

able and most important uses remain to be discovered among the materials and objects already known to us, as well as among those which the progress of science must hereafter disclose, we may hence conceive a well-grounded expectation, not only of constant increase in the physical resources of mankind, and the consequent improvement of their condition, but of continual accessions to our power of penetrating into the arcana of nature, and becoming acquainted with her highest laws.

CHAP. V.

OF THE IMPONDERABLE FORMS OF MATTER.

Heat.

(344.) ONE of the chief agents in chemistry, on whose proper application and management the success of a great number of its inquiries depends, and many of whose most important laws are disclosed to us by phenomena of a chemical nature, is HEAT. Although some of its effects are continually before our eyes as matters of the most common occurrence, insomuch that there is scarcely any process in the useful arts and manufactures which does not call for its intervention; and although, independent of this high utility, and the proportionate importance of a knowledge of its nature and laws, it presents in itself a subject of the most curious speculation; yet there is scarcely any physical agent of which we have so imperfect a knowledge, whose intimate nature is more hidden, or whose laws are of such delicate and difficult investigation.

(345.) The word *heat* generally implies the sensation which we experience on approaching a fire; but, in the sense it carries in physics, it denotes the cause, whatever it be, of that sensation, and of all the other phenome-