

events in the modern history of physics. Of this step the principal merit appears to belong to Black.

[2nd Ed.] [In the first edition I had mentioned the names of De Luc and of Wilcke, in connexion with the discovery of Latent Heat, along with the name of Black. De Luc had observed, in 1755, that ice, in melting, did not rise above the freezing-point of temperature till the whole was melted. De Luc has been charged with plagiarizing Black's discovery, but, I think, without any just ground. In his *Idées sur la Météorologie* (1787), he spoke of Dr. Black as "the first who had attempted the determinations of the quantities of latent heat." And when Mr. Watt pointed out to him that from this expression it might be supposed that Black had not discovered the fact itself, he acquiesced, and redressed the equivocal expression in an Appendix to the volume.<sup>5</sup>

Black never published his own account of the doctrine of Latent Heat: but he delivered it every year after 1760 in his Lectures. In 1770, a surreptitious publication of his Lectures was made by a London bookseller, and this gave a view of the leading points of Dr. Black's doctrine. In 1772, Wilcke, of Stockholm, read a paper to the Royal Society of that city, in which the absorption of heat by melting ice is described; and in the same year, De Luc of Geneva published his *Recherches sur les Modifications de l'Atmosphere*, which has been alleged to contain the doctrine of latent heat, and which the author asserts to have been written in ignorance of what Black had done. At a later period, De Luc, adopting, in part, Black's expression, gave the name of *latent fire* to the heat absorbed.<sup>6</sup>

It appears that Cavendish determined the amount of heat produced by condensing steam, and by thawing snow, as early as 1765. He had perhaps already heard something of Black's investigations, but did not accept his term "latent heat."]

The consequences of Black's principle are very important, for upon it is founded the whole doctrine of evaporation; besides which, the principle of latent heat has other applications. But the relations of aqueous vapor to air are so important, and have been so long a sub-

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<sup>5</sup> See his *Letter* to the Editors of the *Edinburgh Review*, No. xii. p. 502, of the *Review*.

<sup>6</sup> See *Ed. Rev.* No. vi. p. 20.

<sup>7</sup> See Mr. V. Harcourt's *Address* to the Brit. Assoc. in 1839, and the *Appendix*.