



# 2<sup>ND</sup> ANNUAL MINERVA CONFERENCE

## *Minerva Research Summaries*

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# Energy and Environmental Security

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## **Research Problem:**

Energy and environmental security issues have always been crucial to the operation of militaries and effective strategic planning, but rapid changes in these areas have been recognized as posing potentially unique risks to USAF and DOD missions, risks that will increase significantly in coming years. Fossil fuel supplies will become increasingly critical, but will also intersect with critical shortages in environmental resources such as water. As changes to environmental conditions accelerate, critical vulnerabilities to systems will be exposed, resulting in lack of capacity, or systemic instability as areas are unable to cope.

Without effective planning, USAF/DOD infrastructure such as bases may be left without adequate sources of water or electricity, critical energy supplies may shift to other regions (eg melting permafrost damaging pipelines, resulting in trans-Arctic shipping of LNG or oil), and complex emergencies may require intervention from US troops or heavy airlift capabilities. The pace of scientific data on such changes has far exceeded the ability of policymakers to adapt or plan effectively. Military capabilities in risk foresight planning under conditions of high uncertainty can help lead to development of effective planning, providing both tools for foresight and translation of scientific data into meaningful security risks.

## **Methodology:**

The integration of climate science and public health (epidemiology) with security assessments requires methods for assessing complex risks and impacts associated with sudden environmental changes on global and regional scales. As these are high-impact, unknown probability events, new tools need to be developed to understand the associated energy and environmental security implications. This necessitates research into the nature of cascading failures within and across complex systems. Thus, the inclusion of regional assessments of vulnerability to assess known, presumed and as yet unknown risks. Recent work indicates that past approaches to environmental security were insufficient to capture the complexity of such interrelated systems, and largely tended to be both narrowly focused and reactive. Approaches must also be willing to increase, rather than decrease, proximate uncertainty.

Environmental security assessments must be designed to use the latest scientific data and regional expertise, determining not only what is collectively known, but where critical uncertainties exist through our research and monitoring. The process is also designed to be 'scalable,' taking global changes and translating them down to regional levels for better resolution of potential risks. Energy and environmental risks of high uncertainty can be translated into a risk framework employing scenario methodologies. These scenarios are constructed using a distributed network of subject-area and field studies experts, collectively identifying areas of most interest and key changes that may occur within a given planning time frame. These changes must then be mapped (this can be done visually or mathematically) onto a multidimensional grid indicating cascading effects of second and third-order impacts. This process, including related boundary mapping of critical uncertainties and Rapid Impact Assessments, serves to identify key vulnerabilities and risks in a complex system. Such vulnerabilities can be crucial to

prioritizing responses in both pre-conflict (Phase 0) and post-conflict environments, where key intelligence is often lacking. A version of this scenario-risk assessment process can also be readily adapted for instructional purposes, and data can also be ported into wargames.

### **Initial Results:**

The scenario methodologies have been broken into three approaches: wargaming, scenario creation, and complex scenarios. Integration of energy and environmental security data into existing wargame and simulation efforts can provide additional real-world cases of potential mission decay. Volcanic data from NASA and Jet Propulsion Labs were used in the SAASS 2011 wargames at Maxwell AFB, to simulate potential operational risks to aircraft from natural events during a crisis. These methods can now be adapted to include more extensive environmental changes to scenario conditions.

Scenario creation workshops introduce USAF mission planners to complex EES risks and help identify potential scenarios of future instability as a result of structured team discussions. These workshops were first used by the US Department of Energy and were being more fully developed in 2011 with cooperation of NATO, University College London and the International Institute for Strategic Studies. The workshops will play a key role in involving Maxwell Symposium participants in September 2011. Previous workshops have helped to draw attention to areas where further research and monitoring are needed, and where DOD planning may lack appropriate responses or expertise.

Complex scenarios are a unique approach being developed in cooperation with the Swedish Defense Research Agency and other partners. In contrast to previous efforts that have taken summarized climate change data and applied it to traditional threats, these complex scenarios draw on leading edge scientific research, and integrate data into planning scenarios to identify specific and potential impacts in a given geographical region. This approach combines a sophisticated n-dimensional modeling technique to identify a spectrum of extreme conditions, and then maps out a series of impacts and responses.

### **Anticipated Outcomes of Research:**

Work is now being directed to allow scenario methods to be exported to other planning groups, and the scenarios are being applied to regional risks within combatant command (COCOM) theaters. In 2012 the AU Minerva team will assist the Air Force Research Institute (AFRI) in developing a strategic futures study of energy and environment in the Pacific Rim (PACOM). This may involve identifying dual-use resources for disaster response, including identifying best practices from Operation Tomodachi in Japan.

### **Potential Impact on DoD Capabilities and Broader Implications for National Defense:**

Research of this nature has the potential for the DoD and other U.S. and international organizations to monitor and respond to problems proactively and in a more cost-efficient manner. These tools also provide greater instructional (PME) capabilities for assessing and responding to unique risks for future operational and strategic planners.

### **Publications through Minerva research:**

- Chad Briggs and Tracy Walstrom Briggs. "Strategic Environmental Intelligence: Assessing Emerging Risks," *Intelligence and National Security* 27, Summer 2012 (in progress).
- Tracy Walstrom Briggs and Chad Briggs. *Air University Minerva Initiative 2010-2011: Energy and Environmental Security* (Maxwell AFB: Air University Press, 2011).

- Chad Briggs, “Abrupt Environmental Changes: Scenario Planning for Catastrophic Security Risks,” in *The Challenge of Emergency Regulation: Beyond the European Volcanic Ash Crisis*, ed. Alberto Alemanno (London: Edward Elgar, 2012), forthcoming.
- —, “Arctic Environmental Security and Abrupt Climate Change,” in *Environmental Change and Human Security in the Arctic*, eds. Gunhild Hoogenson and Dawn Bazely (London: Earthscan, 2012), forthcoming.
- —, “Climate Change and Human Security,” in *Climate Change and Human Well Being: Global Challenges and Opportunities*, ed. Inka Weissbecker (London: Springer Publishing, 2011), forthcoming.
- —, “Environmental Change and Water-Related Health Risks: An Arctic Security Approach,” in *Climate Change, Water, and Health*, ed. Velma Grover (Boston: Science Publishers, 2011), forthcoming.
- —, “Risk and Scenario Planning for Climate Security,” *Environmental Change and Security*, Woodrow Wilson Center, forthcoming 2011.
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- —, “Environmental Change, Strategic Foresight, and Impacts on Military Power,” *Parameters* 40, no. 3, Autumn 2010, 1–15, <http://www.carlisle.army.mil/usawc/Parameters/Articles/2010autumn/Briggs.pdf>
- Chad Briggs and Henrik Carlsen, “Environmental and Climate Security: Improving Scenario Methodologies for Science and Risk Assessment,” *American Geophysical Union Research Abstract*, December 2010, <http://adsabs.harvard.edu/abs/2010AGUFMNH12A..05B>.
- Chad Briggs and Inka Weissbecker, “Salting the Fields: Environmental Health Challenges in Post-Conflict Reconstruction,” in *Water and Post-Conflict Peacebuilding*, eds. Erika Weinthal, Jessica Troell, and Mikiyasu Nakayama (London: Earthscan, 2011), forthcoming.
- Chad Briggs and Stacy VanDeveer, “Europe, Climate Change, and International Security: Transatlantic and Global Dimensions,” in *Climate Change & Regional Security*, ed. Dan Moran (Washington, DC: Georgetown University Press, 2011), 141–51.
- Tracy Walstrom Briggs, “Envisioning a Broader Context to Security with The Ultimate Weapon is No Weapon,” *New Security Beat*, Woodrow Wilson Center, 8 April 2011, <http://newsecuritybeat.blogspot.com/2011/04/book-review-envisioning-broader-context.html>.

# Strategic Impacts of Cultural and Religious Change

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## Research Problem:

Since September 11 2000, the interest in the compatibility of Islam and secular democracies has become an object of political concern and military strategy. A decade later, with the demise of Bin Laden, and the unfolding of the Arab Spring, this question is more relevant than ever and the number of countries of strategic concern are quickly expanding beyond Afghanistan or Iran.

My research goals are:

- to expand a database of original materials on the intersection of Islam and Governance in different regional and linguistic contexts: primarily in Arabic, Farsi, Urdu, English by building on the existing database of [islamopediaonline.org](http://islamopediaonline.org)
- To provide an analytical framework in order to make efficient use of these resources for strategic and political purposes.

The main hypotheses of the current research are as follows:

- It is crucial to **reintroduce State actions and policies** in the strategic approach of cultural and religious changes
- Despite the focus on transnational political forms of Islam, the national and regional sites remain central for the importance of political Islam
- **Different kinds of Western Influence** have to be included in the understanding of religious and cultural changes

## Methodology:

Such an approach refrains from considering Islam and religion as either independent or dependent variables, but instead seeks to demonstrate that the timing of the interaction of the international environment with Muslim States can explain the politicization of Islam at the national and international levels.

In order to demonstrate these hypotheses I have focused on a few countries that have been defined as secular according to “western standards” such Iraq (pre 2003), Pakistan and Egypt and Turkey. For each, I have systematically collected data on the following aspects:

- The status of Islam in Nation-building and in the Constitution
- Islam and the legal system
- Islam and the Education system
- Islam and political movements

The data covers the creation of each Nation-State until now.

## Initial Results:

My data collection shows that there are high levels of institutionalization of the State-generated norms of Islam. These norms are constructed and at the same time reflected in the arenas of the constitution, formerly independent and now nationalized religious institutions, the legal system, religious

education in public schools, and public political discourse by state leaders. For instance, the majority of the Middle Eastern and Arab states ranging from Egypt to Iraq to Pakistan clearly establish in their constitutions that Islam is the religion of the state or religion of the country. Additionally, in all states, including Turkey, nationalization of Islamic institutions, the legal system, and the education system occurred, while even in “secular” states, Islamic terms such as the *Ummah* and *Jihad* make regular appearances in political discourse by leaders like Gamal Abdel Nasser, Saddam Hussein, and Hafez al-Assad. Moreover, these highly institutionalized norms based on Islam propagate homogenization of the national identity instead of encouraging pluralization.

Based on a strong nationalist legitimacy, most of the rulers of the new nation-States have used Islam as a tool for political control and have therefore *reshaped* Islam as a national ideology and social norm for *all* the actors in civil society. This is the most difficult aspect to understand for a Western observer or analyst as we tend to project on Islam familiar categories by which we apprehend religion Western cultures; like ideas or values or spirituality only.

### **Anticipated Outcomes of Research:**

My Minerva research shows that one way to take into account cultural changes is pay attention for each country to the following criteria: State actions vis-a-vis religious groups, institutions, and elites as well as interactions between State institutions and different cultural and religious groups. It is also important to take into account regional and international influences. The external influences are of different kind, but clearly the Western ones are of critical importance: either through direct Western intervention, or soft power influence (social media/culture). They have been a necessary but *not sufficient* condition in the recent revolutions of the Arab world.

The expected outcome of my Minerva Research will be to establish different scenarios to explain the role of Islam in the transition from authoritarian regime, by assessing the role of three factors—religious elites, Islamic ideology and norms, and external influences—in the transition from authoritarian regime in Egypt, Tunisia and Iraq and analyze their role in the building of new regimes.

### **Potential Impact on DoD Capabilities and Broader Implications for National Defense:**

By offering a more pragmatic approach to State policies and interactions with different social groups, my research could serve in different briefings and trainings by providing a methodology of acting on the ground and paying attention to some social and cultural processes often discarded because not “political” or not “Islamic” such as education policies, legal or penal changes, while they are key elements to understand the relationship of power between different religious and cultural groups. Being aware of the different protagonists and their interactions with the State will allow to determine different scenarios of crisis or exit of crisis.

### **Publications through Minerva research:**

- Academic Article on Methodology and Findings (currently under review)
- Book Manuscript on Islam and World Politics
- Country profiles report on islamopediaonline.org
- Sharable data resources to be generated:
- Country profiles of State-Islam relations in Egypt, Iraq and Pakistan
- See islamopediaonline.org

# Why Did Saddam Seek Nuclear Weapons?

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## **Research Problem:**

Understanding why countries seek to acquire nuclear weapons is a key element in enabling the crafting of non-proliferation and counterproliferation strategies by the United States and the international community. In particular, appreciating the perceived utility, function, and mode of employment of this capability (whether in deterrence or warfighting) as seen from the perspective of the acquiring party are central factors in analyzing this process. The traditional debate has been between "optimists" (who view proliferation as a benign process leading to mutual deterrence and stability) and the "pessimists" (who view proliferation as increasing the possibility of actual use and a threat to stability). Synthesizing Iraqi threat perceptions, domestic political environment, and military thinking can lead to a more accurate understanding of the likely impact acquisition of a nuclear arsenal would have had for Iraq as well as provide insights into the potential thinking and use of this capability by other regional powers.

## **Methodology:**

The focus of this study was the Iraqi understanding of the projected utility and mode of use of nuclear weapons, which is best achieved through an all-source approach, including the use of the captured Iraqi documents (and especially Iraqi military doctrinal publications, and Iraqi military and party journals), as well as public pronouncements and writings by the leadership.

## **Outcomes of Research:**

Based on its mirror imaging of adversaries and its own developing doctrine, Iraq conceptualized deterrence as what it termed "offensive deterrence," whereby nuclear weapons could provide assurance against retaliation, enabling a country to operate aggressively at a lower level of violence to change the regional status quo. In addition, military doctrine suggested a view of the feasibility of even nuclear warfighting, with the battlefield use of nuclear weapons integrated into Iraq's anticipatory military doctrinal publications.

The Iraqi case highlights how risky it may be to mirror-image another country's perceptions and intentions, especially in the realm of nuclear weapons, where there are limited historical precedents; related to the differences in leadership and strategic culture, the Iraqi case indicates that the concept of nuclear deterrence cannot be applied mechanistically, and that the relationship between deterrence and stability needs to be reevaluated in a less absolute – and less optimistic – direction; an assumption that nuclear weapons would never be used in a warfighting mode may be flawed, as states such as Saddam's Iraq might be as more acceptable; even a small nuclear arsenal in the wrong hands can be sufficient to cause significant negative consequences for U.S. interests and regional stability; and, given Saddam's paradigms and political objectives, Iraq's initial acquisition of even a few nuclear weapons could have had a disproportionate impact on U.S. interests and on regional stability.

## **Potential Impact on DoD Capabilities and Broader Implications for National Defense:**

The Iraqi case study underlines the hazards of nuclear proliferation and the difficulty of the "optimists" replication of the relatively stable deterrence regime between the superpowers during the Cold War and, as a corollary, the paramount importance of continuing non-proliferation and counterproliferation efforts. Conversely, modifying the regional threat environment may alleviate the pressures for proliferation, as this case study confirms the role of the domestic and regional perception of threats in stimulating, and legitimizing, Saddam's efforts to acquire nuclear weapons, and removing or diminishing the sources of perceived insecurity which can magnify threat perceptions and serve as a potent stimulus to fuel proliferation

**Publication through Minerva research:**

*Saddam's Nuclear Vision: An Atomic Shield and Sword for Conquest* was published in June 2011 by the Marine Corps University Press.

## **Al-Qaida, the Tribes, and the Government: Lessons and Prospects for Iraq's Unstable Triangle**

**Norman Cigar**

**Research Problem:**

Dealing with tribal systems has posed a continuing challenge to Al-Qaida as it operates in the Middle East and Africa, where a tribal environment is still an integral part of society in many of the countries, and navigates between its ideological blueprint and the social realities on the ground. How Al-Qaida views and manages the tribal system --the human terrain-- and its ability to learn in many cases can mean the difference between success and failure, and may suggest factors which can be influenced in order to neutralize or diminish Al-Qaida initiatives. Iraq provides a useful case-study of Al-Qaida's approach to a tribal society and its evolving understanding and adaptation, given the extent of its effort in time and resources to this theater.

