

- been speculated upon since the time of Aristotle, and placed it upon the true basis of physical experiment.
- II. He first proved the insufficiency of the current explanations of the sources of heat, and demonstrated the falsity of the prevailing view of its materiality.
 - III. He first estimated the quantitative relation between the heat produced by friction and that by combustion.
 - IV. He first showed the quantity of heat produced by a definite amount of mechanical work, and arrived at a result remarkably near the finally-established law.
 - V. He pointed out other methods to be employed in determining the amount of heat produced by the expenditure of mechanical power, instancing particularly the agitation of water, or other liquids, as in churning.
 - VI. He regarded the power of animals as due to their food, therefore as having a definite source and not created; and thus applied his views of force to the organic world.
 - VII. Rumford was the first to demonstrate the quantitative convertibility of force in an important case; and the first to reach, experimentally, the fundamental conclusion that heat is but a mode of motion.

“ In his late work upon heat, Prof. Tyndall, after quoting copiously from Rumford's paper, remarks: ‘ When the history of the dynamical theory of heat is written, the man who, in opposition to the scientific belief of his time, could experiment, and reason upon experiment, as did Rumford in the investigation here referred to, cannot be lightly passed over.’ Had other English writers been equally just, there would have been less necessity for the foregoing exposition of Rumford's labors and claims; but there has been a manifest disposition in various quarters to obscure and depreciate them. Dr. Whewell, in his history of the Inductive Sciences, treats the subject of thermotics without mentioning him. An eminent Edinburgh professor, writing recently in the *Philosophical Magazine*, under the confessed influence of ‘ patriotism,’ undertakes to make the dynamical theory of heat an English monopoly, due to Sir Isaac Newton, Sir Humphrey Davy, and Dr. J. P. Joule; while an able writer in a late number of the *North British Review*, in sketching the historic progress of the new views, puts Davy forward as their founder, and assigns to Rumford a minor and subsequent place.”