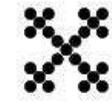
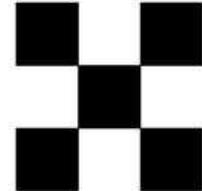


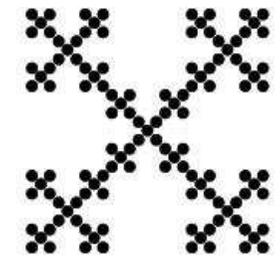
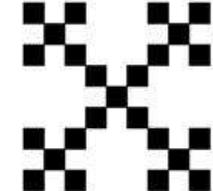
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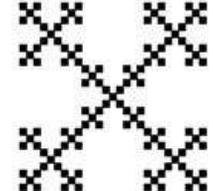
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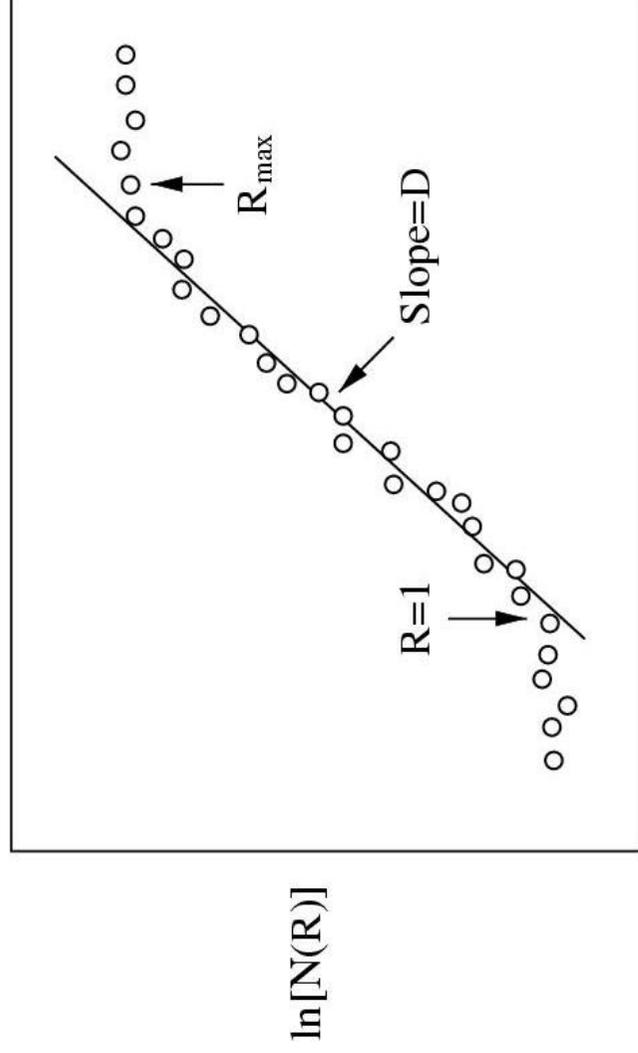
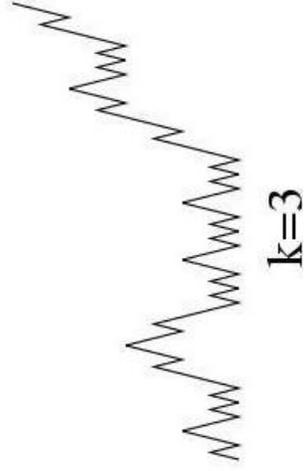
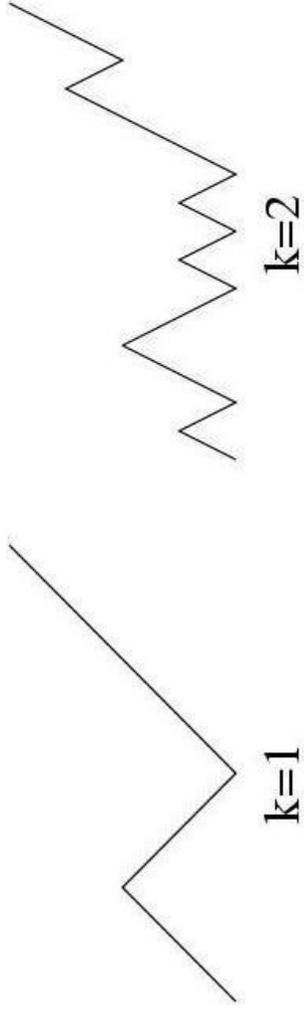


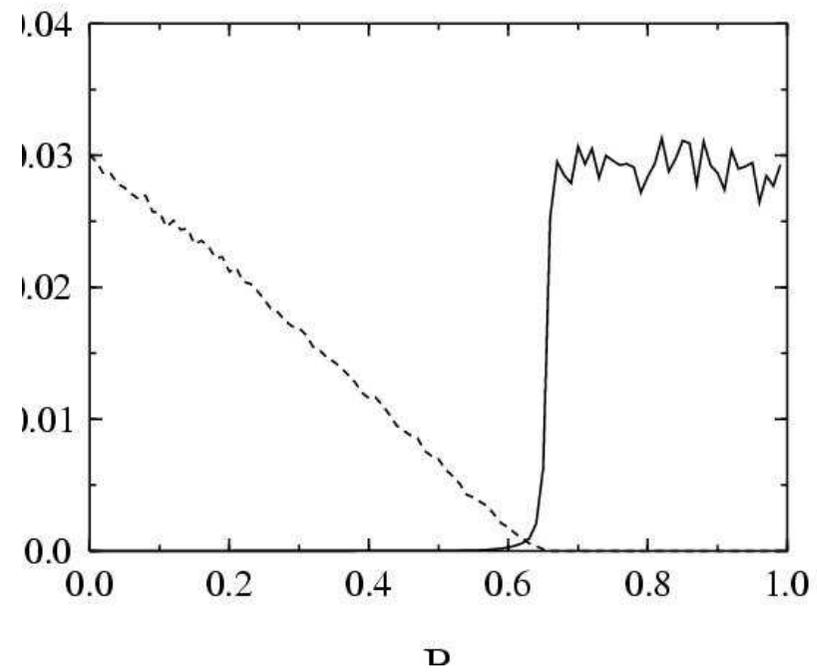
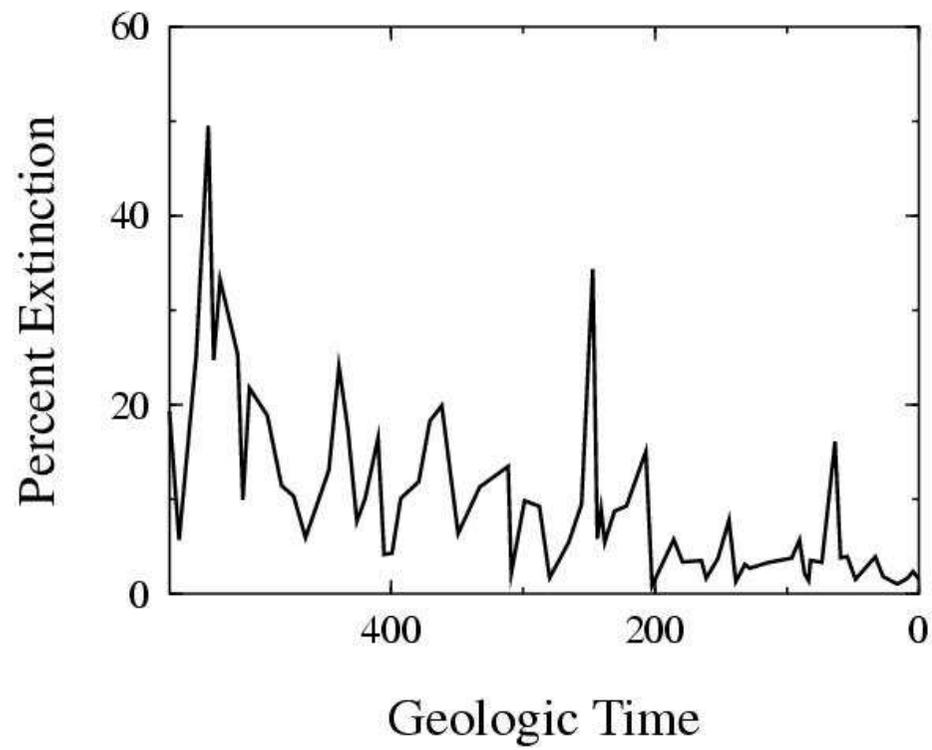
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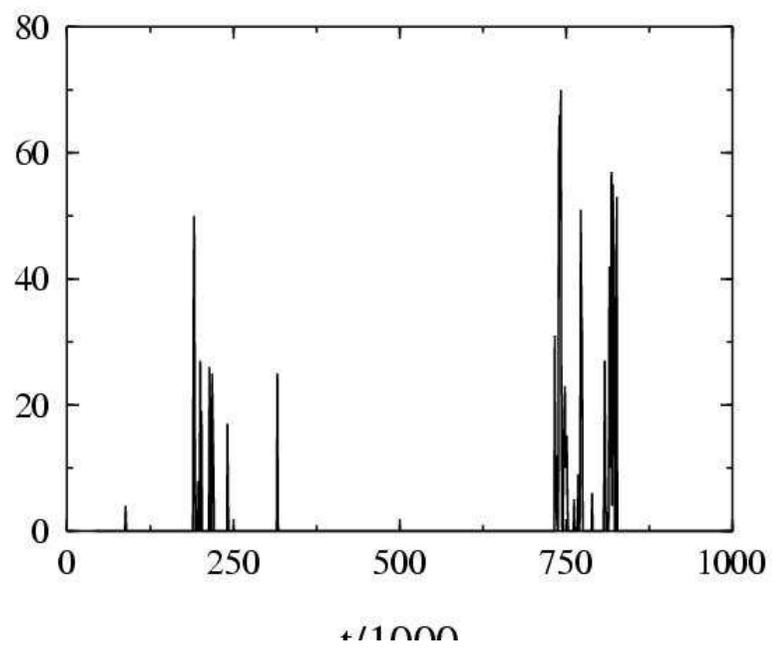
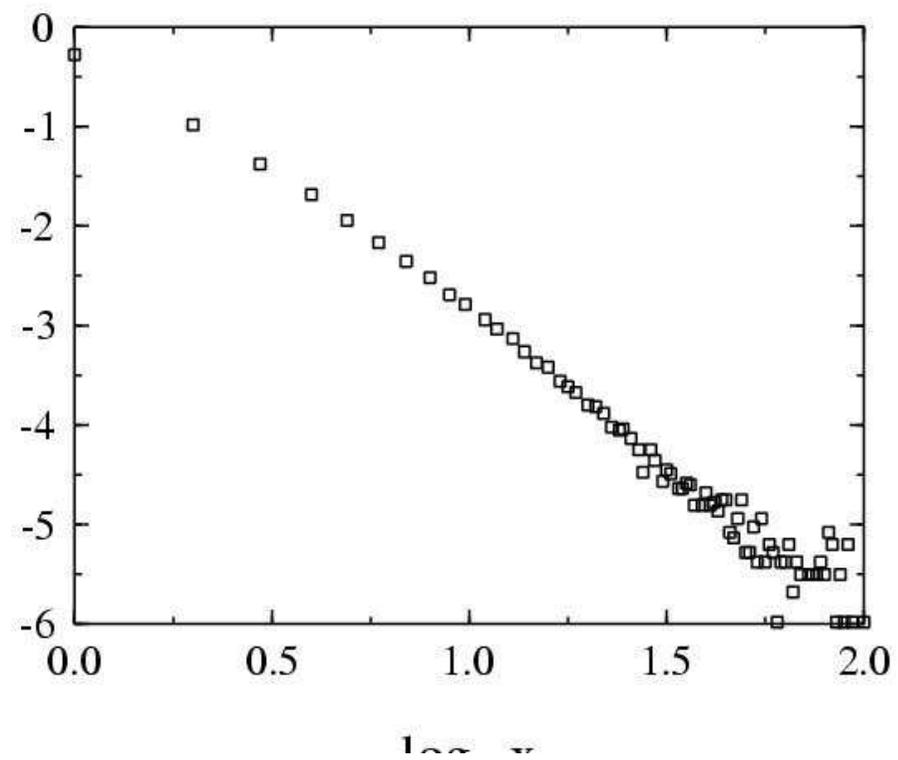
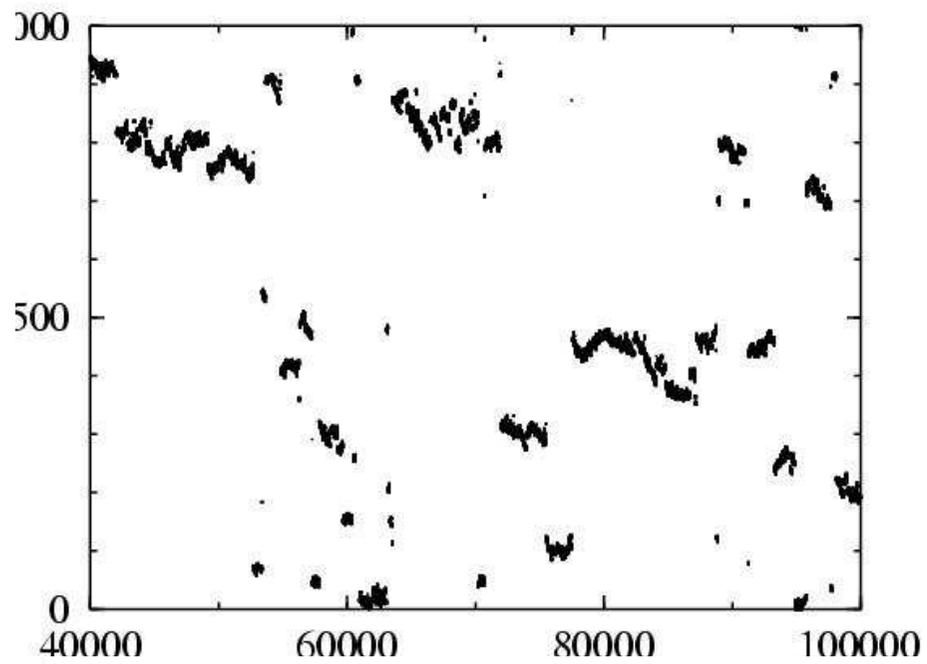


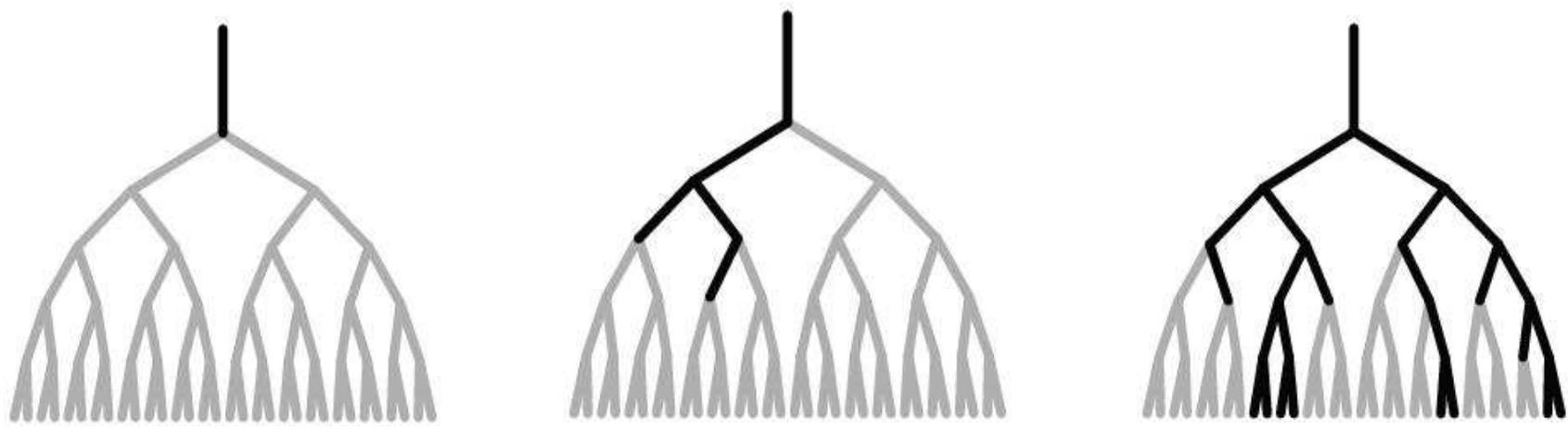
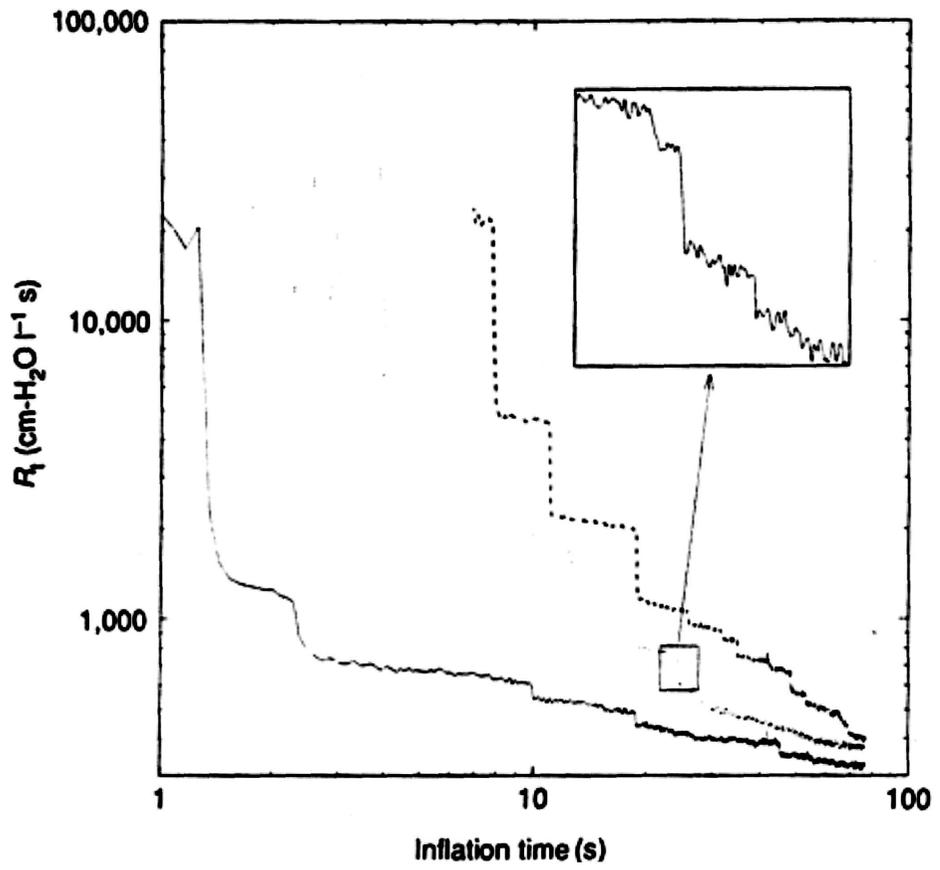
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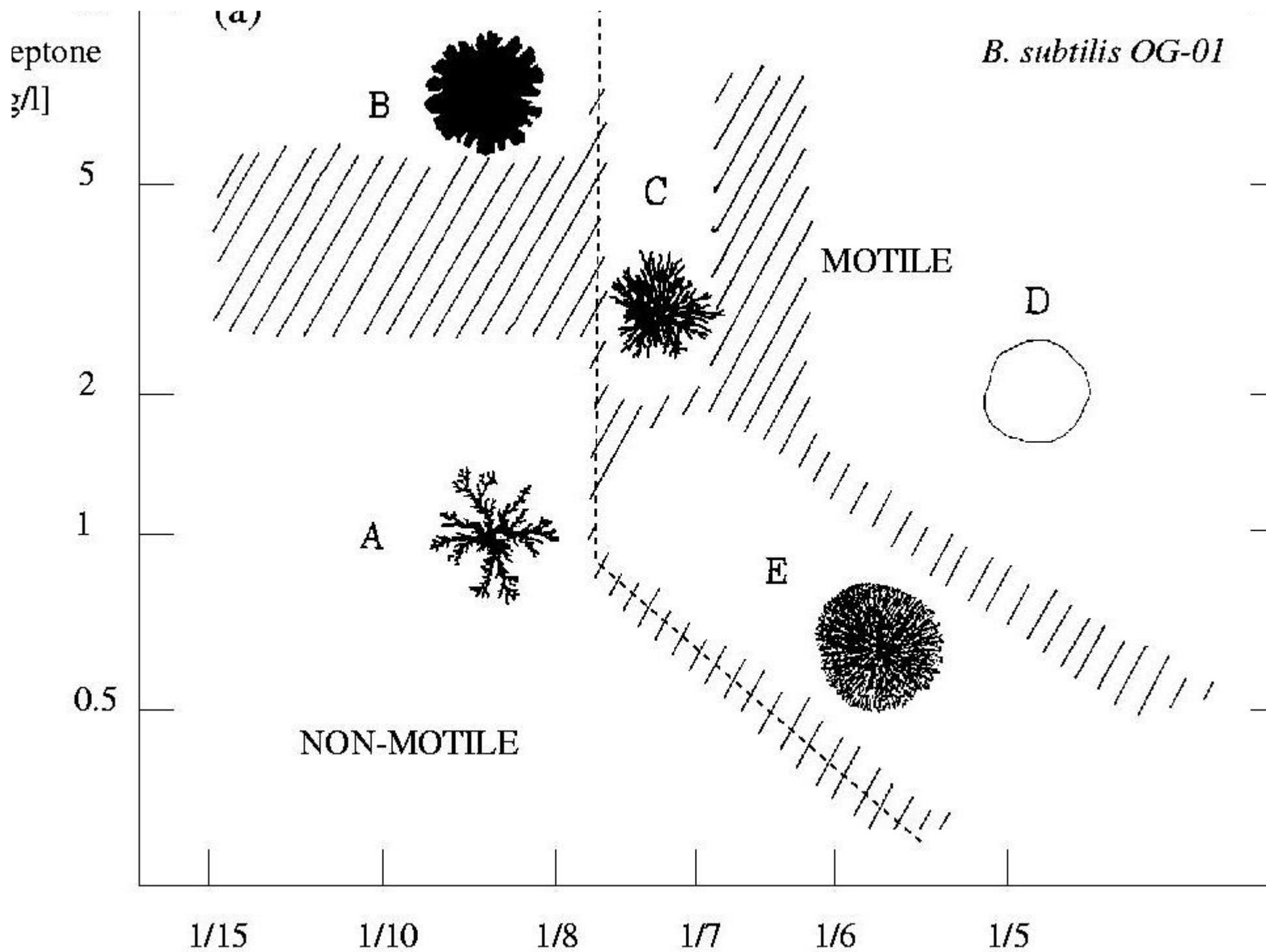


