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2011

Influencing Violent Extremist Organizations Pilot Effort: Focus on Al Qaeda in the Arabian Peninsula (AQAP)

Strategic Multi-Layer Assessment (SMA) Office

Department of Defense, Office of the Secretary of Defense (OSD)

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Fall 2011

Approved for Public Release

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Preface

Background

In 2010 the Strategic Multi-Layer Assessment (SMA)[1] office saw a need to bring academics, practitioners, and individuals from all branches of the United States government together to discuss the current research and debate issues surrounding extremist violence: Defining a Strategic Campaign for Working with Partners to Counter and Delegitimize Violent Extremism (CVE) and the Neurobiology of Political Violence. The findings from the two conferences clearly indicated that a detailed examination of a violent extremist organization from a multi-method approach was required in order to begin down the path of understanding.

The CVE workshop was held from 19-20 May 2010 at Gallup World Headquarters in Washington, DC. The workshop focused on strategic communications and violent extremism and was designed to inform decision makers and was not intended as a forum for policy discussion. The workshop emerged from an SMA- and AFRL- sponsored white paper entitled *Protecting the Homeland from International and Domestic Terrorism Threats: Current Multi-Disciplinary Perspectives on Root Causes, the Role of Ideology, and Programs for Counter-radicalization and Disengagement*. The key insights and findings of the CVE workshop are as follows:[2]

1. Violent extremism cannot be reduced to one singular or simple cause
2. The difficulties of pursuing deradicalization and delegitimization are numerous. The question to ask is if this is an appropriate or attainable goal
3. Multi-perspective, tailored approaches are key to effective counter-terror strategic communications
4. The ways the US uses vocabulary and themes is critical to success of its strategic communications

The *Neurobiology of Political Violence: New Tools, New Techniques* workshop hosted by the National Institutes of Health (NIH), United States Strategic Command (STRATCOM), the Joint Staff, and the Strategic Multilayer Assessment Office (OSD) in Bethesda, MD from 1-2 December 2010. The workshop facilitated a broad discussion of the current state of the art within the related fields of neuroscience, neurobiology, and social psychology as it relates to deterring political violence. While most panelists emphasized the prematurity of applying current research to real world problems within the national security and homeland defense space, they all agreed

[1] The Joint Staff and USSTRATCOM, in partnership with OSD, have developed a proven methodology merging multi-agency expertise and information to address complex operational requirements that call for multi-disciplinary approaches utilizing skill sets not normally present within any one service/agency. The SMA process uses robust multi-agency collaboration leveraging intellectual/analytical rigor to examine factual/empirical evidence with the focus on synthesizing existing knowledge. The end product consists of actionable strategies and recommendations which can then be used by planners to support COA Development. SMA is accepted and synchronized by Joint Staff and executed by USSTRATCOM/J-9 and ASD (R&E)/RRTO.

[2] The full conference proceedings can be found on the SMA Extranet site [https://nsiteam.net/x_sma/default.aspx]. In order to gain access you must go to this site and request an account: Https://nsiteam.net/reset

that the tools of neuroscience and related fields would serve to better inform current deterrence and messaging strategies. The key insights and findings from the workshop are below:[3]

1. Neuroimaging (e.g., MRI) has great utility and provides added insights devoid of self-report biases.
2. In-group/out-group receptivity to reconciliation has a neurobiological basis and can be modified by rhetoric.
3. New tools and techniques are emerging.
4. Culture and environment influence behavior and brain function.
5. It is critical to continue basic research in this area.

Overview and Approach

The Influencing Violent Extremist Organizations (IVEO) Pilot Effort was organized by the Strategic Multilayer Assessment (SMA) Office in the Department of Defense (DoD) and supported by the Joint Staff (J-3), Strategic Command (STRATCOM), and the Assistant Secretary of Defense for Research and Engineering. The Pilot Effort fits into the broader IVEO effort, which has the objective of first improving the United States Government's (USG) understanding of potential unintended consequences of influence actions against VEOs and, second, suggesting principles for planning influence actions that mitigate potential negative effects and exploit potential opportunities to produce intended effects.[4] The Countering Violent Extremist Organizations (VEOs) Pilot Effort: Focus on Al-Qaeda in the Arabian Peninsula (AQAP) effort was a multi-method, multi-disciplinary exploration of the selected VEO. AQAP was selected as the focus of the pilot effort due to its continued threat to the United States.

Social science has provided an extant literature surrounding the who, what, and why of violent extremist organizations. The who and the what are the easy parts. It's really the why at a fundamental human level that—even after decades of research, including theorizing, empirically testing, and cautiously observing—still has social scientists in disagreement and searching for answers. This pilot effort provided a unique approach to investigate not only the why, but also the how, in violent extremist organization recruitment. Where does support come from, particularly global support that goes above and beyond a local connection? Assembling the top researchers in this field to discuss more theories has been done before, and frankly, is not enough to move us to the next level of understanding and providing counterstrategies. In this pilot effort, we brought the best and brightest in to answer one question: given your area of expertise, what can we possibly do to counter recruitment in violent extremist organizations? From there, we aimed to synthesize these efforts into one coherent package that may take us beyond simple theoretical strategizing. Across the fields of social psychology, social neuroscience, evolutionary psychology, political psychology, and communication science, this work is truly an interdisciplinary effort.

This quick turnaround effort began in early March and culminated in early August, with the final report delivered late-September of 2011. Initially, each participant worked independently on

[3] The full conference proceedings can be found on the SMA Extranet site [https://nsiteam.net/x_sma/default.aspx]. In order to gain access you must go to this site and request an account: Https://nsiteam.net/reset

[4] Please contact Abigail Chapman (achapman@nsiteam.com) if you would more details on the larger IVEO effort.

their research. In late-July, all of the participants came together to begin integrating their findings across disciplines along with AQAP subject matter experts and practitioners to discuss the results and identify any gaps. The end result here is the final culmination of these efforts.

Context - Al Qaeda in the Arabian Peninsula (AQAP)

AQAP's base of operations is the Arab Republic of Yemen, located on the southwest corner of the Arabian Peninsula and long considered by many in the Arab World to be the Middle East's most backward and impoverished state. There are growing fears among many in the US and Saudi Arabia that AQAP is in position to exploit, if not already exploiting, the ongoing instability in Yemen to recruit new fighters, organize new attacks, and execute them both regionally and globally (Blair, 2009; Critical Threats, 2011). This fear is exacerbated by the fact that Yemen is not only governed by a weak central government, but that its government has long-standing separatist concerns in the south and truce negotiations to complete with Shi'a rebels in the north. In addition to the ongoing internal instability within Yemen, the recent death of senior Al-Qaeda leadership may put Yemen and AQAP at the center of violent extremist activity going forward (Zimmerman, 2011). Indeed, AQAP's history combined with recent videos and statements released on behalf of AQAP suggest that the concern may be warranted. A number of policies attempt to deflect and weaken this threat, ranging from targeting leaders in drone attacks to promoting aid and the spread of democracy in the region.

Historical Background

Al-Qaeda in the Arabian Peninsula is the result of a merger between al-Qaida's previously established Yemen- and Saudi Arabia-based affiliates; namely al-Qaeda in Yemen, and al-Qaeda in Saudi Arabia (also referred to as al-Qaeda in the Arabian Peninsula prior to the merger). On their own merit, both of these local affiliates proved to be somewhat effective in their organization and operations, but clearly had deficiencies that limited their reach. However, by combining and pooling resources, in much the same way that al-Qaida's North African affiliates did in September 2006 to form al-Qaeda in the Islamic Maghreb (AQIM), AQAP has established itself as a primary regional organization with far greater capacity and stature within the larger al-Qaeda movement.

In light of the historical and current political context, each participant embarked upon a 4-month academic exercise designed to elicit the best concepts and ideas from their fields of expertise to deter and influence VEOs and the potential unintended consequences of such strategies. We were especially interested in gaining a better understanding of the decision-making processes for recruitment and other important organizational functions, underlying motivations of those involved, attitude formation processes and influence possibilities, and identity-related considerations. A brief synopsis of each research topic that comprise the chapters in this report are described below.

Research Topics

Social Identification, Influence, and Why People Join AQAP.

Academic disciplinary approach: Social psychology.

A social identity perspective sheds light on motivations for joining a group, and more importantly motivations for defending and promoting that group. How do factors of social influence, prototypicality, and social identification influence motivation to join a violent extremist organization? In Chapter 1, *Janice Adelman* and *Abigail Chapman* seek to answer this question by reviewing the social identity literature and applying this theoretical framework to group processes in a violent extremist organization.

Moral Imperatives and Democratic Dynamics in the Fight Against AQAP in the Context of the Arab Spring: Policy and Research Challenges

Academic disciplinary approach: Anthropology
In Chapter 2, *Scott Atran* addresses the question: What are the specific moral strategies that AQAP is employing, or could employ, to reach youth in the region and what can research tell us? His research looks to understand the potential moral appeal of AQAP among youth in the region. The work he presents here builds on nearly a decade of DoD-supported studies concerned with the role of "sacred values" in galvanizing terrorist networks, in supporting decisions to go to war, and in maintaining seemingly intractable conflicts across the world.

Applied Evolutionary Neurobehavior to Reduce Participation in AQAP

Academic disciplinary approach: Evolutionary neuropsychology
Chapter 3 provides an evolutionary neuropsychology perspective that frames inclusive fitness as a basic motivator for joining an extremist organization. *Jeff Victoroff* notes that AQAP is a small group of people who represent a disproportionately large threat to U.S. security. He argues that AQAP exists because (a) the world Muslim population has undergone a renaissance in anti-Western militant Islamist sentiment and (b) Yemen is a geographic and social ecological niche that is somewhat favorable to the jihadi agenda. Based on evolutionary neurobehavior, Victoroff suggests that humans are ultimately motivated to make life history strategy decisions, such as whether or not to join AQAP, by the brain's calculation of the impact of that choice on inclusive fitness. He notes that up to now, U.S. strategy to defeat AQAP has been devised blind to these ultimate motivations. It is possible that better understanding ultimate motivations to join AQAP would improve counterterrorism policy design. His chapter discusses the science of evolutionary neurobehavior (ENB) as it relates to human motivation. He systematically reviews the unique attractions of Yemen for AQAP in the light of ENB. In light of this new science, he then examines some policy choices currently under consideration to fight AQAP, and offers some specific recommendations that may enhance U.S. security.

Reducing Recruitment into Islamic Terrorist Organizations: The Antagonistic Effect of Liberal Democracy Promotion

Academic disciplinary approach: Political Science/Genetics
Chapter 4 discusses the unintended consequences of one of the primary macro strategies the U.S. government uses in its endeavors to reduce terrorism: the promotion of liberal democracy abroad. *Pete Hatemi, Rose McDermott,* and *Karen Stenner* provide empirical evidence to suggest that this approach actually inspires the terrorist activity it is trying to prevent. They argue that individual worldviews regarding freedom and diversity—fundamental to liberal democracy—rest on political attitudes which are not randomly distributed across the world's regions. Hatemi and colleagues point out that the regions of the world where terrorist recruitment is most successful

are also least disposed to values that support a liberal democracy. The authors further highlight the importance of this since attitudes constitute part of a person's psychological dispositions. As such, they cannot be easily changed and attempts to force liberal values, upon which liberal democracy rests, onto populations that do not want them will be interpreted as hostile and coercive acts by those populations. Using political science theory and advances in genetics research, these authors explain why current liberal democracy promotion effort may be increasing, rather than diminishing, recruitment into terrorist organizations.

The Neuroscience of Social Decision-Making & Social Cognition: Implications for Violent Extremist Organization (VEO) Recruitment and Retention

Academic disciplinary approach: Social Neuroscience
In Chapter 5, *Lasana Harris* asks what are the psychological and neural events that lead to a person strapping a bomb to his (or her) body, blowing up one's self and others? Harris proposes that social decision-making processes underlie the observable behavior of people joining extremist organizations. From a social psychological perspective, Harris believes that behaviors are a product of individual dispositions and contextual factors. Since individual dispositions are generalizable the world over, Harris focuses on the context in which people find themselves, paying particular attention to the neural correlates of the contextual factors, as they are malleable and influential in decision-making processes. This chapter provides an essential overview of social neuroscience literature on social decision-making, social cognition, and dehumanization. Without providing the magic bullet solution, this work demonstrates the complexity of behaviors in action, providing a new perspective for analysts and policy experts to explore regarding AQAP and VEOs.

AQAP's External Operations Branch

Academic disciplinary approach: Sociology
Chapter 6 moves away from the neurobehavioral approach by analyzing prominent AQAP members and their publications. *Marc Sageman* reiterates that AQAP (one of several al Qaeda branches) currently represents the greatest threat to the West, since Al Qaeda proper in the Afghan Pakistani frontier is fading. Sageman's assessment from the literature suggests that AQAP is a loose organization, mainly posing a local threat to Yemen and neighboring Saudi Arabia. Sageman reports that the vast majority of AQAP operations are local, targeting local authorities. Nevertheless, AQAP has become more active in recent years in targeting Western countries, both in Yemen (e.g., embassies in Sanaa and Western tourists) and in the West (e.g., failed bombings on American commercial and industry planes). In this chapter the author focuses on trying to understand the history of this new al Qaeda branch, how people formed and joined it, what they say about their goals, strategy and tactics, and derive implications about their strengths and vulnerabilities.

The War of Ideas in Yemen: Data from the November 2010 Glevum Poll

Academic disciplinary approach: Political Psychology
In Chapter 7, *Clark McCauley* applies the pyramid approach to understanding organizations, acknowledging that at each part of the pyramid lie individuals with different connections to the organization. That is, most people are purely sympathizers with the group's goals; these sympathizers form the bottom of the pyramid. A smaller proportion of people sympathize with the group's means of attaining its goals; these sympathizers are in the middle of the pyramid.

Finally, few people actually act on behalf of the group; these violent actors are at the apex. McCauley analyzes data from two recent polls conducted in Yemen to draw observations and implications relevant to the war of ideas between the U.S. and AQAP.

Uses of Narrative in Promoting and Countering Violent Extremism

Academic disciplinary approach: Communication Science
In Chapter 8, *James P. Dillard* breaks down the concept of radicalization as two conceptually distinct, yet related, components. The first component encompasses psychological processes of beliefs, attitudes, intentions, and behavior. Dillard notes that radicalization tends to lead to binary perceptions of ingroup and outgroups, judging those in the outgroup more harshly. The second component is a necessary one to radicalization: messages. Dillard proposes that messages stimulate thought, invoke feelings, and provide justification for past and future action. His chapter provides a theoretical overview of messages and narratives grounded in communication sciences and extends the logic of such an analysis to radicalization and counter-radicalization.

AQAP's Use of Norm Entrepreneurship in the* Inspire *Series

Academic disciplinary approach: Political Science
The final chapter comes from *Jarret Brachman.* In his work, he incorporates the idea of "norm entrepreneurship"—in which actors intentionally try to change existing behavioral norms within a given social environment—to studying how AQAP reaches out to English speakers. The author applies the study of norm entrepreneurship to AQAP's English-language *Inspire* magazine.

Integration of Findings

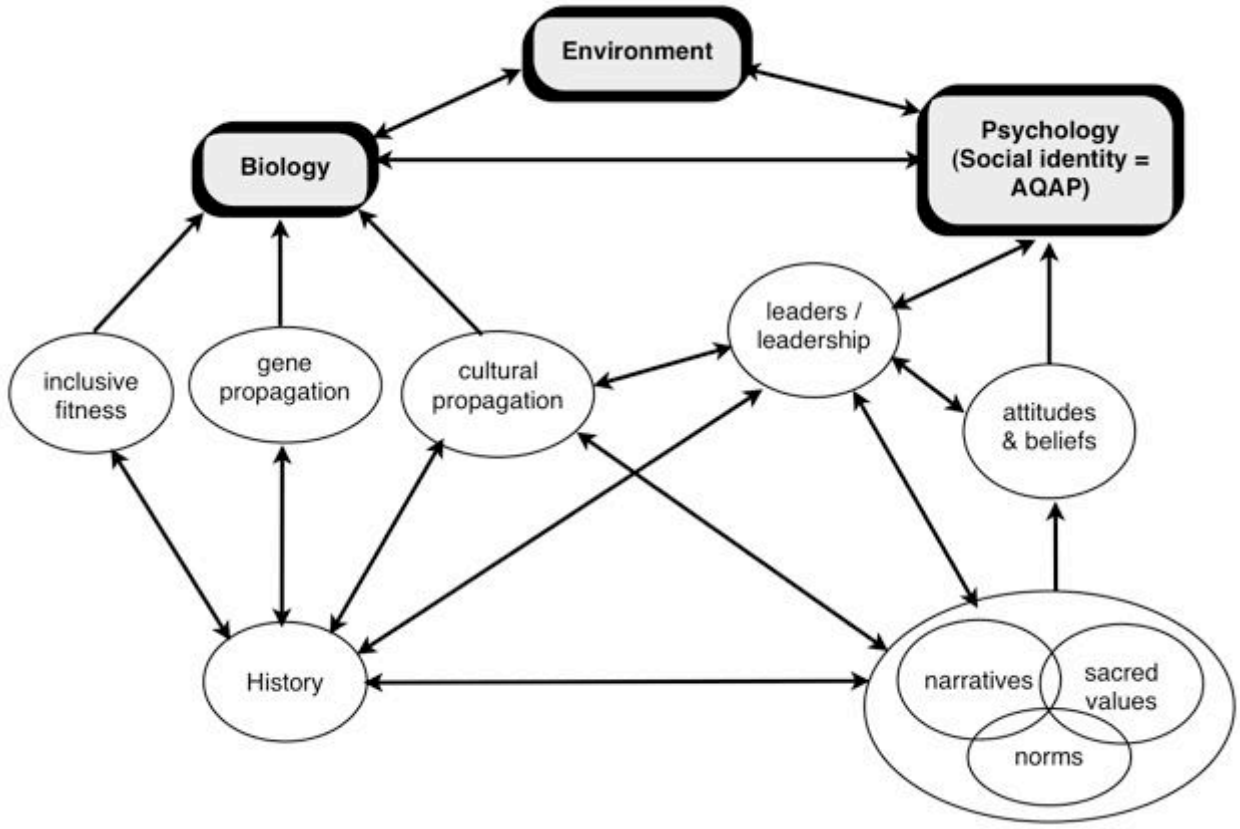
The pilot effort sought to elicit unique insights and findings within and across multiple disciplines. Each participant was tasked with applying the theories and research findings from his or her field of study to the problem set of AQAP. Each participant received an overview brief on AQAP and then worked independently on their efforts until the integration meeting held in late July 2011. Participants were tasked with showcasing their individual contributions to the problem and asked to begin pulling the common threads of understanding with the goal of putting all of these pieces of the puzzle together so that a more coherent understanding of this phenomenon would emerge. Additionally, by bridging diverse disciplines together, gaps in the common understanding and knowledgebase become more apparent, allowing others to refocus their work and strive to shore up the knowledge gaps. The following sections begin to walk the reader along the multiple disciplines. It is a winding and bumpy road, but unique connections can be made across and through disciplines resulting in an enriched understanding of the problem. With additional time, resources, and access to AQAP intelligence, greater depth can be attained, but this pilot effort begins to show the value and importance of cross-discipline approaches.

General Findings

Part of the problem in tackeling an issue such as this is the tendency to narrowly focus on one tiny aspect, disregarding other potentially relevant factors. With the pilot effort, we had an opportunity to avoid falling into the tunnel-vision trap. Yet at the same time, such an opportunity also provides problems of its own. By opening up our field of vision, we often attempt to throw in every possible factor. Neither of these approaches are very viable, moving from one extreme

(e.g., only one factor) to the other (e.g., infinite factors). However, by beginning to approach the problem one discipline at a time, then coming together as a group to discuss and identify recurring themes, we may be able to avoid (to some degree) the tendency to under- or overestimate the relative importance of any one factor. With this in mind, a few factors remained at the forefront throughout the discussion among the academics.[5] Figure 1 suggests a possible framework for how all of the concepts presented by the academics interrelate with one another.

Figure 1. Conceputal Diagram of Academic Contributions



Given the overlap and connectedness between these concepts and constructs, what is the underlying message that will move us forward? For example, what does it mean to promote a civil society in cultures with different values from our own? To answer this question, we need to look further at the overarching themes that emerged (and the concepts that were most prevalent) throughout our two days of discussion regarding:

- Group Psychology
  - Narratives
  - Social Identity

[5] Academics from different disciplines tend to use their own discipline's terminology. We strived to pull out the main themes that emerged from the discussion that appeared to tap the same idea or construct, regardless of the specific label assigned to that idea from different disciplines. Of course, this is but one interpretation of how these concepts blend together.

- Biology & Environment
    - Inclusive fitness
    - Genetic predispositions
    - Interaction between environment and biology

Group Psychology

Narratives

Throughout the academics' research, the importance and role of narratives presented itself as a common element that both weaves between and links the various disciplines. In the broadest sense, narratives play a role in helping individuals and groups navigate their world. For example, Al-Qaeda in the Arbian Peninsula provides a narrative that is driven by the desire for collective dignity and social justice. According to the narrative, both of these concepts justify the use of violent confrontation against Western forces. Narratives emerge from the groups to which we belong (i.e., our social identities), the society that we find ourselves in, and are often grounded in historical context. As such, narratives contribute to how we categorize and conceptualize ourselves and our group memberships based upon collective history that informs and shapes attitudes and behavior. We can think of narratives as the storylines that are used to create and sustain cultural worldviews. It is with these cultural worldviews that distinctions are drawn between groups, creating the perpetual us versus them cycle. (See the section on *social identities* below for further explication about group membership and "us" versus "them" mentality.)

It is through publications such as *Inspire* that the group narrative—whether it is based in fact or fiction—spreads. It is often difficult for individuals to distinguish between a fictional and factual narrative, especially when the narrative depicts a highly charged issue, or the recipient is in an elevated emotional state. For many, the distinction of fact or fiction is irrelevant. Rather, the issue is how the narrative makes them feel. This is a critical element to highlight: emotion plays a large role in the receipt of a message, as well as the message's ability to alter an individual's attitude or behavior. Indeed, discussion regarding narratives highlighted the three conditions under which narratives will alter (or persuade) an audience:

1. Emotional arousal is necessary;
2. Emotion must be perceived as coming from the message and not somewhere else; and
3. Emotion must be perceived as relevant to the story advocacy presented.

When none of the above conditions are met, the narrative may in fact backfire, leading to unintended consequences. Ultimately, such an occurrence will likely result in a negative trajectory.

Given that emotion plays a large role and the fact that narratives help shape our collective worldview (inclusive of attitudes and normative behavior) it can be very difficult to overcome existing narratives. Prior to crafting counter-narratives extensive research must be done on the target population's narratives, including assessing which narratives, if any, play a crucial role in radicalization or in creating the negative attitudes of interest.

Narratives can be a useful tool to provide cognitive frames that aid in understanding confusing or ambiguous situations; it is in this way that narratives can also be used to potentially mitigate consequences of an action taken. For example, if the United States were to engage in a targeted

kinetic action against one or two individuals, by creating the narrative within the frame of criminal justice it may help to mitigate potential unintended consequences. Specifically, it is by appealing to the existing cultural narrative of justice that the newly crafted narrative can succeed (see also the *social identities* section below regarding cultural norms). It is in the crafting of new narratives to mitigate consequences that the issue of fact versus fiction comes into play. Sometimes, it may be necessary to tap into the emotional component of an issue rather than convey the 'cold hard truth'.

Issues to consider within the context of the pilot effort research:

- Narratives can have both short and long-term implications. Before employing this strategy, analysts or researchers must fully understand the pervasiveness of any underlying narratives and the potential implications of crafting a new or counter narrative.
- It is extremely difficult to overcome existing narratives.
- Expertly crafted narratives may help frame situations and mitigate consequences.
- The source of the narrative matters, especially when crafting new or counter-narratives. If the source is not viewed as credible, prototypical, or authoritative then the narrative most likely will not be well-received and may in fact have disastrous results.

Social Identity

Although closely related to the discussion on narratives, social identity was another common link that emerged between the disciplines. Social identities represent group memberships that are important or have value for individuals. In this way, they provide a framework for understanding ourselves, others, and the world we live in. Long-lasting cultural narratives and social identities tap into the same notion of how people make sense of the world, given a group's shared history, rituals, and values. At the same time, narratives and social identities are social constructs—driven both by society and the individuals who incorporate them. In addition, social identities are dynamic. In other words, social identities shift with the context of the situation and are dependent upon the groups that are most relevant or salient to the situation. What is more, they are intensely personal, yet wildly collective; they shape the way society uses symbols and other group identifiers, yet are also shaped by those same symbols and identifiers.

Identity is an important construct because it gives way to so many outcomes, including liking others, trusting others, and group loyalty. Considering the fact that Yemen is currently divided between north and south brings up an important issue regarding social identity: currently, no strong national identity exists among Yemenis. Identification with groups that are important is key to acting in line with the group's goals. AQAP has an opportunity here to create a unified AQAP social identity that trumps the national Yemeni identity, thus promoting AQAP's goals and strategies over a democratic civil society for which Arab youth throughout the region seem to be struggling. However, it is also possible that a unified national identity could strengthen resolve against AQAP if the values and beliefs of the national identity run counter to those provided by AQAP.

The disunity in Yemen brings up another related point regarding social identities: felt uncertainty tends to increase the strength of identification with an important group, which in turn, increases

the level of support for more extreme tactics on behalf of that group. It is no secret that Yemen is one of the poorest countries in the Middle East and in a persistent state of uncertainty, particularly regarding the government and President Saleh's authority. Living in a state of uncertainty may strengthen Yemenis' desire for a leader that represents their group. And, consequently, Yemenis may be more willing to engage in extreme behaviors as guided by the leader in support of their group.

Within the discussion of social identity, an understanding of norms begins to take shape. Not only how norms emerge from the groups that we are a part of, both from our group's narratives and our interactions, but also how norms foster the ablitiy to join violent groups or support violent actions. What is more, leaders who can create and spread norms through their groups are most effective at bringing about the change they strive for. As described by several academics, successful leaders who are identity entrepreneurs by representing the group are also able to shape the way the group thinks of itself. Good leaders do this by spreading norms, as in the case of AQAP's *Inspire* magazine. The *Inspire* magazines were an important tool for the academics to present clear-cut evidence for their theorizing. Indeed, the magazine provides a glossy method of spreading new norms regarding how readers should prioritize their lives, their means, their struggles, and what is important to them.

Issues to consider within the context of the pilot effort research:

- Social identities can be a mechanism for change if utilized properly.
- Social identities become stronger in times of uncertainty. Moreover, people may be more willing to follow a representative leader in times of uncertainty, regardless of the potential outcome.
- Uniting against a common enemy is one way to foster support for a cause. In taking actions, effort must be made to ensure that the action does not unify different groups together against a common enemy. For example, within Yemen, steps need to be taken to ensure that an action does not serve as the impetus for the tribes and AQAP to unite.

Environmental

Environment and Biology Interactions

Another theme sprang from the evolutionary perspective, touching on concepts of sacred values, inclusive fitness (i.e., enhancing the chances of gene replication), genetic predispositions toward attitudes, and environmental influences on attitudes and beliefs.

The discussion over the two-day integration meeting was peppered with concepts of narratives, social identities, and norms. Sacred values are a similar concept in that they represent moral imperatives linked to a group's norms and narratives. Some suggest that these sacred values drive people to action, which flies in the face of theories that rely on a rational actor approach. Indeed, cross-cultural research has found that people will overlook the probability for success because their group-held sacred values are driving their behavior. Why would sacred values prompt such extreme behavior? Evolutionary theory proposes an explanation based in kin selection or gene enhancement. To the extent that sacred values are group-based, that people hold their group (i.e. social identities) in high regard (as being very important), then taking action to defend the group by upholding or defending sacred values would be expected. Sacred values,

norms, and narratives may be thought of as following the same evolutionary path as humans. That is, in the case of evolution, humans are motivated by the desire to propagate genes into future generations.

Merging the fields of political science, genome studies, and neuroscience suggest that the regions of the world where terrorist recruitment is most successful are also least disposed to values that support a liberal democracy. This connection between terrorism and liberal democracy may have neurobiological roots. What this means is that potentially, at some biological level, our sense of cultural values is inherited. Consequently, attitude change toward issues like democracy may not be as simple as instituting government elections. Coupled with the social influence of group norms, sacred values, and historical narratives, meeting the challenge of countering AQAP is no easy feat.

The strong link between environment and biology is evident given other interesting developmental pathways that examine epigenetic features involving poverty and maternal malnutrition levels, and adolescent development. For example, neuroscience research shows that volume changes in certain structures of the brain due to aggressive behavior relate to later development of depressive symptoms in adulthood (Ducharme et al., 2011; Whittle et al., 2011). This suggests that displays of aggressive behavior may affect adolescents in AQAP recruitment regions, expressing these harmful societal symptoms later on in life. Taken together these are important cross-displine findings which suggest that efforts designed to instill democratic values, democracy promotion strategies in their current form may serve instead to elicit increased aggression specifically from those individuals whose are at highest risk of being attracted to terrorist organizations. Which may in turn have intergenerational and long-term impacts at the neurobiological level.

Issues to consider within the context of the pilot effort research:

- Long-term implications
- Efforts may want to focus on providing developmental aid, specifically pre-natal care, to Yemen to ensure that pregnant women are receiving adequate nutrition to provide for their developing fetus.

There are many more connections and insights to be gleaned from reading through this volume. These are but a few to get the ball rolling.

Chapter One

Social Identification, Influence, and Why People Join al-Qaeda in the Arabian Peninsula (AQAP)

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Introduction

Groups are a fundamental part of life. Humans have an innate tendency to view themselves in the context of others, preferring to find solace with similar others and distance from dissimilar others. For over 30 years, social psychologists have looked to identify the factors that motivate people to join groups, as well as to understand how belonging to a group shapes how we treat one another (both fellow group members and non-group members). Repeated experimental studies have shown that even when randomly assigned to an arbitrary group with no pre-existing ties among its members, belonging to this group is associated with greater liking and favoritism toward other group members, whether they have met in person or not. How does such in-group favoritism work to an extremist organization's advantage? What other factors unite people within a group, and more importantly, incite them to act? The social sciences offer some clues to answer these questions. For one thing, organizations that speak to an individual's sense of identity and group belongingness help shape subsequent loyalty to the group. Similarly, effective leaders may use a variety of social influence tactics to communicate the ways in which they themselves are similar to followers, providing a prototype for group members to follow. Having a prototypical leader and feeling that one is a prototypical group member may contribute to the degree of influence toward joining violent extremist organizations. We do not know enough about these factors in real group settings to determine potential interventions that may stem the flow of interest in joining extremist organizations. What follows is an introductory overview of some of the social psychological factors inherent in group processes. Further, we apply this theoretical framework to a real-world context by assessing the extremist group al-Qaeda in the Arabian Peninsula (AQAP).

The Social Psychology Behind Terrorist Groups

Most aspects of terrorism are a group phenomenon. Individuals form alliances, bonds, and connections to similar others who share similar worldviews and beliefs. Al-Qaeda in the Arabian Peninsula (AQAP) is no different. That is, individuals form bonds with other like-minded individuals and move toward a common goal. Over time, individual members become more committed to achieving group goals and more connected with the group and their social identity. Social identities are defined as the knowledge we have of belonging to particular groups that

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carry value or meaning (see, e.g., Tajfel, 1974, 1982; Tajfel & Turner, 1979, 1986). It is important to note that social identities are by nature social constructions. Yet, because human beings have an innate tendency to categorize the world around them, social identities become those easily recognizable aspects for understanding which groups you belong to and which you do not. For example, language is an instant identifying characteristic with which people are categorized as being a group member or an outsider.

The very definition of social psychology as a science hinges in part upon how people interact with, and are influenced by, one another. The most enduring and oft-cited definition refers to social psychology as "an attempt to understand and explain how the thought, feeling, and behavior of individuals are influenced by the actual, imagined, or implied presence of others" (Allport, 1985, p. 3). Note that the key word in this definition, influence, is an abstract concept to refer to when we really want to know *how* and *why* people succumb to others' ideologies and worldviews. This literature review hones in on the group processes that are involved in joining an extremist group such as AQAP. We begin by laying the foundation of social identity. Afterwards, we begin to build deeper and more complex connections between social identity and uncertainty, norms, influence, and leadership.

The Stand on Which to Rest Your Hat: Social Identity

Everyone fits some sort of categorical nomenclature, be it by gender (e.g., man or woman), nation (e.g., American or Yemeni), profession (e.g., accountant or terrorist), or religion (e.g., Christian or Muslim), just to name a few. The topic of identity is so commonplace that we often hardly take notice of it. Yet, it is one of the most important factors in life, in both interpersonal relations, as well as in intergroup relations. Identity comprises facets of how we, as individuals, think, feel, perceive, behave, and interact. But we, as individuals, do not live in a vacuum. We are constantly in contact with other individuals, whether they are anonymous bystanders on the street, the produce seller at the market, fellow co-workers, or loved ones. Our self-categories, then, run on a continuum from personal to social, representing our various identities. Yet, individuals and societies are able to both influence and be influenced by one another. Given this reciprocal nature of influences between individuals and their environment and the core tenets of living in societies, understanding how our *social* identities play a vital role in group processes is an important starting point.

What is Social Identity?

Social identities, by definition, are those groups to which we belong that are important to us. In other words, a social identity is knowing that we belong to a particular group that holds meaning for us. Social psychologist Henri Tajfel developed what would become social identity theory following the events surrounding WWII. At that time, intergroup conflict, prejudice, and discrimination were common-day occurrences. Sadly, not much has changed in the world. For Tajfel and social identity theorists, not only do various social identities run from personal to social, but they are also dynamic, dependent upon the context and social cues available. Thus, my "social identity is simultaneously something intensely personal and important to me as an individual, but also something that, in substance, cannot be reduced to me as an individual but is rather a cultural and historical construct" (Reicher, 2004, p. 929). As Reicher further explains, Tajfel suggests that the social identity concept is not interesting "for 'what it is' in a static sense," but rather "as an intervening causal mechanism in situations of 'objective social change'

" (Tajfel 1978, p. 86; as cited in Reicher, 2004). We, as social scientists, should look beyond individuals to the social forces that encourage and shape individual action (see Hogg, 2006). Using the social identity construct and the social identity theory framework provides researchers and analysts links between individual cognition, social interaction, and societal processes.

