



THE CENTER FOR ADVANCED STUDIES
IN SCIENCE AND TECHNOLOGY POLICY

SEEKING SYMMETRY IN FOURTH GENERATION WARFARE: INFORMATION OPERATIONS IN THE WAR OF IDEAS



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Presentation overview

- Domain Convergence and the “Fog of Law”
- Fourth Generation Warfare (4GWF)
- Center of Gravity is Legitimacy
- Information as instrument of power
- Symmetry/Asymmetry in IW
- al Qa’ida and the Internet
- Targeting information, channels, and actors
- Conclusion - need for doctrinal framework and legitimacy

Background Documents (“IO” Doctrinal)

- *The National Security Strategy of the United States* (2002)
- *Information Operations Roadmap* (DOD 2003)
- *Joint Doctrine for PSYOPS* (JP 3-53 2003)
- *Joint Doctrine for Civil Affairs* (JP 3-57.1 2003)
- *Joint Doctrine for Public Affairs* (JP 3-61 2005)
- *Information Operations* (JP 3-13 2006)
- *Quadrennial Defense Review* (2006)
 - “the long war” and “fight the net”
- Networks and Netwars (Arquilla & Ronfeldt 2001)

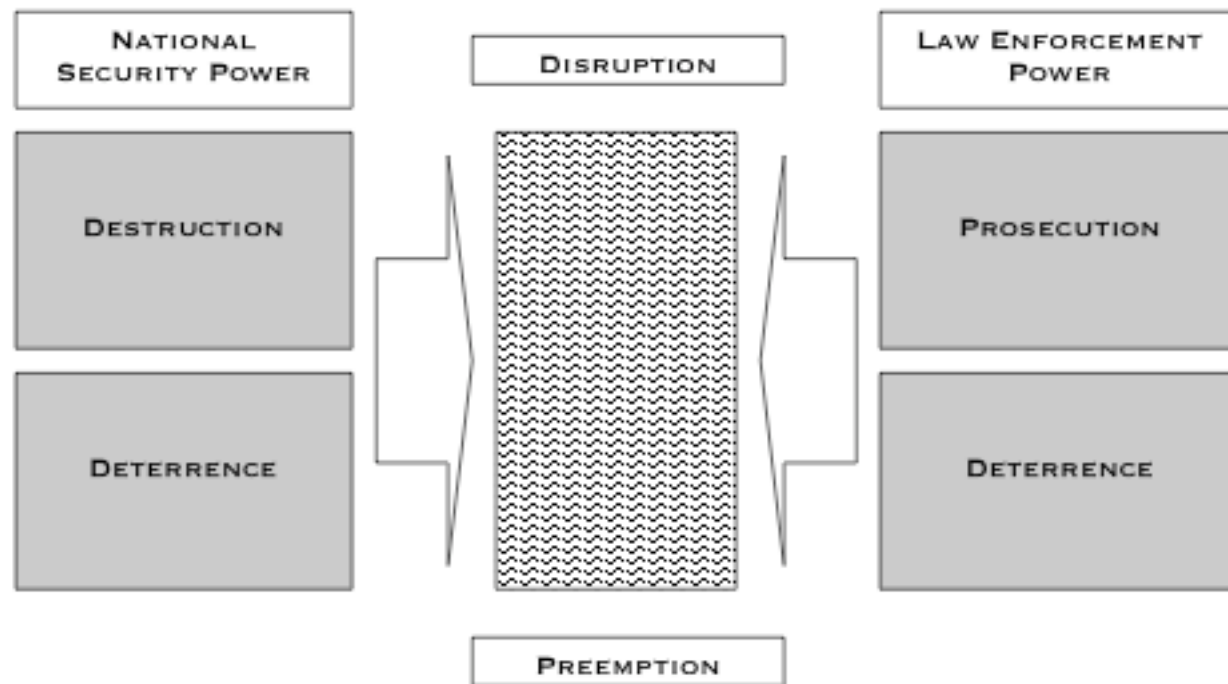
Background Documents (COIN Doctrinal)

- *Small Wars Manual* (SWM) (Marine Corps, USN 1940) (PSYOPS and propaganda)
- *Military Operations Other than War* (MOOTW) (Joint Publ. 3-07 1995) (PSYOPS, mass media)
- *Joint Tactics, Techniques, and Procedures for Foreign Internal Defense* (FID) (Joint Publ. 3-07.1 1996, 2004)
- *Counterinsurgency Operations* (FMI 3-07.22 2004) (IO)
- The Pentagon's New Map (Thomas Barnett 2004)

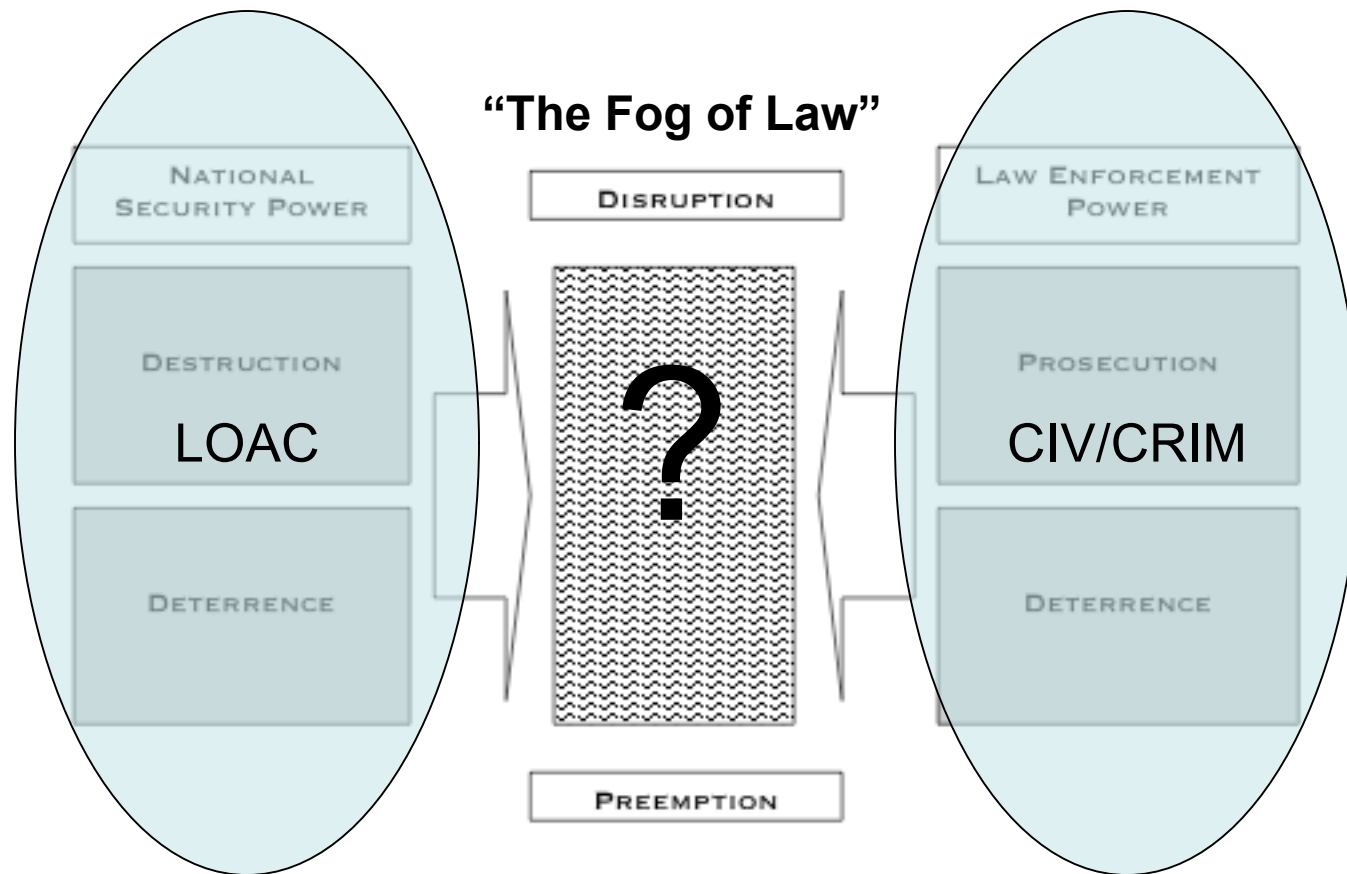
Background Documents (Insurgency)

- *Electronic Propaganda of the Iraqi Insurgency* (NCCI 2005)
- *Does Our CT Strategy Match the Threat?* (Hoffman RAND 2005)
- *In Their Own Words: Reading the Iraqi Insurgency* (ICG 2006)
- *Harmony and Disharmony* (CTC West Point 2006)
- *Stealing Al-Qa'ida's Playbook* (CTC West Point 2006)
- Terror in the Name of God (Stern 2003)
- Inside Terrorism (Hoffman 1999)
- *"The Global Salafi Jihad"* (Sageman 2005)
- Understanding Terror Networks (Sageman 2004)

Need for overarching doctrine: converging missions



Need for overarching doctrine: doctrinal vacuum



Modern Warfare

- *"We are approaching a stage of development when no one is a soldier anymore but everyone is a participant in combat action. The task now is not to inflict losses in men and materiel but to thwart an enemy's plans, demoralize it, undermine its worldview, and destroy its intrinsic values."*
 - Maj. Gen. G.A. Berezkin
Deputy Head of the Russian Federation Defense Ministry Center of Military-Technical Information Studies, in *Lessons from the war in Iraq*, Military Thought (May 1, 2003).

