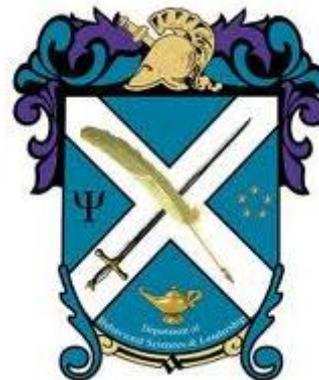


Promise or Peril?

An Assessment of the Potential of Network Analysis in the Context of Asian Extremism

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The Goal of the Minerva Project

- To provide insight into how cultural norms and extreme Islamist ideologies are born and maintained
 - Scope: Asia
 - Method: Network analysis (broadly construed)



The Theories

- Existing literature proposes numerous causes of religious radicalization:
 - Lack of economic development
 - Lack of democracy/political representation
 - Access to Internet propaganda
 - Sociological processes (e.g. repeated interactions with existing radicals)
 - Et al



The Problems

- Radicalization a poorly bounded concept
 - Truncated & shallow data on Islamist groups
- Incomplete societal context
 - Heterogeneity of Islam in Asia
- Methodological assumptions of network analysis may introduce ambiguity
 - Rigorous formal method *vital* to avoid subjectivity, ambiguity, & bias typical of most existing inquiries
 - Difficult (but not impossible) fit between method & subject matter



Boundary Issues in Existing Data Sets

- Comprehensive databases on Islamist terrorism do not exist
 - The three largest:
 - Worldwide Incident Tracking System (WITS)
 - National Counterterrorism Center
 - Global Terrorism Database (GTD)
 - National Consortium for the Study of Terrorism and Responses to Terrorism (START)
 - RAND Database of Worldwide Terrorism Incidents (RDWTI)
 - RAND
 - All exclude foiled/aborted plots
 - Truncation of phenomenon



An Organizational View of Terror?

- WITS
 - Only lists perpetrator type (e.g. Islamist Extremist [Sunni])
 - Impossible to determine orgs' involvement
- GTD & RDWTI
 - Terror groups own claims of responsibility
 - Subject to misinformation (e.g. Abu Hafs al-Masri Brigades)
 - 'Expert' assessments
 - No discussion of methodology used to make differentiations
 - Prone to subjectivity/bias
 - No discussion of scale
 - Grants all orgs involved an equivalent role
- Extent & nature of groups participation in events unclear
 - Problem becomes even more extreme when considering diffuse subject matter, e.g. radicalization



An Example: Bali 2002

- GTD & RDWTI list AQ & JI as participants
 - Roles far from equivalent

al-Qaida

- Participated in 1 of 3 strategy meetings
 - Not present when Bali selected
 - No role in tactical planning of attack
- Provided \$25K to JI, but attack ties unclear
 - Ali Ghuftron claimed \$24K in costs
 - Attacker had \$85K at their disposal
- No role in active conduct of attack
 - Trained some attackers years earlier

Jemaah Islamiyah

- Participated in all 3 strategy meetings
 - Ali Ghuftron, Samudra planned tactics
 - Team on ground made final adjustments
- Generated \$60K independently
 - \$20K membership dues
 - \$40K gold-store robbery
- Conducted every aspect of active attack
 - Many participants lacked any AQ ties
 - Samudra's students: 1st year in JI

- To understand radical groups & radicalization we must study terror at the individual level



Failed Attempts at Individual Level Data on Extremism

- Single-Case Datasets (Orgs or Events)
 - Boundaries always unclear
 - How distant before exclusion?
 - Generalizability concerns
 - Quantification does not solve small-N problem
- Broader efforts rare
 - John Jay and ARTIS Transnational Terrorism Database (JJATT)
 - Limited public release of data underlying Sageman's controversial work
 - Center for the Computational Analysis of Social and Organizational Systems Database (CASOS)
 - Carley's simulation-based approach to modeling behavior of Islamist radicals