Social identity, as a whole, includes three key components of identification: cognitive, emotional, and evaluative (Tajfel, 1982). These components all work together and enable individuals to feel a sense of positive distinctiveness. The cognitive component refers simply to the process of categorizing or labeling. In other words, individuals are aware of the groups to which they belong (e.g., male, conservative, Middle Eastern, etc.). The emotional component refers to the fact that a social identity represents the groups that are important to us and, in turn, shape how we see ourselves, as well as how others see us. For instance, most of us have a religious identity (even if it is atheist or agnostic), but not all of us feel this religious identity is very important or defines who we are. Finally, evaluation plays a role because we are able to use these identities to make comparisons to others. Tajfel's social identity tradition extended from well-known social comparison processes that provide confirmation of our views of the world. But rather than just comparing ourselves to other individuals, Tajfel argued that we can just as easily compare our groups to other groups. In so doing, we not only accentuate our similarities with other members in our group, but we also accentuate our differences from members in outside groups. In an evaluative sense, then, we take "our" values as moral, while "their" values are immoral. All told, these social identity components allow us to gain not only a positive distinctiveness between ourselves and others, but also a sense of order and understanding of the world by providing a point of reference for who we are and how we interact with the world.

The categorical or social identity constructs that individuals subscribe to often provide a set of guidelines that foster appropriate behavior in their world. It should be clear by now that our social identities imbue us with a sense of meaning, purpose, and understanding of life. Insofar as humans will innately categorize to simplify and understand their world, it is this self-categorization that provides the basis for group behavior. However, remember that Tajfel spoke of social forces and individual action. The link between these two is not a one-way street. Consider the ways in which we identify with our nationalities, including the use of flags, colors, holidays, and other rituals. "National identity may shape collective movements, which create national structures, but equally national structures are crucial in shaping the way people identify themselves" (Reicher & Hopkins, 2001, p. ix).

Why Does Social Identity Matter?

The question surrounding social identity is how group membership relates to such blatant displays of intergroup prejudice, bias, and conflict. Initial evidence for what most of us now consider common knowledge—that we tend to favor "our" group more than "their" group—was laid out in a series of experiments known as the minimal group paradigm (Billig & Tajfel, 1973; Tajfel, Billig, Bundy, & Flament, 1971).[2] In these studies, Tajfel and his colleagues found that simply grouping random students based on an innocuous preference for Klee paintings over Kandinsky paintings or other arbitrary criteria provided interesting group consequences.

[2] The "minimal group" name arises from the experimental design in which researchers were attempting to elucidate the "minimal conditions that would create intergroup discrimination" (Tajfel, 1982, p. 23).

Members of these newly-formed groups were asked to allocate points to both an anonymous fellow group member (i.e., someone in the ingroup) and to an anonymous person in the other group (i.e., someone in the outgroup). The result: participants allocated points not just in the fashion of awarding more points to the ingroup, but in such a way as to maximize the difference in points for both groups. In other words, participants were not simply out to allocate more total points to their ingroup, but attempted to increase the distance between the two groups in the point competition (see Reicher, 2004). In the decade following Tajfel's first minimal group study, no less than 30 additional studies by other experimenters with various populations had been conducted, all pointing out the robustness of this sort of ingroup favoritism (Tajfel, 1982). As the social identity tradition continued to flourish, this finding was whittled down to the idea that simple categorization equates to an ingroup favoring bias (Brewer, 1979; for reviews, see Diehl, 1989). However, this is an easily digestible oversimplification of the finding that overlooks much of what social identity theory suggests: that social categorization into groups, per se, is not actually sufficient for producing ingroup favoritism. Rather, it is that the individuals who become group members must identify with the categorization. "The latter [i.e., group identification] seems to be a necessary condition for the influence of the former [i.e., ingroup favoritism]" (Turner, 1978, p. 139). As Reicher (2004) notes, the distilled finding in the sterile laboratory environment with only two groups available to divide points serves merely as a starting point to understanding the way that social identity works (see also Oakes, 2002). In the real world, we do not conform to an either-or context of one identity versus the other. Rather, we have multiple identities within us that are either more or less salient, dependent upon the social context and cues we take in and the meaning that these social identities hold.

Social Identity As a Theory of Intergroup Behavior

Social identity theory, then, provides a conceptual and theoretical framework that can inform other topics of interest, such as why people join groups, how they are influenced, and the role of group leadership. Indeed, research from the social identity perspective shows how social identity processes are involved in group cohesion, stereotyping, social facilitation, social influence, and leadership (Abrams & Hogg, 2004). This is an important part of the social psychology discipline insofar as "social psychology can and must include in its theoretical and research preoccupations a direct concern with the relationship between human psychological functioning and the large-scale social processes and events which shape this functioning and are shaped by it" (Tajfel, Jaspars, & Fraser, 1984, p. 3; cited in Hogg, 2006). The key point to remember is that of reciprocity and interconnectedness between individuals and society. "Groups have higher-order emergent properties and these transform the individual, while at the same time allowing individuals to engage in group processes that are capable of transforming the world" (Haslam, Reicher, & Platow, 2010, p. 50). Social identity, then, is one window to viewing the mechanisms behind intergroup behavior.

Social Identities Alleviate Felt Uncertainty

There is no question that as social creatures, people are prone to joining groups. The question is, what motivates people to join particular groups? For some time among social psychologists, self-esteem was considered a prime reason for joining groups. That is, as a means of increasing or maintaining self-esteem, individuals become group members in an effort to feel good about themselves and what they believe in. (The logic being that if everyone else agrees with me, how stupid could I be?) It quickly came to pass, however, that self-esteem is not the force of all

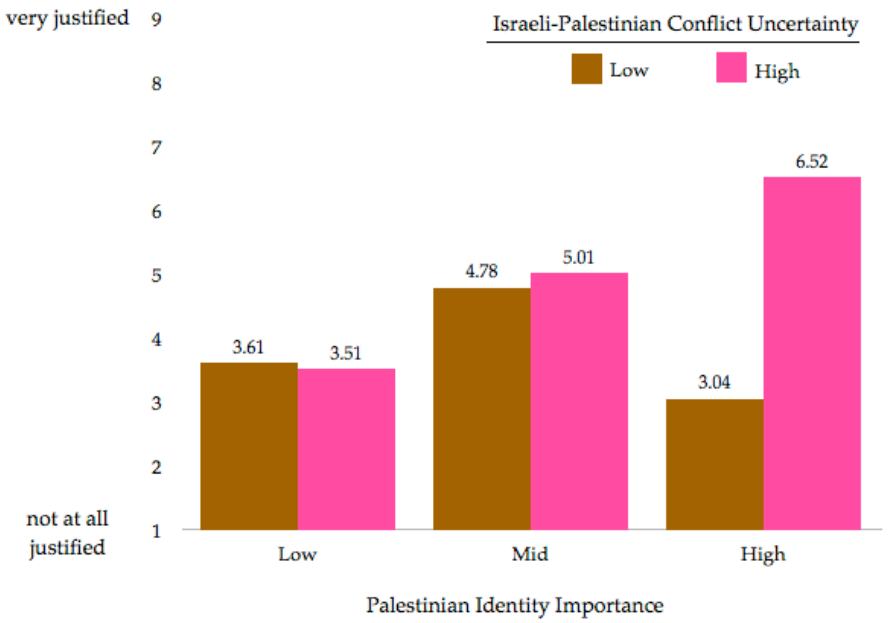
individual psychology, and certainly is not the major player in group behavior it was once thought to be (see, e.g., Abrams & Hogg, 1988, 1990; Hewstone, Rubin, & Willis, 2002; Hogg, Hohman, & Rivera, 2008). Out of the self-esteem literature, however, came another theory to suggest why people join particular groups. Instead of self-esteem, this theory postulates that people are motivated by existential fears of death (or mortality salience) to cling to the worldview their group provides. As a result of this death anxiety, the theory says that we are motivated to defend and promote our worldview in the form of ingroup bias (Greenberg et al., 1990; Rosenblatt, Greenberg, Solomon, Pyszczynski, & Lyon, 1989). Although empirically, thinking about one's own death has been associated with greater liking toward ingroup members and dislike toward outgroup members (Pyszczynski et al., 2006), as well as upholding salient cultural norms and values (Gailliot, Stillman, Schmeichel, Maner, & Plant, 2008), other studies suggest potential death anxiety buffers, such as identity importance (Castano & Dechesne, 2005). Thinking about one's death (for most people) is a scary thing; there are all sorts of questions, such as how, when, and what next? However, other research suggests that instead of our groups providing an anxiety buffer against death, it may very well be that our groups provide us with a mechanism for reducing the uncertainty that death imposes upon us. Not surprisingly, another theory that stems from social identity offers a different hypothesis than the death anxiety one. Uncertainty-identity theory suggests that individuals are motivated to join groups in an effort to reduce felt uncertainties in the world around them (Hogg, 2007, 2008, 2011; Hogg, Hohman, et al., 2008).

Ambiguity and uncertainty can be serious threats in life. To be sure, uncertainty is not necessarily negative; in many instances, we seek out uncertainty by traveling to new and unknown locations, or trying new things. However, too much uncertainty can be aversive. Most people tend to seek out ways to alleviate any aversive uncertainty. Empirical research has suggested that one way to alleviate such uncertainty is to strongly identify with a group that is important and self-relevant (see, e.g., Hogg, 2006, 2007, 2008, 2011; Hogg, Sherman, Dierselhuis, Maitner, & Moffitt, 2007; Mullin & Hogg, 1998, 1999). By identifying with one's group, turning to the prototypical group members for guidance offers assurance and validation given that prototypes and norms are shared by group members. Indeed, when people feel more uncertain, they look to those groups that are cohesive with clear guidelines and norms (Hogg, Meehan, Parsons, Farquharson, & Svensson, 2006; Hogg, Sherman, et al., 2007; Mullin & Hogg, 1999), sticking more closely to group social norms (McGregor, Zanna, Holmes, & Spencer, 2001), and even adhering to more extreme group norms (Hogg, 2004; Hogg, Meehan, & Farquharson, 2010; Hogg, Meehan, et al., 2006).

Uncertainty that motivates us to identify with self-relevant groups and to act on behalf of those groups, even extremely, is based on context (Hogg, Adelman, & Blagg, 2010). In other words, uncertainty-identity theory goes above and beyond theoretical frameworks focused on personality differences (in which people are more or less likely to avoid uncertainty). For example, in research conducted outside of the laboratory in Israel (see Adelman, Hogg, & Levin, 2009), Muslims reported the degree to which they felt uncertain about themselves, as well as about the Israeli-Palestinian conflict. In addition, they reported importance of their national social identity, as well as support for political violence. Analyses showed a positive relationship between Palestinian identity importance and support for the use of suicide bombings. However, this was a function of felt contextual uncertainty. Greater support of suicide bombings was found among those with highly important Palestinian identities, but only when they also felt

more uncertain about the Israeli-Palestinian conflict (see Figure 1), or uncertain about themselves. In fact, those Muslims with a very important Palestinian identity but felt little uncertainty were more likely *not* to support the use of suicide bombs. On the other hand, those Muslims with a very important Palestinian identity, coupled with strong feelings of uncertainty, were more likely to very strongly support the use of suicide bombs; average scores were more than double in this uncertain group than in the non-uncertain group (Adelman, Hogg, et al., 2009). The take-home message here is to remember that social identities play an important role in intergroup conflict, but other factors contribute to whether or not violence is supported and utilized. In the case of Palestinian Muslims in Israel, when feeling uncertain about the conflict, they showed twice as much support for violence than those less uncertain.

Figure 1. Justification for the use of suicide bombs as a function of conflict uncertainty and national identity importance (Muslims in Israel, $N = 101$)



Note: Mean difference at High Importance: t(32.44) = -3.31, p = .002

There are growing fears among many in the US and Saudi Arabia that AQAP is in a position to exploit, if it is not already exploiting, the ongoing instability in Yemen to recruit new fighters, organize new attacks, and execute them both regionally and globally (Blair, 2009; "Quick Take: al Qaeda and its Affiliates Exploit Yemen Unrest", 2011). This fear is exacerbated by the fact that Yemen is not only governed by a weak central government (and thus ineffective leadership, as we shall see), but that its government has long-standing separatist concerns in the south and truce negotiations to complete with Shi'a rebels in the north. In addition to the ongoing internal instability within Yemen, the recent death of senior Al-Qaeda leadership may put Yemen and AQAP at the center of violent extremist organization and activity going forward. Some analysts suggest that AQAP's capacity to threaten the U.S. is likely to remain robust, even if Yemen experiences broad structural change (Zimmerman, 2011). The recent waves of counter-government protests in Yemen are evidence of the volatility in the desert nation and may result

in drastic government changes if not, at least, a crackdown on dissent. Indeed, during the months spent writing this report, Yemen experienced significant and volatile unrest, creating an atmosphere of uncertainty. Many members of President Saleh's ruling congress resigned, while the President himself insisted that he will remain in power until the end of his term in 2013. With the subsequent bombing of the Presidential palace on 3 June and the severity of Saleh's injuries surrounded by inconsistent statements regarding his health and capabilities, his ability to continue his reign of power was particularly uncertain and remains uncertain today (despite Saleh's continued claims to the contrary).

Social Identities Provide Social Norms

Theories of social influence are well-poised to inform our understanding of terrorist organizations, in general, and recruitment of willing would-be terrorists more specifically. In classical social influence literature, there are two types of influence: normative and informational. Normative influence involves taking in cues from similar others upon which we can model our own feelings, opinions, and behavior in an effort to gain social approval and acceptance. Informational influence involves the way we seek out factual cues in an effort to be "correct" (see Deutsch & Gerard, 1955; Kelley, 1952; for current usages, see Cragin & Gerwehr, 2005; Hogg & Abrams, 1988). Although normative and informational influence are two separate constructs, most research likens the two to a dual process in which they exert influential forces together. However, this dual process viewpoint is problematic, since it takes the focus off of inherent group processes in social influence, such as why people conform to others' views, while at the same time does not address the reason why not all people conform (Hogg, 2010; Hogg & Abrams, 1988; see also Crano, 2000). If we look at social influence and conformity from a group processes perspective, then we can see these social influence processes in a new light. "Rather than being influenced by others because we are dependent on them for social approval and acceptance [i.e., normative influence] or for information that removes ambiguity and establishes subjective validity [i.e., informational influence], we are influenced by others because we feel we belong, psychologically, to the group, and, therefore, the norms of the group are relevant standards for our behavior" (Hogg, 2010, p. 1183).

The power of norms

Norms are another one of those magical entities that we attend to every day without giving any thought to them whatsoever. For the purposes of understanding terrorist organizations and recruitment, we define norms as a group phenomenon that provides a frame of reference in any particular situation. For example, group norms often dictate how we should behave dependent upon whether we are at the weekly leadership meeting, prayer session, or collegial dinner. "Norms capture attributes that describe one group and distinguish it from other groups, and because groups define who we are, our identity, group norms are also prescriptive, telling us how we should behave as group members" (Hogg, 2010, p. 1174). Thus, the how and why norms are an important part of society is clear; norms provide the rules and standards for what is considered appropriate and what is not, whether "it" is an attitude, a belief, or an act. In this way, norms provide a societal-value perspective of the world, as well as a functional purpose (Cialdini & Trost, 1998). Keep in mind, however, that norms are social constructions of shared beliefs. In other words, norms are meaningless until a community invests and breathes power and meaning into the norm. This is an important point to consider when thinking about how norms are transmitted; norms *must* be shared.

The way that norms are communicated, or shared, occurs in a variety of ways, including storytelling, education, customs and rituals, and even through nonverbal communication or imitation. It is common-knowledge that children often imitate their parents. Thus, the norm in which family members are abusive to others is interpreted by children and passed down through generations. Another example is the norms regarding military service or political action that is carried out by one's family and friends. The power of norms is abundantly clear through classic studies of norm formation. The seminal work of Sherif (1936), in which he takes advantage of a perceptual illusion to study how norms arise, is worth a brief mention to put things in perspective.

Where Do Norms Come From?

Picture yourself in a completely darkened room, looking at a dot of light. As you continue to fix your gaze on the dot of light, it will begin to jump and move about.[3] Sherif and colleagues (1936, 1937) asked participants to come in to the laboratory and estimate how much the light moved. Alone, a person quickly hones in on a small range of movement estimates, providing a personal norm, or a frame of reference with which to judge future scenarios. When two participants perform this task together, their estimates converge toward a common best estimate range between them. In other words, a reference standard, or norm, of estimated movement based on social interaction emerges. What is more, Sherif's experiments demonstrated that when we find ourselves in an ambiguous and uncertain situation, we form such group norms as a means of sharing a frame of reference.[4] Notably, situations such as these are ideal settings for perpetuating extreme norms. When accomplices to the experimenter participated and provided extremely large estimates of movement, the unknowing (naïve) participant soon brought his own estimate in line with the exaggerated estimate. More tellingly, this extreme estimate continued to provide the norm for subsequent generations where accomplices were rotated out and new naïve participants rotated in (Jacobs & Campbell, 1961; MacNeil & Sherif, 1976). Thus, not only is the formation of the norm a shared interactive experience, but the norm's propagation through the group, including subsequent groups, also relies upon shared interactions. Research has shown the influence of others in conferring or obtaining group norms in a variety of settings, such as political views in college (Newcomb, 1943; A. E. Siegel & S. Siegel, 1957), a commons dilemma game in the laboratory (Rutte, Wilke, & Messick, 1987), binge eating in sororities (Crandall, 1988), and community members in a riot (Reicher, 2001). In these studies, people had a greater tendency to acclimate themselves in accordance with what the prescribed norm was around them; conservative freshman became more liberal in a liberal college setting, or vice versa; gamers became more or less selfish, depending upon the behavior their game-mates displayed; bingeing increased among first-year sorority members and was more prevalent among the more well-liked and well-connected sorority members; and community members looked to other typical community members to inform how they should behave during a riot.

The common theme throughout the majority of these studies is the central role of the group in individual's behavior and attitudes. Individuals look to others for cues as to how to behave, particularly when there is a degree of uncertainty involved. Recall that when people feel uncertain, they more strongly identify with the group that is important around them. In a

[3] This is a perceptual illusion known as the autokinetic effect.

[4] If you are thinking that uncertainty and identity may be two factors that influence such close consensus to a group norm, keep reading! And see also the section below, *Norms and conformity*.

laboratory setting, that might be the group in which you are part of an experiment. In other settings, it may be your newfound college classmates, sorority sisters, or neighbors. When you are part of a group that is important to you, this conformity phenomenon will be even more pronounced as you seek to fit in with your group members and do the "right" thing. A telling example of how norms play out in conflict and war comes from recruited soldiers' testimonies. Notably, what these soldiers indicate is that "people sign up because they *want to* and because *at a group level* they believe *it is the right thing to do*" (Haslam, Reicher, & Platow, 2010, p. 48, emphasis in original).

Social Identities Provide a Model

How do we know what is "the right thing to do"? Being part of a group offers a sense of sameness; group members may dress similarly, talk similarly, even think and act similarly. Naturally, the degree to which we are the same will vary to some extent. How is it, then, that all kinds of unique characters can come together and be as one group? Once we distinguish the differences between groups ("us" versus "them") and the similarities within groups (what makes us "us"), we turn to our group for appropriate norms in any given situation. We saw how norms are the result of social interactions and passed down through generations via a variety of means. But what motivates us to cling to our group norms? Adhering to such group norms has been linked to strength of group identification, such that the more strongly one identifies with a group, the more likely he or she will act according to group norms (Hogg & Smith, 2007; Terry & Hogg, 1996). Continuing with this line of reasoning, we can think of group norms as representing prototypes, the fuzzy attributes that dictate group characteristics. Likewise, we can think of group members as being more or less prototypical of the group. The prototypical group member provides the standard behavior and attitudes to be adopted by all other group members (Hogg, 2006). The extent to which we believe we embody our group prototype provides greater insight into the world around us and how to live in it. A group with a clear prototype is often a group that is homogenous and well-structured, with clear guidelines about who belongs and who does not (Hogg, 2005). Prototypicality has been empirically linked to how much people like others in their group; the more prototypical we are of our group, the more positively we will be rated and trusted (Hogg & van Knippenberg, 2003; Hogg, Fielding, & Darley, 2005; Marques, Abrams, Paez, & Hogg, 2001). Individuals who are less prototypical of their group are often less influential and even ostracized from the group (Hogg, 2005; Marques, Abrams, et al., 2001). Prototypicality is a crucial component of conflict, insofar as group members wish to be well-liked and respected rather than marginalized from their group. Upholding the prototype by adhering to violent or extreme group norms may be vital to terrorist groups' enduring community support.

Empirical evidence highlights the potential role that protoypicality plays in group behavior, such as collective action. Sturmer and Simon (2004) found that, as we would hypothesize based on social identity theory, identification with groups across a broad range of social issues (quality of life for older adults, gay rights, and discrimination against overweight individuals) is associated with collective action on behalf of that group.[5] The more interesting finding from this research, however, goes one step beyond the identification-collective action link. The researchers

[5] Collective action was measured by the authors as either "collective-protest activities", or "organizational activities". The former included activities such as participating in public marching and parades, rallies, information stands, petitions, or boycotting; the latter included taking part in organizational activities such as assuming office, fundraising, organizing public campaigns, or recruiting new members.

discovered that identification with *the movement itself*—that is, with improving quality of life for older adults, with attaining equal rights for gays and lesbians, and with fighting discrimination against overweight individuals—was the driving factor motivating individuals to participate in protests (Sturmer & Simon, 2004). We can think of this another way; that although people may identify with a particular group, they may not feel that they are a prototypical member. Those who do feel more prototypical of their group will attempt to act as a prototypical member should, and in ways that defend and promote that social identity. In so doing, people are able to contribute to the group, resulting in collective benefits for the group.

Just as social identity and norms are dependent upon context, so too is prototypicality, but prototypicality depends on both the context, as well as the groups that are being compared (ingroup to outgroup) (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987). For example, consider the standard group, say one's political party. In any such group, most people clump around the middle of the group in terms of attitudes and beliefs. But there are also group members who may be more to the right or left of center. The extent to which the more "extreme" individuals are perceived as prototypical of the ingroup is a function of who the comparative outgroup is. If the comparative outgroup is more fundamentally to the right in their views, then an ingroup member who is usually extreme to the left will be considered *more* prototypical of the ingroup than those to the right of center. In the same vein, the more extreme "right" ingroup member will appear *less* prototypical of the ingroup. Again, any ingroup member's prototypicality is a "function of the broader social context within which that group is defined" (Haslam, Reicher, & Platow, 2010, p. 87). The question is, in Yemen, where would the prototypical Yemeni fall? Are the leaders of AQAP more representative of Yemen, or is President Saleh more prototypical? The growing opposition to Saleh in Yemen would suggest that Saleh is not perceived as prototypical amongst all Yemenis.[6] However, to have a solid understanding of the dynamics, more field research is required that would elucidate how such varied and fractured opposition movements come together.

Norms and Conformity

It is not easy to pinpoint exactly where norm transmission (and marching to the beat of the prototypcial drum) stops and conformity begins. Nevertheless, these ideas have also played out in other empirical pursuits. One such classic endeavor is known as the Asch line judging experiments (Asch, 1951, 1956). In this experimental set-up, participants saw one line presented on a stimulus card. They then saw three reference lines and picked the one that best matched the stimulus in length. Initially, Asch's cards made this easily discernible such that when participants judged alone, perfection was nearly constant. However, when in a group in which numerous accomplices select the obviously wrong choice before the participant, perfection flies out the window, right along with the participant's individuality. In the experiment, participants judged 18 lines in all; for 12 of those judging trials, the other "participants" gave the wrong answer. In those situations, where participants knew the right answer, only 25% of them held steadfastly to that right answer. The remaining 75% conformed to the group's judgments at least once. In fact, half of the participants conformed at least six or more times throughout the process.

[6] We will come back to this idea of a united opposition in the leadership discussion below. Indeed, it appears that AQAP has seized this opportunity to further distance Saleh from the average Yemeni.

Asch's original experiments suggested that conformity was a function of several factors, such as group size (three appeared to be the magic number for eliciting the most conformity), unanimity of the group toward the "norm", and whether the participant provided a public (i.e., verbal) response, as opposed to a written one. Further studies have extended and replicated this work in numerous ways that further examine some of these factors. For instance, researchers have modified the accomplices' roles and influence (Deutsch & Gerard, 1955), the physical presence of experimenter accomplices and the context of the judging (Crutchfield, 1955), as well as the country in which the experiment was conducted (Bond & Smith, 1996; Smith, Bond, & Kâğıtçıbaşı, 2006,) all resulting in variations in the extent of conformity expressed in the laboratory situation. The take-away message is that group opinions are important to individuals who find themselves in ambiguous situations, regardless of whether a group is physically present; but perhaps more importantly, that conformity is also a function of the seriousness and relevance of the group norm displayed.

But what about social identity? Given the prevalence and relevance of this construct, it should not be surprising that social identities matter in matters of conformity. Indeed, the review by Bond and Smith (1996) found that in non-western collective societies, conformity in Asch-replicating experiments was higher than in western individualist societies. Others have found that identity threat increases conformity for high identifiers (Jetten, Postmes, & McAuliffe, 2002). What these studies show is that social influence is not merely bowing to others' wisdom when we are unsure of the answer ourselves, nor bowing to please those around us. Rather, social influence is predicated on the strength with which we feel connected with those around us who may know more than we do, or whom we aim to please. A number of studies support the notion that belonging to an ingroup plays a pivotal role in conformity to one's ingroup and adhering to the group's polarized norms in the lab (Abrams, Wetherell, Cochrane, Hogg, & Turner, 1990; Hogg & Turner, 1987; Turner, Wetherell, & Hogg, 1989), as well as in the street (Reicher, 1984a, 1984b). Moreover, further studies have shown how uncertainty exacerbates this identity-norm adherence link (McGarty, Turner, Oakes, & Haslam, 1993; Smith, Hogg, Martin, & Terry, 2007).

Minority Influence

Empirical studies on social influence, such as those discussed above, have more often than not focused on the assumption that influence flows from a majority to a minority. On the other side of the influence literature, however, evidence suggests that dissenters and deviates from the group norm can also influence conformity. In multiple experiments, signs of dissent from the majority group or support to the lone participant reduced conformity levels (e.g., Allen & Levine, 1968, 1971; Nemeth & Chiles, 1988). Moreover, there are ample cases in everyday life wherein a minority group is able to exert powerful influence on the majority to affect social change. In the United States, for example, the civil rights movement began to build a stronger voice in the late 1940s, picking up steam following the stalwart Brown v Board of Education ruling for school desegregation in 1954, and eventually leading to the Civil Rights Act of 1964. It goes without saying that change was not immediate, nor easy, but the consistent (and consistently few) voices calling for equal rights in the U.S. ultimately ushered in a new social era. It is possible, then, to have either a majority or a minority influence. Clearly, though, the pathway to influence is not the same.

Majority groups enjoy the powers of social influence simply due to the sheer power of numbers. Typically, when confronted with an unknown, we look to others to point the way, as we saw in Sherif's autokinetic experiments. When hundreds of people believe X as opposed to one person believing Y, it is not hard to find your bearings with the majority X. But numbers alone are not enough to equal influence. We also saw that not everyone conformed in the Asch experiments. Recall that one-quarter of participants did not bend to the group's opinion at all. If numbers alone are not enough, what other factors play a role? Research has found that things like issue relevance and source legitimacy are rather important to social influence. In other words, is this an issue that is important and personally relevant? And, is the source of the opinion credible? Given an important issue from a reliable and credible majority source, influence will be stronger, more immediate, and long-term (see Crano & Alvaro, 1998; Crano & Seyranian, 2009).

Minority groups and opinions, on the other hand, are typically not automatically viewed as reliable or credible. Nevertheless, when such minority views are made known, they can have an influential effect by causing the majority to stop, think, and reassess their own beliefs and opinions. Such a process involves more than issue relevance and source legitimacy. Rather, minority influence processes factor in another important element: the social identity perspective. In other words, whether the minority opinion is part of one's ingroup or one's outgroup will shape the extent of influence (Crano, 2000; Crano & Burgoon, 2001; Hewstone, Martin, Martin, & Gardikiotis, 2010). Faced with a minority group that is viewed unfavorably, the majority will disengage without changing, and no influence is felt. However, if the minority influence comes from an outgroup that is perceived favorably, there is the potential for a delayed focal change. Of course, when a minority voice comes from within the ingroup, this offers another set of scenarios, depending upon the threat perception to the ingroup. In this case, if the minority voice is a threat to the group's identity, then the minority voice will be ostracized from the group. Otherwise, without any impending threat to the group, a minority voice from within may have the ability to change the tide (see the classic 1957 film, Twelve Angry Men).

In the context of violent intergroup conflict, an extremist viewpoint (in general, a minority viewpoint, insofar as a smaller percentage of the population subscribes to such views) may gain wide acceptance, often to detrimental effects, such as increased violent attacks and bombings. "The key to effective minority influence is for the majority to shift its level of social comparison to focus on intergroup comparisons with a genuine shared outgroup. … For example, a radical faction within Islam will have more influence within Islam if Muslims make intergroup comparisons between Islam and the West than if they dwell on intra-Islam comparisons between majority and minority factions" (Hogg, 2010, p. 1187). AQAP makes no qualms about comparing the righteousness of Islam with the insatiable appetite of the West, particularly America and Israel. The writings in AQAP's first issue of *Inspire* magazine drive this point home: "Because of the greed of the Americans, they have vital interests in the Arabian Peninsula" (al-Malahem Staff, 2010, p. 14). Referring to the failed underwear bomber, Umar al-Faruq Abdul Muţţalib, AQAP writes, "He managed to penetrate all devices, modern advanced technology and security checkpoints in the international airports *bravely without fear of death*, relying on Allāh and *defying the great myth of the American and international intelligence*, and exposing *how fragile they are*, bringing their nose to the ground, and making them regret all that they spent on security technology" (al-Qaedah Organization in the Arabian Peninsula, 2010, p. 5; emphasis added). Regarding Major Nidal Hassan: "Niđāl Ĥassan was not recruited by al-Qā`idah; Niđāl Ĥassan was recruited by American crimes, …America refuses to admit that its

foreign policies are the reason behind a man like Niđāl Ĥassan, born and raised in the US, turning his guns against American soldiers" (al-Awlaki, 2010, p. 57). In just these few passages, the minority AQAP opinion is heard loud and clear: that America and Americans are the products of their own demise, greedy, weak, and unintelligent. At the same time, Muslims are portrayed as brave, cunning, and strong. The *Inspire* magazine is an excellent example of how AQAP leadership utilizes social identity principles to persuade and influence. But to what extent does social identity matter for good leadership? The answer is: it matters a lot.

Charismatic Leaders and Social Identity

Classical literature on leadership focuses narrowly on the leader him- or herself. An overwhelming body of research looks to measuring leaders' personality traits, such as charisma (see, e.g., Conger & Kanungo, 1987; DeGroot, Kiker, & Cross, 2000; Fuller, Patterson, Hester, & Stringer, 1996) and narcissism (see, e.g. Maccoby, 2000; Rosenthal & Pittinsky, 2006; Sankowsky, 1995). Even terrorism research has parlayed the personality theory of leadership into a substantial body of work (see, e.g., Crayton, 1983; Davis & Cragin, 2009; Deikman, 2006; Pearlstein, 1991; Post, 1986; Post, Ruby, & Shaw, 2002; Strentz, 1981). In the organizational literature, one of the more prominent theories of leadership involves the notion of transformational leadership, or the idea that beyond simply being charismatic leaders, good leaders are able to affect positive change within their followers. Haslam and colleagues (2010) trace the origins of transformational leadership to political scientist James Burns (1978). In Burns' model of transformational leadership, he built upon existing models, such as Maslow's (1943) hierarchy of needs and Kohlberg's (1963) theory of moral development. In doing so, Burns was able to capture the factors directly related to leadership: that leaders rely on a collective, and that leaders inspire others to act because followers want to act. Ultimately, however, the research that emerged from this framework shifted the focus back to the individual rather than collective. As it is, much of the research that followed Burns' model took the individual focus and ran, either appearing as measurement studies (e.g., measuring the degree to which a leader is transformational via personality characteristics) or behavioral studies (e.g., what do transformational leaders do?) (see Haslam, Reicher, & Platow, 2010).

A Social Identity Theory of Leadership

While personality traits may be one method of assessing leaders and their leadership styles, it addresses only half of the picture. Over the past two decades, more attention has shifted from an individual personality-based approach to a group-based approach of the psychological study of leadership (Haslam, Reicher, et al., 2010; Hogg, 2001, 2010; Hogg & van Knippenberg, 2003). This is because "leadership is always predicated on *followership*, and the psychology of these two processes is inextricably intertwined" (Haslam et al., 2010, p. 2). We could say that social identity is the tie between leaders and followers, and we would be right, in a simplistic sense. Recall that social identity plays upon processes of conformity and social influence. By extension, social identity is relevant to leadership, as leaders themselves "are the focus of influence, the individuals who give orders, make requests, define norms and identity, and motivate normative behavior" (Hogg, 2010, p. 1189). Put another way, effective leaders are often entrepreneurs of identity, shaping themselves and followers as one ingroup, and working toward attaining that group's goals via their own prototypical ingroup behavior and leadership (see Haslam, Reicher, & Platow, 2010; Hogg, 2001). This is an important point, because it not only links influence with leadership, but it also points to how these phenomena are inextricably intertwined. Indeed, a

social identity theory of leadership is grounded in group processes that are fostered by social identity constructs, such as self-categorization and prototypicality (Hogg, 2001).

Breaking the Charismatic Leader Mold

After literally hundreds of empirical studies describing leader characteristics, it is easy to reach the conclusion that (like everything else in life) there is not really a one-size-fits-all effective leader's profile. In other words, not all good leaders are defined by a concrete profile that puts them a cut above the rest; they are not born effective leaders.[7] Understanding this idea allows us to hone in on the social identity theory of leadership, highlighting the relevance of group prototypes for effective leadership. First of all, ingroup prototypicality and effective leaders are directly linked. However, remember that the construct of ingroup protoypicality is not concrete and stable, but is both a function of relating to other groups, as well as a dynamic idea that changes in relation to the other comparison group. All of this is to say that we must go back to our understanding of social identity as an intergroup theory of behavior (including conflict) to shed light on our understanding of leaders and followers.

