

Identity and Coordination in Combat Networks' Social Domain

2006 CCRTS, San Diego, CA

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Outline

1. **Social Domain Components**

Examples

2. **Analytic Framework**

Examples

3. **Methods**

Examples

4. **Future Research**



Why a “Social Domain” in NCO?

**U.S. Army engineer in FOB Gardez,
Afghanistan:**

“As our Army becomes more technologically advanced, I see more individuals who are incredibly adept at these systems but struggle with basic soldier and people skills. The leadership challenge is to bridge the gap.”

(Personal correspondence, 5/06)



Building a SD Research Agenda

Apply concepts from social network theory and organizational sociology to social behavior in networked combat organizations:

(1) Structure of interpersonal relationships

(2) Experience of individual action

Proposition: Constraints and opportunities derivative of individuals' network positions since ties imply access to different sets of meanings



Military organizations as *socio-technical networks* composed of

Identities

(commanders, combatants, staff)

Protocols

(command logics, expertise, induced roles)

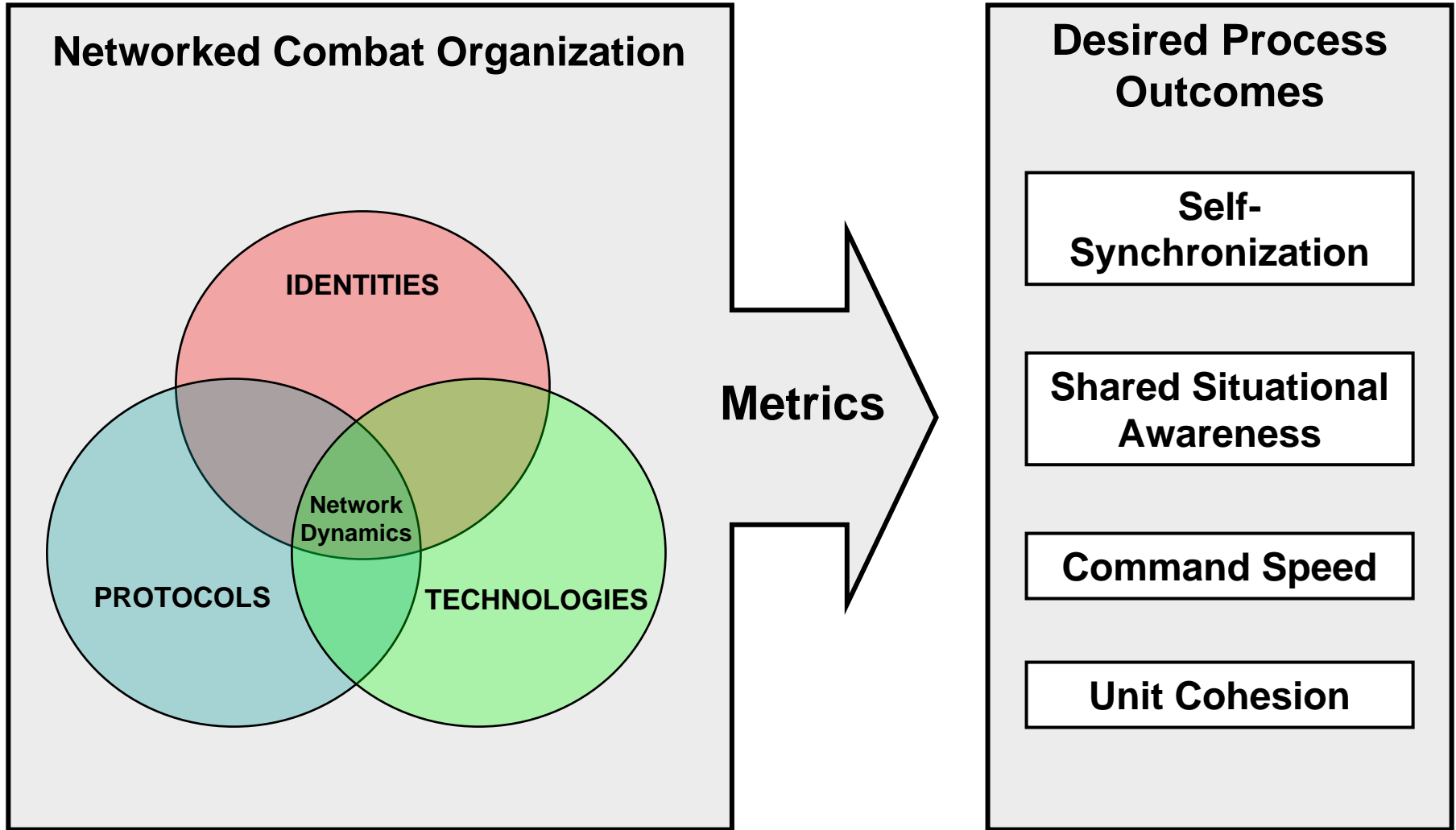
Technologies

(communication instruments and weaponry)

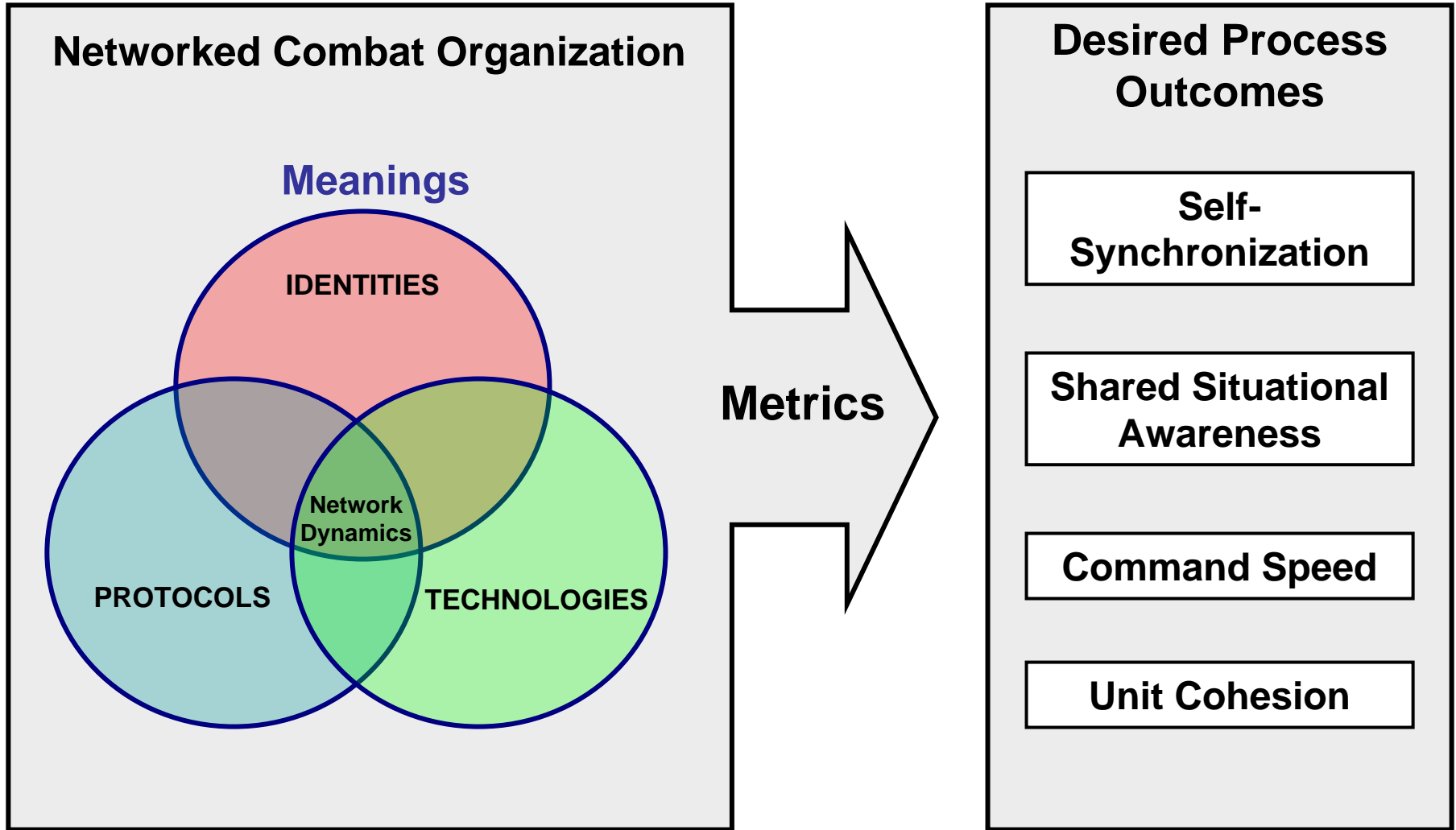
pursuing the disruption of enemy force integrity



