

A simple introduction to Social Network Analysis

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What is SNA

- Focus on dyads
- Relational approach
- Not a method, not data but a perspective
- Uses both quantitative and qualitative methods
- Ego centred and whole network
- Concrete networks we could draw

Node Types

- Persons
- Organizations
- Animals
- Words
- Web pages
- Families
- Etc etc

Relations (People)

- Kinship
 - mother of, wife of
- Other role-based
 - boss of, teacher of
 - friend of
- Cognitive/perceptual
 - knows
 - aware of what they know
- Affective
 - likes, trusts
- Interactions
 - give advice, talks to, fights with, lends money to
 - sex / drugs with
- Affiliations
 - belong to same clubs
 - is physically near

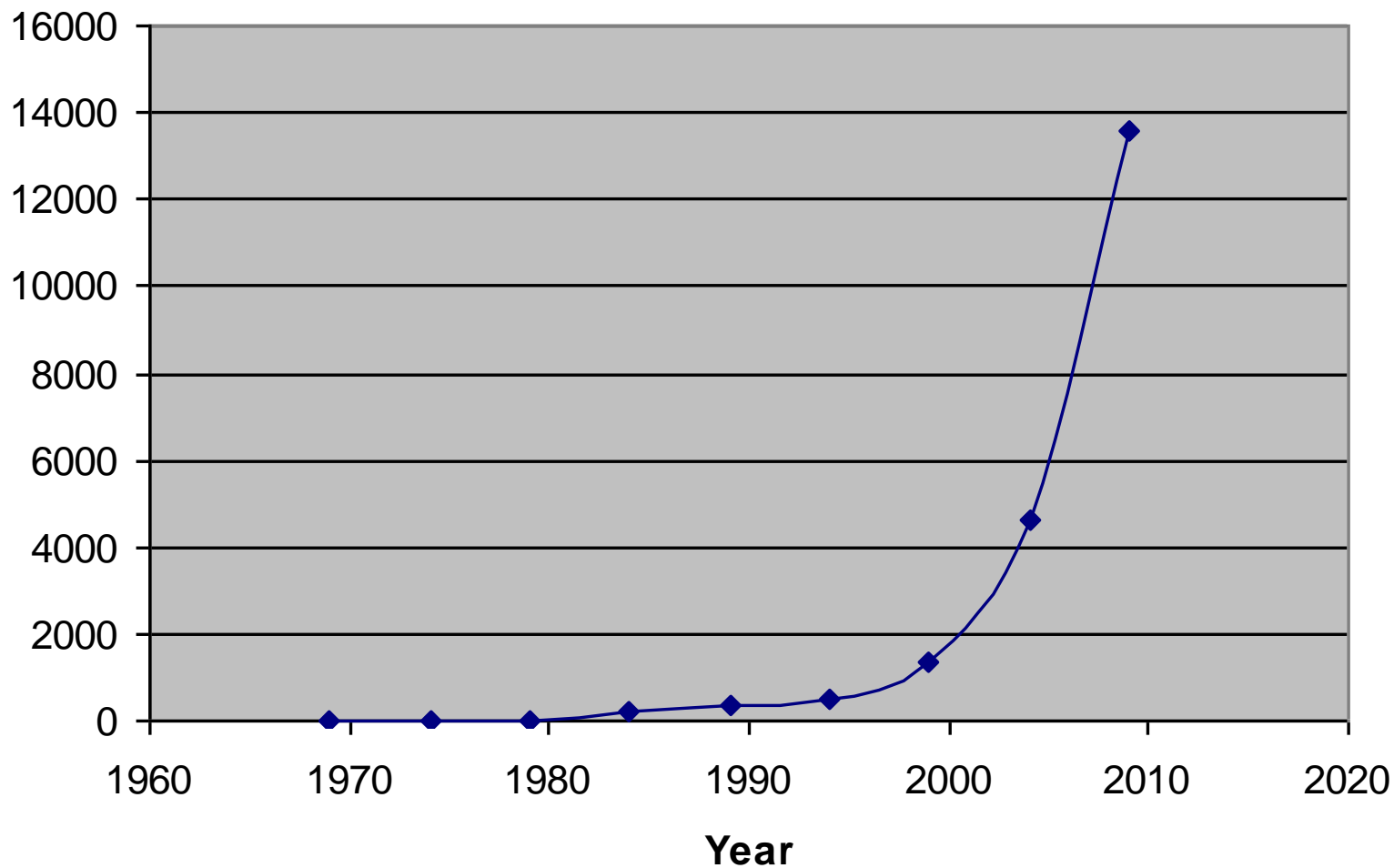
Relations (Other)

