mixture of only 1.14 per cent of water reduced the temperature of fusion by 20°, while by increasing the proportion of water to 29.07 per cent he lowered the melting-point to 97.6°, and he concluded that "the phenomenon of fusion is nothing more than an extreme case of liquefaction by solution." He could see no reason why water should not exist even at the earth's centre, for even granting that it has a "critical temperature," still, "at high pressures it will be compressible as a vapor to a density at least as great as that of liquid water." He concluded that "water at a high temperature may not only play the part of a solvent in the ordinary restricted sense, but that there is in many cases no limit to its solvent faculty; in other words, that it may be mixable with certain rocks in all proportions; that solution and mixture are continuous with one another, in some cases at temperatures not above the temperature of fusion of those bodies per se." 29

Prof. Guthrie was disposed to doubt whether the replenishment of water by capillary descent from the surface was necessary for the production of these phenomena of fusion and volcanic eruption. Prof. Daubrée's experiments, however, enable us to see how the supply of water may be kept up from superficial sources, while from those of Prof. Guthrie we learn that when the descending water reaches masses of highly-heated but still solid rock, it may allow them to pass into a fused condition and to exert a powerful expansive force on the overlying crust.

Artificial production of minerals.—As the result of experiments, both in the dry and moist way, various minerals have been produced in the crystalline form. Among the miner-

⁹⁹ Phil. Mag. xviii. (1884), p. 117.