Interference of Sound Waves:

Two sound sources – at same frequency – there will be points in space where the overall sound level is high ($p_{tot}(z,t)$ is large – constructive interference) and other places where over all sound level is ~ zero ($p_{tot}(z,t) \sim 0$ – destructive interference).

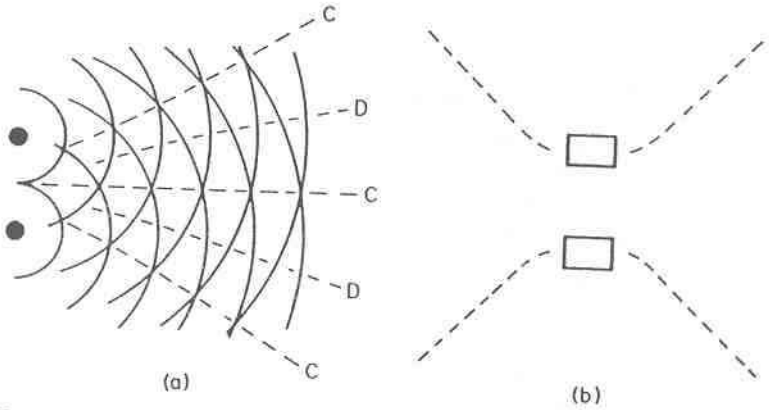
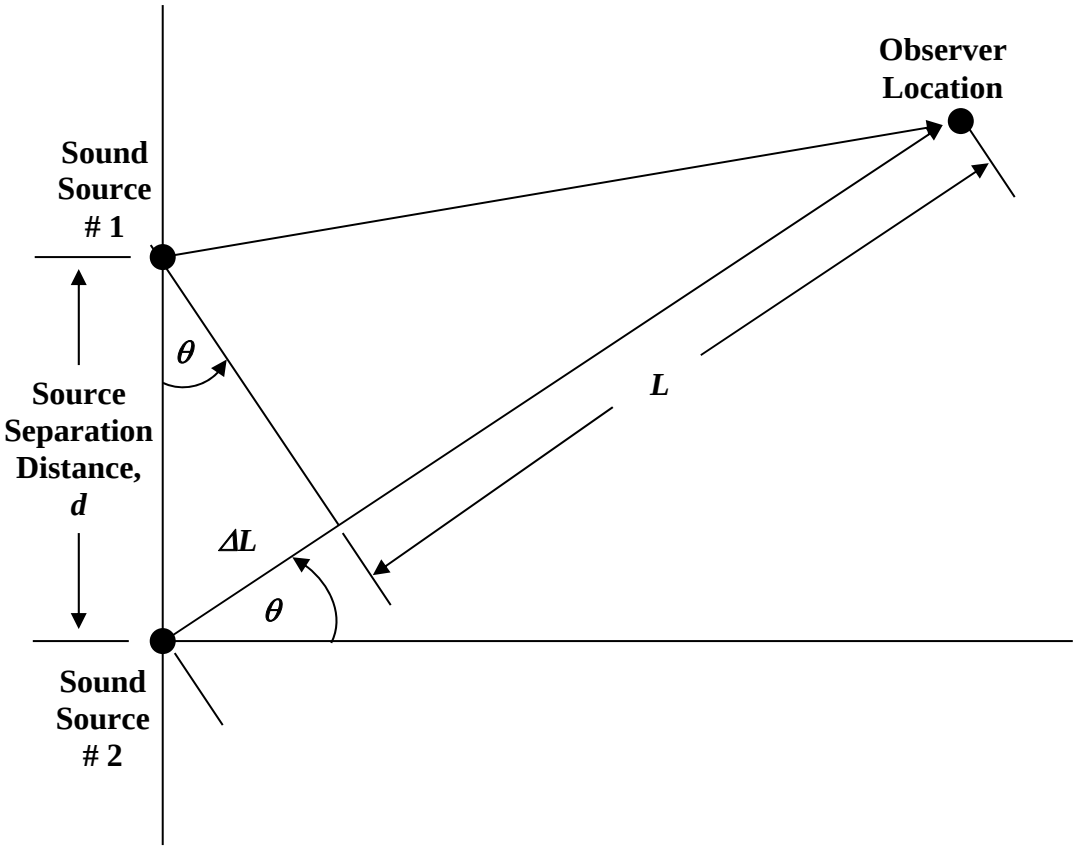


FIG. 19. (a) Interference of waves from two identical sources. (b) Destructive interference of sound waves from two prongs of a tuning fork.

Consider two point sources of sound waves that emit precisely/exactly the same sound – *i.e.* having the same frequency, same amplitude and phase (*e.g.* a pair of stereo loud-speakers), as shown in the figure below:



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