

constantly occupied in endeavoring to obtain a knowledge of the laws which express the chemical and physical properties of gases. Here it was, he plainly saw, rather than in the case of solids or liquids, that light would come, and to this he bent all the powers of his being. These were sterling honesty of purpose, inflexibility of will, clear-sightedness, and complete devotion to his subject. "If," says he in his later life, "I have succeeded better than many who surround me, it has been chiefly—nay, I may say, almost solely—from unwearied assiduity. It is not so much from any superior genius that one man possesses over another, but more from attention to study, and perseverance in the objects before them, that some men rise to greater eminence than others." And these words are true enough, although perhaps not expressing the whole truth; for in order to accomplish the greatest things of all something more than mere plodding is wanted. The "Divinis Afflatus" must be there, and the scientific imagination must be vivid, if more than a glimpse of Nature's secret ways is to be disclosed. As to how far this power of inspiration was carried in Dalton's case, opinions may differ. Some may look upon him only as a slow-witted worker, having but little knowledge or interest beyond the immediate results of his experiments. Others may consider him as one of the great seers of science, dwelling constantly in a realm of thought far beyond the ordinary habitations of mankind, and bringing down for their benefit some of the sweet fruits of a higher world. Probably the truth will be found to lie between these two extremes. All, however, will agree that genius or intellectual insight can accomplish little without perseverance, and that this

latter was possessed in high degree by Dalton.—SIR HENRY E. ROSCOE, LL. D., F. R. S.

DALTON'S GREAT ACHIEVEMENT

Nevertheless, in spite of his rough methods of experimentation, Dalton's results stand out the greatest landmarks in our science. His great achievement was that he was the first to introduce the idea of quantity into chemistry. It has been said, and with truth, that the Atomic Theory is almost as old as the hills. True, but no one before Dalton used the theory of atoms to explain chemical phenomena. To him is due the glory of placing the science on a firm basis, by showing that the weights of the atoms of the different elements are not identical, but different, and that combination amongst these elements takes place, if more than one compound be formed of the same elements, in simple arithmetical proportion.

In the case of almost every great scientific discovery, many men's minds have been working in the same direction, and it often becomes a question of interest to discuss how far the acknowledged discoverer had been assisted, or even anticipated, by those who had gone before him. Such a discussion has been raised in this instance. Some have even asserted that Dalton was a plagiarist, and that the credit of the establishment of a chemical Atomic Theory belonged to others. This is not the place to discuss the question at length. It must suffice here to state that a careful consideration of all the circumstances has led to the conclusion that Dalton arrived independently at his important results, and that whilst others had ex-