**Methodology:**

One cannot deal only with Al-Qaida, but rather with a triangular relationship of interactive players --Al-Qaida, the Sunni tribes, and the government (or the U.S. as the governing authority initially)- - as each affects the each others' options and policies. Tracking the interplay of the evolving objectives, strategies, and policies of the main players can highlight the evolution of Al-Qaida's thinking about tribes as a function of the changing security and political environment on the ground and the compromises it has had to make between ideology and Realpolitik. The raw data for this research focuses on perceptions of the key players as found in the Iraqi media, Al-Qaida writings (both captured documents and publicly-available policy documents), and tribal websites.

**Outcomes of Research:**

The evolution of this phenomenon occurred in phases, beginning with an attempted social revolution and the implementation of an Islamic system by Al-Qaida, which led to an apparently successful insurgency in the Sunni areas. However, this process challenged the tribal hierarchy and tribal mores, and a reaction by the tribes, combined with a maturing more favorable U.S. approach to the tribes, enabled a subsequent phase marked by an alliance between the U.S. and the tribes, and a war which often took a tribal pattern against Al-Qaida. The result was a successful counterinsurgency. However, with the

handover of responsibility to a heavily-Shia Iraqi government and military, relations between the Sunni tribes and the government deteriorated. Concurrently, Al-Qaida had to rethink its approach and to adopt a more flexible attitude to tribal hierarchies and to the imposition of its social and religious blueprint, as well as "Iraqization" to counter its foreign image. The convergence of these two dynamics enabled at least a partial resurgence of Al-Qaida.

This case study suggests that Iraq's tribes continue to be an important element for Al-Qaida's prospects; that Al-Qaida is an adaptive organization and will compromise at least some degree of its ideology to Realpolitik requirements to function in a tribal environment; that it is possible --and vital-- to shape Al-Qaida's operational environment as with the U.S.'s successful cooperation with of the Sunni tribes, resulting in a turnaround in the insurgency; and that Al-Qaida's "foreign" character can be a critical vulnerability that can be exploited. Conversely, there are cautionary lessons, including that supporting proxy local forces in a counterinsurgency --as with the U.S.-backed tribal militias in Iraq-- has consequences which the follow-on government will have to deal with and, in general, that outside players must keep expectations within reason, given the limited ability the latter may have to shape the domestic social and political environment, as is the case with U.S. influence over the Iraqi government's policies toward the Sunni tribes and the impact that that has in maintaining an Al-Qaida presence in Iraq. While Al-Qaida cannot seize power in any province, much less in the country as a whole, nevertheless its continued ability to create chronic security problems, can affect stability and an already difficult economic situation negatively and hinder national --barring the adoption by the central government of a more positive policy toward the Sunni community.

#### **Potential Impact on DoD Capabilities and Broader Implications for National Defense:**

The Iraqi case study underlines the need for governments (or governing authorities) or would-be governments (such as Al-Qaida) to deal with the tribes in the Middle East on the tribes' own terms and highlights the importance of developing sufficient cultural sensitivity and knowledge to be able to navigate in complex tribal environments in order to implement successful counterinsurgency campaigns.

#### **Publication through Minerva research:**

A 120-page study based on this research project will be published by the Marine Corps University Press (late September 2011).

## **Tribes, Society, and the State in Saudi Arabia: Change and Continuity and the Implications for Security and Stability**

**Norman Cigar**

#### **Research Problem:**

The focus of this case study was to understand how countries in the Middle East could use the tribal factor as a stability and security mechanism, including as part of meeting the challenge of Al-Qaida. Saudi Arabia promoted "retribalization" beginning in the 1980s in order to atomize conflict and prevent society-wide unrest as a counter to emerging Islamist and liberal domestic challenges. The program of institutionalizing a tribal hierarchy dependent on the state for the provision of benefits, the encouragement of tribal law, tribal pride, and collective responsibility was successful in dealing with security challenges, including later with Al-Qaida, which was largely blocked from mobilizing the tribal population pool and was neutralized by the tribal system. Whether this tribal system can remain as an effective governing tool

within an Arab Spring environment and the needed political, economic, and social reform is another key policy research question with implications for the country's future security and stability.

### **Methodology:**

The research approach was to identify the state's strategy in its relationship with the tribes, the changing cost-benefit calculus in terms of horizontal social conflict and discontent which this system has generated --whether between tribes, between tribes and the country's non-tribal sector, or vertical conflict with incipient criticism of the state-- and the government's policy options. The relevant key issues of contention emerge from a tracking of the Saudi mainstream media, where conflicts have often been revealed in surprisingly candid terms, and in the less heavily-censored tribal websites and blogs.

### **Outcomes of Research:**

While effective in terms of security, the rising political cost of retribalization in terms of strife among tribes and between tribes and the non-tribal sector --whether in the form of vitriolic exchanges in the media, brawls in schools, or mounting discontent among the tribes with their perceived lack of access to political, social, and economic power, both in relation to other tribes or to non-tribals-- led the government to rethink its tribal policy by 2010, after Al-Qaida had been suppressed. Indications were that a new tribal policy was being considered to reduce the role of tribes, accompanied by the disappearance of media coverage of the tribes and government efforts to emphasize instead national unity.

However, the appearance of the Arab Spring reversed this trend, as the government once again welcomed a society fragmented along tribal lines and between the tribal and the non-tribal sectors as a way to prevent an integrated society that could unify discontent against the regime. Tribal law is again emphasized by the authorities, as well as the importance of the tribes as a pillar of the state, including an appeal to the tribal cohesion of the National Guard, which is regarded as the first line of defense against domestic turmoil and was deployed to suppress the unrest in neighboring Bahrain. In addition, the likelihood that tribal loyalties would fragment any united opposition in the September 2011 local elections --which the Saudi government saw as a prudent cosmetic concession to Arab Spring concerns-- no doubt also has contributed to giving the tribal system a reprieve.

Saudi Arabia continues to face a trade-off of relying on the divisive tribal system for short-term stability but with the related potential for continued and increasing domestic strife among sub-state actors. Ultimately, the state-controlled tribal system can alleviate individual hardships and can contribute to a stasis for now, but it will further inhibit needed movement toward systemic reform for long-term stability.

### **Potential Impact on DoD Capabilities and Broader Implications for National Defense:**

Realistically, there is little that any outside player can do to influence trends and events related to Saudi Arabia's tribal issues and domestic policies. Given the overriding importance of that country's continued security and stability, highlighting the potentially long-term disruptive factor of tribal turbulence as a factor that should be monitored can provide an additional indicator that can be used to forecast domestic stability.

### **Publication through Minerva research:**

Dr. Cigar organized a panel on tribes in the Middle East for the British Middle East Studies Association conference in June 2011, at which he presented his research on Saudi Arabia. The papers from this panel will appear in a special issue of *The Maghreb Review* (London).

# Conventional Arms Control and 21<sup>st</sup> Century Deterrence

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## **Research Summary:**

I am currently involved in the following two research projects. The first is focused on arms control in Europe and the future of tactical nuclear weapons. The essential research question is:

*What is the current role for conventional arms control as a means to maintain European security?*

My research will examine whether or not the ongoing crisis surrounding the Treaty on Conventional Armed Forces in Europe (CFE) can be solved to the satisfaction of all signatories and could its resolution present opportunities to deal with the question of tactical nuclear weapons in Europe. I will be hosting a workshop on this topic on 17 thru 19 October. Participants for this event include both European and American arms control and security experts.

The second topic is focused on the role of *deterrence* as an essential part of American strategic thinking. In this regard I am focusing on the following research question:

*What is the role of “deterrence” as an element of 21<sup>st</sup> century American national security strategy?*

This effort further implies the following subordinate questions which will be addressed.

- Does strategic thinking/analysis from the Cold War still apply?
- How is “deterrence” affected by emerging challenges such as terrorism and cyberthreats?
- How do strategic analysts in other major countries view contemporary thinking on “deterrence”?

# Cultural Knowledge and National Security

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## Research Summary:

This book, in progress, explores how socio-cultural knowledge has been used in the execution of foreign policy primarily at the strategic and operational level, and some of the structural, cognitive and bureaucratic barriers commonly encountered by military forces in employing such knowledge.

Chapter 1 introduces some of the main themes of the book, particularly how and why cultural knowledge matters for the effective implementation of foreign policy. The military imperative to understand adversaries, allies, and civilian populations has a history dating back to the 5<sup>th</sup> century BC when Herodotus wrote about the habits and beliefs of the Persians. More recently, socio-cultural knowledge emerged as a requirement once major combat operations ended in Iraq, and the US military made various adaptations (programmatic, doctrinal, and training) to the emergent requirements of counterinsurgency and stability operations. This ‘cultural turn’ within the defense community was not without detractors. Some observers argued that cultural knowledge is less important than firepower; that the use of cultural knowledge was unethical; and/or that military modes of understanding were completely flawed.

Chapter 2 examines how culture influences warmaking and warfighting, exploring the concepts of strategic culture (and its alternatives) within international relations theory, ‘military culture’ as a professional ethos, organizational culture of the services, and ‘sub-tribes’ within the services. This chapter introduces the processes of ‘framing’, ‘sensemaking’ and ‘worldmaking’, through which individuals organize their experiences of ‘the Other’ and themselves. Chapter 3 explores the flipside of the proposition that culture influences warmaking and warfighting: that the implementation of foreign policy using military force profoundly influences local societies, including first, second, and third order effects. While terrain may not change radically as a result of military presence, local societies constantly adapt and react to the presence of the military. This social process requires that the military, in turn, adapt its operations to changes in the operational environment.

Chapter 4 explores knowledge imperatives and knowledge systems. If we accept the idea that culture matters in some way for military strategy and operations, then we would next inquire what kind of socio-cultural knowledge facilitates what kind of operations? Different types of military operations create implicit or explicit cultural knowledge and skill (cultural competency) imperatives and these imperatives in turn create the need for knowledge systems to produce, manage and distribute that knowledge.

The remaining chapters of the book provide a series of case studies on how socio-cultural knowledge has been employed in a variety of military operations, including British indirect rule in Africa, the US military government in Japan, US counterinsurgency in Vietnam, etc. Following an introductory discussion of relevant doctrine, concepts and historical context, each of these evaluates the knowledge imperatives, knowledge gaps, and knowledge systems as they existed at the time. Each chapter discusses the intersections and disjunctions that resulted from the application of cultural knowledge (drawing on the earlier discussion of framing’, ‘sensemaking’ and ‘worldmaking’), including selective perception; underestimation of social complexity; structural incompatibility; the fallacy of non-interference; unintended consequences of social engineering; etc. The book concludes with a discussion of policy recommendations for improving implementation of socio-cultural knowledge in military operations.

# Can Federalism Work in Iraq?

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## **Research Summary:**

The purpose of this research project is to examine federalism in Iraq and the extent to which it can encourage or mitigate conflict, economic development, and regional stability. To date, much of the federalism debate has been framed around ethnicity and sectarianism. The assumption is that Iraq's fractured society and historical legacies require a strong devolution of power to the regions as the only viable alternative to strong centralized rule, and as a means of protecting minority group rights. Yet, the vagaries of the 2005 Constitution and Iraqi developmental objectives have encouraged new tensions between the central government and the provinces, as well as across regions. Unclear lines of authority in the security, petroleum, energy, and financial sectors have encouraged resource and revenue-based conflicts that challenge the consociational model and its power-sharing principles. Issues of national identity also remain salient as regions and localities make claims to group rights and a more equitable redistribution of oil rents. These issues may reflect inter-group competitions shaped by ethnic and religious affiliations. Yet they also have become part of political, economic, and security trends in post-Saddam Iraq that challenge the power and resource-sharing principles defined in the 2005 Constitution and suggest a need for more effective governance model in the future.

## **Methodology:**

The impact of Iraqi federalism on governance, security, and economic development will be examined through interviews and discussions with Iraqi specialists and policy-makers, publications, field-research and a conference called, "Can Federalism Work in Iraq?", conducted at the National Defense University on September 21, 2011. The conference will bring together Iraqis and leading experts on Iraq to discuss the challenges of federalism from a regional and sectoral perspective.

Key questions to be addressed include: What is the particular historical, institutional, and political logic behind Iraqi federalism? If federalism is a formula for managing ethnic conflict, then how can identity politics tied to federalism, nationalism, and regionalism be reconciled? Are certain issues and sectors more amenable to a federalist solution than others? What are some of the key issues and challenges between the central government, Kurdistan Regional Government (KRG) and provincial administrations over resource and revenue sharing? What are the key challenges in distributing goods and services across the country, particularly as Iraq increases its oil revenues and local populations demand their fair share of goods and services? Who has, or should have authority and responsibility over security across provinces and regions and in disputed territories? What type of federalism and how much decentralization can most appropriately work for Iraq? Does federalism contribute more to democracy and stability than unitary government? What are the policy and rules of the Iraqi military across provinces and regions, particularly in the disputed territories? What have been the changes in the judicial sector since 2003 and what issues have emerged in developing and implementing an effective judiciary in a federal Iraq?

### **Anticipated Outcomes of Research:**

This research project will produce briefings, seminars, scholarly and short analytical articles, a conference and an edited volume called, “Can Federalism Work in Iraq?” The conference and publications will contribute to studies on comparative federalism in general and the Iraqi federal system in particular. They will merge the theoretical concepts of federalism and power-sharing with ‘realities on the ground’ in Iraq so that strengths and weaknesses of the Iraqi federalist system can be identified. It is also anticipated that findings from this research project can be applied to other case studies on federalism in ethnically-divided societies and post-authoritarian regimes.

### **Potential Impact on DoD Capabilities and Broader Implications for National Defense:**

This research project will impact DOD understanding of the political, security and economic challenges in post Saddam Iraq and policy implications for the United States, particularly as it prepares to withdraw its combat forces from the country. Findings will prepare and inform policy-makers about the impact of U.S sponsored democratization projects in former authoritarian countries in the Middle East, possibilities of managing failed states, and the degree and type of U.S. engagement in Iraq after December 2011. Lessons identified from the Iraqi case also will contribute to addressing future governance challenges that may further destabilize the region, including the unintended consequences of unclear federalist structures and internal and regional security threats, including enhanced Iranian influence in Iraq.

### **Publications through Minerva research:**

- “Energy Politics and Future Prospects in Iraq” INSS Event Report, July 26, 2011.
- “Negotiating Kirkuk”, *Foreign Policy-Middle East Channel*, May 6, 2011.  
[http://mideast.foreignpolicy.com/posts/2011/05/06/negotiating\\_kirkuk](http://mideast.foreignpolicy.com/posts/2011/05/06/negotiating_kirkuk)
- “Iraq’s Political Fallout”, *Foreign Policy-Middle East Channel*, April 1, 2011.  
[http://mideast.foreignpolicy.com/posts/2011/04/01/iraqs\\_political\\_fallout](http://mideast.foreignpolicy.com/posts/2011/04/01/iraqs_political_fallout)
- “Petroleum Impasse in Iraq”, *Arab Reform Bulletin*, Carnegie Endowment for International Peace, March 2, 2011. <http://carnegieendowment.org/arb/?fa=show&article=42823>
- “Stifled Kurdish Opposition”. *Foreign Policy-Middle East Channel*, February 23, 2011.  
[http://mideast.foreignpolicy.com/posts/2011/02/23/stifled\\_kurdish\\_opposition](http://mideast.foreignpolicy.com/posts/2011/02/23/stifled_kurdish_opposition)

# **People, Power and Conflict: The Emergence of the Eurasian Migration System**

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## **Research Problem:**

The emergence of the Russian as a major recipient of registered and unregistered labor migration challenges assumptions concerning the inherently liberal nature of migrant destination states. It also raises important issues concerning regional interdependence and socio-political stability. Our project seeks to improve our understanding of both the scale and trends of population movements within the Eurasian migration system and their implication for Russian influence in the region.