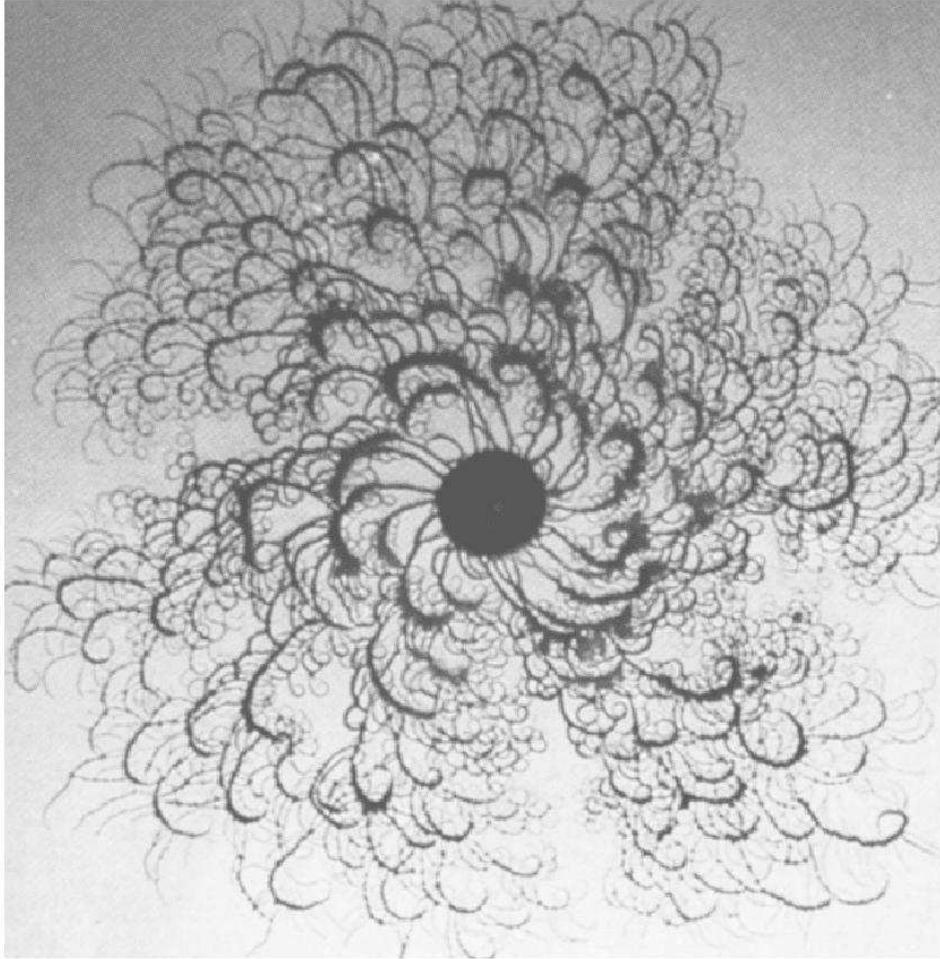




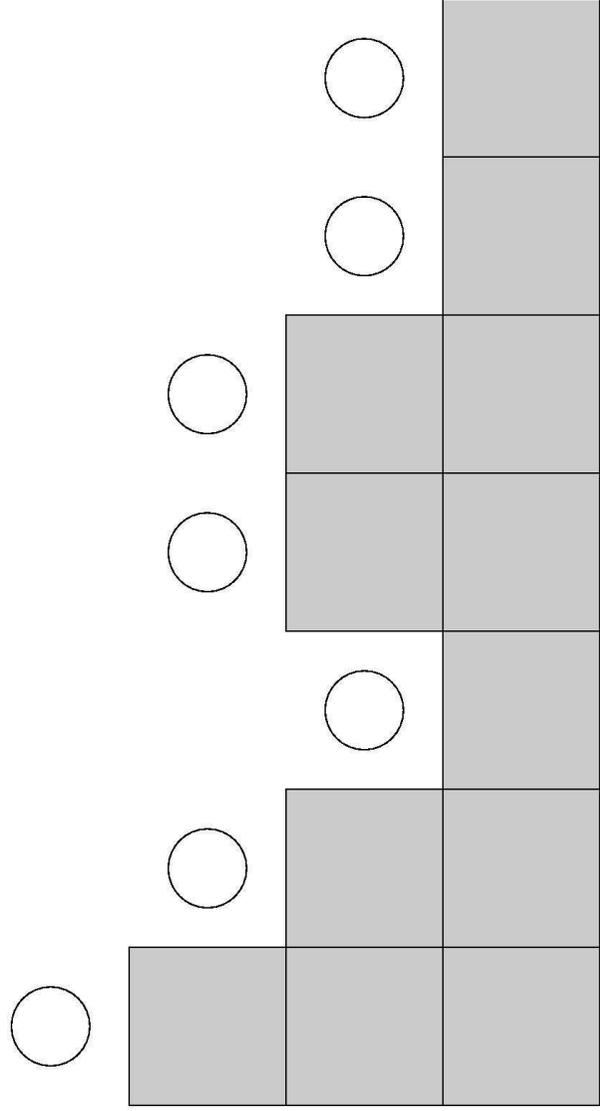
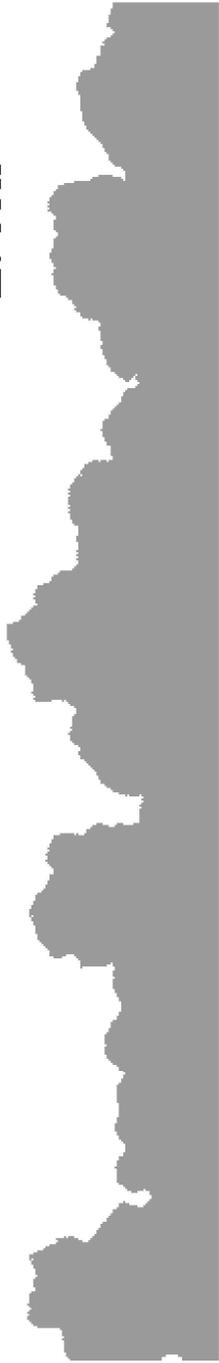


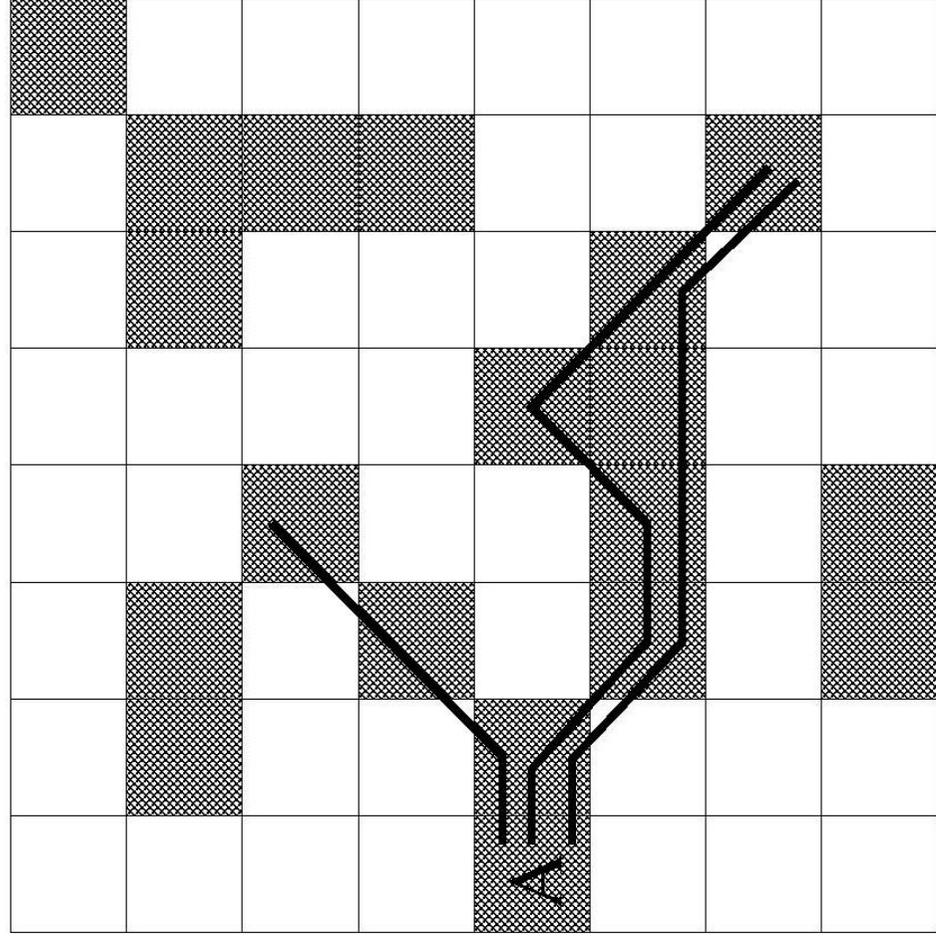
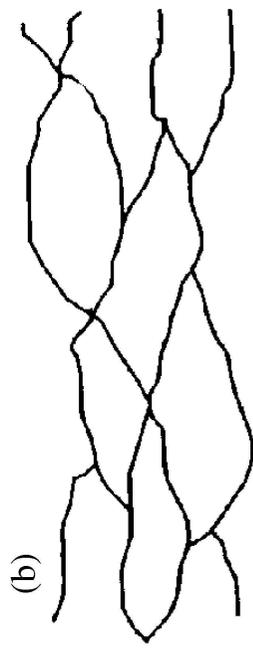
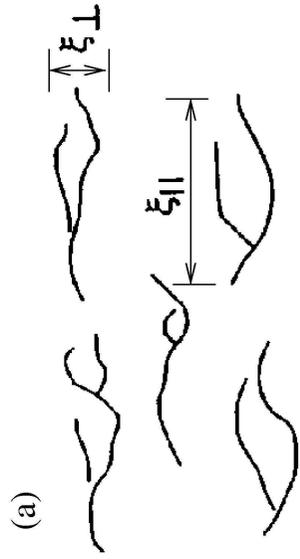




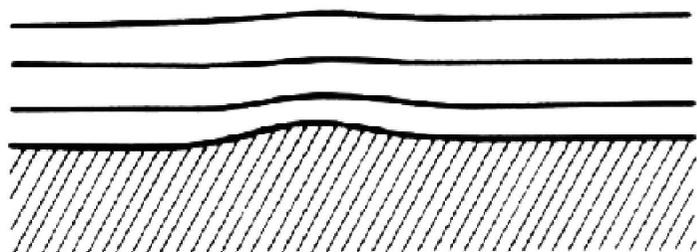


E. coli

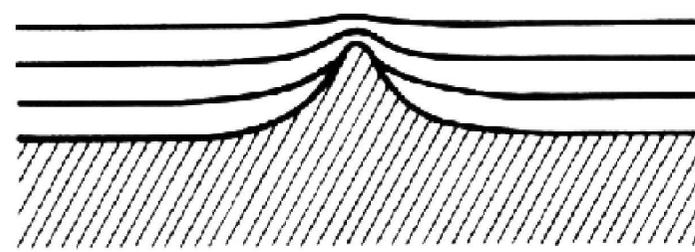




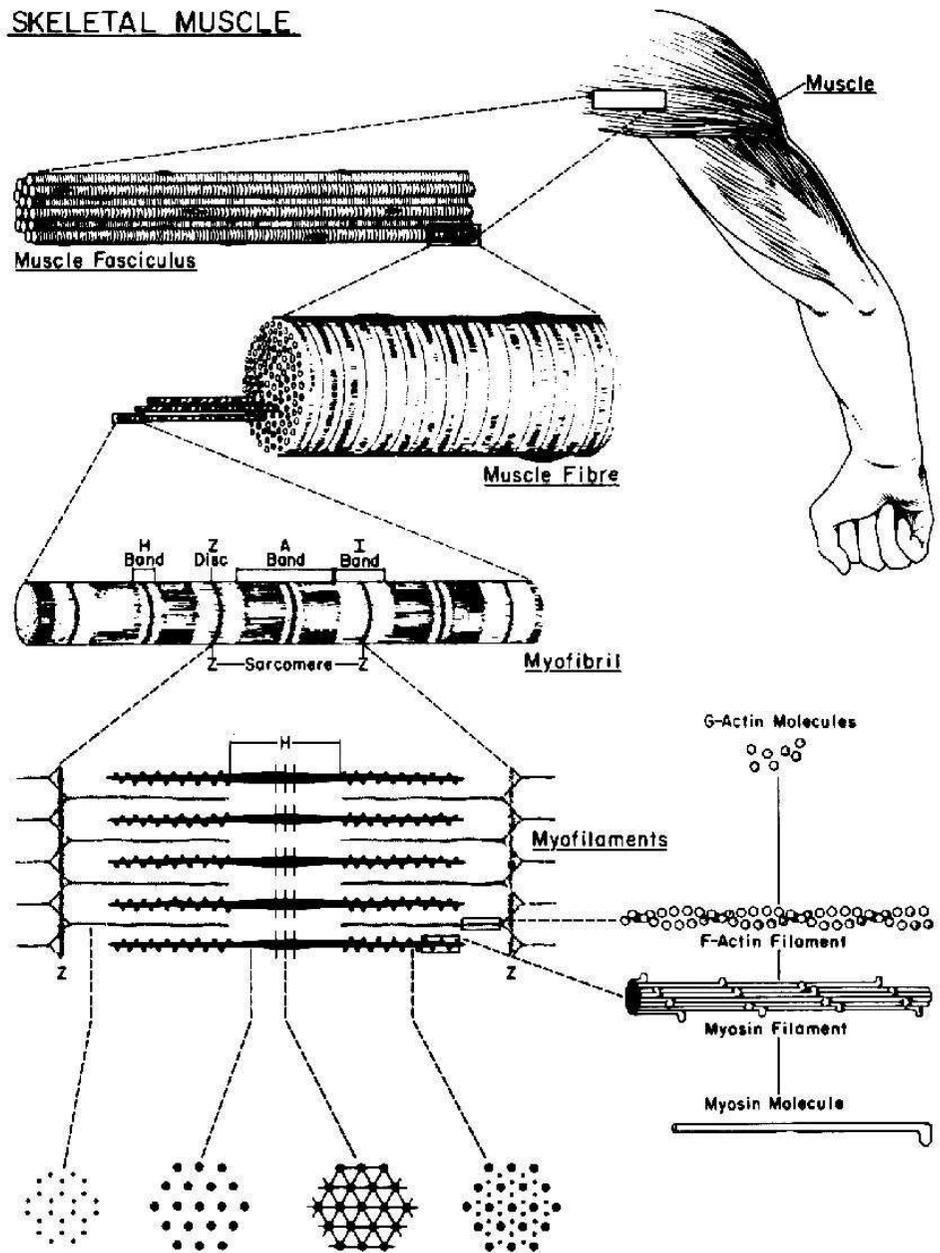
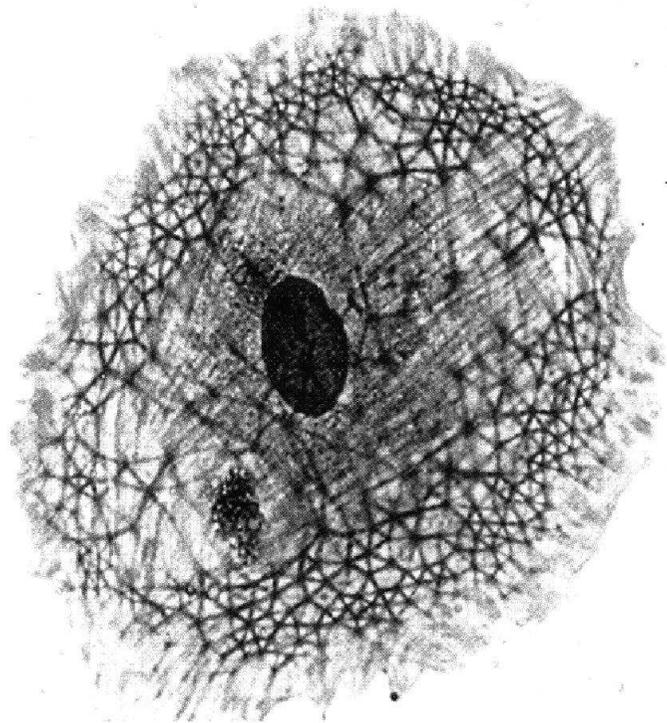
(liquid)

