Second Law of Thermodynamics

• The entropy change (Q/T) of the system+environment ≥ 0

 \rightarrow never < 0

 \rightarrow order to disorder

Consequences

A "disordered" state cannot spontaneously transform into an "ordered" state

No engine operating between two reservoirs can be more efficient than one that produces 0 change in entropy. This is called a "Carnot engine"