

## Chapter 19

### 1 The First Law of Thermodynamics

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In a thermodynamic process,  $Q$  is positive when heat flows **into** a system, and negative when heat flows **out** of the system.

Work  $W$  is **positive** when work is done by the system against its surroundings, and hence corresponds to energy leaving the system.  $W$  is negative when work is done on the system.