## **Methodology:**

We employ a mixed methodological approach to the emergence of the Eurasian migration system including a detailed assessment of regional and national policies on labor migration and registration practices, a thorough review of press reports concerning migration, and detailed indirect demographic estimation of migration flows into the Russian Federation. These background data are supplemented with expert interviews and ethnographic work in three cities: Yekaterinburg (a city attempting to attract labor migrants), Krasnodar (a border city known for anti-migrant attitudes and policies), and Nizhny Novgorod (a formerly closed city struggling to develop a clear approach to labor migration). In the fall of 2011 we are fielding a survey of labor migrants in each of these three cities, using respondent driven sampling procedures to collect data on migration processes, labor conditions, human security, and remittances. It is the first multi-site survey of its kind in the Russian Federation. In the final stage of the study we will develop detailed national case studies of Ukraine, Tajikistan, Georgia and Vietnam, highlighting how remittances and labor out migration are incorporated into national development strategies and gathering expert opinions on the perceived importance of access to the Russian labor market. These three stages of research will contribute to a comprehensive assessment of human and international security concerns for regions sending migrants to the Russian Federation, and on the relationship between migration, remittance reliance, and political influence.

## **Initial Results:**

Our initial findings have generated the following evidence based policy insights:

- Official estimates of migration into the Russian Federation dramatically underestimate the number of labor migrants working within the Federation. Indirect estimation approaches indicate between 8 and 13 million labor migrants currently within the Russian Federation, the majority from the countries of the former Soviet Union. These figures are similar to estimates of unregistered migrants in the United States, a county with more than twice the population of the Russian Federation.
- Public opinion surveys and mass media reports tend to cast migrants as a threat to public health, public order and cultural identity within the Russian Federation. Empirical evidence does not support these alleged connections.

- In-migration into the Russian Federation may open positive opportunities for the generation of cultural capital, but this potential is likely to vary across regions.
- Migration policy within the Russian Federation is fraught with contradictions, reflecting variations between national and local interests, and often conflicting views of economic need and desires of cultural protection.
- While remittance flows out of the Russian Federation are substantial, there is scant evidence within major sending regions (Tajikistan) to support viewing remittances as an effective means of development.

### **Anticipated Outcomes of Research:**

Theoretically, this research will challenge previous assumptions concerning the liberal nature of migration destination states. Research to date points to a relatively weak response to human rights violations against migrants into the Russian Federation and in specific instances, a clear willingness to link issues of labor market access and migration to geo-political developments within Eurasia (for example, relations with Georgia, U.S. airbase access in Kyrgyzstan, and U.S. relations with Tajikistan).

Methodologically, by triangulating case studies of sending and receiving regions with extensive secondary data analyses and detailed individual level information from labor migrants, we will highlight the importance of using a multi-level approach to the study of labor migration.

Our analyses will document the extent to which sending regions (particularly those in Central Asia and the Caucasus) depend upon the Russian labor market as an escape valve for unemployment and source of remittances, as well as the extent to which the Russian Federation has utilized their position as the core destination within the Eurasian migration system to maintain regional influence across Eurasia.

### **Potential Impact on DoD Capabilities and Broader Implications for National Defense:**

Generally, this research underlines the importance of including studies of labor migration and labor market access into assessments of international influence and patterns of dependence. Specifically, our results expand and inform processes of U.S. engagement within the strategically critical regions of the southern Caucasus and Central Asia, by highlighting their persistent dependence upon the Russian Federation in the post-Soviet period.

### **Publications through Minerva research:**

- Buckley, Cynthia, Erin Hofmann and Yuka Minagawa. 2011. "Does Nativity Matter? Correlates of Immigrant Health by Generation in the Russian Federation," *Demographic Research*, 24 (32): 801-832.
- Buckley, Cynthia. 2011. "Migration Policy in Russia: Is Muddling through a Negative Option?" forthcoming (in Russian) in *Public Administration in the 21st Century*. V. Nikonov, Editor. Moscow State University.
- Ruble, Blair. 2011 "Adding Human Diversity to Urban Political Economy Analysis: The Case of Russia" in Kristin Good, Phil Triadafilopoulos, and Luc Turgeon, editors, *Segmented Cities? How Urban Contexts Shape Ethnic and Nationalist Politics*. University of British Columbia Press forthcoming
- Buckley, Cynthia and Erin Hofmann. 2011 "Remittances and Family Economic Stability in Tajikistan," *under review*

- Erin Hofmann and Cynthia Buckley. 2011 “Global Changes and Gendered Responses: The Feminization of Migration from Georgia,” *under review*
- Mitchneck, Beth, Erin Hofmann and Julia Carboni, “Policy Streams and Immigration to Russia: Competing Interests at the Federal and Local” *paper in preparation*
- Buckley, Cynthia and Elizabeth Malinkin, “Fitting In or Setting the Standard: Migrants and Idealized Norm Adherence in the Russian Federation” *paper in preparation*

**Sharable data resources to be generated:**

Early access to the project data bases is available upon request from the PI. Public access anticipated in May of 2012.

- Legislative database concerning labor migration, visa requirements, bilateral migration treaties and regional laws concerning migration and registration for the Russian Federation 1991- 2012
- Demographic data base concerning international migration into the Russian Federation, including all governmental estimates and published registration results and published estimates of unregistered international migration across Russian and English language mass media.
- Survey data base, including social network information and cognitive mapping results, on labor migrants in Yekaterinburg, Krasnodar, and Nizhny Novgorod (estimated N=600). Data to be filed with ICPSR in 2013.

# **The Study of Innovation and Technology in China (SITC)**

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*Peter Cowhey, UCSD; Dieter Ernst, East-West Center*

*Bates Gill, Stockholm International Peace Research Institute; David Meyer, UCSD;*

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## **Research Problem:**

This project examines China's drive to become a world-class technological power, especially in the defense and dual-use sectors, and understanding the implications for the United States and the rest of the world. One of the central research problems is to identify, understand, and measure what are the key sources of innovation, broadly defined, and barriers that will shape China's technological development trajectory. To be able to answer this overarching question, the project looks in detail at a diverse number of important areas from the roles and relationship between the state and market, China's place in the global technology order, governance regimes and incentive mechanisms, the different elements of the innovation eco-system, and the inter-relationship of the civilian and defense economies.

## **Methodology:**

This project is organized into six research topics: 1) annual assessments of the reform and modernization of critical sectors in China's defense and dual-use STI base; 2) comparing China's approach to technology development, defense industrialization and forging of a dual-use base with peer competitors and latecomers; 3) analysis of the political economy of China's defense S&T and technological rise; 4) China's technological development and implications for U.S. and international technology trade policies; 5) the nature of the structures, processes and leaderships of the Chinese civilian and defense S&T systems; and 6) historical influences on contemporary Chinese grand strategic thinking on S&T. A relational database project will support quantitative and network analysis of data from these projects.

The emphasis is on inter-disciplinary research, which means a diverse set of methodological approaches is being utilized from political economy, business and management studies, security studies, political science, economics, mathematics, history, and sociology. There is extensive employment of qualitative case studies and use of quantitative analysis.

Much of the research is conducted using Chinese-language sources, with extensive use of databases such as Wanfang and CNKI. Field research has been conducted in China, East and Southeast Asia, and Europe. This research primarily consists of interviews with officials, scientists, researchers, business executives, and others knowledgeable on Chinese S&T and related issues. In addition, survey work has been conducted in China.

## **Initial Results:**

In the first two years of the project, an extensive number of conferences, workshops and training sessions have been conducted that has generated and disseminated new research in this field while cultivating a new generation of scholars and policy analysts adept with expertise on these issues. Our events have included:

Summer Training Workshops on the *Relationship between National Security and Technology in China*, which train PhD students, junior faculty, practitioners, and policy analysts.

Summer Training Workshop Participants (2010 & 2011)

PhD Students	14
Junior Faculty	2
U.S. Government	29
Industry	2
TOTAL	47

Training workshops in Washington, D.C. and at U.S. Pacific Command in Hawaii. Briefings were held for U.S. Navy admirals, senior leadership at DARPA, Northrop Grumman, and the national security community, as well as for members of Congress. These briefings are intended to provide DOD decision-makers access to the latest academic research on key developments and trends in the Chinese national and defense science, technology and innovation systems and how these trends might affect the United States.

Presentations Delivered

Summer Training Workshops	45
Other Presentations	73
TOTAL	118

Academic conferences on the Chinese Defense Industry, Chinese Approaches to National Innovation, and the Political Economy of China's Defense Industry that brought together leading experts from around the world to produce collaborative papers and policy briefs on these topics:

Academic Conferences

Academic Papers	45
Policy Briefs	18
Speakers and Invited Guests	99

In addition to these training sessions, briefings, and conferences, we are producing and publishing timely research papers and policy briefs (some are listed below). Our team uses collected data to concurrently and methodically populate our relational database in order to preserve and learn from the data that is being collected. We also sponsor a small number of research trips and papers written by young scholars throughout the United States and intend to hold yearly conferences for these young scholars to showcase their research to the policy community.

Highlights of this research includes the development of more sophisticated approaches to analyzing innovation, especially from a defense perspective, a detailed mapping of the state of the Chinese defense and dual-use system, and a much richer and more nuanced understanding of the nature of the Chinese approach to pursuing innovation.

### **Anticipated Outcomes of Research:**

This research project is intended to better understand the drivers, challenges, and approaches that China faces in its intensifying efforts to become a global science and technology champion, especially in the defense realm. A key anticipated outcome is to establish a new field of study in Chinese security and technology that has not previously existed, which brings together other disciplines and emphasizes the importance of mainstream social science methodological approaches. In order to achieve this outcome, the project is producing the foundational research that is required and attracting and training a new generation of scholars and policy analysts to cooperate in this area.

### **Potential Impact on DoD Capabilities and Broader Implications for National Defense:**

The impact of this project for DOD capabilities and U.S. national defense interests are two-fold: 1) it will provide rigorous analysis and new data on one of the most important long-term challenges to U.S. national security, which is China's military technological rise; 2) the project will cultivate a new generation of scholars and policy analysts knowledgeable on Chinese security and technology issues. In an era of economic and fiscal constraints, having greater understanding to China's technological development will help policy makers make more effective use of limited resources.

### **Publications through Minerva research:**

- Special Issue: "China's Emergence as a Defense Technology Power," *Journal of Strategic Studies*, Vol. 34, No. 3, June 2011. Includes the following articles:
  - Mahnken, Thomas G. "China's Anti-Access Strategy in Historical and Theoretical Perspective."
  - Cheung, Tai Ming, "The Chinese Defense Economy's Long March From Imitation to Innovation".
  - Hughes, Christopher W. "The Slow Death of Japanese Techno-Nationalism? Emerging Comparative Lessons for China's Defense Production."
  - Peet, Alison and Samm Tyroler-Cooper, "The Chinese Aviation Industry: Techno-Hybrid Patterns of Development in the C919 Program."
  - Pollpeter, Kevin. "Upward and Onward: Technological Innovation and Organizational Change in China's Space Industry."
- 18 policy briefs and annual policy brief compendiums on the state of the Chinese defense economy.

For a current list of publications and to access our policy briefs, please visit [www.igcc.ucsd.edu/SITC](http://www.igcc.ucsd.edu/SITC).

### **Sharable data resources to be generated:**

A relational database is being designed and populated to analyze networks and linkages between Chinese corporations, state bodies, investment sources, and technologies. This database will be made available for academic use in mid-2012.

## **Explorations in Cyber International Relations (ECIR)**

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<http://web.mit.edu/ecir/home.html>

### **Research Problem:**

In international relations, traditional approaches to theory, policy, and practice were derived from experiences in the 19th and 20th centuries. But cyberspace alters the political landscape in potentially powerful ways. Already we have seen new patterns of cyber-based conflict, from transnational crime and espionage to “cyberwar”—in which attacks on networks could potentially blind military equipment, shut down government servers, or even bring down critical infrastructure. While there is some evidence of emergent cooperation, such as new cyber-institutions and cybercrime treaties, these efforts are at an early stage. ECIR is an interdisciplinary research project between MIT and Harvard University to explore various facets of cyber international relations, including its implications for power and politics, conflict and competition, and violence and war. Its overall vision is to create a new knowledge domain of international relations that is (a) multidisciplinary, theory-driven, and technically and empirically anchored such that it: (b) clarifies threats and opportunities in cyberspace for national security, welfare, and influence; (c) provides analytical tools for understanding and managing transformation and change; and (d) attracts and educates a new generation of researchers, scholars, and analysts.

### **Methodology:**

We recognize that understanding and integrating cyberspace in international relations is a complex and multi-disciplinary problem. Therefore, we draw upon a diverse set of methods, theories, and tools—from social sciences, international studies, policy and risk analysis, communication studies, economics, computer science, and law—to explore the utility of existing methods and to develop new techniques. ECIR methods include: (a) the reformulation of international relations theories to link interactions in the “real” and cyber domains; (b) the specification, collection, fusion, and advanced analysis of data sets for incidents and events in cyberspace; (c) new work in game theory to analyze interdependence of risks and to facilitate cooperative international agreements on cyberspace issues; (d) dynamic simulations of policy choices in conflict situations and the analysis of strategic approaches to cyber defense and as well as their potential limitations, and (e) the identification of legal and institutional conditions and constraints on efforts to secure and govern the internet.

### **Initial Results:**

To date, ECIR has developed two sets of results: (a) overarching project-wide results, and (b) outcomes of focused issue-specific inquiries. The project wide results consist of an internally consistent, coherent, and empirically based framework to provide a mapping of the joint cyber and real domains that helps inform emergent cyber realities involving a wide range of actors (state and non-state, private and public), actions, and instruments of leverage, outcomes, and impacts. This framework has helped provide the necessary context within which to relate “real” and cyber conflicts into one integrated domain in order to analyze the existing and emerging record of cyber conflict and signals of cyber cooperation. Examples of issue-specific analysis include simulation-modeling results, data-collection and organization methods, ontologies of cyberspace, and comparative patterns of cyber conflicts.

### **Anticipated Outcomes of Research:**

The expected results include capabilities for projecting systemic effects of international conflict (cooperation) in cyberspace; protocols and tools for cyber and real world data that enable better warning and alerts; enhanced knowledge of threat actors' capabilities, intentions, and motivations; protocols for negotiating agreements on cyberspace and identification of those issues more conducive to such agreements; suggested legal frameworks for cyber defense; robust principles for Internet governance; models of cyber conflict escalation and de-escalation as a basis for limited (customized) deterrence strategies; and the integration of soft power approaches into cyber defense. Our goal is to frame an integrated field of "real" and cyber international relations that includes research methodologies, demonstrated analytical tools, and trained personnel who can formulate and implement effective policies for cyber defense and management of cyberspace.

### **Potential Impact on DoD Capabilities and Broader Implications for National Defense:**

The project seeks to buttress DoD capabilities by providing methods for anticipating and clarifying threats and opportunities in cyberspace for national security, welfare, and influence; providing analytical tools for understanding and managing cyber transformation and change; and attracting and educating a new generation of researchers, scholars, and analysts.

### **Publications through Minerva research:**

The ECIR project has resulted in over 25 publications and 100 working papers. Notable examples include: Choucri, Nazli. *CyberPolitics in International Relations*, MIT Press, (in press); Nye, Joseph. *The Future of Power*, PublicAffairs Press, 2011; Clark, David and Landau, Susan. "Untangling Attribution", *Harvard National Security Journal*, 2011. Please contact Nazli Choucri, (nchoucri@mit.edu) for a complete list of publications. See ECIR website for other publications and working papers.