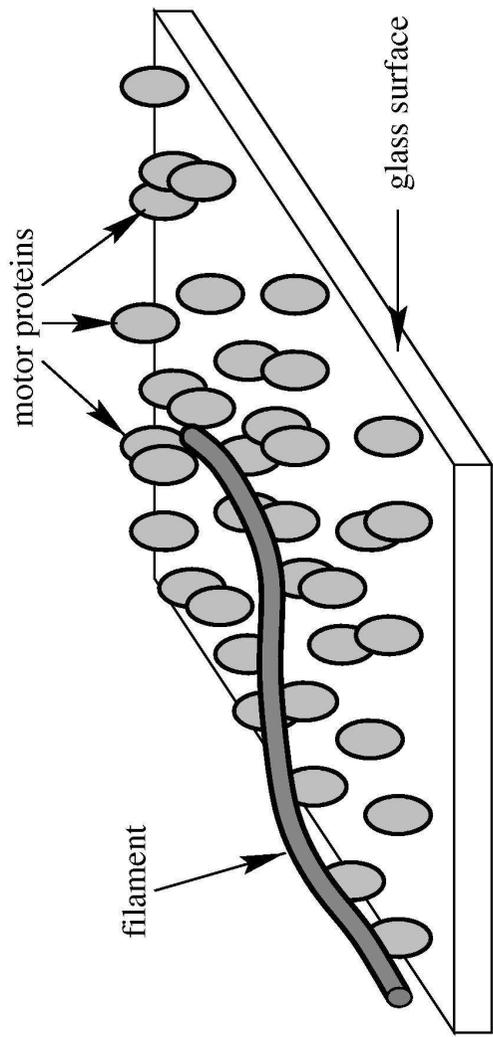
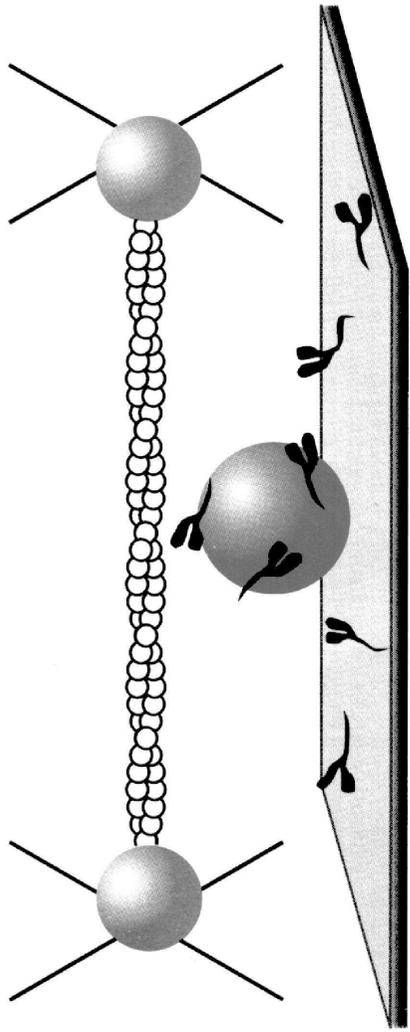
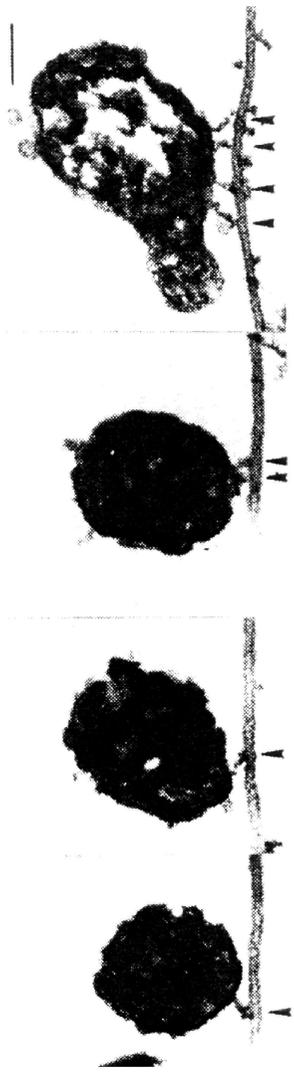


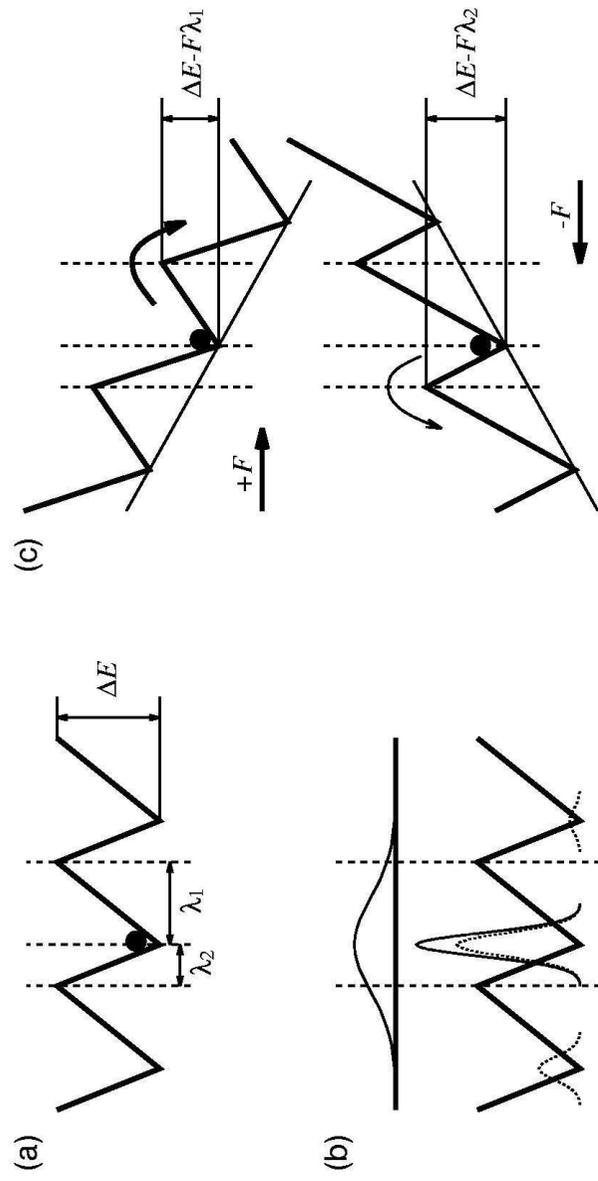
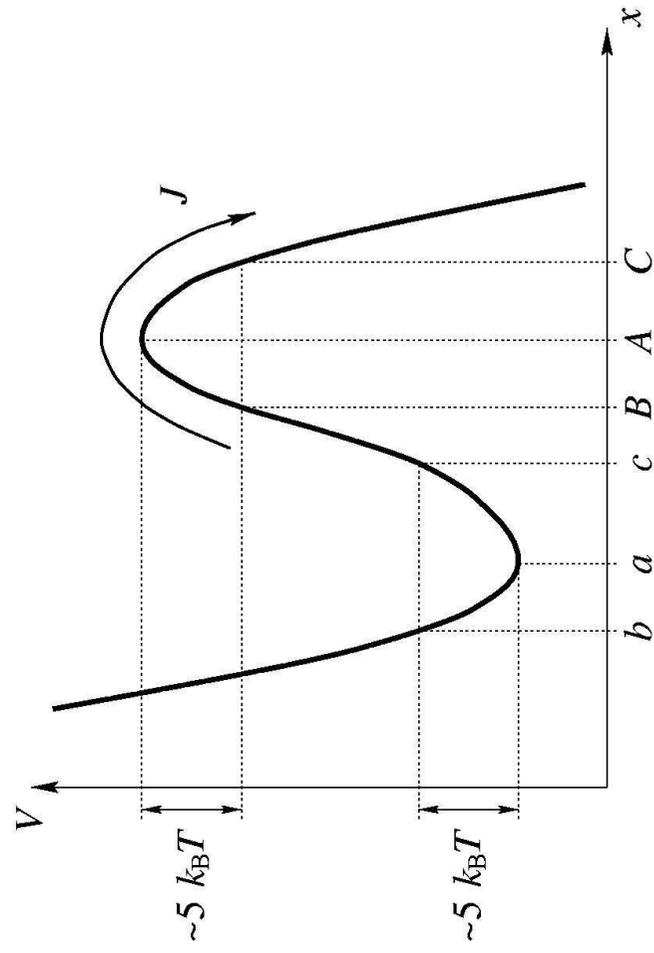
growing phase
(e.g. solid)



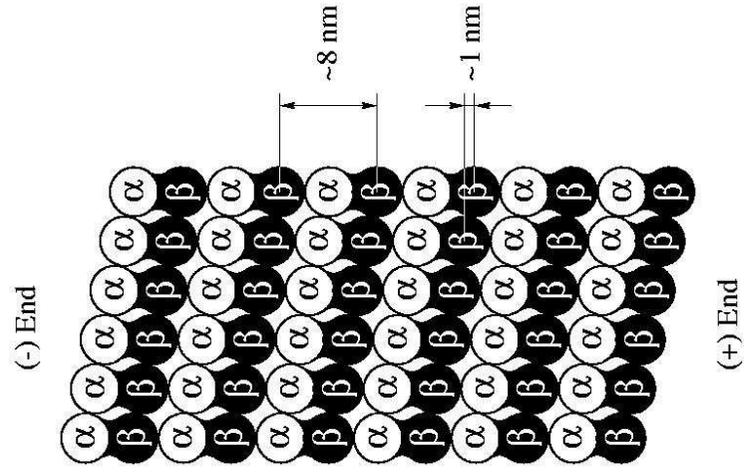
SKELETAL MUSCLE



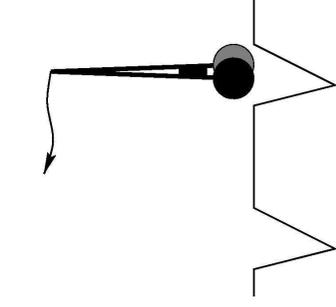
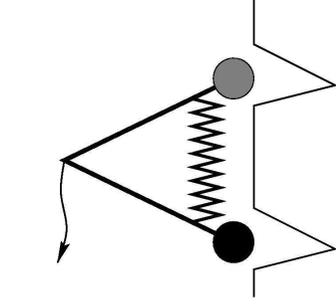
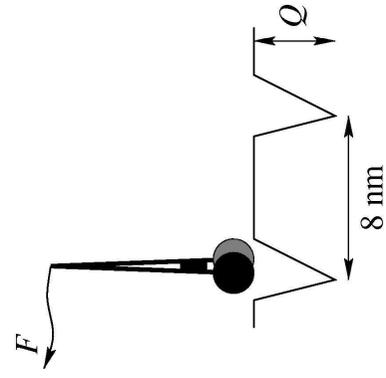
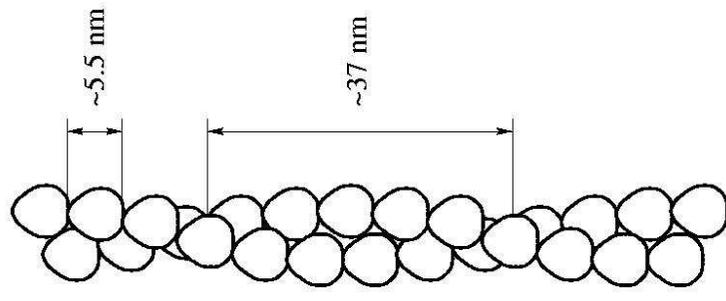


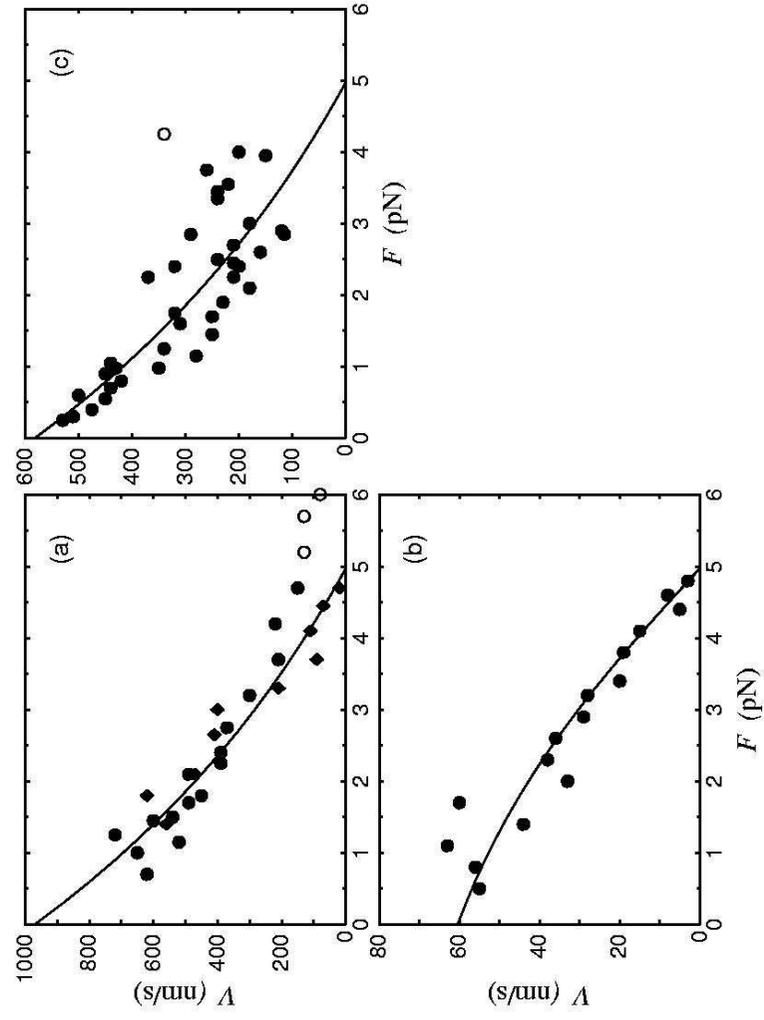
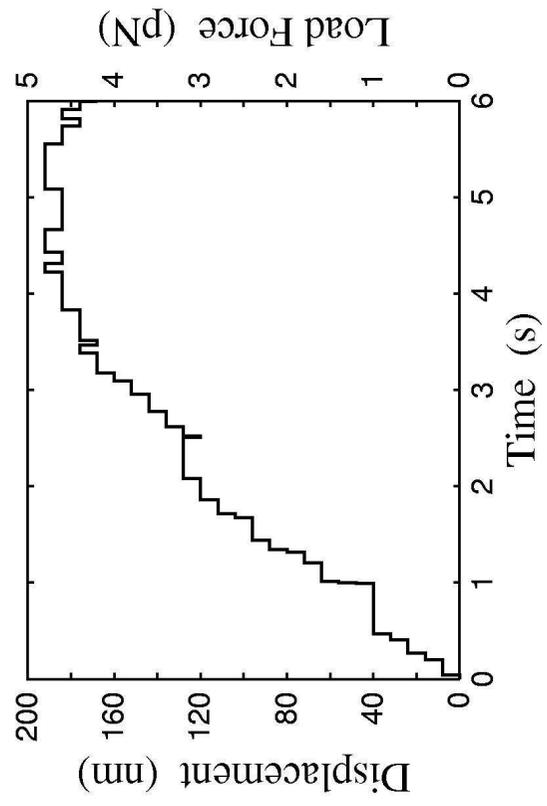


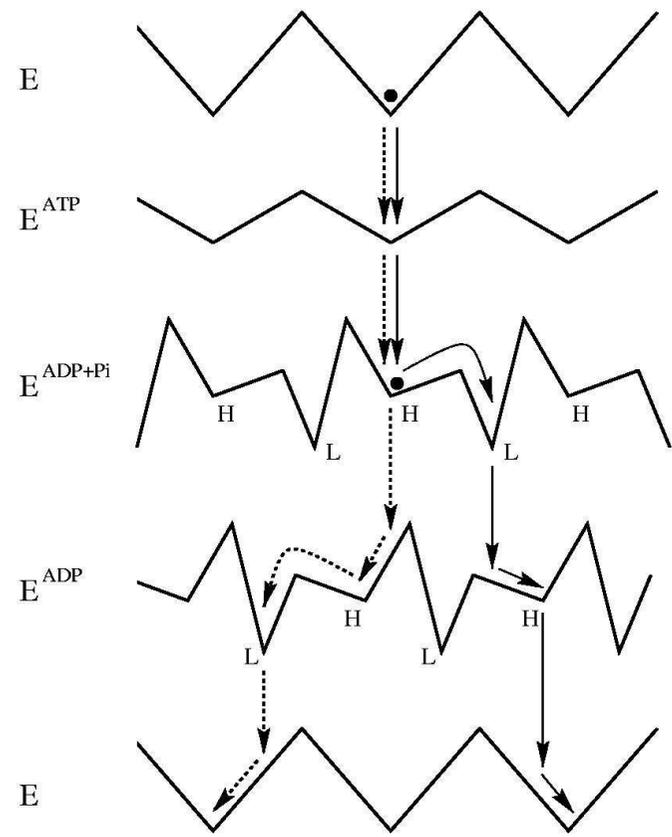
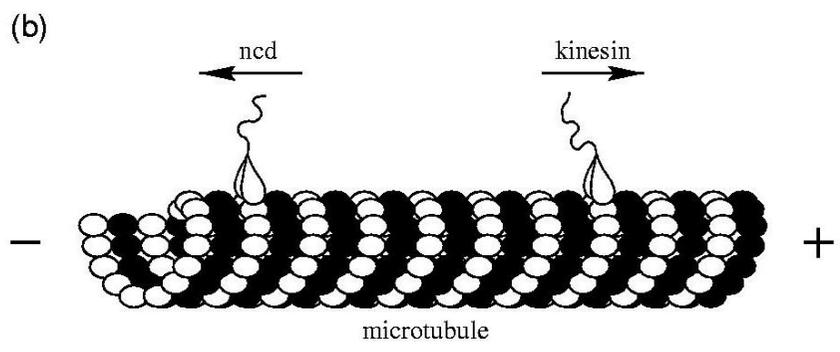
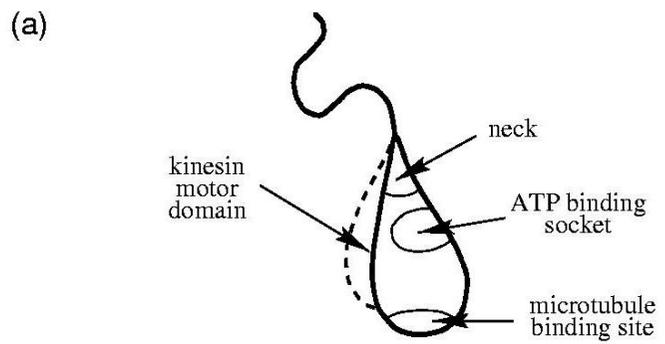
(a) Microtubule