The Evolution of Warfare

- 1GWF - line and column
 - Brought *linear* order to the battlespace
- 2GWF - massed firepower (“steel on target”) (~US Army)
 - To overcome increasing disorder created by new fires technologies
 - Inward focused and rule based; procedural and attritive
 - *Synchronization* order requires limiting initiative
- 3GWF - maneuver (nonlinear) (~Marines, SOF)
 - *Dynamic* order based on speed, surprise, and dislocation (not firepower and attrition)
 - Outward focused on situation/enemy not on process and method
 - E.g., bearded SOF on horseback in Afghanistan
- 4GWF - state loses monopoly on war/violence
 - *Chaotic* order, self-organizing, complex adaptive systems
 - Center of gravity is popular support by non-combatants

Fourth Generation Warfare (4GWF)

- 4GWF is *political war* -- superior political will, when properly employed, can defeat greater economic and military power
- *"Compelled by a militant ideology that celebrates murder and suicide, with no territory to defend, with little to lose, they will either succeed in changing our way of life or we will succeed in changing theirs. ... Because they cannot defeat our forces on the battlefield, they challenge us through nontraditional, asymmetric or irregular means."*
 - Donald Rumsfeld (Nat'l Press Club, Feb. 2006)

Fourth Generation Warfare

- Opponents know that historically only unconventional war works against established powers
- Opponents know that 4GWF is the only kind the United States has ever lost (Vietnam, Lebanon, Somalia)
- But COIN campaigns can be successful (Malaya 1950s, Oman 1970s, El Salvador 1980s)
- Small wars are long wars
 - 1GWF-3GWF = “diplomacy by other means” (nation states)
 - 4GWF (insurgency) = “politics by other means” (non-state actor)
- Center of Gravity (COG) = “popular support” (Algeria), “hearts and minds” (Vietnam), “belief of the people” (El Salvador)

Information as 4GWF

- Strategic level (public diplomacy and perception management) aimed at reducing the appeal of extremists, encouraging alternative views and values, and discouraging “terrorism” as acceptable tactic (provide alternatives)
- “Theater” level (civil affairs, psyops) separate terrorists from support structures, stabilize moderate forces (isolate extremists)
- Tactical level (information operations) to discredit al Qa’ida, create discord, provoke distrust among its operatives, demoralize volunteers, and discourage recruits (destroy group cohesion and convergence)
- Operational level (intelligence and IW) = preempt terrorist actions

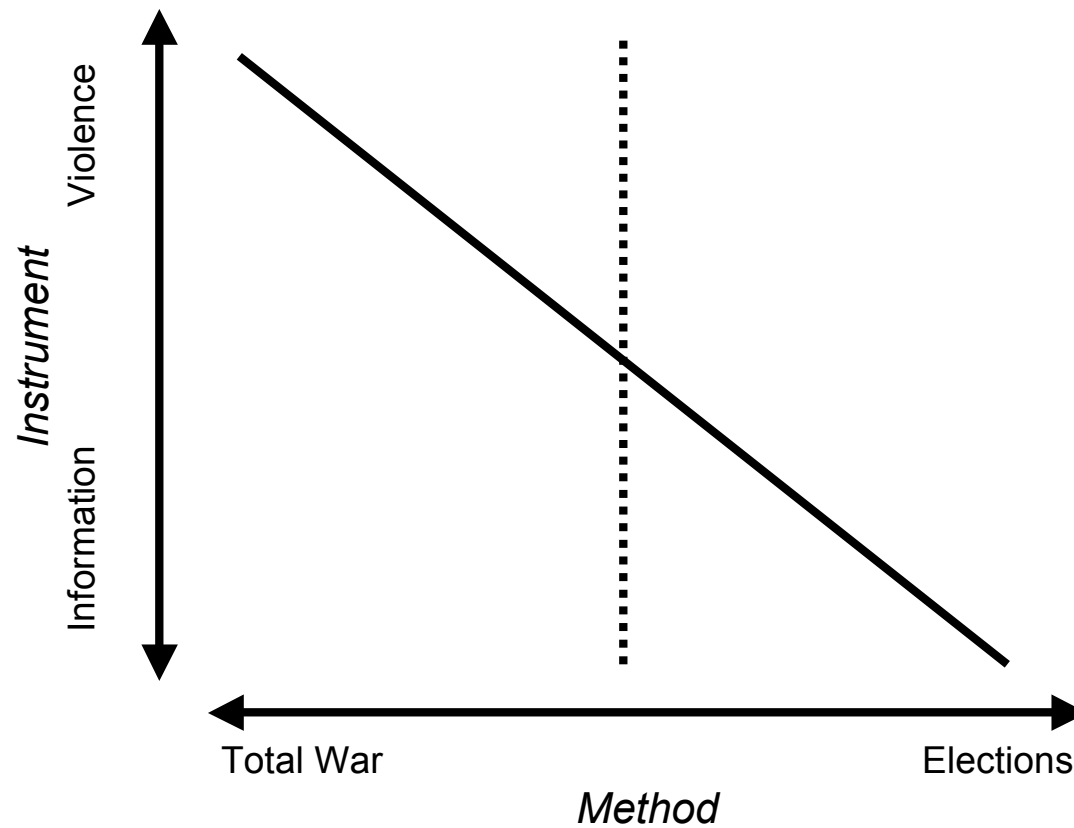
Information vs. Firepower

- In 4GWF conflicts, nonmilitary instruments of power (information) trump military solutions (warfare, technology, and firepower)
- Information constrains the exercise of kinetic power but kinetic power cannot constrain information power
- Information has more effect on popular support than kinetic power (one image of Abu Ghraib = how many divisions)
- Threat-based “investment” decision
 - Tank column -- easy to spot, hard to stop, invest in heavy metal
 - Insurgent -- hard to spot, easy to stop, invest in information

IO as a Tool of Jihad

- *Tactical: " All that we have to do is to send two Mujahedin to the farthest point East to raise a piece of cloth on which is written al-Qa'ida in order to make the generals race there to cause America to suffer human economic and political losses without their achieving for it anything of note ..."*
 - Osama bin Laden (2004) (Wash. Post. 11.01.04)
- *Strategic: " It is obvious that the media war in this century is one of the strongest methods; in fact, its ratio may reach 90% of the total preparation for the battles."*
 - Osama bin Laden (2002) (AFGP-2002-600321)

Role of Information in Conflict Resolution



Power of Information

- Power of information is *contextual*
- Derives from *usefulness* (or uselessness) for decision-making or in support of world view/paradigm that enables decision-making
- Information operations (IO) are the *protection, monitoring, disruption, or manipulation* of *information, channels, or actors* in order to improve one's own *decision-making* and/or degrade that of the enemy (protection and monitoring discussed elsewhere)
- Reorient the usefulness of information (or an information flow) to support your mission at the expense of your opponent's
- Recognize cognitive and physical data that assists decision making and influences perceptions of groups and individuals