JJATT's Flaws

- Completely non-replicable
 - Group affiliations assigned by expert
 - Subjective & circular
 - “Leaderlessness” of *jihad* dependent on boundaries of AQ & other orgs
 - Sources remain opaque
 - How many court docs & media articles?
- Limited coverage of Islamist threat
 - 92 total events
 - Many deal with political terror
 - Approx. 24 Islamist events
 - Why these events and not others?
- Opaque
 - Public release completely anonymized
 - Cannot tell who is tied to what
 - Cannot challenge completeness of data
- Prone to conflation
 0. To indicate the absence of a relationship.
 1. To indicate acquaintances and distant family ties.
 2. To indicate friends, moderately close family members, roommates, co-workers, and operational ties, such as those that exist between individuals who “worked closely on a bombing together.”
 3. To indicate close friends, close family members, and members of “tight knit operational cliques [who] would die for each other.”



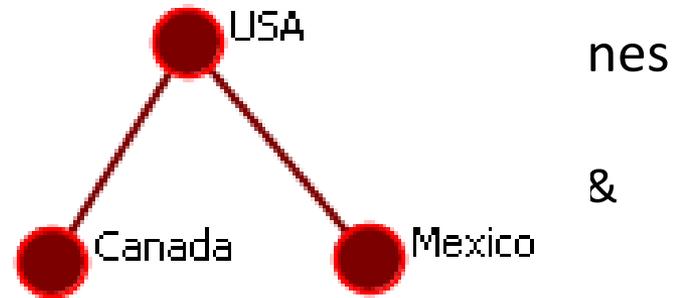
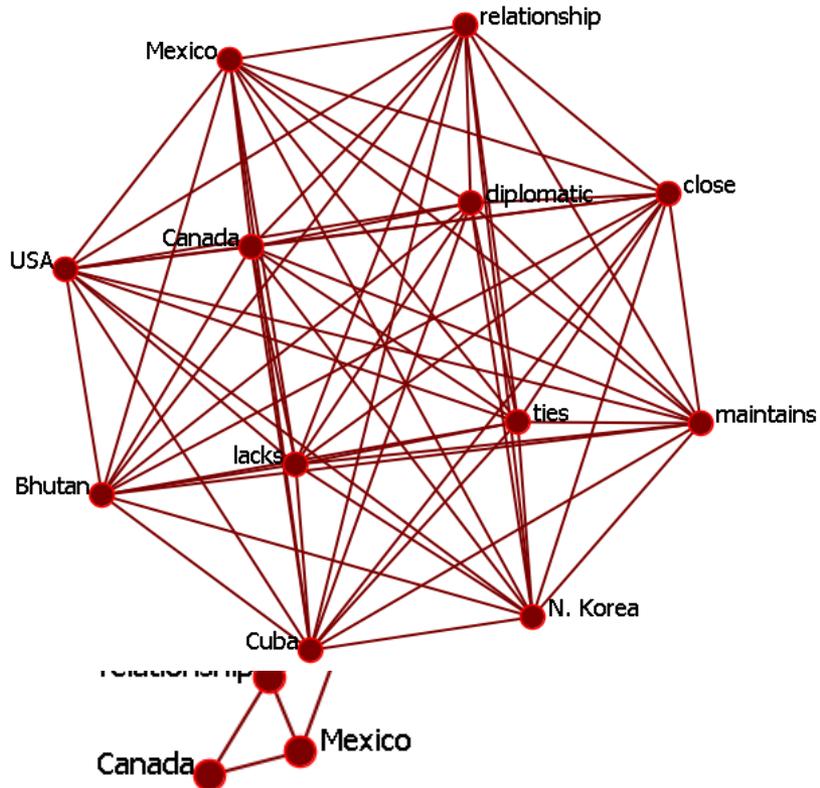
CASOS's Flaws