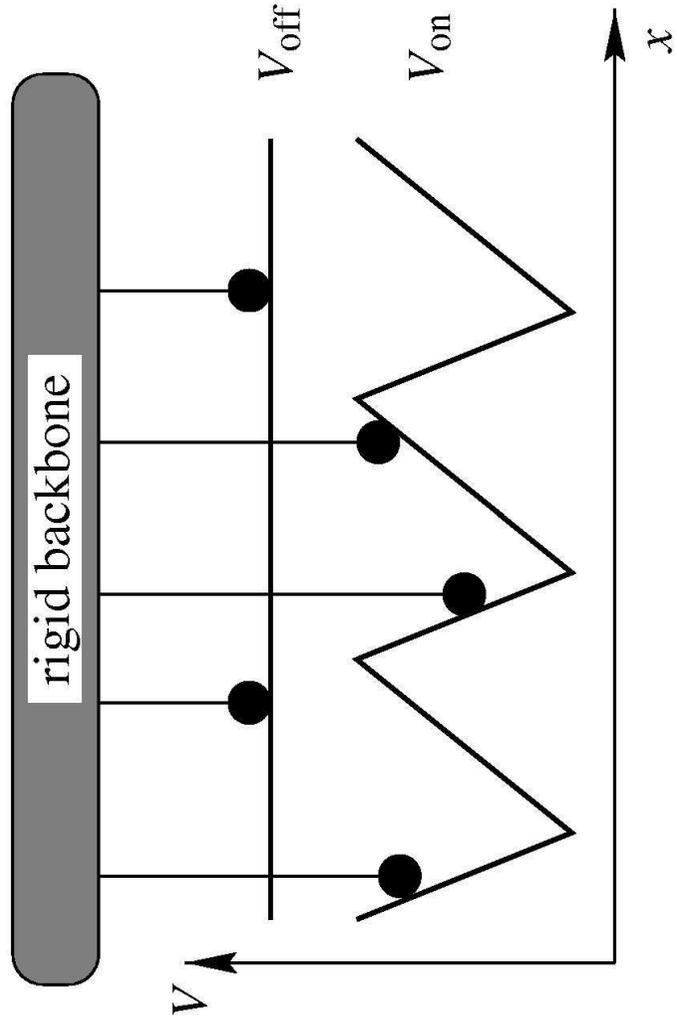
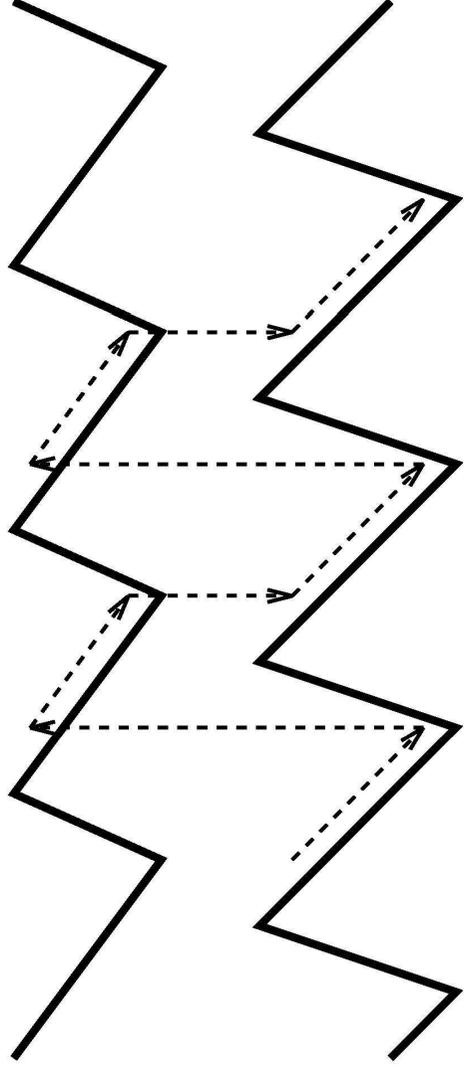


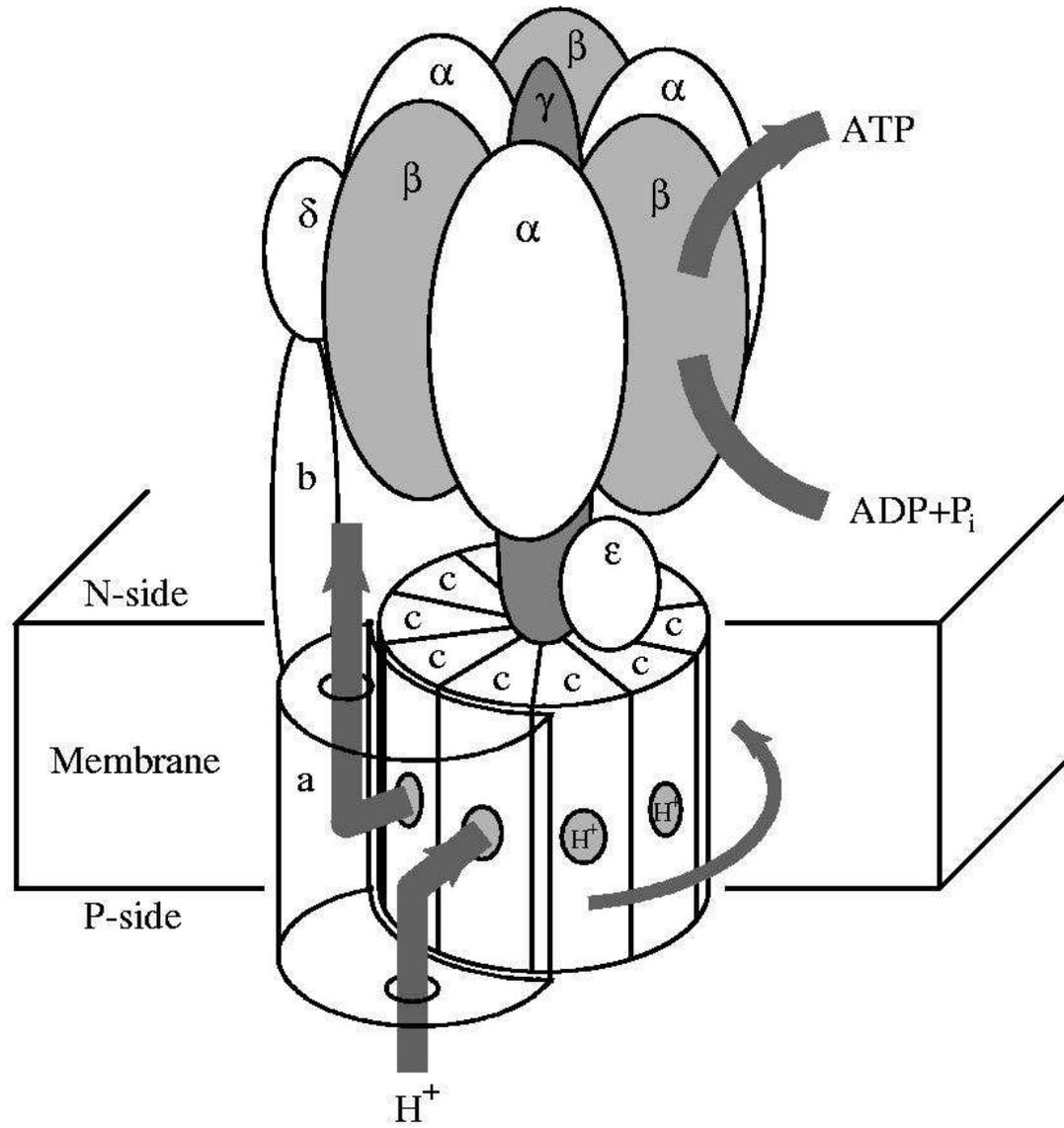
(b) Actin filament

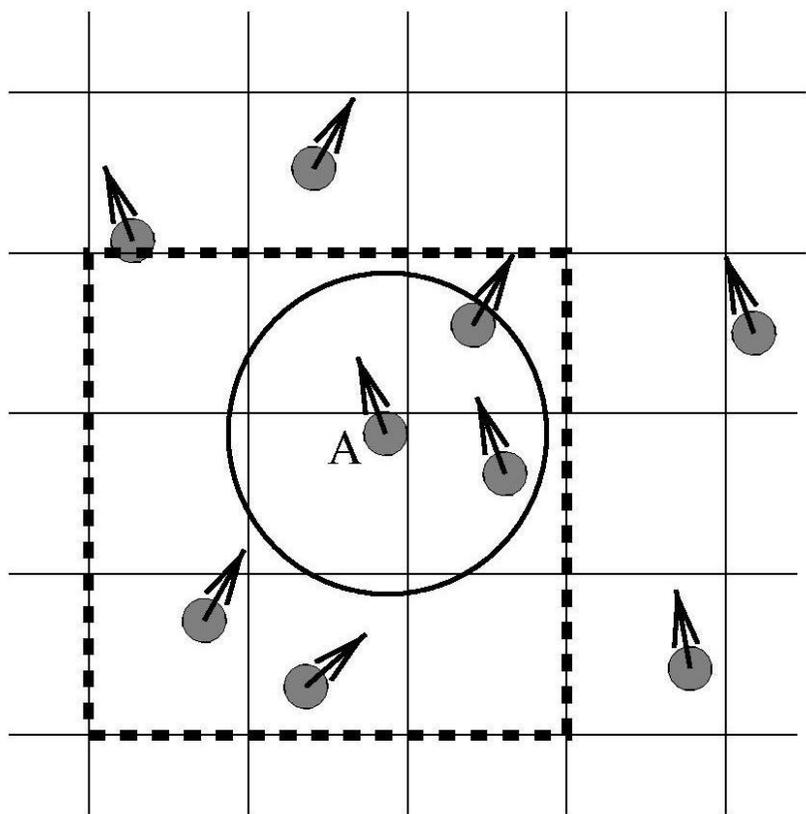




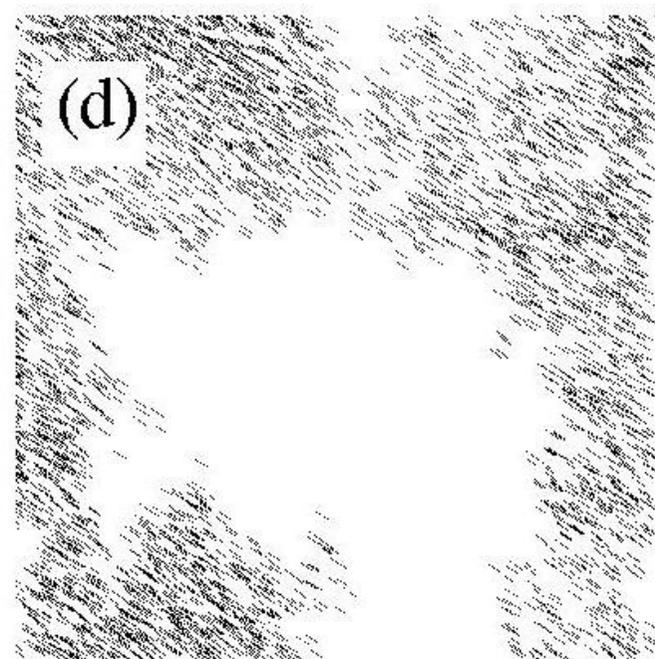
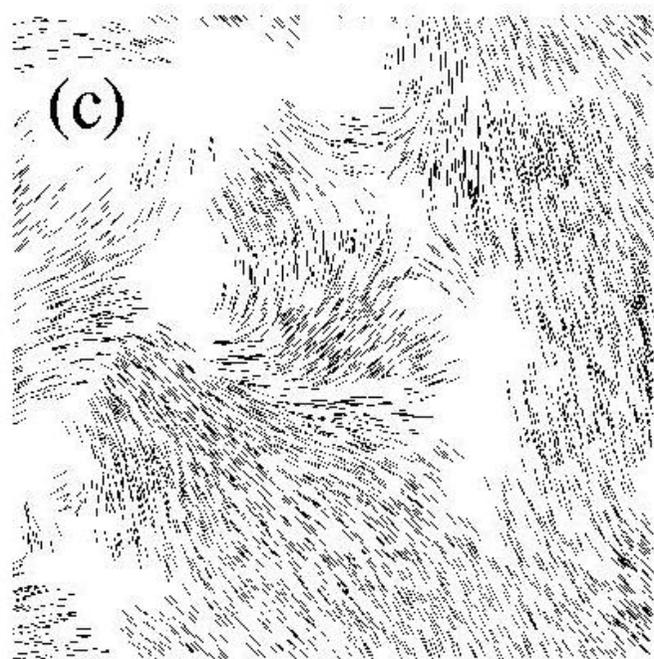
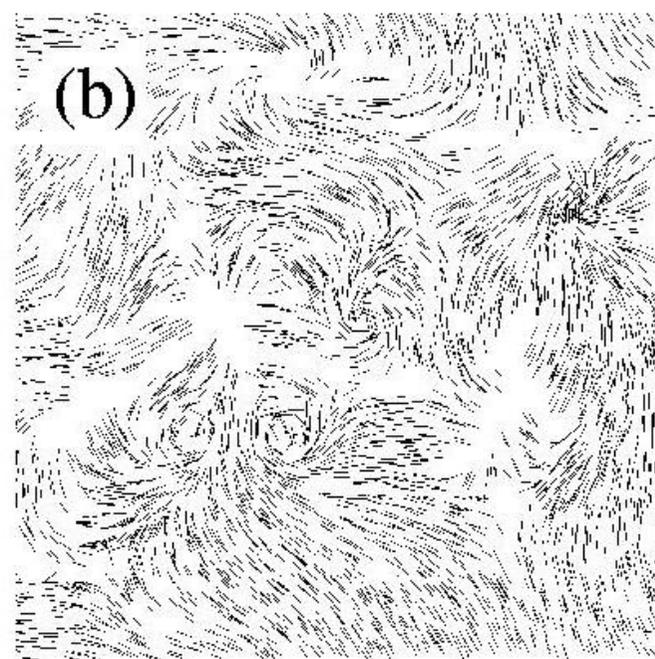
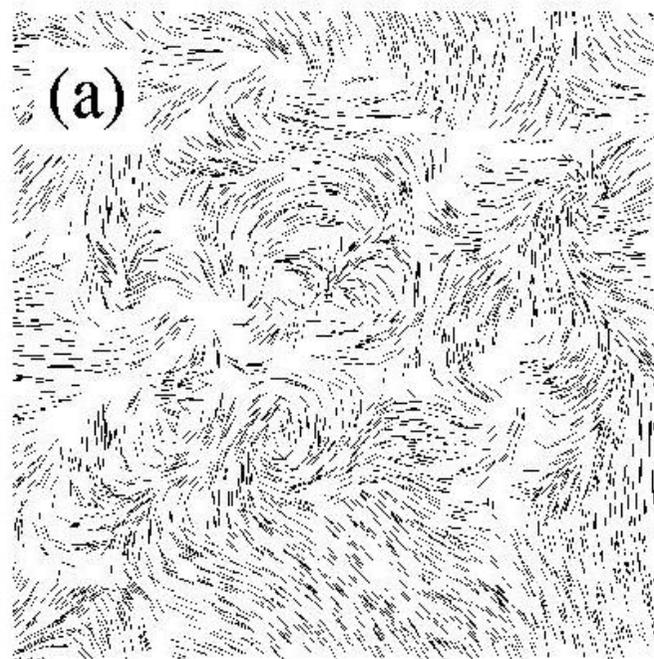


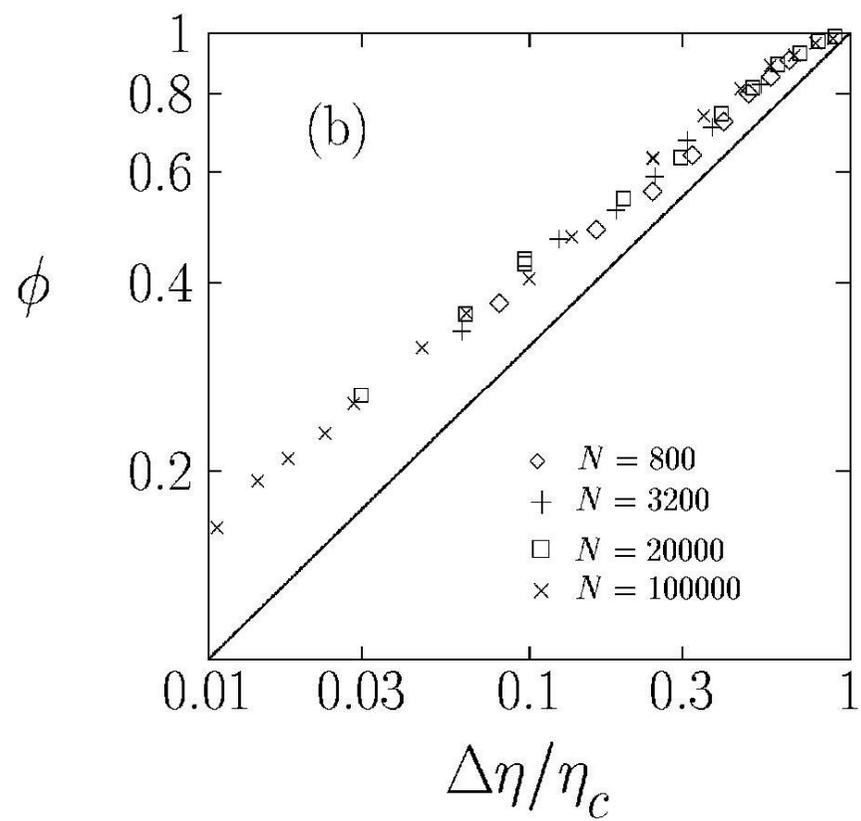
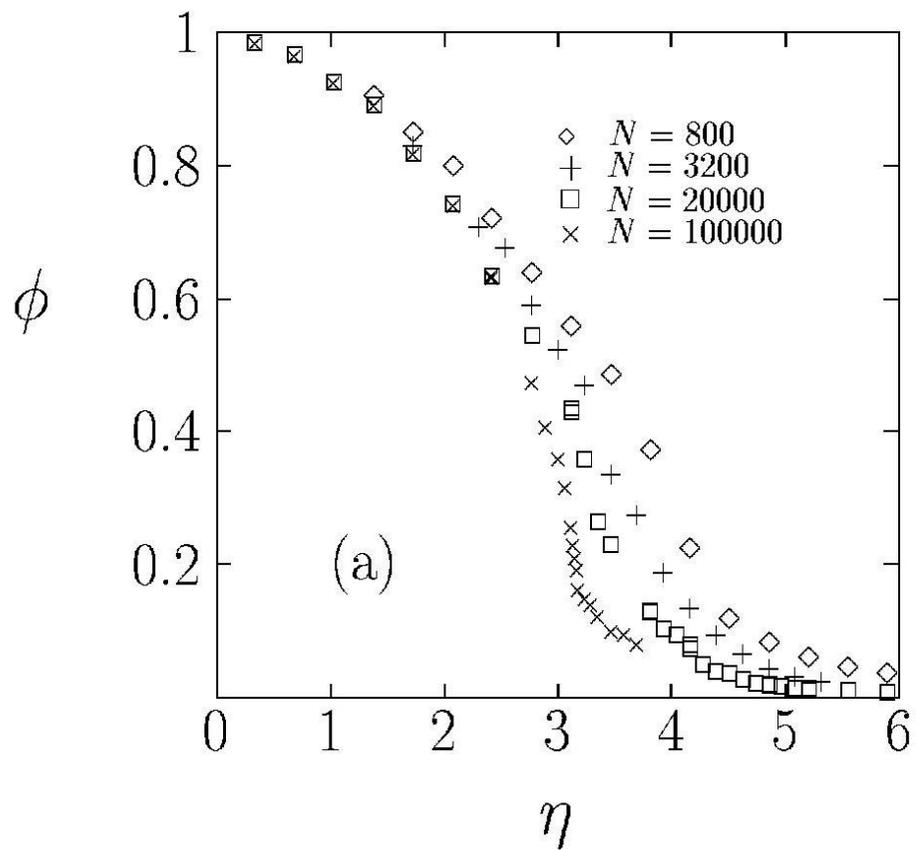