### **Sharable data resources to be generated:**

Individual research initiatives have led to the publication of specific data resources, such as data sets on politics on the Internet, case study data on high profile cyber incidents, and comparative security metrics. An online repository of data resources is contained in the ECIR team's Data Dashboard project, designed to provide scholars, policymakers, IT professionals, and other stakeholders with a comprehensive set of data on national-level cyber security, information technology, and demographic data. The Dashboard allows stakeholders to observe chronological trends and multivariate correlations that can lead to insight into the current state, potential future trends, and approximate causes of global cyber security issues. (See <http://coin.mit.edu:8080/Dashboard/>)

# Climate Change and African Political Stability Program (CCAPS)

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*Climate vulnerability research:*

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*Climate-conflict research:*

**Cullen Hendrix**, College of William and Mary; **Idean Salehyan**, University of North Texas

*Constitutional design and conflict management research:*

**Alan Kuperman**, University of Texas at Austin

*Governance research: Ashley Moran, University of Texas at Austin*

*Emergency response research: Jennifer Bussell, University of Texas at Austin*

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## **Research Problem:**

Climate change is likely to be a major contributing factor to state weakness and failure in Africa in the future. Droughts, famines, water shortages, crop failures, flooding, migration and other predictable consequences of climate change will place tremendous pressures on governments with limited adaptive capacity. Without preventive policies in place, the result could be the destabilization of already fragile governments. Eventually, these fragile and failing states could become ungoverned spaces and develop into threats to not just the region but also the strategic interests of the United States.

The CCAPS program seeks to understand how climate change could make African countries more vulnerable to humanitarian disasters and violent conflict. The program has three distinct components. First, it examines the challenges that climate change poses to the ability of African governments to govern effectively, with particular attention paid to exploring the potential links between climate change and conflict. Second, the program identifies the strategies needed to reinforce, or rebuild, accountable and responsive governance in Africa. Third, the program evaluates the capacity of bilateral and multilateral aid to reduce African countries' vulnerability to climate change.

## **Methodology:**

The program uses quantitative analysis, spatial modeling, case studies, and field interviews to generate a better understanding of the security challenges climate change poses in Africa.

## **Initial Results:**

In its first two years, the program has advanced new tools for assessing climate change vulnerability in Africa by producing a model mapping subnational vulnerability to climate change, developing a new regional climate projection model for Africa, and releasing a new database of social conflict in Africa. Evaluating domestic governance and response capacity, the program completed the first-ever comparative case studies on constitutional design and conflict management in Africa, and began assessments of democratic governance and emergency response capacity in Africa. Evaluating international responses to climate change, the program developed a climate coding protocol that provides the first-ever tracking and geocoding of adaptation aid projects in Africa.

## **Anticipated Outcomes of Research:**

The program's research aims to give policymakers—as well as strategic, theater-strategic, and operational level military officers and their civilian counterparts—conceptual tools to address the issue of climate change as it affects their day-to-day activities.

### **Potential Impact on DoD Capabilities and Broader Implications for National Defense:**

The program aims to provide the Department of Defense and the wider U.S. Government with practical guidance on how to mitigate and respond to the security consequences of climate change in Africa. First, by identifying how climate change could trigger natural or man-made disasters and undermine state stability, it enables policymakers to act early, when the costs of taking decisive action are lower. Second, the program is identifying the strategies most likely to build state capacity and forestall state collapse; where state collapse has already occurred, the program identifies strategies to reduce violence, provide humanitarian aid, and foster political stability and good governance. Third, the program is evaluating the capacity of bilateral and multilateral efforts to reduce African countries' vulnerability to climate change. If domestic institutions and international aid efforts are more effective, the result should be fewer crises and, as a result, fewer calls for the U.S. military to take on the burdens of disaster response, peacemaking, peacekeeping, and post-conflict reconstruction.

### **Publications through Minerva research:**

CCAPS publications identifying chronically insecure regions, climate-conflict trends, and strategies for domestic and international response are available on the CCAPS website at <http://ccaps.strausscenter.org/research>.

### **Sharable data resources to be generated:**

The following CCAPS data resources are outlined in more detail in the “Social Science Resources for Academics and Policymakers” booklet:

- *Climate and Security Data Dashboard*: CCAPS is developing an online data portal for program data on climate change vulnerability, conflict, governance, and aid in Africa. It will be available on the CCAPS website in 2012-13.
- *Climate Projection Model for Africa*: CCAPS developed a new climate projection model for Africa that will be available on the CCAPS website in 2012-13.
- *Social Conflict in Africa Database* ([www.scaddata.org](http://www.scaddata.org)): CCAPS compiled and released SCAD, which includes protests, riots, strikes, inter-communal conflict, and other forms of social conflict not systematically tracked in other conflict datasets.
- *Additions to the Armed Conflict Location and Event Dataset* ([www.acleddata.org](http://www.acleddata.org)): ACLED includes armed conflict data for countries worldwide, and CCAPS expanded ACLED to include conflict events in Sahelian and southern African countries.

# Modeling Discourse and Social Dynamics in Authoritarian Regimes

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<http://is.gd/minerva>

## **Research Summary:**

The major goal of the project is to discover how natural language discourse reflects social dynamics in English, Arabic, Chinese, and other languages. We develop computational models in our analyses of a large and diverse collection of documents from these languages and associated cultures (such as political speeches, letters, emails, chat, tweets). Our expectation is that these computer analyses of language/discourse can predict socially significant states, such as leadership, status, familiarity of group members, personality, social cohesion, deception, and social disequilibrium. This research is expected not only to advance the social sciences but also to address key national security questions that require the processing of large amounts of textual communication.

## **Research Problem:**

The central question is how language/discourse patterns are diagnostic of socially significant states and whether such patterns can predict such states ahead of time. The patterns are manifested in words, sentence syntax, semantics, speech act categories, cohesion, and discourse genre (e.g., narrative, informational text). Our project has uncovered interesting patterns for diverse samples of documents in different languages and cultures, but this summary will focus on the recent political crises in the Middle East and North Africa. We have conducted computer analyses on political speeches and tweets in both Arabic and English translations. The computer systems have included the *Linguistic Inquiry and Word Count* (LIWC, Pennebaker, Booth, & Francis, 2007), *Coh-Metrix* (Graesser & McNamara, 2011; Graesser, McNamara, & Kulikowich, 2011), speech act classifiers (Shala, Rus, & Graesser, 2010), a presupposition detector currently in development, and a host of other automated tools developed by researchers in the social sciences and computational linguistics in Texas, Cornell, and Memphis.

## **Methodology:**

Our methodologies involve semi-automated document analysis, combined with experimental techniques. The main group of documents being analyzed in the project include 89 political speeches of leaders of 7 Arabic speaking countries: Mubarak (Egypt), Gaddafi (Libya), Ben Ali (Tunisia), Saleh (Yemen), Basharal-Assad (Syria), King Mohammed VI (Morocco), and King Abdullah II (Jordan). We are focusing on the speeches within a month or so before or after December, 2010, which is designated as the date when the crisis reached a peak of international attention. Tweets are also available, both in Arabic and English translations. The documents in English have been run with Coh-Metrix and LIWC, whereas cohesion analyses are being conducted on Arabic. These speeches that occur near the December crises are being compared to speeches earlier in the leaders' reigns, which are between 6 and 42 years. We are also performing more fine-grained analyses of the speeches over time before and after the downfall of the leaders, or major episodes of social discord. Are there language/discourse patterns that can diagnostically predict social disequilibrium in a country? It should be noted that z-score norms have been computed on a number of measures and principal components of CohMetrix (Graesser, McNamara,

& Kulikowich, 2011) and LIWC, based on 37,520 texts that are representative of what a typical adult English speaker would have been exposed to.

### **Initial Results:**

One set of analyses on Arabic speaking leaders was an attempt to confirm some findings from our analyses of the speeches of Mao Zedong of China. The language/discourse patterns were very different in historically good times (China's economy was good) versus bad times (war and civil strife). When times were good, Mao's speeches showed Coh-Metrix z-scores with relatively high narrativity (stories), low cohesion, and simple syntax; LIWC principal components showed high conversational interaction and narrative presence, with fewer negative emotions. When times were bad, the z-scores of Mao were entirely the opposite (in z-score signs). We therefore analyzed the texts of the Arabic leaders of the December 2010 crises to see whether their scores matched the profile of bad times. Except for cohesion, the profile of mean z-scores matched the predictions of bad times: narrativity (-.52), cohesion (-.16), syntactic simplicity (-.71), conversational interaction (-.48), narrative presence (-.34), and negative emotions (.21). This was a very encouraging confirmation of the findings for Mao. When there is war and civil strife, there tends to be a deviation from speeches with stories, conversation, simple syntax, and a more positive emotional slant. However, to further substantiate this more rigorously we are currently analyzing previous speeches of these leaders at relatively good historical times.

We recently completed documentation and verificational studies for the first complete French version of LIWC (Piolet, Booth, Chung, Davids & Pennebaker, 2011). We have also completed the Chinese LIWC, as well as the Russian LIWC (Kailer & Chung, 2011), and the Arabic LIWC (Hayeri, Chung, Booth, & Pennebaker, 2010).

We have further developed a program that tracks natural language in small online working groups in the classroom or laboratory and assesses the group dynamics. While it usually impossible to access the online chats of high value terrorist groups, the findings here can be useful to better understand emerging leadership and the group dynamics of extremist groups that post online and that may or may not engage in violent behaviors. Experimental subjects participated in two counterbalanced 20-minute tasks for which they had to collectively generate a meaningful solution to a complex visual task. Preliminary results showed that groups that were matched on personality had different language and communication patterns than groups with randomly assigned members. Specifically, we found that similarly matched groups used more first person plural pronouns (e.g., we, us, our) than did non-matched groups. Secondly, we found that the linguistic profile for each of the personality dimensions was expressed more strongly when communicating with members with more similar personality profiles than with randomly assigned group members. These results point to implicit processes in creating a sense of in-groupness, and the ability of function word analysis to detect them. The results are promising since until recently, it has been almost impossible to efficiently record, monitor, and assess ongoing communication patterns in order to identify emerging leadership and group dynamics.

### **Anticipated Outcomes of Research:**

We are developing diagnostic detectors of social disequilibrium in a culture based on the political speeches of the leaders. Trouble would be detected when the speeches deviate from an oral linguistic style with a positive emotional stance. A quantitative metric is being developed to produce a single metric of social disequilibrium (0 to 1) from the Coh-Metrix and LIWC indices. Such an index can track political leaders over time and possibly predict crisis points.

### **Potential Impact on DoD Capabilities and Broader Implications for National Defense:**

If the style of the speeches of political leaders, and the types of language used in social media, are both diagnostic signals of social disequilibrium, then our metrics could be used to detect critical periods of change in regions of conflict, and to identify critical changes in online groups that have been identified to be of strategic interest.

### **Publications through Minerva research:**

(Selected publications: full list available in annual reports on request.)

- Beaver, D., and D. Velleman (2011), The communicative significance of primary and secondary accent. *Lingua*, doi:10.1016/j.lingua.2011.04.004.
- Graesser, A.C., & McNamara, D.S. (2011). Computational analyses of multilevel discourse comprehension. *Topics in Cognitive Science*, 3, 371-398.
- Graesser, A.C., McNamara, D.S., & Kulikowich, J. (2011). Coh-Metrix: Providing multilevel analyses of text characteristics. *Educational Researcher*, 40, 223-234.
- Hancock, J.T., Beaver, D.I., Chung, C.K., Frazee, J., Pennebaker, J.W., Graesser, A., & Cai, Z. (2010). Social language processing: A framework for analyzing the communication of terrorists and authoritarian regimes. *Behavioral Sciences of Terrorism and Political Aggression*, 2, 108-132.
- Ireland, M. E., Slatcher, R. B., Eastwick, P. W., Scissors, L. E., Finkel, E. J., & Pennebaker, J. W., Language style matching predicts relationship formation and stability, *Psychological Science*, (2010). Accepted,
- Pennebaker, J.W., *The secret life of pronouns: What our words say about us*, (2011). Bloomsbury Publishers.
- Shala, L., Rus, V., & Graesser, A. C. (2010). Automated speech act classification in Arabic. *Subjetividad y Procesos Cognitivos*, 14, 284-292.

### **Sharable data resources to be generated:**

Most of our data resources can be made available to researchers on request where that does not conflict with IRB requirements on personal privacy.

# **Deciphering Civil Conflict in the Middle East**

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## **Research Problem:**

This research advances a new conceptual framework for understanding civil conflict and political instability in the Middle East region by focusing on transnational processes. In particular, it examines the development of the rentier economy, the growth of international migration, and the enlargement of international social networks which form the context for civil protest, terrorism and guerrilla warfare in the Middle East over the two decades since the 1990-91 Gulf War. Our key question is whether these transnational trends have contributed to or diminished political conflict and instability.

Specific questions team members are addressing include:

- 1) How are new forms of rentier dependence based on international tourism, worker remittances, international aid and assistance and foreign direct investment related to the traditional oil/mineral rentierism? What are the effects of new and old rentierism on governance, civil conflict, and social development in the region? (Aly, Jenkins, Meyer, Costello, Price)
- 2) What are the trends in international migration, both political and economic? How have these affected transnational social networks and civil conflict and political instability? How can we best map these migrations geographically and represent the uncertainty of our estimates? (Ahlqvist, Vanhorn, Stearmer, Fontanella, Rush)
- 3) What influences the expansion and influence of networks of NGOs and local organizations which are active in both intra-state and international activism? (Meyer, Stearmer, Rizzo, Price)
- 4) What role do social media outlets play in stimulating protest activity and other forms of social activism in the Middle East? Specifically, what possibilities does Twitter and other social media offer to understand the organization and mobilization of the recent “Arab spring” and other popular protests? (Ahlqvist, Jenkins, Stearmer, Costello, Rush)

## **Methodology and Anticipated Results:**

Our research is in its second year. It builds on research from earlier funding which found that state controls in authoritarian states typically generate long duration responses in terms of violent resistance and underground organizing. Often seen as a product of Middle East culture, this response to state controls and repression seems to be typical of authoritarian regimes and recently democratizing regimes (e.g. Turkey), which facilitates long duration conflict cycles characterized by protracted conflicts, intensive violence and relatively weak civic institutions and participation. Participation in political actions of any type is centered in informal friendship networks and little with personal resources and the types of community engagements that drive participation in established democracies. Because each extension of this earlier has a distinctive methodology, we discuss these alongside our initial findings.

- 1) The Middle East remains distinctive globally for the predominance of strong rentier states where state ownership of mineral resources and significant foreign aid create states that depend

significantly on international transactions to generate state revenues. We refer to this as “direct rentierism” because the state has strong control over the extraction of revenues. About half of the 22 states in the Middle East/North Africa region qualify as strong rentier states using the threshold of 30 percent of more dependence on foreign revenue sources. At the same time, “new” forms of rentier income which we label “indirect” because they provide less centralized state control have become more important to the region. In another third of Middle East states, worker remittances and international tourism now make up a quarter or more of the economy. We are currently using panel analysis of a global dataset (1970-2008) to examine the effects of these different forms of rentier dependence on civil conflict and political violence as a way of answering the question “why is the Middle East so violent?”

We anticipate that our analysis of rentierism and conflict will show that direct forms of rentierism (oil/mineral exports, foreign economic and military aid) have an inverted-U effect on nonviolent protest and civil violence, raising the likelihood of these events at low to intermediate levels while lowering it at medium to high levels. We expect indirect forms of rentierism to have a simple positive effect on civil protest and violence, stemming from the weaker legitimacy and allocative control that these revenues provide.

- 2) Our response to this broad question about migration and transnational networks has been two pronged. First, we have been developing a database on Kurdish conflict that shows that geolocations and intensities of Kurdish nationalist events in several Middle East countries, especially Iraq, Iran, Syria and Turkey. We are currently mapping with geocodes the locations of some 2000 + conflict events tied to the Kurdish cause. In future work, we will examine factors that influence these events using geospatial statistical models.

Our second focus has been to examine the organization of Kurdish nationalist groups in cyberspace. These groups are persistent in claiming there is a unified “nation” in their cyberspace activities but our examination of the structure of cybernetworks among these organizations indicates that this is a highly dispersed, fragmented and factionalized set of networks. Despite the common cyberspace claim of political unity among these Kurdish nationalist groups, in fact these groups appear to be highly factionalized and to have little network integration in cyberspace. This indicates a high degree of “cyber-balkanization” in which the Kurdish nation is an imagined community still in the making rather than an accomplished product.