- Trades with
- Collaborates with
- Hyperlink to
- In the same paragraph
- Eats
- Grooms
- Pecks
- Hits

Relations can be directed and/or valued

- Strength
- Rank
- Frequency
- Probability

Number of articles containing the phrase "social network analysis"



Traditional Applications

- Small bounded groups
- Organizations
- Social support (Ego network studies)
- Social Biology

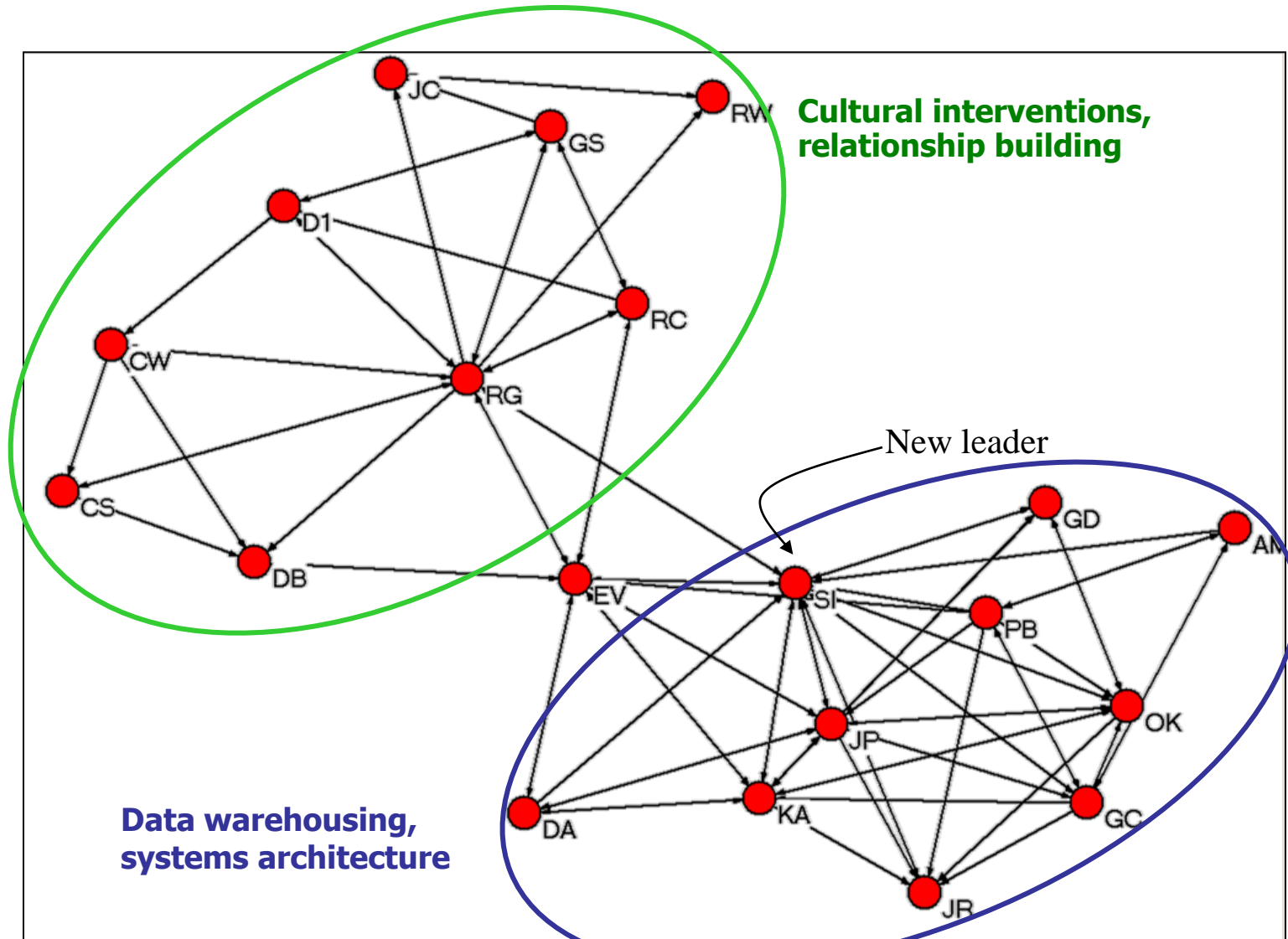
Traditional methods

- Centrality
- Cohesive subgroups
- Cohesion
- Positional Analysis
- Triadic methods
- Statistical models (static)
- Visualization

New areas

- Terrorist networks
- Criminal networks
- Economic networks
- WWW and internet
- Social networking data
- Small world
- Dynamic networks
- Large and complex networks
- Network formation

