October 30th lecture notes: NON-Diffusion Gradients?

How to explain concentration gradients of non-diffusible substances?

1) Examples in which concentration gradients are not distorted or disturbed despite rapid flow of blood or lymph through arteries, veins, capillaries, lymph ducts etc.

2) Concentration gradients of proteins that are unable to penetrate through plasma membranes either because the proteins are either too large or too hydrophobic to diffuse through membranes!?

3) Concentration gradients of proteins that are unable to penetrate through plasma membranes either because the proteins are either too large or too hydrophobic to diffuse through membranes!?

4) Persistence of concentration gradients regardless of surgical disturbance of embryonic tissues?

5) Even gradients of sizes of pigment granules
and gradients of sizes of yolk granules!

How can a property like size diffuse?

6) "Steepening" of gradients in response to shortening of distances over which these gradients are restricted.