Monitoring discussed elsewhere

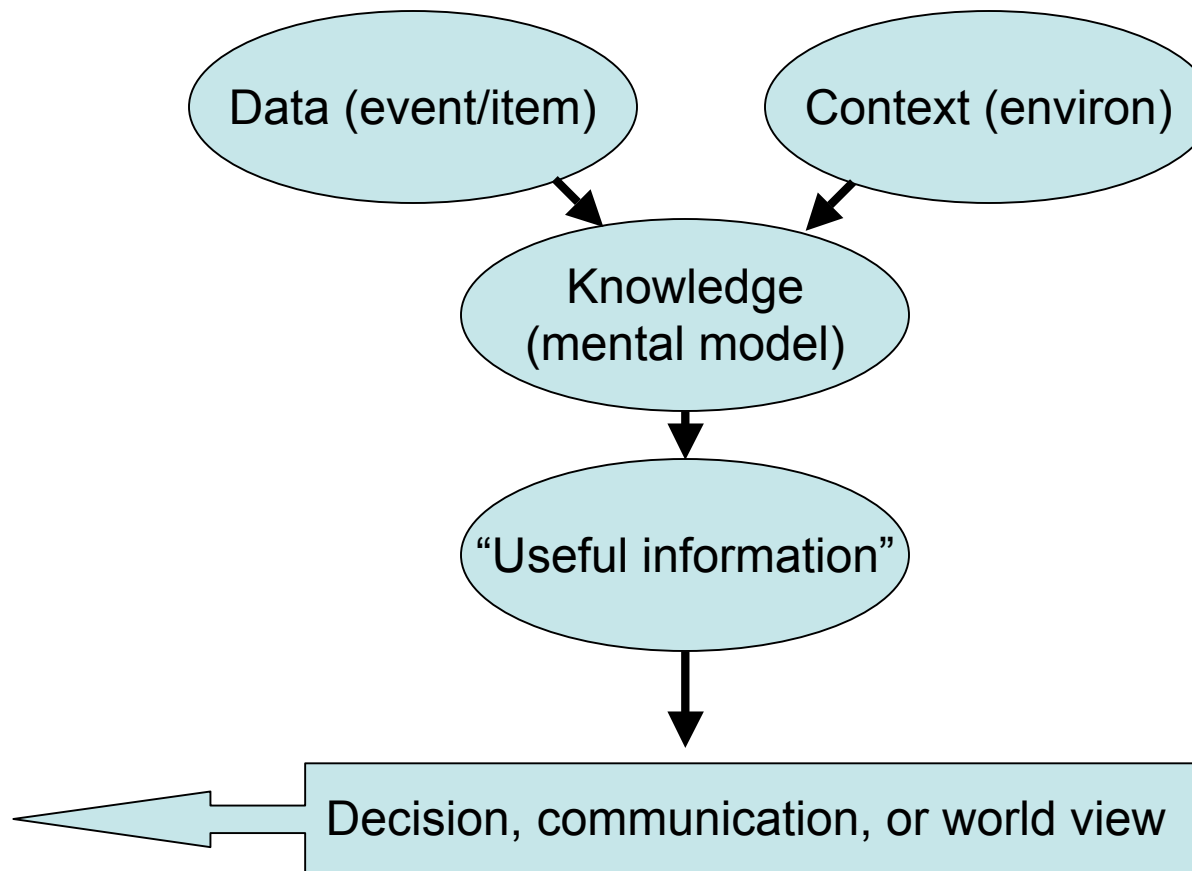
- Information *in* counterterrorism is discussed in:
 - *Designing Technical Systems to Support Policy: Enterprise Architecture, Policy Appliances, and Civil Liberties*, in “21st Century Information Technologies and Enabling Policies for Counter-Terrorism,” Robert Popp and John Yen, eds. (IEEE Press, April 2006)
 - *Technology, Security and Privacy: The Fear of Frankenstein, the Mythology of Privacy, and the Lessons of King Ludd*, 7 Yale J. L. & Tech. 123 (Dec. 2004)
 - *Data Mining and Domestic Security: Connecting the Dots to Make Sense of Data*, 5 Colum. Sci. & Tech. L. Rev. 2 (Dec. 2003)

Perceptions vs. “Truth” in 4GWF IO

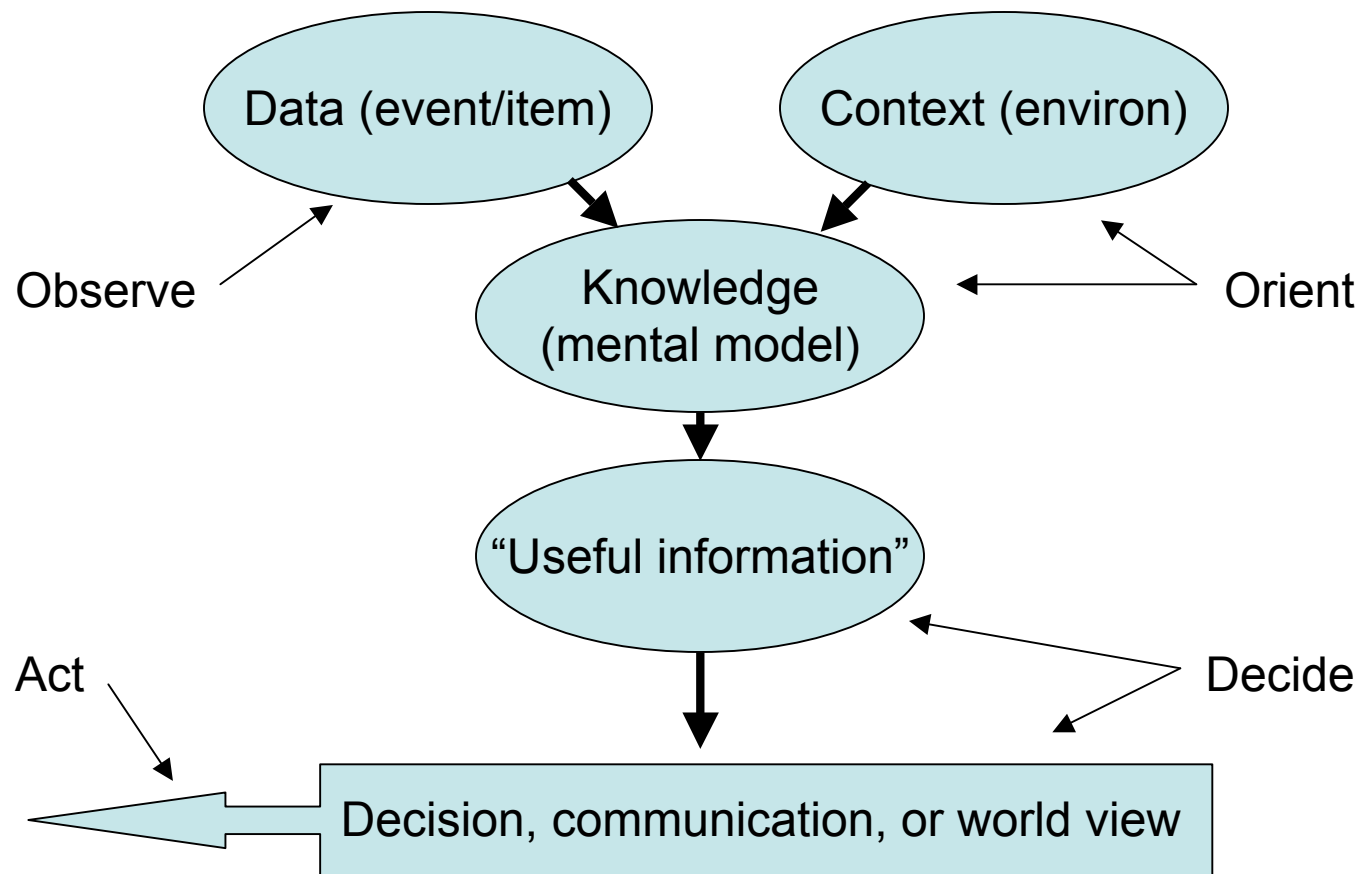
- Objective of insurgency is not to defeat Coalition force-on-force, but to seize and hold the only strategic ground they can command, the attention of the global mass media.
 - To undermine Coalition credibility and legitimacy (“Paper Tiger”)
 - To attack and exacerbate Coalition fault lines (target cohesion)
 - To attack and undermine national will (undermine leadership)
 - To enhance stature among supporters and the uncommitted
- Capacity for self-realization (information utility in shaping perception) trumps its truth-value
 - Tet Offensive (VC defeat played as victory)
 - Fallujah (USMC victory played as defeat)
- Caveat: attributed untruth undermines credibility/legitimacy

Information flow model:

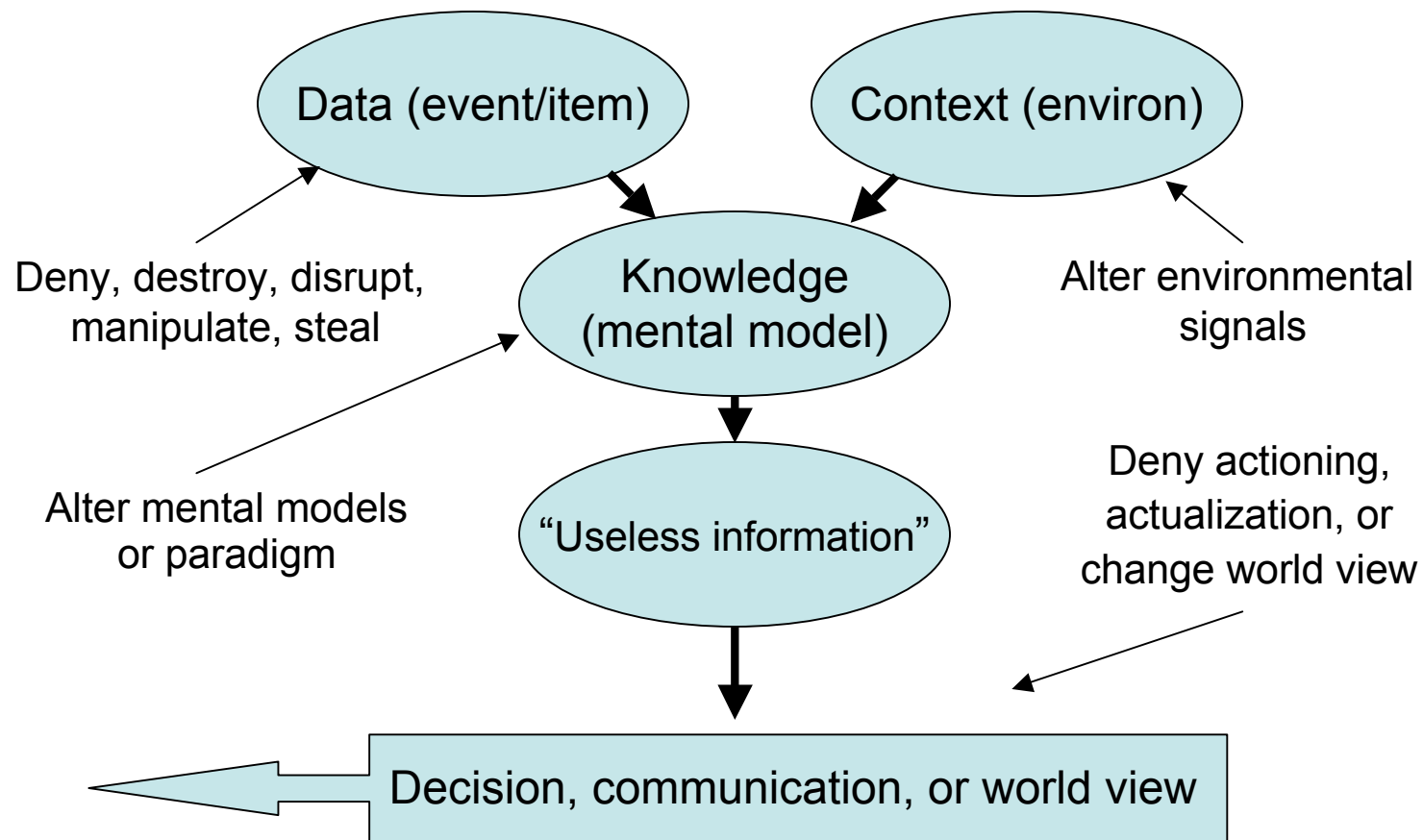
data + context + knowledge = actionable information



OODA loop applied to flow model



IO intervention to disrupt OODA loop

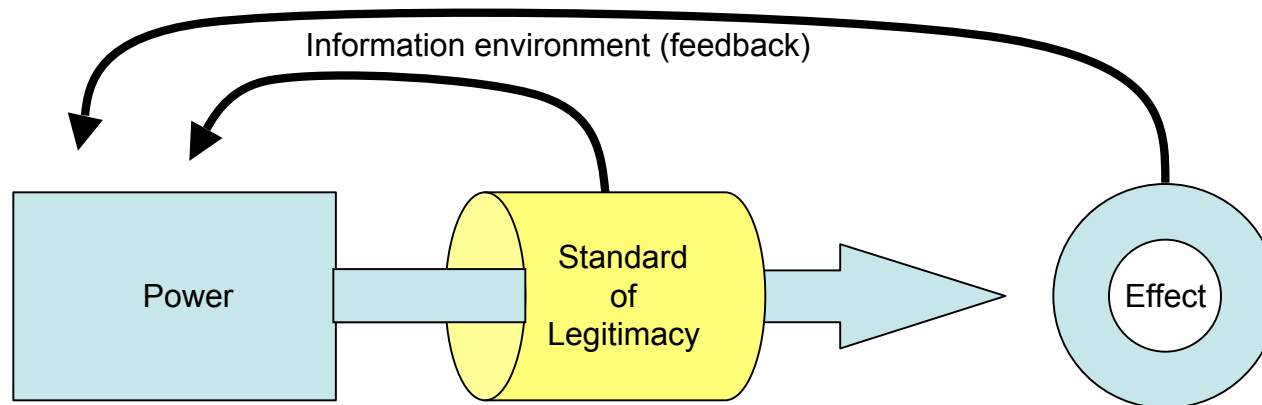


Information as warfare

- Conflict is complex adaptive system that is information dependent
- Information enables fluidity and adaptability; determines the terms of battle; and constrains the exercise of power
- Objective: (1) interfere with opponent's decision-making and (2) alter or destroy supporting world view/paradigm to eliminate any perceived legitimacy within his center of gravity (popular support)
- Apply these principles to and develop doctrine for GWOT and Winning the War of Ideas

Elements of Advantage

Information environment constrains power



Means = Power (ability to act or produce a result)

Ways = Legitimacy (cultural perceptions, social order, traditions of particular audience)

Ends = Effects (change to beginning condition)

**Legitimacy and effect can increase power but
perceived illegitimacy or unjust effect can constrain/preclude the exercise of power**

Legitimacy as Center of Gravity Linchpin

- Legitimacy and effect (~justice) can increase power but perceived illegitimacy or unjust effect can constrain the exercise of power by undermining leadership or popular support
- Constraint (through feedback) is information environment dependent (in rich media environment, need to “*Kill Faster*”)
- Problems:
 - Legitimacy is founded on cultural perceptions of given audience (cf. POV ~ Western or Westphalian model based on nation states and rule of law (inc. LAW and LOAC) vs. Islamic based on Koran)
 - Preemption appears aggressive (as does overwhelming success)
 - IO operations result in blowback (globalization of information flows)
- Opportunities
 - Legitimacy is a requirement for the insurgency as well

Development of Salafi Jihad

- Revivalist Islam
 - Muslim decadence because “strayed from righteous path”
 - Idealized utopian Caliphate as return to the Golden Age
- Internal Debate over Methods
 - Da’wa (propagation)
 - Advice (private to rulers)
 - Non-violent (mainstream jihad)
 - Violent (extremist jihad) (radicalized by Nassar’s crackdown)
- Internal Debate over Target
 - “Near enemy” - apostate regimes
 - “Far enemy” - United States (as power behind local regimes)
 - *The shadow cannot be straightened when its source, the rod, is not straight either* (OBL DOW 1996)

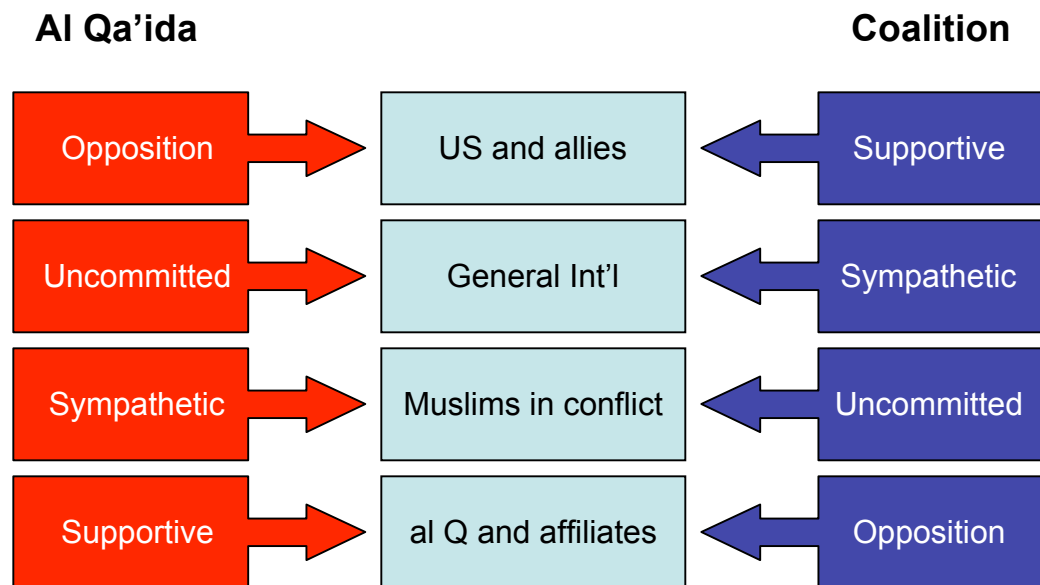
Salafi Jihad and Legitimacy

- Jihad as “just war”
 - Offensive jihad (compare to *doctrine of preemption*)
 - Defensive jihad (against the Jews and Crusaders)
- Rules of engagement and civilian killing (7 rationales)
 - Reciprocity, inability to distinguish, assistance of civilians (“deed, word, or mind”), necessity of war, heavy weapons (collateral damage), human shields (Muslims among the infidels), treaty violation (null w/ apostate regimes, and breach).
 - Islamic practice requires only one justification
 - Compare these analytically to LOAC
- Legitimacy is perceptual not absolute