With the social identity theory framework in mind, Haslam, Reicher, and Platow (2010) offer four main principles that translate to effective leadership. First and foremost, effective leaders are the quintessential ingroup prototype. In other words, good leaders truly represent the group and what the group stands for. In research conducted by Hogg and his colleagues, the evidence supports this link: for group members who strongly identify with their group, leaders are perceived as more effective when they are more representative (i.e., prototypical) rather than when leaders possess any particular leadership schema traits (Hains, Hogg, & Duck, 1997; Hogg, Hains, & Mason, 1998). What is more, recall that prototypical group members are considered more trustworthy. When it is the leader who is prototypical, they reap the benefits associated with prototypicality, including being perceived as more trustworthy (regardless of their actual trustworthiness), more legitimate, and more influential (see Hogg, 2010). Prototypical leaders, then, are more effective because they are given more room to be innovative and creative because they are able to "diverge from group norms and be less conformist than non- or less prototypical leaders" (Hogg, 2010, p. 1196). When leaders are prototypical ingroup members, fellow ingroup members seek to conform to their prototypical leaders' model. However, to say that prototypical leaders are a key factor in effective leadership is somewhat oversimplifying the situation. Put slightly differently, it is not to say that charisma, trustworthiness, and fairness, all unique, individual attributes of a leader, are irrelevant. Rather, in a given context, particularly when a clear outgroup is involved, the leader who utilizes such opportunities and is perceived as more prototypical is more effective. This may be because trust appears as an outcome from the group, rather than as a precursor to being in a group. In a series of studies, researchers found a correlational relationship between perceived prototypical leaders and degree of trust in those leaders (Giessner & van Knippenberg, 2008; Giessner, van Knippenberg, & Sleebos, 2009). However, in an experimental phase of the research, participants found themselves in a team led by either a highly prototypical group leader or a non-prototypical group leader. The experiment demonstrated that the prototypical leader was perceived as more trusting than the non-prototypical leader. Furthermore, in scenarios where the groups failed at their task, participants

[7] The classical example of this is the Stanford Prison Experiment (Haney, Banks, & Zimbardo, 1973) in which unassuming students took on the roles of prisoners or guards, suggesting that leaders may be made out of the circumstances in which they land. See also Haslam & Reicher (2007) for the situation and identity perspective in another recent simulated prison experiment.

were more willing to forgive their prototypical team leader compared with the non-prototypical leader (Giessner & van Knippenberg, 2008; Giessner et al., 2009). Even when failing, prototypical leaders are held to a different standard and given more leeway to effectively lead the group.

Being a prototypical group member does not assure successful tenure at the helm, however. This is where the second principle of effective leadership comes in: good leaders convey to their followers that they are working for the group rather than for personal gain. That is, the collective interest of the group must be at the forefront of any good leader's campaign. It is not enough to simply represent the group; good leaders must also defend the group. But just as there is no mold for prototypicality (it varies as a function of each group), neither is there a set mold for working on behalf of the group. How, then, do we know that leaders are in it for the group rather than for personal gain? To assess this, leadership research has focused on two closely related leader attributes: trust and fairness. Because trust is associated with fellow ingroup members (and as we just saw, the more prototypical the person, the more trusting we are of that person), it follows that trusting our leaders enough to follow them is greater if our leaders are fair (see Hogg, 2010). Of course, the question is, fair to whom? If leaders are championing the ingroup, then as Haslam et al. (2010) suggest, the recipients of said fairness should solely be ingroup members. In this instance, an egalitarian, utopian fairness among both in- and outgroups simply will not cut it. In addition, there are multiple ways to be fair, be it the type of fairness seen in distributive justice (e.g., do all ingroup members receive their fair share?), as well as in procedural justice (e.g., are the decision-making "rules" applied fairly?). As we would expect, when leaders are perceived as being fair, they also receive greater support (for reviews, see Haslam, Reicher, & Platow, 2010; Hogg, 2010).

In one real-world example, researchers surveyed San Francisco residents regarding their attitudes toward how authorities might handle California's water shortage (Tyler & Degoey, 1995). In addition, the researchers assessed residents' attitudes toward their community (e.g., identification, pride, respect) as a measure of social identity. The results showed that perceived procedural justice by the water authority was associated with greater support for the authority. Moreover, leader fairness was related to greater trust in the authority, and likely acceptance of authority decisions, particularly among those with stronger identification with their community. This has important implications for communities that are struggling with scarce resources, a common occurrence in conflict regions. Not only is the municipal leadership key in making sure resources, such as water, are readily available to all community members, but their degree of fairness is directly related to how community members perceive them and, consequently, how much faith community members place in the leadership. In Yemen, where water shortage is an issue and people are strongly identified with their communities, perceived municipal fairness in allocating resources, such as water, could be directly related to more effective leadership, potentially resulting in a greater calm in the region.

Extending the San Francisco municipality findings and their implications, more recent research suggests that the relationship between perceived leader fairness (in terms of procedural justice) and leader support, measured in cooperation, is moderated by perceived leader prototypicality (De Cremer, van Dijke, & Mayer, 2010). In other words, cooperation was greatest when prototypical leaders demonstrated procedural fairness compared with non-prototypical leaders. Taking the first two effective leadership principles together, research studies such as these

support the notion that effective and influential leaders are not those who fit some cookie-cutter A-personality-type mold, but rather are those who both best represent the group and work on behalf of the group. Effective leaders are those who are fair, based on the norms and values of the group. We typically think of this as ingroup favoring behavior, as described above. However, keep in mind that if a group's values are more egalitarian, then leaders who act accordingly to that egalitarian group norm (rather than a purely ingroup favoring norm) will be more effective. What is more, prototypical leaders who promote the group interest (whether it is fairness to group members or fairness to all) are often *perceived* as being more charismatic, thereby receiving more support. Consequently, they are able to influence and enlist followers more easily to work toward the leader's goals.

"A leader's fairness and unfairness not only reflects the *existence* of communities, it also *creates* them" (Haslam, Reicher, & Platow, 2010, p. 135; emphasis in original). Continuing this line of reasoning, principle number three suggests that good leaders are able to shape the way the group thinks of itself. That is, prototypical, group-serving leaders provide the group with a vision. AQAP's English language *Inspire* magazine is an excellent example of this principle in play. Here we see how the AQAP leadership is reaching out to the English-speaking supporters to give them a vision, representing their ideas as the embodiment of who they are and what they want to be. Take for example an email response to a reader question in the fifth issue of *Inspire*: "For us to say that Obama is waging war against Islam, this doesn't fall under the news category; it is our worldview, which is actually shared by millions of Muslims across the globe who are not associated with al Qaeda or any jihadi groups" (al Qaeda in the Arabian Peninsula, 2011, p. 9). The writer continues several paragraphs later with, "We as Muslims are to always look at the world from a religious point of view if we are truly interested in success in the afterlife" (p. 10). Notably, the response is signed "Your *brothers* in al Qaeda in the Arabian Peninsula" (emphasis added). Such writings convey what it means to be Muslim and, more importantly, what values and beliefs (or worldview) to subscribe to as good Muslims. Moreover, the self-categorizing term of brothers indicates a sense of unity across individuals in the group. AQAP's *Inspire* writers are clearly working to shape the group's vision by providing a prototype on which followers can base their own behavior. Leaders are often considered to be entrepreneurs, but of what? Good leaders are excellent entrepreneurs of group identity, and AQAP's English-speaking leaders are doing an excellent job conveying this entrepreneurship to its English followership.

Finally, the fourth principle relates to what leaders do with their created, shared identities. Effective leaders are able to embed said shared identity in institutions and rituals. It is the shared sense of identity that is wrapped up in a shared history, as well as in a shared projected future. Haslam et al. (2010) highlight how this phenomenon is seen throughout history with the example of Syria post-WWI. At the time, the Syrian government and the Faisal monarchy were in power; they held quite a different vision for the rise of Syria than any of the oppositional movements. The government/monarchy sought to maintain a distinction between elites and commoners, as seen in 1919 when King Faisal returned from Europe and addressed his fellow elites in an extravagant display of wealth. The elites intended for Syria to emerge as a modern, liberal, and international community member. For the opposition group, however, the very idea of Syria was represented by the local population and tradition, not as a country that would bow to foreign imperialist wants and needs. In 1920, they staged a demonstration where the group became more than sum of its parts, mass commoners and elites alike. Over 100,000 marched through the streets to see King Faisal, who was summoned "to the street to meet with the demonstrators and

receive their 'national demands'" (Haslam, Reicher, & Platow, 2010, p. 185). Nearly a century later, we see similar processes occurring throughout the Middle East with the Arab Spring uprising. The questions remain the same: Who embodies the prototypical group identity? Are those currently in power representing and working on behalf of the group? Or are they working to maintain their own self-interests and wealth? Those who fall in the first category, who utilize the movement to evoke new institutions and rituals in line with ingroup interests (e.g., Tahrir Square, mass demonstrations, etc.) will surely take the lead in the years to come. In a recent audio recording released by AQAP, Wuhayshi claimed "that AQAP supporters are present in the squares of change and squares of freedom around the country" (Johnsen, 2011a). Whether or not this is entirely accurate is almost beside the point. What matters is that this is the message being conveyed, that AQAP's interests are for the common good and with the common good.

Messages are an important avenue for embedding social identities in reality. As with Wuhayshi's recent remarks, it is less important that the message be initially factual and more important that the message be received. The factual aspect will likely come later. A case-in-point is the way in which effective leaders can embed social identity by creating conflict. In other words, leaders (very easily and quite often) project a common enemy that serves to unite the group. Think of Serbian nationalism against the Croats in the 1990s; the Sinhalese against the Tamils; Palestinians and Israelis; European Americans and immigrants; and America and the "axis of evil", just to name a few instances. Though this is a tried-and-true technique that may be beneficial for the ingroup interests in the short-term, there may be long-term unintended consequences that result from framing social reality in terms of us (i.e., the moral good guys) and them (i.e., the evil bad guys). "Far from alleviating difficulties and tensions, hard-line international policy can actually promote conflict by cultivating support for extremist elements among one's adversaries" (Haslam, Reicher, & Platow, 2010, p. 93). Rather than eliminating the source of aggression against the west, the policy response merely stokes the flames of the fire "by uniting Muslims around a sense of illegitimate persecution, and a leadership that would avenge this perceived injustice" (*ibid.*). This is exactly what we see happening with the war on terror and throughout the English writings of AQAP in their *Inspire* magazine.

AQAP not only reaches out to English audiences in the West. At home, the group also targets Yemeni audiences through its Arabic language media and recruitment campaigns that allege, among other things, that President Saleh has looted the country from his lofty perch, caused poverty and rising prices for consumer goods, and oppressed the people in the interest of power (Barfi, 2010). These are notions that are already firmly rooted in Yemeni society and themes we see throughout the social psychology of social identity and leadership. Indeed, the method of embedding conflict described above need not be connected solely with negative outcomes on the stage of international conflict. That is, within one's own group, embedding conflict between the more prototypical versus the less prototypical members can serve to bring about change within the group. For example, when a leader is no longer perceived to be the prototypical group member, he can actually become the new ostracized outgroup enemy, as we see with the current opposition movement in Yemen to President Saleh. "What started small has now grown into a mass movement uniting, at least temporarily, the varied interests of Yemen's fractured opposition around the single demand that President Saleh leave office. Tribesmen came together with student activists, while southern secessionists echoed northern rebels. Even clans at war for years put aside their blood feuds in favor of a common front" (Johnsen, 2011b). Perhaps AQAP's most critical audience, and therefore source of recruits, is the tribes that shelter the

group in Yemen's eastern hinterlands. AQAP frequently extols not only its fighters, but their tribe as well, and fosters the notion that tribal autonomy is under threat from the Saleh regime (Barfi, 2010).

AQAP and Social Psychology

In the years leading up to, and in the years since its reorganization as AQAP, the organization has used a number of different tactics to recruit new fighters and supporters since 2006. Initially, the group's public relations in Yemen and Saudi Arabia consisted only of feeding local journalists with news of attacks and claims of responsibility. This was followed by sporadic posting of statements on popular Arabic-language web forums known to distribute propaganda from other branches of al-Qaeda. In 2008 though, AQAP's al-Malahim[8] media wing began producing its own high-resolution products. The merger of al Qaeda in Yemen and Saudi Arabia in 2009 continued the wave of new propaganda, from glossy e-journals to elaborate video productions. The flagship product was *Sada al-Malahim (The Echo of Battles)*. As of this writing, thirteen issues have been produced since January 2008, with each issue increasing in quality, both in terms of production and content. The e-journal is distributed through online channels familiar to al-Qaeda sympathizers and active supporters. As many analysts have characterized, the magazine extols violent *jihad* and those who have been "martyred" carrying out AQAP attacks (see, e.g., Johnsen's blog Waq-al-Waq for some insights).[9] The magazine also provides religious justification for AQAP's actions and ideological positions. For more pragmatic readers, the magazine provides detailed tactics and techniques for operational use and reviews of weapons. On occasion, it also includes political analysis highlighting perceived weaknesses or plights of the US and other Western states.

Both *Sada al-Malahim* and its English counterpart *Inspire* provide definitive social identity cues regarding prototypical behavior and beliefs. The magazines provide a cohesive group (e.g., "brothers") with clear guidelines for expected behavior (e.g., following the path of jihad). Thus, as we would expect from social identity theory, readers are provided an important identity with which to frame themselves and others in the context of the world. Readers can thus compare those who are like them (part of their ingroup) with those who are not like them (part of the outgroup). Consequently, as seen from experimental evidence, the readers will naturally tend to favor members of the ingroup to the extent that they will attempt to disadvantage the outgroup in favor of the ingroup. Moreover, the magazines often refer to the ways in which Muslims are tested by Allah. When readers are faced with uncertainties, such as the uncertainties in Yemen, the *ummah*, and the rest of the world, readers will more strongly identify with the group that is important to them, particularly if the group is cohesive, has clearly-defined boundaries, and clearly-defined worldviews or guiding norms. This appears to be exactly how AQAP's communications are designed: the magazines are filled with fellow jihadis explaining their own path to martyrdom; the leaders extolling the virtues of piety and Islam; and references to the uncertainty and unrest throughout the world are prominent.

[8] As described in the *E.J. Brill's First Encyclopedia of Islam 1913-1936* (Houtsma, 1927, pp. 188-189), the origins of this word are obscure; it does not appear in the Quran. Nevertheless, the root of the word *al-malahim* in Arabic refers to flesh and in old Arabic signifies decisive fighting, involving defeat, pursuit, and slaughter.

[9] Due to research constraints for this project, the authors have been unable to delve into the Arabic language media sources except for those interpretations published elsewhere by highly respected scholars such as Gregory Johnsen and Barak Barfi.

But who exactly reads these magazines? Curiously, most of the slick, glossy, and internet-based communications from AQAP appear to target potential foreign recruits and other elite, well-educated Arabs. Indeed, it may very well be that these tactics are used more for fear-mongering (particularly in the West and among the more secular Arab demographic that embraces western society), rather than as active recruitment aids. In Yemen, as in much of the Arab world, low literacy rates and the lack of sufficient telecommunications infrastructure make these communication products inaccessible for many.[10] Recruitment techniques within the less literate Yemeni communities most likely involve traditional communication networks to deliver simple hardcopy materials or spoken stories. Additionally, the content of messages at the local level appears to take a different angle by playing on local grievances with the government and living conditions, as well as on local Islamic tradition. In the same way that the glossy magazines communicate social identity norms using prototypical members and exploiting uncertainty, so too do these local messages. As we saw above, focusing on the current leaders in power as non-prototypical is an easy tactic for creating fissures within the group and opening up opportunities for the less powerful to ascend the hierarchy toward leadership. Further research is necessary to explore the actual impact that the organization's communication methods have on recruitment and in driving home the social reality of embedded conflict among both groups.

Possible Courses of Action

How can the U.S. counter recruitment actions of VEOs, such as AQAP? Remember that people will want to join AQAP and support the group's goals to the extent that AQAP is an important identity, that the goals fall in line with their shared norms, and they feel that the group provides benefits. Social identities are dynamic. They constantly change based on social cues and environment. Moreover, people hold multiple social identities. The degree to which one or several is more important than others is also a function of social cues and environment. AQAP may be able to successfully tap into people's desire to have a strong tie to that identity, given the present instability and uncertainty in the country. Consider AQAP's stance from their first issue of *Inspire* magazine: "Our objectives are driving out the occupiers from the Arabian Peninsula and purifying its land from them, establishing the law of sharī`ah, the establishment of khilāfah, spreading the call to the oneness of Allāh, defending against the transgressors and helping the weak" (al-Malahem Staff, 2010, p. 14). As these goals speak directly to the Muslim faith, this may strike a chord with individuals for whom their Muslim identity is very important. AQAP often turns to religious texts to justify their claims, as with the well-known "*hadith* urging Muslims to 'expel the polytheists from the Arabian Peninsula'" (Barfi, 2010, p. 7).

Contrast AQAP's own stated objectives with an outline of AQAP's goals provided by U.S. research analysts. In a report released earlier this year, based upon AQAP activities, the author finds that "overall, AQAP seeks to: attack the U.S. homeland.…; attack U.S. and Western interests in Yemen….; destabilize the Yemeni government….; and assassinate members of the Saudi royal family" (Sharp, 2011, pp. 14-16). The difference in the framing of these two sets of objectives/goals is striking. While AQAP grounds their objectives in terms of group-based processes and identity structures, the U.S. frames the group's objectives in terms of actions and desired outcomes. Both groups heavily rely on each other to sustain their respective narratives. Ultimately, each side exhibits behavior that confirms their preconceived notions and stereotypes

[10] According to the CIA World Factbook, 50.2% of the total population in Yemen is literate. Additionally, Internet users are 10% of the population.

about the other. Martha Crenshaw (1986) described this beautifully when she wrote, "a punitive government response may confirm terrorist expectations of coercive 'enemy' behavior, provide a needed reward of attention and publicity, and generate resentment not only among terrorists but among the larger political or ethnic minorities from which they sprang" (p. 400; and see also Crenshaw, 2000). This is what is commonly known as the self-fulfilling prophecy. Social psychological research on such behavioral confirmation highlights the ways in which belief can create reality (see, e.g., Snyder, 1984; Snyder & Haugen, 1994; Snyder, Tanke, & Berscheid, 1977). Theoretically, behavioral confirmation is a method of testing reality. By testing reality, our initial beliefs about those around us become the construct of reality.[11]

What does all this mean in concrete terms for the U.S.'s future courses of action? If we perceive ourselves as the target, how do we stop being a target? A recent report from the Homeland Security Policy Institute cites a number of factors, including AQAP's abilities, intent, and success record in attacking the U.S., in addition to the collapse of the Saleh regime, that together "suggest that an immediate escalation in drone operations and targeted Special Operations Force missions could rapidly mitigate the threat posed by AQAP" (Cilluffo & Watts, 2011a). Based on the theoretical framework described throughout this report, we must disagree with this suggestion and reiterate that such a move will not mitigate AQAP's threat, but will instead serve to enhance AQAP's image and message, thereby *prolonging* the threat that AQAP poses to the U.S. In line with Crenshaw's (1986) assessment, the use of drones perpetuates very clearly the distinction between ingroup hero and outgroup enemy. And, as Yemeni expert Gregory Johnsen describes in his blog (2011c), "the dead women, children and innocent civilians [from drone attacks] are … partly responsible for the influx of recruits AQAP has benefitted from in 2010 and 2011." What is more, U.S. drone involvement muddies the playing field by adding a third dynamic to an already complex intergroup conflict between Yemenis and minority terrorist groups. As Johnsen goes on to explain, AQAP does not receive a great deal of support from local Yemenis, yet the inevitable occurrence of civilian causalities from drone missions ultimately leads all Yemenis, AQAP included, to face a common enemy which unites the two dueling groups on common ground. This is particularly dangerous if, as Ciluffo and Watts claim, "the [Yemeni] populace has never been particularly pro-U.S" (Cilluffo & Watts, 2011b).

For these reasons, as well as for the empirical evidence we described throughout this report, the best course of action the U.S. can adopt is to take no forceful action in the field. The use of drones in the region is the clearest example of how our actions fulfill AQAP's prophecy and continue the narrative of foreign occupation. Furthermore, the U.S. should not attempt to infringe our own group norms onto someone else's. We must not try to overlay our own norms and morals, and ideas of democracy onto Yemeni culture. Instead, we should allow Yemen's own cultural values to build up their own democratic way of life, in whatever form that it takes. We have seen over the course of this year how the rising Arab youth are demanding greater freedoms and liberties from oppressive regimes. Who are we to stand in their way? The U.S. is very far from being a prototypical leader in this context. If anything, we need to stop acting as the common enemy for this group with the knowledge that we cannot tweak the situation over there to fit our own desired social reality.

[11] Behavioral confirmation comprises four links discussed by Snyder (1984). First is the link of reciprocity between two individuals who are interacting. Second is the coping strategy that each individual utilizes based on their initial beliefs about the other driving the interaction. Third is the individual's internalization of his own actions to his beliefs about his actions. And, finally, comes the preservation of his belief to the action.

Unintended consequences

The key take-home message from this theoretical review lies in its direct relevance to considering unintended consequences. In understanding all of these social psychological processes and what it means for influencing VEOs (both on the side that supports the VEO, as well as on the side that wishes to counteract the VEO), it is essential to remember the groups who are the active players. Although the United States is an ally to Yemen, the U.S. is still an outgroup member when it comes to Yemeni politics and culture. Consequently, the U.S. does not embody norms that most Yemenis (and especially AQAP members) would perceive as prototypical. Furthermore, any efforts to impose western norms and ideals onto Yemeni society would create even greater distance and hostility between Yemen and the U.S. (particularly among AQAP members). Recall the first objective Wuhayshi cited in *Inspire's* first issue is to drive out all foreign occupiers.

As an outgroup member, any U.S. presence in the region possesses little ability to influence local Yemenis, but offers much in the way of perceived occupation. Any instance of influence at any level (be it via local government agencies or external aid organizations) merely serves to perpetuate the perception of a foreign influence among locals. More importantly, regardless of whether the United States' actions and intentions are peaceful or harmful, the locals (and AQAP) will view such action as the United States pulling the strings of the local Yemeni government. Consequently, most U.S. influence actions will have little chance of achieving the desired outcome of quelling AQAP hostilities. A clear example of this type of fallout can be seen with the use of drones in Yemen. As Gregory Johnsen recently told NPR broadcaster Robert Siegel, the U.S. is not considering the whole picture: "essentially what happens is that the U.S. can kill as many commanders as it wants. But what's happening in Yemen is that these commanders are being replaced very quickly and bringing in more and more recruits. … There's an argument to be made that the increase in U.S. airstrikes actually serves to radicalize more individuals in Yemen, and make al-Qaeda in the Arabian Peninsula stronger" ("In Yemen, Will President Saleh Return To Power?", 2011). From the social identity evidence described in this report, Johnsen's assessment is dead-on.

Conclusion

Social identities are world-making resources insofar as they influence social movement, mobilization, and collective action. Social influence is wrapped up in social identity because those who are able to drive mobilization emerge from how group/category prototypes are defined. As such, the scale of mass mobilization is a function of how category boundaries are defined, and the direction of mass mobilizations is a function of how category content is defined. The key point is the reciprocal nature in which social identity and social context interact. So it is that we come full circle from our beginning discussion of social identity to our last discussion of the topic of leadership. Haslam and colleagues (2010) suggest that reality gives way to identity, which gives way to leadership, which gives way to reality. In other words, these intergroup processes are quite reactive. To put it another way, the social context shapes leadership by way of the group prototype. The group prototype dictates who most embodies the group norms, characteristics, and attributes. This prototype in turn dictates who has the opportunity to exert influence. Effective leaders make this a proactive process by attempting to shape the social context, thereby making himself more prototypical (Haslam, Reicher, & Platow, 2010). Keep in

mind, however, that although prototypicality is important, it is not the be-all and end-all insofar as prototypical leaders are afforded greater leeway in representing and leading the group. When a prototypical leader becomes too distant from the group, then the perspective of prototypicality may be reduced/questioned by followers, and they could be ousted.

Out of this report, several recommendations spring to mind that provide a potential avenue on which to move forward. All involve further research:

Recommendation: Focus research efforts on why people join AQAP from a demographic perspective. First and foremost, we should focus research efforts on why people join AQAP, not only from a Yemeni perspective, but also from the perspective of the demographic that AQAP targets in its communications. To understand why people join violent extremist organizations such as AQAP, we must recognize the ways in which an organization like AQAP is able to tap into people's desire to share an important social identity (i.e., of belonging to an ingroup).

Recommendation: Conduct further research on the role and type of uncertainty. When external factors, such as conflict and regional instability prevail, locals on the ground may be looking for ways to alleviate any felt (or perceived) uncertainty. Belonging to a group is one way of alleviating uncertainty, particularly when groups are cohesive with clear boundaries and guidelines. AQAP may be, whether intentionally or not, tapping into the community's felt uncertainties. Little is known about the role of uncertainty in this particular conflict setting. This includes assessing all potential types of uncertainty, from personal individual uncertainty (e.g., where can I find work), to group resource uncertainty (e.g., will we have access to resources such as water), to group stability uncertainty (e.g., will Saleh step down?). By identifying the types of uncertainty, we can develop ways to decrease the negative effects that tend to result from such uncertainty.

Recommendation: Conduct research incorporating a social identity framework of leadership. Little is known about local Yemeni perceptions, let alone diaspora perceptions, on AQAP's leadership. The majority of leadership studies place too much emphasis on leader traits. Armed instead with the knowledge of effective leadership grounded in group processes and social identities, future research should extend laboratory findings in more applied settings, including in conflict situations.

Recommendation: Conduct additional research on the role of social identity constructs such as prototypicality and the effect of multiple identities. Social identity theory provides a rich framework to assess group dynamics such as cohesion, leadership, and attitude-behavior link that were "traditionally assumed to result only from personal or interpersonal qualities of the group members or context" (Abrams & Hogg, 2004, p. 103). In the context of VEOs, further research may well include the effects of social identity complexity, ingroup projection, or both. Social identity complexity refers to the degree of perceived overlap between two social identities (Roccas & Brewer, 2002). Research has found that people with high overlap (i.e., low complexity) are associated with less tolerance toward outgroups (Brewer & Pierce, 2005). Ingroup projection refers to the degree to which two groups who share an overarching identity "project" their own subgroup's characteristics onto the overarching group, thereby exacerbating group differences and enhancing group conflict (Mummendey, Kessler, Klink, & Mielke, 1999; Mummendey, Klink, Mielke, Wenzel, & Blanz, 1999; Waldzus & Mummendey, 2004; Wenzel,

Mummendey, & Waldzus, 2008). A plethora of studies support the notion that individuals will view their own group as more characteristic of a superordinate group (e.g., Germans feel they are more prototypically European than Poles are). Moreover, this difference in perception between the two groups who are part of an overarching common group identity is related to more negative evaluations of an outgroup (Kessler et al., 2010; Machunsky, Meiser, & Mummendey, 2009; Waldzus, Mummendey, & Wenzel, 2005; Waldzus, Mummendey, Wenzel, & Weber, 2003).

To the extent that potential AQAP supporters are searching to alleviate uncertainty by more strongly identifying with a close-knit group that holds shared norms and prototypical ingroup leaders, this is where U.S. efforts may best be focused. The general lack of knowledge regarding these social psychological processes is currently a detriment to informing policy and future courses of action. Because of this, the first essential course of action is to focus on quality research conducted among those populations who are most at risk of joining AQAP. By examining how and when felt uncertainty coupled with perceived prototypicality, strength of ingroup identification, and perceptions of leadership interact to influence support for and active engagement in VEOs, we may be able to more accurately deal with counter-methods to dissuade influence without placing the U.S. further in harm's way.

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Chapter Two

Moral Imperatives and Democratic Dynamics in the Fight Against AQAP in the Context of the Arab Spring: Policy and Research Challenges

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I. Introduction: Getting a Handle of the Different Dynamics at Play

This report identifies three different sets of dynamics at play with Al-Qaeda in the Arabian Peninsula that involve U.S. counter-terrorism efforts. While overt police or military action may be required to eliminate a handful of key AQAP leaders who continue to target the American homeland, more subtle forms of influence and support for local causes and actors may be needed to deal with regional threats posed by the vast majority of AQAP operations and personnel.

1. **AQAP's Global and Transnational Dynamics**. This especially concerns the workings of a trio of science-educated, ideologically-motivated AQAP, including two American citizens:

    - Anwar al-Awlaki. Raised until age 7 in the US while his Yemeni father was working on a PhD. He returned to the US in his early twenties to study engineering at Colorado State University before becoming an Imam in Denver and then San Diego. His internet and YouTube lectures on the individual duty (fard al-'ayn) of Muslims to attack the US and its citizens everywhere and anywhere are found on most of the world's jihadi websites and captured hard drives. He is today perhaps the most charismatic and inspirational spokesman for global jihad.

    - Samir Khan. Saudi-born Samir Khan grew up In Queens, NY and went on as a student to produce an internet blog from his middle-class parents' home extolling Osama bin Laden and Malcolm X in appeals to young American and European Muslims to be to listen to the message of violent jihad (Moss & Mekhenet, 2007). A self-seeker, he traveled to Yemen to hook up with AQAP in 2009 and became the producer of the English-language Qaeda magazine Inspire. The magazine aims to persuade young American Muslims to remain in their countries as a Fifth Column of "truth-seeking traitors," offering practical lessons on how to hit US soft targets (sniping attacks on highways, restaurant bombings) (IPT News, 2010) and advice on acquiring chemical and biological weapons of mass destruction for use against American cities (Public Intelligence, 2011).

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- Ibrahmin al-Asiri. AQAP's master bomber was a top chemical engineering student at King Saud University before dropping out to fight against coalition forces in Iraq. After joining AQAP, he sent his brother Abdullah to die on a failed suicide mission using the first high-explosive (PETN) underwear bomb in August 2009 against Saudi Assistant Minister for Security, Prince Mohammed bin Nayef. He then helped to prepare a London-educated Omar Abdulmutallab, son of an elite Nigerian banker, in a failed attempt to bring down a Detroit-bound airplane with an underwear bomb on Christmas Eve 2009 (BBC News, 2010). Some of al-Asiri's recent innovations include concealing bombs in print cartridges carried in the cargo hold of US-bound planes and reported plans to surgically implant explosives into the bodies of passenger bombers.

For the most part, this is an elite group with little direct tie to disaffected Yemeni youth. Unclassified research by former CIA case officer and forensic psychiatrist Marc Sageman suggests that this trio and the small group around it should be the primary, and perhaps unique, targets of US counter-terrorism efforts against AQAP (Sageman, 2011). However, Juan Zarate, former Deputy Assistant to the President for Combating Terrorism suggests that al-Awlaki and company are likely acting with the support of other AQAP leaders and that US counter-terrorism efforts should cast the net more broadly (Zarate, 2011).

In any event, overt police or military action may be required to eliminate the handful of key AQAP leaders who continue to target the American homeland. This may also be the best way to disrupt the dynamic of a hybrid social network that involves a few people in small and shifting territorial safe havens who give advice to a much larger internet audience scattered across America's homeland.

2. **AQAP's National and Local Dynamics.** This derives from the political and tribal machinations of AQAP founders: Yemeni leader Nasir al-Wuhayshi and military commander Qasmi al-Ryami, and Saudi deputy leader Said Shihri. This subsumes the vast majority of AQAP operations and personnel, including foot-soldiers and local youth. Although the ultimate aim is an Islamic Caliphate over the entire Arabian peninsula (eventually including Israel, Palestine, Syria, Iraq and Jordan) and control of oil supply from the Middle East and Persian Gulf, their current tactics and operational strategy primarily aim at: forming opportunistic alliances to bring down the Yemeni government and replace it with a theocratic state, crippling international shipping in the Gulf of Aden and hindering access to the Red Sea and Suez Canal, and destabilizing the Saudi regime for an eventual takeover.

   - As with the al-Qaeda core, treating AQAP's first dynamic probably requires muscled counter-terrorism efforts and perhaps overt military action on the part of the U.S.to neutralize a few very dangerous AQAP planners and operatives.

   - By contrast, engaging AQAP's second dynamic may call for subtle forms of influence and support for the Arab Spring that is carefully crafted to local circumstances.

3. **A counter "Democratic Dynamic."** This is concerned with how the US might hope to solidify likely local support for the Arab Spring in ways that encourage its grass-roots drive for representative government, individual rights, and other freedoms (Press) and obligations (tolerance of minorities) that are consistent with core American values.

    - As AQAP itself seems to understand, the most effective way to radicalize (and, in fact, also to de-radicalize) people towards (or away from) violent extremism is primarily through peer-to-peer and generation-to-generation messaging and activation of local social networks. Activation occurs by creating morally powerful messages that generate outrage (or empathy), and motivate commitment to action among family, friends and fellow religious travelers that can be all out of proportion to likely prospects of success. By contrast, a near exclusive reliance on government-to-government relations, which are focused on overt military action and developmental programs that are not created by and for the people themselves, may prove a poor competitor in the current context.

In relation to (C), the report also examines past practices and future implications of US reliance on the authoritarian old guard versus youth-driven democratic forces in the region, and details:

II. AQAP and the Arab Spring: Opportunity and Challenge for the U.S.

The Arab Spring creates a brief opportunity for the US to demonstrate its moral leadership by gearing counter-terrorism efforts to a "democratic dynamic" that creates the conditions for people's movements to earn their society's leadership position. This can be a less costly but more promising framework for CT efforts than "nation-building" in enhancing US security and influence, while reducing military and foreign aid expenditure.

There is a startling difference between visions and interpretations of the Arab Spring among participants in the countries where it is occurring, including Yemen, versus among the leaders of those countries and in the United States: ***Even a cursory perusal of YouTube videos, twitter messages, facebook posts or internet blogs reveals very little, if any, mention of al-Qaeda among the protestors and their supporters, but ever-present expressions of concern about al-Qaeda on the part of Arab leaders and the United States.*** Indeed, the most persistent messaging about al-Qaeda among the protestors and their supporters is that the leaders they are opposing will try to keep themselves in power by playing on the fears of the United States about an al-Qaeda assault on its homeland, despite the fact that no successful al-Qaeda attack has occurred here since 9/11.

To be sure, there have been several dangerously close attempts, most significantly by AQAP, which continue to innovate daring methods of potentially devastating delivery. But ***it would be unfortunate if the United States persisted in maintaining an overriding focus on government-to-government military action and aid, as well as accompanying programs of developmental assistance. For, such policy risks reinforcing the very types of repression and patronage that millions of young Arabs are spontaneously rising up against. Even in the short run, such a policy could help to generate renewed al-Qaeda growth, especially in the peculiar local***

conditions of Yemen. And this, precisely when, as Secretary of Defense Leon Panetta stressed, al-Qaeda appears closest to defeat through irrelevancy and loss of most of its core leadership, including its most charismatic attractor, Osama bin Laden (Cloud, 2011).