- 3) We have addressed the question of NGO growth by examining women's networks in Egypt and Turkey. Charting the growth of these networks over time, we find considerable growth in the number of NGOs and local organizations that seem to foreshadow the recent protests associated with the “Arab spring.” Women’s networks have also grown in Turkey but the rate of growth has been lower. Our next step will be to see if the growth of these networks is associated with political participation and democratization in Turkey and whether the transnationalization of these networks has spread to other countries in the region.
- 4) We are just beginning to explore the analysis of social media content for understanding networking and political mobilization. As a pilot test for studying social media methodology, this

summer we organized a workshop which took as its mission to: a) construct a literature review of all recent empirical studies of social media, networking and political activism; and b) examine the effects of “Tweets” on interpersonal networking and political activism in a recent Ohio ballot initiative. Our preliminary results suggest that in fact social media are used by networking relevant to political activism but it is difficult to determine causality (i.e. do the social media networks exist first, leading to activism?) We anticipate expanding this methodology to a Middle East context once we develop better the methodology for drawing conclusions from the effects of social media networking.

### **Potential Impact on DoD Capabilities and Broader Implications for National Defense:**

U.S. foreign policy has long assumed that strong rentier states are the best at providing a stable basis for international relations in the Middle East, which has of course been put into question by the “Arab spring.” Our research on rentier states should provide new insights into the political stability of these states, especially their vulnerability to civil protest and violence.

Our research on Kurdish cybernetworks suggests that this is a fragmented and factionalized movement. Our future work should clarify whether this is related to the geographic pattern of Kurdish violence.

Despite the conservative gender norms and practices that characterize most Middle East states, the recent growth of women’s networks suggests that issues related to gender and opening up opportunities for women will grow in importance in the politics of the region.

### **Publications through Minerva research:**

- Tetreault, M.A., K. Meyer and H. Rizzo, "Women's Rights in the Middle East: Longitudinal Study of Kuwait", *International Political Sociology*, p. 218, vol. 3, (2009).
- Scanlan, S., J. C. Jenkins and L. Peterson, "The Scarcity Fallacy: Inequality and World Hunger", *Contexts*, p. 34, vol. 9, (2010).
- Meyer, K; Barker, E; Ebaugh, HR; Juergensmeyer, M, "Religion in Global Perspective: SSSR Presidential Panel", *Journal for the Scientific Study of Religion* P. 240, Vol. 50: , (2011).
- Ola Ahlqvist, "On the (Limited) Difference between Feature and Geometric Semantic Similarity Models", *Lecture Notes in Computer Science*, P. 124, vol. 6631, (2011).
- Anne Price. PhD Dissertation. “Constraints and Opportunities: The Shaping of Attitudes Toward Women’s Employment in the Middle East.” June 2011.

### **Sharable data resources to be generated:**

- Global rentier state data base
- Geocoded Kurdish nationalist events database
- Women’s networks in Egypt and Turkey

# Terrorism, Governance, and Development

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## **Research Problem:**

The Minerva TGD Team's fundamental goal is to enhance the understanding of how to implement governance and development policies to more efficiently (re)build social and economic order in conflict and post-conflict areas. This project uses new data from a range of locations to extend and test current theories and provide empirically-based findings to inform policy decisions about terrorism, governance, and development.

## **Methodology:**

Within our broad agenda, we pursue specific research projects with consideration to: (1) the relevance to national security interests; (2) our ability to secure quality data appropriate for rigorous analysis that identifies causal effects; and (3) the potential for the empirical findings to advance the field and inform theory development. Our empirical approach is based on using game-theoretic models to generate refined predictions about specific interactions (e.g. aid and violence) that can be tested with careful attention to causal identification. Although this approach has been successful in analyzing non-violent social systems, only a small handful of researchers are bringing this powerful approach to the study of conflict. One major obstacle to employing this approach is that the highly aggregated measures of terrorism and insurgency captured in most *existing* data do not permit researchers to quantitatively study the impact of subnational factors (at least not to high econometric standards), which leaves scholars open to a host of ecological inference problems. Therefore, we gather high-quality research data through three mutually supporting empirical tracks.

- *Micro-Level Data Collection and Econometric Analysis* Collect, refine, and archive fine-grained geospatial data in a comprehensive open data source to facilitate independent scholarship.
- *Field Research* We use field observations to identify the effects of factors not captured in existing data and to verify that the assumptions inherent in the data collection and econometric analysis are valid. Observing how aid policies affect populations at the local level in a wide range of countries will provide an important "reality check" and will guide the development of future projects. Surveys have been fielded in Northern Ireland and Colombia using TGD funding and in Pakistan, Palestine, and the Philippines using other funding sources.
- *Field Experimentation* The gold standard for evaluating the impact of any intervention is a randomized trial. We have conducted field experiments on this research agenda in Afghanistan using alternative sources of funding and are working with USAID-Colombia to implement an experiment on governance assistance in two conflict-affected regions.

The latter two lines of research have primarily been shifted to other funding sources due to the Air Force human subjects review process, which to this point has been cumbersome for conducting such research in dynamic overseas environments. Findings from that work will be integrated into the TGD agenda.

### **Initial Results:**

- Governments (and their allies) who incur civilian casualties in their operations will face more attacks. Rebels face a symmetric reaction (causing casualties makes it harder for them to operate) in some regions but not all.
  - Afghanistan (NBER WP16152), Iraq (American Journal of Political Science)
  - Findings briefed to GEN McChrystal and CJCS (March 2011)
  - Regions with high unemployment have less insurgent violence
  - Afghanistan, Iraq, Philippines (Journal of Conflict Resolution)
- Small-scale reconstruction projects are violence reducing, large-scale ones are not.
  - Iraq (Journal of Political Economy)
  - Vietnam (Working Paper)
  - Findings briefed to GEN Petraeus (November 2011) and USAID (various dates)

TGD publications have been recently cited in key policy documents including:

- May 2011 publication of the NATO Civil Military Fusion Centre.
- 11 June 2001 Foreign Relations Committee Comprehensive Report, entitled, “Evaluating U.S. Foreign Assistance to Afghanistan.”

In addition to published results, we note progress on other fronts.

- *Data.* We have collected fine-grained geospatial data on aid, economic development, and political violence in Afghanistan (2001-present), Colombia (1999-2007), Iraq (2003-present), Pakistan (1988-present), the Philippines (1975-present), and Vietnam (1965-73). We have declassified a range of data in collaboration with ISAF and have begun similar effort with Colombian MoD.
- *Survey methods.* We have developed a standard set of questions to be used in survey instruments across a range of conflicts and utilized innovative survey methods to elicit sensitive views such as support for armed actors. We are currently designing a set of surveys to diagnose how different between methods for eliciting such views work across cultural contexts.
- *Training.* Up to eight post-docs and several graduate students are supported by the grant annually. We have run two workshops to bring scholars and practitioners together for training on how to analyze current and emerging challenges.
- *Outreach.* Recent briefings include: Chairman of the Joint Chief of Staff (CJCS); Commander, International Security Assistance Force (COMISAF) Afghanistan; Deputy Chief of Staff for Intelligence (J2) ISAF, Afghanistan; Commander, Combined Joint Interagency Task Force Shafafiyat (Transparency/Anti-Corruption) ISAF, Afghanistan; US Forces Afghanistan (USFOR-A); Combined Forces Special Operations Component Command- Afghanistan (CFSOCC-A); Counterinsurgency Training Center (Afghanistan); National Counter Terrorism Center (NCTC); Defense Advanced Research Projects Agency (DARPA); Director of Joint Staff/J-7 Directorate; OSD-Policy; US Department of Treasury Office of Terrorist Financing and Intelligence; World Bank; and USAID.

### **Anticipated Outcomes of Research:**

At the conclusion of our five-year project, we anticipate the following outcomes:

- Publications in peer-reviewed journals will provide new research findings on conflict topics.

- A refined theory of insurgency to serve as an alternative framework to previously under-specified military doctrines. The baseline model has been published in *Journal of Political Economy*.
- Key leaders in military and aid organizations (in the U.S. and abroad) will have been introduced to new methods of evaluating the effectiveness of their policies, including better data collection and data sharing procedures that will advance future research.
- The Empirical Studies of Conflict (ESOC) project website will host micro-level conflict data on multiple conflicts for the broader scholarly community.
- A cohort of new scholars will have theoretical tools, data, and contacts to execute fresh research.

#### **Potential Impact on DoD Capabilities and Broader Implications for National Defense:**

Rebuilding social and economic order in conflict and post-conflict areas will remain critical tasks for the U.S. and allies who seek to defeat violent organizations and prevent the emergence of new non-state threats. Understanding how to choose and implement governance and development policies is critical. TGD scholars have provided research and analytical support to several government organizations including the ISAF Counterinsurgent Advisory and Assistance Team (CAAT), the Defense Advanced Research Projects Agency, and USAID. These engagements provide multiple opportunities to offer training on analysis and build the human capital for analyzing social systems within DoD.

#### **Publications supported by TGD grant:**

- Berman, E., J.N. Shapiro and J.H. Felter. "Can Hearts and Minds be Bought? The Economics of Counterinsurgency in Iraq." *Journal of Political Economy* (2011)
- Berman, E., J.H. Felter, J.N. Shapiro and M. Callen. "Do Working Men Rebel? Insurgency and Unemployment in Afghanistan, Iraq, and the Philippines." *Journal of Conflict Resolution* (2011).
- Berman, E., J.H. Felter and J.N. Shapiro. 2010. "Constructive COIN." *ForeignAffairs.com*.
- Bulutgil, H. Z. "War, Collaboration, and Endogenous Ethnic Polarization: The Path to Ethnic Cleansing", in Adria Lawrence and Erica Chenoweth, eds. *Rethinking Violence: States and Non-State Actors in Conflict* (Cambridge: MIT Press, 2010).
- Condra, L.N. and J.N. Shapiro. "Who Takes the Blame? The Strategic Effects of Collateral Damage." *American Journal of Political Science* (Forthcoming).
- Shapiro, J.N. and D.A. Siegel. "Moral Hazard, Discipline, and the Management of Terrorist Organizations." *World Politics* (Forthcoming).
- Steele, A. 2011. "Electing Displacement: Political Cleansing in Apartadó, Colombia." *Journal of Conflict Resolution*. 55 (3). 423-445.
- Weidmann, N.B. "Violence 'from above' or 'from below'? The Role of Ethnicity in Bosnia's Civil War." *Journal of Politics* (Forthcoming).
- Weidmann, N.B. and I. Salehyan. "Violence and Ethnic Segregation: A Computational Model Applied to Baghdad." *International Studies Quarterly* (2011).

#### **Sharable data resources to be generated:**

All micro-level data developed in the project will eventually be housed at the ESOC website and made available to the broader scholarly community. These data include all ancillary files (GIS data, labor force surveys, etc.) used in analysis. This will dramatically reduce the fixed-costs of doing micro-level empirical research on conflict.

# Finding Allies for the War of Words: Mapping the Diffusion and Influence of Counter-Radical Muslim Discourse

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## **Research Problem:**

One way to reduce the threat of extremist violence is to strengthen the voices of the Muslim majority who reject the use of violence. Effective policy initiatives depend on the ability to recognize a broad range of counter-radical voices and the social and intellectual networks and traditions in which they are embedded. This project redresses deficiencies in our understanding of these Muslim-led efforts to combat extremism by tracking and analyzing both publicly observable formal networks and diffused networks operating under the radar screen, with the aim of producing a comprehensive picture of ideas, actors, vehicles, and links of counter-radicalism.

We explore the spectrum of social, religious, and political characteristics of these networks across three critical regions—Southeast Asia, West Africa, and Western Europe—focusing on ideological and religious content and dissemination of ideas. Issues addressed include: the social location and political environments of discourse producers and consumers; relations to radical discourse; institutions and affiliations (local to transnational) that disseminate counter-radical messages; media used; the roles of local and global conflicts in their formulation; and Islamic sources on which counter-radical discourse is based. As we learn how grass-roots movements use key Islamic values to express international norms about democracy and freedom, the findings of this study can provide the international community important tools to prevent the spread of violent extremism.

## **Methodology:**

By design, our project leaves the meaning of counter-radical open-ended—except for a baseline understanding that diverse groups reject violence as a means to political or social objectives. The project employs an interdisciplinary methodology combining discourse analysis, ethnographic field research, survey research, and computer web-mining and mapping. The project is characterized by an integrative approach that brings together a broad range of expertise and disciplinary approaches—Islamic and area studies; textual studies; field research and discourse analysis; and computer science and mathematics—and triangulates methods to uncover and model patterns of counter-radical discourse at the local, regional, and global level.

## **Initial Results:**

Initial computational and regional studies suggest a complex picture of the interactivity, overlap, and movement of radical and counter-radical discourses between areas and over time and point to the importance of a more nuanced understanding of what constitutes radicalism and counter-radicalism. Binary distinctions fail to illuminate dynamics, fluidity, and change over time. Across regions, we are

observing that the resilience of indigenous Muslim cultural expression is a powerful mode of counter-radical discourse and discovering how democracy, nationalism, pluralism, religious freedom, human and women's rights inform these discourse systems. Counter-radicalism is more than opposition to violence. It is also opposition to the cultural and religious agendas radicals promote.

Based on data collected to date, the team has developed and is testing a theoretically based class model comprised of four continuous latent variables: epistemology, diversity tolerance, engagement, and range. In order to analyze this four-variable model, researchers have broken the model down into latent sub-variables. The first set of sub-variables focuses on a distinction between the goals and methods of counter-radical and radical discourse and captures the degree to which 1) individuals, groups, and behaviors aim to influence the social order (Change Orientation) and 2) the methods by which they attempt to do so (Change Strategies).

An important finding emerging from this analysis is that the characteristics of counter-radicalism are context sensitive and highly dependent on the social and cultural environments within which they are embedded. A significant result of the coordination of efforts across regions and disciplines has been the emergence of common counter-radical themes that cut across multiple or all regions. One of the most striking themes is the emergence of a robust and explicit anti-radical discourse within various forms of popular culture, including popular and devotional music, media, and Islamic fashion. Culturally appropriate and often regionally unique examples of this phenomena have been observed in all regions and some examples have demonstrated cross regional influence. Other common themes that are emerging include various forms of political activity (all regions), de-nationalized and de-culturalized transnational Muslim spaces (all regions), the genealogy and evolution of theology (all regions), and the role of Muslim youth (West Africa and Europe).

#### **Anticipated Outcomes of Research:**

Our research provides theoretical insights into the complexities arising from the dynamic interactions of divergent and evolving Islamic radicalisms and counter-radicalisms by capturing their **overlap, movement** and **interactivity**. Based on a portable multi-disciplinary methodology, our project transcends parochial and binary frames about friends and enemies, and it provides a new set of social and computational tools for mapping the trajectories of social movements, and emerging threats and opportunities.

#### **Potential Impact on DoD Capabilities and Broader Implications for National Defense:**

Knowing the centers of radical and moderate discourses and their constituencies will enhance the effectiveness of US defense and security policies and programs by allowing a targeted and focused approach. The findings will enhance irregular warfare capability with respect to radical Islam by documenting the landscape of counter-radical discourse. The project will provide information which will help the DoD determine whether a particular group qualifies as "moderate," or how to identify the moderates.

#### **Publications through Minerva research:**

Overall, the project has produced 4 refereed journal articles, 11 non-refereed significant publications, 2 technical reports/white papers, and 6 published conference proceedings. Three articles are under review at refereed journal articles and team members have presented at 25 workshops and conferences and received one award.

