

the essential part of the oxygen theory. It is a strong proof of the steadiness and clearness with which the advocates of the new system possessed their principles, that they immediately translated this work, adding, at the end of each chapter, a refutation of the phlogistic doctrines which it contained. Lavoisier, Berthollet, De Morveau, Fourcroy, and Monge, were the authors of this curious specimen of scientific polemics. It is also remarkable evidence of the candor of Kirwan, that notwithstanding the prominent part he had taken in the controversy, he allowed himself at last to be convinced. After a struggle of ten years, he wrote¹⁰ to Berthollet in 1796, "I lay down my arms, and abandon the cause of phlogiston." Black followed the same course. Priestley alone, of all the chemists of great name, would never assent to the new doctrines, though his own discoveries had contributed so much to their establishment. "He saw," says Cuvier,¹¹ "without flinching, the most skilful defenders of the ancient theory go over to the enemy in succession; and when Kirwan had, almost the last of all, abjured phlogiston, Priestley remained alone on the field of battle, and threw out a new challenge, in a memoir addressed to the principal French chemists." It happened, curiously enough, that the challenge was accepted, and the arguments answered by M. Adet, who was at that time (1798,) the French ambassador to the United States, in which country Priestley's work was published. Even in Germany, the birth-place and home of the phlogistic theory, the struggle was not long protracted. There was, indeed, a controversy, the older philosophers being, as usual, the defenders of the established doctrines; but in 1792, Klaproth repeated, before the Academy of Berlin, all the fundamental experiments; and "the result was a full conviction on the part of Klaproth and the Academy, that the Lavoisierian theory was the true one."¹² Upon the whole, the introduction of the Lavoisierian theory in the scientific world, when compared with the great revolution of opinion to which it comes nearest in importance, the introduction of the Newtonian theory, shows, by the rapidity and temper with which it took place, a great improvement, both in the means of arriving at truth, and in the spirit with which they were used.

Some English writers¹³ have expressed an opinion that there was

¹⁰ Pref. to Fourcroy's *Chemistry*, xiv. ¹¹ Cuvier, *Eloge de Priestley*, p. 208.

¹² Thomson, vol. ii. p. 136.

¹³ Brande, *Hist. Diss. in Enc. Brit.* p. 182. Lunn, *Chem. in Enc. Met.* p. 596.