- Slightly more replicable
 - Sources: 202 media articles, 45 court docs, numerous sanctioning lists
 - Org. affiliations straight from media
 - Journalists never define view on organizational boundaries
- Comparable size & coverage
 - No event count available
 - JJATT covers 2,158 people
 - CASOS covers 3,029
 - Many of them not really involved in terror
 - Includes everyone on OFAC's sanction lists
- Equally opaque
 - Non-deterministic nature of AutoMap
- Equally prone to conflation
 - AutoMap cannot differentiate between relationship types
- I share culpability for many of this data sets faults
 - Wrote codebook for agent attributes
 - Helped to extend dataset's breadth



AutoMap Revisited

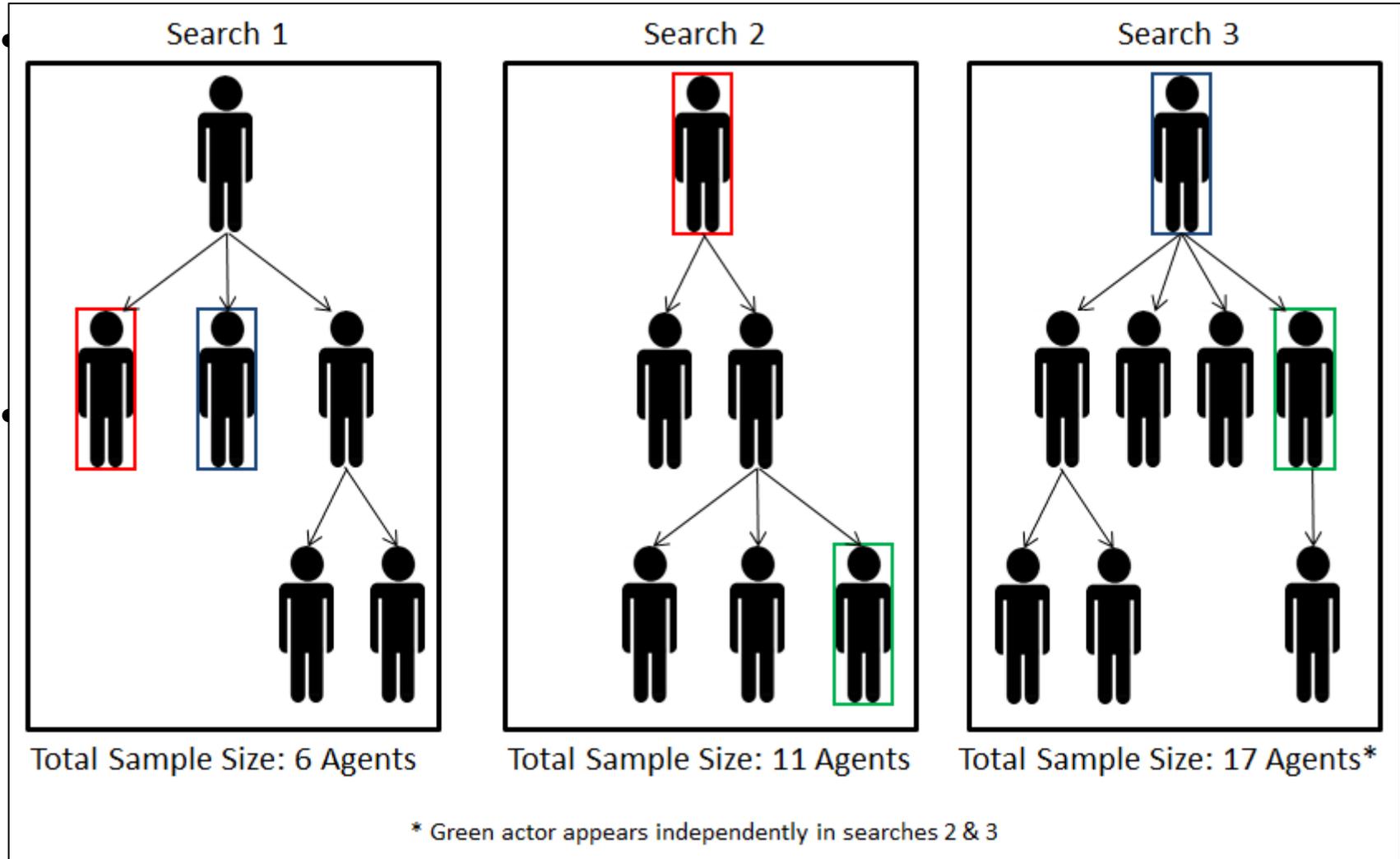
“The United States lacks diplomatic ties to Bhutan, Cuba, and North Korea, but maintains close relationships with Mexico and Canada”