**Selected publications include:**

- Woodward, M., Rohmaniyah, I., Amin, A., & Coleman, D. (2010). Muslim Education, Celebrating Islam and Having Fun as Counter-Radicalization Strategies in Indonesia. *Perspectives on Terrorism*, 4(4), 28-50.
- Umar, M. S. (2009, October). Jihad and Jihadism: Trends in Contemporary Islamic Discourse. *Workshop at Islamic World Studies Program*. Chicago.
- Jacobson, D. (2010, Oct.). Tribal Patriarchy and Radicalization, Invited talk given at the University of Heidelberg, Heidelberg, Germany.
- Davulcu H, Ahmed S, Gokalp S, Temkit H, Taylor T, Woodward M, Amin A. Analyzing Sentiment Markers Describing Radical and Counter-Radical Elements in Online News. *Proceedings of the 2nd IEEE International Conference on Social Computing (SocialCom-10). Symposium on Social Intelligence and Networking (SIN-10)*. (pp. 335-340).
- Tikves, S., Banerjee, S., Temkit, H., Gokalp, S., Davulcu, H., Sen, A., Corman, S., Woodward, M., Rochmaniyah, I., Amin, A. A System for Ranking Organizations using Social Scale Analysis. *Proceedings of the International Symposium on Open Source Intelligence & Web Mining 2011 (OSINT-WM 2011) in conjunction with IEEE European ISI 2011*, Athens, Greece.

**Sharable data resources to be generated:**

Real-Time Contextual Mapping and Visualization Dashboard: A real-time online dashboard for tracking and visualizing the longitudinal trajectories of Muslim movements, and organizations on the quadrants model. Online dashboard tracks peaking religious, political, socio-economic, markers driving these movements, their leaders, followers, target demographics, locations and media channels.

See more details in “Social Science Resources for Academics and Policymakers.”

# Status, Manipulating Group Threats, & Conflict within & between Groups

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## **Research Problem:**

Human groups face a tension between within-group competition (investing resources in competing for rank or position within groups) and between-group competition (investing resources in helping one's group compete for success or survival relative to other groups). When faced with external threats or obstacles, human groups tend to become more cohesive, in part because individuals refrain from within-group competition for dominance in order to invest personal effort and resources in promoting group welfare. We investigate whether some individuals exploit this tendency by exaggerating the risk of external threats to the group. Those who exaggerate threats to the group benefit in two ways: a) they share in increased group productivity and b) they can more easily maintain a dominant position within their group, by influencing others to divert resources from within-group competition to between-group competition. Given that dominant individuals by definition have greater access to resources and have the most to lose from changes in the status hierarchy, we expect that high-ranking group members invest proportionally more in manipulating group threats than low-ranking group members.

In an initial study, we found that people are especially willing to pay to manipulate such apparent threats when they hold a high-ranking position in the group, and that this manipulation is cost-effective at eliciting cooperation and suppressing competition over within-group dominance. Our proposed project investigates the underlying mechanism and how it may vary across different settings and assumptions (e.g. democracies vs. dictatorships; hostile outgroups vs. asocial threats).

## **Methodology:**

Across all studies, participants take part in an experimental public goods task, which include both a private incentive to withhold money and a collective incentive to give, as in standard "public goods games" (e.g. Ledyard, 1995). The setting differs from standard public goods experiments in three key ways. First the group includes both high and low ranking positions. High-ranking positions offer greater resources, and can be won and lost through resource-based competition within the group. Second, the group faces a fluctuating risk of costly "extinction" each round. Third, individuals can invest resources not only in contributing to the group – as in standard public goods tasks – but also in manipulating the apparent (but not real) risk of group extinction. We test whether high-ranking group members invest proportionally more than low ranking group members in exaggerating the risk of group extinction.

Our initial study used the methods described above. The follow-up research includes a series of experiments that add additional conditions to investigate this outcome. In particular: (1) study 2 manipulated whether participants compete for rank or if rank is instead assigned randomly, to test whether rank itself or competition for rank drives the effect; (2) study 3 manipulated participants' capacity to detect manipulation; (3) study 4 manipulated the level of power available to the dominant individual; (4) study 5 (in progress) manipulates whether subordinate individuals can supplant the dominant individually, or whether they must form coalitions with other subordinate group members. In addition, we are preparing to conduct two studies in the coming year (1) a study that will manipulate whether the dominant position is attained democratically or through resource-based dominance contests, and (2) a study that

will manipulate whether the nature of the threat is social or asocial (e.g. outgroups versus natural disasters).

### **Initial Results:**

Thus far, our results include the following sets of findings. First, we find (with multiple replications) that high-ranking individuals invest proportionally more in manipulating threats to their group than low-ranking individuals. In study 2, we find that (a) this effect holds even when individuals do not compete for rank within the group, but (b) the magnitude of the effect is greater when individuals compete for rank (compared to when rank is randomly assigned). Third, we find that (a) when individuals can more easily detect manipulation, they are more skeptical of the veracity of threats, but (b) they nevertheless continue to contribute to their groups, even when skeptical. Perhaps as a result, (c) information about the veracity of manipulation initially depresses manipulation, but the magnitude of manipulation increases over time. Fourth, we find that (a) the effect is robust to whether our definition of the dominant position in the group is relatively high or low in power, and (b) more high-power dominants actually invest more in helping their groups than low-power dominants, but (c) take more than their fair share of the public good.

### **Anticipated Outcomes of Research:**

In our future work, we will examine the effects of democratic versus non-democratic systems on threat manipulation and belief, as well as the effect of social versus asocial threats.

### **Potential Impact on DoD Capabilities and Broader Implications for National Defense:**

The research has implications for understanding interactions between leaders and citizens, avoiding the costs and perils of inappropriately high or low vigilance, and for reducing corruption, abuses of power, manipulation of citizens by leaders, and apathy regarding threats to national security. The results may be of particular use in understanding weak or emerging democracies, in which leaders may be used to dominance-based (rather than democratic) contests for leadership.

# The Evolution of Revolution

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Laura Razzolini, Virginia Commonwealth University

Program Officer: Jon Leland, National Science Foundation

## **Research Problem:**

In this paper we analyze the process that drives cooperation amongst rebels. This analysis is based on the premise that rebels are trying to satisfy a demand for revolution present in the country. Catering to this demand is costly and involves choosing among different tactics as inputs to produce the final output of political change. We will assume that available tactics can be grouped into two main types of actions: civil war or terrorist insurgency. Additionally, success involving either tactic is driven by the level of coordination between rebels. Consequently, the main part of our analysis focuses on whether cooperation among rebels is resistant to behavioral mutations that encourage splintering among rebel groups. Whether rebel groups splinter or not will drive how much of a particular tactic is used to foment revolution. We suggest that policies that target rebel tactics may be ineffective in preventing splintering in rebel groups and therefore the resultant violence. A strategic approach that targets the dynamics of the evolution of tactical choice is recommended.

## **Methodology:**

We use evolutionary game theory to study within group dynamics and provide a framework for analyzing the extent to which certain tactics like terrorism are more likely to be used relative to full fledged rebellion. We divide rebels into certain categories of cultural traits. Rebels therefore may come from three types of cultures – Cooperator, Defector, or Tit for Tat. Cooperators have traits that make them want to cooperate with others while defectors don't. TFT types cooperate only if there is a credible threat of future punishment for not cooperating. We then search for evolutionary stable equilibria and the dynamics of this evolutionary process in a population with a distribution of these cultural traits.

## **Initial Results:**

Our model shows how the initial distribution of cultural traits among rebel groups may lead to splintering in rebel groups. We show how this process works as a function of the time horizon of rebel groups and how exogenous policy changes that target this time horizon may make splintering more or less likely. We suggest that patience is a key variable that determines whether a rebel movement will splinter or not over time given a certain distribution of cultural traits among the rebel population.. Our paper therefore closes a gap in the literature on conflict by developing a model that captures the dynamic pathways for rebel group cohesion. For example, violent suppression of rebellions, insofar as they impact the patience of rebels, is likely to lead to the splintering of rebel groups and more competition among them. This competition among rebel groups to supply rebellion will lead to a higher quantity of rebellion supplied at lower value. We interpret this as an increase in violence.

## **Anticipated Outcomes of Research:**

We develop a theory that analyzes the problem of armed group cohesion in the face of collective action problems. We hope to test our model using behavioral methods using human subjects.

## **Potential Impact on DoD Capabilities and Broader Implications for National Defense:**

Our paper should inform grand strategy considerations – particularly in the context of conflict contagion in Africa or the potential impact of the Arab Spring on US defense interests. It should also provide practical guidelines to strategic field officers on the course of policy implementations. For example, if a particular tactical action reduces rebel groups desire to wait for a particular reward then they might splinter. This splintering process will not only increase the risk of attacks but increase the cost of intelligence gathering to prevent further attacks. However, a tactical action that does not impact the rebel's time horizon may make it easier to defeat the enemy by making splinter cells less likely. Thus our model provides a framework for judging what sort of actions will make rebel group splintering more or less likely.

## Strategy and the Network Society

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*Program Officer: Ivy Estabrooke, Office of Naval Research*

### **Research Problem:**

How does the rise of cyberspace and “the network society” affect the way strategy is formulated, designed, implemented, and assessed? How do classic strategic concepts hold up in this new environment? Does the role of traditional alliances change? The project *Strategy and the Network Society* examines the political, social, and the strategic dimension of cyber security.

### **Methodology:**

The programme's methodological approach is interdisciplinary in character. It combines strategic studies, sociology, political science, history and the history of ideas, organizational studies, legal studies, and informatics. This methodological design reflects the proven multidisciplinary strengths of the War Studies Group at King's College London.

### **Initial Results:**

The project was launched only in the summer of 2011, so any results are preliminary. Among the initial outputs is an assessment of the strengths and weaknesses of the concept of “cyber war.” We found that cyber war has never happened in the past, that cyber war does not take place in the present, and that it is unlikely that cyber war will occur in the future. Any act of war is potentially lethal, instrumental, and a political act of force. Not one single cyber offense on record constitutes an act of war on its own. Instead we suggested a more nuanced terminology to come to terms with cyber attacks. All politically motivated cyber attacks are merely sophisticated versions of three activities that are as old as warfare itself: sabotage, espionage, and subversion.

### **Anticipated Outcomes of Research:**

We anticipate several peer-reviewed articles in political science journals as well as in computer science periodicals. Opinion pieces and press interviews will be used to disseminate these scientific results more widely and especially to political and military decision makers and their staffs in the United States, Britain, and continental Europe. We are also setting up a number of international workshops with government officials, intelligence analysts, as well cyber security experts from industry and academia — the outcome of these workshops will be an increased level of understanding and trust among key American and European cyber security actors.

### **Potential Impact on DoD Capabilities and Broader Implications for National Defense:**

The project may help align DoD's cyber capabilities with strategic objectives: when grappling with cyber security problems in the network society, military and political decision-makers are often guided by concepts and historical comparisons from the past, for instance the Cold War, cyber “deterrence” being one prominent example. Our project tests the strengths and more importantly the weaknesses of such comparisons and suggests more appropriate and more apt conceptual maps and

signposts. Secondly, our project aims to spread and synchronize these strategic insights among America's key allies, especially in Europe.

**Publications through Minerva research:**

- David Betz and Tim Stevens, *Cyberspace and the State* (London: International Institute for Strategic Studies, 2011, forthcoming).
- David Betz, 'Communications Breakdown: Strategic Communications and Defeat in Afghanistan,' *Orbis* (2011, forthcoming).
- Rid, Thomas, 2011, "Cyber War Will Not Take Place," *The Journal of Strategic Studies*, p. 1-27 [forthcoming issue]

# Visualizing Agent-Based Political Simulations

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Program Officer: Amber Story, National Science Foundation

## Research Problem:

The goal of this project is to develop visualization systems to support political scientists in understanding the results of large-scale agent-based simulations. As simulation techniques become more mature, political scientists have been able to pose complex scenarios and test hypotheses using agent-based simulation methods. While these methods have generally proven to be successful, one common issue that arises is in the analysis of the data generated from these agent-based simulations. In our project, we provide solutions to the following three challenges: (1) interactive inspection and control of agent-based simulation, (2) analysis of large amounts of heterogeneous data, and (3) discovery of causal relationships between entities and events over time.

## Methodology:

- **Interactive inspection and control of agent-based simulation:** Agent-based simulation is often thought of as a “black-box” in modeling and simulation. There are usually tens to hundreds of parameters to control an agent-based simulation, and the parameters are rarely easy to understand because of the lack the necessary context. Using visualization methods, we aim to:
  - Create intuitive visualizations that can allow the user to interactive analyze the results of an agent-based simulation.
  - Develop interaction techniques that assist the user to connect the information to a relevant context.
  - Correlate the data and represent the results of the simulation in an easy-to-understand manner. Typical agent-based visualizations only depict low-level agent data, but do not provide higher-level information relating to the states and results of the simulation.
- **Analyze large amounts of heterogeneous data:** Although visual analysis has commonly been linked with analysis of large amounts of data, in the context of heterogeneous data such as the Project Civil Strife data, the challenge of the analysis becomes more difficult. To overcome challenges relating to real-time analysis of heterogeneous data, we propose to coordinate *heterogeneous processes* such that:
  - Visual and analytical tools specific to each type of data are utilized in parallel. These data-specific visual analytics modules serve as the basis for analyzing heterogeneous data.
  - The results of each analysis are connected using a predetermined schema based on the characteristics of the domain and the problem. These results can either be stored in a database, or communicated to other visual analytics modules in the same system.
  - A coordinated visualization environment is created to house these individual modules such that interactions with one set of results from one module immediately appear in the other modules.
- **Discover causal relationships between entities and events over time:** analyzing event data relating to human activities is an active area of research in visual analytics. While there have been attempts within the visual analytics community to examine the relationships between entities using social networks, they often do not adequately depict the dynamic nature of relationships

between entities over time. For this project, we choose to focus on examining such temporal relationships by utilizing user interactivity as opposed to the more traditional methods of using animation. Specifically, we:

- Investigate different visualization techniques for comparing dynamic (temporal) data. While there has been a report on how the use of animation in visualization increases a user's cognitive load and therefore affects a user's understanding of trends, static and interactive methods have not been compared.
- Develop a prototype visualization system that supports high degrees of interactivity and such that the user can quickly navigate through different time steps and examine their differences.

### **Initial Results:**

We have developed three systems for visualizing and analyzing agent-based simulation data: SocialViz, MDSViz, and Temporal Graph Visualization, described in greater detail in the 2011 Minerva conference resource "Social Science Resources for Academics and Policymakers".

### **Potential Impact on DoD Capabilities and Broader Implications for National Defense:**

The three visualization tools have been deployed and are being used by political scientists in a DARPA-funded project (Integrated Crisis Early Warning System (ICEWS) project (Prime Contract #FA8650-07-C-7749)). With the use of these visualization systems, the political scientists have been able to analyze large amounts of agent-based simulation data and gain insight into how the agents' behaviors change over time. Such understanding has in turn led to the creation of better and more accurate agent-based simulation models.

### **Publications through Minerva research:**

- Xiaoyu Wang, Wenewen Dou, Shene Chen, William Ribarsky, **Remco Chang**. An Interactive Visual Analytics System for Bridge Management. *Computer Graphics Forum*, 29, p. 1033-1042, 2010
- Daniel Keefe, Marcus Ewert, William Ribarsky, **Remco Chang**. Interactive Coordinated Multiple-View Visualization of Biomechanical Motion Data. *IEEE Transactions on Visualization and Computer Graphics*, 15 (6), p.1383 – 1390, 2009.
- R. Jordan Crouser, Daniel E. Kee, Dong Hyun Jeong, and **Remco Chang**. "Two Visualization Tools for Analysis of Agent-Based Simulations in Political Science". *IEEE Computer Graphics and Applications*, Special Issue on Visualization Applications and Design Studies. Accepted for publication.
- R Jordan Crouser, Jeremy G Freeman, and **Remco Chang**. "Exploring Agent-Based Simulations Using Temporal Graphs". Poster, *IEEE Conference on Visual Analytics (VAST)*, 2011. Accepted for publication.