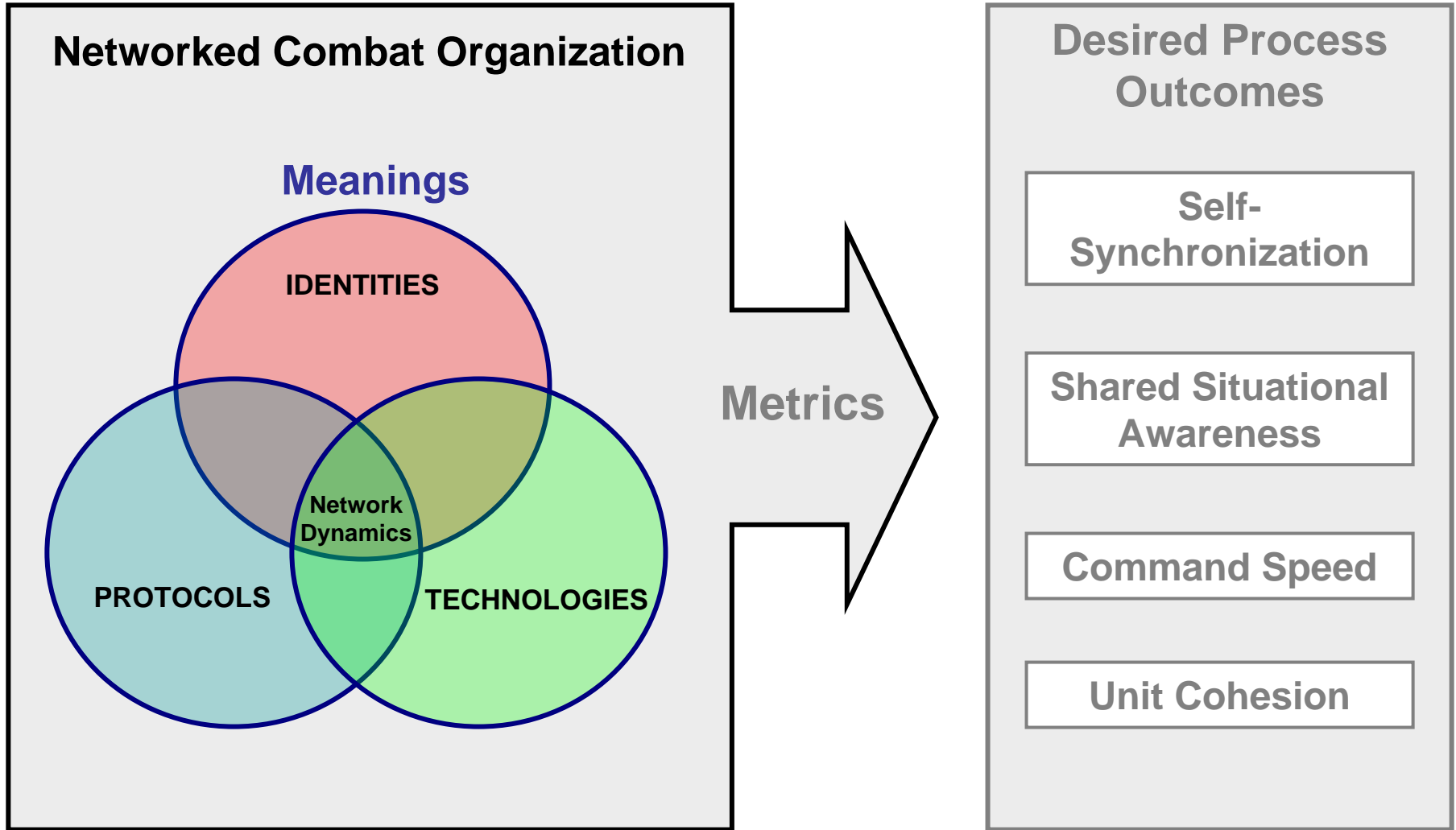
1. SD Components



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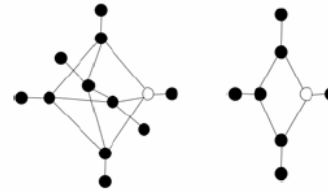
1. SD Components



Networks Dynamics

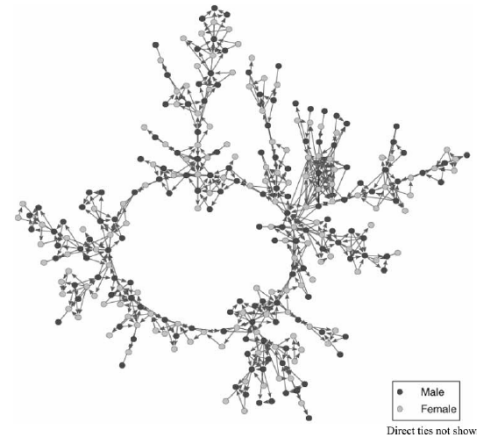
Hungarian Firms, 1987-2001

D. Stark & B. Vedres,
AJS, March 2006



High School Sexual Relations

P. Bearman, J. Moody, &
K. Stovel, *AJS*, July 2004



Information exchange in organizational networks

D. Watts, P. Dodds, C. Sabel,
PNAS, 2003

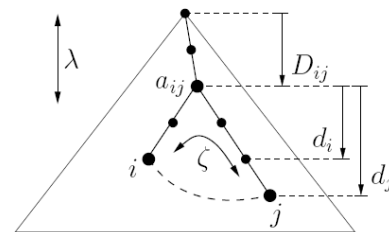


FIG. 1: Schematic of the network construction algorithm.

