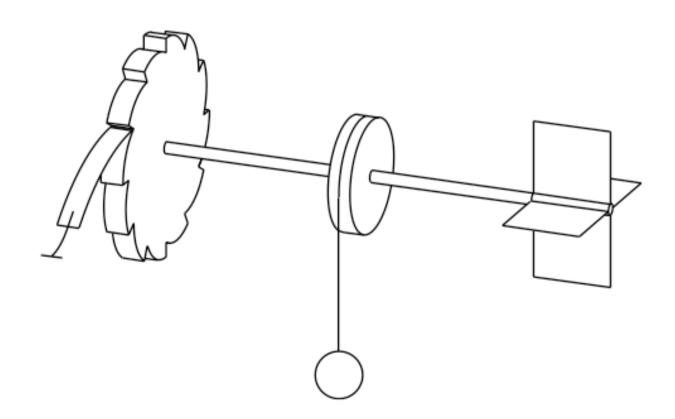
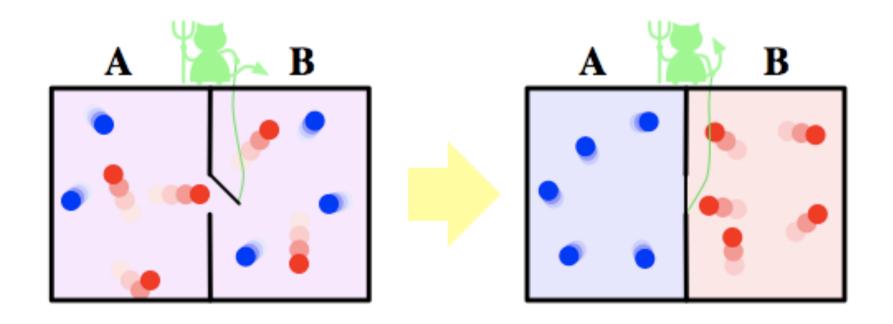
## Feynman's Ratchet and Pawl

Smoluchowski (1912)



## Maxwell's Demon

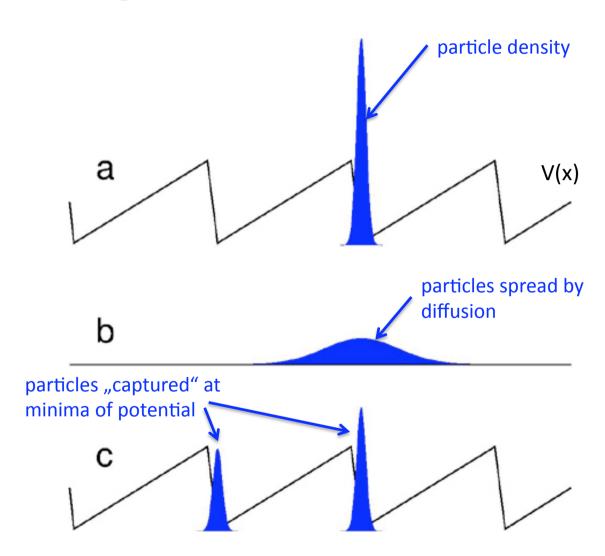


## Flashing Ratchet

potential switched on: particles at minimum of potential

potential switched off: particles diffuse (symmetrically)

Potential switched on: particles at minimum of potential



## Rocking Ratchet

