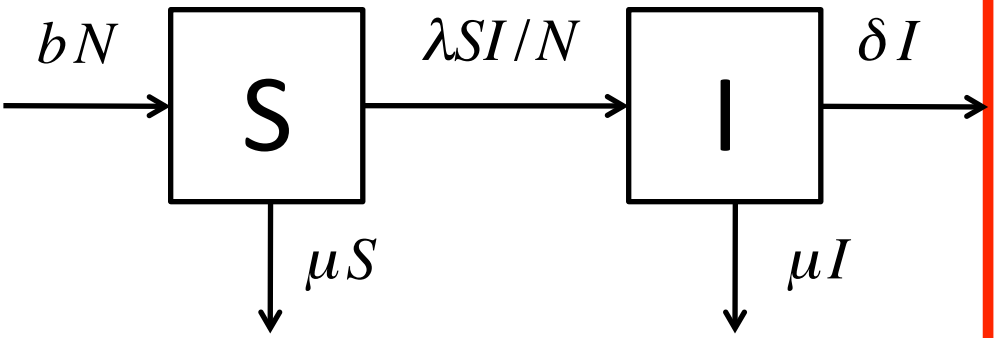


$b =$ birth rate

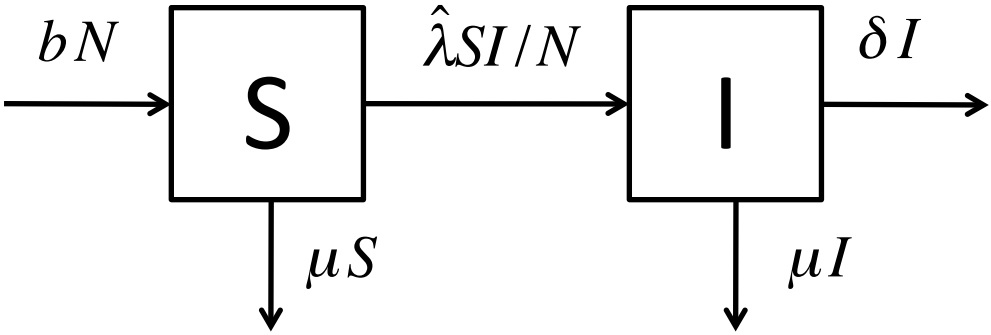
$N = S + I$

$\lambda =$ rate at which new infections occur

$\delta =$ disease induced mortality rate

$\mu =$ background mortality rate

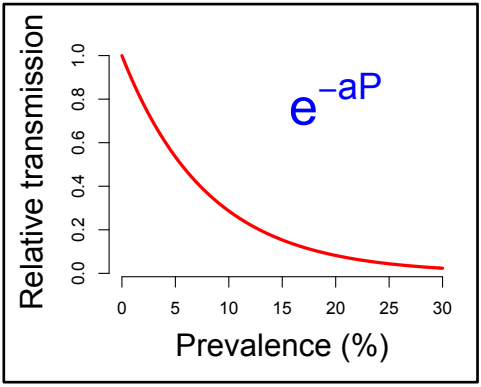
The basic model



$b =$ birth rate

$N = S + I$