As AQAP itself seems to understand, the most effective way to radicalize (and, in fact, also to deradicalize) people towards (or away from) violent extremism is primarily through peer-to-peer and generation-to-generation messaging and activation of local social networks. Activation occurs by creating morally powerful messages that generate outrage (or empathy), and motivate commitment to action among family, friends and fellow religious travelers that can be all out of proportion to likely prospects of success. It is through this cognitive and social process of moral messaging and activation that larger "brotherhoods" arise, able to act with a potency way beyond the capabilities of family and tribal groups of kith and kin. By contrast, a near exclusive reliance on government-to-government relations, which are focused on overt military action and developmental programs that are not created by and for the people themselves, may prove a poor competitor in the current context.

Of course, many in our political and defense establishment recognize "the transformative change sweeping North Africa and the Middle East," and that the grass roots uprisings of the Arab spring pose a direct and potentially game-ending challenge to the appeal of al-Qaeda's central narrative (White House, 2011). Driven by tech-savvy youth, Egyptian protestors were able to peacefully accomplish in 18 days what al-Qaeda violently failed to do in as many years of violent effort and change the leadership at the core of the Arab world. Moreover, the change was made without having to violently confront "the far enemy," the United States. ***Al Qaeda's concerted effort since the start of the Arab Spring to refocus attention on the United States may be given a strong boost if the United States maintains its near-exclusive government-to-government strategy and, particularly if it continues to be aligned with the political and military remnants of the old guard, rather than pursue Counter Terrorism within a moral framework consistent with Arab Spring aspirations.***

Another remarkable feature of the current wave of uprisings is the overwhelming expression of fundamental values that the United States holds sacred. In the words of the Coordinating Council of Yemeni Revolution for Change these include: "basic human rights, equality, justice, freedom of speech, freedom of demonstration, and freedom of dreams" (National Yemen, 2011). What the protestors fear with some historical justification, is that when it comes to a balance between upholding such values and security, internally the United States will generally weigh in on the side of its values, but externally it will heavily weigh on the side of its own short-term security rather than the long-term security of people with whom the United States has to partner in order to reduce the terrorist threat to a tolerable nuisance (Coordinating Council of Yemeni Resolution for Change, 2011). (Zero tolerance is not a rational option).

But ***perhaps the greatest opportunity and challenge for US counterterrorism efforts against al-Qaeda in general, and AQAP in particular, is the direction that Arab Spring will take in Yemen and throughout the region***. It may now be paramount to the security interests of the United States that Arab Spring succeed in bringing genuine democratic change to the Middle East and North Africa, albeit in forms of democracy that likely will be somewhat alien to many in our society insofar as they uphold "Islamic principles and values" that people across the region say they want represented in government, with a particular emphasis on dignity (*qarama*)

and social justice (*'adl*). (Still, a recent survey indicates that majority of Yemenis prefer democracy, more than double the number who prefer a theocratic state) (Langer, 2011).

As Juan Zarate and David Gordon (2011) note in a recent issue of *Washington Quarterly*, al-Qaeda leaders are betting hard that the Arab Spring will implode:

> "The failure of the Arab Spring could produce a profound sense of disappointment among an entire generation of Arabs. Amid this despair, [al-Qaeda's] message that armed struggle against the West is the only viable path to reform could find fertile ground."

The authors further argue that in the current climate, with the suspension of counterterrorism operations weakening direct military pressure and a more permissive atmosphere for all forms of ideological expression, al-Qaeda could be poised to rapidly turn disappointment to its advantage. Indeed, this appears to be happening in parts of South Yemen, where the central government has practically collapsed, grievances have remained unaddressed, and unrest and uncertainty prevail. There, AQAP is attempting to set up a theocratic state with assistance, or at least tolerance, from an array of disaffected groups.

The critical issues thus become:

- ***What can the United States do to keep the hope of the Arab Spring alive in Yemen without too strongly embracing, and so strangling, the movement in perhaps another "nation-building" project?***

- ***What can the United States do to keep the pressure on AQAP without too strongly relying on, and so reinforcing, remnants of the political and military Old Guard?***

- ***How can we deal with the diverse and popular non-violent Islamic groups and currents in the region in order to ensure that they remain non-violent and tolerant of representative government and individual rights?***

Ongoing suspension of Yemeni counterterrorism operations and heightened AQAP activity, especially in the southern provinces, may well be pushing CENTCOM to renew airstrikes against top militants if it receives credible intelligence on their whereabouts (Robertson, 2011). But ***at this critical stage in the turmoil engulfing the South – when tribal militia, Southern Movement activists and a host of others who have increasingly become disaffected from President Ali Abdullah Saleh's regime since his victory over the South in 1994 – unintended civilian casualties could decidedly move the local population towards accommodation with AQAP.*** The U.S. might also do well to discourage Saudi intervention in the North, which would likely only further destabilize the country, provoking those elements of the traditional Zaydi Shi'a population that have so far refrained from joining the Houthi rebellion.

III. Better Compete with AQAP at the Local Level, Especially with Youth and Tribes

A continuing and seemingly unresolvable split between North and South Yemen has been going on for more than a century. As a result, no modern national unity narrative has

emerged that enjoys a consensus. This makes it all the easier for AQAP to leapfrog the contentious debate over the character of the nation and to frame the future in terms of a larger notion of an Islamic Caliphate, pegging to it a solution to local grievances and the burning need of youth in transition stages in their lives, and frustrated in their aspirations, for a grand and meaningful adventure.

In January 2009, just after President Obama's inauguration, the Yemeni and Saudi branches of al-Qaeda merged into AQAP. The group released a high-quality video clip on the Internet showing the new AQAP leader Nasir Abdel Karim al-Wuhayshi (Abu Basir), military chief Qasim al-Raymi (Abu Huraira al-San'ani), and deputy leader Said al-Shihri, a Saudi citizen and former detainee at Guantánamo Bay. The group declared a broad ambition: to coordinate attacks throughout the region with the aim of replacing the infidel governments of Yemen and Saudi Arabia with a unified Islamic Emirate.

AQAP soon developed a sophisticated communications outreach program through the magazine *Sada al-Malahim* ("Echo of Battles," first published in 2008) and its English-language spinoff, *Inspire*, co-edited by American-born Qaeda preacher Anwar al-Awlaki. The group embarked on ever more daring and innovative operations, including successful suicide attacks against South Korean tourists and a convoy on the way to Sana'a International airport and nearly successful suicide attacks with explosives hidden in the attacker's underwear against Saudi Assistant Minister for Security, Prince Mohammed bin (PETN) Nayef, and against the US Homeland (using a Nigerian student traveling through a European city to attempt to down a Detroit-bound plane on Christmas Day in 2009). More recent innovations include concealing bombs in print cartridges carried in the luggage hold of US-bound planes and plans to surgically implant explosives into the bodies of passenger bombers.

The attack on Prince Nayef and the failed attempt to bring down an airplane in the USA clearly signaled that AQAP was embarking on an offensive push, as its leaders publicly acknowledged (al-Misk, 2010). CENTCOM commander Gen. David Petraeus went to Yemen with a promise to double military aid and step up missile and air strikes against suspected AQAP targets (Priest, 2010). It was a predictable response, along the lines of the US security strategy in dealing with al-Qaeda and its Pakistani-Taliban allies in the AF/PAK region, with counterproductive results in securing support from locals that do not simply owe to "calculated risks" or "unforeseen consequences."

In December 2009, acting on intelligence that AQAP leaders were in the southern governorate of Abyan and that al-Awlaki was back in his own tribal region (Johnsen, 2010), the adjacent governorate of Shabwah, American fighter jets attacked suspected AQAP targets in both provinces. The Shabwah attack killed a number of militants (but not al-Awlaki) and led locals to demand that AQAP operatives leave. But the Abyan airstrike killed a number of women and children, which only increased local tolerance for the presence of AQAP fighters in their midst (Worth, 2010). Pressing this opportunity, AQAP made concerted appeals to sentiments of local youth and offered their muscle to the South's tribal remnants and other disaffected groups within the Southern Movement (Day, 2010) and without. Although AQAP is itself a somewhat loose-knit network of diverse groups of local and foreign fighters, its relatively well-organized senior leadership rapidly solidified AQAP's position in the weak social fabric of Abyan and adjacent governorates.

In February 2010, al-Shihri referred to al-Qaeda central as "our sheikhs and amirs in Khorasan [Afghanistan]" and to his own organization as "your mujahedin children in the Peninsula of Mohammed" (cited in Harris, 2010, p. 3). Rand analyst Bryce Loidolt notes that: "despite its strong ties to Al Qaeda Central and international postures, Al Qaeda in the Arabian Peninsula still must maintain local relevance and support" (Loidolt, 2011, p. 102). Alistair Harris has examined how AQAP uses its media outlets "to make different ideas, beliefs, myths, and traditions work to radicalize and mobilize the population," and he concludes that "the organization's appeal to defensive mobilization in the face of actual and perceived threats is tailored to young men and Yemen's tribes" (Harris, 2011, pp. 5, 8).

If this is the case, as the evidence appears to indicate, then **US CT efforts should also focus directly on young people and the tribes. That is where we must compete with AQAP for hearts and minds.**

Despite Bin Laden's 2010 message to his former personal aide and current AQAP leader al-Wuhayshi that "it wasn't the right time" to establish an Islamic Caliphate in Yemen and to remain focused on attacking "the far enemy" (America) (Miller, 2011), the recent uprisings against the central government apparently convinced AQAP that the time was ripe. Along with rival jihadi organizations, such as the Aden-Abyan Islamic Army, as well as tribal groups resentful of Saleh, Islamist militia forces succeeded in largely expelling the central government from the key towns of Zinjibar and Jaar in Abyan. AQAP promptly declared an "Islamic Emirate" (al-Bawaba, 2011).

AQAP's aim, it appears, is to address local and regional grievances and fears within the more global al-Qaeda framework of establishing an Islamic Caliphate over the whole of Arabia, one that is able to resist and ultimately defeat the designs of apostates, like the Iranian-led Shi'a and infidels, especially Americans, to divert Muslims. The recent proclamation of an "Islamic Emirate" in the South's Abyan governorate should be seen in this light as a step toward this larger Islamic Caliphate. AQAP's next step appears to be an attempt to capture the port city of Aden, and with it, control of access to the red Sea and Suez Canal in order to "choke off Israel" (Reuters, 2010). Indeed, AQAP in its very first issue of its online magazine *Sada al-Malahim* ("The Echo of Battles) indicated that operations would aim at disrupting "supply lines of Western nations supporting Israel" (see Novak, 2009).

Additional steps include ensuring the utter collapse of state power in Yemen and taking down the Saudi regime. Then, the southern portion of Arabia (*al-Yaman*, Yemen) can be merged with the northern part (*al-Sham*, Saudi Arabia, but also eventually Syria, Palestine, Jordan and Iraq), and the land of the Arabs (*bilad al-Arab)* can be made whole again. This is a narrative that harks back to the Arab Revolt against the Ottoman Empire in World War I, a revolt assisted and then betrayed by Britain, France and the colonial-infidel world they represented, but success this time requires reaching much deeper into the past for a way that leads more surely and much further into the future. That way is jihad of the Prophet Mohammed and his companions for the immediate defense of Islam and, once secured, for its progressive expansion to all humankind.

Princeton University's Gregory Johnsen, who has been tracking al-Qaeda in the region for years, stated in a Senate hearing last year that "al-Qaeda is the most representative organization in Yemen. It transcends class, tribe, and regional identity in a way that no other organization or

political party does" (Johnsen, 2010). One estimate of the breakdown in AQAP membership is: 56 percent Yemeni, 37 percent Saudis, 7 percent foreigners (al-Shishani, 2010). AQAP appears to draw most from urban youth and a limited number of tribal clans. ***A recent examination of AQAP fighters captured or killed indicate that many are from the same tribe*** (Barfi, 2010)**.** Reports of a government attack against an AQAP training camp in December 2009 in al-Ma'ajala listed Somalis, Pakistanis and Egyptians among those killed. At the time, Yemen's Foreign Minister Abu Bakr al-Oirbi estimated that there were only some 200-300 AQAP members in the entire country (BBC, 2009).

AQAP ranks have undoubtedly swelled with the current fighting in the southern provinces, although it is difficult to tell which Islamist fighters are AQAP and which are local militia who have no global ambitions. Most reports out of Abyan governorate, where the heaviest fighting has occurred, note that most of those killed by government troops, and even representatives of Ansar al-Sharia (Marib Press, 2010), the umbrella group that includes core AQAP elements, cannot be positively identified as AQAP. According to one senior defense ministry official: "More than 85 per cent of the fighters killed in Abyan over the last three weeks have not been Al Qaeda members. Militants in Abyan and other areas in the south are well-known Jihadists, but we cannot prove their links to Al Qaeda" (Almasmari & Coker, 2011). Recent accounts of AQAP activity in the adjacent southern governorates of Abyan, Lahij and Shabwah note the presence of many young northerners among the foot soldiers (Worth, 2011), in addition to the young fighters and older leaders with tribal ties in the southern regions who were already operating there (Worth, 2010). There are also reports of an influx of hundreds of Somali jihadis (Quilliam Foundation, 2011), as well as volunteers from Pakistan and elsewhere (Schmitt, 2011), who have been joining the fight.

Despite the significant foreign component of AQAP, both in terms of manpower and ideas, the tribal politics and local appeal of AQAP are more aligned with the character of the Taliban than most al-Qaeda groups as such. For example, in Iraq, Somalia, Afghanistan and Pakistan, al-Qaeda's leaders, as well as rank and file, have been mostly, if not exclusively, foreigners; and no large segment of the local population ever embraced them.

There is a clear distinction between the Taliban and al-Qaeda, both in terms of who they are and what they want. It may even be possible to turn the Taliban against al-Qaeda. In Yemen, however, al-Qaeda and the people who give it sanctuary are often from the same territories and tribes (Atran, 2010). The Taliban alliance with al-Qaeda was always less heartfelt and strategic than pragmatic and tactical. Before 9/11, there were no Afghans in al-Qaeda; today there are very few, if any, al-Qaeda in Afghanistan; and the Pakistani Taliban claim that they now mean to target the USA in response to "the rain of drones" that has killed many of their leaders and many more of their noncombatant tribespeople (Atran, 2009). ***What makes AQAP potentially more potent than the Taliban is that AQAP is an organic merging of native politics with al-Qaeda's global ambitions. (Another group with deep local origins and ties is al-Qaeda in the Maghreb, which, for the time being, seems less focused on global ambitions than AQAP).***

IV. Social Pathways to (and Away From) Violent Extremism: Family, Friends, Religion

A recent survey of Yemeni society indicates the strongest influence on people's opinions come from household members (85 percent), followed by religious leaders (75 percent), and friends (65 percent). Political leaders, and national and international news, have much less influence (Langer, 2011). Research by Marc Sageman on how al-Qaeda networks first formed across the world suggest that the sources that most influence opinion can also be major components of terror networks, though to different degrees (ties of friendship about 70 percent, kinship about 15 percent, religious discipleship and worship about 10 percent) (Sageman, 2004). A study by Saudi Arabia's Interior Ministry of al-Qaeda members captured in that country also indicates that friendship followed by kinship are main routes of enlistment into the terror network, and that religious literature (but not religious schooling) and extremist preaching were more influential than other sources of news or opinion (Kingdom of Saudi Arabia, 2007).

In a *New York Times* oped, I noted that the process of radicalization into the Taliban, much like that into Indonesia's *Jemaah Islamiyah*, was based on bonds of friendship and kinship, as well as ties to religious leaders and through religious schools, or discipleship. Moreover, success in dismantling terror networks and moving people off the path towards radicalization would appear to involve a thorough knowledge of and ability to penetrate and manipulate these very same social networks. This had been critical to success against Jemaah Islamiyah and might also be successful against those Taliban groups most closely allied with al-Qaeda (while history and current conditions suggest that attempts be made to negotiate with the many more Taliban groups and associates that are basically fighting a partisan war against US-led NATO forces).

Citing the oped, a report to the Senate Foreign Relations Committee, titled "Al Qaeda in Yemen and Somalia: A Ticking Bomb," noted:

> "Recent history demonstrates that several factors bind Al Qaeda members together. The first is friendship forged on the battlefield. Arabs who fought the Soviets in Afghanistan call themselves 'Afghan alumni.' Thousands went to Yemen after the Soviets' defeat and were welcomed as heroes. Many of them fought again side-by-side in southern Yemen during that country's civil war in 1994. The second is discipleship. Most young Yemeni Al Qaeda fighters captured in Afghanistan and Pakistan after the September 11 attacks said they had decided to make jihad against the United States only after being prodded into doing so by the imams in their villages. Third are family and tribal ties… Arabs have historically married across tribes and even nationalities to cement alliances and power, and Al Qaeda benefits from this trend" (Senate Foreign Rleations Committee, 2010, p. 4).

In subsequent testimony before the Emerging Threats Subcommittee of the Senate Armed Services Committee, I further noted that, based on my own fieldwork with militant Islamist groups from Morocco to Indonesia, as well as psychological surveys and experiments that my research teams carried out with some of these groups or their supporting populations (Atran, 2010):

- Our data shows that a reliable predictor of whether or not someone joins the Jihad is being a member of an action-oriented group of friends. It is surprising how many soccer buddies join together, especially when they are in transitional stages in finding meaning and a place in life (immigrants, students, in search of friends, mates, jobs).

- Countering extremist violence should focus on peer-to-peer efforts, not elders trying to teach youth about moderation or the Koran. It will take mobilizing the purpose-seeking, risk-taking, adventurous spirit of youth for heroic action.

- We are winning against Al Qaeda and its associates in places where antiterrorism efforts are local and built on an understanding that the ties binding terrorist networks today are more about social connections.

Although understanding social networks are necessary to understanding the paths to and away from radicalization, our research indicates it is not sufficient. Knowledge of the moral imperatives that drive people to great exertions towards one political goal or another may also be indispensable. Thus, I have also argued before National Security Staff at the White House and elsewhere that ***it is critical to understand how "sacred values" can motivate "devoted actors" to act "irrationally" in ways all out of proportion to likely prospects of success. Commitment, or lack of commitment, to sacred values can be key to the success or failure of insurgent or revolutionary movements that operate with far less firepower and material means than the armies or police arrayed against them (which tend to operate more on the basis of typical "rational" reward structures, such as calculated prospects of increased pay or promotion)*** (Atran, 2006).

The social composition of networks alone does not determine who becomes a terrorist (soccer *per se* has little to do with terrorism), ***neither does religious motivation and moral outrage*** (in one survey, 7 percent of Muslims worldwide, about 100 million people, expressed sympathy with bin Laden and the 9/11, attacks, but only some few thousands have committed to violence) (Esposito & Mogahed, 2008). ***Thus, a research challenge*** is to understand:

- ***What particular kinds of moral narratives are more likely to become embedded in and motivate which particular kinds of social networks towards violence?***

More generally, research should investigate:

  - ***The spread and influence of different cultural values and belief systems on developments within and between social networks.***

  - ***The development and influence of social networks on the distribution and maintenance of antagonistic values and belief systems and on the potential for transformation to values and beliefs that are less antagonistic.***

V. Moral Imperatives to (and Away From) Violent Conflict: The Role of Sacred Values

Unlike other creatures, humans define the groups to which they belong in abstract terms. Often they kill and die, not in order to preserve their own lives or those of the people they love, but for the sake of an idea, the conception they have formed of themselves. Call it love of group or God, it matters little in the end. This is the "the privilege of absurdity; to which no living creature is subject, but man only'" of which Thomas Hobbes wrote in Leviathan (Hobbes, 1901/1651). It is a human trait that likely will not change and which political leaders must learn to manage, however inescapably murky, so that their people will endure and triumph

in a world where an end to war is no more likely than unending day. ***Human societies generally express this "Privilege of Absurdity" in terms of Moral Virtue, which gives a collective meaning to people's lives in an otherwise uncaring universe.***

As Charles Darwin noted in *The Descent of Man* (Darwin, 1871), humans have a naturally selected propensity to moral virtue, that is, a willingness to sacrifice self-interest in the cause of group interest. Humans are above all moral animals because they are creatures who love their group as they love themselves.

> "The rudest savages feel the sentiment of glory… A man who was not impelled by any deep, instinctive feeling, to sacrifice his life for the good of others, yet was roused to such action by a sense of glory, would by his example excite the same wish for glory in other men, and would strengthen by his exercise the noble feeling of admiration…. It must not be forgotten that although a high standard of morality gives but slight or no advantage to each individual man and his children over other men of the same tribe, yet that an increase in the number of well endowed men in the advancement of the standard of morality will certainly give an immense advantage of one tribe over another tribe" (Darwin, 1871, p. 66).

Glory is the promise to take life and surrender it in the hope of giving greater life to some group of genetically-bound strangers who believe they share an imagined community under God (or under His modern secular manifestations, such as the nation and humanity). It is the willingness of at least some to give their last full measure of devotion to the imaginary that makes the imaginary real, a waking dream, and for others, a waking nightmare.

Darwin acknowledged that the brave warrior who survives the fight may gain more power, wealth, social worth, or mates, and so improve his chances for reproducing healthy and successful offspring in greater numbers, but if the risk of death is very high, the material prospects for victory low, or if the odds of success are too difficult to calculate, then it is very doubtful that gain would outweigh loss. Indeed, risk assessments about war are difficult, even in simple contexts (Keeley, 1996). But even if accurate calculation about the relative strength of two sides in a conflict is possible, the underdogs often prevail (Arreguin-Toft, 2001). Despite the famous dictum of Clausewitz that war is just "politics by other means" (von Clausewitz, 1956/1903), which is considered almost an axiom of decision-making in most of the world's war colleges, the ancient wisdom of Sun Tzu appears to be a more appropriate characterization of what drives the most intense of human conflicts and the willingness of people to give their "last full measure of devotion: "The Moral Law causes the people to be… undismayed by any danger" (Sun Tzu, 1910).

Across history, as in the contemporary world, ***there is clear evidence that deteriorating or rapidly changing economic conditions may initiate a cascading series of social events that produce a political crisis***. One working hypothesis of my research group is that ***such a crisis leads to a "revolutionary" collapse of the prevailing power and to fundamental political, economic, or social change only when action becomes morally motivated by a shift in core cultural norms or "sacred values." Thus, whereas economic conditions can open a breach, the general idea is that it takes a moral imperative to impel a political tsunami through the breach.*** The moral impetus for revolutionary change, in turn, develops and gains potency in a

population through the information media that disperses and channels the message and that amplifies, dampens or distorts its meaning and significance.

This implies **a *research challenge and a policy challenge***:

- ***One research challenge is to identify and model possibilities for rapid and fundamental political change by describing compatibilities and incompatibilities between: (1) sets of initial conditions for cascading economic crisis in a given population; (2) various moral frames that (given the population's history and current geopolitical climate) may be invoked to leverage the economic crisis into revolutionary political change; (3) information means available to morally motivate the population to actively congregate for fundamental change (i.e., including the resignation or overthrow of the old regime) (4) develop computational models for assessment and prediction of instability and its precursors.***

- ***A policy challenge is to encourage the choice of some sacred values rather than others. For at least some of the important players in the Arab Spring, the principle of non-violence has taken on aspects of a sacred value. The US should encourage diffusion of their message so that non-violence may become a dominant virtue over violence (as ultimately happened with the US Civil Rights Movement).***

VI. Utilitarian Versus Moral Imperatives to Violence

Models of rational behavior predict many of society's patterns, such as favored strategies for maximizing profit or likelihood for criminal behavior in terms of "opportunity costs." But seemingly irrational behaviors like war and revolution, in which the measurable risks and costs often far outweigh the measurable benefits, appear to defy such prediction. The prospect of crippling economic burdens and huge numbers of deaths does not necessarily sway people from their positions on whether going to war or opting for revolution is the right or wrong choice. One possible explanation is that people are not weighing the pros and cons for advancing material interests at all, but rather using a moral logic of "sacred values," core principles of collective identity that resist and often clash with cost-benefit calculations, which cannot be quantified in straightforward ways (Tanner & Medin, 2004).

Most of the theories and models that researchers use to study conflicts like the wars in Iraq and Lybia or the fight against the Taliban or AQAP assume that leaders, as well as their rank and file, make a rational calculation: If the total cost of the war is less than the cost of the alternatives, they will support war. But our research suggests those models are insufficient (Atran & Axelrod, 2008). When people in the US, Middle East, and Africa were confronted with violent situations, we found that they consistently ignored quantifiable costs and benefits, relying instead on "sacred values" (Ginges & Atran, 2011).

Consider the American revolutionaries who, defying the greatest empire of the age, pledged "our lives, our fortunes, our sacred honor" in the cause of "Liberty or Death," where the desired outcome was highly doubtful. (As Osama Hamdan, the ranking Hamas politburo member for external affairs, put it to me in Damascus: "George Washington was fighting the strongest military in the world, beyond all reason. That's what we're doing. Exactly" (Hamdan, 2006) as cited in Atran, 2011, p. 347).)

Of course, some revolutionary leaders and supporters may use moral arguments as cover to enhance their own personal gain and merely to reduce "transaction costs" in mobilizing others for their own ends (Varshney, 2003); however, in the long run and on average, such strategies fail because there is always some possibility that the deceiver will be caught as a moral fraud, while this is never possible for the truly sincere person (Frank, 1988).

Recent work in social and cognitive psychology and in anthropology suggests that sacred values may be critically involved in important decisions in life (Tetlock, 2003 Rappaport, 1999), as well as in sustaining seemingly intractable cultural and political conflicts (Atran, Axelrod, & Davis, 2007; Ginges, Atran, Medin, & Shikaki, 2007; Rozin & Wolf, 2008; Deghani, Atran, Iliev, Sachdeva, Medin, & Ginges, 2010). Even in objectively economic contexts, such as when playing one-shot economic games, people will make apparently morally-motivated and personally-costly decisions to obey social norms, or to punish those who do not (Henrich et al., 2006). In potentially violent situations of intergroup conflict, sacred values appear to operate as moral imperatives that generate actions independently or all out of proportion to their evident or likely results, "because it is the right thing to do, whatever the consequences" (Bennis, Medin, & Bartels, 2010). ***For example, regardless of the utilitarian calculations of terror-sponsoring organizations, suicide terrorists appear to act as "devoted actors"*** (Atran, 2006), ***who are willing to make extreme sacrifices that use a "logic of appropriateness"*** (Hoffman & McCormick, 2004) ***rather than a calculus probable of costs and benefits***. We also have suggestive fMRI evidence that people tend to process sacred values in parts of the brain that are devoted to rule-bound behavior rather than utilitarian calculation of costs and benefits (Berns, Bell, Capra, Prietula, Moore, Anderson, Ginges, & Atran, in press).

Research Challenges

- ***Research into morally-motivated decision-making and the role of sacred values. Many key components of decision-making (valuation processes, tradeoffs among attributes or alternatives, etc.) vary with context across social relations and domain and as a function of whether or not a choice has ethical or moral entailments. While study of judgment and decision-making has greatly advanced*** (Kahneman, 2003)***, progress has been uneven*** (Markman & Medin, 2002). ***Much more is known about decision-making facets of economic behavior than about morally-motivated behavior, including religious and political behavior. For example, can sacred values also be preferentially weighed against one another and, if so, how (if there is also insensitivity to quantity, violations of transitivity in preferences, etc.)?***

- ***Research into the interaction between utilitarian and moral values in driving decision-making and action. It is obvious that both utilitarian moral reasoning is involved in much decision-making: for example, decisions about when and where, and even whether to employ a suicide bomber no doubt have strong utilitarian components. Yet there is little theoretical or practical understanding of how utilitarian and moral values interact to drive decision-making and action.***

VII. Recalibrating America's Top-Heavy Response to AQAP in Light of Sacred Values Research and the Grass Roots Processes of the Arab Spring

If, indeed, terrorist groups like AQAP are impelled to action by sacred value and a rule-bound moral "logic of appropriateness," however abhorrent to our own society, then standard cost-benefit approaches to defeating terrorism are problematic. For example, according to the U.S. Quadrennial Defense Review, the chief aim of counterterrorism efforts is to "minimize U.S. costs in lives and treasure, while imposing unsustainable costs on the enemy" (U.S. Department of Defense, 2006). Yet, the actual costs to the U.S. in the "war on terrorism" so far, and the collateral damage produced, have been many orders of magnitude above what al-Qaeda and company have materially suffered or expended.

Moreover, such a cost-benefit approach is routinely ridiculed by al-Qaeda itself, as an example of the amoral, instrumentalist nature of American actions. Of course, this is not to deny that terrorists also make utilitarian calculations and that American counterterrorism actions are also driven by moral imperatives, but the balance between two sets of values that drive actions, calculations of utility and moral imperative, appear to be weighted differently for al-Qaeda and the USA.

American counterterrorism efforts in Yemen, even more so than in Afghanistan, have overwhelmingly focused on military and economic assistance programs that continue to be dangerously dependent on the offices of a largely corrupt and widely discredited regime. The myriad voices of those leading or broadcasting in the name of the popular uprisings in Yemen regularly note this fact. They condemn it as a morally reprehensible and a hypocritical display of the gap between America's own professed sacred values, which a majority of the protestors indicate they share, and America's disregard for any such values, save a narrow self-interest in their own security and a willingness to try an "economic" and entrepreneurial" approach that would encourage "democratization" through "market integration" (Coordinating Council of Yemeni Resolution for Change, 2011).

According the June 2011 *National Strategy for Counterterrorism* issued by the White House:

> " Even as we work to support Yemen's stability and the aspirations of the Yemeni people, the defeat of AQAP will remain our CT priority in the region, and we will continue to leverage and strengthen our partnerships to achieve this end…. The United States is working with regional and international partners to advance a number of political and economic development initiatives that address the underlying conditions that allow Yemen to serve as a safehaven for AQAP. These broader efforts complement those CT initiatives that are focused on building the capacity of Yemeni security services so they are able eventually to disrupt, dismantle, and defeat AQAP with only limited U.S. involvement." (p. 14)

The fundamental question is which partnerships will the US continue to leverage and strengthen? If these partnerships are focused on the old guard, then they are likely to backfire with the public, but if they are to focus on emerging democratic forces in the country, then little, if any,

actionable initiative or even planning is evident in any current open source description of US counterterrorism strategy and effort in Yemen.

As Gregory Johnsen aptly put it in 2008: "For the United States, the stability of Yemen is the first and most important step in winning the second phase of the war against al- Qa`ida in Yemen." In fact, the promotion of democracy and human rights, and endeavors to address longstanding local grievances held by vast numbers of Yemenis have taken a distant back seat to immediate American security concerns geared to cultivating President Saleh and his family. There is no indication this policy has changed to any significant degree, given the recent growth of AQAP and its successes in forging alliances with diverse groups and in battle.

Just a few months ago, in the midst of the uprisings, then-U.S. Secretary of Defense Robert Gates suggested that the United States was loathe to distance itself from President Saleh and his military and security apparatus. Saleh's son and heir-apparent, together with three nephews, run four of Yemen's main security and counterterrorism agencies, including the Republican Guard and the Central Security Forces, which are trained and equipped by the United States. On a March 27 broadcast of ABC's "This Week," Secretary Gates said:

> "We have had a lot of counterterrorism cooperation from President Saleh and Yemeni security services. So if that government collapses or is replaced by one that is dramatically more weak, then I think we'll face some additional challenges out of Yemen. There's no question about it. It's a real problem." (Schmitt, 2011)

Secretary Gates' ABC interview was immediately noted and denounced across twitter, facebook, and internet blogs devoted to reporting and interpreting events in Yemen (The Lotus Revolution, 2011).

American Development aid, which is also largely channeled through President Saleh's personal network, has focused on materially improving the lot of ordinary people in that impoverished country by encouraging "market integration" and "entrepreneurship." Here, for example, begins a rather typical proposal to USAID, which I recently reviewed, by a consortium that has a highly successful track record in securing U.S. government contracts for development assistance:

> "Stability in Yemen hinges upon the Republic of Yemen Government's (ROYG) ability to regain legitimacy by promoting more equitable socio-economic development for its people. [The consortium has] designed a strategy for USAID's Responsive Governance Project (RGP) that takes advantages of strategic opportunities, builds on and coordinates with existing programs, and emphasizes ownership and leadership for sustainable progress. Our team offers extensive experience in Yemen…. We will meet RGP's **GOAL**, *to facilitate more equitable socio-economic development by strengthening public policies and institutions that will contribute to mitigating the drivers of instability in Yemen*…. Our **APPROACH**… will leverage *established credibility with the government and access to President Ali Abdullah Sale, senior ministers, parliamentarians, and political opposition leaders*." (original bold and italics)

"Political opposition leaders" are those that would pose no real challenge to Saleh's rule and, of course, ***most money awarded by the U.S. government for development assistance goes for the***

overhead of the U.S. aid organizations and for local kickbacks and padding once the money leaves U.S. hands. The "people" of Yemen receive very little, if anything, in the end, and everyone knows it.

In late June, the White House announced it was more than tripling its humanitarian assistance to $42.5 million, obviously a very small number, given even the basic needs of Yemen's 23 million people. The deepest problem with U.S. aid to Yemen, however, is not the relatively paltry amount of money given for development assistance, but the fact that it does almost nothing to address the yearnings of youth who comprise a majority of the potentially productive workforce and future leaders in any democratic society. Even a superficial examination of what they say to one another in the social media suggests that their greatest economic aspiration is not just finding a decent job and housing to support a family, much less external market integration. Rather, these young people appear to aspire to *control their nation's own resources so that these can be harnessed for the internal development of human resources needed to create and lead a productive, democratic society.*

Although many commentators note the problems that the notorious "youth bulge" in Yemen and across the Arab world pose for the security of weak, failed and authoritarian states in the region, few highlight the potential upside from a generation of "baby boomers" itching to help their society progress. Thus, a recent Silatech/Gallup survey of a representative sample of young Yemenis between the ages of 18 and 29 found that respondents believed that 95 percent of young men and 89 percent of young women "could make substantial progress for the country," compared with 26 percent who felt that elders could, and 36 percent who thought the West could help improve the country (Silatech/Gallup, 2011).

