practical application of scientific knowledge. Black's experiments and measurements contributed largely to fix the difference between temperature and quantity of heat; he demonstrated clearly that heat may disappear in the form of temperature and exist as latent heat, that is, heat not discoverable by the thermometer. He, however, adhered to the view that heat was a material substance, which, though it might become latent, did not disappear as such. Rumford [1] was the first who definitely went a step further and suggested the convertibility of heat and mechanical work. It was not the disappearance of heat but its appearance when mechanical work was performed which attracted his attention. After eliminating all the sources from which the heat produced during the boring of cannon could have been derived, he comes to the conclusion that "it appears to be extremely difficult, if not quite impossible, to form any distinct idea of anything capable of being excited and communicated in the manner the heat was excited and communicated in those experiments, except it be motion." Davy, who, like Black, approached science in the interests of the medical man, comes to the conclusion in his first published papers, from experiments on the generation

[1] Count Rumford's "Inquiry concerning the Source of the Heat which is excited by Friction" was published in a later edition of his 'Essays.' The experiments with the boring of cannon were carried on at Munich in 1796 and 1797; the substance of the essay was read before the Royal Society in January 1798. The 'Essays' were republished in America and translated into several foreign languages. See Rumford's 'Works,' London, 1876, vol. i. p. 482, and vol. ii. p. 471. In 1804 Count Rumford published, in his 'Mémoires sur la Chaleur' (Paris, an. 13), a "Historical Review of the Various Experiments on Heat" ('Works,' vol. iii. pp. 138-240).