Among possible ways in which this last condition would be realized, the three following may be referred to.

1. The crystal, with the exception of its extreme tip, might be entirely removed from the influence of the solution as fast as it grew, either through being pulled or pushed out from the solution, or by the continual relative withdrawal of the latter from the growing crystal; as an example among minerals might be cited the fibrous structure of many stalactites, in which the fibers continue to increase in length through contact at their outer ends with evaporating solutions of carbonate of lime.

2. When crystallization commences at any point in a supersaturated solution, it frequently happens that the crystals at first grow extremely rapidly, and in one direction only, giving rise to acicular or hair-like individuals, no matter what the normal habit of the substance may be, the reason for this being that the tip of each crystal is continuously jutting into fresh supplies of supersaturated solution, while the liquid bordering its sides is correspondingly impoverished by reason of the material abstracted by the growing crystal. When a drop of such a solution is observed under the microscope it is usually seen that the needles radiate in all directions from each center or point of crystallization, and it is possible that the radiated fibrous habit met with in some minerals has, in many cases, originated in this way.

3. The solubility of crystals is affected by pressure. If a substance crystallizes with increase in volume, any increase in the pressure may prevent its further growth or cause it to re-dissolve, whereas a relief in the pressure will hasten its growth. Assuming such a substance to be in the liquid state or in concentrated solution, and under such a uniform pressure that it is just prevented from crystallizing; then, if the pressure in one direction is reduced, crystallization will immediately commence. The crystals, however, can only grow where they are in equilibrium with the liquid or solution, that is, in the direction of least pressure, and so they assume an acicular or asbestiform habit; moreover in this case the fibers will be all arranged parallel to one another.

While, then, there may be many alternative ways in which a fibrous habit might originate, the possibilities should be some-