- “diplomatic, & ties”
- US to Canada: *everything* is connected
- All relationships of single generic type



An Imperfect Solution: Modified Snowball Sampling





Limits of the Approach for the Study of Radicalization

- Breadth vs. depth
 - Document-based open-sources primarily address operations & finance
 - Method ignores differences in societal cultural variables that may impact radicalization

Relative Frequency of Relationship Types Among *Salafists*

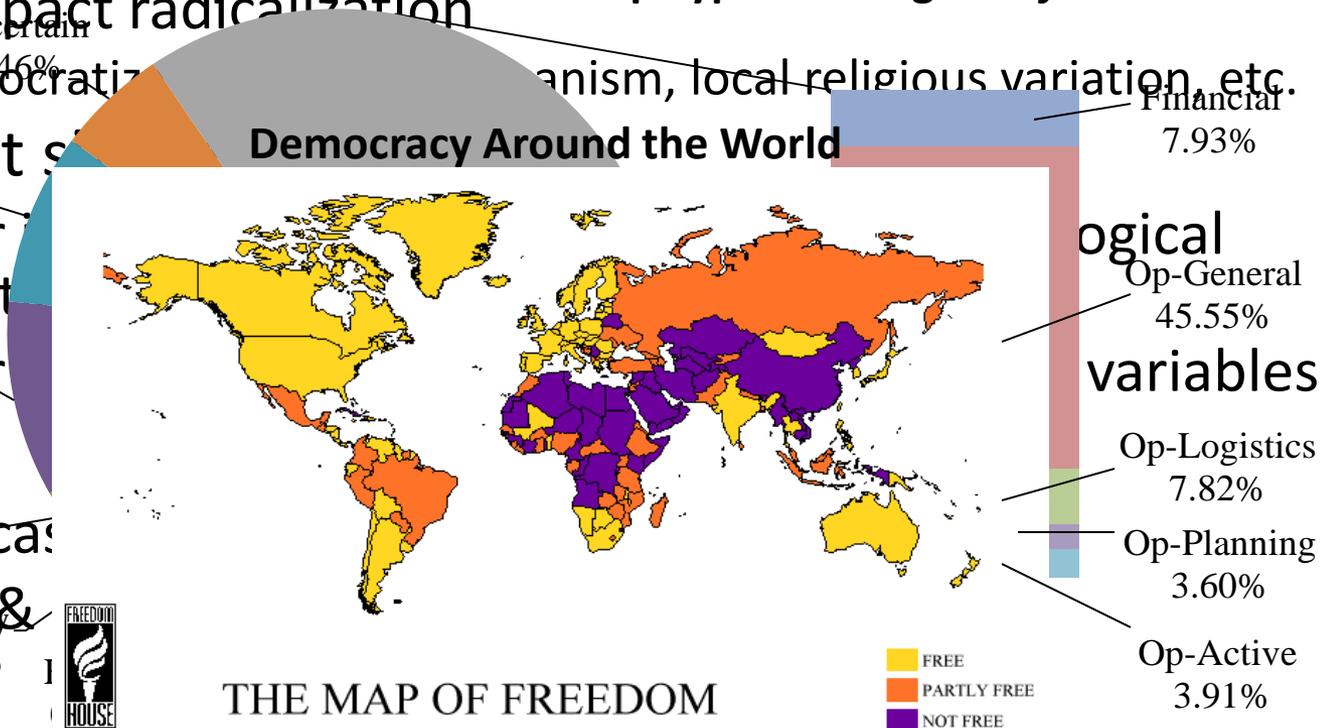
- Democratization, terrorism, local religious variation, etc.

