

substance is apt to be extruded again when the liquid cools, and when the affinity of the water-aggregates for each other resumes its sway. Very hot water can dissolve not only the substances familiarly known to be soluble in water, but it can dissolve things like glass also; so that glass vessels are unable to retain water kept under high pressure at a very high temperature, approaching a red heat.

Another material which also seems to have the power of combining with a number of other bodies, under the influence of the loose mode of chemical combination spoken of as residual affinity, is carbon; so that a block of charcoal can absorb hundreds of times its own bulk of certain gases.

Indeed, Sir James Dewar has recently employed this absorbing power of very cold carbon to produce a perfect kind of vacuum, which may, perhaps, be the nearest approach to absolute vacuum that has yet been attained: probably higher than can be attained by any kind of mechanical or mercury pump.