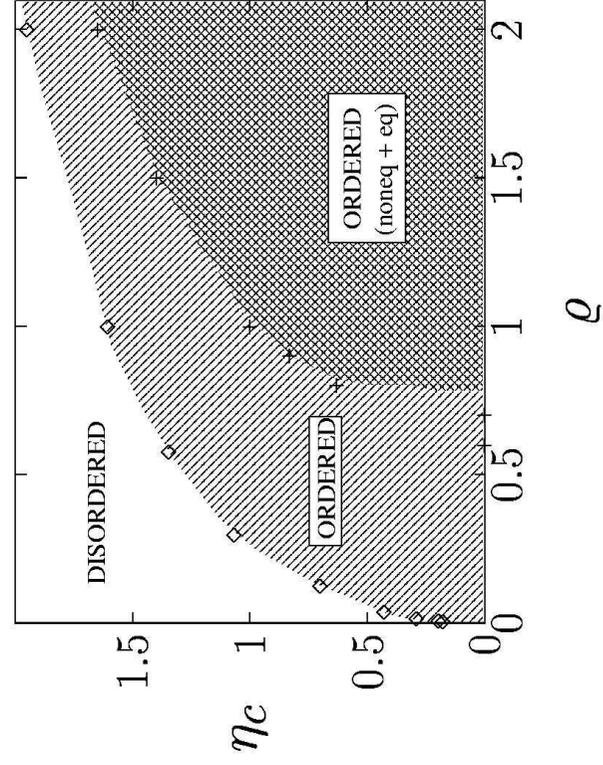
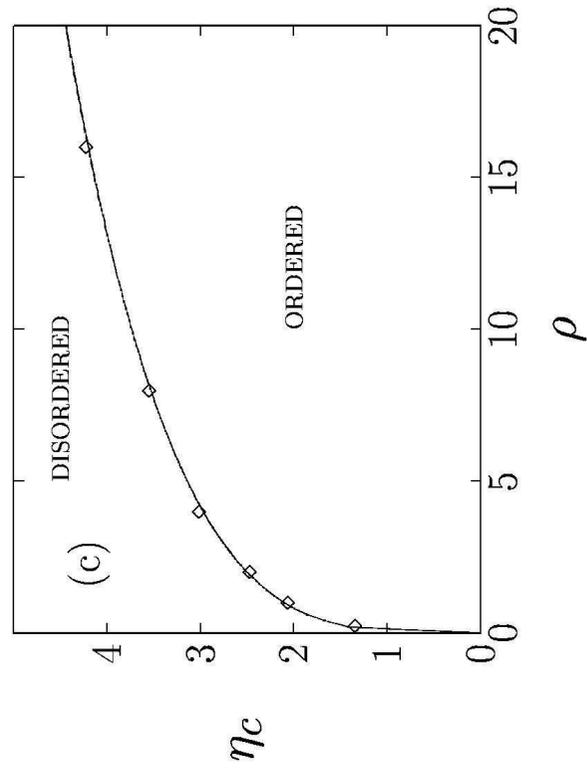
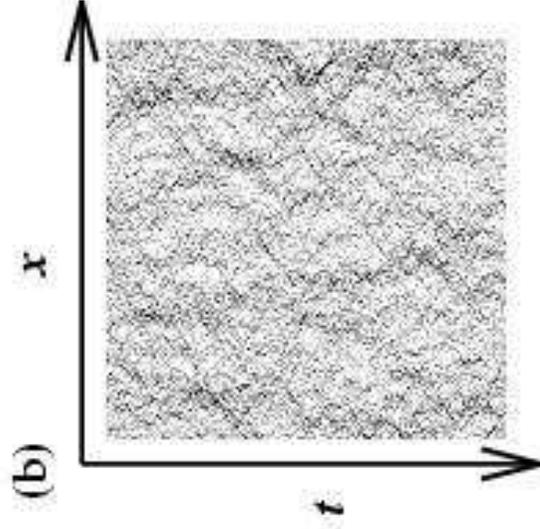
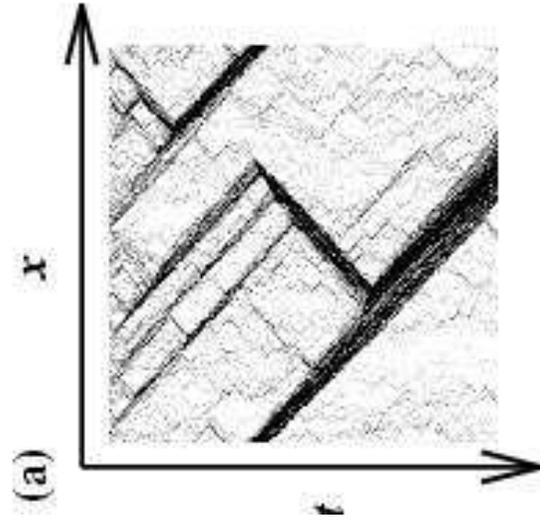


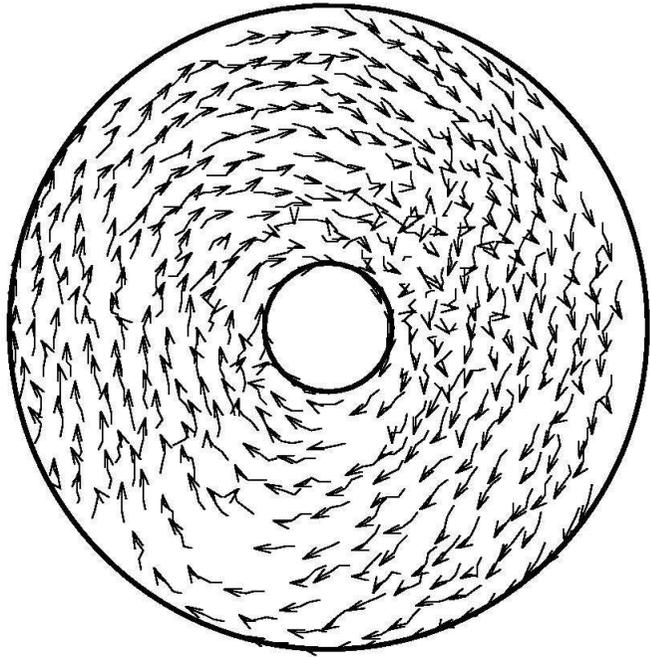


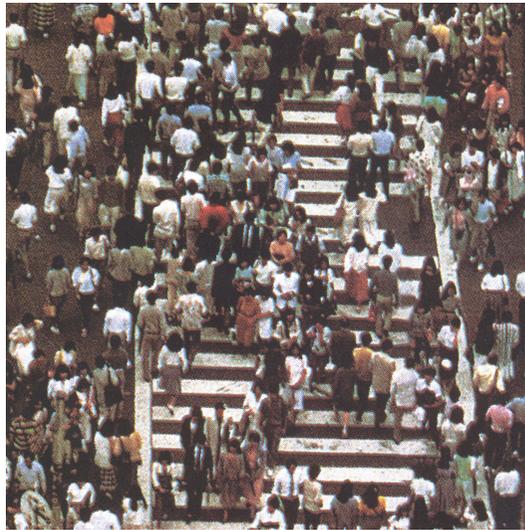
(b)





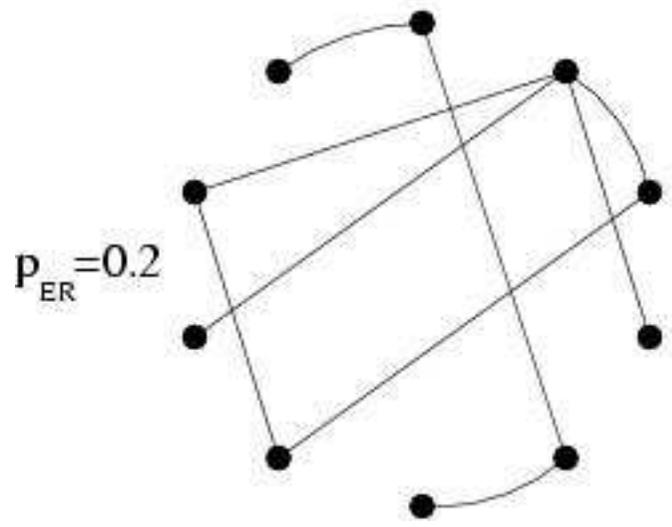
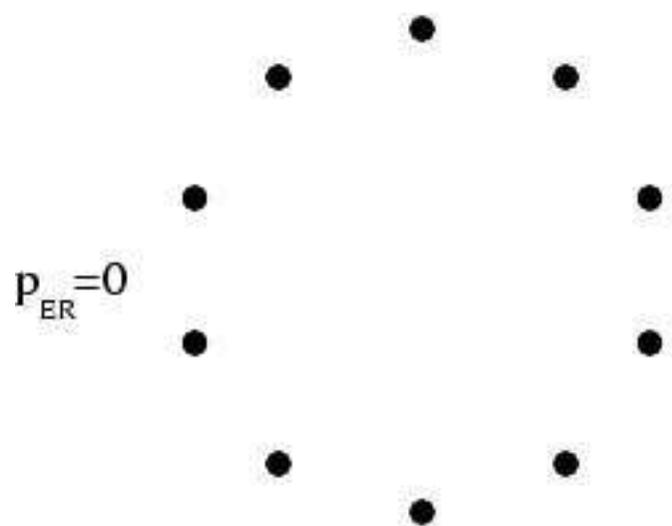




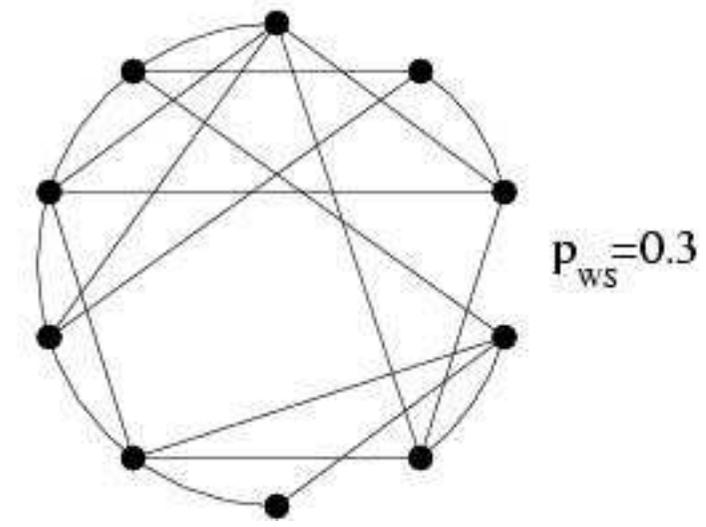
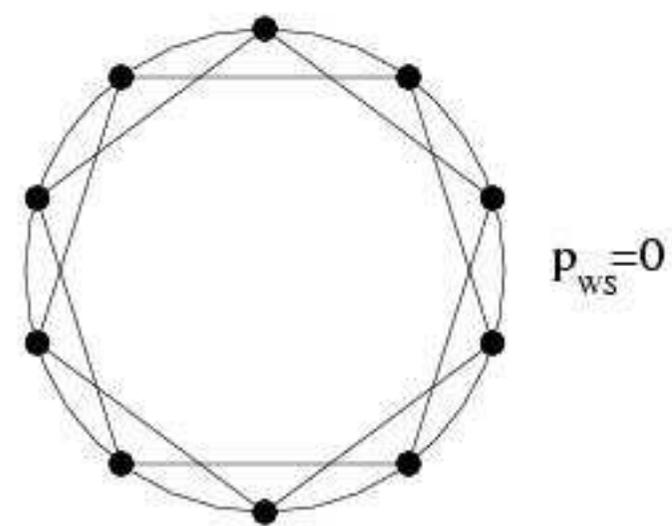


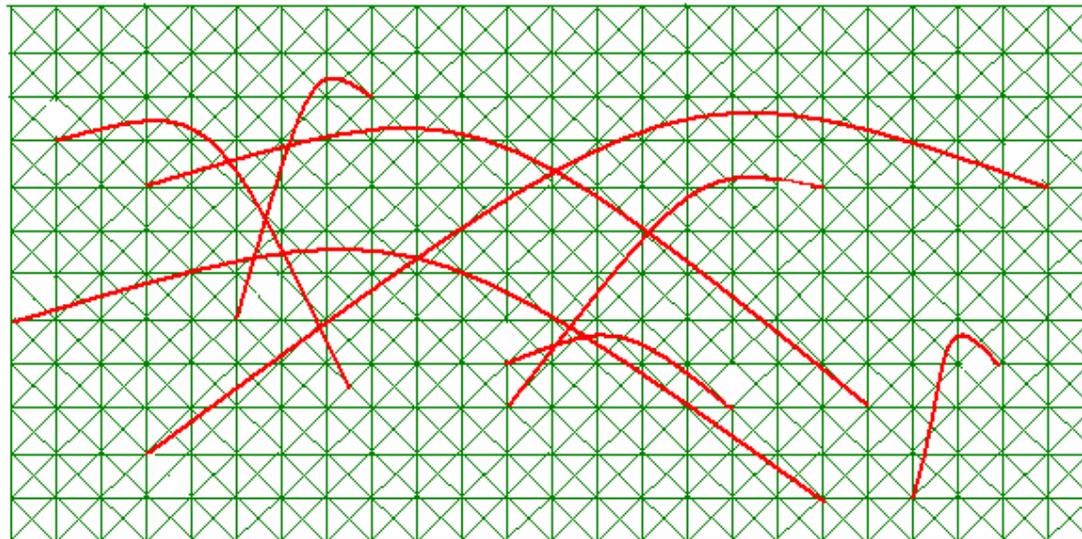
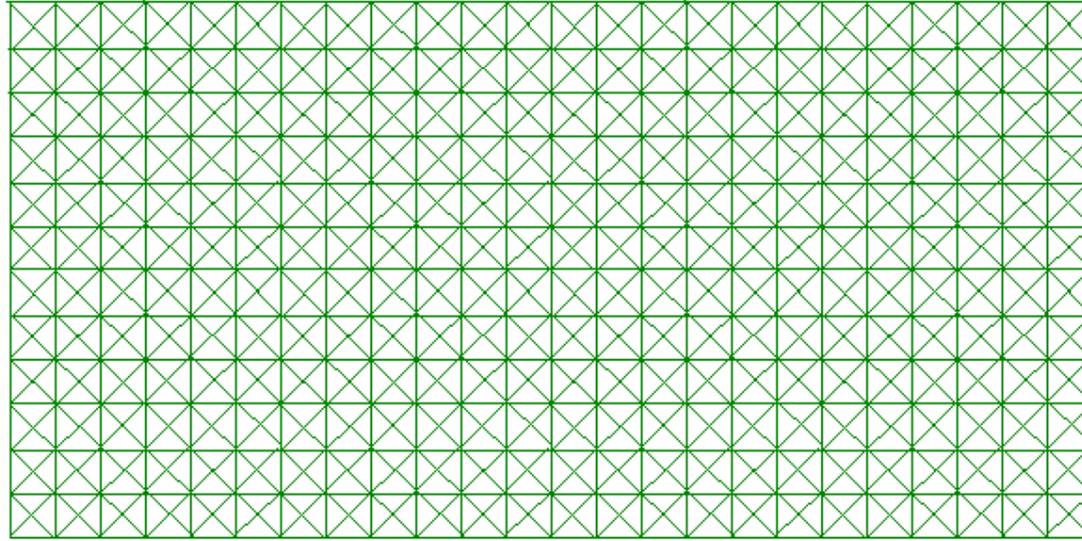


