called sensible, the other latent heat, or, more properly, constituent caloric.

LATENT HEAT.

Although the presence of latent heat cannot be proved by any sensible effect, yet there are proofs of its existence, and a knowledge of its action will illustrate many of the phenomena observed in nature. The mention of an experiment will perhaps better illustrate the kind of influence which it exerts upon matter than any description. Take a vessel containing ice, and plunge it into mercury at the temperature of 200°, and place a thermometer in both the water and the mercury, and watch the effect produced upon them. There will be immediately a conduction of sensible heat from the mercury to the ice, the thermometer in the mercury will begin to fall, and it might be expected that the one in the ice would begin to rise, but this does not happen; it remains stationary, though the ice melts rapidly. By the time that the ice is melted, the thermometer in the mercury will have fallen considerably, though that in the ice will still be at the freezing point, the temperature of the water being the same as the ice, though the mercury has communicated to it so much sensible heat. Only one opinion can be formed as to the application of the heat which has been received by the ice; it has entered among its constituent particles, and has a latent existence. A certain quantity of caloric is required for the performance of the process of liquefaction, and on this account it has been sometimes called the caloric of fluidity. Nor is it more singular that the agent should lose its power of affecting the senses and the thermometer, than that the properties of two or more elements should be destroyed in chymical combinations.

From these facts it may be deduced, that in the process of freezing as much heat must be given out as is received in liquefaction, an opinion which may be easily verified by submitting water to mercury that has been reduced to a temperature below the freezing point.

It is not difficult to determine the quantity of heat absorbed by a body, water for instance, during liquefaction. Take two equal vessels, one containing an ounce of water at 32°, the other an ounce of ice, and immerse them, each vessel having a thermometer, in a mercurial bath raised to a high temper-