

**THE ATOMIC THEORY OF
LUCRETIUS CONTRASTED
WITH MODERN DOCTRINES
OF ATOMS AND EVOLUTION**

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The Atomic Theory of Lucretius Contrasted with Modern Doctrines of Atoms and Evolution by
John Masson

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BY

JOHN MASSON, M.A.



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1884.

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.





PREFACE.

IT 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.¹ 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

¹ 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,¹ 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

¹ 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. Alterthumwiss.', 1877, 2nd part, pp. 63-5).

as we know for the first time, to the subtle part which atomic Declination plays in Epicurus's system. If it be thought that we have over-estimated the importance of this doctrine of Declination, which is stated and discussed at length in Chapter VII.,¹ we may quote the opinion of M. Guyau, who calls it, and we believe justly, 'the central and most original doctrine of Epicureanism.'² We have also pointed out the close relation between this doctrine of Lucretius and Professor Clifford's theory of 'Mind-Stuff.' The reasoning of both is based on the same principle, and both apply it with equal boldness. The question is an instructive one. In both cases, Materialism, finding itself hard pressed, escapes as it were by a back-door, and, in so doing, unconsciously confesses its own powerlessness to account, unaided, for the origin of Life and Thought.

M. Guyau devotes a long chapter of his very able work to the doctrine of atomic Declination, which he explains as implying a power of 'Spontaneity,' or modified Free-will action, residing in all forms of Matter, and by its working producing what we call Chance. He not only endeavours to prove that this was the actual teaching of Epicurus, but even accepts it as scientifically true. M. Guyau's theory of 'Spontaneity-in-Things' is one of the most remarkable castles in the air which the history of philosophy can show. We have examined it at length in an additional chapter.

We have thus attempted to give some account of Lucretius's position as regards both science and philosophy, and to indicate, as impartially as we can, both its strength and its weakness. It is hoped that the following pages may contribute a little

¹ In several papers we formerly attempted to indicate the philosophical consequences implied in Declination ('British Quarterly,' Oct., 1875; 'Journal of Philology,' vol. xii., 1883; 'British Quarterly,' April, 1882).

² 'Le point capital et vraiment original de la théorie épiciurienne' ('La Morale d'Épicure,' 1881, p. 99).

towards a truer understanding of the Atomic Materialism of Lucretius, which forms none the less startling a chapter in the history of human thought, that we see it repeating itself, in somewhat subtler form, in the present day.

We must not forget to acknowledge, in common with all who have endeavoured to master the philosophic system of Lucretius, special indebtedness to Mr. Munro's edition. Much as Lachmann performed for the text, he left almost everything undone for the explanation of the poem,—a task of the utmost difficulty. It required qualities of mind which are rarely united to produce so trustworthy an edition as the great English one. While presenting our own rendering of the passages quoted, we have to acknowledge the constant aid derived from Mr. Munro's vigorous and admirably faithful translation. We are also indebted to Professor Fleeming Jenkin's thorough and original article on 'The Atomic Theory of Lucretius' ('North British Review,' vol. xlviii.), and have often quoted from it in the second and third chapters.

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