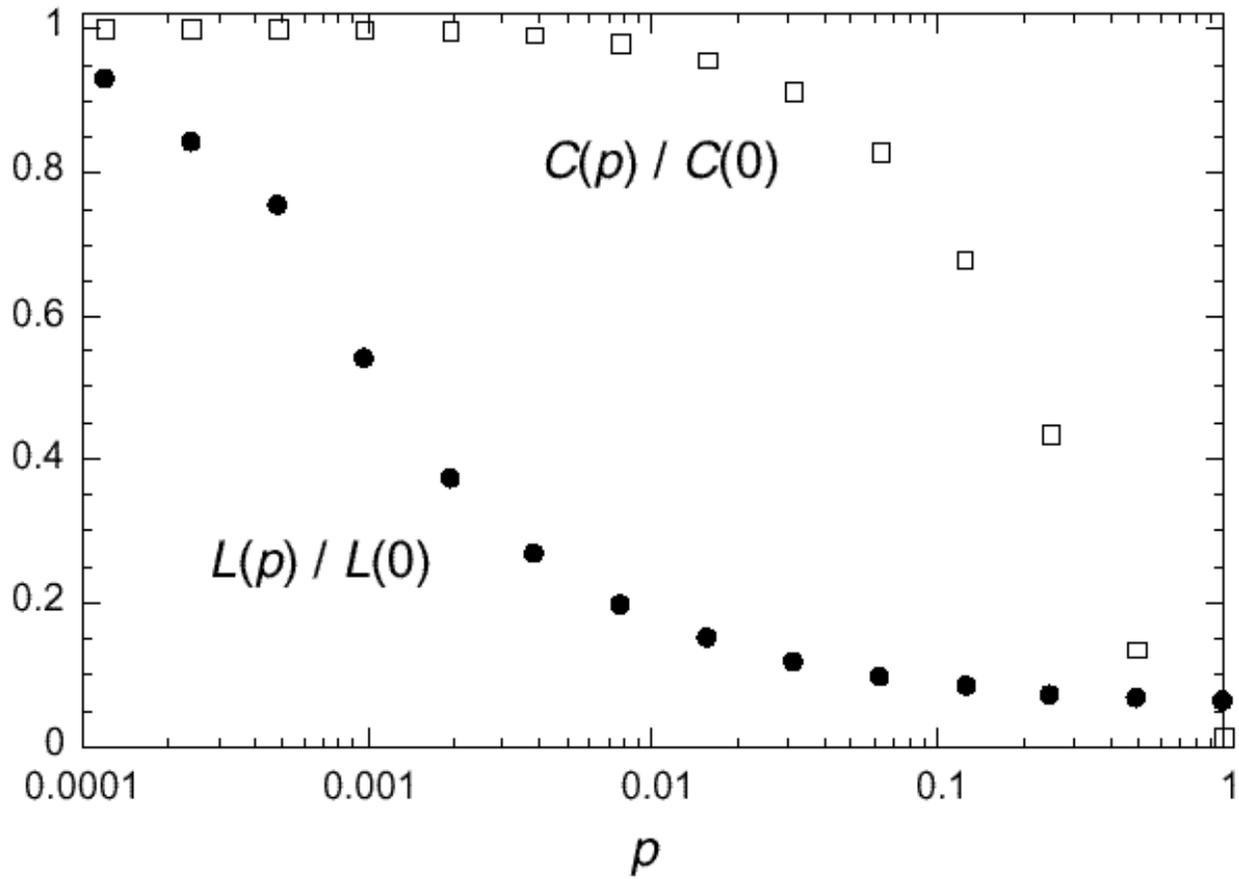
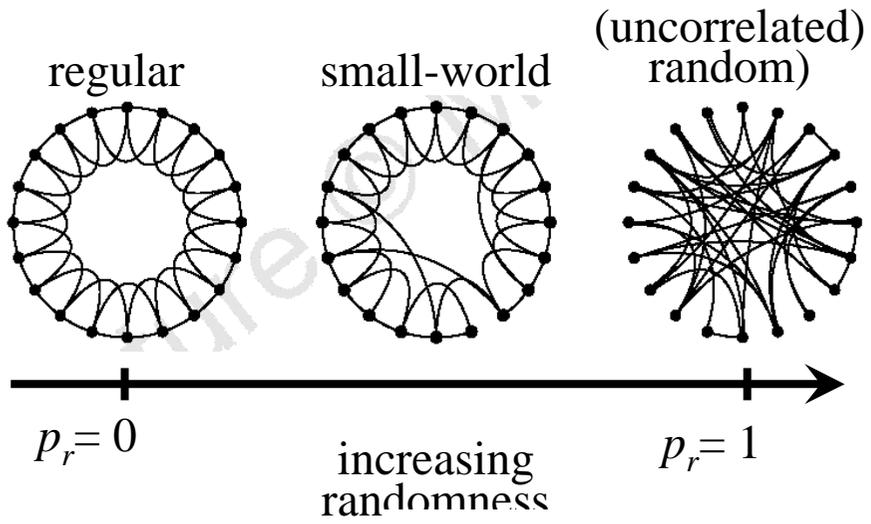
(a) ER model

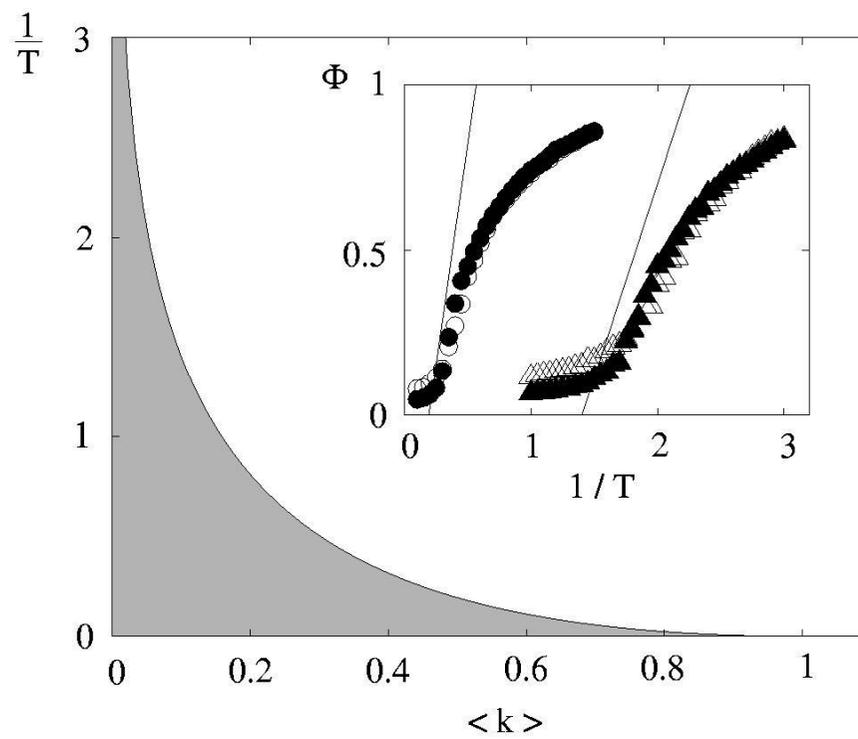
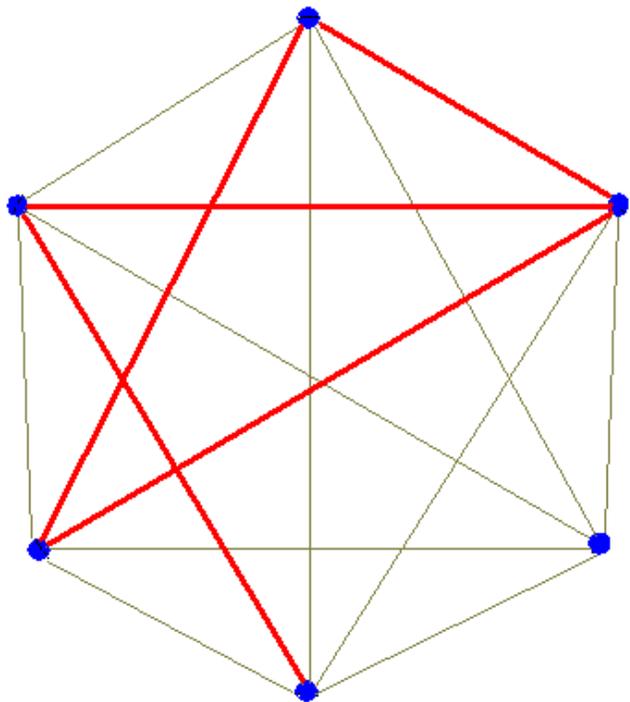


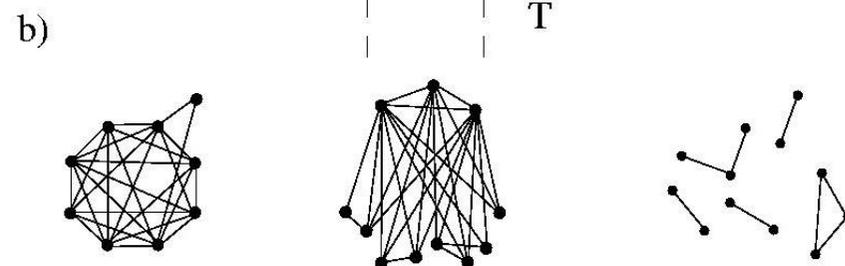
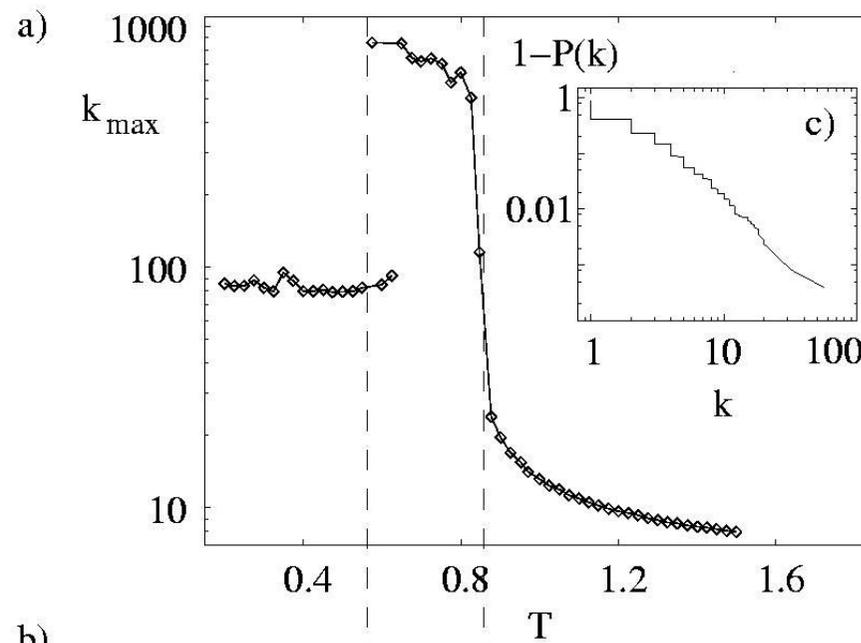
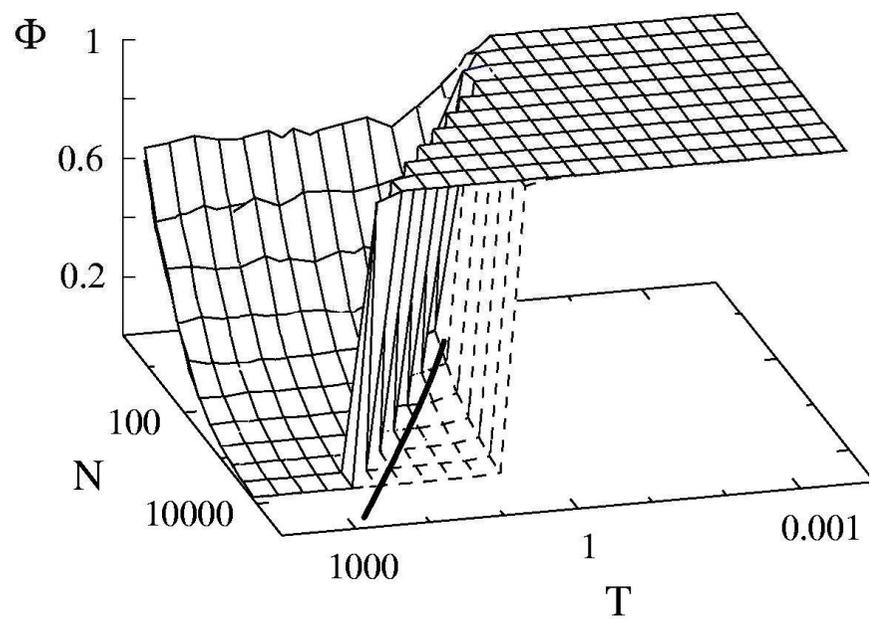
(b) WS model

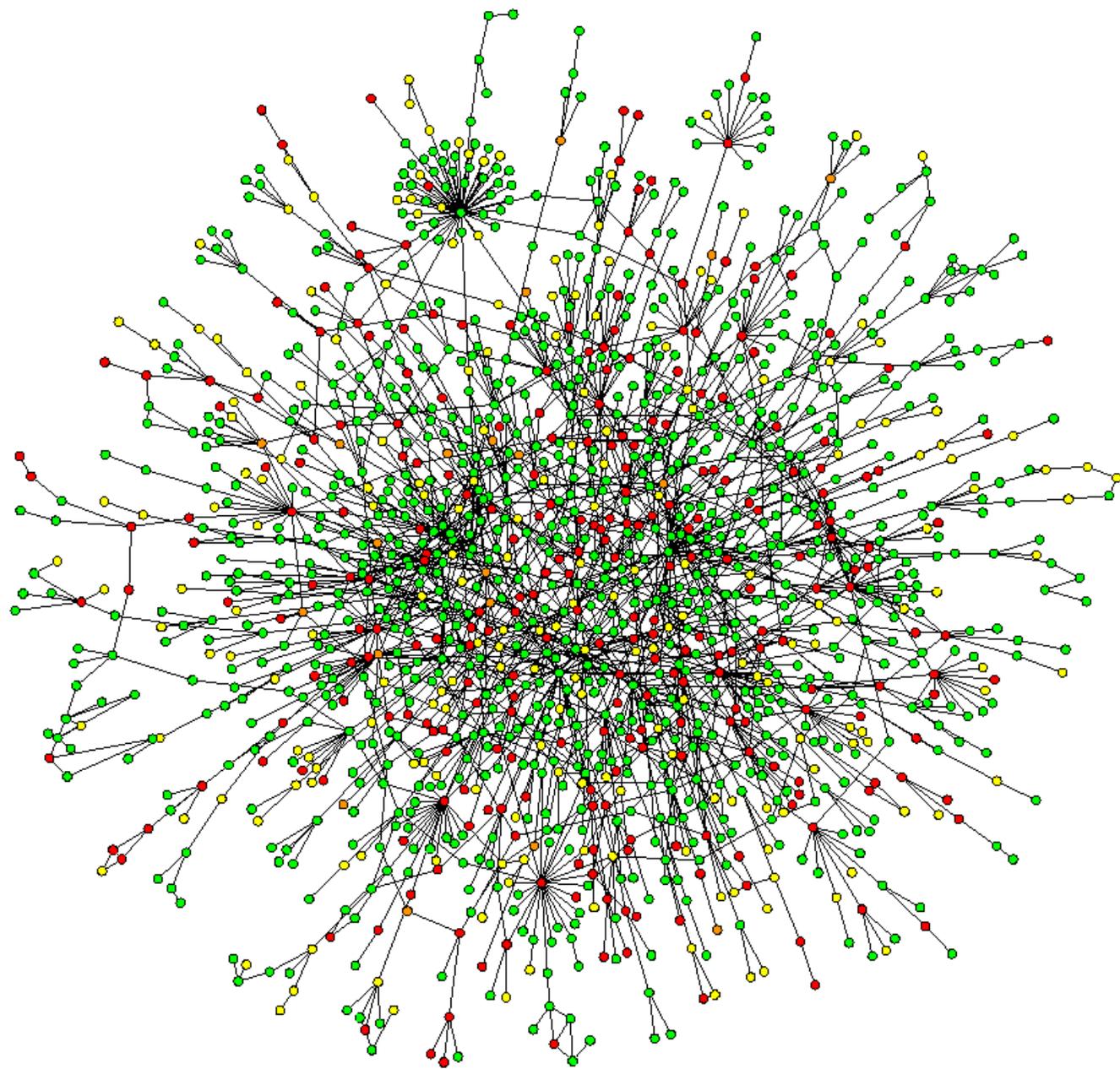




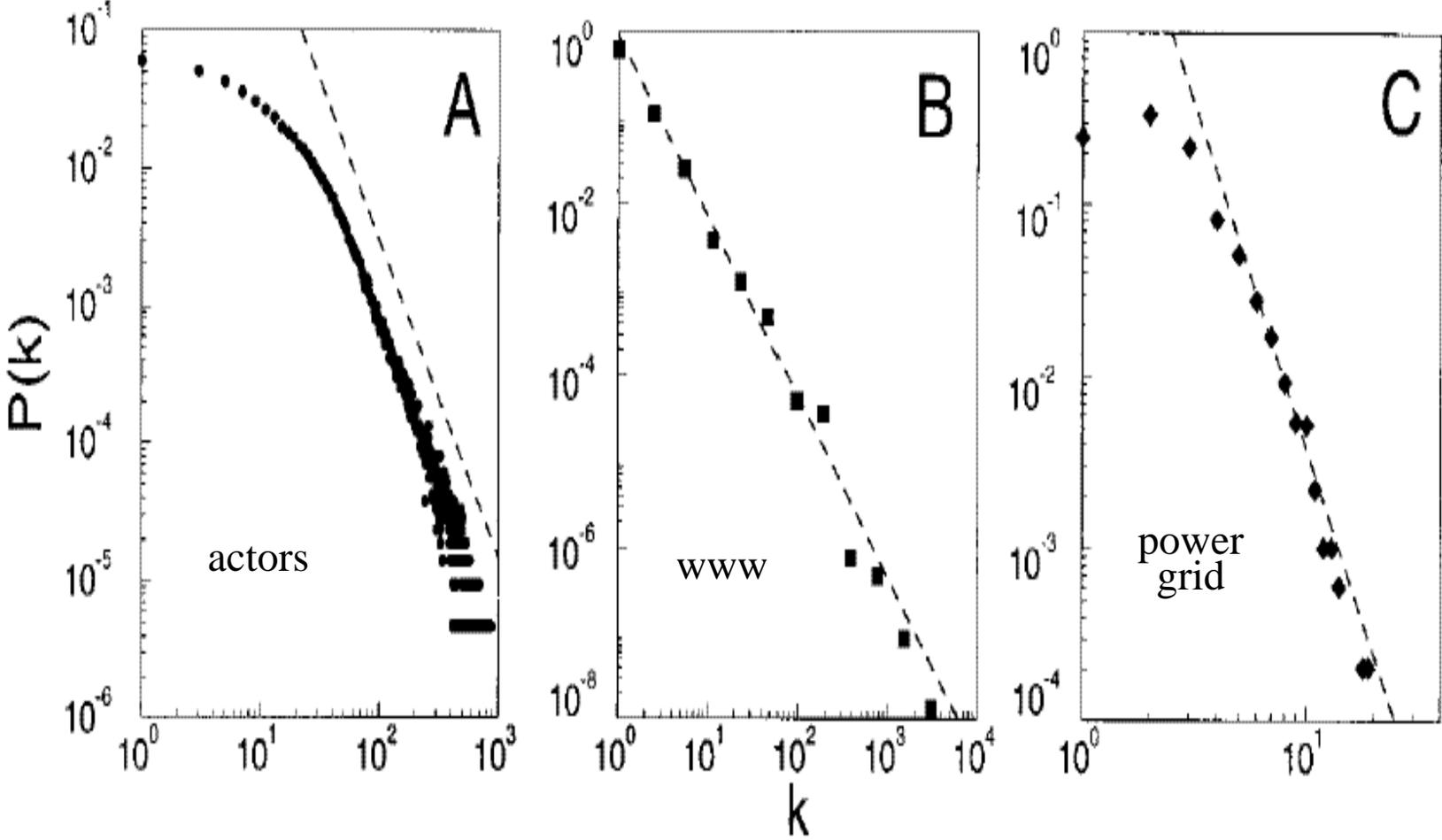


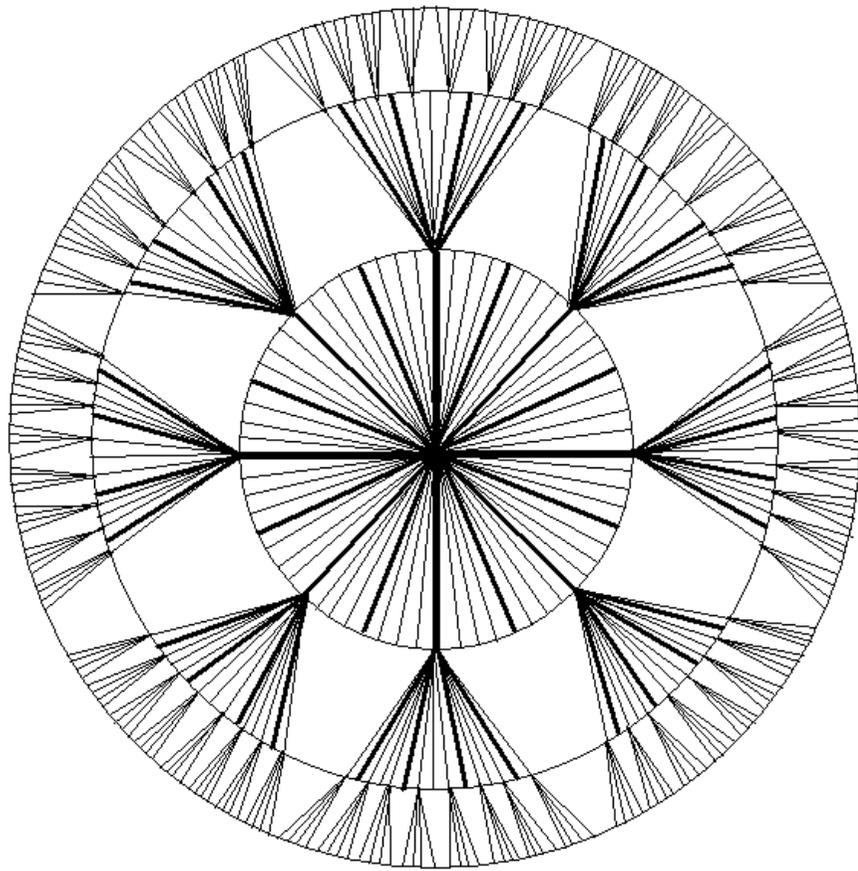






measured distributions:





