

of modern chemistry, who next to Lavoisier did more than any one else to introduce into this science mathematical ideas, John Dalton, grew old and infirm before his countrymen sufficiently recognised and honoured him. Deprived of all but the very meanest apparatus for the proofs of his theories, and yet able to do what he did, what might not such a genius have accomplished if he had possessed the means of a Gay-Lussac or a Regnault? ¹

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in 1814, has been well established. See Benfey, 'Geschichte der Sprachwissenschaft' (München, 1869, p. 729). Bunsen pronounced his verdict in his well-known work, 'Egypt's Place in Universal History,' published in 1845-57. On the whole, the words of Peacock, 'Life of Dr Young' (London, 1855), p. 472, are still correct: "His scientific works were rarely read and never appreciated by his contemporaries, and even now are neither sufficiently known nor adequately valued; whilst if justice was awarded more promptly and in more liberal measure by his own countrymen to his hieroglyphical labours, these also were singularly unfortunate, as far as concerned the general diffusion of his fame, by coming into collision with adverse claims, which were most unfairly and unscrupulously urged in his own age, and not much less so by some distinguished writers in very recent times."

¹ John Dalton (1766-1844), a native of Cumberland, spent the greater part of his life in teaching elementary mathematics at Manchester, first at a college and then privately. In 1801 he propounded the law known under the joint name of Dalton and Gay-Lussac (who stated it six months later). In the years immediately following he elaborated his atomic theory, which was to account for the existence of

those definite quantitative relations between the chemical constituents of bodies known already to Richter. It was published in 1805. But the man who did most to make known to chemists the ideas of Dalton was Thomas Thomson (1773-1852), Professor of Chemistry at Glasgow, who in 1807, in the 3rd edition of his 'System of Chemistry,' gave an account of the atomic theory based upon communications of Dalton. Two memoirs published in the 'Philosophical Transactions' of 1808—one by Thomson on "Oxalic Acid," and one by Wollaston on "Super-Acid and Sub-Acid Salts"—pointed to the great importance of the atomic theory, which (Wollaston prophetically added) would not stop short with the determination of the relative weights of elementary atoms, but would have to be completed by a geometrical conception of the arrangement of the elementary particles in all the three dimensions of solid extension. The real merit of having experimentally proved the theory of Dalton belongs to Berzelius, whereas Sir Humphry Davy opposed it for many years after it had been accepted abroad. Dalton himself by no means followed the development which his ideas underwent at the hands of others. For example, he opposed Gay-Lussac's law of volumes. He was on the whole more successful in working out his own