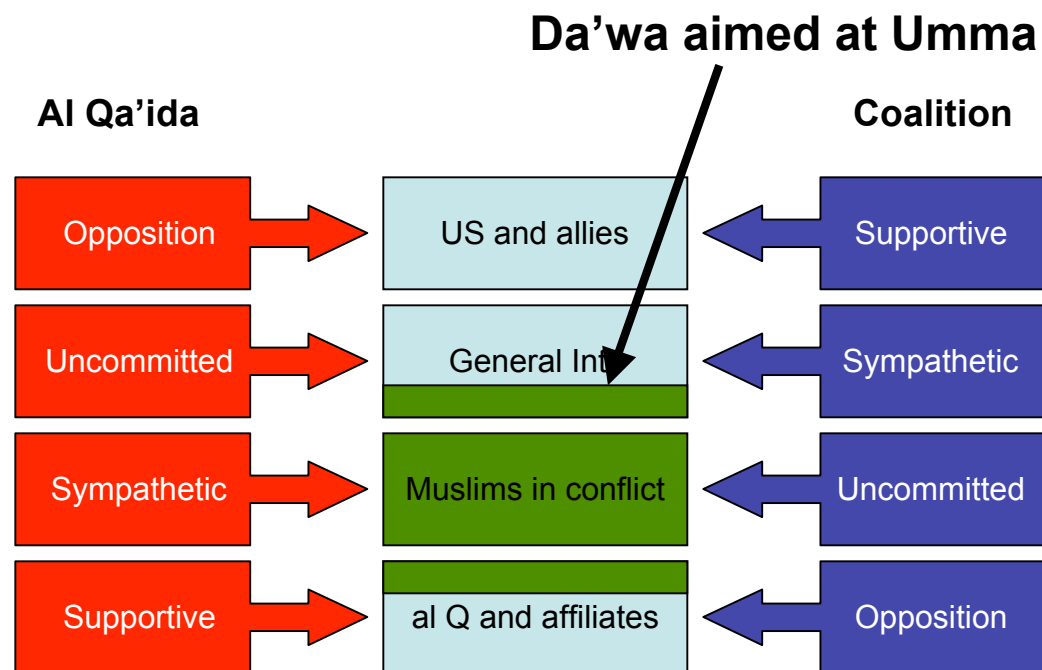
Other Legitimacy Considerations

- Distinguish: “Right” (legality) vs. “just” (morality)
- Asymmetry of power constrains its use
 - The exercise of overwhelming power itself can be perceived as illegitimate regardless of “legality” (power/success as handicap)
 - Fallujah (OIF)
 - Basra road (Gulf War)
 - Waco (LE)
- The insurgent’s strategy is to provoke a response in order to undermine the legitimacy of the ruling order or greater power
- No single source of legitimacy (no single narrative) can satisfy perceptions of all audience
- Legitimacy and credibility of source is in the “eye of the beholder”

