

the other hand, both constant and definite. The determination of this point, as a datum for the moisture of the atmosphere, was employed by Le Roi, and by Dalton (1802), the condensation being obtained by cold water:²³ and finally, Mr. Daniell (1812) constructed an instrument, where the condensing temperature was produced by evaporation of ether, in a very convenient manner. This invention (*Daniell's Hygrometer*) enables us to determine the quantity of vapor which exists in a given mass of the atmosphere at any time of observation.

[2nd Ed.] [As a happy application of the Atmological Laws which have been discovered, I may mention the completion of the theory and use of the *Wet-bulb Hygrometer*; an instrument in which, from the depression of temperature produced by wetting the bulb of a thermometer, we infer the further depression which would produce *dew*. Of this instrument the history is thus summed up by Prof. Forbes:—"Hutton invented the method; Leslie revived and extended it, giving probably the earliest, though an imperfect theory; Gay-Lussac, by his excellent experiments and reasoning from them, completed the theory, so far as perfectly dry air is concerned; Ivory extended the theory; which was reduced to practice by Auguste and Bohnenberger, who determined the constant with accuracy. English observers have done little more than confirm the conclusions of our industrious Germanic neighbors; nevertheless the experiments of Apjohn and Prinsep must ever be considered as conclusively settling the value of the coefficient near the one extremity of the scale, as those of Kæmtz have done for the other."²⁴

Prof. Forbes's two Reports *On the Recent Progress and Present State of Meteorology* given among the *Reports of the British Association* for 1832 and 1840, contain a complete and luminous account of recent researches on this subject. It may perhaps be asked why I have not given Meteorology a place among the Inductive Sciences; but if the reader refers to these accounts, or any other adequate view of the subject, he will see that Meteorology is not a single Inductive Science, but the application of several sciences to the explanation of terrestrial and atmospheric phenomena. Of the sciences so applied, Thermotics and Atmology are the principal ones. But others also come into play; as Optics, in the explanation of Rainbows, Halos,

²³ Daniell, *Met. Ess.* p. 142. *Manch. Mem.* vol. v. p. 581.

²⁴ *Second Report on Meteorology*, p. 101.