Should President Saleh definitely be removed from power, as the U.S. is also now advocating, it could be disastrous to continue to rely on his family or new opponents emerging from Saleh's ruling clique. Neither would it be wise to act on the presumption that the southern forces tactically allied with AQAP, including tribal militia, Southern Movement activists, and even other Islamist militia, should be targeted by the U.S. or treated similarly, as the Yemen's current government persistently advocates (Yemen Post Staff, 2011).

In brief, ***continuing the US focus on government-to-government cooperation in matters of military training and operations with the current ruling regime, or any replacement that maintains a core of his family and old guard, will likely further solidify the position of AQAP in the population. Pursuing, or even increasing, development with any replacement regime that continues to be primarily based on personal and family patronage will likely serve to further grease corruption and alienate the bulk of the population, and any Western efforts to help re-engineer society in the direction of a pluralistic democracy are likely to be viewed with suspicion and resentment and, therefore, also likely to fail.***

Although the US certainly cannot stand idly by as AQAP or any other group plots attacks on the US Homeland, the US has the power and ability to carry out targeted strikes when required. Yet, even in the short run, ***the US should learn to better undermine AQAP on its own turf at the level of local social ties and moral positioning by favoring domestic efforts to build a more inclusive political culture that***:

A. ***Allows exploration of new and competing ways to adhere both to representative democracy (which a majority of the people favor) and to Islamic values (which an even stronger majority believe should help shape any government) (Langer, 2011);***

B. ***Promotes peer-to-peer (rather than government-to-government) communication and connectivity that fosters genuine and novel forms of social and political relationships and economic enterprise, however inherently unpredictable and uncontrollable;[2]***

C. ***Provides culturally appropriate models for heroic action that appeal to the idealism and passion of youth, to dreams of glory, and the search for dignity and respect;***

- ***One recommendation and policy challenge would be to enlist the most wide-ranging and innovative non-governmental sectors – faith-based organization, American universities, and the entertainment media to help finance, explore, and establish these kinds of initiatives. We do this rather successfully for tsunami and earthquake victims across the world, so why not for those riding the wave of revolutionary change and challenge?***

D. ***In addition, policy-oriented research needs to explore ways to honor, rather than eradicate, tribal customs and wasta (informal relationships of patronage and pull) within a more open society.[3] Indeed, perhaps the most critical determinant of AQAP's success or failure in Yemen depends on its ability to seek refuge, adherents and alliances among Yemen's tribal groups, especially in the southern and eastern regions furthest from government control.***

VIII. AQAP's Moral Outreach to Yemen's Underachieving Youth

In the fourth edition of AQAP's online magazine, *Sada al-Malahim* ("Echo of Battles"), an editorial by an anonymous author issued a call for workers of many skills to join the jihad and seek dignity in working for it:

> People of Islam, the fields of jihad are calling every Muslim who fears with ardor for the dignity and the holy principles of Muslims to join its ranks in Afghanistan, Chechnya, the Islamic State of Iraq, the Islamic Maghreb, Somalia and the Arabian Peninsula and other lands. People of faith, the fields of jihad welcome scholars, doctors, engineers, youth, and skilled Muslims with expertise. (*Sada al-Malahim*, vol. 4)

In the tenth edition a year later, in August 2009, AQAP military chief al-Raymi reiterated the call to realize the true value of a man in labor undertaken to establish an Islamic Caliphate:

> "A man's value is in what he does for a living.... The jihadi arena needs all powers, skills and abilities [such as] doctors, engineers and electricians. It also requires plumbers,

[2] The U.S. government-supported online Alliance for Youth Movements (AYM) is a dynamic and informative; however, less U.S. presence and signature might help more; see www.movements.org.

[3] For an interesting analysis along these lines regarding Afghanistan, see T. Barfield (2003) *Afghan Customary Law and Its Relationship to Formal Judicial Institutions.* Washington, D.C.: United States Institute for Peace; http://www.usip.org/files/barfield2.pdf

> builders, and contractors, just as it needs students, educators, door-to-door salesmen, and farmers. It is searching for media specialists from writers and printers [to] photographers and directors. It also needs conscientious Muslim reporters and sportsmen, skilled in martial arts and close combat. It is searching for proficient, methodical, organized administrators, just as it is in need of strong, honest traders who spend their wealth for the sake of their religion without fear or greed.
>
> Know my virtuous brother that by following your mujahideen brothers with some of these qualities it will accelerate the pace of achieving our great Islamic project: establishing an Islamic Caliphate."

"Al-Raymi," suggests Sarah Phillips, "is attempting to rally sympathizers to embark on an ambitious state-building project, representative of the pious and directed by the mujahidin. *AQAP is seeking to destroy the existing political system and establish its own* (italics mine)" (Phillips, 2010).

The call for personal redemption through labor for the sake of a greater cause is a hallmark of salvational revolutionary movements, including the anarchist, communist, and fascist movements of the late 19th and early 20th centuries. As I noted earlier, the success of any revolutionary project against materially more powerful forces may ultimately depend on its ability to replace the norms of the old order with the new ones founded on different moral principles, principles that discredit the old order and that motivate commitment to a greater cause.

How does one translate personal labor into labor for love of common cause that goes beyond the immediate or common interests of family and friends? One universal process seems to involve the creation of a fictive family of imaginary kin: a notion of "Brotherhood" together with "Motherland," "Fatherland," or "Homeland," which extends more biologically-based affinities for genetic relatives and territorial companions beyond family and tribe to even perfect genetic strangers. Indeed, this is the very meaning of the word *islam* or submission of family and tribal loyalties to the interests of God's blessed community (*ummah*). This process of sublimation of more immediate genetic and territorial interests to more abstract and anonymous ones is an essential driver in getting humans out of their caves and in generating the demographic growth and territorial expansion of human groups that marks the development of regional and now global civilization.

It is a combination of "imagined kinship" and religion, or more precisely religions with morally concerned supernaturals or transcendal principles (providential, universal or natural "rights"),that have made large-scale human cooperation (and competition) possible, with war a main motor for realization of these large-scale social developments (Atran, 2010).

In issue 15 of Sada al-Malahim, published on the eve of the outbreak of the Arab Spring, a young man describes his "dream come true":

> "After Allah granted me the good fortune to join my Mujahideen brothers, I saw the wonder of wonders. I saw the brothers sacrifice their persons, their wealth and all that they possessed for their Lord. I saw the brothers who were humble to the Believers and hard upon the infidels. I saw brothers preferring poverty for themselves. I saw brothers

> rising in the night and fasting in the day. I saw brothers who loved one another. I saw brothers who possessed the qualities of goodness and piety: a great thing.
>
> Amongst the beautiful qualities I perceived in them was following the guidance of Shari'ah in their Jihadist lives and in their dealings with their enemies. I felt a life of happiness and spiritual ease despite the fact I was far from my family and loved ones, but believe Allah Who says: 'He who forsakes his home in the cause of Allah, finds in the earth many a refuge, wide and spacious: should he die as a refugee from home for Allah and His messenger, his reward becomes due and sure with Allah.'" (al-Khidramy, 2010)

Imagined kinship—the rhetoric and ritual of brotherhood, motherland, family of friends, and the like—is a critical ingredient of nearly all religious and political success. From an evolutionary standpoint, imagined kinship is not all that different from pornography; it too involves manipulation of naturally-selected proclivities for passionate ends that may be very far removed from evolutionary needs, but which creates a cultural reality of its own. When imagined kinship combines with team spirit, laboring together for glory, amazing things are possible, like winning battles against all odds, achieving civil rights, or you and your buddies blowing yourselves, and your perceived enemies, to bits.

Indeed, Jihad fights with the most primitive and elementary forms of human cooperation, tribal kinship and friendship, in the cause of the most advanced and sophisticated form of cultural cooperation ever created, the moral salvation of humanity. To understand the path to violent Jihad is to understand how these universal and elementary processes of human group formation come together. It is not primarily a matter of understanding Quranic exegesis (marginally relevant at best), personality factors (jihadis span the normal distribution), or even economic, social, and demographic factors *per* se, such as poverty, poor education and youth bulges, but of how certain collections of ideas motivate certain networks of people in certain contexts to act in certain ways.

It is important to note that AQAP's sophisticated electronic media campaign (audiotapes, videos, e-magazines) appears to be primarily targeted towards enlisting foreign fighters, sympathy, aid, and some urban Yemeni youth. According to a recent Silatech/Gallup survey, only 2 percent of Yemeni youth between the ages of 18 and 29 have internet at home, and 17 percent have some access to the internet from elsewhere (Silatech/Gallup, 2011). Another recent survey indicates that more than 80 percent of Yemenis are interested in, and informed by, religious matters, more than 70 percent are concerned with local matters, 50-60 percent with national events, less than one-third of the population with world events, and fewer than 10 percent with U.S. politics or Western culture. ***The bulk of AQAP's Yemeni membership likely comes from local social networks, and moral message probably plays more on local themes***. "Additionally," note Williams and Baker, "the content of the messages at the local level is likely different, playing on local grievances with the government and living conditions, as well as local Islamic condition" (Williams & Baker, 2011, p. 13)

- ***Thus, one important research challenge for counterterrorism efforts against AQAP is to explore more local Arab language sources and debriefings of captured AQAP members on issues pertaining to the transmission and content of stories, events, and moral messages among locals. This is needed to understand what ideas are working***

with which networks of local youth to bring them along the path to violent extremism, so that alternatives could be considered that might take them off the path to violent extremism.

IX. The Socio-Political Origins and Moral Appeal of AQAP's Tribal Strategy

In the North, state power is concentrated among members of President Saleh's Hashid tribe. Prior to unification with the South, Saleh's kinsman and head of the Hashid tribal confederacy, Sheikh al-Ahmar, served as speaker of the parliament in Sanaa, an office he occupied again as head of the Islah party following the1994 war. Before and after unification (Dresch, 1995), top military and security posts were mostly awarded to the Hashid ruling family, to which President Saleh belongs, or to men from Hashid regions loyal to Sheikh al-Ahmar.

Influential sheikhs from other tribes, who were potential rivals and claimants to power, were bought off with lower-tier political offices and luxurious homes in the capital Sana'a and other cities. Wealth and status were no longer derived from position within the tribe but from regime. Tribal elites became detached from their native communities and alienated from their family base.

Minor tribal leaders left back home might try to assert power, but Saleh would assure that the sheikhs under his patronage still had enough residual clout to undercut the new pretenders to tribal leadership. He could also empower minor tribal sheikhs to further marginalize traditional tribal leaders who might try to buck his control. Either way, political and economic power became increasingly centralized and concentrated in the hands of Saleh, the Hashids, and their close allies (Phillips, 2008) (much as Saddam Hussein managed to concentrate political, economic, and military power in the hands of his own family and the Bani al-Nasseri tribe to which he belonged). Northern tribal leaders lost the strong loyalty of their tribespeople and their ability to wield real power (Caton, 2005).

In addition, by concentrating power so completely in Hashid hands, Saleh opened himself up to challenge from within his own tribal circle with no effective counterweight to draw upon from outside the ruling clique. This seems to be happening now in Yemen following the outbreak of the Arab Spring in that country. Much of the Hashid tribe, which includes hundreds of thousands of members, and Saleh's former military chief, General Ali Mohsin al-Ahmar (Ali, 2011), are in revolt.

The opening for today's rapid expansion of AQAP's presence and influence in the South owes to an even greater erosion of the social fabric. Saleh's policy of undermining the tribes through patronage and playing people off one another collapsed into the present power vacuum that attends current wave of uprisings in Yemen, in large part because the tribes were already critically weakened by Marxist attempts to re-structure the South through social engineering.

After the 1994 war, Saleh embraced southern tribal leaders in order to co-opt them to his rule, alienate them from their own tribes, and play them off against one another as he had done with the northern tribes. But control of tribal groups was a more effective policy in the North, where

tribal society was more firmly entrenched. In the South, the former Marxist government had succeeded in detribalizing society to a much greater degree, outlawing customary practices of revenge and honor killings, disregarding sanctuary and protection of guests, bringing women into the public space and workforce, asserting state power over tribal preferences and privileges wherever and whenever possible, and, thus, seriously weakening tribal bonds and influence (Day, 2010).

Although family and clan loyalties persisted, most significantly through informal wasta relationships of in-group favoritism and patronage in places like Abyan, Shabwah and the Hadraumaut, new forms of economic and political patronage crosscut and seriously undermined older ties. The process is similar to the way political upheaval and constant war had undermined the importance of customary tribal practices of pashtunwali in Afghanistan and fundamentally changed the character of informal andiwali relationships (See Roy, 1994). Following the defeat of the Yemeni Socialist Party in 1994 and the end of communist dominance in the South, these newer, overlaying relationships of state and party patronage and privilege began to rapidly unravel. This further weakened the South's social fabric, undermining any concerted opposition to Saleh and his predatory policies.

Into this weakened social fabric, AQAP has been able to burrow by using tribal ties to its own fighters, by giving tribal elements in conflict with the regime more fighting muscle, and most ambitiously, by trying to enlist them in a great moral cause that is touted to restore their honor and dignity.

In an audiotape released in February 2009, Al-Qaeda central's deputy leader, Ayman al-Zawahiri, called on the tribes of Yemen to emulate the resistance of the tribes in the Taliban coalition and help al-Qaeda:

> "I call on the noble and defiant tribes of the Yemen and tell them: don't be less than your brothers in the defiant Pushtun and Baluch tribes who aided Allah and His Messenger and made America and the Crusaders dizzy in Afghanistan and Pakistan. O' tribes of Yemen of faith and wisdom, Yemen of honor and defiance, Yemen of Ribat and Jihad: your brothers from the defiant Pushtun and Baluch tribes are making the Crusaders taste woe after woe, and are sending thousands of their lions to Jihad in Afghanistan under the banner of Amirul-Mumineen Mullah Mohammed Omar Mujahid (may Allah preserve him), and are disciplining the treasonous Pakistan Army, making it taste defeat after defeat and forcing it to make pacts with them in order to save itself from their violence, and they are severing the supply route of the Crusaders from Pakistan to Afghanistan."
>
> "How, O' noble and defiant tribes of the Yemen, can you agree to let the Yemen be a supply center for the Crusade against the Muslim countries? How can you agree to let the ruling authority in Yemen be the CIA? As for Abdullah Salih and his gang, they're nothing but servants and slaves to it. How can you accept this treasonous traitor as your president and ruler, when he begs the pleasure of the Americans and their dollars by spilling the blood of the free, noble and honest men of the Yemen? O' free ones of the Yemen and its nobility; O people of jealousy, fervor and honor in it… Be helpers of Allah, and don't be helpers of America. Be helpers of Allah, and don't be helpers of Ali Abdullah Salih, the agent of the Crusaders, and be a help and support to your brothers the

> Mujahideen and don't be a support to the Crusaders and their campaign which kills the Muslims in Afghanistan, Iraq and Palestine. I ask Allah to grant resolve to our brothers the Mujahideen on the Arabian Peninsula and in beloved Yemen, and to protect them from the Crusaders and their agents, and to send down upon them His strong help and illuminating conquest and near release, and to make them a thorn in the throats of the Crusaders and their agents like the House of Saud and Ali Abdullah Salih, who sold their religion, honor and countries so Crusader America would be pleased with them." (al-Zawahiri, 2009)

AQAP is well aware how important al-Qaeda's "tribal policies" have fared in pre-911 Afghanistan and post 9-11Pakistan (not bad), Somalia (so-so), Iraq (badly), and elsewhere, and tries to apply these lessons to establish alliances with tribal groups that might give AQAP sanctuary or potentially ally with AQAP in battle when local conditions permit.

Before the formation of AQAP, al-Qaeda did not have a tribal policy in Yemen beyond using pre-existing personal ties to allow someone who was both a member of al-Qaeda and a given tribe to find sanctuary with that tribe when he needed it (Johnsen, 2009). Bin Laden himself had favored establishing relations with various tribal groups in hotspots around the Moslem world through marriage alliances, but with no striking success, as these personal relationships were often not pervasive enough to mobilize tribes to al-Qaeda's side. Moreover, ill will against al-Qaeda's readiness to kill fellow Moslems can be greatly amplified if the victim is a tribesperson. In Yemen, as in Afghanistan, if an outsider kills a tribesperson, then members of the tribe will seek revenge against the group presumed to be responsible for the killing. If another tribe is involved, then the cycle of inter-group violence can go on for generations (like the Hatfields and MCoys).

The rules for revenge killings in such cases are usually clear and often involve careful calculations of the degrees of kinship that the potential set of avengers has with the original victim, their kinfolk, as well as degrees of kinship that potential targets in the other tribe have with the original killer (Atran, 1985; Atran, 2010). If the killer's group is not a readily identifiable tribe, then the matter of who kills who is less clear. Depending on the context and perceptions of precisely who the other group is, revenge may be restricted to killing just the original killer to a whole class of people who may never have known him (for example, any government official or any American).

Once a cycle of revenge begins, the entire social life of the area can be destabilized: markets and shops close, men keep away from roads and open areas, and children stay home from school. In traditionally decentralized societies like Afghanistan and Yemen, tribes deal with this permanent threat to the stability of the social order by having other tribal groups and leaders act as neutral third parties to negotiate a way out with the belligerent tribes or tribal factions. In order to get the process going and to make sure it can continue, customary provisions are made for seeking and giving sanctuary and for protecting guests. Indeed, so sacred is protection of the guest (dhif), for the Prophet Mohammed was once a guest of the tribes (Dresch, 1989), that even if someone in the tribe has good cause to take revenge upon and kill the tribe's guest, the avenger who would kill the guest would himself be killed by the tribe. Guests can only be turned out if they abuse their hospitality (as many Taliban leaders claimed bin Laden had done when he attacked the

United States without their knowledge, but the US-led attack in Afghanistan disrupted their deliberations) (Atran, 2009).

Al-Qaeda's suicide attack in the highly tribalized Marib governorate in North Yemen in 2007 infuriated some of the tribes, not only because of the killings of people in their territory, but because it also brought down the wrath of the government on the area. One of the local tribes was suspected of giving refuge to the al-Qaeda operatives, tribal tensions rose, and al-Qaeda's position in the area became more tenuous. Shortly after Gen. David Petraeus brought promises of more military aid to President Saleh in July 2009 and the expectation of a bigger bang for the bucks, Saleh dispatched his nephew, National Security Bureau deputy Ammar Mohammed, to Marib. His mission was to coordinate an offensive against AQAP with the help of the local tribal sheikhs. A botched attack resulted in the government losing tanks and soldiers.

AQAP immediately began publishing accurate details of the attack, while the government denied them. In September 2009, AQAP published a video of the attack that not only reinforced its moral claims to accurately portray the world, but outlined the moral basis for an alliance between AQAP and the tribes that would restore honor to the tribes whose leaders had sold out to Saleh. The video's first narrator framed the "Battle of Marib" as an attack by the government upon the tribes:

> "A lot of excuses were given for this military operation [in Marib] but its main aim was to break the prestige of the tribes and to disarm them. However, the government did not dare to commence its operation until [it secured] a betrayal by some of the sheikhs who allowed the tanks to invade their land." (Phillips, 2010, p. 4)

AQAP military chief Qasim al-Raymi then came on to tell the tribes that they have been sold out by some of their leaders, who have become Saleh's "slaves":

> "How shameful it is that some sheiks allow themselves to become soldiers and slaves of Ali Abdullah Saleh, who is himself but a slave to Saudi riyals and American dollars. I say to these sheiks: be careful that you don't become a piece of chewing gum that a person enjoys for a short time and then throws away... And I say to those sheikhs ... where is the manhood and the magnanimity ... or did it die with your forefathers?"

A third speaker then informed the audience that soldiers' lives were spared: "If you don't support the mujahedeen, then at least don't stand against them." And indeed, AQAP has been careful to assure that in taking action against tribal elements associated with the government, mercy is shown to prevent cycles of revenge from getting started. Moreover, AQAP is careful not only to praise its own fighters, but also their tribe (Williams & Baker, 2011).

With advent of the Arab Spring, AQAP's tribal strategy also proved increasingly successful in the south, promising to help restore stature and honor to the southern tribes first eviscerated by the communists, then flayed by the Saleh regime, and now subject to attacks by American missiles, and by Saleh's soldiers trained by Americans and armed with their weapons. ***The government now claims that all those who are fighting against it in the South, including the tribes*** (Yemen Post Staff, 2011)***, are allies of al-Qaeda, and should be dealt with accordingly. The US must not buy into this narrative and risk alienating the local population altogether.***

The curious case of Sheikh Tariq al-Fadhli illustrates well the ambiguity of the situation. Son of the British-era Sultan of Abyan, former comrade-in-arms with Osama bin Laden, erstwhile close ally of President Saleh, al-Fadhli announced in April 2009 that he was joining the opposition Southern Movement. The following month, AQAP's al-Wuhayshi declared his support as well. In July 2009, government forces fired on the sheikh's family home in the Abyan capital of Zinjibar, killing 12 people and wounding dozens. In February 2010, al-Fadhli stunned friend and foe alike by hoisting the American flag in the courtyard of his house, singing the Star Spangled Banner, and declaring his "good intentions to cooperate with the United States in the fight against terrorism" (Aden Press, 2010). He told Robert Worth of the New York Times:

> "When I fought with Osama bin Laden in Afghanistan, there were no bombings of civilians, and I would never have supported them. The Americans were our allies back then, and what I am doing now by raising the American flag is a continuation of this old alliance. I can be a mediator between America and Al Qaeda. We can be allied with the United States against terrorism, and we will achieve the interests of the United States, not those of the regime" (Worth, 2010).

But in January 2011, al-Fadhli burned the American and united Yemen flags, declaring:

> "To America, and to the unjust [President Saleh] and to the dinosaurs [the exiled communist leaders]: Al Majalah was destroyed with a cruise missile worth 600,000 US dollars, if this money was spent to develop the area, we would have had a wonderful town where not even a terrorist housefly would dare to enter…. I raised the foreign flags [the previous year] only for the sake of the comrades so that they come up on tanks to liberate the south, but they didn't… now the people itself would be able to do that and remove injustice" (Arrabyee, 2011).

In May 2011, Ansar al-Sharia ("Protectors of the Law"), a jihadi umbrella that includes AQAP, overran al-Fadhli's hometown of Zinjibar and announced the establishment of an Islamic Emirate in the province of Abyan. It is clear that, at least for the time being, al-Fadhli probably has no choice but to make common cause with AQAP in order to survive and move about freely in Abyan. Where his changeable heart and interests ultimately lie is another matter. The USA may yet seek to coax him towards a more favorable direction when an opportunity arises, but to write him off as an AQAP ally could produce a wily and implacable foe on the order of Afghanistan's Jalaluddin Haqqani.

***

In sum, the state failed to emulate the "success" of its tribal policy in the North in the attempt to co-opt southern tribal remnants into a patronage system that functioned to centralize power. Yet, as in the North, at times and places where it has been relatively weak and in need of assistance and sanctuary to survive, AQAP has been able to establish itself in client relationships with some of the tribal groups that have become increasingly disaffected from the regime. In the South, where a popular majority view's has long viewed Saleh unfavorably and where disaffection with the regime has always been greater than in the North (Langer, 2011), increasing numbers of southerners feel that the state has nothing to offer them but stagnation or worse. In this climate, AQAP has managed to forge partnering relationships with some tribal remnants. Other southern

groups have also become more tolerant of AQAP's presence despite the popular majority's rejection of AQAP's global aims to carry out offensive actions against the Saudi regime and the United States and unite the entire Arabian peninsula into a theocratic state.

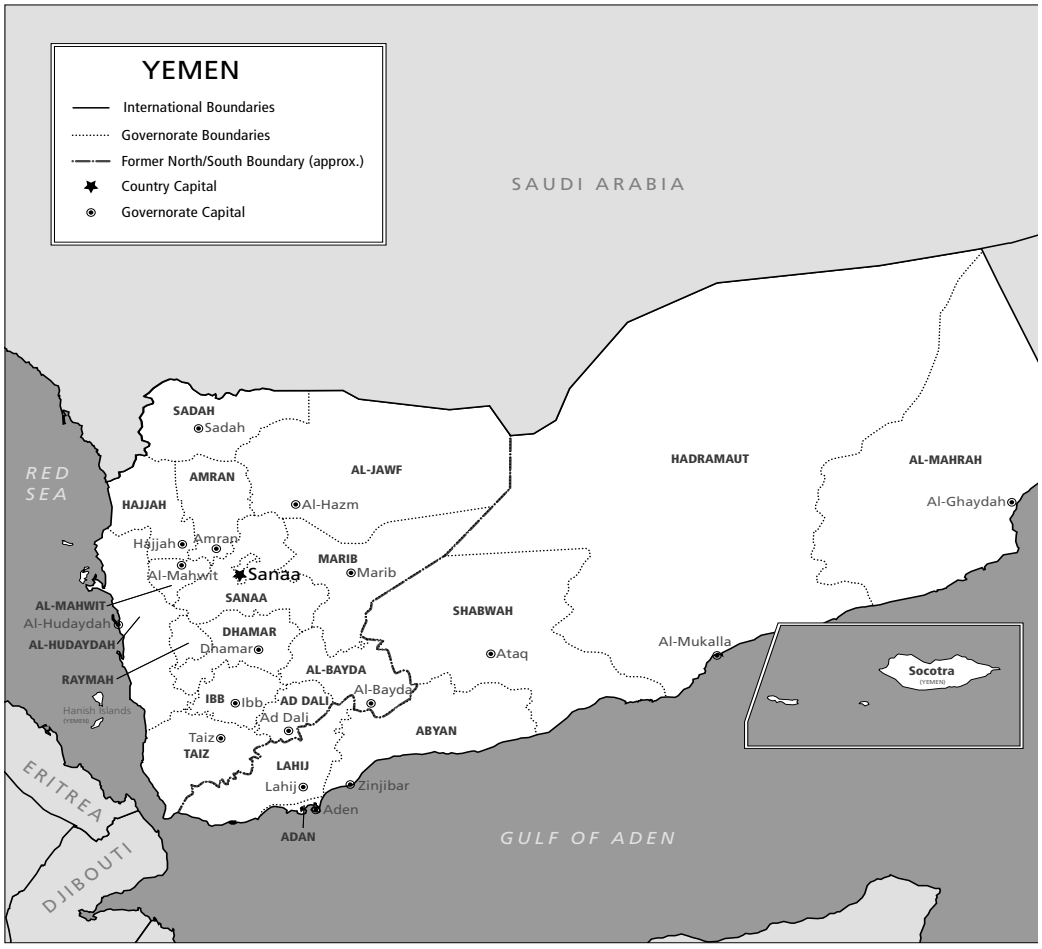
As the Arab Spring gained traction in Yemen, much of the army and security apparatus withdrew from the South to deal with the greater threat against the state's center of power in the North, and U.S. counterterrorism operations went on hold because there are no local forces to carry them out. Many commentators inside and outside the country have suggested that the withdrawal was a cynical ploy to give AQAP free play to cause havoc in the South and in Washington in order to solicit and help Saleh's return as the region's savior (Coordinating Council of Yemeni Resolution for Change). No facts or intelligence have yet come to public light that indicate that Saleh planned the troop removal to allow AQAP to rush into the gap, although it is true that Saleh has warned that without him al-Qaeda would take over Yemen.

In any event, AQAP has managed to rapidly build up its fighting capacity and influence in key southern regions. Reports for Abyan, Lahij, Sabwah and Aden note that opposition forces include a hodge podge of AQAP, non-al Qaeda Islamist militia, tribal militia and Southern Movement activists (Novak, 2011). Government officials in Abyan and Lahij have fled, Shabwah threatens to be next, and Aden is now nearly surrounded, but reports from many of the tens of thousands of refugees streaming into Aden is that Ansar al-Sharia is taking much better care to avoid civilian casualties than is the government (which continues strikes from longer range katyusha rockets and artillery (Almasmari, 2011) and from the air (Robertson, 2011) with "apparent abandon," as one CNN correspondent put it). The jihadis have banished women to their homes and prohibited alcohol on threat of serious punishment, but the refugees report that Islamist militia have taken care to prevent looting and to warn ordinary citizens away from the fighting. Ansar al-Sharia also appears to be trying to rapidly restore order and essential services and to set up a governing administration, even as it announces its next desired offensive on Aden.

Before the Arab Spring, AQAP reportedly had bases in al-Jawf, Marib, Shabwah, and Abyan governorates, and smaller footholds in Hadramaut, the largest eastern province. Its bases are mostly positioned along a north-south axis from Saudi Arabia to the Gulf of Aden, which, if connected, would separate the more populous western provinces close to the Red Sea from the eastern hinterlands. Now, it has apparently established a firm presence in Lahij to position itself in the assault on Aden. By late June 2011, AQAP and other jihadi groups had virtually surrounded Aden, the key port city of the southern Arabia peninsula, whose population of 800,000 has seen a sudden influx of 50,000-100,000 refugees from the battle zones. The Gulf of Aden, with Aden on one side and Somalia on the other, is already known as "Pirate Alley."

With control of Aden, AQAP and its Somali allies would secure a potential stranglehold on international shipping through the Suez Canal and Red Sea. There is no question that this must not pass. At least some direct US or allied naval and air deployment may be needed, but if so, the moral focus should be clearly on humanitarian assistance to the local population and not on military intervention for the future purpose of "nation-building" to ensure our own security. Once the military threat from AQAP recedes, US should help provide bottom-up peer-to-peer support for the grass roots movements of the Arab Spring. Traditional top-heavy,

government-to government programs of military assistance and development aid have proven as inefficient as they are today counterproductive, a least in the context of Yemen.



X. APPENDIX: Analyzing Tweets from Arab Countries using TweetTracker SystemData Mining and Machine Learning Lab in order to Assess the Hypothesis:

Moral issues of transcendental principles concerned with "who we are" trump material issues in revolutions, including the Arab Spring

Region/country	Number of tweets
Egypt	5.5 million
Libya	2.5 million
Syria	2.5 million
Yemen	500k
Iran	500k
Turkey	240k
Bahrain	200k
Palestine	200k
Israel	140k

Initial findings (Egypt vs. Yemen only):

1. "Protest" and "revolution" are the key movers in the tweets
2. News media seems to be important sources and target of information
3. Freedom and Democracy (with or without adding "rights") are more salient than Islam and God
4. The nation and hope for the future follow freedom/democracy and Islam/God in people's communications (and perhaps thoughts)
5. Economic (material) issues, such as oil/gas and food/price/jobs, are more salient for Yemenis, though still less important than moral and identity issues of "who we are and should be" (Freedom/Democracy/Rights/Islam/Nation)
6. Terrorism and al-Qaeda are of much greater concern/interest for Yemenis than Egyptians (we should also mine for mention of America/United States), whereas the Muslim Brotherhood (lumped with "brotherhood" because of the fairly high correlation between the two terms) is of much greater concern/interest for Egyptians than Yemenis.

Additional Analyses needed relating to temporal dynamics and socio-political change:

- There are "strategic" issues, such as "taking the temperature" of a city to see whether it is ripe for an insurrection, then there are "tactical" issues, such as knowing when and where to toss the match (if your mission is tyrannicide), and being able to assess whether a particular proposed intervention (such as imposing a random delay on tweets) will enable you to quell a riot.

- Then there are issues of modeling. We can model riots in various ways: thermodynamic, cellular-automata, and even by analogy with infectious disease.

- One additional analysis is to look at the correlations for separate time periods. For example, the correlation between instrumental – moral concepts might decrease during periods of social turmoil.

- If the data allows, probably one should go on an individual level. First, isolate the hubs that were most influential (or best connected). Second, search for opposing poles among the users (a bit problematic, because the anti-revolution individuals were probably less likely to use twitter, but still one might try to find diversity within the users).

- Instead of using keywords from the beginning, one might try to go from the bottom up. For example, one can start with all words and then pick the words/expressions/correlations that best predict the time line of the events, then look at these words and see if they can be linked to the hypothesis.

- An elaboration of the previous point: instead of looking of time series, look at the words that maximize difference between countries where the revolution happened and those where it did not. Also, compare the structure of the networks and the properties of the particular hubs.

- An extreme version of the last two points is to try to find "the revolutionary profile," which will look at all possible data correlated with a peak in activity. This could turn out to be completely a-theoretical. For example, in some personality tests, the best predictor for introversion might be if you like parsley or not, and it might be a completely silly question to ask, but it well might explain more variance that all theoretically well-designed questions. With these twitter data, we might have many such surprising predictors.