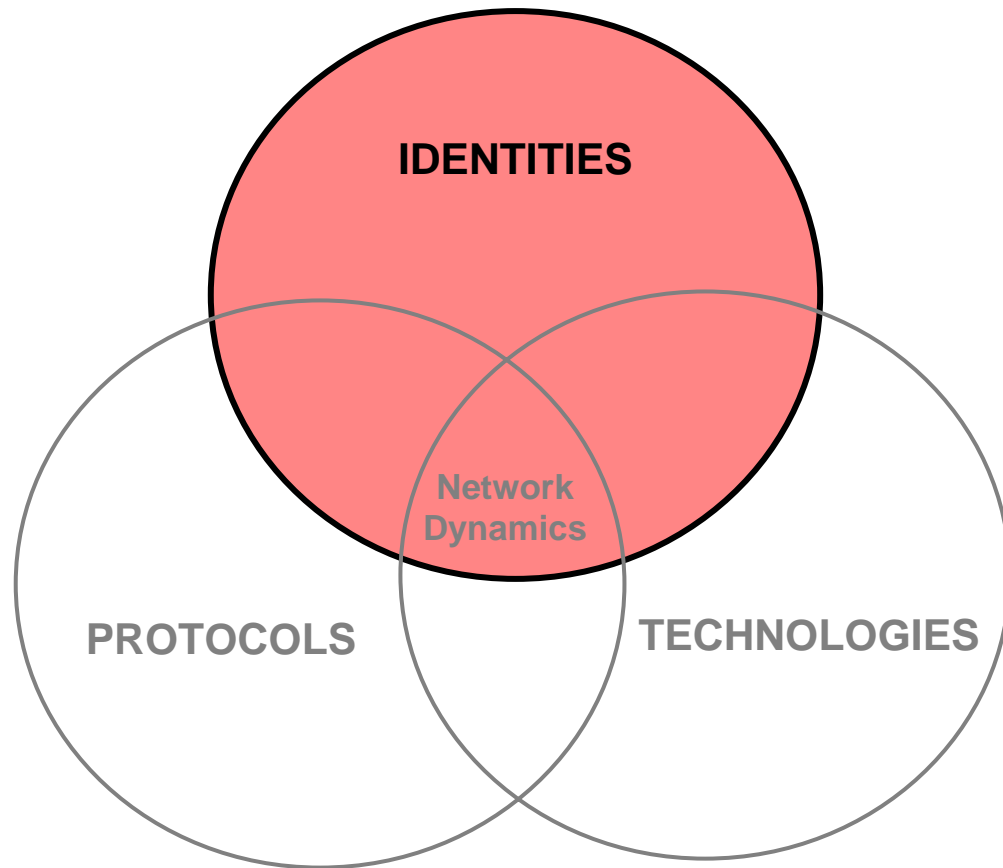
Identity from Network Position

Individuals' identities emerge according to positions and movements among some network of social ties

→ Both opportunities and constraints

→ Ties provide access to certain meanings and values, e.g. appreciation for art genres, regional linguistic idioms, or customs at some institution





Exs: Strong familial or regional identification with particular service branch

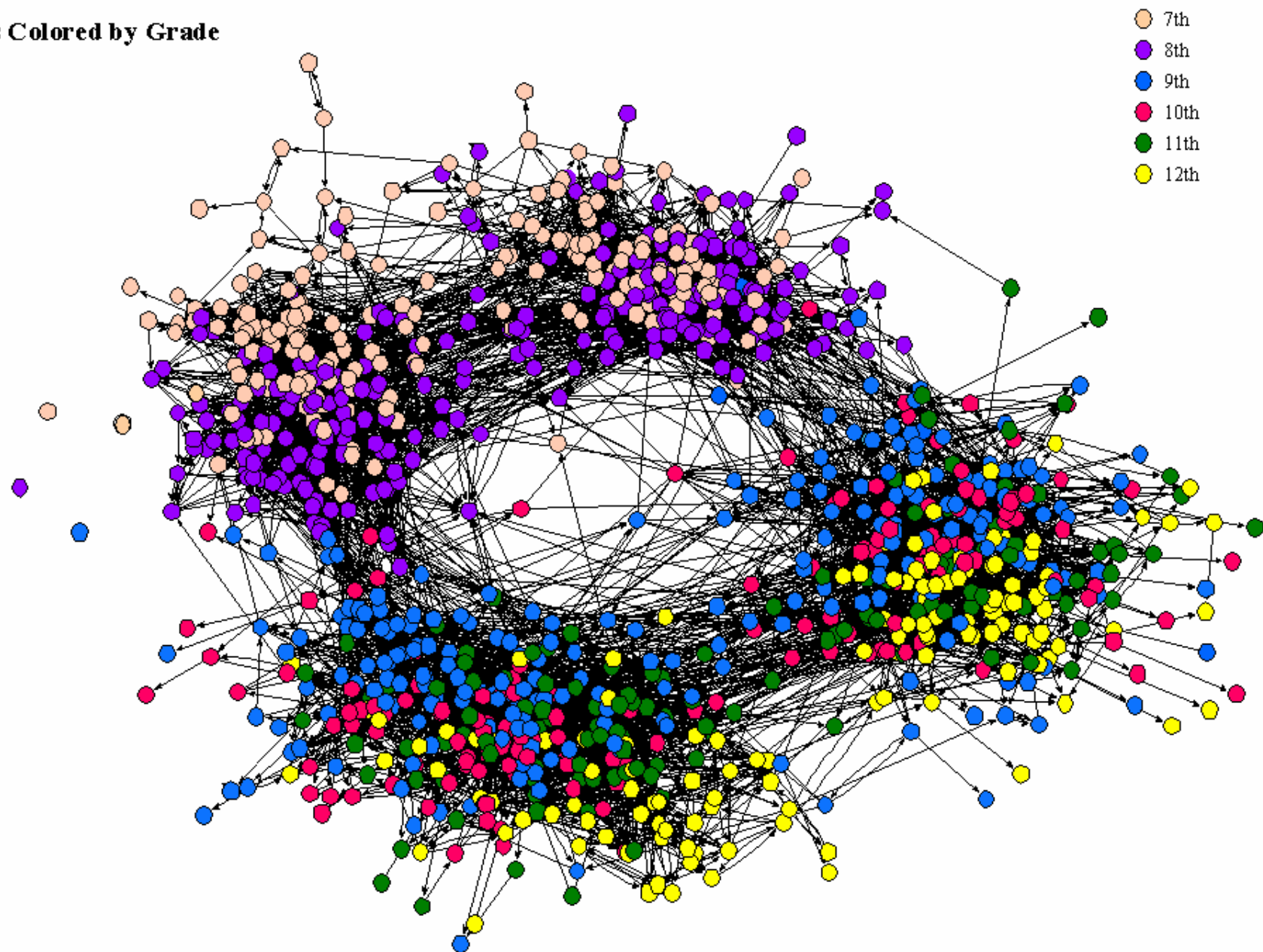
Organizational bases for enduring unit cohesion