# Mapping Militants: The Organizational Dynamics of Violent Extremist Organizations

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Program Officer: *Amber Story*, National Science Foundation

<http://mappingmilitants.stanford.edu>

## **Research Problem:**

How do violent oppositional organizations interact with each other and with the governments they challenge? How do these relationships evolve over time? What are their causes and consequences? Are there common patterns of evolution or organizational genealogies? In the course of a conflict governments typically confront multiple and shifting extremist or terrorist adversaries, but much of the scholarly literature has assumed a monolithic unitary opposition engaged in a static rather than dynamic relationship. Understanding how non-state adversaries form, split, merge, collaborate, compete, shift ideological direction, adopt or renounce violence (especially terrorism), grow, shrink, and eventually decline over time is essential to explaining their behavior and to gauging the impact of government interventions.

## **Methodology:**

The project creates dynamic visual representations of relationships among militant organizations. The maps are not geographical but combine aspects of networks and timelines. They are simultaneously interactive, accessible, clear, and informative. They feature both organizational diagrams that permit visualization of interactions and carefully-researched profiles of individual groups. Each profile follows a standard template with assigned fields and provides citations to the sources used. So far, leadership changes and major attacks can also be displayed. The user can select an individual group to trace (which displays that group and all others with which it has or has had relationships) or see the entire universe of groups over a selected time period. The map is also searchable (e.g., for all profiles that contain a reference to Hamas). There is also a feedback field for comments (which are most welcome because this is work in progress). Currently the Iraq map is accessible to the public at [mappingmilitants.stanford.edu](http://mappingmilitants.stanford.edu). Other maps will be posted as soon as they are completed.

The project uses standard web technologies. During the past year the maps have developed from a simple visual demonstration – really nothing more – into a full-fledged, database-driven web application powered by MySQL, thanks to student research assistant Daniel Cassman. Research assistants write organizational profiles using a wiki program, the text of which is parsed and data abstracted to construct the maps. The abstracted data is copied to a separate database and then converted into the interactive diagram. Javascript Object Notation is used to pass information from the database to the front-end website. The webpage then uses Javascript, HTML, and CSS to create the diagram. The code is licensed open source under LICENSE and can be reviewed at GitHub Repository.

## **Initial Results:**

We are beginning to identify patterns in the evolution of terrorist and other violent extremist organizations, specify their causes and consequences, and analyze the development of Al Qaeda and its cohort in a comprehensive comparative framework. With both graduate and undergraduate student research assistants, the project is producing a set of organizational profiles and a series of dynamic interactive maps of the architecture of violent and non-violent opposition groups interacting in the same

social movement sector or conflict system. Conflict arenas currently being mapped include contemporary Iraq, Afghanistan-Pakistan, the Maghreb, Somalia, Yemen, Israel-Palestine, Turkey, Colombia, Northern Ireland, and Italy in the 1970s and 1980s. We aim to extend this list to other conflicts and will include a global map of Al Qaeda and its affiliated organizations. In addition to identifying common patterns of organizational development or what we might call the architecture of violent extremism (e.g., consolidation, fragmentation, persistent division, and monopoly or primacy), ascertaining the stability of such patterns, and determining their causes and effects, the data will also permit the testing of other explanatory propositions related to interactions among militant groups and their reactions to government initiatives.

**Anticipated Outcomes of Research:**

The research will yield a set of maps of different types of conflicts, establishing the basis for comparative analysis of the causes and effects of varied patterns of interaction among violent extremist groups involved in armed confrontations with established governments. Other researchers can use the data and employ or adapt the methods used to construct the maps and profiles. For example, government analysts in the intelligence community could populate the profiles with classified information that is unavailable to my Stanford research team.

**Potential Impact on DoD Capabilities and Broader Implications for National Defense:**

Effective counterterrorism and counterinsurgency strategies depend on understanding the relationships among adversaries. In such conflicts multiple opposition organizations are the rule rather than the exception, and fluidity is the norm. A policy initiative that is undertaken to influence a single actor will invariably have repercussions for other actors in the field, and this project can help anticipate what those consequences might be. The maps also make it easy for analysts to trace the trajectories of individual groups.

**Sharable data resources to be generated:**

The maps with organizational profiles will be accessible at [www.stanford.edu/groups/mappingmilitants](http://www.stanford.edu/groups/mappingmilitants), described further in the Minerva conference booklet “Social Science Resources for Academics and Policymakers.”

# How Politics Inside Dictatorships Affects Regime Stability and International Conflict

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## **Research Problem**

We know an inadequate amount about politics, governance, and policy making in autocracies. Consequently, neither social scientists nor policy makers have been very good at predicting the international and domestic policy choices made by dictators or devising effective responses to them. Among the choices of most interest to both policy makers and scholars are: how dictators' respond to challenges from widespread opposition; decisions about aggressive international behavior; choices between investing foreign aid in public goods that contribute to long-term growth or distributing resources to regime supporters. To understand both the behavior of dictators and effective international responses to their behavior, we need a better understanding of how these decisions are reached, who influences them, and how the dictator's fear of ouster constrains his choices. Country experts have a great deal of knowledge about who the relevant decision-makers are and how the rivalries among them affect policy outcomes in particular countries, but theories of autocratic politics have been posed at an abstract level. We lack the information about elite politics in dictatorships needed to reach general, empirically-based conclusions about policy choices in autocracies.

## **Methodology**

Our research builds a data set of information about all authoritarian regimes from 1946 to 2010 that includes historical information on their institutional characteristics and objective indicators with which to assess the bargaining power of different elite political actors. We code different types of authoritarian regime failure as well as time-varying characteristics of regimes that capture the relationships between the leader, the support party, and the military. Our data allow us to more accurately capture theoretically relevant concepts such as the size and depth of the ruling group's support coalition and the extent to which the dictator controls the military and/or party. With data on over twenty features of authoritarian rule, our goal is to estimate the latent dimensions of authoritarianism for use in applied research. The time-varying dimension of the data permits us to measure how consolidation of one man's personal power can evolve over time within a group of elite rulers.

A second part of this project examines different forms of political instability in dictatorships – such as the risk of transition to a democracy or to a subsequent authoritarian regime – for both leaders and groups of elites. We provide a guide for using the predicted risk of regime failure in applied work, and address issues such as non-proportional hazards, unit heterogeneity, estimates that vary across calendar time periods, and second-stage variance corrections.

## **Initial Results**

Preliminary analysis suggests that the personalization of autocratic rule, by which we mean the concentration of decision making and control of other regime insiders' futures in the hands of one man, increases the likelihood that:

- Dictatorships will engage in aggressive and unpredictable international behavior

- Autocrats will refuse to negotiate with domestic opponents and will instead try to hold onto power through repression
- Dictatorships will be followed by subsequent authoritarian regimes rather than democracy
- Aid money will be wasted rather than invested in national development
- International sanctions will be effective in destabilizing authoritarian rule

### **Anticipated Outcomes of Research**

When the data set is complete, we expect to provide stronger empirical support for the preliminary findings above. We also expect to be able to explain why power becomes personalized in some authoritarian regimes but not others. A number of theories about autocratic rule emphasize the way the dictator's time horizon can affect his decisions about investing in public goods that contribute to long-term economic growth. Our data set should enable testing such theories. Many theories that contrast dictatorship with democracy stress the size of the government-supporting coalition as the reason for differences in policy choices and economic outcomes. Our data set should help test these arguments.

### **Potential Impact on DoD Capabilities and Broader Implications for National Defense**

By providing yearly assessments of a relatively large number of characteristics in all autocracies we will make possible a first step in advancing "evidence-based" policy towards dictatorships. We have already begun the analysis of the effects of aid and sanctions on autocracies with different specific traits. Such policy interventions can be targeted more effectively once we better understand in which kinds of dictatorships these policies are most likely to be effective.

### **Publications through Minerva research**

Preliminary versions of the data have been used in the following published studies:

- Wright, 2008. "Insurance or Investment? How Authoritarian Time Horizons Impact Foreign Aid Effectiveness." *Comparative Political Studies*
- Wright, 2009. "How Foreign Aid Can Foster Democratization in Authoritarian Regimes." *American Journal of Political Science*
- Escribà-Folch and Wright, 2010. "Dealing with Tyranny: International Sanctions and the Survival of Authoritarian Rulers." *International Studies Quarterly*
- Wright and Escribà-Folch, forthcoming 2012. "Authoritarian Institutions and Regime Survival: Transitions to Democracy and Subsequent Authoritarian Regimes." *British Journal of Political Science*

The updated data set has been used in presentations for: (1) a Political Instability Task Force meeting addressing authoritarian instability in the wake of the uprisings in the Middle East and North Africa in the spring of 2011; and (2) a United Nations project on foreign aid and democratic consolidation in sub-Saharan Africa.

### **Sharable data resources to be generated** (*expected fall 2012*)

- A partial data set that includes regime beginning and end dates, subsequent regime type, and mode of transition will be publicly available in fall 2011.
- Estimates of the predicted risk of different types of regime failure, calculated using our data, will be available in spring 2012.

# **Iraq's Wars with the U.S. from the Iraqi Perspective: State Security, Weapons of Mass Destruction, Civil-Military Relations, Ethnic Conflict and Political Communication in Ba'athist Iraq**

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*Ibrahim al-Marashi*, California State University San Marcos

*Amy Smithson, Leonard Spector, Ray Zilinskas,*

Center for Nonproliferation Studies, Monterey Institute of International Studies

*Program Officer: James Harvey, Army Research Office*

## **Research Problem:**

The purpose of the research is to gain insight into the Ba'athist Iraqi security network and Middle Eastern security structures as a whole, including WMD proliferation.

## **Methodology:**

Original Iraqi documents (from the CRRC database) to produce an analysis from the internal perspective of the Iraqi leadership comparing underlying frameworks: fear; enticement and intimidation (*targhib* and *tarhib*); patronage; constructivism; and structuralism and the connection to decisions made on WMD programs. There are almost no existing analysis of internal events in Iraqi society or Iraq's security organizations 1990-2003. Other sources have attempted to second guess the motivations. The release of the documents adds an entirely new dimension not only to the study of the Gulf War but also to contemporary Middle East history.

## **Initial Results:**

Understanding on the Iraqi Security Architecture, the State and the Iraqi Military, Political Communication and Rhetoric of the Iraqi State, Ethnic, Sectarian and Tribal Relations in Iraq, Iraq's WMD Procurement and Deployment, Iraqi State and Ba'ath Perceptions of the US, Iraq's Relations with Terrorist Groups and Non-state actors, Defense Strategies during the 1991 and 2003 Iraq Wars, and the Iraqi Insurgency

## **Anticipated Outcomes of Research:**

A set of documents on :

The Iraqi Security Architecture, The State and the Iraqi Military, Political Communication and Rhetoric of the Iraqi State, Ethnic, Sectarian and Tribal Relations in Iraq, Iraq's WMD Procurement and Deployment, Iraqi State and Ba'ath Perceptions of the US, Iraq's Relations with Terrorist Groups and Non-state actors, Defense Strategies during the 1991 and 2003 Iraq Wars, and the Iraqi Insurgency

## **Potential Impact on DoD Capabilities and Broader Implications for National Defense:**

Iraq today is at a crossroads, as its complex political, religious, social structures, suppressed so many years in a 'Saddam-centric' society, have now re-emerged in a vacuum. This project is a key to understanding the past and future of the Iraqi political ethos and drawing lessons for other countries in the region, including Syria. Understanding the thinking and political strategies that lead to both recent Iraqi wars, and the decision-making in Iraq on WMD and UN inspections, will contribute to effective, sustainable peace-building in the MidEast region.

**Recent Publications through Minerva research:**

Papers topics include the Iraqi Security Architecture, The State and the Iraqi Military, Political Communication and Rhetoric of the Iraqi State, Ethnic, Sectarian and Tribal Relations in Iraq, Iraq's WMD Procurement and Deployment, Iraqi State and Ba'ath Perceptions of the US, Iraq's Relations with Terrorist Groups and Non-state actors, Defense Strategies during the 1991 and 2003 Iraq Wars, and the Iraqi Insurgency.

- Ibrahim Al-Marashi "Iraq's Armed Forces: an analytical history", publisher Routledge, paperback edition 2010
- Ibrahim Al-Marashi, "A Comparison of the Relationships of Iraqi Intelligence and Political Communication to Military Leadership," *Journal of Intelligence and National Security*, Fall 2009
- Ibrahim Al-Marashi, "Iraq's Gulf Policy and Regime Security from the Monarchy to the post-Baathist Era," *British Journal of Middle Eastern Studies*, vol. 36, no. 3, 2009, pp. 449-461.
- Ibrahim Al-Marashi, Editor Barry Rubin. *Iraqi Politics and Control of the Media*, Armonk NY 10504 USA: M. E. Sharpe, 2011
- Ibrahim Al-Marashi, Editor Matteo Legrenzi. *Iraq's Gulf Policy and Regime Security from the Monarchy to the post-Ba'athist Era*, New York USA: Routledge, 2010)
- Amy E. Smithson. *Germ Gambits: the Bioweapons Dilemma, Iraq and Beyond*, Stanford USA: Stanford, University Press, 2011

# **New Armies From Old: Merging Competing Militaries after Civil Wars**

**Roy Licklider**, Rutgers University, [licklide@rci.rutgers.edu](mailto:licklide@rci.rutgers.edu)

*Program Officer: Brian Humes, National Science Foundation*

## **Research Problem:**

Integrating competing military forces after civil wars has become a standard strategy, but we know very little about how this process works.

## **Methodology:**

Comparative case studies: 11 cases by country specialists of attempts to merge militaries after civil wars, each confronting the same set of questions, supplemented by four cross-case analytic papers by comparative specialists.

## **Questions for Each Case:**

- Origins
  - What was the historic and cultural role of the military in this country?
  - When did the issue of merging competing militaries arise in negotiations?
  - Which individuals or groups supported it, were opposed, or were uninterested?
  - What compromises were involved in the final outcome?
- Creation
  - Who determined what the new military would look like?
  - How were people selected for entrance? (quotas, military experience, screening for human rights violations)
  - How were officers and NCOs selected?
  - Who did the training?
  - Strategies used during training
  - Problems encountered during training
- Outcome
  - Who really controls the force?
  - What can the new force actually do?
  - Exist without its members killing one another in large numbers?
  - Deploy to different parts of the country for symbolic reasons?
  - Defend the state against foreign attack as well as other militaries?
  - Use force against all groups in society
  - Has the force made the resumption of large-scale violence less likely?
  - Is the force the “right size” for the state?
  - Can the state maintain this force indefinitely, economically and politically?
  - What set of circumstances could have produced a drastically different outcome?
  - Did any of these hypothesized causal links between military integration and non-renewal of civil war occur in your case?
- Military integration prevents renewed civil war by:
  - Demonstrating sincere desire for peace because it is a costly commitment
  - Giving coercive capacity to create security for the government and society
  - Taking fighters for both sides off the street and unavailable for new violence

- Serving as a symbol of successful integration in the postwar country

#### **Cases and Authors:**

- Bosnia-Herzegovina: Rohan Maxwell, NATO HQ, Sarajevo
- Burundi: Cyrus Samii, Columbia University
- Democratic Republic of Congo: Judith Verweijen, University of Utrecht
- Lebanon: Florence Gaub, NATO Defense College
- Mozambique: Andrea Bartoli, George Mason University
- Philippines: Rosalie Arcala Hall, University of the Philippines Visayas
- Rwanda: Stephen Burgess, Air War College
- Sierra Leone: Mimmi Soderberg Kovacs, University of Uppsala
- South Africa: Judy Smith-Höhn, Institute for Security Studies, Pretoria
- Sudan: Matthew LeRiche, Burton Rand Associates, Canada
- Zimbabwe: Paul Jackson, University of Birmingham

#### **Cross-Case Analysts and Topics**

- Caroline Hartzell, Gettysburg College: Negotiated Settlements & Military Integration
- Ronald Krebs, Univ. of Minnesota: Military Dis-Integration: Canary in the Coal Mine?
- David Laitin, Stanford: Military Integration as a Case of Mergers & Acquisitions
- Bruce Russett, Yale: International Involvement in Military Integration

#### **Initial Results:**

Initial conference held at PKSOI, U.S. Army War College, Carlisle, PA, 9/10.

