(a) Lens perturbation

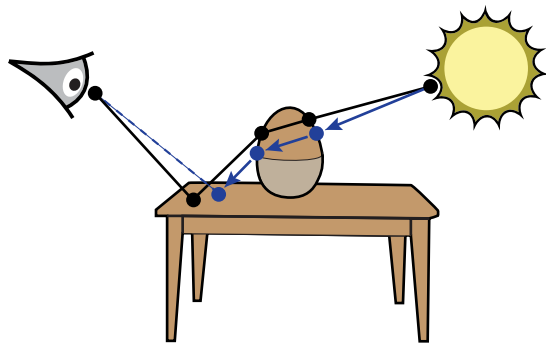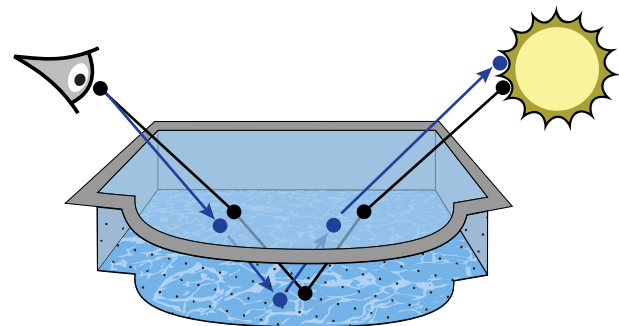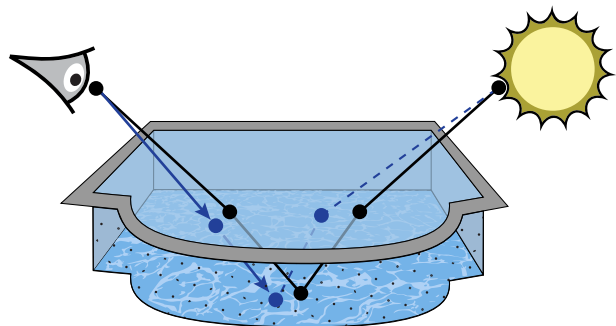**(b)** Caustic perturbation

(c) Multi-chain perturbation

(d) Manifold perturbation