Gradual embedding (“socialization”) of cadets into Academy organizational networks

Search processes in Milgram’s “small world” experiment”

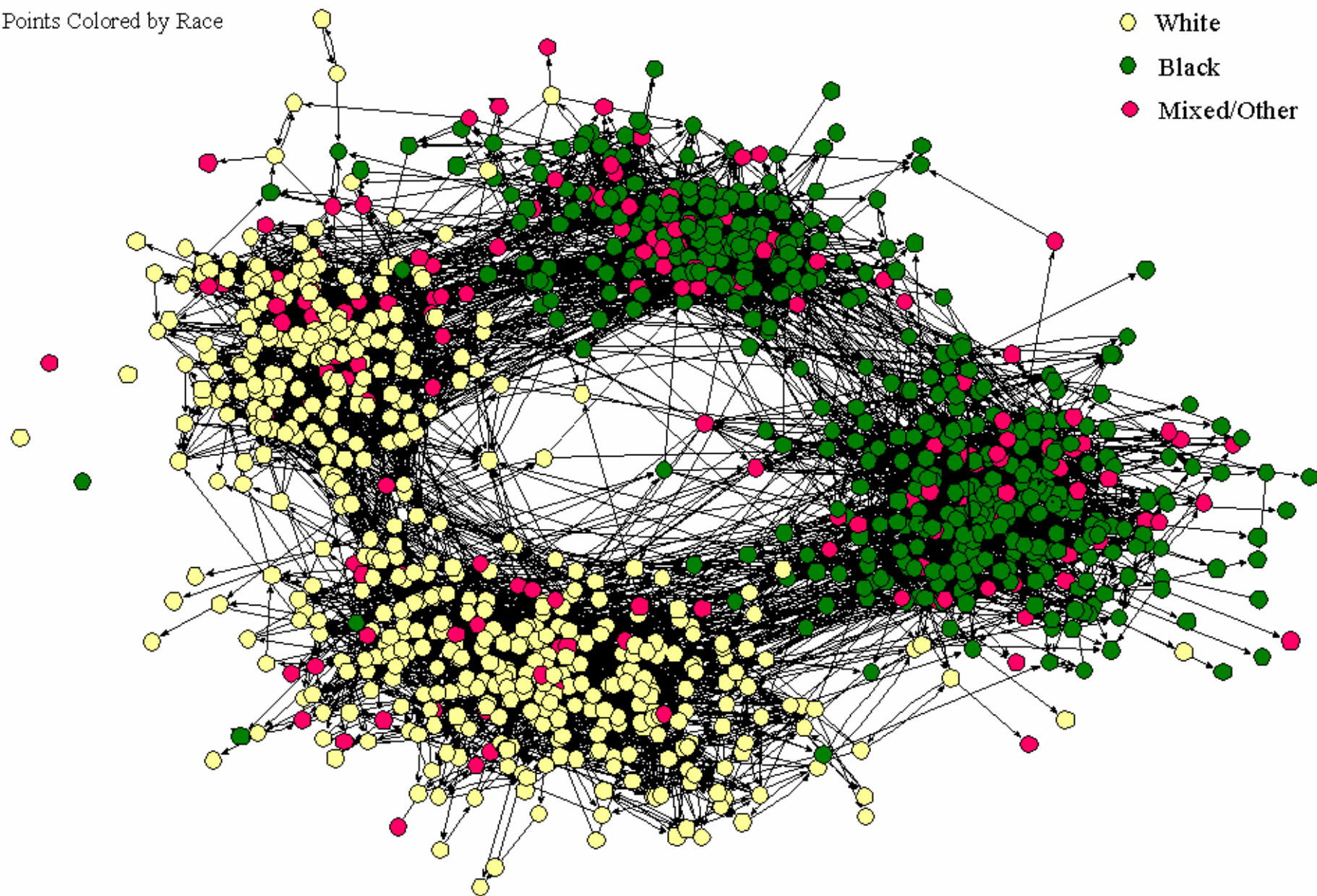


Points Colored by Grade



Points Colored by Race

● White
● Black
● Mixed/Other



Watts et al. (2002) on “Small Worlds”

“Individuals in social networks are endowed not only with network ties, but identities: sets of characteristics attributed to them by themselves and others by virtue of their association with, and participation in, social groups” (p. 1303).



Protocols → Roles

Meanings, tasks, and values of an organization
→ protocols to influence the behavior of its personnel

Protocols → social roles:

Informal roles: rituals, friendships, alliances

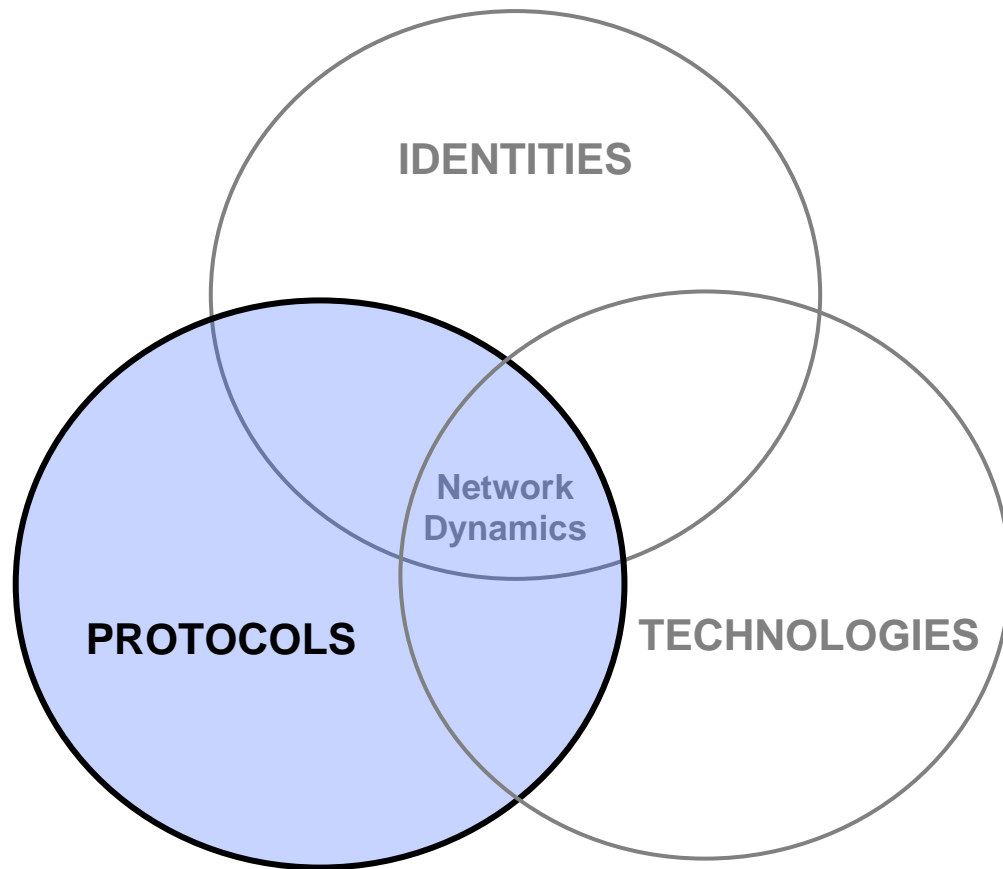
Official roles: responsibilities, titles, and ranks