#### **Anticipated Outcomes of Research:**

- Military integration is not a technological substitute for politics. By itself cannot prevent a renewed civil war, but if completed successfully it can be one element in this process.
- Military integration can be completed under a variety of government types and after civil war victories as well as defeats.
- Military integration is not likely to lead to violence between former enemies.
- Outside support is helpful but does not guarantee success and is not always necessary.
- The symbolic role of the new force is often more important than its coercive capacity.
- Few fighters are actually taken off the streets because the forces tend to be small.

#### **Potential Impact on DoD Capabilities and Broader Implications for National Defense:**

Military integration is both useful and feasible for outsiders who wish to prevent future civil wars. Knowledge of previous successes and failures should make success more likely.

#### **Publications through Minerva research:**

All of the papers will be published by a major university press. The PI has an initial article under review comparing Bosnia and South Africa and will produce at least two new articles summarizing the results, one for academics and one for the policy community. Individual papers are available through the PI or authors.

## **Emotions and Intergroup Relations**

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*Co-PI: Mark G. Frank*, SUNY Buffalo

*Program Manager: Joseph Lyons*, Air Force Office of Scientific Research

### **Research Problem:**

A crucial component of any group is the emotions that its members have about themselves, their ingroups, and their outgroups. Group emotions are incredibly important in the creation and maintenance of group identity, solidarity, and overall functioning. Although group emotions have become an important area of study in the past decade, the field still lacks basic information concerning the role of specific emotions in groups. The overarching goal of this five year project is to examine the role of emotions, and specifically anger, contempt, and disgust, in facilitating the build up to aggression and violence. This work fills this void in our knowledge by testing a theory of the role of specific emotions in the motivation of groups that transform angry or fearful groups into organizations of violence and hostility. In particular we focus on the role of the emotions anger, contempt, and disgust in this transformation, and in the escalation toward violence.

In the first year of this project we tested these ideas in a study examining the role of emotion in leading to and justifying hostile acts in ideologically-based groups. This study involved an emotion-based content analysis of justifications of war from the written record in modern and premodern history. We obtained historical archives of world leaders and leaders of ideologically-based groups justifying acts of war and hostility against other nation states or groups. We isolated parts of their speeches in which they spoke about the outgroups they despised, at five different times before an identified act of aggression. The emotional content of these identified statements were then coded using two different teams of emotion annotators using two independently derived annotation systems. As a comparison, the speeches of leaders of ideologically-motivated groups that did *not* escalate to violence were also analyzed. Analyses of both sets of codings indicated support for the hypothesis that anger, contempt, and disgust escalated in the months immediately prior to aggression in the groups that committed such an act; but those same emotions did not change for the groups that did not commit an act of aggression.

### **Methodology:**

In the current year we are further testing these same ideas by analyzing the nonverbal expressions of emotion in videotaped speeches of leaders of ideologically motivated groups as the groups moved toward either committing an act of violence or not. We have spent much of the last project year searching for source records of videos of such leaders that meet our experimental criteria and have identified and secured a corpus of such video records. The speeches have been transcribed, and the mentions of the outgroups have been annotated by coders to identify the parts of the speeches that directly referenced outgroups (and in the process, those that did not). In the future we will be analyzing the nonverbal behaviors expressed in the videotaped speeches by the leaders, comparing the times when the outgroups are discussed and when they are not, across groups that commit an act of violence and those that do not. Analyses will examine whether or not leaders expressed more anger, contempt, and disgust nonverbally as the groups moved closer to violence or not.

### **Initial Results:**

The results of the first year's work confirmed the special role of anger, contempt, and disgust as the emotions expressed by leaders of ideologically motivated groups that subsequently ramped up to violence. We are currently in the process of analyzing the nonverbal behavior expressed by such leaders in speeches.

### **Anticipated Outcomes of Research:**

We anticipate to find that leaders of ideologically motivated groups that ramped up to violence expressed more anger, contempt, and disgust in their speeches when talking about their outgroups than leaders whose groups did not ramp up in violence.

### **Potential Impact on DoD Capabilities and Broader Implications for National Defense:**

The findings from this proposed set of projects have significant potential implications for national defense. The elucidation of the role of emotion in leading to acts of aggression by members of ideologically-motivated groups suggests the existence of signs that can be used as markers of escalation toward hostility. This, combined with the creation of sensor technologies that can recognize those markers – either through the analysis of the emotional content of verbal statements, nonverbal behavior, or the emotional profiles of groups – leads to the interesting potential for these markers to predict hostile acts before they are enacted, allowing for evasive action that may save lives. For example, technologies that analyze the verbal content of speeches can identify emotions associated with this escalation, allowing for the production of automated detectors of aggression potential based on ramp ups of disgust across time. The same potential exists for automated detectors of aggression ramp ups based on video analyses of faces, or voices. These technological advances are all predicated on the establishment of empirically validated signs of aggression escalation based on emotion, which this proposal will deliver.

### **Publications through Minerva research:**

- Two manuscripts published in white papers
- One manuscript in press at the *Law Enforcement Bulletin* (Federal Bureau of Investigation)
- One original research article submitted for publication in a peer reviewed journal.

# **Fighting and Bargaining over Political Power in Weak States**

*PI: Robert Powell, UC – Berkeley (rpowell@berkeley.edu)*

*Program Officer: Jon Leland, National Science Foundation*

## **Research Problem:**

In weak states, the central government, if there is one, lacks an effective monopoly over the use of force. Opposing factions bargain over political power and economic resources in the shadow of the threat of force. Any faction dissatisfied with the outcome reached at the negotiating table can resort to force to try to affect a more favorable outcome. Why do some agreements – be they truces, treaties, or constitutions – hold while others do not?

This project studies the way that shifting power affects the chances that competing factions will cut deals and when they will fight.

## **Methodology:**

The project studies the equilibria of a stochastic game in which two factions try to divide a flow of benefits in a setting in which the distribution of power is shifting.

## **Initial Results:**

The project has so far led to two working papers (available on request): “Persistent Fighting and Shifting Power” and “Monopolizing Violence and Shifting Power.” The first considers exogenous shifts in power; the second endogenizes these shifts.

The main result when shifts in power are exogenous is that large or rapid shifts in power lead to fighting. Factions cut deals and avoid fighting when the shift in power is slow.

When shifts in power are endogenous, the probability that competing factions fight depends on the size of any “contingent spoils.” These are benefits which will only begin to flow once the level of state consolidation has reached a high enough level that the state can provide security and protection. These benefits include the returns on domestic and foreign investment as well as reconstruction and development aid. More conceptually, contingent spoils are the added gain that a state reaps from the additional commitment power it attains by being able to ensure security by disarming an opposing faction rather than only agreeing with that faction to stop fighting. If these are small, a dominant faction will buy off the opposition and consolidate slowly. Fighting occurs when the contingent benefits are large.

## **Potential Impact on DoD Capabilities and Broader Implications for National Defense:**

I hope this work will provide a deeper understanding about how shifts or anticipated shifts in power may induce fighting. A clear application would be highlight the way that reconstruction aid given to a village affects the distribution of power among the village leaders and, as a result, may lead to fighting that destroys the benefits of the aid.

# Adapting to Water Scarcity: River Treaties and Militarized International Conflict

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## **Research Problem:**

Due to population growth, pollution, development, and climate change, humanity is facing the prospect of inadequate access to freshwater. The quest for water motivates countries to increasingly tap into water sources shared with other states, chief of them being trans-boundary rivers. The growing and increasingly competitive consumption of trans-boundary river water in turn has important implications for international security, as the unregulated use of rivers not only exacerbates problems of water scarcity but also sets the stage for political and military conflict between riparian countries. Indeed, many policymakers and pundits predict that water will soon replace oil as the major resource over which wars of the future will be fought – the so-called water wars scenario.

Unfortunately, problems related to water scarcity are here to stay, as the demand for water is only expected to increase in the coming years. Furthermore, climate change is making water access less reliable and predictable, as the weather patterns are already becoming more erratic and rainfall is projected to decrease in the arid and semi-arid regions of the world. At the same time, technological innovations that allows for a more efficient use of water are unfortunately a woefully inadequate solution for keeping up with the growing demand for water; that is, technology alone cannot save us from the expected negative political ramifications of water scarcity; political solutions are needed.

## **Methodology:**

Given the above problems and projections, we argue that the best way of managing the political consequences of growing water scarcity is the strategy of adaptation. Because the pressure to draw increasingly more water from internationally-shared freshwater sources will place countries in a competitive mindset, we argue that managing the use of these sources will go a long way toward preventing water-related conflicts from growing into international armed confrontations or even water wars. We therefore focus specifically on institutions governing the use of trans-boundary rivers and their ability to prevent and manage armed conflicts between water-stressed riparian countries.

Our central hypothesis is that the ability of a river treaty to prevent armed international conflict depends on the extent of formal institutional features the treaty provides to oversee the agreement. The impact of four institutional features is investigated: monitoring provisions, conflict management procedures, enforcement mechanisms, and delegation of authority to intergovernmental organizations. The theory posits two different casual mechanisms. First, by supporting the cooperative management of rivers, treaty institutionalization can address the core problem of water scarcity and prevent the emergence of conflict. Second, in the event that disputes over rivers do arise, treaty institutionalization can provide mechanisms to resolve them before they escalate to militarized conflict. These expectations are tested systematically using a large sample of river treaties signed between 1950 and the early 2000s, followed up with case studies of riparian conflict management.

### **Initial Results:**

Our preliminary empirical results are decidedly supportive of our expectations and reveal that highly institutionalized river treaties are indeed effective conflict managers. The findings are robust to whether the outcomes of interest are measured as (a) the prevention of militarized interstate disputes (Ghosn et al. 2004) or (b) extent to which riparian country interactions are steered away from conflictual and toward cooperative behavior (based on the Transboundary Freshwater Dispute Database, Wolf 2008, Yoffe 2001). We are currently further assessing the robustness of our findings by taking into account the processes that lead countries to enter into (highly institutionalized) river treaties (i.e. dealing with potential selection effects) and by process-tracing cases of riparian state interactions.

### **Anticipated Outcomes of Research:**

Once complete, the project will make a strong case for how to successfully avoid the anticipated water wars (and lower intensity armed confrontations) of the future. By focusing on institutional adaptation as a means of managing relations between water-stressed riparian states, our insights show that highly destabilizing, dire security consequences of water scarcity can be avoided. Specifically, investing material and political resources to develop highly institutionalized river treaties produces tangible payoffs. And considering the costs of warfare (human, material, retardation of economic development, refugee flows, infrastructure destruction, etc.), the costs associated with developing and maintaining institutionalized structures to manage riparian country relations are minimal.

### **Potential Impact on DoD Capabilities and Broader Implications for National Defense:**

Preventing water wars will lower the chances that the US and its armed (and allied) forces will be drawn into armed conflicts taking place between water stressed countries (as direct interveners; peacekeepers; post-conflict state-builders; to assist neighboring countries with conflict spillover; dealing with refugees, etc.). This will allow the US armed forces to be deployed more selectively to deal with issues/areas that are seen as more critical to US national defense; that is, the risk of being spread too thin is lowered. The project also provides the recommendation to US policymakers to encourage and assist other countries with developing highly institutionalized river treaties, in order to insulate themselves from negative security ramifications of their (and their neighbors') water scarcity.

### **Publications through Minerva research:**

- Tir, Jaroslav and Douglas M. Stinnett. 2012. "Weathering Climate Change: Can Institutions Mitigate International Water Conflict?" Forthcoming in the *Journal of Peace Research*.
- Tir, Jaroslav and Douglas M. Stinnett. 2011. "The Institutional Design Of Riparian Treaties: The Role Of River Issues." *Journal of Conflict Resolution* 55(4): 606-631.

### **Sharable data resources to be generated:**

A database of institutionalized river treaties is forthcoming.

# **Engaging Intensely Adversarial States: The Strategic Limits and Potential of Public Diplomacy in U.S. National Security Policy**

*PI: Geoffrey Wiseman, School of International Relations, University of Southern California*

*Program Officer: Jack Meszaros, National Science Foundation*

## **Research Problem:**

This comparative and cross-regional project systematically examines the challenges (limits) and opportunities (potential) of U.S. public diplomacy under conditions of restricted U.S. diplomatic relations with ten intensely hostile states – Burma, China, Cuba, Iran, Libya, North Korea, USSR/Russia, Syria, Venezuela, and Vietnam. The cases review the costs and benefits of U.S. diplomatic engagement with the publics of these adversarial states as a way to influence their governments. “Adversarial states” are defined as states where the situation is short of conventional war and where the U.S. maintains limited or no formal diplomatic relations with the government. In such circumstances, “public diplomacy” – the means by which a country communicates and engages with citizens in other countries through both official and private institutions and individuals – becomes extremely important for shaping the context within which the adversarial government makes important decisions affecting U.S. national security interests. The cases examine the role of both traditional and public diplomacy with adversarial states.

The main theoretical claim being examined is that the absence of full diplomatic relations with adversarial states weakens U.S. public diplomacy and hence U.S. national security. While there is considerable *prima facie* evidence that conditions of less than full or no official diplomatic relations seriously weakens the U.S.’s capacity to influence publics in adversarial countries, the aim is to assess systematically the evidence via the ten case studies.

## **Methodology:**

The project’s core methodology is the case-study approach. In order to increase overall research compatibility and comparability between the cases written by experts from different disciplinary and regional backgrounds across the humanities and social sciences, the project’s case-study methodology broadly follows the structured, focused comparison research method, which asks the same questions of each case.

## **Initial Results:**

The U.S. has a tradition of diplomatically isolating for extended periods those nations deemed adversarial and of requiring those nations to meet preconditions before it will engage them diplomatically, placing a heavy burden on the limited, “off-shore” instruments of public diplomacy. However, new social media could alter the balance.

Official U.S. public diplomacy directed at intensely adversarial states is often counterproductive. Conversely, unofficial cultural and educational exchanges by non-governmental individuals and groups tend to more effective in inducing favorable attitudes towards the U.S. government and society.

## **Anticipated Outcomes of Research:**

The main anticipated outcome is an edited collection of policy-relevant cases that will highlight the under-studied nexus between diplomatic relations and public diplomacy. As a whole, the collection should allow readers to make meaningful comparisons among the individual cases, revealing broader patterns and lessons that can be learned from them for the improvement of U.S. policy concerning

intensely hostile states. The reader will have a clearer picture of the costs and benefits of officially engaging with adversarial states, an issue of partisan difference in U.S. politics. This project sees diplomacy as offering a wider range of options for developing relations with adversarial states as well as highlighting many different kinds and levels of public diplomacy instruments – from summit meetings to cultural and student exchanges, broadcasting, sporting visits, and naval ship visits. We do not yet have a conclusion across the cases as to whether the U.S. can only conduct more wide-ranging and effective public diplomacy where it has an embassy. More specifically, we do not yet have a consensus from the cases on the effectiveness of public diplomacy at different levels of diplomatic representation and engagement: these range from lower levels such as at an interests section hosted in a foreign country's embassy (as with the Swiss in Havana), a liaison office (e.g., as headed by George H.W. Bush in Beijing in the 1970s), a consular office (such as the one set up in Hanoi by President Clinton in the 1990s), to a full embassy headed by an ambassador (as was mutually agreed by the U.S. and China in 1979).

**Potential Impact on DoD Capabilities and Broader Implications for National Defense:**

Depending on the international context (increasing or decreasing DoD/U.S. security presence worldwide), each of the cases must be considered on its own merits. However, the condition that links all the cases – historic and contemporary – is the level of U.S. diplomatic presence and what this means for engaging the publics of the adversarial state in question. Understanding this nexus should be a stronger element in U.S. strategic considerations. If U.S. diplomatic efforts are ineffective, then this would likely place a higher burden on DoD.