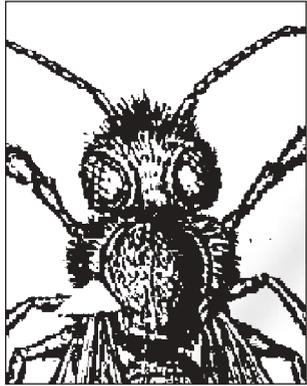
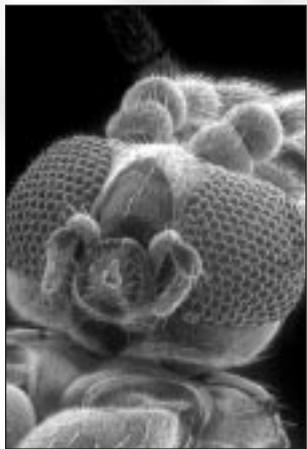


# What is a Microscope?

'A microscope makes things bigger.' No it doesn't. If that were the case you'd have monster microbes leaping about the lab. 'It makes things *look* bigger.' So does a telescope, so that's not a



**Francesco Stelluti discovered the compound eye of a bee in 1630.**



**A scanning electron microscope gives a clear view of an insect's eyes.**

good enough description either. A microscope doesn't make you look taller, or make a ball of string seem longer. Microscopes magnify tiny objects. In the normal world you magnify things by getting closer to them. Move an object from 2 metres to 1 metre from your eye, and it doubles in apparent size. Once you get to about 10 cm away you can no longer focus - but an optical microscope lets you focus when an object is only a millimetre away. At that range it seems enormous. One of the earliest microscopical pictures was of a bee. It was drawn by Francesco Stelluti of Rome in 1630. He discovered that bees have compound eyes, covered in tiny lenses. Electron microscopes show them more clearly, yet it was a fine discovery at its time. In 1663 Robert Hooke was the first person to discover cells. He saw them in slices of cork which he cut with a sharp razor and he called them 'cells' because they looked like small enclosed rooms. Hooke was a strange, hunched man with darting eyes, which may explain why there isn't a portrait of him anywhere. Antony Leeuwenhoek discovered microbes in

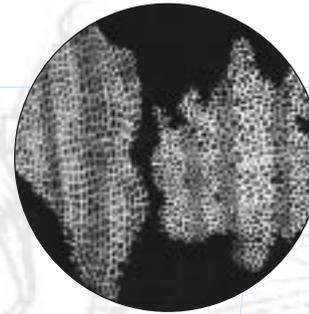


**Antony Leeuwenhoek, holding one of his microscopes. Nice wig.**

**Leeuwenhoek's microscopes were hand-made, and each has just one small lens. Robert Hooke thought up the design, and also used tiny microscopes for detailed study in his work.**

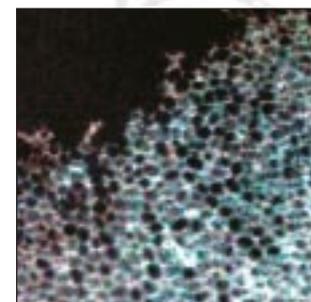
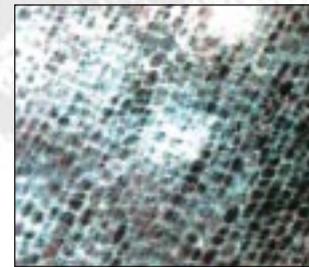


**Feeler and claw of a louse seen with a Leeuwenhoek-type microscope.**



**Robert Hooke's drawings of the cells he discovered in cork.**

lake-water in the summer of 1674, and created a sensation (even though most people didn't believe that he could see what he claimed). He had left school without qualifications, never went to university, and didn't much like meeting people, yet his discovery set in motion the era of modern biology.



**Sections of cork imaged with the QX3 digital microscope.**

**This view, through a microscope from the 1700s, shows the dark blood-filled gut of a louse.**



**This is the image you can obtain with the 60x lens of the Intel QX3 microscope.**



**Robert Hooke's drawing of a louse holding onto a hair was published in 1665.**