Merton (1957): roles as “behavior oriented to [the] patterned expectations of others” (p. 110)



“...As with any warrior culture, leaders emerged, lines of loyalty around those leaders were drawn...and tribes were born. Their longevity was a function of the loyalty toward their respective leaders. These leaders included the platoon sergeants, squad leaders, and vehicle commanders. It was not so much the position of the Marine that mattered, as it was the loyalty of this following. This loyalty was the air that breathed life into the lungs of the tribes.”

– B. Williams, *Spare Parts: A Marine Reservist's Journey from Campus to Combat in 38 Days*, 2005



Exs:

Functional tasks
necessary for mission
success ultimately
generate roles, e.g.

Marine Infantry “tribes”

Roles in major combat
operations vs. national
infrastructure building
(“captains as small-town
mayors in Iraq”)

Informal social roles, e.g.
team mentor, group
comedian



Study of West Point Cadets

Study of cadets' social networks during
Basic Training (July-August 2006)



Effects of early patterns of tie formation on
cadet performance assessments by peers
and tactical officers

What is the relationship between overlap of
roles and overall company cohesion?

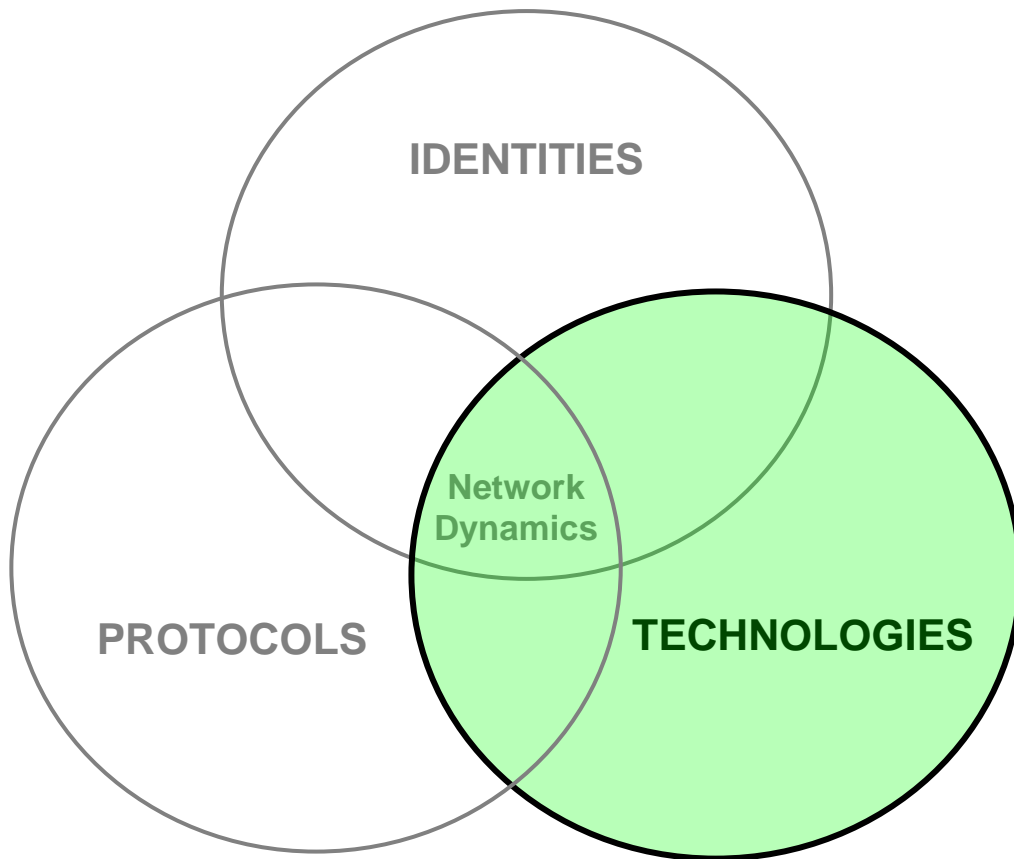


Technologies

Human cognition is distributed across others as well as devices, since they evoke goals and expectations of purposive action

Law (1994): “...what we call the social is *materially heterogeneous*: talk, bodies, texts, machines, architectures, all of these and many more are implicated in and perform the ‘social’ ” (p. 2).





Exs:

