

THE ATOMIC THEORY OF LUCRETIUS.

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ATOMIC THEORY OF LUCRETIUS

CONTRASTED WITH MODERN DOCTRINES

OF ATOMS AND EVOLUTION.

BY

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The lense will not disprove  
A present that eludes it . . . .  
Though you saw the final atom-dance,  
Making each molecule, that stands for sign  
Of love, being present, where is still your love?  
ROBERT BROWNING



## P R E F A C E .

**I**T is strange that the Greek atomic theory, of which Lucretius is the sole exponent, has not, long before this, been set in a clear and detailed form before the English reader.

In Professor Veitch's little book ('Lucretius and the Atomic Theory,' 1875), only fifteen pages (pp. 10-25) deal with Lucretius's theory of atoms, and that only in a general way, while the rest of the volume is occupied with a very able criticism of modern Materialism. The scope of Professor Sellar's work does not allow him to enter at all minutely into the science of Lucretius, though his chapter on the connecting links between Lucretius's science and his poetry is most valuable.<sup>1</sup> Zeller has indeed given us in his 'Pre-Socratic Philosophy' an admirable sketch of the system of Democritus, but his account of the later development of the atomic theory in the hands of Epicurus is by no means equally complete. Lange's short chapters on Democritus, Epicurus, and Lucretius in his 'History of Materialism' contain acute enough criticism, though in his statement of facts Lange is by no means so trustworthy as Zeller. Neither Martha ('Le Poëme de Lucrèce,' 1873) nor Guyau ('La Morale d'Épicure,' 1881) attempt to give any complete or detailed account of the Epicurean theory

<sup>1</sup> We may also refer to the interesting chapter of Professor Sellar's 'Virgil,' tracing the influence of Lucretius's leading doctrines on the mind of the younger poet, and specially to the section on 'The Lucretian idea of Nature as it appears in the Georgics.'

of atoms, nor yet to point out its relations to modern science. In the present volume we have attempted to supply a short but careful account of the atomic theory as set forth by Lucretius,<sup>1</sup> and to show how far each of his propositions is in agreement with the conclusions of modern science, as represented by Clerk-Maxwell, Tyndall, and others. We have also endeavoured to point out the special vantage-ground of Epicurean science, and to show why it was possible for Epicurus's theory of the constitution of matter, as revived by Gassendi and others, to become the basis of modern physics, and to develop, stage by stage, into the atomic theory of modern chemistry.

To Lucretius the existence of atoms as an unchangeable basis of matter is necessarily connected with the fact of definite order and fixed laws in Nature. The crowning merit of Epicurean science was, as we have shown, that at so early a time it took so firm a hold of the principle of Law in Nature, — a fact grasped as firmly by Lucretius as it is by any modern man of science.

In modern scientific thought we find a parallel which helps us to realize how Lucretius's atomic theory taught him to regard Nature, and how his conception of Matter developed into a naïve theory of Evolution. Recent inquiry and speculation regarding the process of Evolution, the origin of Life and the potency of Matter, as illustrated by Tyndall's famous Presidential address, will enable us to realize more clearly, by comparison, what Lucretius's actual belief on these points was.

In explaining Lucretius's theory of the atomic structure of the soul, of the origin of consciousness, and of the method in which Will sets the body in motion, attention is called, so far

<sup>1</sup> See Dr. Brieger's review of our article in the 'British Quarterly,' Oct., 1875, on 'The Atomic Theory of Lucretius' ('Jahresbericht über die Fortschritte der class. Alterthumswiss', 1877, 2nd part, pp. 63-5).