List of countries Analyzed

- Egypt with more than one million tweets matched one of the themes
- Yemen with about one hundred thousand tweets matched one of the themes

Themes and keywords

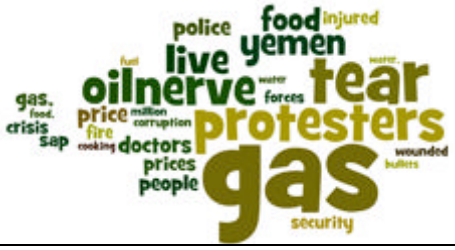
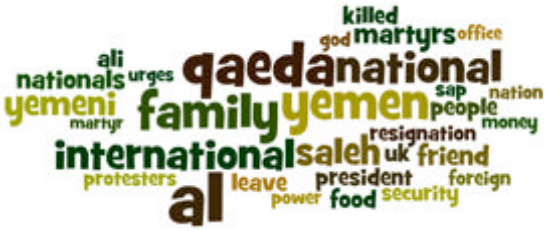
Theme1	Better life, Animal, Awakening, Better to die, Cause, Change, Charity, Christianity, Cockroach, Community, Core Values, Democracy, Demonstration, Desire, Dignity, Dignity before bread, Disgusting, Dog, Dream, Equality, Facebook Revolution, Fear, Fight for freedom, Filth, Freedom, Freedom against Tyranny, Future, Generation, Happiness, Hope, Inhuman, Intolerance, Islam, Joy, Justice, Maggot, March for Freedom, Martyr, Muslims and Christians, Opportunity, Pig, Pray, Principles, Principles of Islam, Pure, Religion, Revolution, Rights, Security, Tolerance, Twitter Revolution, Universal Rights, Values, We are all Egyptians, We are all Khaled Saeed, regime change, Determination, Victory, bankruptcy, anger, fury
theme2	Bread, Economic Aide, Food, Foreign Aid, Gas, Inflation, Jobs, Livelihood, Oil, Petroleum, Poverty, Price, Rice, Unemploy, Wheat, bankruptcy, monopolies, corruption, growth, income
theme3	Autocratic, Caliphate, Constitution, Courts, Democracy, Elections, Fundamental, Independent judiciary, Modern, Nationalism, Parliament, Patriotism, Political parties, Protest, Referendum, Reform, Totalitarian, Vote, regime change, instability, insecurity, worry, anarchy, chaos, military coup, Muslim Brotherhood, Islamism, political Islam, terrorism, leadership
theme4	Caliphate, Christianity, Intolerance, Islam, Joy, Muslim Brotherhood, Muslims and Christians, Prayer, Prostrate, Pure, religious discrimination, brotherhood, Christian-Islamic brotherhood
theme5	al Jazeera, al Arabiyyah, CNN, BBC, accuracy, distortion, politicization, misrepresentation
theme6	shura, democracy
theme7	al qaeda, alQaeda, friend, family, nation, jihad, martyr, God, jobs, wages, services, money, bread, food

Tagcloud

Egypt

Theme1	
Theme2	
Theme3	
Theme 4	
Theme5	
Theme6	
Theme7	

Yemen

Theme1	
Theme2	
Theme3	
Theme 4	
Theme5	
Theme6	
Theme7	

List of 50 highly correlated keywords

Egypt

Word 1	Word 2	Correlation
Price	Rice	0.92209
Rice	Price	0.92209
brotherhood	Muslim Brotherhood	0.83603
Muslim Brotherhood	brotherhood	0.83603
Pray	Prayer	0.72443
Prayer	Pray	0.72443
Intolerance	Tolerance	0.47764
Tolerance	Intolerance	0.47764
Independent judiciary	monopolies	0.21937
monopolies	Independent judiciary	0.21937
Change	regime change	0.15854
regime change	Change	0.15854
Food	Price	0.15767
Determination	nation	0.15007
nation	Determination	0.15007
Constitution	Referendum	0.13942
Referendum	Constitution	0.13942
Oil	Price	0.12024
Inflation	Price	0.11192
Islam	Islamism	0.10611
Islamism	Islam	0.10611
Core Values	Values	0.09672
Values	Core Values	0.09672
Elections	Parliament	0.08638
Parliament	Elections	0.08638

Word 1	Word 2	Correlation
Political parties	Referendum	0.0851
Fight for freedom	Freedom	0.084242
Freedom	Fight for freedom	0.084242
chaos	Fear	0.082725
Fear	chaos	0.082725
Reform	Constitution	0.080765
Equality	income	0.079572
income	Equality	0.079572
Gas	Price	0.078884
Unemploy	Price	0.073764
Nationalism	nation	0.069625
Animal	Dog	0.065571
Dog	Animal	0.065571
Bread	Dignity before bread	0.065445
Dignity before bread	Bread	0.065445
Justice	Equality	0.062244
jihad	brotherhood	0.061754
Joy	Pure	0.061613
Pure	Joy	0.061613
Poverty	Unemploy	0.057224
anarchy	worry	0.055937
worry	anarchy	0.055937
leadership	nation	0.055155
insecurity	Security	0.055126
Security	insecurity	0.055126

Yemen

Word 1	Word 2	Correlation
Price	Rice	0.866968045
Rice	Price	0.866968045
Pray	Prayer	0.679492437
Prayer	Pray	0.679492437
brotherhood	Muslim Brotherhood	0.636643718
Muslim Brotherhood	brotherhood	0.636643718
Wheat	Price	0.28997413
chaos	Unemploy	0.254790968
Unemploy	chaos	0.254790968
Intolerance	Tolerance	0.231393006
Tolerance	Intolerance	0.231393006
Constitution	Referendum	0.221628662
Referendum	Constitution	0.221628662
Community	nation	0.168184559
nation	Community	0.168184559
Food	Price	0.149973676
Poverty	Unemploy	0.13824685
Change	regime change	0.128483573
regime change	Change	0.128483573
political Islam	Religion	0.124960186
Religion	political Islam	0.124960186
Determination	nation	0.123536942
Modern	Christianity	0.121226735
Christianity	Modern	0.121226735
Parliament	Constitution	0.119985452

Word 1	Word 2	Correlation
shura	Values	0.107980849
Values	shura	0.107980849
Elections	Parliament	0.100720034
Islam	Islamism	0.100300539
Islamism	Islam	0.100300539
corruption	Petroleum	0.098571216
Petroleum	corruption	0.098571216
Cause	Demonstration	0.096508036
Demonstration	Cause	0.096508036
Nationalism	worry	0.090295364
worry	Nationalism	0.090295364
Freedom	Pray	0.089840097
Bread	chaos	0.089572295
insecurity	Food	0.086180127
BBC	Demonstration	0.081224211
Justice	Principles	0.07642746
Principles	Justice	0.07642746
Rights	Universal Rights	0.069784604
Universal Rights	Rights	0.069784604
Oil	Price	0.066661386
Revolution	Victory	0.065503247
Victory	Revolution	0.065503247
Security	insecurity	0.054450616
Inflation	wages	0.051337986
wages	Inflation	0.051337986

Tweet Characteristics

Egypt

Theme	Total Number of Tweets	Number of Retweets
1	678390	38349
2	75329	3689
3	319042	20504
4	117330	5693
5	195414	14631
6	59361	4427
7	149486	9146

Yemen

Theme	Total Number of Tweets	Number of Retweets
1	60085	3156
2	10312	383
3	44790	2711
4	3948	134
5	12854	671
6	2160	104
7	14265	575

Word Frequency

Egypt

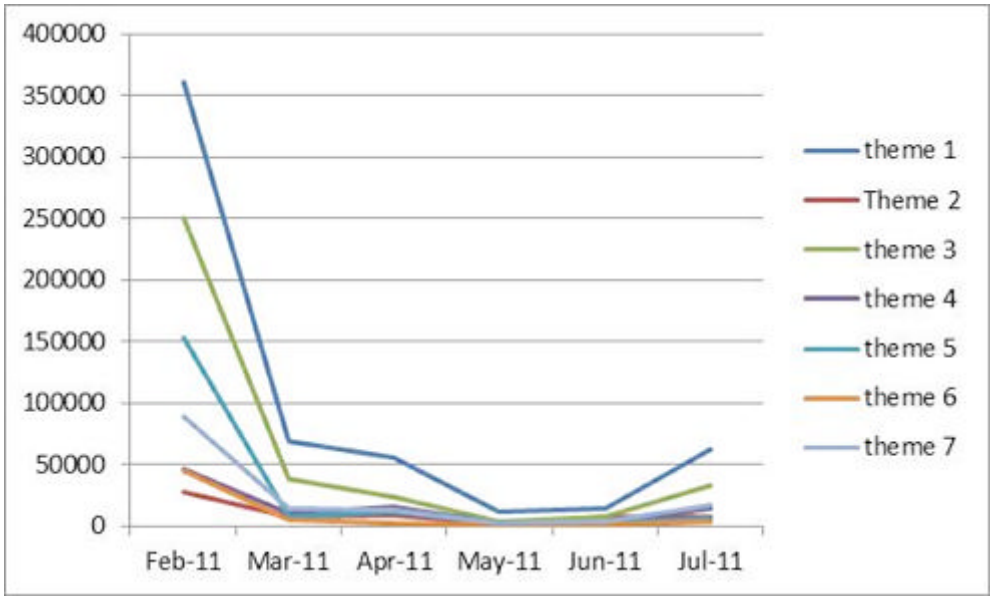
Word	Frequency	Word	Frequency	Word	Frequency	Word	Frequency
Protest	217658	chaos	9424	regime change	1059	Nationalism	279
Revolution	155483	Demonstration	9385	Poverty	1040	Filth	250
CNN	100233	Parliament	8389	Happiness	987	Petroleum	207
Freedom	70236	Vote	7845	Awakening	856	Better life	194
Democracy	56615	Joy	7695	Disgusting	794	Inhuman	193
nation	54570	Victory	7280	We are all Egyptians	764	Better to die	168
BBC	51869	Pig	6855	Desire	762	Intolerance	139
Islam	40245	money	6792	Caliphate	722	shura	134
Change	40238	Food	6624	fury	701	accuracy	133
Pray	31742	Rice	5864	Political parties	694	Totalitarian	119
al Jazeera	31738	Price	4990	Principles	690	insecurity	73
Hope	27287	leadership	4506	anarchy	675	political Islam	68
Rights	26971	Dignity	4411	al qaeda	646	Cockroach	65
Security	23485	Dog	3749	Values	641	Universal Rights	54
Gas	22896	Religion	3428	Fundamental	640	bankruptcy	49
brotherhood	20648	worry	3191	growth	638	distortion	39
friend	18407	Generation	2862	Tolerance	609	Livelihood	38
Martyr	17591	Jobs	2337	instability	591	Maggot	25
Prayer	16944	Community	2075	Courts	567	March for Freedom	20
God	16643	Pure	1981	wages	557	politicization	19
Cause	16031	Equality	1969	Fight for freedom	534	Independent judiciary	17
Fear	14610	military coup	1847	alQaeda	510	monopolies	11
Muslim Brotherhood	14518	jihad	1817	Islamism	471	Prostrate	11
Justice	13506	services	1747	Inflation	469	religious discrimination	7
family	13087	Opportunity	1542	income	454	Core Values	6
Constitution	13067	Referendum	1442	Charity	450	Dignity before bread	6
Elections	11808	Modern	1422	Twitter Revolution	404	misrepresentation	5
Reform	11704	Animal	1420	Facebook Revolution	397	We are all Khaled Saeed	5
Dream	11045	Bread	1399	Christianity	343	Freedom against Tyranny	2
Oil	11036	Unemploy	1386	Autocratic	322	Economic Aide	1
Future	10768	Determination	1295	Wheat	305	Principles of Islam	1
anger	10225	terrorism	1283	Patriotism	292	al Arabiyyah	0
corruption	9687	Muslims and Christians	1280	Foreign Aid	285	Christian-Islamic brotherhood	0

Yemen

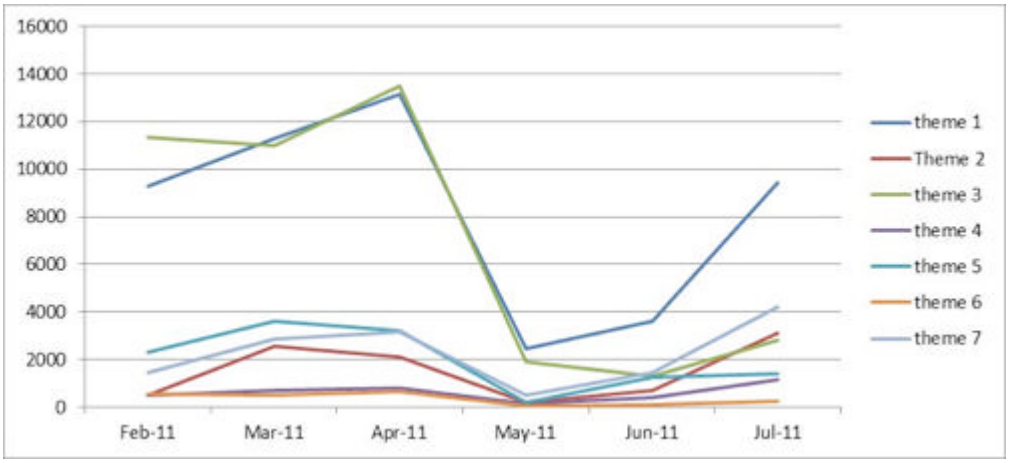
Word	Frequency	Word	Frequency	Word	Frequency	Word	Frequency
Protest	36004	Rice	558	Modern	68	Facebook Revolution	8
Revolution	11524	money	516	Religion	64	Foreign Aid	8
Security	8341	Parliament	512	Tolerance	56	military coup	8
Change	7251	Jobs	469	Animal	44	Livelihood	6
CNN	6141	Dignity	441	Inflation	44	politicization	6
nation	4982	Community	433	Generation	42	accuracy	4
Freedom	4935	Dream	426	anarchy	41	March for Freedom	4
Gas	4772	Price	420	Political parties	41	Twitter Revolution	4
BBC	4610	Dog	413	Equality	40	al Arabiyyah	3
Demonstration	2944	Joy	395	Disgusting	38	Intolerance	3
Rights	2794	corruption	342	brotherhood	37	Nationalism	3
Islam	2140	Elections	331	Awakening	34	misrepresentation	2
Democracy	2077	Victory	283	wages	34	Better to die	1
Pray	1897	jihad	216	growth	28	Christianity	1
Oil	1654	Vote	197	insecurity	27	Cockroach	1
al Jazeera	1600	Unemploy	187	Happiness	24	Patriotism	1
Hope	1502	leadership	180	income	22	political Islam	1
Cause	1428	Poverty	171	Islamism	22	Totalitarian	1
terrorism	1278	worry	163	Autocratic	21	Christian-Islamic brotherhood	0
friend	1162	services	145	Values	19	Core Values	0
Martyr	1138	regime change	129	shura	18	Dignity before bread	0
family	1137	instability	117	Charity	16	distortion	0
al qaeda	1102	Pure	109	Filth	16	Economic Aide	0
God	928	Petroleum	105	Principles	16	Freedom against Tyranny	0
anger	890	alQaeda	103	Muslim Brotherhood	15	Independent judiciary	0
Prayer	885	Referendum	98	Universal Rights	14	Maggot	0
Food	821	Desire	94	Fundamental	13	monopolies	0
Future	807	Bread	92	Better life	12	Muslims and Christians	0
Constitution	736	Pig	91	Fight for freedom	12	Principles of Islam	0
Fear	719	fury	82	bankruptcy	11	Prostrate	0
Justice	671	Opportunity	82	Courts	9	religious discrimination	0
chaos	626	Determination	80	Inhuman	9	We are all Egyptians	0
Reform	615	Wheat	76	Caliphate	8	We are all Khaled Saeed	0

Traffic Trend of individual themes

Egypt



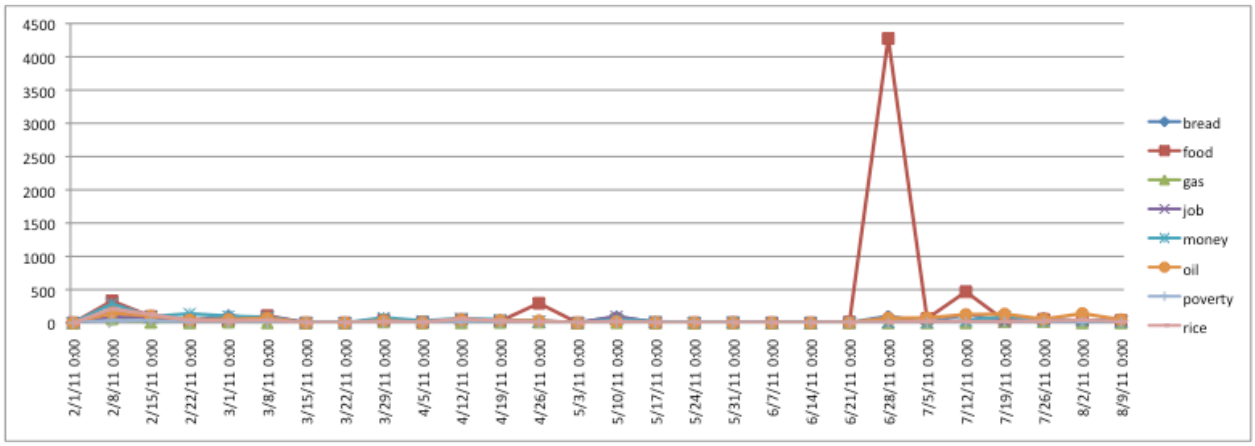
Yemen

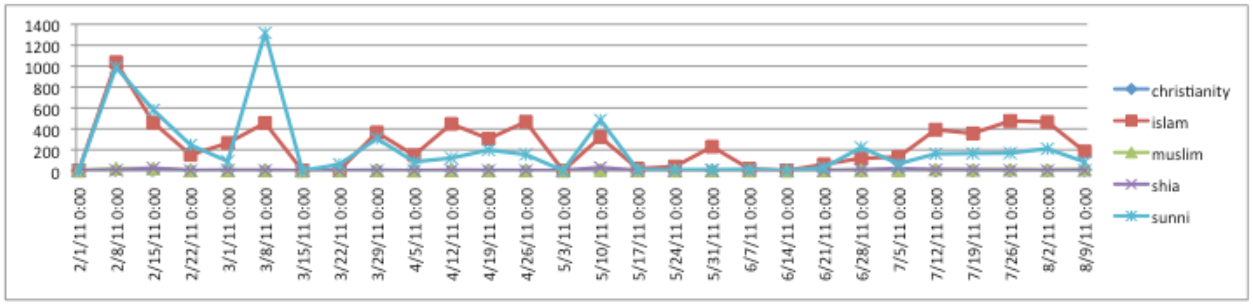


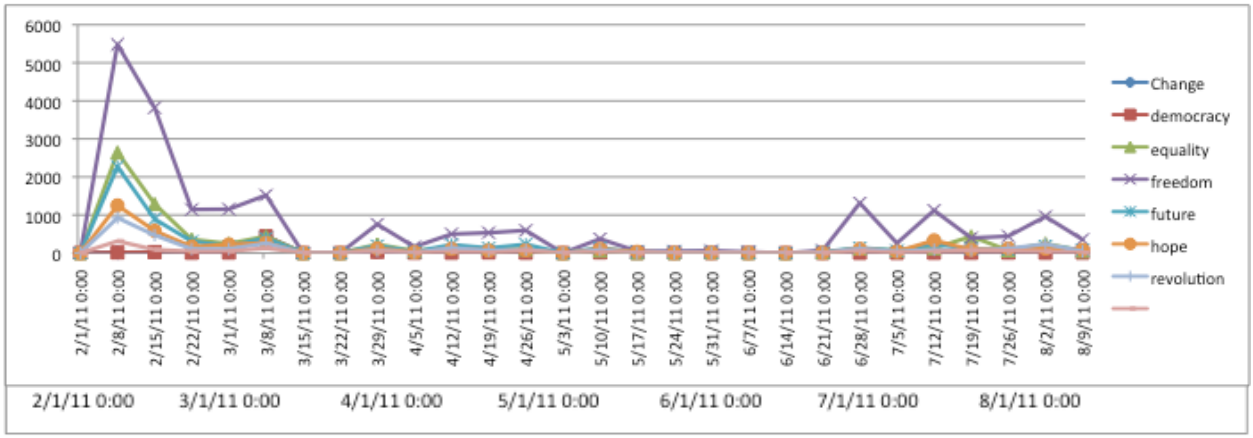
Trends of important variables extracted from tweets (Religion, Economy, Security, and Society):

Seven-day time interval was used for the following graphs, beginning from February until the current 8th August.

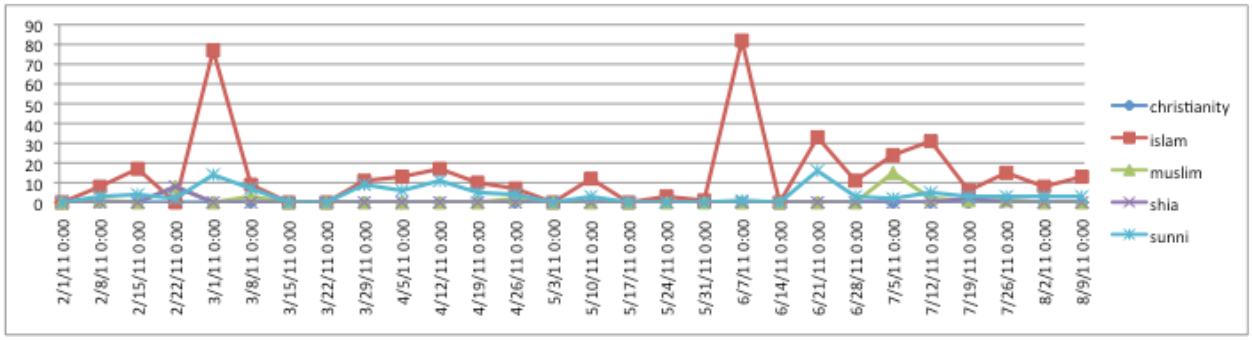
Egypt:

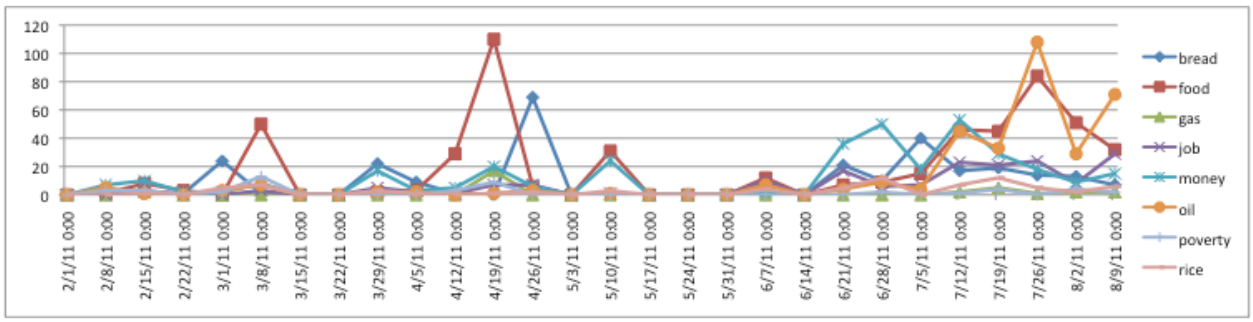


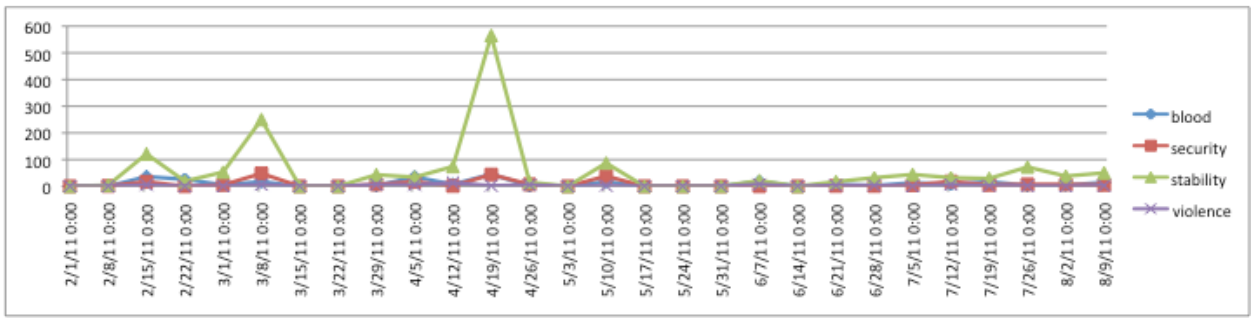


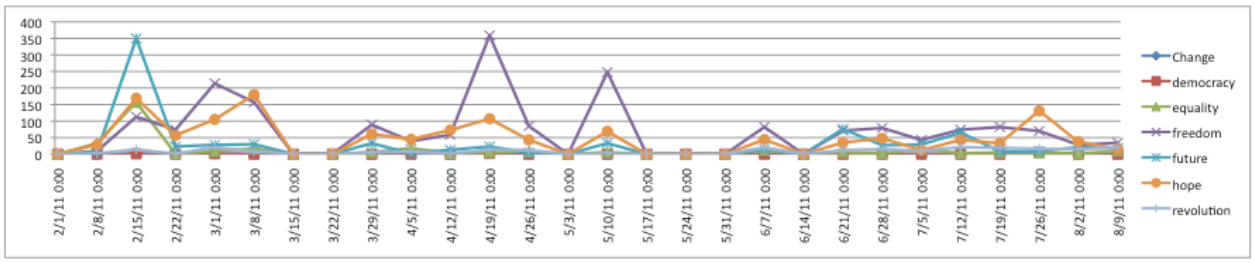


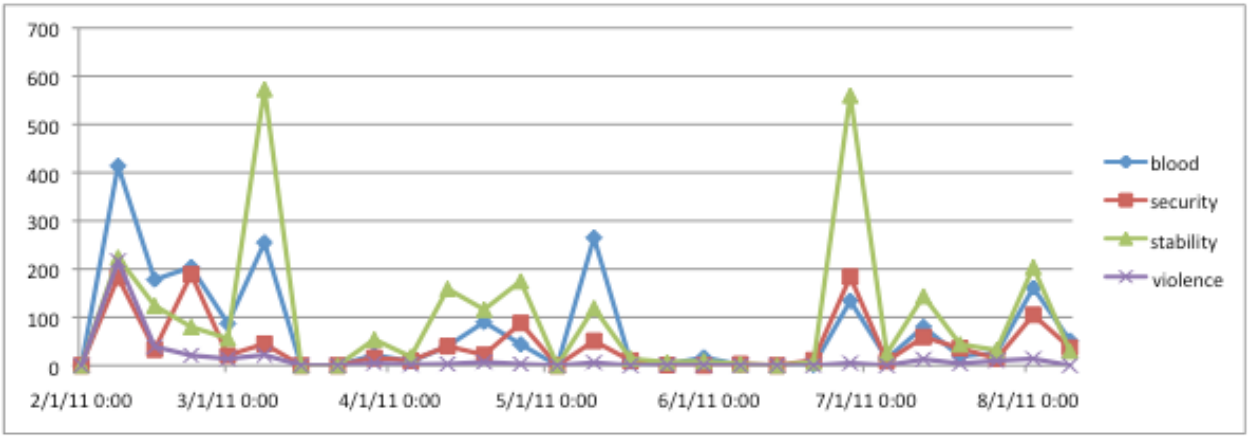
Yemen:


christianity
islam
muslim
shia
sunni


bread
food
gas
job
money
oil
poverty
rice


blood
security
stability
violence


Change
democracy
equality
freedom
future
hope
revolution



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Chapter Three

Applied Evolutionary Neurobehavior to Reduce Participation in al-Qa'ida in the Arabian Peninsula

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Introduction

The average Yemeni man, aged 18–29 faces multiple life strategy options. These may include to: (1) remain with his rural tribe in *al-Jawf* governorate, expecting to eventually inherit some land and some goats, (2) move to one of Yemen's urban centers, attempting to obtain further education to advance his life prospects, (3) immigrate full or part time to a richer nation, such as the Kingdom of Saudi Arabia (KSA) or the United States (US) from which he will send remittances back to his family, or (4) join AQAP.

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This essay will show how the evolutionary neurobehavior (ENB) approach empowers a predictive analysis of the Yemeni man's behaviors. One can hardly generate valid and reliable predictions for any individual, nor should one exaggerate the likelihood that adopting an evolutionary neurobehavioral analysis will make the U.S. safer. The science of analyzing motivation and predicting behavior based on ENB theory is in its infancy. No evidence exists that, to date, such an analysis has enhanced the predictive power of policy makers or increased the efficacy of any socio-political policy or military strategy. Indeed, successful policy makers may be those who simply follow their instincts to estimate the impact of proposed policies on brains' calculation of inclusive fitness outcomes.

In all candor, it remains to be seen if formally analyzing those benefits and costs significantly improves on a brilliant leader's best guesses. One might, however, generate plausible, ENB-informed predictions for a population of Yemeni men facing known environmental contingencies and having to make important life choices—such as whether or not to join AQAP. While quantitative ENB-based analysis of motivation requires a rigorous future research program, the principles of ENB are directly and intuitively applicable to political psychology. Leaders and policy makers guided by these principles may make better decisions, since—rather than being distracted by an opponent's proximate, consciously affirmed, superficial goals—they will be aware of the real factors motivating political behaviors.

The essay will offer (a) a primer on the science of evolutionary neurobehavior (ENB), (b) an analysis of the Yemeni socio-economic-political factors relevant to ENB and the allure of AQAP, and (c) implications for and unintended consequences of action informed by ENB-based analysis of motivations to participate in violent extremism in general and AQAP in particular.

The big picture

On December 25, 2009 a Nigerian named Umar Farouk Abdulmutallab attempted to bring down Northwest Airlines flight 253 enroute from Amsterdam to Detroit, probably with a mixture of pentaerythritol tetranitrate and triacetone triperoxide. Why?

A potentially dangerously simplistic analysis might attribute this event either to (a) three AQAP leaders (Anwar al-Awlaki, Samir Khan, and Ibrahim Hassan al-Asiri), or even (b) to the presence in Yemen of a small number (perhaps 200 – 300) (e.g., Terrill, 2011) of committed Sunni Muslim Salafist members of a group that calls itself *al-Qa'ida in the Arabian Peninsula* (AQAP) and the perhaps somewhat overlapping cluster, *Ansar al-Sharia*, (the Movement for Sharia). Yet one must examine the real causes to determine the best point at which to intervene to prevent similar or worse attacks. Mr. Abdulmutallab was reportedly trained in Yemen between August and December of 2009. AQAP reportedly provided that training. However, radicalized Nigerians, Indonesians, Spaniards, or American citizens appear to also acquire the same inspiration and training in a dozen other places, conducted by a dozen other Islamist-oriented VEOs. Can the U.S. understand the common denominator in joining VEOs?

The recently released National Strategy for Counterterrorism (The White House, 2011) states, "The United States faces two major CT challenges in the Arabian Peninsula—the direct threat posed by al-Qa'ida in the Arabian Peninsula (AQAP), and the large quantity of financial support from individuals and charities that flow from that region to al-Qa'ida and its affiliates and adherents around the world." On June 29, 2011 John Brennan, Assistant to the President for

Homeland Security and Counterterrorism, delivered remarks at the Paul H. Nitze School of Advanced International Studies, bearing a title that referred to "ensuring al-Qa'ida's demise." I fully support al-Qa'ida's demise. Many aspects of the Obama strategy seem well thought out—consistent with the problem, with our capabilities, and with our principles. Yet I am concerned that this focus on al-Qa'ida, and indeed on counterterrorism itself, underestimates the threat.

The risk of jihadi terrorist attacks on the U.S. has less to do with a specific geographically circumscribed al-Qa'ida affiliate than with an historic global anti-Western jihadi movement arising from widespread Muslim disaffection, of which al-Qa'ida is only a part, and AQAP a smaller part. It is irresistible to attack what seems to be a concentrated cluster of dangerous people, such as the Yemen cluster. Regardless of the psychological wisdom or strategic value of such attacks, the psychology of enthusiasm for punishment and the press of domestic politics will require them. It may in fact be tactically useful to eliminate the entire current membership of AQAP and al-Qai'da; arguments could be made for or against such a project, and insufficient research has been done to predict the net costs versus benefits to U.S. security. Yet one might take a step back from the focus on defeating AQAP to ask why there is an AQAP.

If anti-Western rage has a finite (albeit dynamic) global volume, squeezing the Yemen balloon does not necessarily change that global volume or provide any more than a brief, transiently satisfying, potentially irrelevant respite from what may well be a coming century of attacks. Even vanquishing al-Qai'da may be just a milestone on a long road. A psychologically informed, strategically effective U.S. counterterrorism doctrine must include a bold examination of this bigger picture. I believe that, perhaps more than a counterterrorism doctrine or even a counter-extremism doctrine, we need a counter-the-Muslim-perception-of-a-clash-of-civilizations doctrine. So long as the renaissance in militant Islamism persists, true believers will be inspired to form networks that will seek to harm the U.S.

Therefore, although the focus of this brief essay is on applying evolutionary neurobehavior theory to informing potential policies and strategies that may reduce recruitment to AQAP, that goal must ultimately be examined within the extremely politically sensitive big-picture frame. Of course we are obliged to try to reduce the threat from Yemen. Knowledge of the evolutionary neurobehavioral basis of that threat may help. At the same time, we must candidly discuss whether anything we do in Yemen would make America significantly safer over the next 20 years, or if we will be faced with unintended consequences.

Yemen today

At the time of this writing, Yemen's President Saleh is in Saudi Arabia, reportedly being treated for wounds received in an attack that was perhaps launched by the powerful Ahmar family in retaliation for Saleh's attack on their family compound in Sana'a. Saleh is continuing to resist the pressure of the U.S. and Saudis to sign a Gulf Cooperation Council (GCC) brokered transition/immunity agreement and step down—apparently in spite of a visit on 7/09/11 by John Brennan (Sanger, 2011). A humanitarian crisis is rapidly developing in Yemen (Kasinof, 2011) that may overshadow the political unrest produced by a weak alliance of various opposition factions, since attacks on oil facilities have reduced this oil exporting country to importing fossil fuels—a phenomenon that has led to widespread shortages of gasoline and diesel, which has the secondary effect of reducing access to the precious water that must be pumped from deep wells

in this desperately arid country. It is unclear at what moment Yemen will graduate from a failing to a failed state.

Meanwhile, the radical Islamist group AQAP is in the process of morphing from a violent extremist organization to a Taliban-like insurgency. Disciplined Islamist militants from Yemen and Saudi Arabia, and perhaps also from Iraq, Somalia, and Sudan, control the provincial capital city of Zinjibar, as well the town of Jaar and other parts of Abyan Provnce. Other Islamists control part of the town of Hawta in neighboring Lahj province (Worth, 2011). Townspeople fled Zinjibar, although they may have more trust in the militants than in the central government troops, since the militants warned residents with loudspeakers, and put local Yemenis in charge, unlike the police and security forces, who are viewed as occupiers. " 'These al-Qa'ida people didn't steal our houses, they protected them', said Ali Muhammad Hassan, a 31 year old government clerk."

Why there is an AQAP

AQAP has evolved in Yemen for two reasons. First, and foremost, there is an AQAP because a global renaissance of Islamist ideology and anti-Western sentiment emerged among Muslims, especially after the decline of Arab nationalism. It is beyond the scope of this essay to review the arguments, but suffice it to say that the current, historically dangerous tensions between Muslims and non-Muslims derive from such factors as:

- Persistence of simmering ingroup-vs.-outgroup tensions since the Crusades,
- The widespread Muslim perception that the U.S. supports Arab tyrants and taints the sanctity of Islam not only with boots of Judeo-Christian fighters, but also with corrupt (but irresistible) cultural incursions,
- A renaissance of Salafist, especially Wahhabist ideology,[2] that advances an alluring narrative of Muslim victimization at the hands of Westerners and the Muslim duty to fight the corrupt and morally despicable enemies of Islam,
- An enhanced sense of mortality salience and existential threat among Americans since 9/11, precipitating electoral tolerance of ill-conceived military occupations of multiple Muslim lands, which has exacerbated Muslim perceptions of an escalating clash of civilizations and seemingly confirmed the truth of the Salafist warnings about Western designs on the Holy Land, and
- The widely held perception that the U.S. enthusiastically supports Israeli injustice in the treatment of Palestinians.

Suffice it to say that AQAP—and indeed al Qaeda itself—is not the root problem. The U.S. faces a global and historic threat, like a metastasizing cancer, with fingers of dangerous cells easily migrating to multiple vulnerable tissues where they are likely to flourish and grow. That disease will survive the most concentrated attack on any specific tumors.