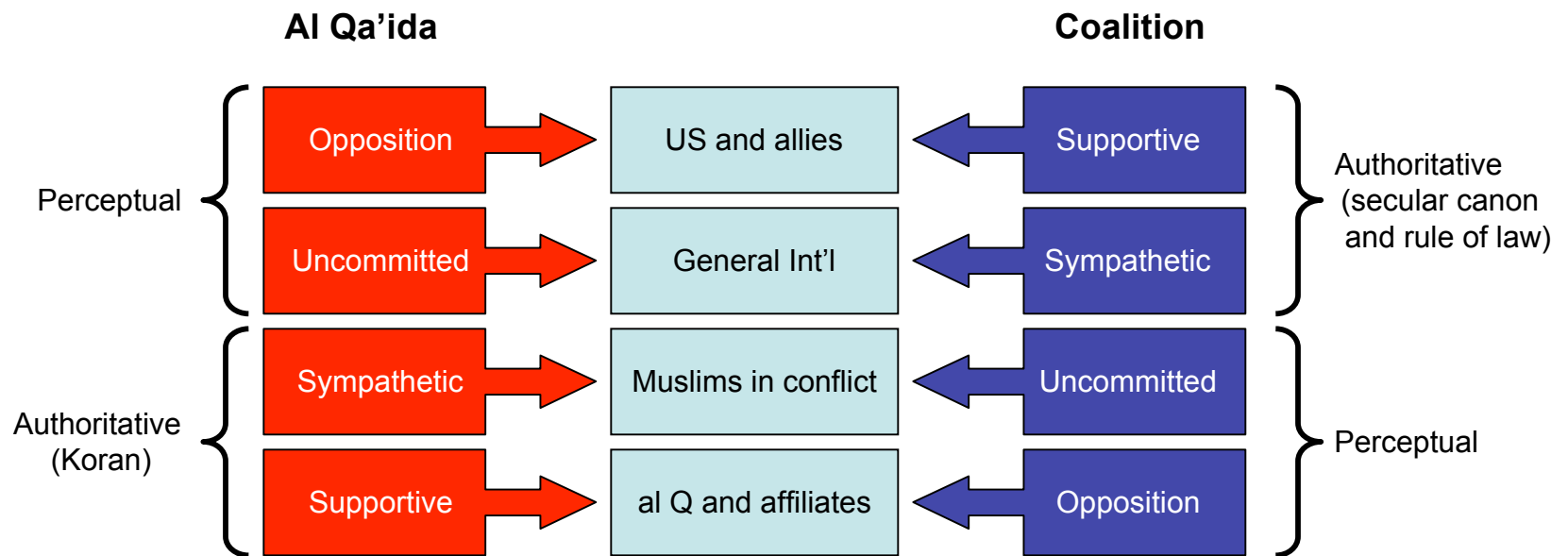
Information Audiences



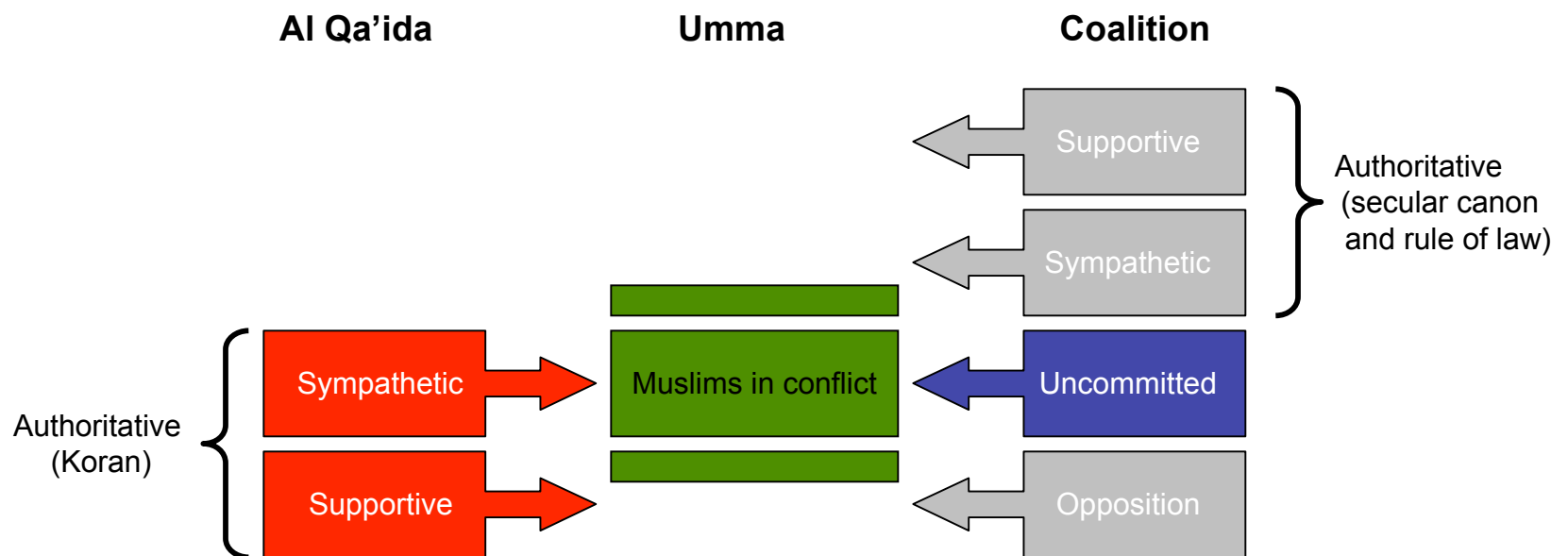
The “hearts and mind” battlespace



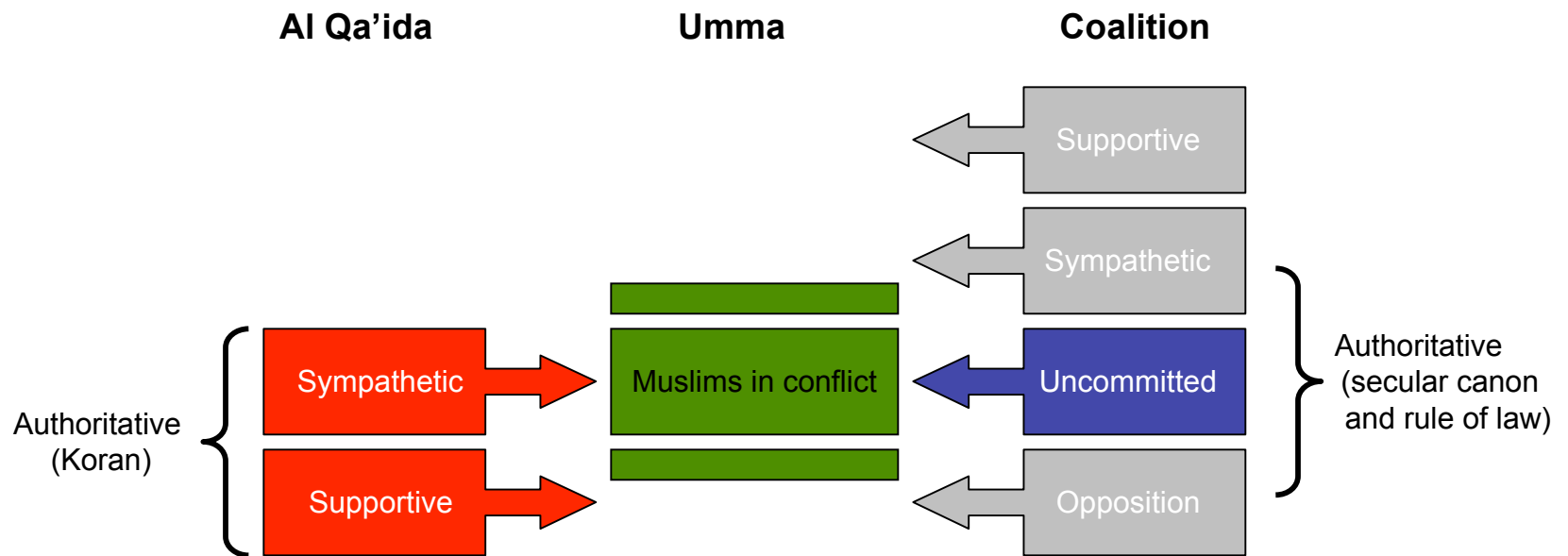
Sources of Legitimacy



Do we have a role in the Ideological Debate?

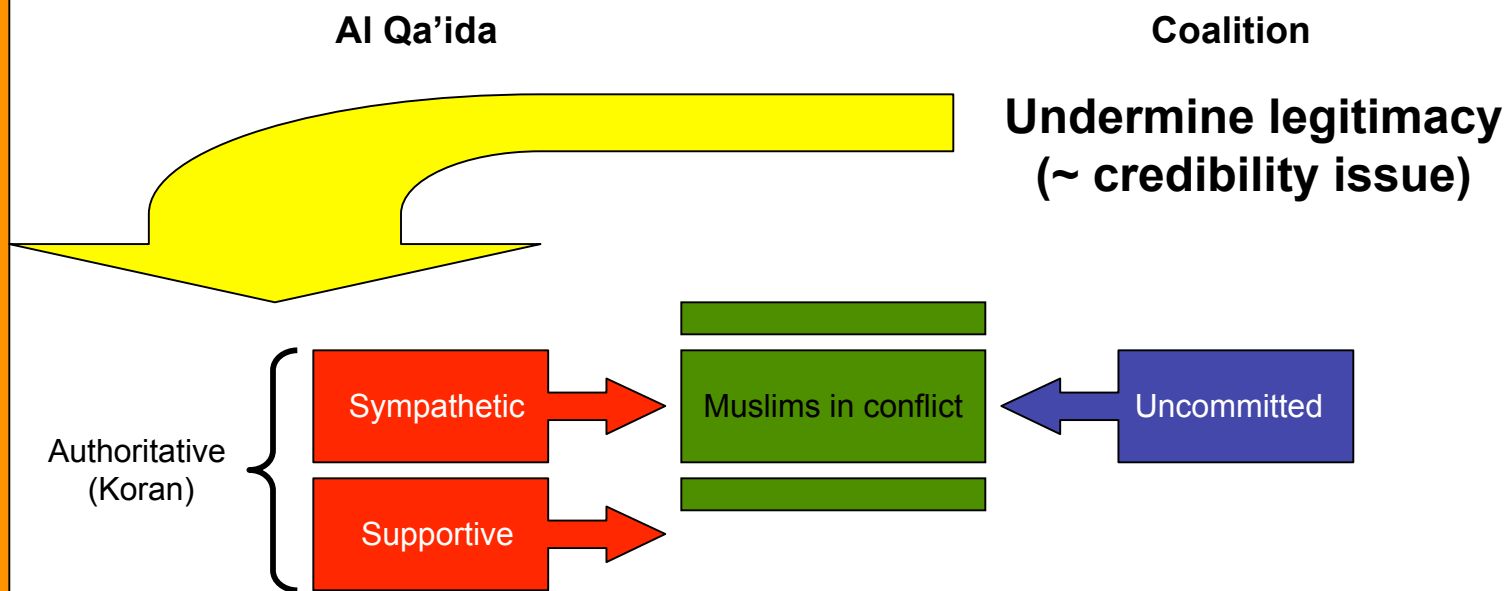


(+) Make Western canon part of debate



**Translate and Reconcile:
just and fair partnership**

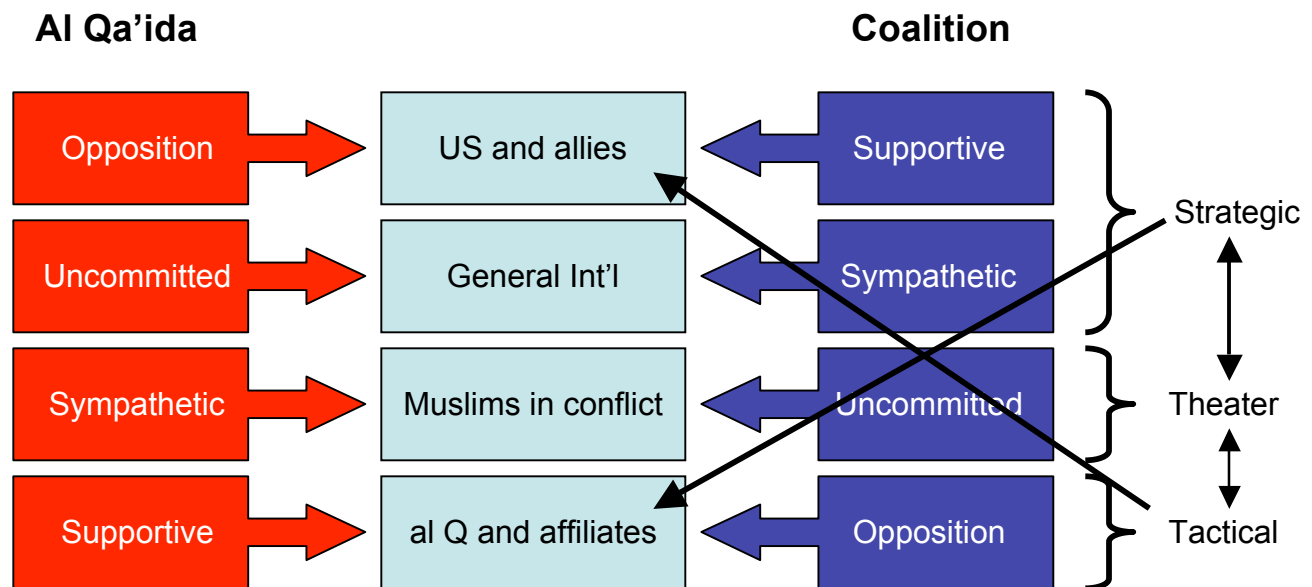
(-) Undermine legitimacy



Requires credible source. Any direct attempts will be dismissed and indirect support for “moderates” is likely to undermine their credibility.

