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EXPLANATION OF PLATES 1 AND 2

Reference numbers refer to negatives stored at the Electron Microscope Unit, Botany School, University of Melbourne. Sections illustrated were fixed in 2% osmium tetroxide in acetate-veronal buffer, pH 7.4, and containing 4.3% sucrose, 0.01% CaCl_2 , and 0.01% MgCl_2

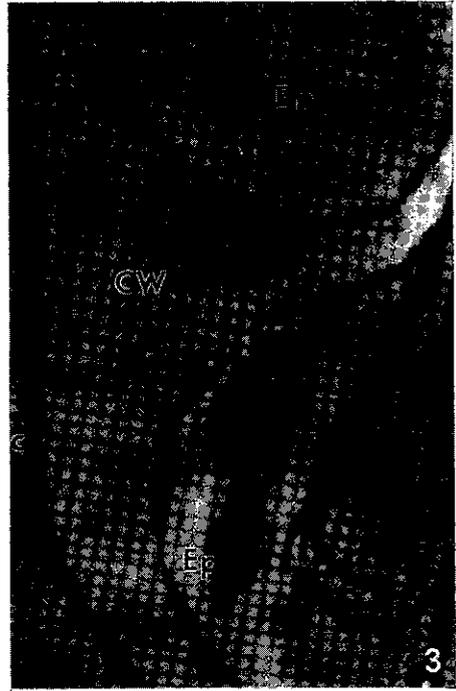
PLATE 1

- Fig. 1.—Leaf epidermal section from gold-treated *Helxine* shoot (after 3 hr treatment) showing clusters of gold colloid particles (each cluster appears as a single mass at this magnification) in the outer epidermal wall (*EpCW*) and a rather denser aggregation of particles along the cell wall–cuticle interface (*c*). Virtually no gold is visible in the mesophyll walls but some particles appear to line the intercellular space (*IS*). No. 3793. $2 \times 10,000 = \times 20,000$.
- Fig. 2.—As in Figure 1 but showing a region in which a very dense aggregation of gold colloids is present. Significantly the cytoplasm (*Cy*) completely lacks any gold. No. 4030. $2 \times 10,000 = \times 20,000$.
- Fig. 3.—Leaf section from a control shoot of *Helxine* showing the epidermal cells (*Ep*) which in nature are large and vesicular. The anticlinal walls have become folded during preparation. The cell walls (*CW*) and cuticle (*c*) completely lack any gold particles. No. 2998. $2 \times 10,000 = \times 20,000$.

PLATE 2

- Fig. 1.—Section of gold-treated leaf of *Helxine* after treatment. At this high magnification the dark patches in the epidermal cell wall are resolvable into aggregations of discrete particles, the size distribution of which is similar to that of the colloidal gold particles (see Fig. 3 of this plate). No. 4028. $6 \times 10,000 = \times 60,000$.
- Fig. 2.—Electron micrograph of dried droplet of gold sol, as used in the *Helxine* experiments. It is considered that aggregations of these particles have resulted in the dense clumps to be seen in Figure 1 of this plate. No. 3994. $1.5 \times 40,000 = \times 60,000$.
- Fig. 3.—Frequency histograms showing the size distribution of gold particles. Those from the wall were measured from fields such as that shown on Figure 1 of this plate, those of the sol from Figure 2.

EXTRAFASCICULAR MOVEMENT OF WATER



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