A HISTORY OF CHEMICAL THEORY FROM THE AGE OF LAVOISIER TO THE PRESENT TIME

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CHEMICAL THEORY.

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FROM THE AGE OF LAVOISIER TO

THE PRESENT TIME.

BY

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PREFACE.

THE graphic History of Chemical Theory here presented to the English reader, forms the Introductory Discourse to M. Wurtz's 'Dictionnaire de Chimie.' Though the opening sentences may be thought to savour too strongly of national partiality, it will nevertheless be found that the Author has habitually done full justice to the labours of chemists belonging to other nations. One or two discoveries having important bearings on the development of chemical theory have however been passed over, and these the Translator has endeavoured to elucidate by a few additional notes.

LONDON: *February* 1869.

HISTORY

OF

CHEMICAL THEORY

FROM THE TIME OF LAVOISIER.

INTRODUCTION.

CHEMISTRY is a GERMAN science. It was founded by Lavoisier, of immortal memory.* For ages, it had been nothing but a collection of obscure receipts, often fallacious, used by the Alchemists, and afterwards by the Iatrochemists. Vainly had a great mind, George Ernest Stahl, endeavoured, at the commencement of the eighteenth century, to give it a scientific foundation. His system could not stand the test of facts or the searching criticism of Lavoisier.

The work of Lavoisier is complex: he was at once the author of a new theory and the creator of the true method in chemistry; and the superiority of the method gave wings to the theory.

* Note A, at the end.

Sprung from exact observation of the phenomena of combustion, this theory was able to embrace all important facts known at that epoch. It had within itself both exactness and scope; it has become a system. After fifteen years of strife, its triumph was complete, and it remained unquestioned for more than half a century: the master found great disciples to consolidate and develop his work. Nevertheless, a part of the science remained beyond the reach of their efforts, and of the system, which was more especially applicable to inorganic compounds. Organic chemistry was at that time limited to the qualitative description of principles extracted from products of vegetable and animal origin. The genius of discovery had indeed amassed a quantity of precious materials; but the science, which was to co-ordinate them, was not yet born. The very elements of this co-ordination were still wanting, and could be furnished only by the study of the metamorphoses of organic compounds. To discover the atomic constitution of organic compounds, and thereby to explain their properties, and establish their relations, is the object of Organic Chemistry; and this object is attained by determining the nature and number of the constituent atoms of organic compounds, and by studying their modes of formation and transformation.

This great work was not really begun till about

the year 1830; but from that time it has been carried on with vigour and success. It is not yet finished. But what a mass of facts has been accumulated during this long space of time! No memory can at present retain them all; and it may be said, without exaggeration, that, since the time of Lavoisier, the wealth of the science has been increased a hundredfold. Hence, the frame in which that great genius enclosed his system has become too narrow. An enlarged horizon reveals new points of view. Is it, then, astonishing that theories suggested by the study of organic compounds, and at first restricted within the domain which gave them birth, have taken wing, and striven to clear the bounds which separate organic from mineral chemistry? This they have done; they now embrace the whole field of the science; and, thanks to them, it may be said that there is but one chemistry.

So great a result is not the work of one day or the conquest of a revolution; it is the result of slow and continued progress. But if we forget for a moment the successive stages, and carry our ideas back to the starting-point, we must avow that the progress is immense. Compared with the science of that time, the science of the present day appears to us not only enlarged, but transformed and regenerated.

Is it complete, as regards its doctrines; and are