

of what he had done; and, in 1826, two medals for the encouragement of science having been placed at the disposal of the Royal Society by the King of England, one of them was assigned to Dalton, "for his development of the atomic theory." In 1833, at the meeting of the British Association for the Advancement of Science, which was held in Cambridge, it was announced that the King had bestowed upon him a pension of 150*l.*; at the preceding meeting at Oxford, that university had conferred upon him the degree of Doctor of Laws, a step the more remarkable, since he belonged to the sect of Quakers. At all the meetings of the British Association he has been present, and has always been surrounded by the reverence and admiration of all who feel any sympathy with the progress of science. May he long remain among us thus to remind us of the vast advance which Chemistry owes to him!

[2nd Ed.] [Soon after I wrote these expressions of hope, the period of Dalton's sojourn among us terminated. He died on the 27th of July, 1844, aged 78.

His fellow-townsmen, the inhabitants of Manchester, who had so long taken a pride in his residence among them, soon after his death came to a determination to perpetuate his memory by establishing in his honor a Professor of Chemistry at Manchester.]

Sect. 3.—The Theory of Volumes.—Gay-Lussac.

THE atomic theory, at the very epoch of its introduction into France, received a modification in virtue of a curious discovery then made. Soon after the publication of Dalton's system, Gay-Lussac and Humboldt found a rule for the combination of substances, which includes that of Dalton as far as it goes, but extends to combinations of gases only. This law is the *theory of volumes*; namely, that gases unite together *by volume* in very simple and definite proportions. Thus water is composed exactly of 100 measures of oxygen and 200 measures of hydrogen. And since these simple ratios 1 and 1, 1 and 2, 1 and 3, alone prevail in such combinations, it may easily be shown that laws like Dalton's law of multiple proportions, must obtain in such cases as he considered.

[2nd Ed.] [M. Schröder, of Mannheim, has endeavored to extend to solids a law in some degree resembling Gay-Lussac's law of the volumes of gases. According to him, the volumes of the chemical equivalents