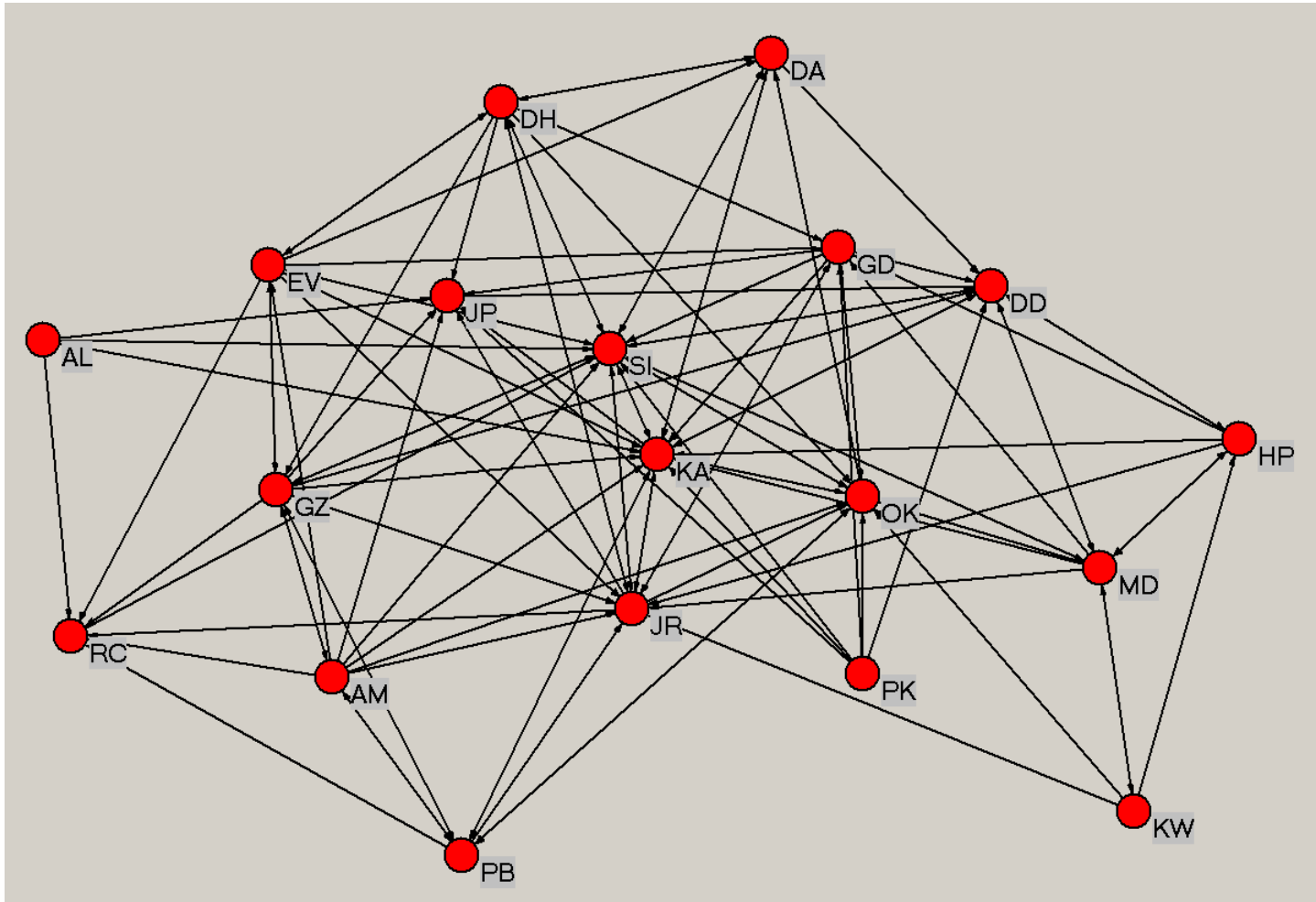
Structure of Information Flow



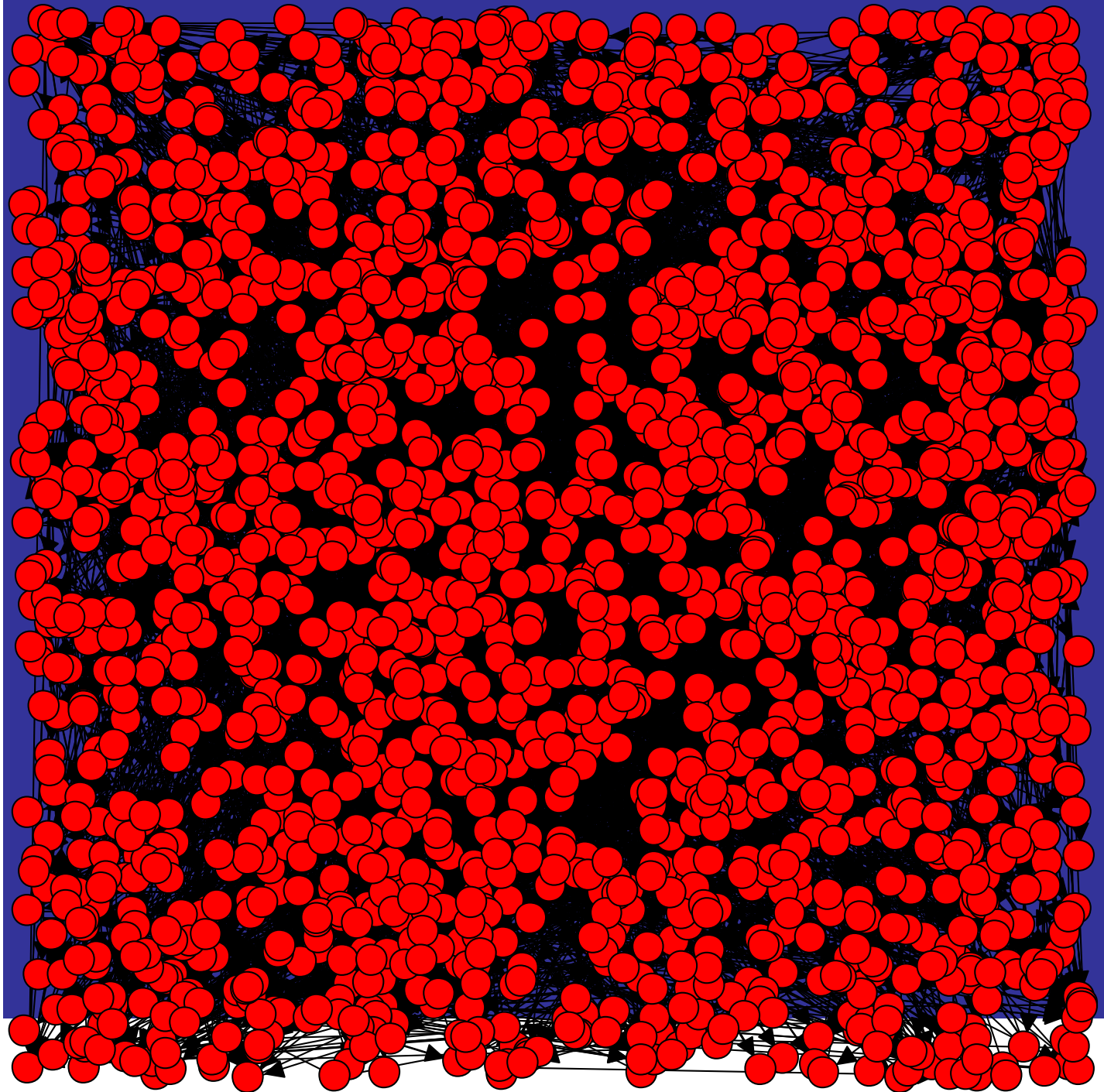
Changes Made

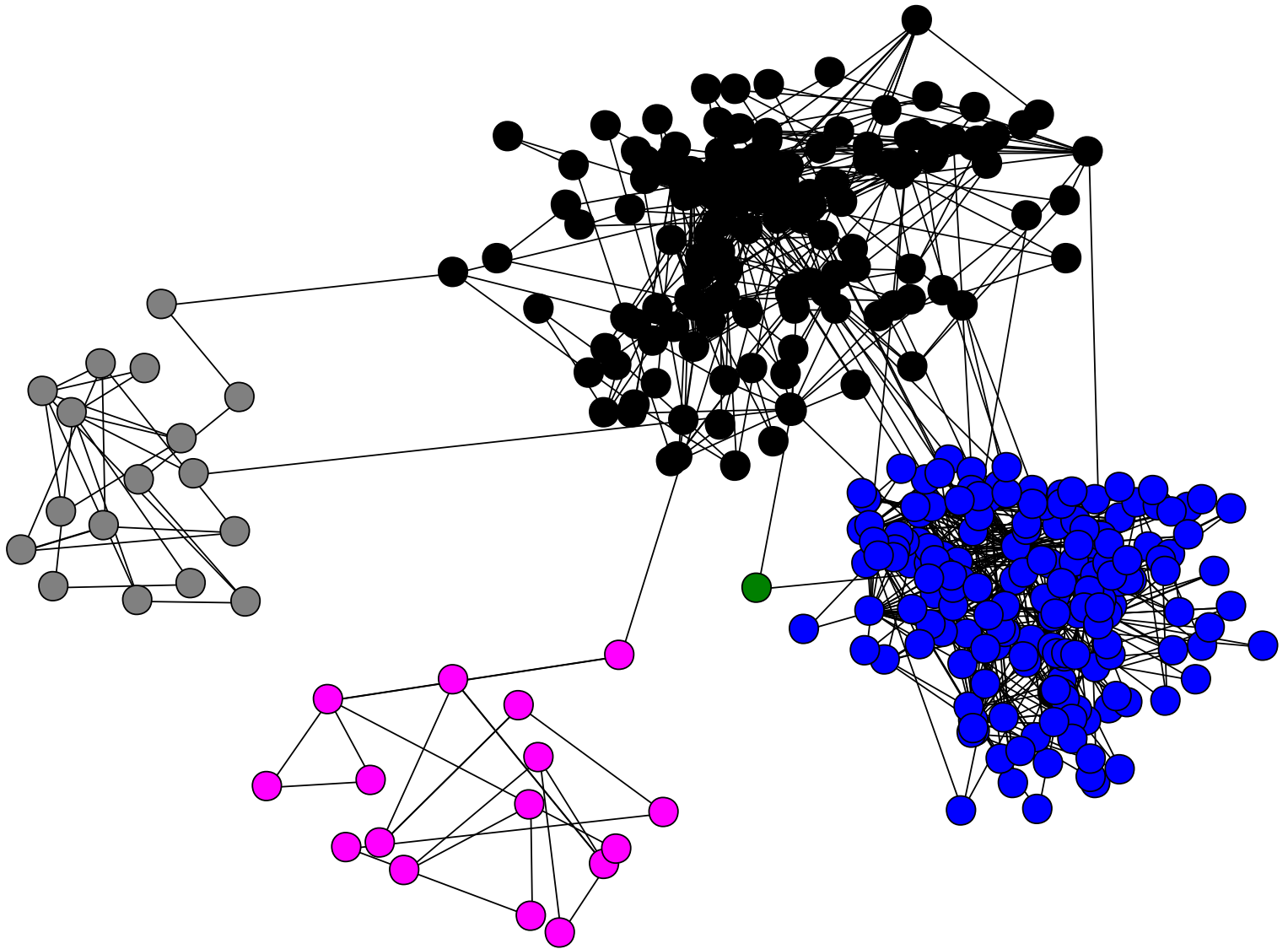
- Cross-staffed new internal projects
 - white papers, database development
- Established cross-selling sales goals
 - managers accountable for selling projects with both kinds of expertise
- New communication vehicles
 - project tracking db; weekly email update
- Personnel changes: bottleneck promoted