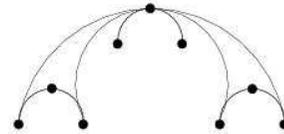
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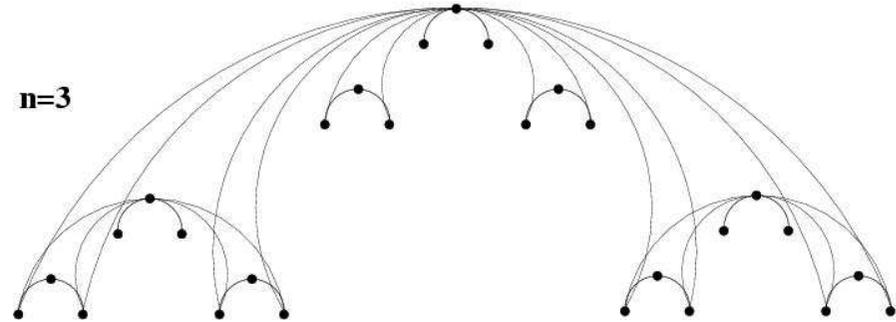
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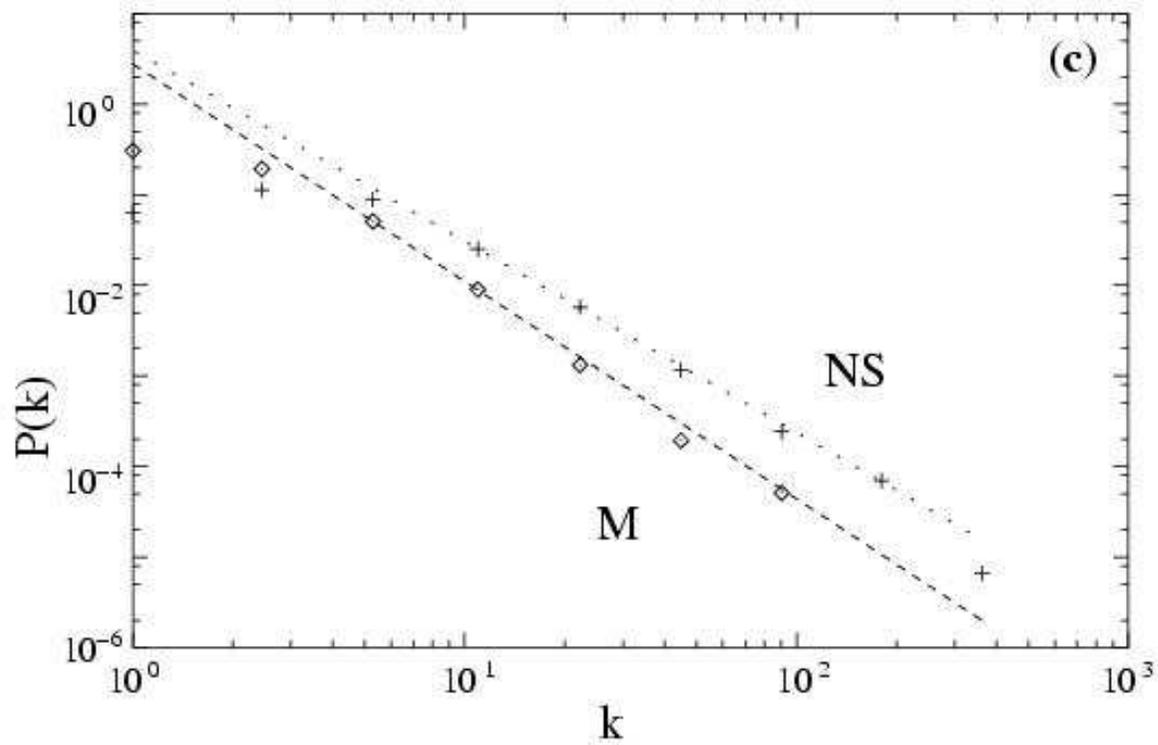
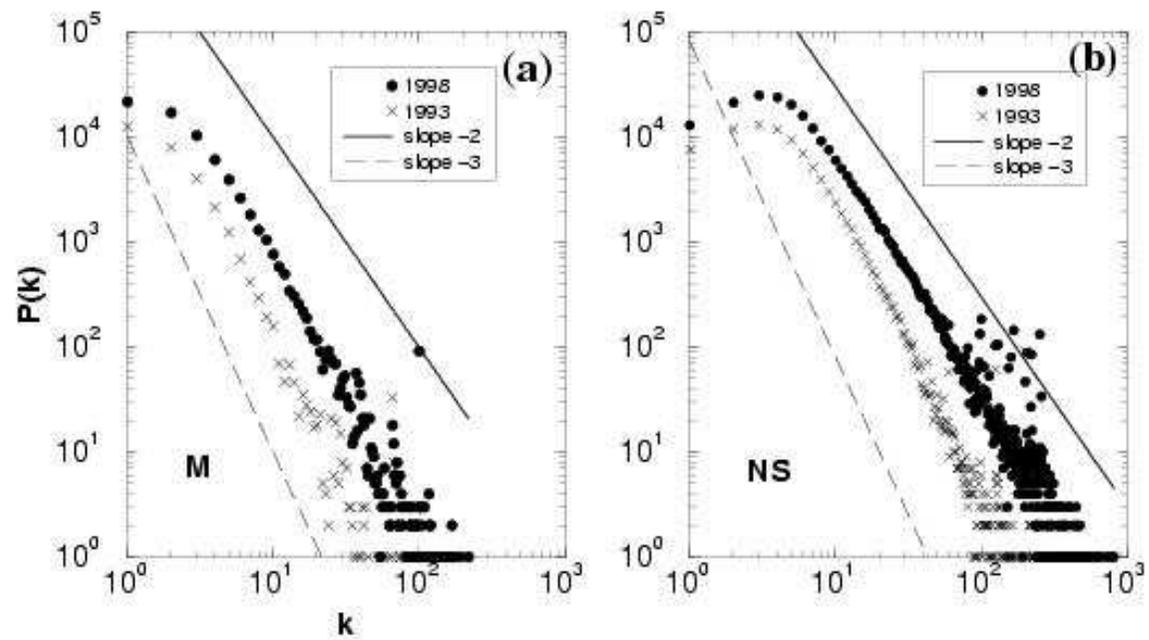


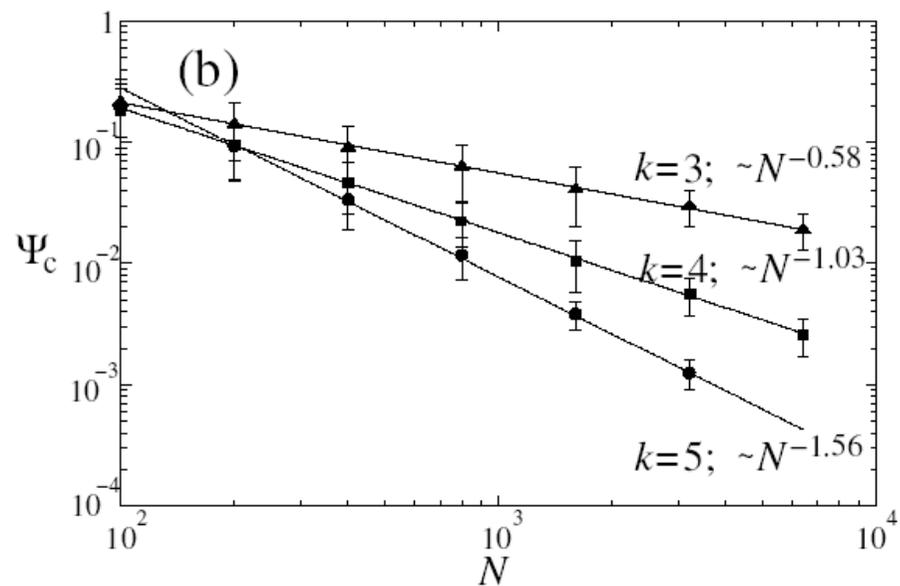
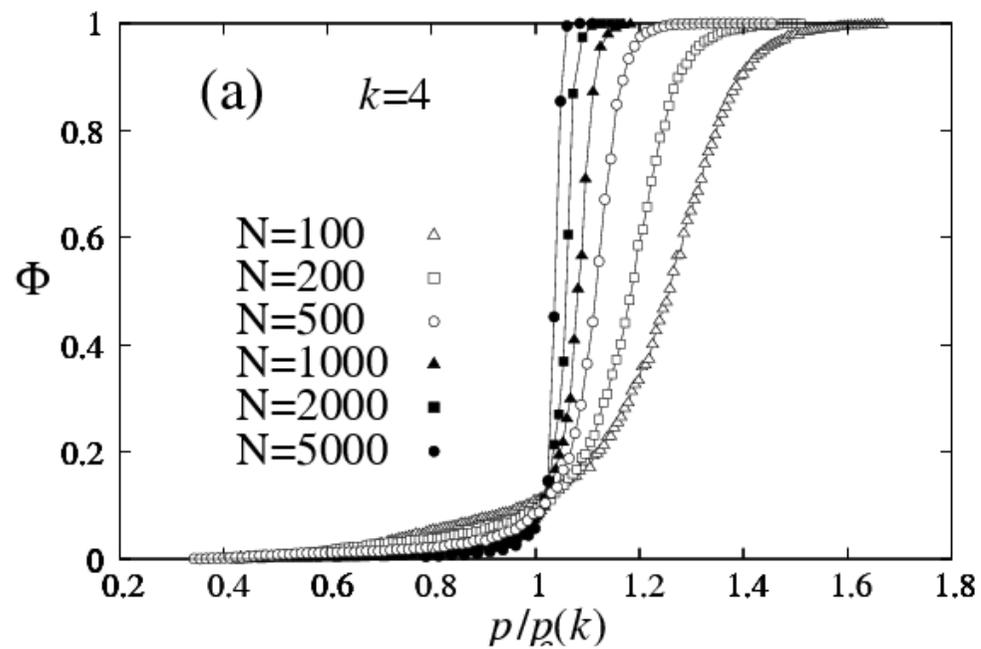
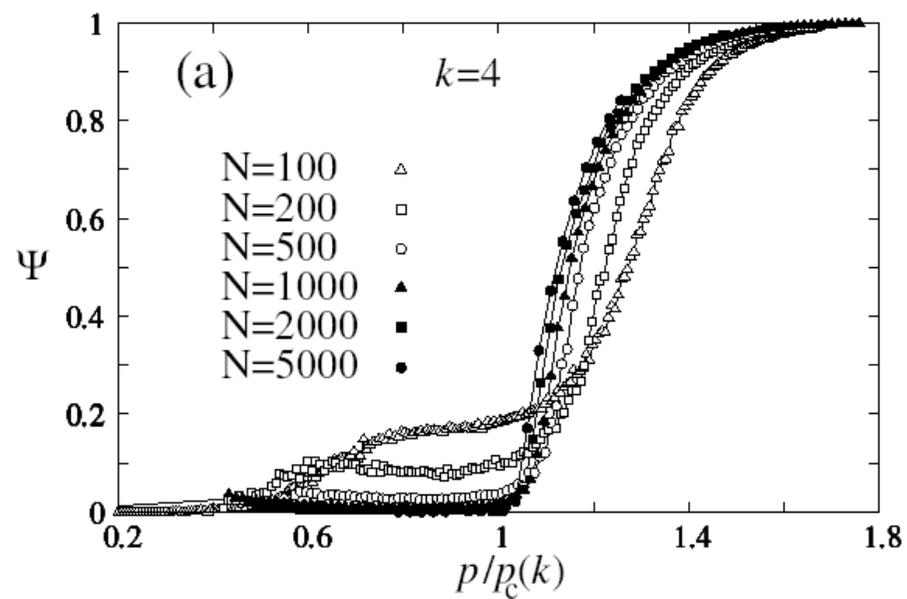
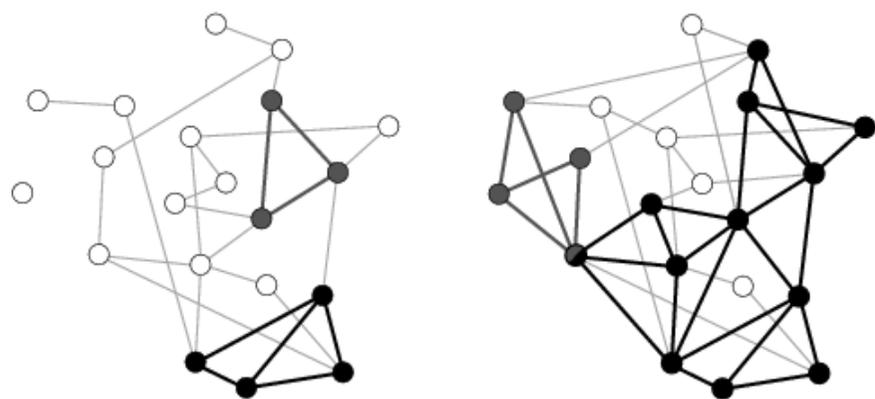
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n=3

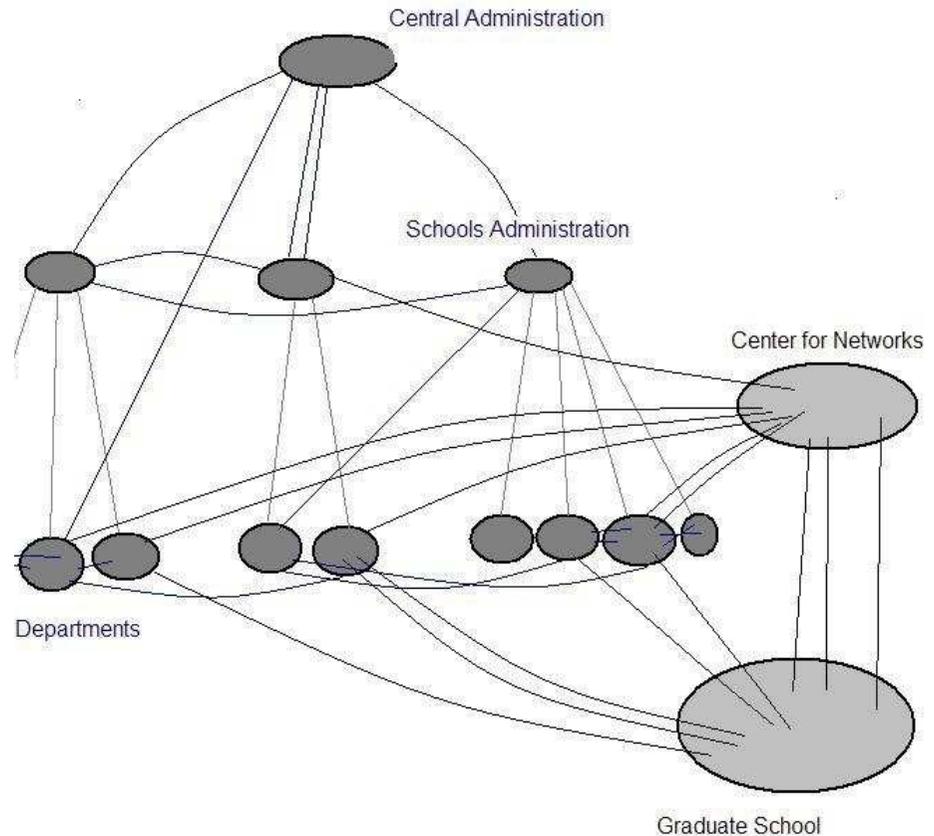
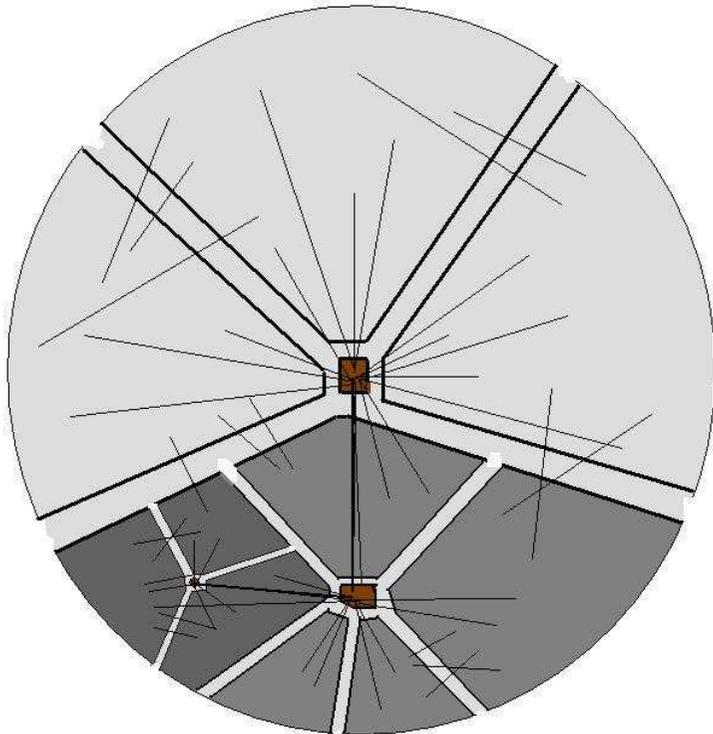
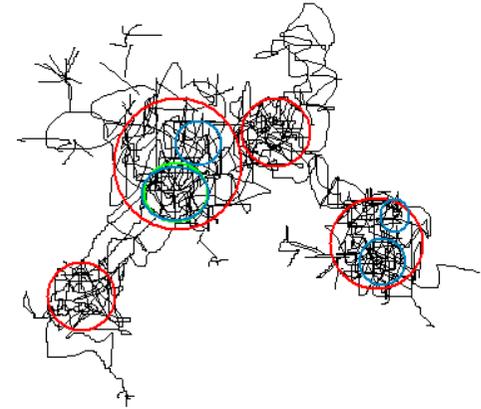