The second reason there is an AQAP has to do with the unique advantages of Yemen as a home for Islamist jihadis.

[2] This renaissance began when Mohamed ibn Saud allied with Abd al-Wahhab in the late 18th century but has been emergent since the 1930s—promoted from fringe to mainstream status in collective Muslim consciousness by U.S. support for Islamists in a proxy war against the Soviets in Afghanistan, yet has been more recently primarily disseminated because of generous Saudi support.

Why Yemen is an attractive home for AQAP

Yemen is an attractive home for AQAP for multiple reasons. Socioeconomic, demographic, historical, political, cultural, and geographic factors interdigitate to make Yemen a fairly safe haven (see Table 1).

The question is what to do about the cancerous presence and metastatic potential of AQAP, given (a) the limits of current knowledge regarding the factors likely to promote supporting or joining this violent or any extremist organization (VEO), (b) the characteristics of Yemen that make it a uniquely attractive home for such a group, (c) the constraints on and likely blowback from the U.S. launching yet another war. To address these tough questions, I propose that we first take a step back—to transcend the particulars of this case and invest some effort in trying to understand why people do things. There is a reason men join AQAP. There is a reason men are willing to risk death, or even strap on explosives and walk to certain death, in pursuit of goals. To understand how best to counter these motives, I propose we consider a novel, scientifically informed way to quantify human motivation.

Table 1: Factors relevant to inclusive fitness that make Yemen a safe haven for al-Qa'ida in the Arabian Peninsula

I. Socioeconomic/demographic	III. Political
A. Poverty	A. Failing state status
B. Population dynamics	B. Leadership vacuum
C. Salafist educational system	C. Internal conflicts:
	Saada/Houthi conflict
II. Cultural	Southern secessionist movement
A. Anti-Americanism	Opposition movement
B. Tribalism	D. Institutional injustice
C. Sectarian religious divides [Sunni Muslim identity]	E. Mainstream Islamism
	F. Dependent relationship with KSA
D. Culture of honor/revenge/anti-social punishment	
	IV. Geographic
E. Universality of weapon access	A. Saudi-adjacent
F. Tradition of protecting guests	B. Somalia-adjacent
G. Anergy, perhaps related to *qat* addiction	C. Bab al-Mandeb strait-adjacent
H. Emotional distress	

The evolution of behavior

The essential concept of evolutionary neurobehavior (ENB) is that animals have evolved to behave in ways that tend to favor the transmission of their genes. If they did not, they would have been swept away by the tide of natural selection. Whether under the rubric of sociobiology, evolutionary psychology (EP), or evolutionary neurobehavior (ENB), this core concept is the same. As Tooby and Cosmides (1990) put it: "To whatever non-chance extent organisms are behaving adaptively, it is 1) because of the operation of underlying adaptations whose present design is the product of selection in the past, and 2) because present conditions resemble past

conditions in those specific ways made developmentally and functionally important by the design of those adaptations."

The emphasis on past conditions deserves note. One cannot watch a person activating a suicide vest and readily interpret that behavior's adaptive value, in part because there were no such vests available when the genes constraining human decision-making evolved. Even early economic theory (before its deviation into expected utility theory) recognized this fact, as Tugwell eloquently summarized in 1922:

Man is equipped with the psychical and physical make-up of his first human ancestors; he is the sort of being who functions best in the exhilarations and the fatigues of the hunt, of primitive warfare, and in the precarious life of nomadism. He rose superbly to the crises of these existences. Strangely and suddenly he now finds himself transported into a different milieu, keeping, however, as he must, the equipment for the old life. Fortunately his power of reflecting (there seems to be an innate tendency to reflect and learn which is a distinguishing characteristic of our species) has enabled him to persist under the new conditions by modifying his responses to stimuli.

Darwin (1871) explicitly discussed the necessity that behavioral traits were selected, just as were physical or physiological traits, and Fisher discussed "inherited qualities of mind" in his 1930 text, *The genetical theory of natural selection* (p. 208). Ethologists Konrad Lorenz and Niko Tinbergen were vocal advocates of the concept of inherited behavioral traits, contributing important essays from the 1930s through the 1950s (e.g., Lorenz & Von Cranach, 1995; Tinbergen, 1951). Hamilton (1964) and Williams (1966) fleshed out the theory with proposals to quantify advantageous behaviors (although they stopped short of addressing motivation). Yet modern EP/ENB revolution indisputably began when ethologist E.O. Wilson published his seminal work *Sociobiogy: The new synthesis* in 1975. His final chapter titled "Man: From sociobiology to sociology" (pp. 547-575) was a startling-for-the-time theory that opened the floodgates to earnest research. Scholarly give and take regarding EP/ENB science over the last four decades has clarified the pitfalls of indiscriminate extensions of the theory and inappropriate tests of hypotheses, while demonstrating the essential robustness of the ENB concept.

There is natural resistance to the concept of evolved and genetically based patterns of behavior. The history of resistance to the concept extends back to the end of W.W.II, when it became known that Lorenz had generated outrageous extrapolations from the core theory in support of Nazi racism (Burkhardt, 2005). Later resistance was based more on reasonable concerns about the degree to which human actions are (a) evolved adaptations and (b) determined by genes (e.g., Gould & Lewontin, 1979; Buller, 2005). It is undeniably emotionally challenging to accept that, in important ways, our life choices are orchestrated by our genes to increase their own chance of persistence (e.g., Dawkins, 1976, 1982). The very idea pricks the cherished illusion of free will. Yet today, evolutionary psychology is regarded as a foundational scientific paradigm and as a bridge permitting transdisciplinary understanding of all animal behavior—facilatating productive new links between behavioral genetics, neurobiology, behavioral neurology, individal and social psychology, anthropology, sociology, criminology, decision making and game theory, and political science—including terrorism studies (Buss, 1984, 1990, 1995, 2005; Caporael, 2001; Cosmides & Tooby, 1994; Daly, & Wilson,1995; Kenrick, 1994; Lumsden & Wilson, 1981;

Maynard- Smith, 1979; Nettle, 2009; Sear, Lawson & Dickins, 2007; Simpson, 1995; Tooby & Cosmides, 1989, 1990, 1992; Victoroff, 2005, 2009).

In an accelerating trend, social and political scientists are working to apply the insights of ENB to the analysis of political phenomenon such as conflict and terrorism (e.g., Schubert, 1989; Alexander, 1979; Ginges, Hansen, & Norenzayan, 2009, 2010; Kanazawa, 2007; Kenrick, Li, & Butner, 2003; Lawson, Jordan, & Magid, 2008; Liddle, Bush, & Shackelford, 2010; Qirko, 2009; Ross, 1991; Trivers, 2002; Victoroff, 2009). Translating theory into practice is something else; insufficient empirical research has been done, applying algorithms for human motivation derived from evolutionary theory and testing hypotheses regarding their fit with observed behaviors. However, as this science matures, makers of public policy and military strategy will gain new powers. Ultimately, we may have a model in which certain factors may be tested to determine the likelihood of increasing or decreasing the average 18 – 29 year old Muslim man's motivation to join a VEO.

What's in a name?

The term "evolutionary psychology" (EP) has become popular over the last 25 years. It quickly supplanted the term "sociobiology" as a descriptor of a discipline devoted to understating the evolutionary basis of animal behaviors (Webster, 2007). However, the denotations and connotations of EP can be misleading. EP denotes a study of mental processes, and connotes the presence of a psyche. Yet EP has been applied to investigations of such non-psychic phenomena as alterations in mammalian regional cerebral blood flow or behavior observed among single celled organisms or collectives, such as the slime mold that emerge from cooperative amoeba. Indeed, the first green beard gene—a gene that confirms Dawkins's prediction of a genomic basis for animal altruism—was demonstrated in the social amoeba *dictyostelium discoideum* (Queller, Ponte, Bozzaro, & Strassmann, 2003).

If the topic of interest is not really the evolution of psyches, then EP may be a suboptimal term. White, Dill, and Crawford (2007) proposed the phrase Adaptive Behavioral System, which is intended to describe the way an organism's life history tasks are organized within an evolutionary framework. This broader alternative terminology is appealing, as it applies to the genera of motile life, from protists to people. Yet I admit a bias toward studying the kingdom *animalia*—sexually reproducing organisms, many of which have neurons. So much knowledge has been gained in the last half century clarifying the neurophysiology of behavior and so many factors relevant to animal motivation and decision-making are linked to cerebral architecture that I propose the present framework of inquiry might usefully be called evolutionary neurobehavior (ENB).

To summarize this introduction: one would like to estimate the likelihood that a particular factor will increase or decrease the motivation of a typical young Yemeni man to join AQAP. ENB-based analysis may enhance the accuracy of such estimates. To see how one might roughly quantify motivation for extremism, it will be useful to first consider three critical biological concepts: fitness, life history strategy, and altruism.

A primer on fitness

The concept of fitness in evolutionary theory is seemingly straightforward. An organism is fitter if it can transmit more copies of its genes. Fitness is usually denoted by the term ω.

At the simplest level of analysis, one can discuss *direct fitness*, the measure of an organism's capacity to pass on its genes to its own direct descendants, versus *indirect fitness*, the measure of all the organism's non-descendant relatives' contributions to the persistence of his genes. *Inclusive fitness* refers to the total capacity to transmit genes, and equals the sum of direct and indirect fitness, thus:

Direct fitness + indirect fitness = inclusive fitness

Note that a subtle but philosophically important distinction should be made between reproductive rate and fitness. Reproductive rate refers to actual quantification of offspring or genes transmitted. Fitness is a more elusive concept, referring to the capacity to transmit those genes. Multiple definitions of direct fitness have been proposed beyond the tendency to leave more or fewer offspring, including (a) the ability to pass on alleles, (b) the product of fertility and survival, (c) the asymptotic rate of increase of individuals possessing a given genotype in a population, or (d) "an unspecified measure of survival and reproductive prowess" (McGraw and Caswell, 1996; also see de Jong, 1994). Hamilton (1964), for instance, advised that fitness should reflect what the individual brings to the table of reproductive success, but not what others in his social group bring. In his description of how to estimate fitness, he verbally described the component to be subtracted (usually expressed e^0) as "all components which can be considered as due to the individual's social environment." Yet measuring that contribution is elusive. How confident are we that a given man's production of five offspring would have been lower or higher, and by how much, if we subtract communal help? Lucas, Creel, and Waser (1996) commented that sorting out the magnitude of social contribution to be stripped from the calculation of fitness may not matter when examining only a single generation, "However, this statement does not hold if inclusive fitness effects are summed over more than a single reproductive season and if alternative decisions differ in their risk of mortality."

In my opinion, Hamilton was mistaken. If fitness is an innate trait, one vital feature of that trait among all social organisms is the ability to attract help. Although one could theoretically "strip" a measure of inclusive fitness of the degree of success attributable to that help, to do so would be to discount the selective value of sociality, cooperative capacity, and reciprocal altruism. To strip away the help of others would be to say that we should model the fitness of a beautiful 17 year old girl without regard to the impact of her appearance on her reproductive output. Traits that attract interest, help, or altruistic donations are fitness promoting traits.

This matters for political psychology. Brains have been selected that quickly make calculations of fitness impact when comparing behavioral options. One wants to calculate a person's potential to promote the persistence of his genes—for instance, by undertaking a political action—and how different action options he faces are likely to motivate him. Anticipated social consequences, such as whether one's behavior will enhance reproduction and increase donation of aid by others, enter into that calculation.

However, several barriers block the quantification of one brain's estimates of the fitness consequences of a decision. First, as noted above, measurements of fitness have eluded 80 years

of scholarship. Empirical research has yet to offer sufficient data to permit one either to (a) estimate the size of the multifactorial multigenerational fitness outcome derived from a given act, or (b) measure how brains factor their estimation of that fitness outcome into decisions. This is one reason why, while ENB theory posits that individuals are motivated to maximize their *fitness*, it is far easier to present quantitative arguments in terms of likely *reproductive rate*. Second, there is a difference between the accessibility of average reproductive rates from demographic data, versus the challenge of predicting compliance with those averages for any individual. So we can roughly quantify average likely choices, but not necessarily individual motivations.

The greatest problem with applying ENB theory to the prediction of action is that—regardless of realistic calculations of the impact of a choice on reproductive output—the individual's brain bases its decision on *perception* of the fitness value of a life choice (e.g., deCatanzaro, 1999). Perceptions vary. Survey research can provide hints regarding such perceptions. Individual psychological interviews or close observation of behaviors might reveal hints regarding the way one individual's brain perceives the benefits and costs of different choices. We do not have a valid and reliable measure of perceived fitness outcome.

We can, however, analyze inclusive reproductive rates, estimate a person's level of confidence in the relative merits of two options, and derive a rough calculation of his motive to pursue one versus the other.

Reproductive rate

Consider a young Yemeni man named Ali. Ali's offspring each carry half of his genome. This is called a coefficient of relatedness of 0.5. If Ali fathers one child, he transmits 1/2 copy of his gene complement to the next generation. His *relatedness* or *r* (0.5) times his *number of offspring* (1) is one measure of his direct *reproductive rate*, ρ. Thus, if we stop at the first generation, one might say Ali has a direct reproductive rate of 0.5. If he fathers two children he transmits 1/2 his gene complement twice—sending a total of 0.5 X 2 = 1.0 total copies of his gene complement on to the next generation. Thus, simply by fathering a second child, Ali has doubled his direct reproductive rate—an approximation of his direct fitness—to 1.0. One problem with translating reproductive rate into fitness is that the measure described above is retrospective. It looks at Ali as an inevitably successful father. Instead, one's goal is often to estimate fitness of a person who has yet to have children—such as a young, single Yemeni man contemplating his life options.

Such a man may or may not survive to get married. He may choose a more or less risky lifestyle. Fitness of an organism can thus be defined as the probability *p* of that organism reaching adulthood times the expected number of offspring *e,* or *pe* (Sober, 2001). For example, Ali may choose to become a goatherd, a computer repairman, or a militant. In his society, the average man will have approximately 5.0 offspring. Surviving militants conceivably do better than goatherds or computer repairmen in the dating world—because risk-taking may enhance popularity (Burt, 2009; Deneuve & Genty, 2001; Guo, Cai, Guo, Wang, & Harris, 2010; Zaromatidis, Carlo, & Racanello, 2004) and reputation gain as a fighter may do the same—and have an average of 6.5 children (one illicit) to the goatherd's or computer repairman's 5. Yet while 95% of future computer repairmen survive to be fathers, perhaps only 75% of militants

will survive. In this case, Ali-the-soldier has a fitness (*pe*) of 4.875, exceeding Ali the computer repairman's 4.75 despite increased risk.[3]

Another problem with estimating direct fitness based on measuring reproductive rate: it is not necessarily ideal for the purposes of political psychology to define either fitness or reproductive rate stopping at the first generation. Ali's children will probably have children. Each of them will bear ¼ of grandfather Ali's genes ($r = 0.25$). If Ali has the Yemeni average 5 children plus 25 grandchildren, he's added a second generation 0.25 X 25 = 6.25 to his ρ, for a total of 12.0.

A practical question: At which generation should one stop measuring reproductive output? Unless we decide on a stopping point, by geometric progression, every man's inclusive fitness will approach infinity. I propose a reasonable compromise to be two generations. I posit that human brains generate motivations and actions to maximize inclusive fitness. Some part of that generation involves conscious consideration of future consequences. Conscious human foresight during the early reproductive years is limited (15 year old boys are powerfully motivated to seek sexual intercourse but hardly consider reproductive output), although during later years perhaps includes estimates of becoming a grandparent. Understanding that temporal discounting occurs, for the purposes of a preliminary algorithm, it may be useful to examine how life history choices tend to impact the first two generations.

How well can we measure inclusive fitness?

Direct fitness (or reproductive rate) hardly describes an individual's total genetic legacy. His gene complement may be shared as well with many non-descendant relatives. He shares 0.5 of his genetic complement with each of his parents and sibs, 0.25 with his aunts and uncles, 0.25 with each nephew and niece, 0.125 with each cousin, and so forth. These relatives contribute to his *indirect fitness*. Indirect fitness might be conceived as the summed number of his non-descendant relatives, his relatedness to them, and their direct reproductive rates.

Although inclusive fitness is a central concept in evolutionary biology—and although I will argue that inclusive fitness drives human actions, such as the decision to join AQAP—quantifying inclusive fitness is even more challenging and controversial than measuring direct fitness. An ongoing debate exists reflecting the tangle of concepts between (a) number of genetic complements transmitted, (b) vitality, (c) reproductive success of future generations, (d) factors that contribute to that success, and (e) number of generations considered (e.g., Grafen 1982, 1984; Creel 1990; Lucas, Creel, & Waser, 1996).

One popular approach for estimating inclusive fitness has been Leslie's age-classified population projection matrix (1945, 1948). In such a matrix, age-specific fertilities are expressed in the first row and age-specific survival probabilities expressed on the diagonal, with both figures usually obtained from life tables (McGraw & Caswell, 1996). Such a matrix facilitates measurement of individual fitness by estimating the asymptotic growth rate of a collection of individuals who share the traits for survival and fertility of the individual under consideration. Oli (2003) advanced this approach, deriving equations for indirect and indirect reproductive rate and fitness using projection matrices. He suggests that, for individual *k* of age class *i*, direct reproductive

[3] Note that these figures are invented. One major limitation of the application of ENB to U.S. policy decisions is the paucity of demographic data. While some information is available describing the life histories of AQAP leaders, little is known about followers.

rate can be expressed as $F_i^{(k)} = m_i^{(k)} r$, where m_i is the number of offspring and r (or relatedness) is again the genetic contribution of each parent to their offspring. Indirect reproductive rate for individual k in age class i, or $\theta_i^{(k)}$, might be expressed as the sum of relatedness-weighted direct reproductive weights of all non-descendant relatives, or:

$$\theta_i^{(k)} = \sum_{l=1}^{n} r_{kl} F_i^{(l)}$$

where r_{kl} is the coefficient of relatedness between individual k and individual l, n is the number of non-descendant relatives, and $F_i^{(l)}$ is the direct reproductive rate of individual l when initial k is in age class i. Setting aside the more elusive issue of *fitness*, total *reproductive rate* (a rough estimate of inclusive fitness) could then be expressed as:

$$F_i^{(k)} + \theta_i^{(k)}$$

Oli's formula for total reproductive rate might be regarded as a useful stopgap on the way to a measure of inclusive fitness.

A detailed description of the comparison between reproductive rate and fitness and the relative virtues of different proposed quantifications of inclusive fitness is beyond the scope of this pilot essay. Suffice it to say that the mathematics of this important discipline are still evolving. As Taylor, Wild, and Gardner advised (2007), "Inclusive fitness offers us a powerful heuristic, of choosing behavior to maximize fitness, but direct fitness can be mathematically easier to work with and has recently emerged as the preferred approach of theoreticians." Yet even measuring direct fitness requires resolving the debate regarding innate potential versus observed production. The formulae above are offered because, ultimately, explanations for human motivation must be based on best estimates of the brain's calculation of the impact of a contemplated action on inclusive fitness. However, for the purposes of this pilot project, the mathematical controversies regarding *fitness* measurement are best set aside. Instead, the essay will focus on more accessible estimates of inclusive *reproductive rate*, which may be expressed as ρ.

Life history strategy

As noted in the foregoing discussion, people pursue more or less risky careers. Career choice is just one major facet of diversity in behavioral temperament. From the point of view of ethology, choosing a more or less risky career is essentially making a choice of life history strategy (LHS).

Animals cannot live forever. According to the theory of antagonistic pleiotropy, evolution has selected genes that support an organism's early life survival and reproductive fitness at the expense of indefinite vitality (e.g., Sozou and Seymour, 2004). Ethologists divide animals into those that deal with this problem by tending to live short lives, pursue promiscuous mating, and quickly produce many offspring, only a few of which are expected to survive, versus those who tend to live longer lives, more selective mating, permanent or serial pair-bonding (often associated with ferocious mate-guarding), and produce fewer offspring, each requiring more parental investment, a high proportion of which are expected to survive. The fast-living-with-many-offspring life history strategy is called an r-selected LHS. The slow-living with –fewer

offspring life history strategy is called K selected (Figueredo et al, 2007; Getz, 1993; Hill & Kaplan, 1999; Parry, 1981; Roff, 1992; Rushton, 1985).

Different individuals in the same species and social group may pursue different LHSs. For example, among *Pustulosus* frogs, some males will announce themselves to potential female mates with a whine-only mating call, other males will deliver a whine followed by one or more short chucks. Whine-only males are less likely to attract a female, but also more likely to survive the night, since predators have more difficulty locating them. Whine-chuck males are more likely to mate that night, but also more likely to be eaten (Rand & Ryan, 1981). Humans and other animals calculate not only the impact of their own acts on the world but on the social milieu—on the minds of others—based on the assumption that others have minds like their own, the so-called theory of mind (TOM) (e.g., Dennett, 1978; Keleman, 1999; Premack & Woodruff, 1978; Whiten, 1991). Some non-human behaviors have been interpreted as evidence that animals take TOM into account when deciding whether to pursue slower or faster LHSs—for instance, when cave-dwelling little blue penguins calculate the risks and benefits to their survival of making more or less aggressive displays toward others, based on their estimation of how their social competitors are most likely to respond (Waas, 1991). Teens meeting others on street corners, or militants sighting convoys of Humvees, all face similar internal debates. The conundrum is universal: one can invest in a higher-risk-higher-gain fast LHS or a lower risk-lower gain slow LHS.

Strong evidence exists that human temperament is characterized by a variation in LHS, with fast-r versus slow-K oriented individuals. It is self-evident that some human males are more or less likely to adopt the whine versus whine-chuck approach to life. Both genetic and environmental factors determine the direction people take at this fork in the road: on the one hand, LHS is somewhat heritable, and specific alleles have been identified that predict the choice of fast versus slow lifestyles (Belsky et al., 2007; Eisenberg et al., 2007; Figueredo et al., 2004; Figueredo & Rushton, 2010; Rowe, 2002). On the other hand, early life experience plays a role, with factors such as stress, paternal absence, parental divorce, family conflict, and attachment insecurity predicting faster LHS (Belsky, 1997; Belsky, Steinberg, & Draper, 1991; Brumbach, Figueredo, & Ellis, 2009; Dunkel, 2009; Moffit, Caspi, Belsky, & Silva, 1992).

Both the fast and slow LHS fit with the core hypothesis of ENB—that people act to maximize their inclusive fitness. Yet the observation of the important, somewhat genetically determined, variation in LHS mandates caution in devising a formula to predict how different humans will respond to environmental contingencies. There's more than one way to achieve fitness. An algorithm for human motivation must accommodate this aspect of human diversity.

Recent research suggests several ways in which the consideration of LHS is pertinent to political psychology. First, human men compete aggressively for receptive females (e.g., Andersson, 1994). Evidence exists that male animals have different personalities based on different reproductive strategies and LHSs to help them win in this competition. Risk-taking is not just a personality trait but one feature of the trade-off every man makes between the benefits of fast versus slow LHS (Buss & Schmitt, 1993; Gangestad & Simpson, 2000; Gladden, Sisco, & Figueredo, 2008; Gross, 1996; Kruger & Nesse, 2006; Reale et al., 2009).

One recent study specifically addresses the relationship between LHS and ingroup-versus outgroup behaviors: Figueredo et al. (2011) found that slow LHS was associated with *reduced* negative attitudes toward the outgroup in the course of ethnocentric conflict. This finding is consistent with the intuition that young men tend to fall on a spectrum between fast-living, risk-taking, hotheadedness, and promiscuity or slow-living, conscientiousness, and monogamy. The allure of violent extremism is similar to the allure of gang delinquency—a risky, promiscuous LHS that serves to broadcast physical vitality, courage, and altruistic group commitment and to enhance male attractiveness to women and potentially promote promiscuous production of offspring (see, e.g., Figueredo, & Jacobs, 2011). However, that interpretation would oversimplify both the lifestyle of Islamist militants and some intriguing empirical evidence regarding the relationship between aggression and LHS. Militants may have, perhaps for years, reduced access to fertile women. Especially in the conservative world of Islamism, one cannot assume that risk-taking and promiscuity necessarily co-occur. What's more, Dunkel (2010) reports that a perceived shorter life expectancy—as one might have in an unstable, conflict-torn environment such as that in parts of Yemen—is associated with a preference for aggression rather than for generativity. This finding of a dissociation between investment in expressing aggression versus sexual reproduction suggests the hybrid LHS that may be typical of militant extremists: despite adopting the risk-taking aspect of a fast LHS, they defer mating. One presumes that their brains calculate a net benefit to inclusive fitness. How this might be so will be discussed below in the section on motivation and imagination.

On altruism

Social animals are both competitive and cooperative. Humans, for instance, young Yemeni males, have genes that were selected because they orchestrate the ontogenesis of brains that calculate, at every moment (perhaps including rapid eye movement sleep), whether it is in the individual's interest to cooperate or to compete. Yet cooperation in animal groups long remained mysterious to biologists, since any animal that donates effort or goods to another obviously compromises its own welfare and perhaps diminishes its own chance of reproductive success. The puzzle of such apparently self-defeating behavior has generated a rich subdiscipline of evolutionary biology. Superficially self-defeating behavior that reduces the fitness of one individual in order to increase the fitness of another is called *altruism* (Haldane, 1932; Hamilton, 1963, 1964; West et al., 2007a; Williams, 1966). A man who sacrifices himself, drowning to save his brother who has fallen out of the canoe into the churning rapids, is an altruist. Note that true altruism does not exist. Although many humans have obviously helped strangers with no observed benefit, the brain of the donor makes this choice in the interests of its own inclusive fitness even if this particular act failed to generate the organism's desired outcome. Organisms genetically predisposed to make donations to others with no hope of personal benefit would not be selected, but organisms that correctly calculate the likelihood of a return on their investment will thrive. In order to understand how inclusive fitness drives motivations for political acts such as joining AQAP, it will be useful to briefly review how social animals calculate the costs-vs.-benefits of altruistic behavior.

It is intuitively straightforward for an individual to exhibit intrafamilial altruism. Haldane famously stated, "I would lay down my life for two brothers or eight *cousins*" (Connolly & Martlew, 1999). The math is simple, even if the relevant emotions of those facing mortality are not: each cousin has a relatedness of 0.125, so the genetic replacement value of a dead altruist

would be 8 x 0.125 = 1. The concept that genes have been selected that promote such behavior on behalf of kin is called *kin selection theory* (Davis & Daly, 1997; Dunbar, 2008; Foster, Wenseleers, & Ratnieks, 2006; Hamilton, 1963, 1964; Hughes, 1988; Queller, 1985; Smith, 1964; Taylor & Frank, 1996). As succinctly stated by Lieberman, Tooby, and Cosmides (2007, p. 727), "computational variants that allocate altruistic effort effectively with respect to kinship outcompete variants that fail to regulate behavior conditionally in response to relatedness." Relatedness of two individuals is of the same degree at all autosomal loci, so altruistic behavior on the basis of kin selection equally serves the interest of the entire complement of autosomal genes.

Hamilton published the first quantitative expression for the conditions under which altruism might evolve. Simply put, animals will risk or give their lives to help kin whenever the benefit (*B*) to their inclusive fitness times the relatedness (*r)* of the family member being helped exceeds the cost (*C)*. Hamilton theorized that altruism will evolve whenever:

$$rB - C > 0$$

This kin selection-based altruism is more likely to be effective among closely related individuals (West-Eberhard, 1975) (which is perhaps another argument in favor of basing estimates of fitness-maximizing motivation on two contiguous generations). One way to express Hamilton's equation is that altruism will be selected so long as $K > 1/r$, where K is the ratio of the beneficiary's gain to the altruist's loss and again *r* is genetic relatedness. West-Eberhard (1975) pointed out that Hamilton's equation might better be expressed as a ratio (see Craig, 1979): the altruist's relatedness to the beneficiary's offspring /the altruist's relatedness to his own offspring. If a man (an extremist or a soldier) sacrifices his life for a sibling, he may increase his fitness so long as sufficient extra nephews and nieces are born (relatedness of 0.25).

Multiple authorities have argued that Hamiltonian kin selection is the evolutionary essence of human cooperation (e.g., Hughes, Oldroyd, Beekman & Ratnieks, 2008). Yet apparently altruistic behaviors toward non-kin have been observed in many social species (Dugatkin, 2006). The soldier who jumps on a grenade is a commonly cited instance. The suicide bomber is an equally compelling example. Why do animals do such things?

One explanation for this phenomenon is group-selection, or *multi-level selection theory* (Leigh, 2010; Slatkin & Wade, 1978; Sober & Wilson, 1998; West, Griffin, & Gardner, 2007b; Williams, 1992). According to this theory, natural selection does not solely act at the level of genes, but can act at the level of groups of individuals who share many genes. Altruistic behavior toward non-kin is entirely sensible if nature selects fitter groups, not just fitter genes. Still, multi-level selection theory is highly controversial. While Lewontin (1962) offered one credible empirical example, the condition under which group selection can evolve appears to occur infrequently in nature.

Most evolutionary biologists embrace a different explanation for altruism toward non-kin: the theory of *reciprocal altruism*. The theory of reciprocal altruism postulates that an individual is motivated to cooperate with nonkin in his social group because he expects that nonkin to return the favor (Boyd &, Richerson, 1988; Brown, Sanderson, and Michod, 1982; Castro & Toro, 2004; Trivers, 1971). Computer based models of the iterated Prisoner's Dilemma have long

been used to demonstrate the plausibility of the spread of kin-based or reciprocal altruism (Axelrod & Hamilton, 1981; Boyd, 1988; Feldman & Thomas, 1987; Fletcher & Zwick, 2006; Hirshleifer & Rasmusen, 1989). The outcomes of both theory and these game-theoretical experiments suggest that altruism can evolve in at least two ways: when the benefits fall to relatives, cooperation can evolve via inclusive fitness. When the benefits fall to non-relatives (for example, in the case of a militant dying for his cause), cooperation can evolve via reciprocal altruism.

Of course, an individual or his relatives may never encounter the specific people who were helped by a courageous militant's sacrificial act. But if he has a *reputation* for helping, others in the group will be more willing to help him or his surviving affiliates, including kin and tribesmen. This is called *indirect reciprocity* (Boyd & Richerson, 1989; Nowak & Sigmund, 2005; West, Griffin, & Gardner, 2007). Given that sizable social groups are likely to involve a large number of encounters between individuals who do not know each other personally, reputation, becomes critical to the flourishing of genes for members of social species (Suzuki & Akiyama, 2005).

Some anthropologists have proposed another way to account for donation to non-kin: if a person is sufficiently persuaded that non-kin ingroup members deserve the same considerations as kin, his brain may regard that other as *fictive kin* (Carsten, 1995; Ebaugh & Curry, 2000; Granovetter, 1973; Schneider, 1984). In biological terms, fictive kinship implies a cerebral phenomenon in which the welfare of non-kin is mistakenly judged to impact total reproductive rate. It is a potentially testable hypothesis whether, among humans, brains erroneously perceive donation to non-kin as enhancing reproductive rate (fictive kin theory) or correctly perceive such donations as enhancing fitness via reciprocity. Resolution of this question might bear on tweaking ENB-based algorithms to better predict social and political behaviors in response to contingencies. However, regardless of the brain's processing strategy, whatever real benefit accrues to non-kin donors requires reciprocal altruism.

Cooperators versus cheaters, green-beards versus reputation, bias and punishment versus antisocial punishment

Individuals in a social milieu are constantly being judged. If they are judged to be cooperators who tend to donate to the common weal, then they will have a good reputation and—via the mechanism of reciprocal altruism—their genes are more likely to flourish. If they are judged to be cheaters, those who act in ways that take advantage of the group, they will tend to get a bad reputation. Cooperators and their affiliates are likely to be rewarded; cheaters and their affiliates may be punished.

This raises the question of how one individual, encountering another, can quickly judge whether that other is good or evil, a likely cooperator or cheater. If the organism has direct knowledge of that specific other organism, or knowledge of that other's reputation, then he can make a judgment and act accordingly. Yet organisms can only hold a finite amount of specific knowledge in their memories. Dunbar (2008) attempted to quantify the number of social relationships a primate can keep track of, using cerebral capacity as the constraining factor. He estimated that humans can store unique knowledge of about 154 social relationships. Since

many organisms have smaller nervous systems, and since even humans will encounter more than 154 others, the social brain must have a mechanism to judge the worth of strangers.

Dawkins (1976) speculated that there must be an innate capacity to evaluate the worth of strangers. He guessed that there might be a gene that (a) confers a signal that tells others you are a cooperator, (b) confers the capacity to recognize that signal, and (c) confers a tendency to cooperate with those expressing the signal. He gave the example of a green beard: if some organisms are born with green beards, if that trait is instantly recognized as a sign of goodness (e.g., being a cooperator in an eusociality), and inspires cooperation with the bearded one, then social species can overcome the stranger problem. As noted above, Queller, Ponte, Bozzaro, & Strassmann (2003) discovered a functional green beard-type gene in the social amoeba *dictyostelium discoideum*.

Humans have several work-arounds for the problem of strangers. One is language. Social groups with the symbolic cognitive device of language can communicate reputation (and attempt to manipulate their own reputations) in many ways that do not require direct personal knowledge. Oral tradition, writing, and eventually electronic communications facilitated the human capacity to quantify and broadcast assessments of others. (To digress momentarily, AQAP has effectively utilized the modern tools of communication such as the Internet to trumpet the reputation of their group and its members. They do so ostensibly to persuade potential supporters or recruits, but also because this tactic rewards their members, enhances their reputations, and ultimately advances their fitness prospects.) Thus, green beard genes perhaps account for cooperation with strangers in animal societies, especially those without cortices whose behavior is harder-wired. Reputation does the same job for those of us with the capacity for abstraction.

Yet humans, like amoeba, may encounter others whose reputations are completely unknown. Lacking knowledge of an individual's reputation, humans rely on minimal cues to generate a best guess about the other's worth. Such cues include age, gender, skin color, height, weight, body habitus, vocal timbre, language, accent, clothing, etc. We glance and gamble, based on stereotypes, e.g., persons with a mesomorphic body habitus and the habit spasm of demonstratively stretching their upper trapezius muscle fibers by head tilting tend to be aggressive, or persons with a short nose-to-chin span tend to be submissive. The decision is based on in-born sensitivity to cues greatly modified by personal experience and social learning to equip the brain with a fast and frugal reciprocity prediction capability. Try as we might to overcome our brain's semiconscious judgments with reason, humans develop prejudice against those who exhibit the "wrong" cues. Social animals, in short, are obliged to make very rapid, life-and-death decisions about trusting or not trusting strangers. In humans, rather than rational choices, some have described the cerebral processing as *fast and frugal*—directing motor responses to environmental contingencies based on limited information considered in a limited time frame (Gigerenzer & Goldstein, 1996; Goldstein & Gigerenzer, 2002).