- Must limit scope

- Smaller connect
- Smaller ideological

- Paradox

- Single-cas
- Global &





Limits of the Modified Snowball (Cont.)



Imam Samudra

- Lack of reliable primary documents in the developing world
 - Mumbai police reports vs. US court documents
 - Did Fahim Ansari or David Headley conduct surveillance?
 - Accuracy of confessions from torture
 - Divergence among Bali bombers (who might have been tortured)
 - Differing standards of justice
 - Dutch release of Samir Azzouz for lacking competency in bomb-making (greater differences in developing world)
 - Resources, resources, resources
 - Typewriters and bare bulbs in Mumbai Police Colony
- On its own, the method may be unable to provide enough high-fidelity data to rigorously test causal variables that explain radicalization
 - Must explore approaches beyond modified snowballing

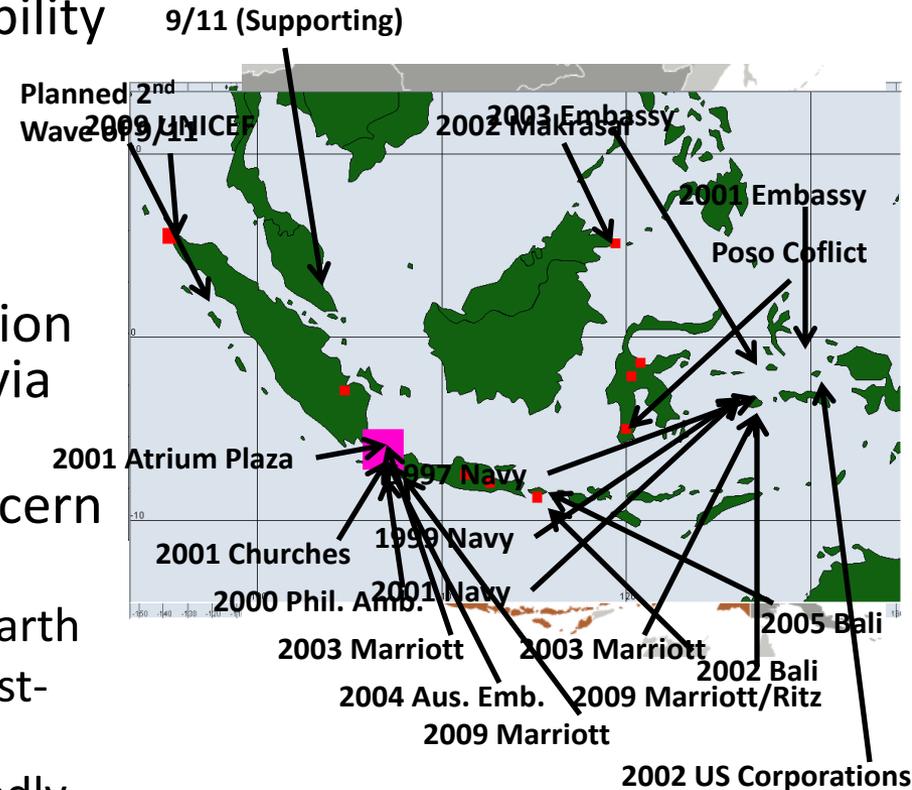


Amrozi



A Goldilocks Solution?