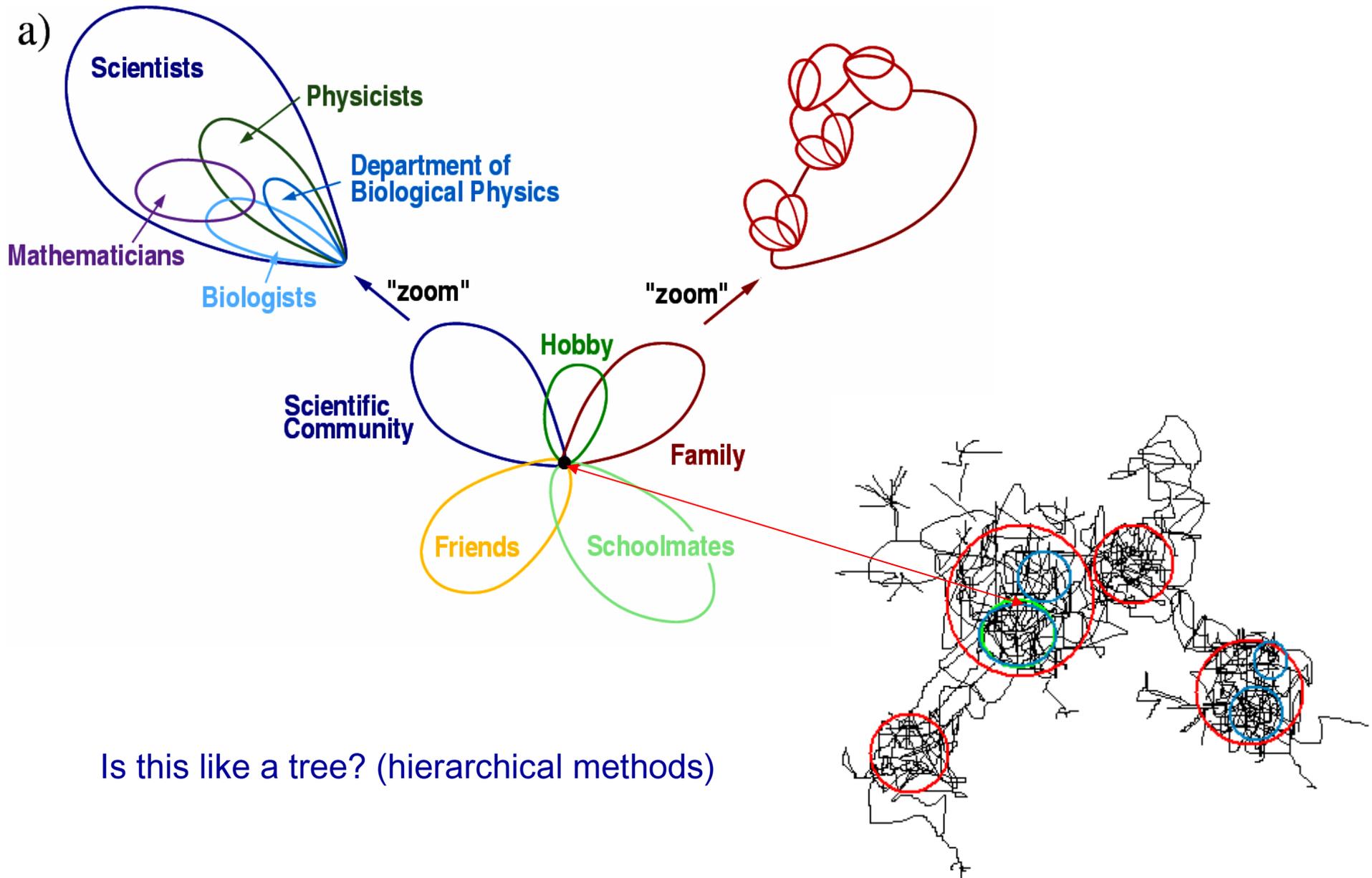


Basic observations:

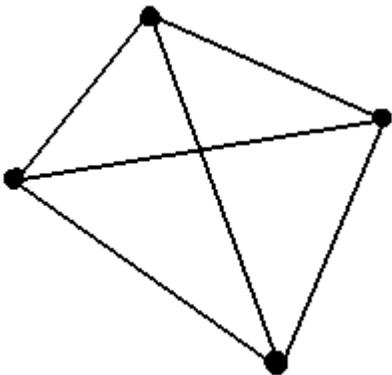
A large complex network is bounded to be highly structured
This structure is typically hierarchical
(i.e., displays some sort of self-similarity of the structure)



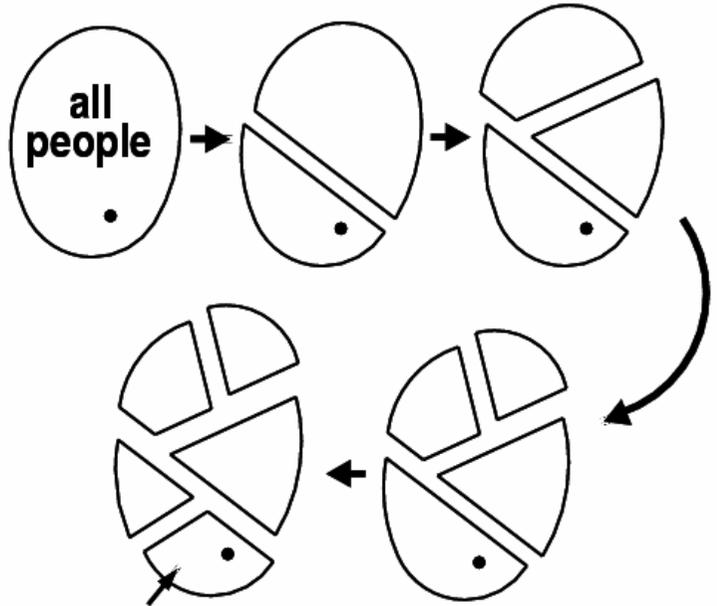
Role of overlaps



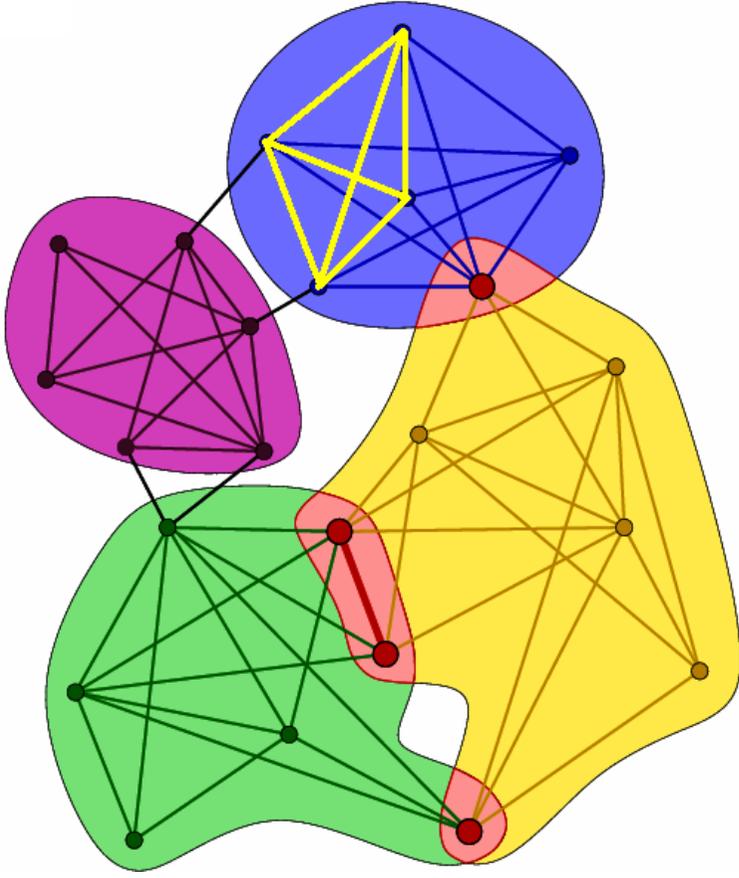
Is this like a tree? (hierarchical methods)



b)



**Includes colleagues,
friends, schoolmates,
family members, etc.**



“Web of networks”

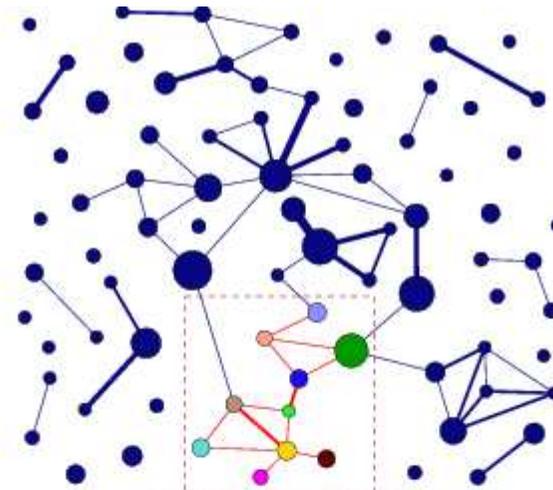
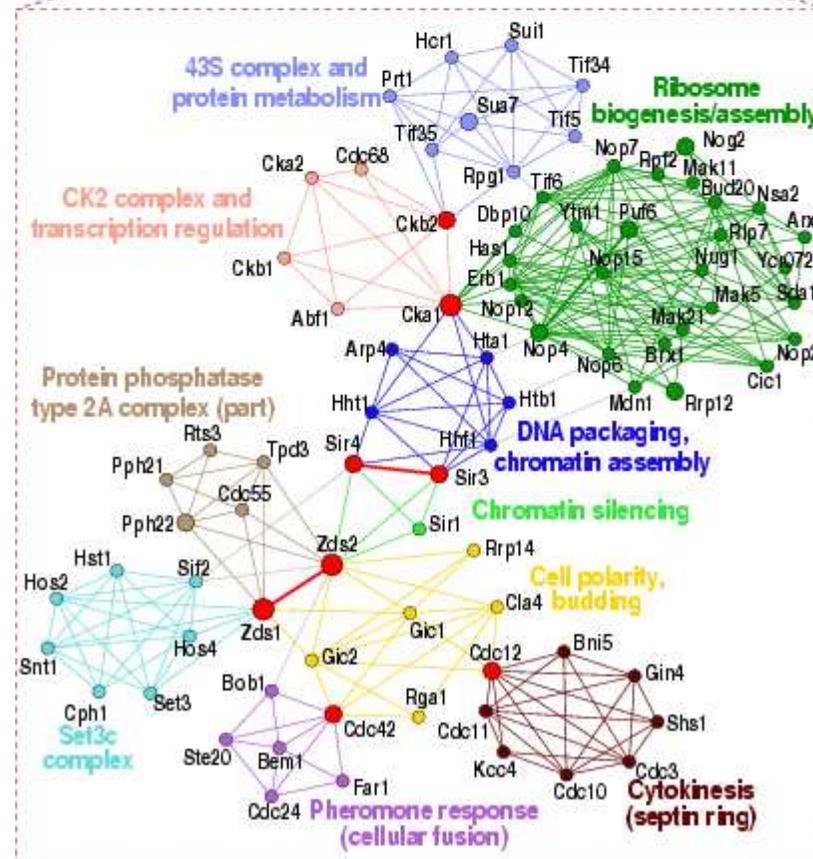
Each node is a community

Nodes are weighted
for community size

Links are weighted
for overlap size

DIP data base of
protein interactions
(*S. cerevisiae*, a yeast)

The other networks we
analysed are much larger!!

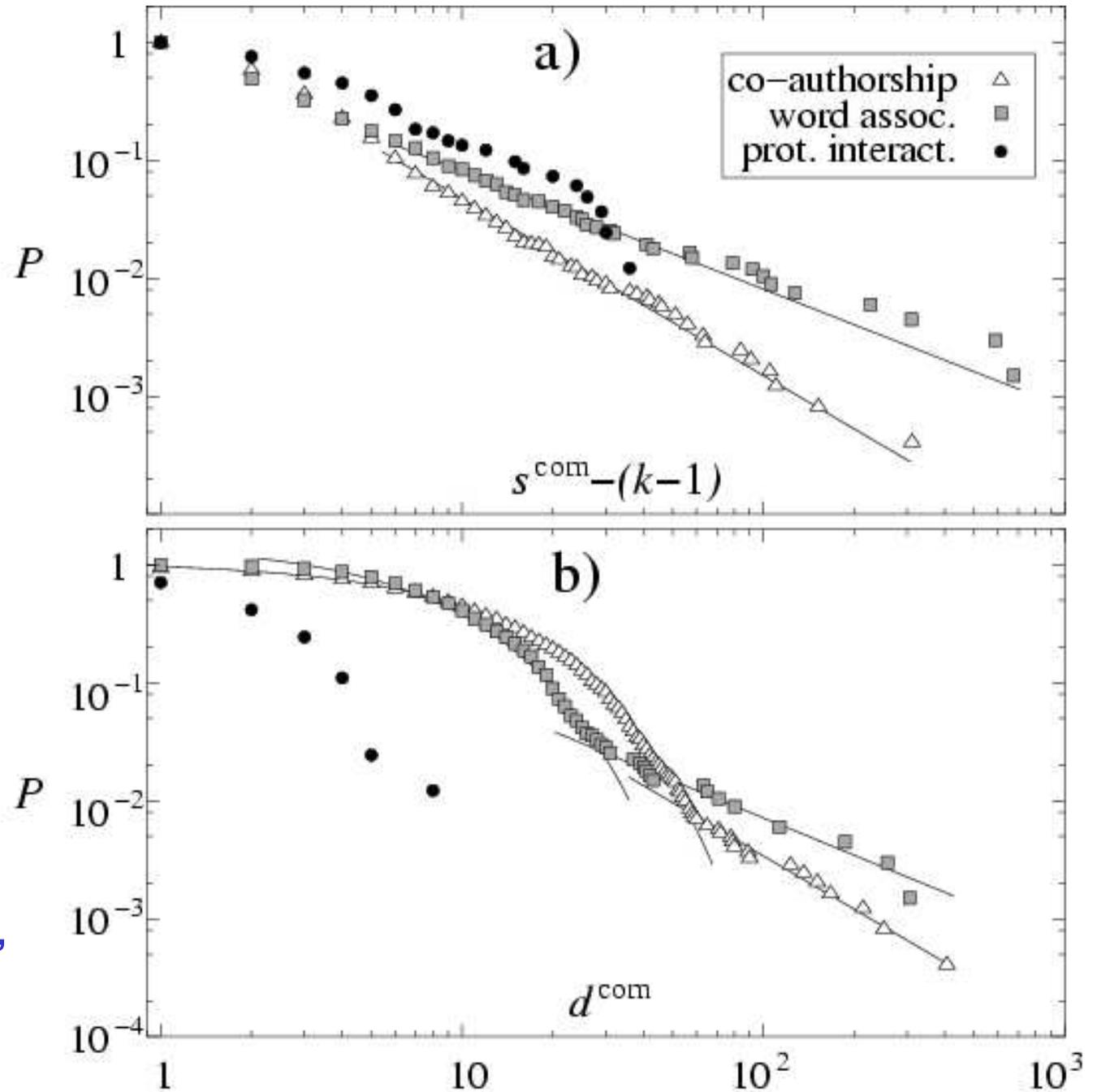


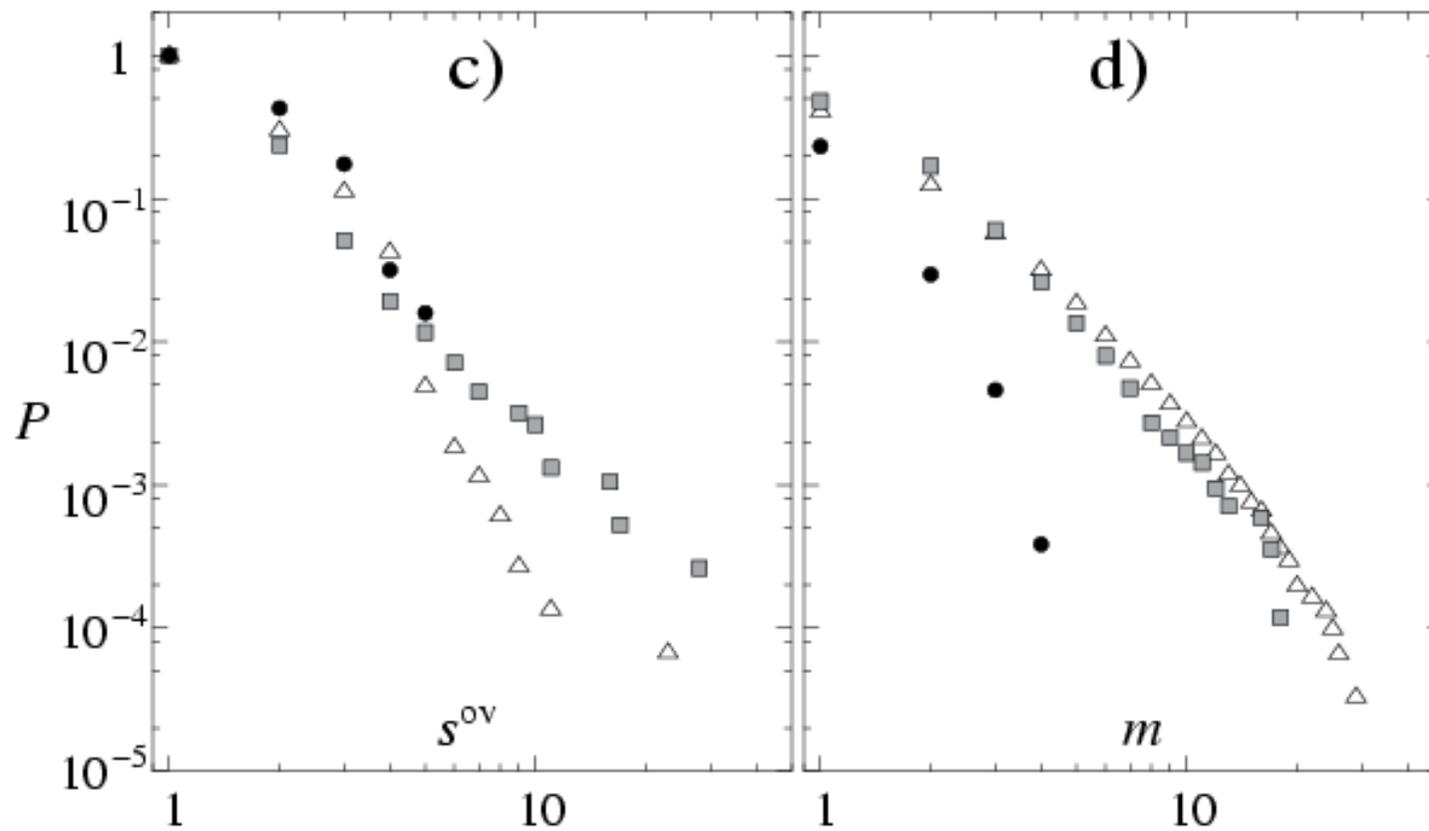
Community size distribution

Community degree distribution

Combination of exponential and power law!

Emergence of a new feature as going “up” to the next level





Community overlap size

membership number

