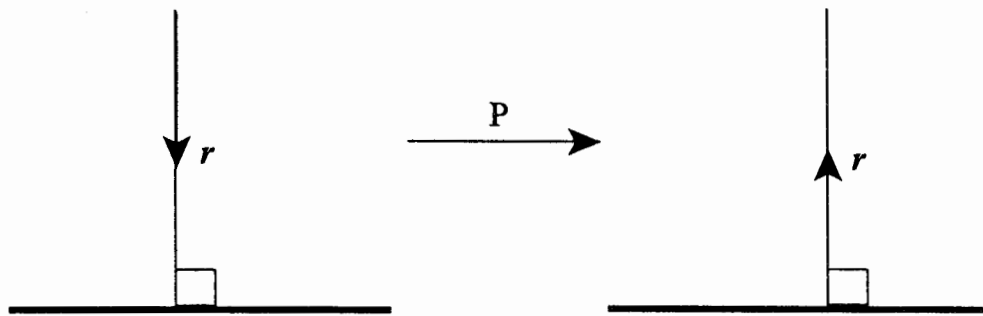


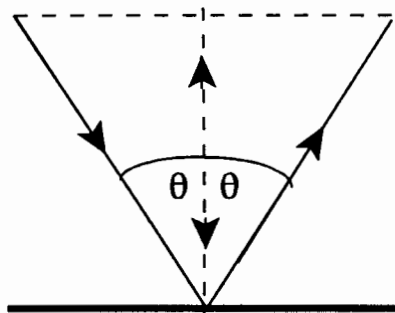
EQUIVALENCE OF REFLECTION AND PARITY INVERSION



$$P(\mathbf{r}) \rightarrow -\mathbf{r}$$

$$P(\boldsymbol{\kappa}) \rightarrow -\boldsymbol{\kappa}$$

$$\mathbf{r}_\perp = r_z \mathbf{k}$$



$$r_z = r \cos\theta$$

$$\mathbf{r}_\perp = r \cos\theta \mathbf{k}$$

$$P(\mathbf{r}_\perp) = -r \cos\theta \mathbf{k} = -\mathbf{r}_\perp$$

This is true if and only if Snell's Law is true.

CONCLUSION

$$P(\omega t - \boldsymbol{\kappa} \cdot \mathbf{r}) = (\omega t - \boldsymbol{\kappa} \cdot \mathbf{r})$$

which is Snell's Law in Maxwell-Heaviside Theory