9 Months Later

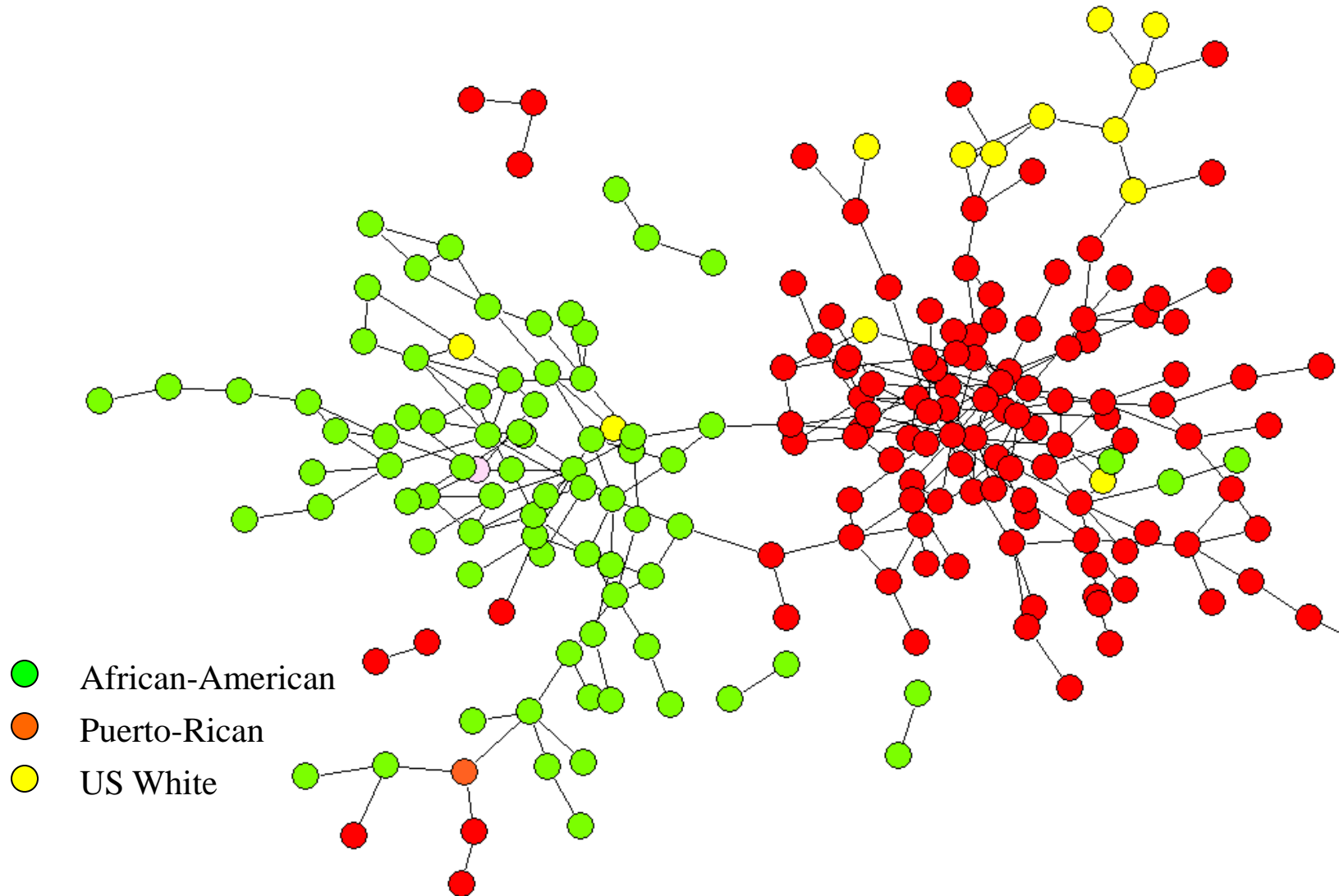


Data collected by Cross & Borgatti





Acquaintances among Drug Users



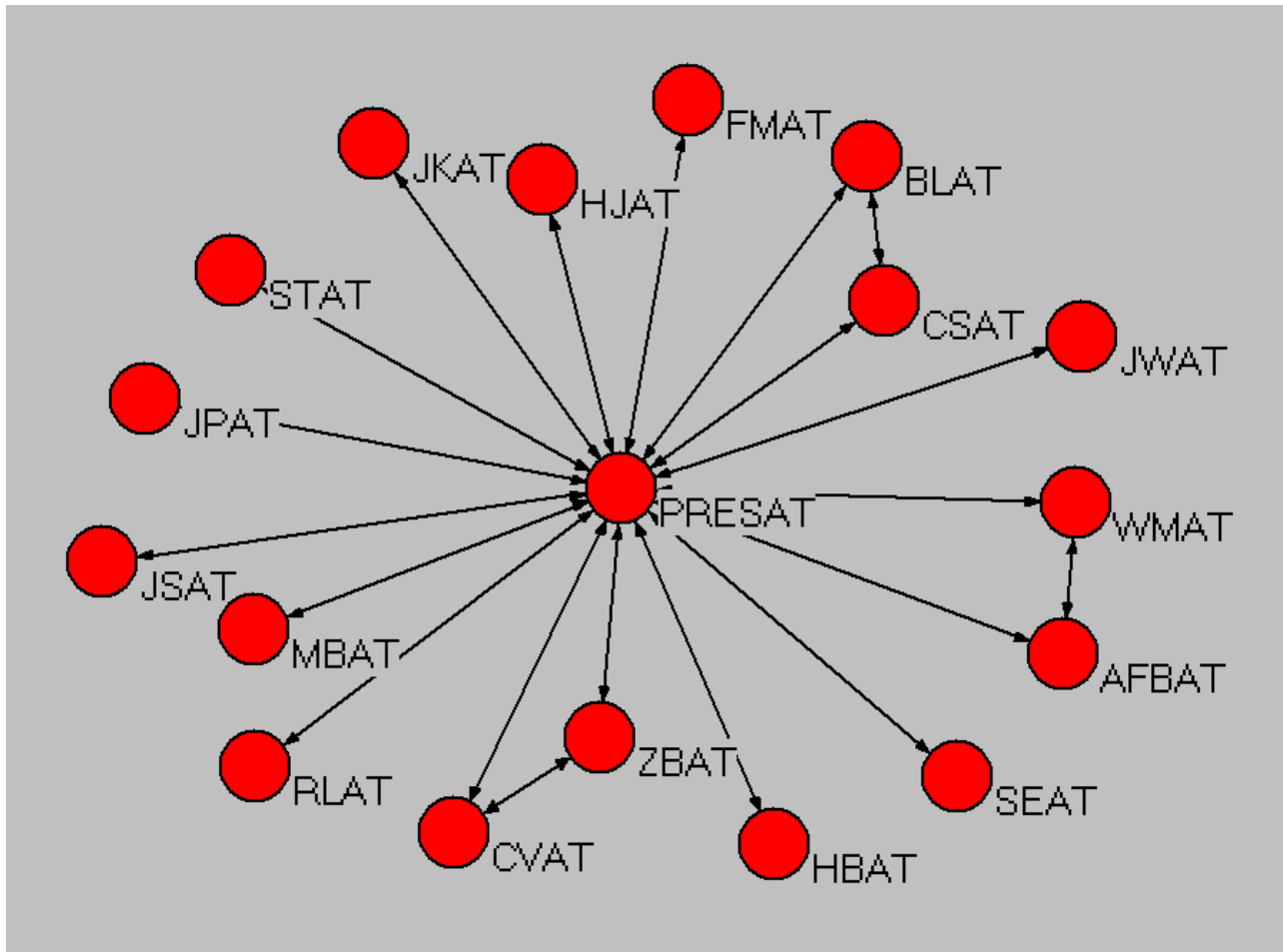
Ego Networks

- Egos selected at random or using some criteria
 - Ego very often provides all the data
 - Consequently ego perceived networks
- Ego gives alter attributes and preferably alter alter connections