Global Information Flow Problem

A problem in rich information environments with globalized flows is managing spillover:

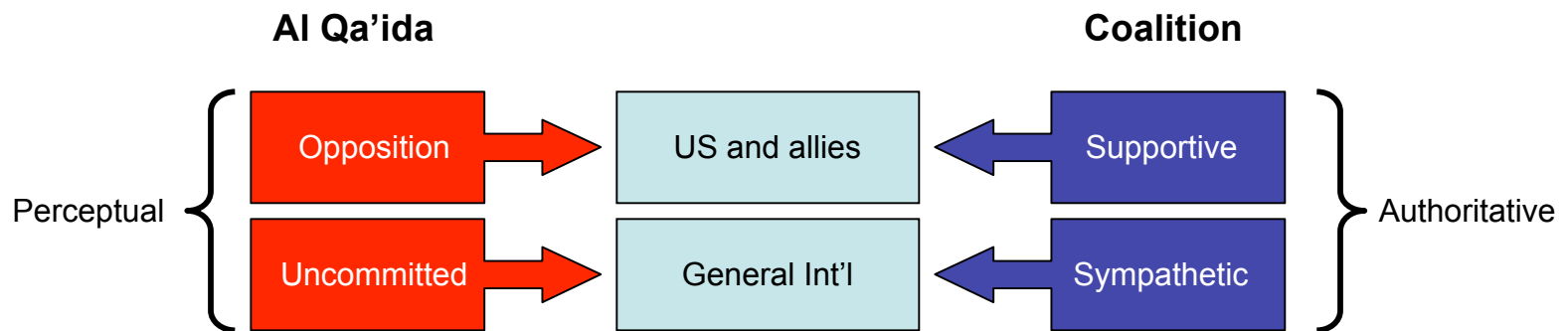


I.e., how to provide different messages/narratives to different audiences and limit the effects of information operations to their intended target domains without collateral information damage and spillover or blowback.

Global Flow, Free Press, and Democracy

- Free press broadcasts targeted at domestic consumption anger international audience(s)
 - Minority opinions attributed to government or the people
 - Domestic agenda trumps foreign policy concerns
 - Minor or transient voices or POVs amplified through reposting
 - Lt Gen William "Jerry" Boykin
 - Danish Cartoons
- Targeted intervention in “theater” reported back through free press to domestic audience is perceived as propaganda and misinformation
- Inconsistencies in messages and policies perceived as hypocrisy by both external and internal audiences

“Asymmetry” in Information Ops



**Insurgents use violence to
prep the information battlespace**

**Violence used to highlight
political case**

**Coalition uses information to
prep the physical battlespace**

**Political case used to
justify violence**

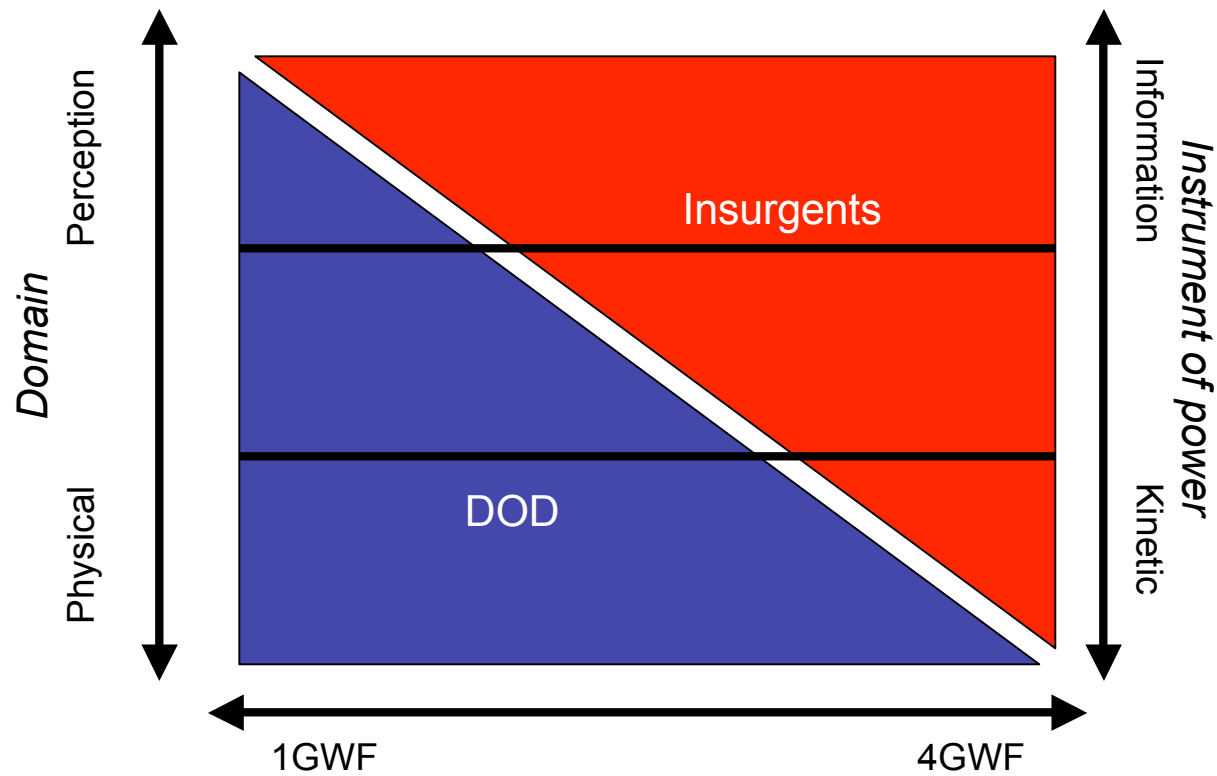
Use of Violence in 4GWF

- For insurgents use of violence is itself a success
 - Tactically insignificant
 - But strategically effective (psychological effect)
- For COIN use of violence is itself a failure
 - Tactically significant
 - But strategically counterproductive (political effect)
- Thus, need to [kill/capture faster on the ground (?) and] create perception of more legitimacy in theater and globally (law, allies, partners, locals etc.)
- It's not enough to "be right" you have to be *perceived* as legitimate (or "just") and avoid perception of hypocrisy

To Undermine Insurgent Legitimacy

- Counterinsurgency (COIN) Strategy
 - Isolate insurgents
 - Separate from population
 - Target organizational fault lines
 - Eliminate external support
 - Exhibit consistent flexibility and information response
- Objective: Maintain integrity (legitimacy) while exposing opponent's hypocrisy (note symmetry w/ al Qa'ida Playbook)
- Requires (1) consistency between attributed message and policy, and (2) "hidden hand" (proxies, partners, locals, etc.) to be credible

[A]symmetric “balance”



Operational IO objectives: prevent *actions*

- Attack/destroy *motivations* and *capabilities*
 - activities that sustain the group's existence as a cohesive entity
 - activities that allow terrorists to conduct successful attacks
 - activities that engender support from others
- Attack/deny/alter *organizational* information flows
- Attack/deny/alter *operational* information flows
- Attack/deny/alter *external* information flows
- *Deny, deceive, destroy, or exploit?*

Bad news: al Qa'ida = netcentric group

- Segmented tribal organization structure
- ICT as enabling factor for “convergence”
- Networks have advantage over hierarchies
 - Swarm resources
 - Adaptive/resilient
- Networks allow power migration to non-state actors
 - Lower barriers to entry, lower transaction costs, and lower risk makes it “affordable” to challenge national power (Coasean)
- “Takes a network to defeat a network” (coalitions, fusion centers)
 - Not cyberwar (military/HICs) but netwar (LIC, OOTW, LE)