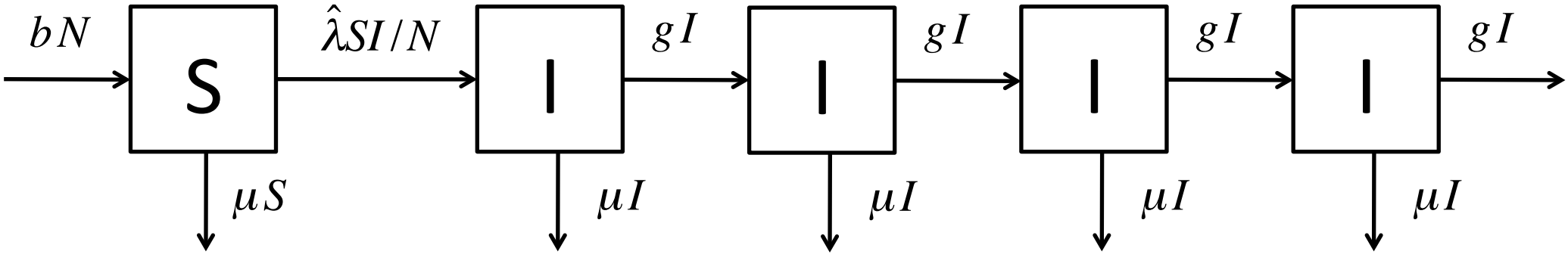
$\hat{\lambda} = \lambda e^{-aP}$



$\delta =$ disease induced mortality rate

$\mu =$ background mortality rate

Heterogeneity in sexual behaviour



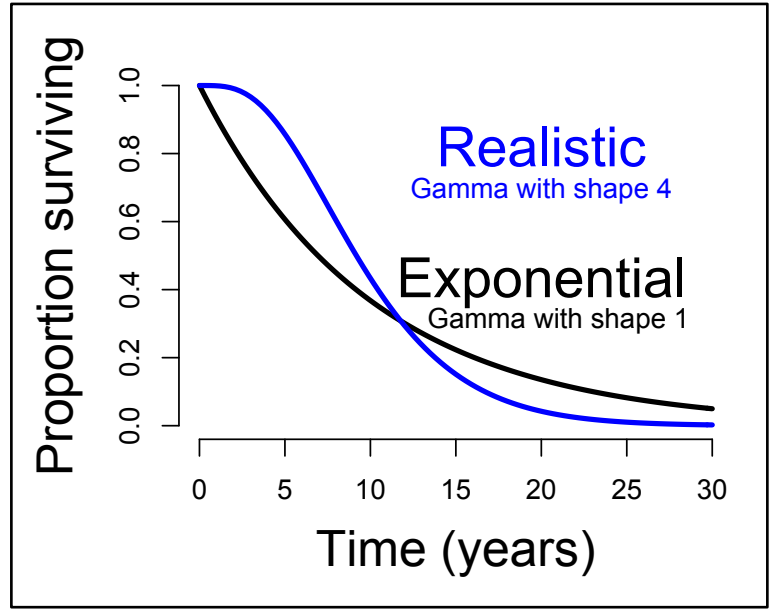
$b =$ birth rate

$N = S + I$

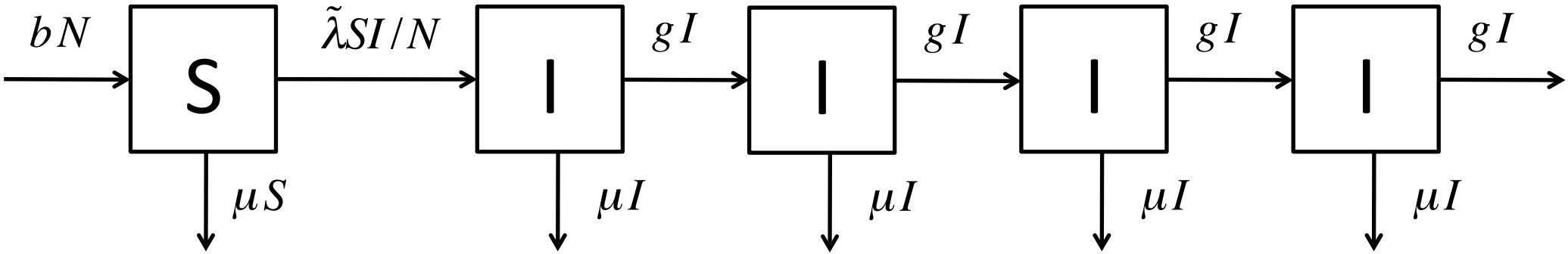
$\lambda =$ rate at which new infections occur

