in the thermometer swells and rises in the tube; and shrinks and retires in proportion to the diminution of heat. Water in a kettle, placed over a fire, is seen to boil up to double the original volume, and, on being removed, to return to its first dimensions.

As fluids are composed of particles without continuity, and whose adhesion is feeble, they are more sensibly affected by the presence of heat than solid substances. The same degree of heat that would produce a scarcely perceptible expansion of a bar of iron, would cause a quantity of water, which but half filled a kettle, to boil over, and would raise the mercury of a thermometer several hundred degrees, if sufficiently long to admit of such a range; also, that degree of heat which will raise mercury 10° will raise spirits of wine 12° or 13° . The latter fluid recedes farther from a state of solidity than the former.

EVAPORATION.

It cannot fail to be objected, that, notwithstanding the sun's heat generally dilates all matters within its reach, yet, in regard to fluids, the presence of heat tends chiefly to raise portions of them into vapour. The objection is well founded in regard to small quantities of fluid: for instance, a bason of water. In this case, the rays of the sun are reverberated from the sides of the bason, and the diffusive motion of the heat being only upwards, the particles of the water are soon dispersed.

Not so with the vast oceans that cover the globe.