

TO THE READER.

This volume deals with the primal elements—not only of life but of material existence itself. Without Heat and Light we cannot conceive of the physical universe; and Sound becomes a modification of these, without which animated creation would soon destroy itself, and even while it lived would fail to develop, lacking the means of communication.

Yet Heat and Light are but special modes of Motion: and Motion is inconceivable without Force and continuing Energy. Therefore we begin our thinking about all these things with a consideration of ENERGY. And it is not altogether an easy subject to understand. The reader will perhaps find it a little "dry" because it deals with matter that requires some thinking on his part. Even the illustrations of the principles involved are of facts not familiar to every one, although they include some curiously interesting experiments.

But "Something for Nothing" is not the rule of life. "Easy come, easy go" is applicable to knowledge as well as to money. We