by the circle of radius at shown in Figure 9.3a. Moreover, during its transit from A to B, the beeper has moved a distance Vt to point B. Moreover, during its transit from A to B, the beeper has emitted several other sound waves, which at time t are represented by the smaller circles in Figure 9.3*b*. However, in contrast to the subsonic case, the beeper is now

$$\sin\mu = \frac{at}{Vt} = \frac{a}{V} = \frac{1}{M}$$

$$\mu = \sin^{-1}\left(\frac{1}{M}\right)$$

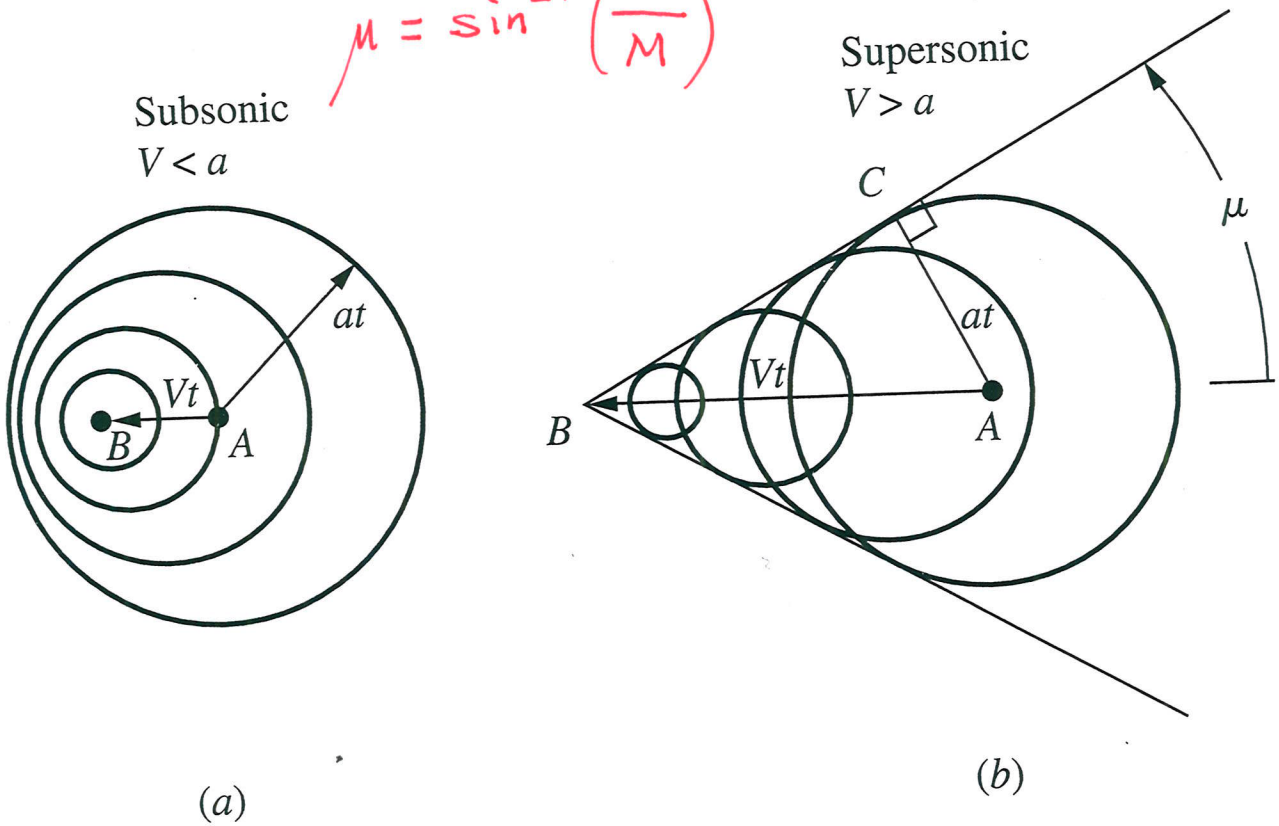

Figure 9.3 Another way of visualizing the propagation of disturbances in (*a*) subsonic and (*b*) supersonic flow.