PREFACE

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ful hypothesis of Democritus. The beginner is liable to consider that he has made great advance when he has learned to call water H_2O , though the probability is that he has no idea why the formula is given, and has very vague notions as to its real meaning and significance.

The endeavour is made in this little book to help the pupil in the discovery of new facts, to enable him to see their connections, and to show how facts lead to theory, and theory aids in investigation and in the discovery of further facts. The subject is presented in what seems to me the correct perspective, theory being subordinated to fact.

The order in which the various topics are taken up appears to me to be the most simple. Water is first discussed, as being one of the most common substances, and one with whose properties the pupil is already somewhat familiar. Thereafter follows the consideration of hydrogen and oxygen, the latter leading up to the study of air and its constituents. Throughout the book the arrangement is equally simple. Definitions are brought in as they are needed and as they arise from consideration of the facts investigated. No mention of the atomic theory is introduced until the study of a large number of facts has afforded an intelligible basis for it, until, indeed, the pupil has in his possession most of the facts upon which Dalton founded the theory. He is thus enabled to obtain an accurate view of the real meaning of formulæ and an ability to use them correctly.

One of the difficulties of many students in the continued pursuit of chemistry after leaving school is that they have to unlearn a good many things that they have learned (or mislearned) in their early study. It is hoped that the student of this book will have no such experience, but that he will have laid a thoroughly solid foundation with no crumbling stones

vi