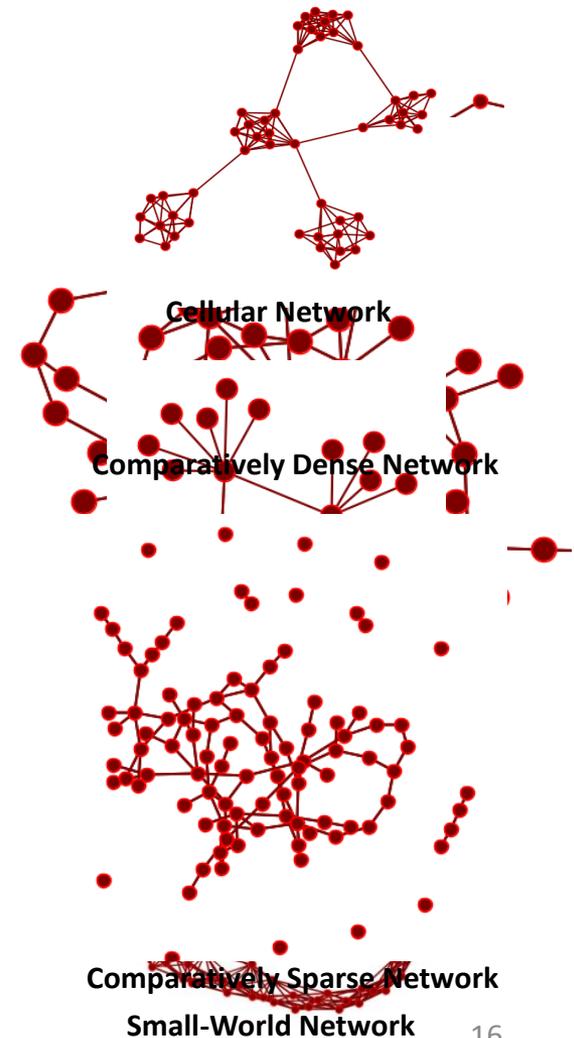
- Limit initial study to Indonesia
 - Big enough to avoid generalizability issues endemic to single-case studies of events/orgs
 - Small enough to allow detailed probing at individual level
 - Small enough to allow exploration of impact of societal variables via field interviews
 - Clearly an Asian country of concern regarding radicalization
 - Largest Muslim population on Earth
 - Site of several large-scale Islamist-motivated attacks
 - Indonesian groups have repeatedly targeted US interests
- Does not solve all problems





Enduring Problems of Individual-Level Data

- Network perspective fairly intolerant of data omissions/errors
 - Unpopular truth
 - Many studies of extremism ignore/dismiss the issue: Morselli, Krebs, Koshade, Rodriguez, Sageman, et al
 - Random networks resilient to random errors (Borgatti, et al)
 - No research has addressed susceptibility to non-random errors
 - Other topologies less resilient (Frantz, et al)
 - Cellular, core-periphery, small-world, etc.
 - Sparse networks most susceptible to error (Zemljic & Hlebec)
 - Clandestine networks most likely to be sparse (Morselli)

