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made possible only by the development of more powerful microscopes and the associated techniques of specimen preparation.

The electron microscope is one of the most recent stages in this development. It renders open to direct inspection a level of structure finer than was acceptable before, and, just as did the light microscope, it reveals a new world, many of the features of which were previously unsuspected. As a result of the new observations which it has made possible, our understanding of the organisation of plant and animal tissues has been enormously extended, and many of our ideas about the way cells are constructed and the way they function have been radically changed. The electron microscope has also added greatly to our knowledge of the structure and reproduction of viruses.

This booklet sets out to explain briefly the principles on which the electron microscope works, and to describe some of the biological discoveries which have been made with it.

## 1.2 Resolving power

In order to grasp the reasons which led to the development of the electron microscope it is first necessary to understand some of the