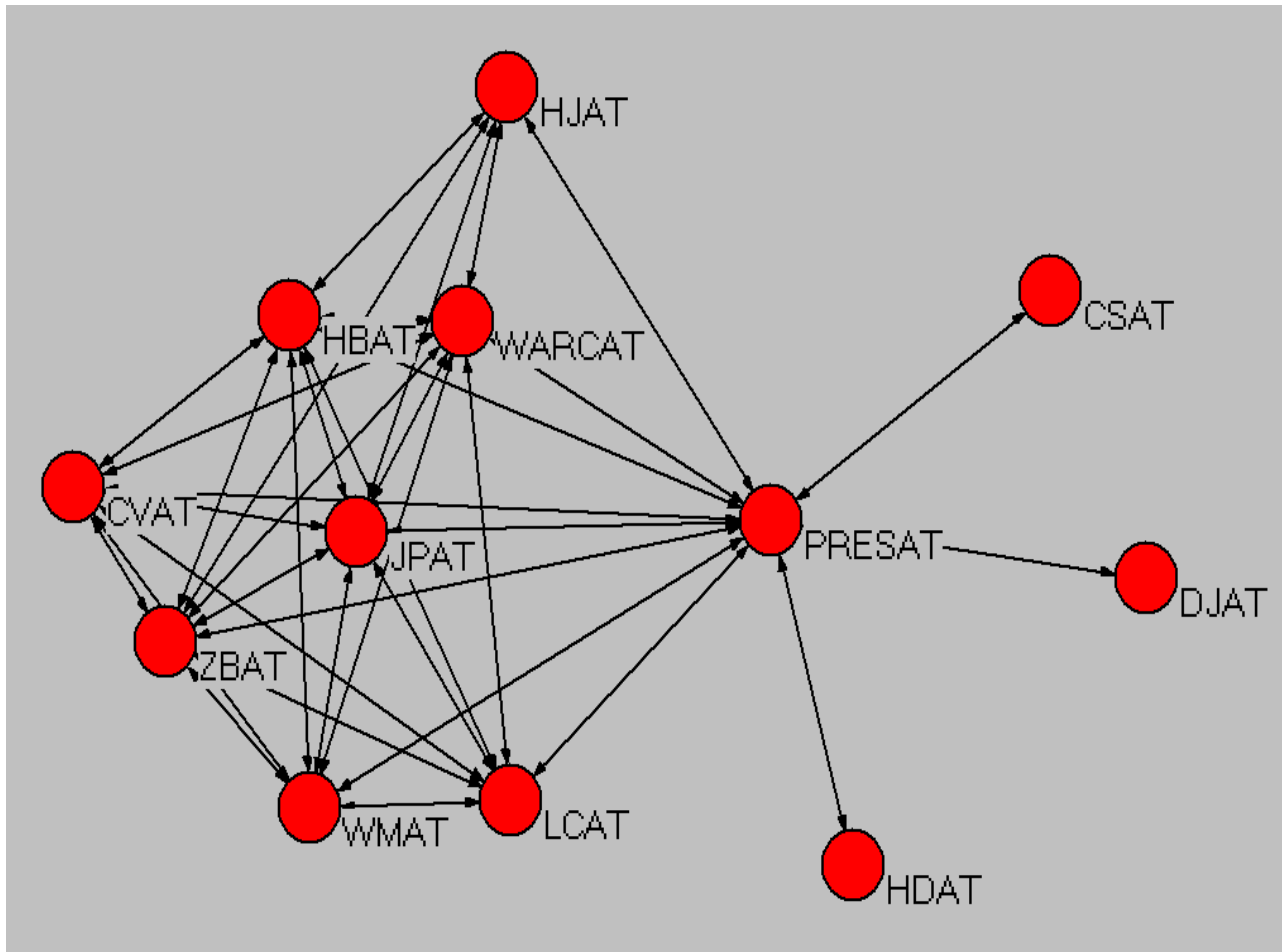
Analysis

- Descriptive measurements
 - Number of alters
 - Density
 - Homophily
- Measures used in standard statistics

Carter Year 1



Year 4



Software

- UCINET
- Pajek
- SIENNA
- PNET