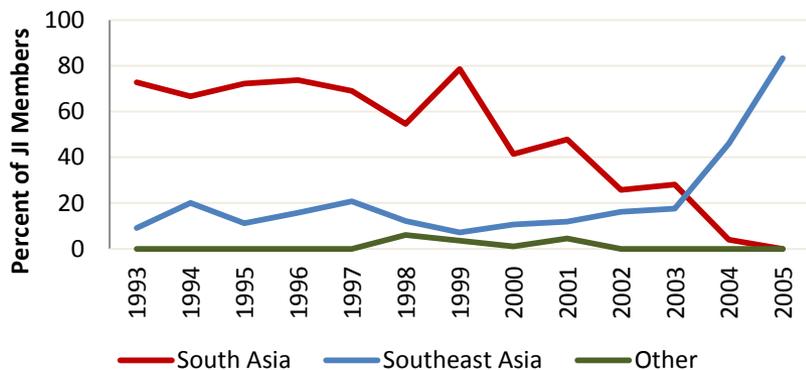




... But Omissions & Errors Are Endemic to Data on Extremism

Example: The Changing Relationship Between AQ & JI

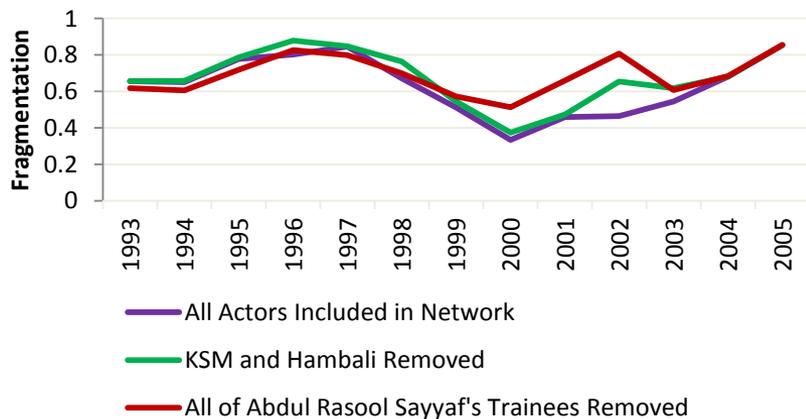
Estimated Regional Training Trends within JI



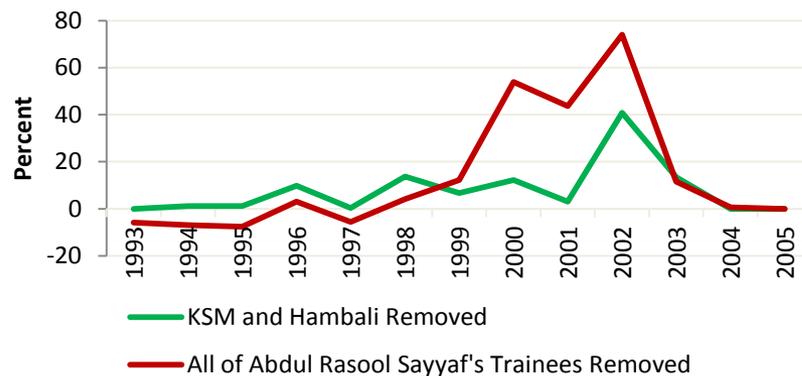
Dual AQ-JI Members as Estimated Percentage of JI's Total Membership



