

theory has been gradually defined and variously modified in the course of this century, and is still in a somewhat unstable condition. We are also bound to attach the greatest importance to the preliminary step taken by Lavoisier, who is even more justly called the father of modern chemistry than Kepler is called the father of modern astronomy.

3.
Lavoisier.

The exact claims of Lavoisier to this important place in the history of chemistry have been variously stated:¹

¹ Continental writers are pretty unanimous in dating modern chemistry from the time of Lavoisier (1743-1794). In this country there has been less unanimity, the names of Black, of Cavendish, of Priestley, even of Robert Boyle, having occasionally been put forward. The fact that Lavoisier did not sufficiently acknowledge his indebtedness to some of his English contemporaries has given occasion in some quarters to depreciation of his merits. It cannot be upheld that he was the first formally to express the doctrine of the indestructibility or conservation of matter, as this idea underlay many experimental researches before his time; nor that he was the first to refer to the balance as the ultimate test of chemical facts. The assertion that he first introduced the idea of two different kinds of matter, ponderable and imponderable, is also questionable, and still more so his claim to having discovered oxygen, the composition of water and of atmospheric air, the combustibility of the diamond, and other special facts. His fame rests upon a much broader basis, and has been most clearly investigated and settled by Hermann Kopp in his 'Entwicklung der Chemie in der neueren Zeit' (München, 1873).

In this excellent work the author somewhat modifies the view he took in his earlier 'Geschichte der Chemie' (Braunschweig, 1843, especially vol. i. p. 274, &c.), and sums up Lavoisier's merit in the following words (p. 145): "His contemporaries could dispose of the same inherited and much new material, but not one of them understood how to build up out of this material and his own independent researches a chemical system, the reception of which should form the starting-point for all future improvement of this science. Lavoisier has the whole merit of having achieved this. He added to his own recognition of the correct views the work of procuring recognition for them from others. He imparted his own matured views to those who represented chemistry at the end of the last century. . . . We must measure his greatness not merely by his own insight but also by the resistance which he had to overcome in other chemists who clung to the older theory. These achievements are great enough not to require the exaggeration with which they have occasionally been announced, and not to be touched by attempts on the other side to minimise them."