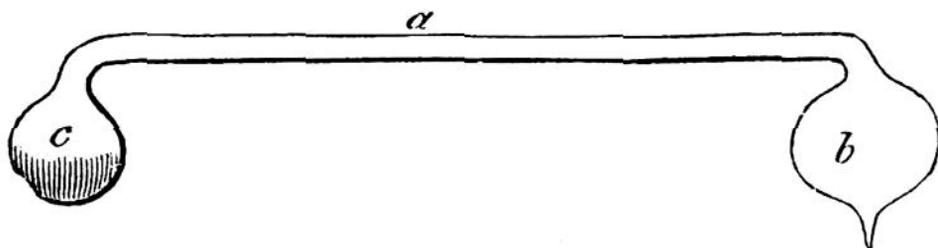


length. From the bottom of one of these, *b*, there proceeds a small tube, through which a liquid, water being usually employed, is introduced. When removed to the opposite bulb, *c*, it is boiled, so that the whole of the instrument may be



filled with its vapour, and then the tube is hermetically sealed. Now if the water be accumulated in one bulb, and the opposite be immersed in a freezing mixture, the vapour will be rapidly condensed and a vacuum be formed; new vapour is then produced, causing an abstraction of caloric to so great a degree as to freeze the water. This philosophical toy very admirably proves that temperature is lowered by evaporation.

We have not attempted to give the reader a systematical explanation of the science of heat, but only to describe those facts which may enable him to understand the appearances that result from the existence and action of the agent. Some of the statements which have been made may appear to have little or no relation to atmospherical phenomena, but the reader will be able to decide whether this be true or not when he has read to the end of the chapter.

The various circumstances under which caloric acts upon bodies, and the subtlety of its influence, have prevented the natural philosopher from tracing with precision its agency in many changes, which are no doubt in some degree dependant upon it. When investigating the appearances presented by external material objects, it is possible to give an undue prominence to those occult agents which are supposed to hold control over matter, without attention to the influence which matter may have upon them in subduing or restraining their effects. The reader need not then be surprised that our knowledge of the phenomena which are most common should be so limited, but rather that there is a trace of certainty upon the surface of some of our speculations.