Fight the Network

- Need to understand opponent's organizational, operational, and external information flows
- Model networks (social network theory) and destabilizing strategies (high value targeting)
 - Target nodes with high group cohesion value
 - Target nodes with high "betweenness"
 - Monitor nodes with high information flow
 - Support nodes with destabilizing effects
 - Introduce corrupt/destabilizing information
- Need to understand self-organizing systems and target organization-enabling conditions

Global Jihad Network Analysis

- Four original clusters:
 - Central staff (dominated by Egyptian Islamists militants)
 - OBL as *emir*
 - *Shura* council (dozen members dominated by Egyptians)
 - Staff (finance, military affairs, religious affairs, and PR)
 - Leadership, training, and ideological guidance
 - Southeast Asian (dominated by *Jemaah Islamiyah*)
 - Rigidly hierarchical (vulnerable to decapitation, cf. Malaysia, Indonesia)
 - Core Arabs (Arabian Peninsula, Jordan, Egypt)
 - Small world or cellular structure (local initiative and flexibility)
 - Rapid diffusion and flexible communication but poor tradecraft
 - Maghreb Arabs (Tunisia, Algeria, Morocco, France, Europe)
 - Small world or cellular structure (local initiative and flexibility)
 - Rapid diffusion and flexible communication but poor tradecraft

Metastasized

- US success since 9/11 has degraded or eliminated earlier command and control hierarchy
 - Replaced by virtual jihad
 - Uses Internet to “inspire” terrorist acts
 - Pool of “terrorists” fluctuates according to local conditions/ grievances and world events
 - Self-organizing from the bottom up
 - Less sophisticated but more numerous/reckless terrorist acts
- Unique characteristics
 - Detached from target thus no constraints or restraints
 - Lack of embeddedness in target society enables use of WMD

Al Qa'ida use of the Internet

- Target audiences
 - Supporters (inspire, guide)
 - Potential supporters (bypass traditional *imams*, recruit, guide)
 - International public opinion (and MSM) (bypass selectivity)
 - Enemy publics (segment, attack fault lines)
 - Enemy governments (diversion and disinformation)
- “Personalization” of message to avoid “spillover”
 - Target language
 - Target medium (technical sophistication)
 - Amplify effects

Instrumental Uses

- Psyops (threats, disinformation, beheading videos)
- Publicity, public relations and propaganda (eliminate MSM selection threshold) (further “victimization” strategy)
- Use available information (targeting, methods, CI/CM)
- Fundraising and material support
- Recruitment and mobilization (broadcast inspiration, guidance)
- Networking (transition from hierarchical to cell organization)
- Information sharing and training (tactics, weapons, CI/CM)
- Planning and coordination (command and control infrastructure)

“Good” news: true national security threats *may* still exhibit some targetable organization structure

- Catastrophic (i.e. nation-threatening) level of destruction can be achieved only with coordinated conventional attacks, multidimensional assaults calculated to magnify the disruption, or the use of chemical, biological, or nuclear (CBN) weapons
- These are likely to need the kind of organization that requires some participation on the part of a covert network’s central command for coordination or resource allocation
- Provides opportunity to discover (spot signatures) and disrupt ability of opponent to do “strategy”
 - Disrupt funding
 - Disrupt communications

Disrupt terrorist funding

(emerging successful doctrinal model)

- Material support (nexus issue)
- Designated terrorist organization (process)
- Imposes substantial liability on intermediaries
- Enlists private sector w/ regulation
 - Anti-money laundering (monitoring transactions)
 - Know your customer (identification and accountability)
- International consensus and UN sanctions
- US statutory structure
- Note on culture: *Hawala* (outlawed in Pakistan, regulated in SA)
- Point is that there is a lawful authorizing and controlling structure and general political consensus thus legitimacy within financial system to act

Aim to limit financial efficacy

- Increase agency problems
 - Leave destabilizing nodes in place (do not encourage preference alignment)
 - Increase perception of financial inefficiency
- Make management of financial assets difficult
 - Do not publicize seizures
 - make custodian have to explain loss (engender suspicion)
 - Increase uncertainty of operating environment
- Eliminate fundraising through legitimate sources
 - Force criminal fundraising to increase inefficiency/errors, need for money laundering, and increased opportunities for freelancing (IRA experience)
- Make sole source/central funding difficult
 - Central funding provides de facto operational control

Disrupt terrorist information flows

(no overarching doctrine or authority yet)

- Target categories (Denning taxonomy 2005, 1999)
 - Data/information/content (deny, corrupt, discredit)
 - Channels/media (block, delay, divert)
 - Actors (“turn”, discredit, or deny freedom of action)
 - terrorists who attack US interests
 - radical institutions that nurture the terrorists, and
 - sympathetic communities that harbor and support the terrorists
 - Objective: break or de-legitimize information source or use
- Issues: First amendment exceptionalism? (what is “speech”), universal right to free expression (community), transparency, myth of the marketplace for ideas, defining material support (incitement, expert advice ...)

Aim to limit organizational and operational efficacy

- Undermine and increase dissension within leadership
- Emphasize the differences between leadership and affiliated groups
- Deny al Qa'ida "credit" for operations (*)
- Engender internal competition (for leadership, credit, success, etc.)
- Corrupt available operational information (introduce misinformation)
- Undermine screening strategies (open monitoring of channels)
- Confuse, humiliate, demoralize, and embarrass rank-and-file
- Subvert authority of senior commanders
- Facilitate both misunderstanding and understanding of US intentions and capacity (but, cf. blowback problem)
- Counter propaganda, exploit ideological breaks

Target: Information content

- Public diplomacy
 - Marketplace of ideas (segmented audience problem?)
 - Message needs to be matched in deeds (policy perception)
- DOD Office of Strategic Influence and successors
 - Perception management, PSYOPS, Public affairs
 - Disinformation and misinformation
 - Blowback/spillover problem - Fallujah/CNN
 - Unintended consequences - spam Iraqi generals (cell #s changed)
- CNO (CNA, CND, CNE)
 - Web hacks (~ designated “material support” targets)
 - Honey pots / stings (~ military deception permitted under LOAC)
 - Error introduction (e.g., [mis]“identify” informers, pollute ops info)
- Statutory restrictions on domestic info ops and domestic influence create jurisdictional gaps, operational constraints, and interstitial vulnerabilities

Target: Information channels

- Cyberattack (CNA) (~ conflicts w/ US and Int'l cybercrime laws)
 - Delay (DDoS)
 - Interrupt (router attacks)
 - Distort/redirect (DNS hacks)
 - Google bombing or other “engineering”?
 - How does LOAC relate? (civilian vs. dual use, etc.)
- Filtering/censoring
 - Content categories vs. constative content or flow
 - “Wholesale” (not individualized) vs. “retail” (targeted)
- Infrastructure provider or other third party liability and intervention points
- Authorize and control: FISA-like IO orders/warrants?

Target: Information actors

- Select out, monitor, discredit or support (~ destabilizing effect)
- Control orders (UK *Prevention of Terrorism Bill 2005*)
 - Home secretary designates “involved in terrorism-related activity”
 - Civil vs. criminal court standards (“balance of probabilities”)
 - Violation of control order is criminal offense (5 yrs)
 - Cf. prior to conviction vs. condition of parole (pedophiles, hackers)
 - Cf. w/ *in camera* asset seizures on finance side
- Material witness warrants, preemptive detention, renditions (US)
- Watch lists and identity nullification, travel restrictions (US+)
- Other preemptive sanctions - discredit or eliminate sources
- Provide alternatives, exits, and incentives (+)

Some civil liberties and legal issues (US)

- Fatwas as “clear and present danger”? (~ L. Hand test)
 - Orders vs. *fatwas* (“everybody knows what they have to do”)
 - Current analysis premised on hierarchy (not network) (*Brandenburg* 1969)
 - “Puny” threat language (Douglas) vs. amplified conspiracy
 - Speech act theory and performative language (*Dennis* 1951)
 - “Complicity Publication: Criminalizing the Dissemination of Ideas”
- Set nexus standard through material support statute?
Impose liability for legitimizing terrorism.
- Consider due process factors in assessing: predicate/standard, alternatives, consequences, error correction
- Narrowly tailored and reasonable actions to meet threat w/in appropriate procedural bounds - democratic accountability
- Potential alternative futures (Brin 1998) (Traven 1926) (Brazil 1985)

Conclusion

- Need political legitimacy through *authorizing* and *control* mechanisms (policy, legal and tech) for IO in the *War of Ideas*
- Need a “joint doctrine” for all instruments of national and global power (with a consistent ideological response and including a coordinated information campaign plan)
- The only winning idea is **legitimacy**

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