Raw Fragmentation Scores

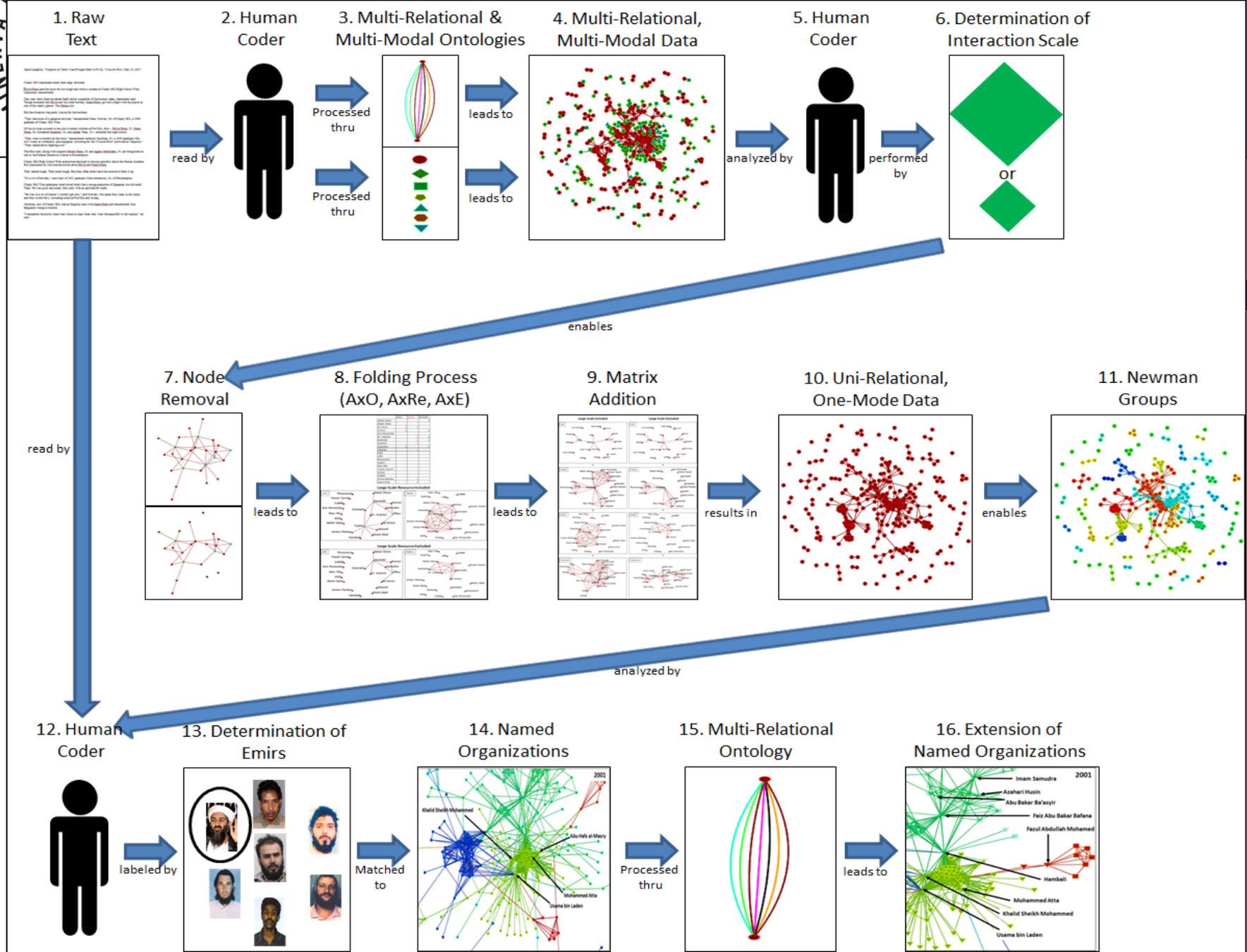


Fragmentation Scores as Percent Change from All Actors



My Flawed Approach: Subject Matter Informed Extension of Newman Grouping

NINERVA



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Conclusions

- Must study radicalization & radical groups at the individual level to understand the phenomenon
 - Some portions of inquiry will need to be at higher level of abstraction
- Scope of inquiry should be sub-regional or national
 - Not so small as to lose generalizability to broader phenomenon
 - Not so large as to preclude data collection at individual level
 - Allows for some variance in socio-cultural variables
 - Follow-on studies will address countries/regions beyond Indonesia
- Network-centric mixed-methods approach appropriate to the study of radicalization
 - Combines rigors of formal quantitative analysis with context derived from narrative approaches
- Must use a dynamic, multi-relational ontology to classify relationships
 - Allows isolation of ideological interactions that lie at the heart of radicalization
 - Explicitly acknowledges that relationships change over time
- Must find reliable & replicable means to bound organizations
 - Impossible to track growth/decline of radical groups without estimating their size



Unresolved Questions

- What specific pools of data on radicalization in Indonesia should the study access?
 - Open-source documents?
 - Village-based interviews?
 - Regional polling data?
- Which specific methodologies should be used to compliment the study's network-based approach?
 - Difficulties & dangers of interview snowballing
 - Issues of access
- Which specific means should the study use to find the boundaries of radical groups?
 - Difficulty of testing results against an unknown reality
 - Sensitivity of centrality & grouping to data fidelity issues
- Ultimately, Minerva must be a cooperative effort
 - Multiple complimentary methods most likely to produce clear answers to remaining questions
 - Scholars from several departments both within and outside West Point will play vital role in Minerva's success