

merely to transference and transformation, and can only be increased or diminished by passing fresh energy in or out through the walls of the system. So far from this being self-evident, it required very careful measurement and experimental proof to demonstrate the fact, for in common experience the energy of a system left to itself continually to all appearance diminishes; yet it has been skilfully proved that when the heat and every other kind of product is collected and measured, the result can be so expressed as to show a total constancy, appertaining to a certain specially devised function called "energy," provided we know and are able to account for every form into which the said energy can be transformed by the activity going on. A very important generalisation truly, and one which has so seized hold of the mind of the physicist that if in any actual example a disappearance or a generation of energy were found, he would at once conclude either that he had overlooked some known form and thereby committed an error,