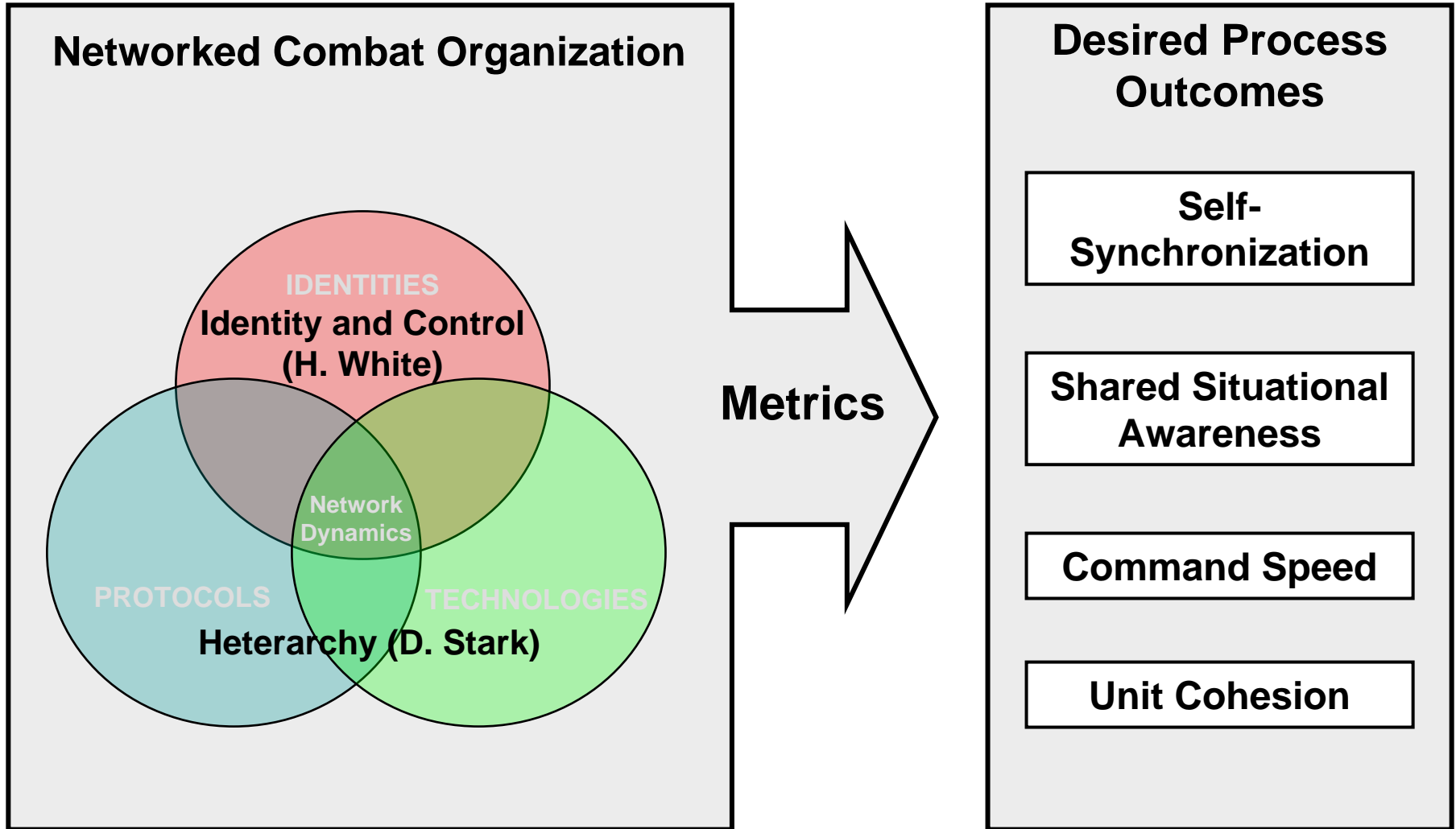
Connectivity enabled by software as in Stryker Brigade Combat Team or Commander's Digital Assistant

Spatial array of instruments aboard Navy ship

Re-cognition of enemy movement patterns via computer simulation



2. Analytic Frameworks



Identity and Control

Identities emerge and evolve according to positions and movements among networks and different sets of meanings (network-domains)

Amidst uncertainty, identities seek control in their environment and thus generate and re-shape ties to other identities

Organizational networks as formally constituted networks of identities bound together through shared sets of meanings

Military Identity in Battlespaces

Civil War: Greater salience of local identity vs. national Confederate identity leads to high desertion rates in CSA Army (Bearman 1991)

WWII: “However much we may honor the ‘Unknown Soldier,’ ...it is the man whose identity is well known to his fellows who has the main chance as a battle effective” (Marshall 1947)

OIF: “Marines could be passing out rice in one city block, patrolling to keep the peace in the next, and engaged in a full-scale firefight in the third” (Fick 2005)

Identity in NCO

“Power to the edge involves changes in the way we think about the value of entities and desirable behaviors and interactions. Ultimately, this involves a redefinition of self and the relationship between self and others, and self and the enterprise.”

- Alberts & Hayes 2003, p. 180.

Information and Innovation

Shift from vertically-oriented hierarchical structure to more laterally-oriented organization

Ability to *co-evolve* with the rapid pace of change in productive capacities, supply chain availabilities, personnel performance

NCO as laterally organized production and utilization of battlespace information across personnel and instruments

Heterarchical Organizations

Distributed intelligence across persons and instruments laterally and an *organized diversity* of evaluative criteria

e.g. Silicon Alley website design team, a Wall Street trading room, post-socialist Hungarian firms

Lateral accountability involving “interdependencies between divisions, departments, and work teams within the firm”

“...in place of specialized search routines in which some departments are dedicated to exploration while others are confined to exploiting existing knowledge, the functions of exploration are generalized throughout the organization.”

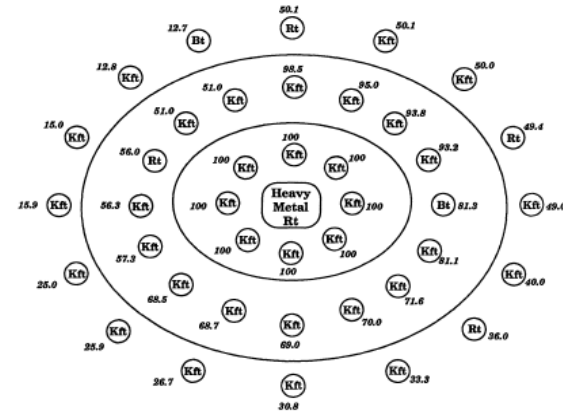
- David Stark, “Heterarchy” in John Clippinger (ed.), *The Biology of Business: Decoding the Natural Laws of Enterprise*, 1999, 159

“The Marines were a flattened hierarchy in the manner of the most innovative global corporations, with responsibility pushed out to the farthest edge of the battlefield. *Every marine a rifleman* was the literal truth.”

- Robert D. Kaplan, *Imperial Grunts: The American Military on the Ground*, 2005, 268

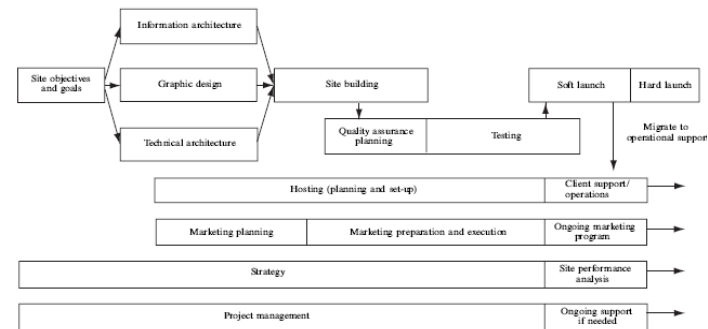
Post-socialist firms in Hungary

Several publications including *Biology of Business*, 1999



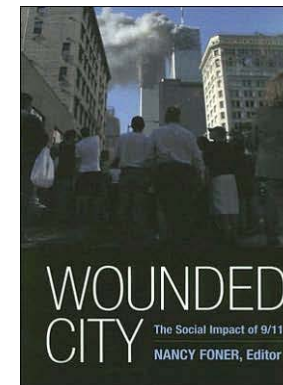
Silicon Alley Web Design Team

In *Environment and Planning A*, 2002



Wall Street Trading Room Pre- and Post-9/11

Several publications including *Wounded City*, 2005



Intelligence in combat networks distributed across:

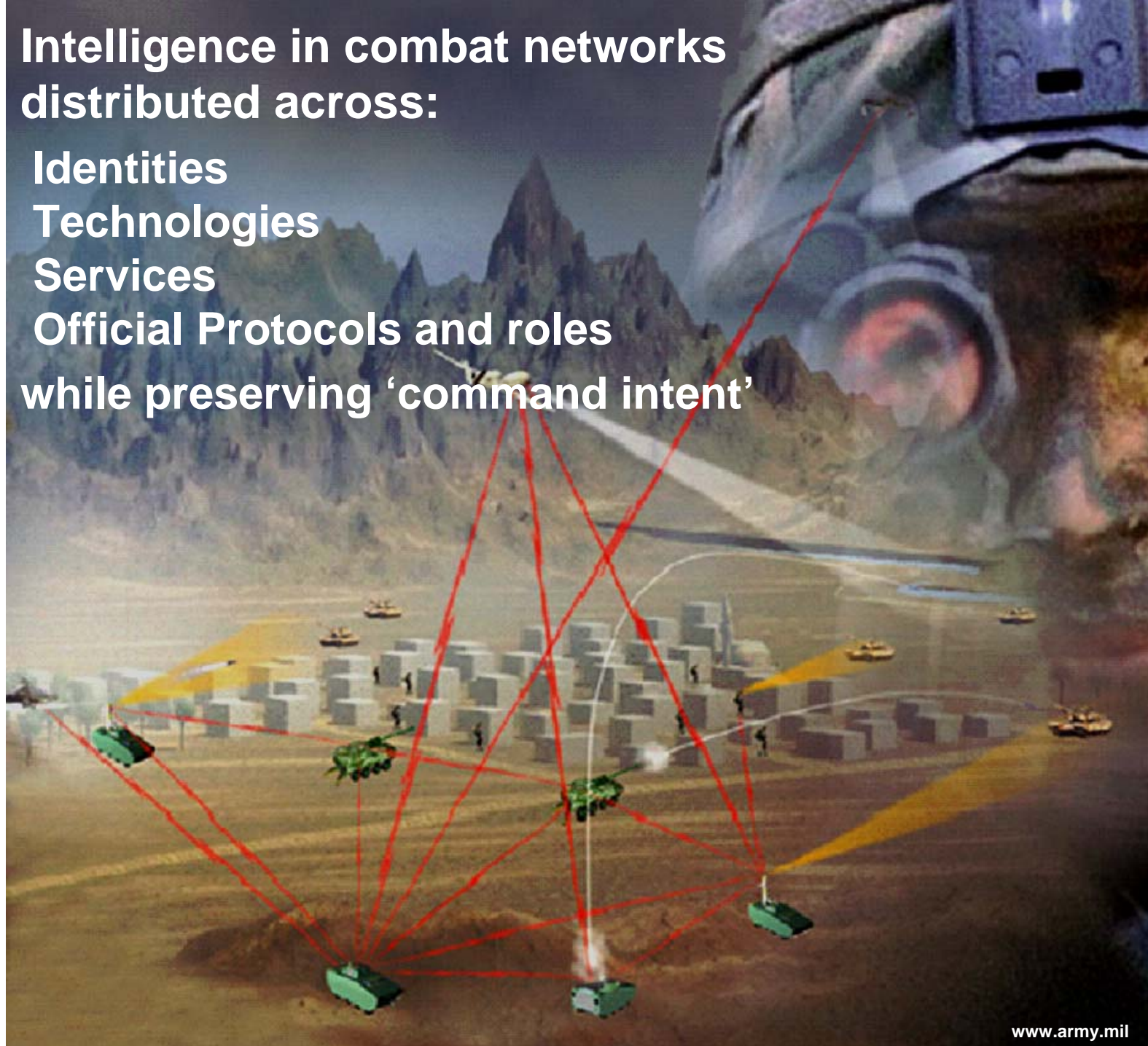
Identities

Technologies

Services

Official Protocols and roles

while preserving 'command intent'



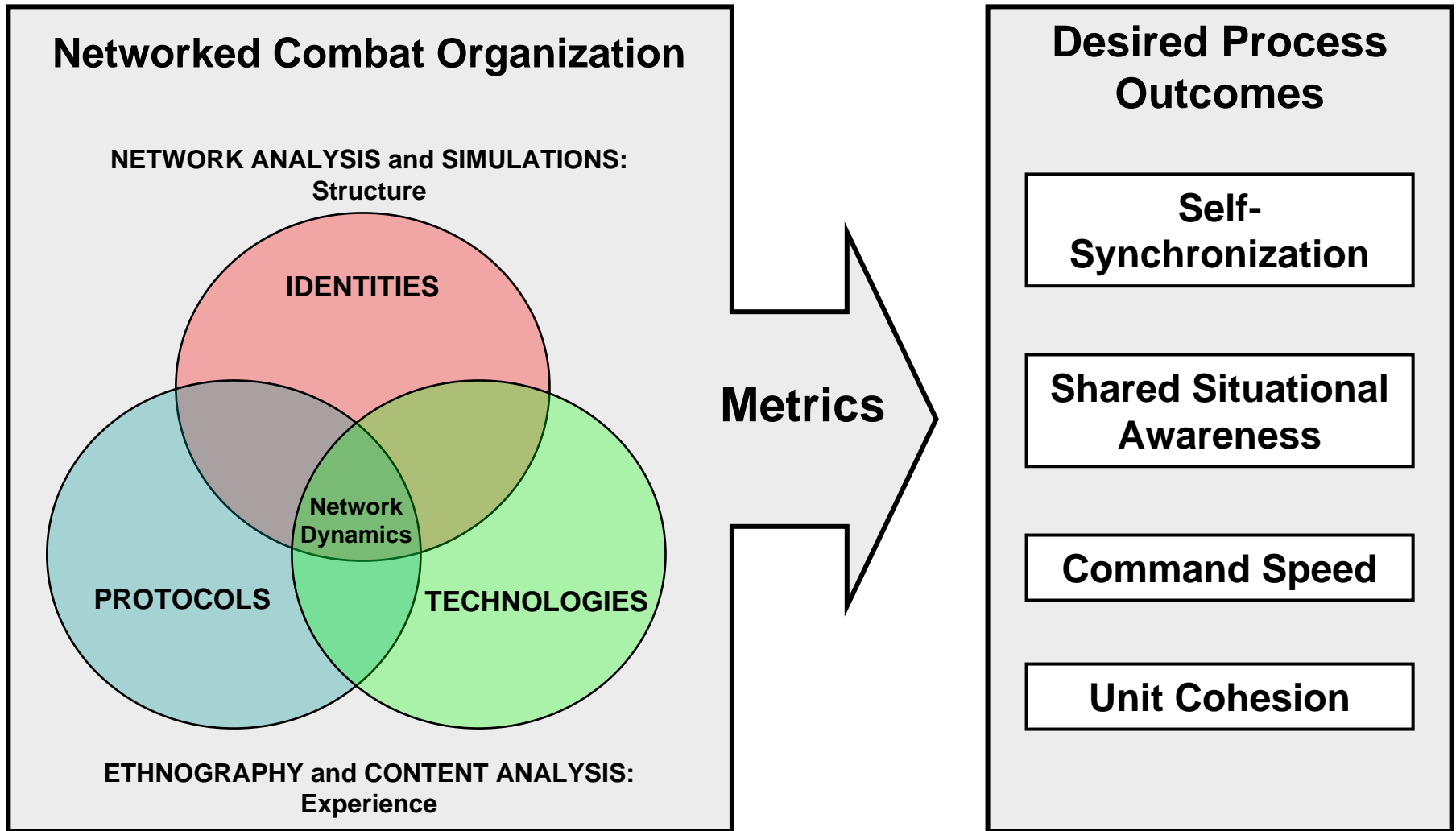
Centralization or collaboration?

