Comments and Communications

Geometric Deviations in the Growth of Tissue Cultures[1]

THE geometric regularity of radial and interconnecting growth precisely defined by Weiss (SCIENCE, **115**, 293 [1952]) and Katzberg (SCIENCE, **114**, 431 [1951]) has puzzling exceptions. In roller tube cultures of mouse skin in plasma clots, columns of fibroblastlike cells progress along straight lines, sometimes without visible relation to the centers of growth.

In good observance of the rules, a cord of fibroblasts (Fig. 1, upper left) aligns the centers of two

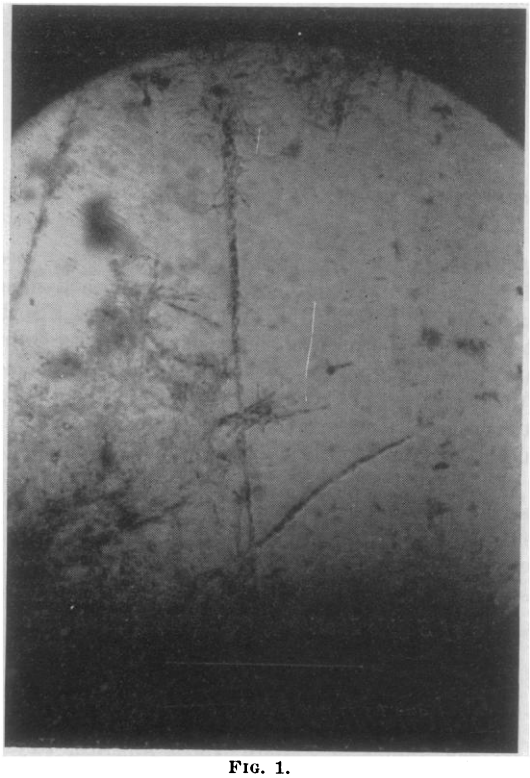

FIG. 1.

explants and another line (lower right) progresses outward along a radius. The long radial column from the upper explant, however, has continued at a tangent past the lower.

In Fig. 2, three columns of growth extend parallel to one another, but at an angle to the path of loose growth connecting the adjacent explant in the upper left part of the field. The columns are crossed almost at right angles by a branch of the column at the left. Intersecting radii have also been observed. Columns sometimes cross in the same optical plane. The divergent lines of growth do not coincide with any axis

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FIG. 2.

of the tube or any detectable flaw or obstruction in the clot or vessel.

The writer had intended to delay publication until he developed a formula for tangential growth, but injecting the information into the current surge of interest might prove more fruitful than quiet incubation.

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Migrating Aphids

IN THE winter of 1950–51, and again in 1951–52, there were extensive outbreaks of the green peach aphid, *Myzus persicae* (Sulzer), on tobacco in Puerto Rico. This aphid had never before been reported on this host, and again the question arises as to whether the outbreaks developed from winged adults migrating from infested tobacco plants in the continental United States, or whether a physiologically distinct strain evolved independently in Puerto Rico from the aphids of this species, which are there in abundance but normally infest tomato, Irish potato, eggplant, pepper, and, exceptionally, the green fruit of papaya.

The evidence against migration is strong. The prevailing northeast trade winds could scarcely bring any kind of insect from across the Atlantic, and winds