$\delta = g/4$

$\mu =$ background mortality rate



Realistic survival times



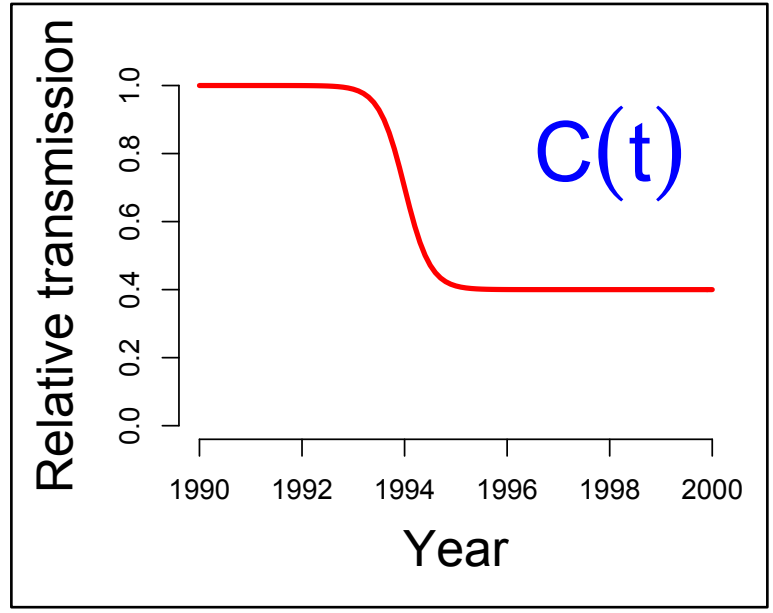
$b =$ birth rate

$N = S + I$

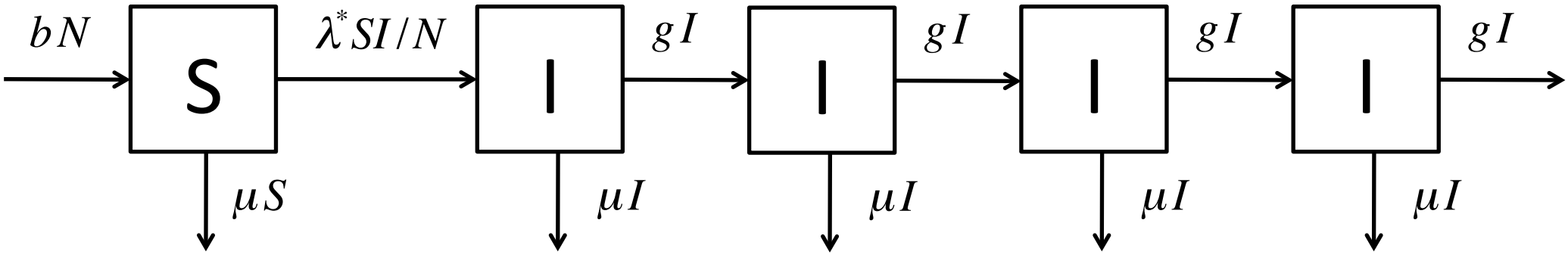
$\tilde{\lambda} = \hat{\lambda} C(t)$

$\delta = g/4$

$\mu =$ background mortality rate



Including control



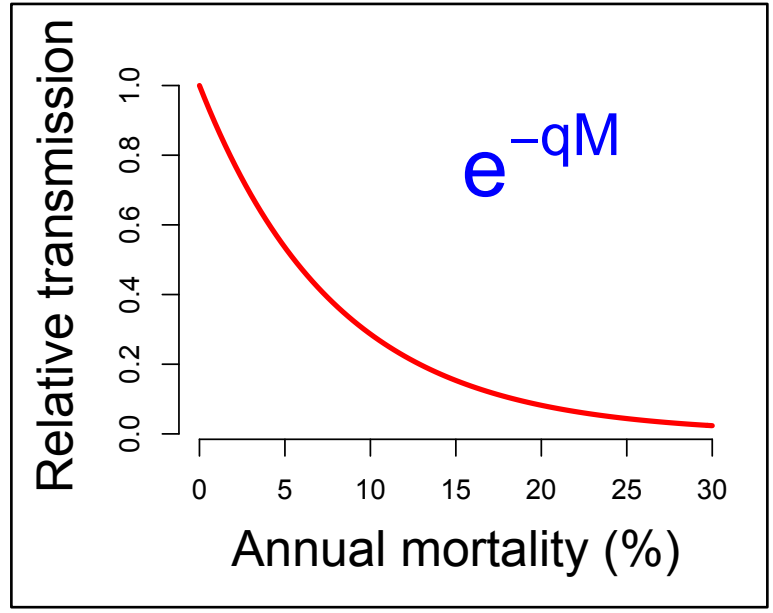
$b =$ birth rate

$N = S + I$

$\lambda^* = \hat{\lambda} e^{-qM}$

$\delta = g/4$

$\mu =$ background mortality rate



Mortality leads to behaviour change