So in the case of liquefaction or evaporation, besides the heat which has its equivalent in the motions of liquidity and gaseity, an amount has also disappeared in working against the ether pressure which exists in the states of solidity and liquidity—that is to say, it has disappeared in setting the ether in motion.

When the source of heat is removed the motion of the molecules is gradually communicated to the ether and to surrounding bodies; in other words, the heated body loses heat by radiation and conduction, while at the same time the pressure of the ether—consisting, be it remembered, really of blows of the ether atoms—is driving the molecules back into their original positions. How this pressure can be exerted so as always to force the molecules back into positions similar to what they occupied before heat was applied, we do not profess to explain; but it seems just as possible as that sounds should be conveyed in all directions without intermingling by means of a medium, whose action is acknowledged not to depend on any mysterious forces of cohesion or repulsion, but simply on the number, masses, velocities and collisions of its particles.

It will be observed that what is usually termed the conversion of actual into potential energy in explaining the above phenomena, is considered in the contact theory as consisting partly of the transfer of actual energy to the molecules in the form of motions of liquidity or gaseity, and partly of the transfer of the same kind of energy to the ether, the pressure of which resisted the separation of the molecules.

It is no more necessary to consider that the actual energy thus transferred to the ether should consist of motions capable of affecting the thermometer, than that the act of drawing a piston in an air-tight tube against the pressure of the atmosphere, should cause a sound wave.

Why we object to retaining the term potential energy in the case of a body which has been moved through a certain space against a certain pressure, as in the instance considered above, is this. The term would imply that the pressure was always in existence, and ready to move the body back again as soon as the prime mover was removed; now this may be so, or may not. It is a mere accidental circumstance that has nothing to do with the doctrine of conservation of energy. This principle simply asserts that the energy of the prime mover was transferred to the body moved, which in turn transferred it to the bodies which caused the resisting pressure, they