Plate #25*. Microvilli; note 1-micron scale at the lower left of each part. Both Plates 25a and 25b show the surfaces of several cells lining the small intestine. In 25a, the tissue is normal; in 25b, the cells have been damaged.

Identify and be able to recognize:

| Label | microvilli | MV |

In both micrographs seen here, the intestine’s lumen (Lu) or inside space, where the food being digested would be found, is at the top. The inside surface cells next to this space are lined up from left to right (parts of five or six cells in Plate 25a, four cells in 25b), and the boundaries between these cells are indicated by vertically arranged membranes and spaces (e.g. at CM = cell membranes, D = desmosome, JC = junctional complex).

Microvilli are numerous fine, closely packed, finger-like projections of the membranes of these cells into the lumen of the intestine, greatly increasing the surface area available for absorbing digested materials into the cells. In Plate 25a, the microvilli have been cut at an angle and are so closely packed that it is difficult to distinguish them from each other. In the abnormal cells seen in 25b, however, individual microvilli can be seen more clearly. Each microvillus is on the order of one micron long.