Capabilities are meant to be distributed while preserving command intent

Will increased shared situational awareness
→ an increase in command centralization OR
→ increase in collaborative interactions?

How are combatant social ties affected by changes in traditional command hierarchy?

3. Methods



NCO Methodologies

The social \neq static measures of personality traits which assume that individuals are reducible to a collection of innate proclivities

Topological measurement and modeling: dynamic network behaviors

Content analysis: chat and voice-over-IP

Ethnography: combatant interactions and responses to exigencies of network positions

Ethnography

Careful, non-intrusive observation and analysis of interactions and changes over the course of some operation

Diversity of combatant reactions to challenges and obstacles

Moving from “who communicates with whom” to “*why* do they communicate?” and “what are they communicating *about*?”

Content Analysis

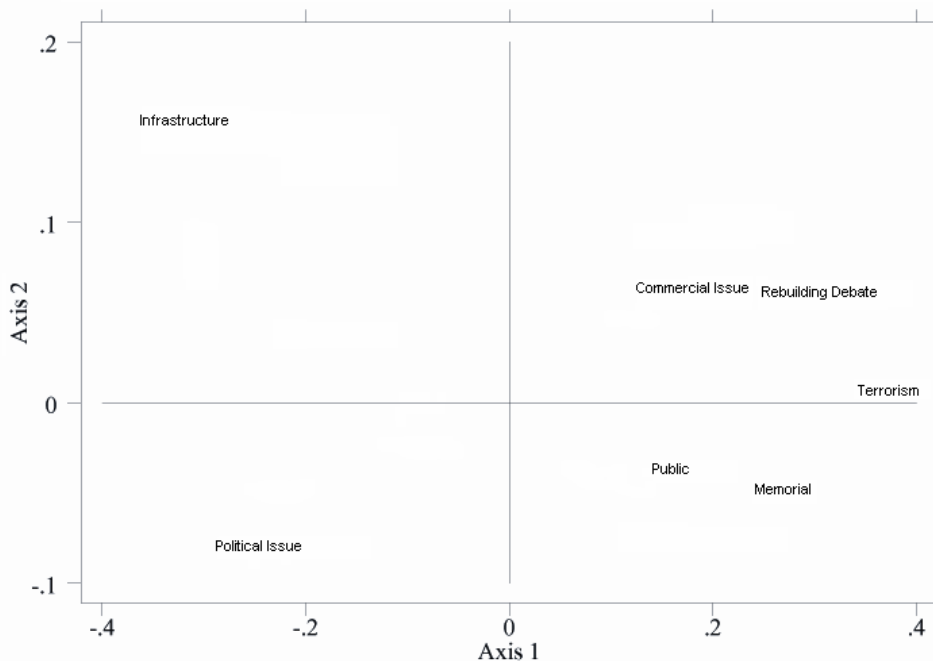
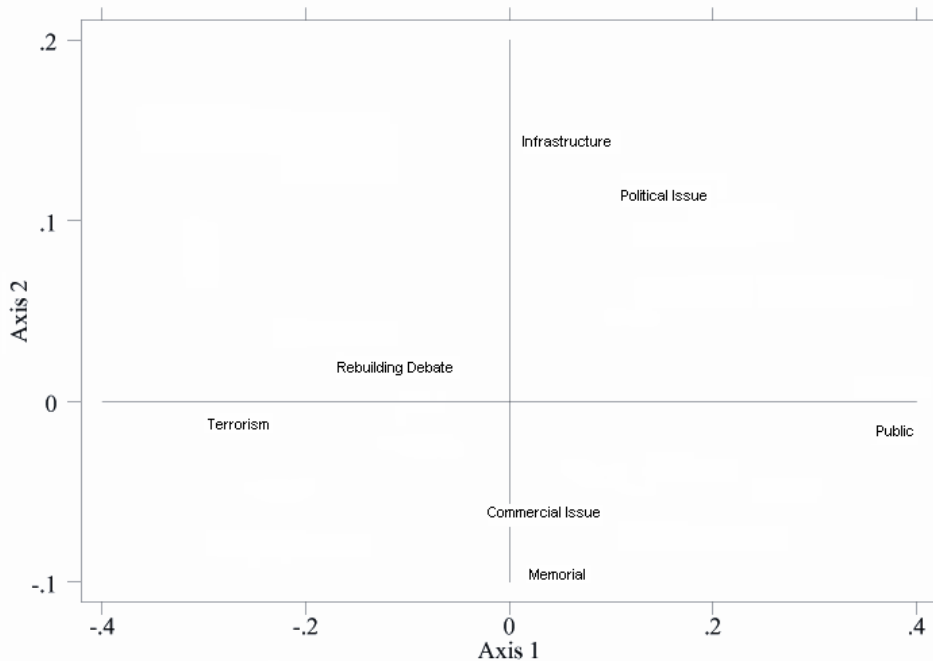
Content of interactions as function of certain factors, e.g. time and unit composition

What are relationships among multiple evaluative criteria?

How are individuals' utterances structured and received?

Post-9/11 Public Hearings

Corona 2006 (under review)



Future Directions

Observe and explain patterns of social behavior

- (1) increases in desired process outcomes
- (2) properties of hubs and the nature of their formation
- (3) practices through which combatants build unit cohesion in NCO

A social domain research agenda will require both network measurements and qualitative evaluations, so...

DATA and SITE ACCESS

The Social Domain Matters

“Is there a field of human affairs where personal relations do not count, where the sparks they strike do not leap across all practical considerations? The personalities of statesmen and soldiers are such important factors that in war above all it is vital not to underrate them.”

- Carl von Clausewitz, *On War* (p. 94)