Class Ideas for a Network Model

(9/8/06)

It should include:

Clusters

Strong/Weak ties

Clear definition (Real objects and links)

Starting point

Biases

Characteristics (correlation length, ...)

Watts Strogatz Model

It should include:

• Many small dense groups that overlap
• Social networks are not static
• Not all potential relationships are equally likely
• Occasionally form links due to personal preference

Structure vs Agency
How Likely is it that A meets B In two Different Extreme Societies

Likelihood That A Meets B

Number of Mutual Friends Shared by A and B
Tunable Parameter $\alpha = \frac{\text{Randomness}}{\text{Order}}$

Determines the "interaction rules"

Number of Mutual Friends Shared by A and B

Likelihood That A Meets B

$\alpha = 0$

$\alpha = 1$

$\alpha = \infty$
Watts – Strogatz Model of “Small World” Networks

Typical of the social network of friends --most likely to have friends close by but some are far away

Order/Random   Structure/Volition

Two parameters – average path length and cluster coefficient

$L = 6d/4 = 3d/2$

$C = 3/6$