by the school of which Laplace was the most distinguished representative, natural philosophers like Black,[1] Rumford, and Davy had approached the study of those phenomena where heat and chemical change are the prominent features. The phenomena which they studied experimentally can be comprehended under the head of the disappearance and appearance of heat as measured by the thermometer, or as recognisable directly by our sensation of heat. Black accounted for the disappearance of heat by the doctrine of latent heat, and measured this by the capacity[2] for heat, or the specific heat of different substances. Rumford made exact measurements of the heat generated by friction, and showed that Black's doctrine of latent heat did not account for it. Both Black and Rumford were led to science from the side of practical interests. Black, like Young after him, was a physician. Rumford was all through his life occupied with the

7. Black, Rumford, and Davy.

[1] Joseph Black (1728-99), one of the founders of chemistry, and a prominent figure in that illustrious circle of philosophers who, during the second half of the eighteenth century, made the literature and science of Scotland renowned over the whole world, published very little, being mostly known through his teaching and his pupils. His name is, even to the present day, rarely to be found in French books; whereas in Germany, mainly owing to the historical writings of Herrmann Kopp, and quite recently of Prof. E. Mach, his great merit and originality have been fully recognised. See Kopp, 'Geschichte der Chemie,' vol. i. p. 226, &c.; 'Die Entwickelung der Chemie,' 1873, pp. 57, &c., 88, &c.; E. Mach, 'Die Principien der Wärmelehre,' 1896, p. 156, &c. Black, who as early as 1755 had shown that carbonic acid gas could disappear as a gas and become "fixed," showed later that heat could disappear as temperature and become "latent." By himself, indeed, the former important discovery was not interpreted against the then reigning phlogistic theory, nor was the latter used to upset the material theory of heat. Now, however, both discoveries are corner-stones in the history of science.

[2] According to Dr Young ('Lectures,' new ed., p. 499), the term "capacity" is due to Dr Irvine, who, as well as Dr Crawford, was much influenced by Black's lectures. These were first published in 1802 by Robison, three years after the author's death.