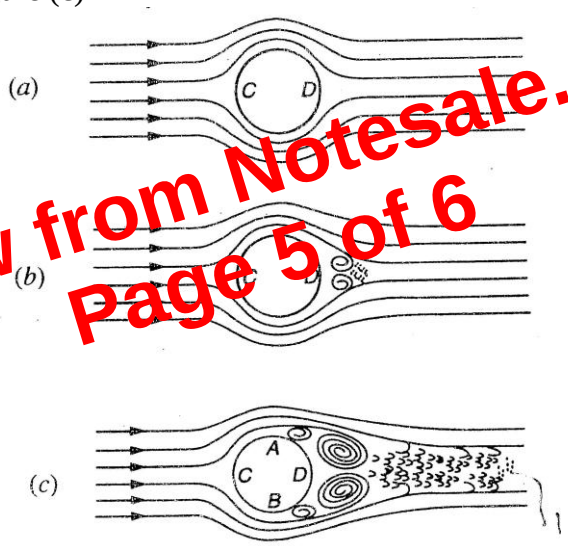
Boundary Layer Separation.
When a body is held immersed in a flowing liquid, a thin layer of the liquid will behave as if it is fixed to the boundary of the body. But if the immersed body is curved or angular one, the boundary layer does not stick to the whole surface of the body. The boundary layer leaves the surface and gets separated from it. This phenomenon is known *as boundary separation*. The point where the boundary layer gets separated from the surface of the body is known *as point of separation.*

Prandtl's Experiment of Boundary Layer Separation.
Prandtl conducted a series of experiments on boundary layer separation. He held a cylinder in flowing liquids and sprinkled a laminar particle, to aid in visibility of streamlines. He found at low velocity the streamlines adhere to the cylinder as seen in Figure (a) below.

He gradually increased the velocity of fluid and at a stage he found that the layer has separated on both sides of D and vortices have formed as in Figure (b). Upon more increase in velocity, separation was taking place earlier and forming more pronounced vertices and more separation is noticed in A and B. See Figure (c)



Magnus Effect in a Moving Liquid
Consider the streamline pattern as in Figure (a) below. If the cylinder is rotated clockwise, the rotating motion of the cylinder will deviate the stream lines as shown in Figure (b) below. The phenomenon is called *Magnus effect.* It will be seen that velocity at *'a'* will be increased while at *'b'* will be reduced because of the drag (cylinder rotation is opposite the flow velocity).