THE STORY OF ISOTOPES

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This chapter in the history of science contains much to interest the philosopher and offers many illustrations of that interplay of theory and experiment by which advance takes place. Theory is the scaffolding of science, and just as in ordinary building operations, though some parts of it may only be used for a short time before removal, others may function for so long a period that they may well be mistaken for the permanent structure itself. The postulate of Dalton (1803) that atoms of the same element are equal in weight is a good example of very permanent scaffolding. For over a hundred years it was practically undisputed and on it was founded the major part of atomic chemistry.

About ten years later Prout made the more speculative suggestion that all atoms were made up of pri-

1 Address of the president of the Section of Mathematical and Physical Sciences, British Association for the Advancement of Science, Norwich, September, 1935.