It is beyond the scope of this essay to discuss the neurophysiological mechanisms of decision making. However, I posit that (a) motor actions with social implications are virtually always influenced by processing estimated fitness impacts, and (b) the speed and the particular modules of the brain recruited for that processing depend on multiple factors, including the urgency of the contingency, genetic and epigenetic individual variation, social learning, and emotional status.

Social animals such as humans, then, decide whether to reward or to punish, based on judgments of the other's status as a cooperator or a cheater. Punishment has been regarded as absolutely essential to emergence of eusociality. Boyd & Richerson (1992) offered a quantitative argument supporting this position in their classic paper, "Punishment allows the evolution of cooperation (or anything else) in sizable groups," and Clutton-Brock and Parker (1995) expanded on the diverse advantages of a punitive society. Henrich and Boyd, (2001) extended the argument to human groups, arguing that prosocial genes probably exist, and that conformity to group norms evolves and stabilizes in a population only when punishment occurs reliably. Such punishment is often referred to as altruistic punishment, because it presumably benefits not just the punisher but the group as a whole. Even spiteful punishment and hyper-competitiveness may play a role in the evolution of cooperation (Jensen, 2010). To summarize, absent punishment, individuals who exhibit cooperative traits will quickly be supplanted by cheaters, which would lead to selection only for those who can flourish with no cooperation—asocial organisms.

Recent research has uncovered evidence both for a neural and a genetic basis for altruistic punishment. Strobel et al. (2011), for instance, demonstrated that punishing the other activates the nucleus accumbens, the brain's primary center for processing the subjective sensation of reward. Moreover, their research demonstrated that genetic variation in dopamine turnover influences the motivation to punish—a fact that helps to explain individual and perhaps societal variations in punitiveness.

Yet punishment entails effort risk for the punisher. It is costly. Without such costly punishment, reputation alone is probably insufficient to sustain reciprocal altruism. Most societies, therefore, evolve a healthy balance of reputation and costly punishment (Henrich et al., 2006; Rockenbach & Milinski, 2006). Yet some individuals and some societies undertake punishment that is so costly that it is self-harming. This is referred to as anti-social punishment. For example, the man who stabs his errant wife before multiple witnesses is aware, at some level of consciousness, that whatever satisfaction he gets must be weighed against his likely lifetime behind bars. (Punishment of punishers who exceed their authority is thus is an important part of social contracts.)

Anti-social punishment is more common in some societies than others. In one recent experiment, subjects living in Riyadh were more likely than those living in multiple European cities to inflict anti-social punishment (Herrmann, Thöni, & Gächter, 2008). This finding may offer a quantitative insight into cultures of honor: those, such as Arab Muslim and southern U.S. society, in which threats to status or reputation of males require risky dominance displays (e.g., Ahmed, 1992; Ajami, 1998; Al-Zahrani & Kaplowitz, 1993; Baker, Gregware, & Cassidy, 1999; Benedict, 1946; Buda & Elsayed-Elkhouly, 1998; Gill, 2006; Gilmore, 1987; Ginat, 1987; Gregg, 2005; Nisbett & Cohen, 1996; Patai, 1973). In such societies there is a strong tradition of punishing non-cooperators, even when the cost to the punisher seems to outweigh any benefit. This phenomenon might help to account for Arab Muslim vulnerability to arguments that, whatever the cost in blood and treasure, punishing infidels (who may be seen not just as competitors but even as defectors from an Islamist mandate of a worldwide caliphate) is worth the effort. While insufficient research has been done, testing the hypothesis that those who join terrorist groups are especially prone to the psychology of anti-social punishment—or that genetic variations underlie this tendency—this biological hypothesis is both testable and potentially

useful for understand the seeming irrational commitment of some true believers to the jihadi agenda.

Costly signaling theory, the disposable soma, and the benefits of suicide bombing

It is vital to win a good reputation. Humans do so in various ways: they seek to join popular clichés, win in competitions, brag, show off, flex their muscles, acquire advanced degrees, gain political positions, gain wealth, and write blogs. The goal is to demonstrate commitment to the group and worthiness to win donations through reciprocal altruism. One theory of religion holds that public declarations of faith and demonstrations of devotion represent a common human tactic for reputation gain, even when this tactic requires a costly or even potentially fatal display of commitment (Gintis, Smith, & Bowles, 2001; Henrich, 2007; Irons, 2001; Millet & Dewitte, 2007; Sosis, 2003). An example, in the subset of VEOs strongly influenced by religion, may be suicide bombing.

Suicide bombing is a rare form of human aggression. To non-biologists, it may seem baffling. As the second plane flew into the World trade Center on 9/11 and the likelihood that this was planned, conscious behavior become overwhelming, millions of people surely asked themselves why a person would do such a thing. ENB theory readily accounts for such unusual and seemingly irrational actions.

An individual organism, for instance, a human being, is a vessel for the transmission of genes. Disposable soma theory describes how organisms undergo aging, investing heavily in the body and its reproductive functions early in life and permitting it to decay once it has served its evolutionary purpose (Olshansky, Hayflick & Carnes, 2002). A logical extension is that one need not reproduce at all so long as one of two conditions are met: (1) The organism has served its inclusive fitness by donating a sufficient benefit to its non-descendant relatives that it makes up for a direct reproductive rate of zero. (2) In the case of animals with imagination, the organism imagines that it has done so. Again, as deCatanzaro (1981, 1984, 1999) emphasized: it is not fitness per se that humans pursue, it is *perceived* fitness. Hence, evolutionary biologists have long recognized that human suicide may be consistent with the pursuit of fitness (Brown et al., 1999; de Catanzaro, 1991; Lonergan, & Travis, 2003). We need not live so long as we do *something* that perhaps enhances our gene complement's persistence.

Several authors have postulated that suicide bombing is a case of what Durkheim called altruistic suicide (Pape, 2003, 2005; Pedahzur, Perliger, & Weinberg, 2003; Qirko, 2009, Victoroff, 2009). Again, it is necessary to clarify that true altruism does not occur. True believers in any social group may well think they are dying for a cause, dying because of a profoundly felt moral duty, dying because, unless they jump on the grenade, their non-kin social affiliates or fictive kin will die. Yet this behavior is better understood as an exchange.

The suicide bomber has two audiences. First, he demonstrates his group's ironclad commitment to their political cause, sending a signal to outgroup members about his group's ferocity. Second, he is also is sending a signal to ingroup members who recognize the extraordinary nature of a suicide bomber's donation to their interests.

A suicide bomber derives four benefits. First, in many terrorist organizations, there are specific financial rewards attached to suicide bombing, either as death benefits or as pensions paid to surviving kin (e.g., Azam, 2005; Esterbrook, 2002; Layne, 2002; Merari, 2010; Ripley, 2002). These payments, ranging roughly from $3K to 25K, may or may not lead to a gain in the reproductive rate of kin sufficient to overcome the loss.

Second, bombers gain in reputation. As noted above, in cooperative social animals, reputation is the key to success (e.g., Suzuki & Akiyama, 2005). Scholars have long contended that acts of religious devotion, including acts of religiously-based terrorism, serve as social signals that might enhance reputation (Atran, 2003; Brown, Coté, Jr., Lynn-Jones, & Miller, 2010; Gintis, Smith, & Bowles, 2001; Henrich, 2007; Irons, 2001; Kydd & Walter, 2006; **Prokopowitcz, 2008;** Siegel & Young, 2009; Sosis & Alcorta, 2008). This gain of reputation is the major benefit derived from the bomber's extremely costly signal, or hard-to-fake demonstration of commitment to the group. Having little doubt in his sincerity, the group glorifies the martyr and perhaps materially advances the reproductive opportunities of his kin. Merari et al. (2010) quote one failed bomber who summarizes both benefits: "I also wanted to be famous, to be seen on a poster, and I wanted my family to get money after my death, so that their economic conditions would improve" (p. 115). The bomber's reputation gain potentially has more fitness value than the cash. For example, a suicide bomber whose six siblings each gain one extra offspring due to familial pride, enhanced community reputation, and increased attractiveness to mates will have an indirect reproductive gain of 1.5, equaling the alternative life strategy of the bomber living to have three children of his own.

Third, setting aside real world benefits of reciprocal altruism, a bomber may be motivated by his imagination that his donation to non-kin affiliates (fictive kin) will enhance his total ρ. The fictive kin hypothesis helps to explain the bomber's action even if no genuine fitness benefits accrue (Atran, 2002, 2003, 2004; also see Qirko, 2004).

Fourth, one cannot dismiss the psychological allure of the Muslim martyr's heaven and its remarkably explicit appeal to the brain's pursuit of fitness. See below in the section titled *illustrative example*.

Intention, 'decision-making', and motivation

Three lines of scholarship have undertaken to account for the way humans choose actions. One school of thought examines the concept of intention. A motivating force, according to much of the early philosophy of the science of intention, is one that anticipates the future consequences of an action (Dennet, 1996; Keleman, 1999; Watson, 2005). *Criteria for intentional action* were proposed, for instance, by McDougall (1929) and by Tolman (1932). These were posited to include:

- Equifinality: (behavior adjusts to achieve the same goal under different circumstances)
- Persistence: (behavior persists until the goal is achieved)
- Rationality: (least risky, most efficacious action will be selected)

A related *theory of reasoned action* was proposed by Ajzen and Fishbein (1980). They revise the theory of intentional action to promote the claim of rationality, to accommodate biased

psychological processing, and to acknowledge the influence of the social milieu, arguing that goal directed behavior is more based on *attitudes* and *social norms*. Ajzen's revision, *subjective expected utility theory* (1991), attempted to reconcile intention with economic theory, positing that human attitudes are based on *expectancy X value*, where expectancy is the person's belief that a certain behavior will result in certain consequences, and the value is the benefit of those consequences.

Maslow (1943) proposed a different approach, suggesting that humans act because they are obliged to provide for a pyramidal "hierarchy of needs," which he claimed comprised (bottom to top):

- Physiological
- Safety
- Love/belonging
- Esteem
- Self-actualization

Multiple authorities have observed that (a) Maslow's proposed pyramid of needs is based on an unproven assumption about what humans actually need, and (b) brains are not likely to evaluate needs sequentially and hierarchically but instead simultaneously assess the net benefits of options.

A third literature discusses "decision-making" from the economic point of view. This phrase perhaps belongs in quotes because it implies two controversial notions: that consciousness is important for choice and that there is free-will. Setting aside the core debate of neurophilosophy—the so-called big question of free will—decision decision-making theory assumes that people make rational choices based on expected utilities (measurable gains equivalent to monetary values discounted over time) under conditions of uncertainty. The fundamental assumption of expected utility theory (EUT) is that individuals integrate their knowledge of certainties and outcomes to select the behavioral option with the highest personal (monetary-equivalent) benefit (Bernoulli, 1738; Edwards, 1954; Samuelson, 1937; von Neumann & Morgenstern, 1944). Various offspring of EUT-based decision making theory have emerged, in part to address the many empirically observed violations of economic predictions. These include (a) prospect theory, (b) behavioral game theory, and (c) neuroeconomics.

Prospect theory and cumulative prospect theory (Kahneman & Tversky, 1979; Tversky & Kahneman, 1981; 1992) are important modern contributions to this discipline, boldly setting aside the untenable assumption that choice is rational in an attempt to better conform decision making theory to human psychology and to empirical observations of how people make choices under (artificially) risky conditions. Prospect theory has become highly influential, not only in economics but also in the social and politic sciences, as a way to understand human choices when confronted by potential loss, because (a) the theory accommodates empirical reports of risk aversion when choices are framed as gains versus risk-takers when choices are framed as losses, and (b) it accommodates the observation that people overweight small and underweight large probabilities (e.g., Berejikian, 2002; Druckman, 2001; Faber, 1990; Jervis, 2004; Levy, 1997; McDermott, 2004).

Behavioral game theory (BGT) and its mathematics evolved to better predict human decisions, given some imperfect knowledge about starting conditions, probabilities of consequences, and estimation of the behavior of competitors or cooperators. BGT adds three valuable elements to the EUT concept of decisions:

- How people *feel* about payoffs to others
- Limitations of strategic thinking
- Learning

Neuroeconomics has emerged more recently, ostensibly to investigate the biological basis of decisions, but, in practice, to either mathematically model or to visualize (with functional neuroimaging) the cerebral mechanisms mediating decision-making (e.g., Ainslie & Monterosso, 2004; Berns et al., 2001; Breiter et al., 2001; Carter et al., 1998; Critchley, Mathias, & Dolan, 2001; Glimcher, Kable, & Louie, 2007; Greene et al., 2001, 2004; McClure et al., 2004; Loewenstein, Rick, & Cohen, 2008). Neuroeconomics promises to accelerate the understanding of those mechanisms, in part because most of its theorists acknowledge the likelihood that brains are not unified entities that necessarily derive best choices in coordinated ways, but are perhaps better described as neural marketplaces where two or more cerebral systems compete to present alternative behavioral options for the consideration of the heteromodal dorsolateral prefrontal cortex (DLPFC), which elects one plan to pass posteriorly to the unimodal pre-motor cortex, which devises a motor plan, which is passed further posteriorly to the motor strip, which organizes a motor horn cell activation sequence corresponding to a coordinated multi-muscle contraction sequence that will actualize the DLPFC's plan.

Most neuroeconomists subscribe to a dual process thesis: brains allegedly simultaneously process factors relevant to decisions in early-evolved subcortical automatic brain systems and later evolved cortical controlled systems. His is neurologically simplistic and implausible. For example, even an action sequence as simple as lifting a finger invokes activation of multiple cortical regions, diencephalic regions, cerebellum and brainstem. Brains do not employ dual but multi-focal multi-level processing tactics. In fact, Cisek (2006) has published results of impressive experiments in mathematical modeling of neural systems that support the multiple process thesis predicted by ENB theory, finding that "multiple potential actions are simultaneously represented as continuous regions of activity within populations of cells in frontoparietal cortex. These representations engage in a competition for overt execution that is biased by modulatory influences from prefrontal cortex" (p. 9761).

Gul and Pesendorfer (2005) argue that neuroeconomics does not refute or add much to EUT, since the same predictions of behavioral choice can be made without reference to neural processing. On the one hand, I agree that repeated empirical observations of responses to stimuli may identify accurate prediction rules and be both mind- and brain-blind. One can take the back off a watch and deduce what forces make the hands move, but this adds little to the observation that you have to wind the watch if you wish it to run. Visualizing efficient causes under a few experimental conditions does not predict whole organism behaviors in response to the infinitude of real world contingencies, whereas a correct theory of motivation—whether based on EUT or ENB—permits such prediction. On the other hand, it is possible that neural mechanisms not only serve the animal's ultimate goals but also constrain the animal's options in ways that are not

predictable except by understanding the underlying physiological processes. By way of analogy, perhaps understanding the engineering of the mainspring enhances predictions of how long and how hard one must wind the stem of the watch. I must defer a conclusion pending consultation with those who can make the latter argument better than it is made in the current neuroeconomic literature.

I have a larger concern about EUT and its offspring, including neuroeconomics: EUT-based behavioral predictions are often wrong: "Despite the theory's intuitive appeal, both from normative and evolutionary perspectives, many experiments demonstrate systematic, though poorly understood, patterns of deviation from EU predictions" (Dickson, 2008, p. 650).

There are many reasons why humans deviate from the predictions of EUT and its offspring. First, humans do not accurately perceive the world around them. Studies in psychophysiology abundantly support the conclusion that whatever sensory inputs we perceive are highly processed (mis)representations of actual stimuli. At the level of primary processing, we see a blue sky because our retinae and cortices are biased to misinterpret the sky's actual violet color. Our emotional state and other dynamic factors may further influence the processing of stimuli en route to unimodal sensory cortices. Secondary and subsequent processing of sensations, especially in heteromodal association cortex, vastly compounds these evolved species-specific and individual deviations from objectivity. Second, human higher order processing of stimuli and human cognitions (e.g., memories provoked or associations made in response to those stimuli) are both biased by emotions. In fairness, decision-making theorists are rapidly accommodating empirical observations about the function of affect in goal seeking. It is now widely recognized that emotions play important roles in judging the value and risk of options and driving behaviors toward or away from them (Fessler, Pillsworth, & Flamson, 2004; Finucane, Peters, & Slovic, 2003; Isen, Nygren, & Ashby, 1988; Mittal & Ross, 1998; Schwarz, & Clore, 1983). In particular, in the literature describing the relationship between mood and judgment, hints emerge supporting the speculation that humans are strongly oriented to maximize perceived well being, subjective well-being (SWB), and happiness.

Second, despite the suspected adaptive importance of self-awareness, humans imperfectly perceive their own minds. As discussed by Nisbett and Wilson (1977), humans are unaware of, and inaccurate in reporting, the things that they experience and move them to act. Affective/emotional responses to stimuli can certainly occur without conscious awareness. Indeed, as suggested by the quasi-experiments of Silverman (1976), subliminal aggressive or libidinal stimuli may motivate actions based on unconscious processes, when conscious processing of the same stimuli generate entirely different behaviors. As Berkowitz (1978) showed, humans may act angrily and aggressively even if they are unaware of their own anger. So, for instance, a policy maker may advise warfare imagining that he is motivated by devotion to U.S. security, being unaware that he is actually motivated by (a) innate cognitive and emotional biases, (b) fetal and early environmental factors, and (c) social learning of ingroup/outgroup bias—all of which may possibly lead to disproportionate anger at and fear of those he perceives as competitors in his personal bid for fitness. Equally, an imam may council jihad, framing it as a religious obligation (or direct transmission of the word of God), when he is actually expressing a similar interaction between his innate need for cognitive closure and his socially-learned irrational rage at Christians, Jews, non-Muslims, light skinned persons, and all

those who do not read the Quran in Arabic, since they threaten his fragile sense of control over Arabic women's reproduction.

Overall, EUT tends to exhibits three assumptions inconsistent with biological facts: first, it assumes that the ultimate utility is measurable with money, or weak laboratory mimicry of scenarios pertinent to survival. Second, it assumes that humans, despite our massive, plastic, experience dependent cortical architecture and capacity for imagination, will value options in consistent and predictable ways. EUT might be fruitfully adjusted to incorporate discoveries regarding the biology of motivation.

To date, EUT theories focus primarily on winning money-equivalents in a dyad. What is missing is (a) a link to the obvious ultimate biological purpose of life, (b) a reasonable method of quantifying motives based not on economic but on biological utility—essential for predicting behaviors in response to contingencies, and (c) an empirically validated strategy to determine the brain's estimate of the fitness change likely for a give behavioral option. Until economic theorists incorporate biological realities—especially motivation to enhance reproductive rate in a complex social milieu—EUT and its offspring will invariably provide inaccurate predictions of real world political behaviors.

What's consciousness got to do with it?

There exists no consensus regarding the value or purpose of consciousness (e.g., Mudrik et al., 2011). While multiple authorities have proposed some adaptive utility to consciousness—such as error detection (Posner, 1998), planning (Crick & Koch, 2003), comprehension of irregularities (Baars, 2005), binding information from various sources (Tononi & Edelman, 1998), and decision making (Mandler, 2002)—no empirical experiment has demonstrated that humans need consciousness to accomplish any of these tasks (e.g., Harnad, 2000; Velmans, 2009). Some have proposed that consciousness is primarily useful because it is what we can usefully imagine other humans to have (e.g., Humphreys, 1982; Ryle, 1949). That is, as mentioned above, our *theory of mind* permits us to second-guess responses of others to our contemplated action plans, since we think they have consciousnesses like our own.

I hesitate to offer any specific solution to this age old conundrum. However, I speculate that consciousness:

- facilitates subjective agency and the illusion of free will, which contribute to motivation,
- mediates perceived well being, the gestalt cerebral reward state that guides behaviors toward fitness, or
- is a spandrel—an emergent epiphenomenon of selection with no intrinsic adaptive value that captures our interest because it comprises our awareness but that is not in itself the essential property of brains that accounts for the human career.

These roles may interact. For instance, a sense of agency/autonomy may help mediate perceived well being (PWB) which in turn coordinates behaviors to maximize the response of the subcortical, largely dopaminergic, reward system. Humans *feel* and *think* that they willfully

make decisions between options. In fact, they perceive, in a limited and imprecise way, that their brains calculate the best thing to do, and interpret that conscious perception as evidence of their own free choice—a perception that may motivate them when overruled neural systems protest at the irrationality of the choice.

Some evidence supports the latter view. Libet's (1985) controversial electrophysiological experiments gained renown for the term *bereitschaftpotential* (readiness potential), a negative electroencephalographic signal that occurs after the brain has specified an action plan to the motor strip but apparently before humans are conscious that they have decided on the action. One interpretation: the *bereitschaftpotential* implies that brains alert consciousness that they have decided that the body will do something after the brain has finished "deciding" and perhaps even after the body has acted. Bechara et al.'s (1997) experiments also suggest that brains solve problems and instruct us to act adaptively to circumstances before consciousness weighs in.

I do not raise the issue of consciousness because it is critical to an ENB-based theory of motivation. I only mention this challenging issue because (a) I believe that neuroeconomic tests of ENB-based motivational theory will demonstrate that consciousness plays a subtle and non-critical role in human decision-making, and (b) policy makers should analyze the likely impact of interventions keeping firmly in mind that neither they nor their opponents are acting primarily on the basis of conscious deliberation.

Toward an evolutionary theory of motivation

Recognizing both the problems with EUT and the fact that organisms must behave to maximize fitness, several authorities have contributed important advances toward an evolutionary theory of motivation. Burnstein et al. (1994), for example, showed how results from many empirical studies of social behaviors are consistent with Hamilton's theory. Some scholars have creatively investigated how brains must do their ultimate job. Watson (2005), for example, employed agent based modeling to demonstrate how evolving minimal neural structures will eventually evolve intentionality consistent with maximization of their own persistence. McDermott, Fowler, and Smirnov (2008) showed how some prospect theory preferences are experimentally consistent with predictions of evolutionary psychology: "marginal losses are more critical for reproductive success than marginal gains"—one of the first efforts to reconcile EUT with ultimate motivation. Their important paper specified decision-making rules likely to drive choices when humans are confronted with safe versus risky options, and when humans exhibit bolder or meeker temperaments. This approach is especially valuable because it accommodates the inevitably varying conditions in an ecological niche, such as greater or lesser availability of resources, and greater or lesser risk to survival. However, the emphasis in prospect theory, including the McDermott, Fowler, and Smirnov model, is individual gain. This is only part of the fitness equation, and hardly the most important part. Darwin was correct: survival is a necessary but insufficient factor determining which types of organisms succeed in natural selection. It is irrelevant whether an organism survives, except in so far as it produces offspring or otherwise contributes to its genetic legacy. The male praying mantis or the suicide bomber act in ways that would definitely fail the test of rational choice theory, and perhaps fail the test of prospect theory, unless those theories were reoriented toward the real driver of behavior, inclusive fitness.

Kenrick et al., (2010) recently offered a biological rehabilitation of Maslow's hierarchy, integrating life history theory, and proposing a pyramid of needs which reads, from bottom to top: immediate physiological needs, self-protection, affiliation, status/esteem, mate acquisition, mate retention, and parenting. While I strongly support the spirit of Kenrik's et al's. revision, it again assumes that motives are organized hierarchically—a concept that is based on the fact that organisms must attend to survival in the short run in order to attend to reproduction in the long run. At any given moment, however, organisms are balancing these goals. The woman who leaps into a raging river to save her drowning child is not motivated first by physiological goals and secondarily by love. Her brain is weighing the net impact of her action on her inclusive fitness.

Perhaps most worthy of mention is the contribution of Bernard, Mills, Swenson and Walsh (2006): their *evolutionary theory of motivation* captures the essence of the argument that, ultimately, the sole utility is maximization of inclusive fitness. They "propose that individual differences in motivation will appear in categories of purposeful behavior, which covary due to brain structures that responded to inclusive fitness selection pressures in the ancestral environment" (p. 159). However, these authors neither specified the categories of motivation most likely to dominate brain's decision making nor proposed a quantitative expression of fitness-based motivation.

An evolutionary neurobehavioral theory of motivation

One needs a better-specified ENB-based theory of motivation. Acknowledging the shoulders of these giants that support my preliminary theory, I posit:

- Human brains drive actions based on largely unconscious calculations *consistent with* advantageous consequences for inclusive fitness, ω. That is, the primary evolved adaptive function of nervous systems is to facilitate not mere corporeal survival but ω. An important clarification: It does not matter whether brains *actually* calculate whether a contemplated action will maximize fitness, so long as they make good-enough calculations driving motor outputs that these, on the whole, serve the organism's ultimate biological goal.
- Brains employ fast and frugal heuristics that produce good-enough calculations to sustain genetic complements distributed across close relatives. Note that this is not group- or multi-level selection but gene-level selection: since gene complements are shared, brains evolved that can calculate benefits, to that gene complement, of behaviors weighted by relatedness.
- Brains estimate probable benefits and costs, simultaneously (*not* hierarchically) integrating weighted estimates of Δω across proximal motivational categories, employing multiple cerebral sub-systems that evolved to optimally influence action in that motivational domain but that must compete for selection as the dorsolateral prefrontal cortex's favored action plan. For that reasons, brains' calculations are:
    - More predictable and uniform for categories invoking early-evolved subcortical systems, and
    - Less predictable for categories invoking later-evolved cortical systems. This is especially true for animals with very large neo- to isocortical ratios whose imaginations play out narratives of alternative futures.

- Both expectancy (probability) and fitness value are calculated outside of consciousness.
- Whatever component of a brain's calculation is shunted into consciousness—before or after motor neurons have been sent a program from the premotor cortex—may arrive there for an adaptive reason, although the reason for consciousness continues to elude discovery.
- Brains' estimates of probabilities are influenced by
    - Genetic polymorphisms pertinent to temperament (e.g. risk taking; altruism)
    - Experience-dependent plasticity/social learning
- SWB is not merely a desirable eudaimonic state but a signal accessible to consciousness that a contemplated or completed action option is leading the individual toward + $\Delta\omega$.

I agree with Bernard et al. that brains probably incarnate subsystems focused on categories relevant to fitness. Although no perfect catalogue of goals can be devised, since there is only one ultimate goal and the elements that contribute invariably overlap, I propose a distillation of four essential, non-exclusive categories of fitness-related proximate motives (Table 2).

Table 2. Classification of primary proximate motives

A. Somatic	Acquisition, retention, and absorption of kCal and essential nutrients Homeostasis Temperature regulation Fluid and electrolyte status Vascular regulation Respiration Energy conservation: cost-efficient expense of finite caloric resources Disease prevention, treatment, and recover Sleep Elimination Sexual stimulation/orgasm Defense against trauma/predation
B. Reproductive	Attraction, acquisition, retention, and intercourse with a fertile mate Provisioning of mate and offspring Physical defense of mate and offspring Control of territory and other resources essential to provisioning and defense of mate and offspring
C. Social	Attraction, acquisition, retention, and intercourse with a fertile mate Provisioning of mate and offspring Physical defense of mate and offspring Control of territory and other resources essential to provisioning and defense of mate and offspring
D. Psychic	Consciousness Perceived agency/illusion of free will Subjective well being

	Hedonic happiness
	Eudaimonic happiness

As per Table 2, I propose that the primary proximate motives brains must consider are

- Somatic,
- Reproductive,
- Social, and
- Psychic.

The inclusion of the first three categories is probably self-evident, but the last perhaps requires explanation.

The nervous systems of organisms calculate action plans in the service of fitness. Whether an ant's ganglia are calculating the fitness benefits of attacking a beetle, or a person is calculating his chances with a woman at a party, their nervous systems generate a net valance of approach or avoidance. The nervous systems of many organisms employ subcortical reward mechanisms to promote and maintain fitness promoting motor planning and action. In mammals, reward is largely mediated by dopaminergic binding in the nucleus accumbens. The tremendous potency of drugs to addict is based on their impact on the dopaminergic reward system, because, at both the sub conscious and subjectively conscious levels, dopamine binding is a potent motivating signal. The nervous systems of a subset of organisms generate conscious subjectivity. That is, for instance in humans and perhaps other species, the organism is aware of its reward status. Scholars of positive psychology, which concerns itself with subjective cognition and affect, divide positive reward status into hedonic and eudaimonic happiness. The first describes transient but powerful subjective well being (SWB), e.g., that state produced by winning a competition or organism. The second describes a more long-term, persistent state of SWB—a feeling that life is good.

Note that the phrase *subjective well being* (SWB) is problematic. It implies conscious awareness. Yet observation of many animals with relatively small cortices (e.g., rodents) leads to the conclusion that these brains, with or without consciousness, are responsive to an overall reward state—a perception of contentment or well being—perhaps involving security, satiety, and freedom from stress—that may transcend momentary hedonic pleasure. I propose that *perceived well-being* (PWB) is a more accurate descriptor of this common feature of animal cerebration. In animals with consciousness in whom the state of PWB is a qualia—philosophers-of-mind's preferred specifier for subjective experiences of the self—one may refer to SWB.

I propose that both the dopaminergic reward system in the brain and the phenomenon of SWB in animals with consciousness—like hearts, eyes, claws, or brains—were themselves heritable traits selected to serve the goal of inclusive fitness. Animals born with brains that (a) judged whether the animal was on track toward inclusive fitness and (b) alerted the animals to his overall status with respect to the ultimate purpose of life, providing potent internal reward cues when the animal's action plans and behaviors were on track toward inclusive fitness, had an important competitive advantage over animals with brains that were less adept at judging on-track status and rewarding it. Substantial evidence from human psychology suggests that SWB is both engendered by and engenders the goodness of life. Whether supporting infant sucking or

childhood rough and tumble play or teenaged mate-seeking/sexual intercourse or adult behaviors via the momentary thrill of social victories or delights in one's offspring's cuteness or longer-term phenomena such as a sense of identity or a purpose in life, the cerebral phenomenon of SWB is a vital evolved proximate motivator.

Why is there emotion?

Emotion is one aspect of animal nature that is especially apparent in humans because we (a) devote a fair amount of consciousness to it and (b) can express it in many readily detectable ways including body posture, movement, facial expression, skin color change, diaphoresis, and symbolic communications such as gestures and words. All of this requires a good deal of caloric consumption within the body and brain. Since so much energy is spent on this category of mental and physical activity, it must have one or more adaptive values. Yet authorities differ on the mechanisms, the phylogeny, and the fitness utility of emotions.

One popular approach to emotion is appraisal theory, the notion, originally introduced by Magda Arnold in the 1950s (see Scherer, Shorr, & Johnstone, 2001) that people receive sensory inputs to which they apply a cognitive process, to which they in turn respond with an emotion. Lazarus (1991; also see Smith & Lazarus, 1990) expanded the theory to propose that emotional responses depend on appraisal of the significance of environmental stimuli to life goals—a clarification consistent with ENB. Many psychologists hew to appraisal theory and emphasize cognitive processing of stimuli as the primary generator of emotions (e.g., Roseman, 1984; Roseman & Smith, 2001; Scherer, 2001; Smith & Kirby, 2009). Still, appraisal theory is inadequate to explain many experimental findings, and has largely been rejected as inadequate to explain the seeming automaticity of emotional responses, and the psychophysiology of emotions. Instead, many theorists acknowledge that emotions involve complex interplay between cortical and subcortical brains systems and between subconscious/automatic and conscious/ruminative processing.

The emotions that occur in human brains depend on multiple factors. First, individuals differ in emotional set points and responsiveness to stimuli, due to variations in (a) inborn temperament determined by genetic and epigenetic factors, (b) pre-natal environment, especially steroid and peptide hormone exposures, (c) interactions between heritable (genetic and epigenetic) factors and early environment (for instance, the difficult child who elicits harsh parenting). Then a lifetime of experiences, to a modest degree, modifies those early-established set points and responsivenesses. Then adult experiences elicit (a) immediate and longer-term brain changes in response to stimuli (e.g., preoccupation with a potential lover; anger at a political rival), as well as (b) internally generated or secondary emotions—new associations, realizations, reconstruals, such as, burning love, simmering rage, envy, resentment, and fear. For example, a young Yemeni man exposed to an episode of violence (e.g., a drone attack on a person with whom he has a weak tribal relationship) will elicit both conscious and unconscious cerebral processing associated with cognitions bearing emotional valances. Over seconds, weeks, and decades, that single experience may provoke ruminations and reconstruals that may express themselves in emotions independent of his environment—even in dreams. Those potential secondary emotions are subject to activation and manipulation depending, for instance, on the persuasive narrative that a propagandist presents counseling jihad.

The amygdala clearly plays some role in emotion. Lesion, stimulation, and functional neuroimaging studies have converged to support a consensus that the amygdala assigns emotional valence to new environmental events (e.g., Adolphs et al., 1999; Anderson & Phelps, 2001; Beauregard et al., 1997; Canli et al., 2000; 2002). It is beyond the scope of this brief essay to address the evidence in depth, but suffice it to say that the unique functional position of the amygdala and its connectivity to both earlier and later evolving structures helps explain both (a) the automaticity of some emotional responses and (b) the tensions between immediate and unconscious responses, slightly delayed conscious appraisals, innate variation in responsiveness, and the universe of life experiences that generate ruminations with emotional weight (e.g., Amaral & Price, 1984; Baron-Cohen et al., 1999; Herbert et al., 2009; LeDoux, 1996; Tamir et al., 2004).

One question is: since emotions surely serve some adaptive purpose, why are there individual variations in set points and responsiveness? Multi-level selection theory might argue that it is beneficial to have populations carrying genes for a mix of emotional predispositions, so that that population is poised to respond flexibly to swings in environmental pressures by collective behaviors advancing common genetic interests. Gene level selection theory (adopted in this essay) provides a more parsimonious account: many feelings are relevant to interpersonal relations and helps drive fitness promoting actions—such as anger to drive punishment of those who violate the rules of reciprocal altruism. Individual brains expect to live in social milieus in which families sharing many genes live cooperatively. Selective pressures both tolerate and possibly demand the occurrence of bodies bearing identical genes with brains mediating behavioral variants living in proximity since this promotes the likelihood that, regardless of shifting environmental contingencies, some of those bodies will reproduce.

The *somatic marker hypothesis* purports to offer an elegant theory of the way brains incorporate emotions into decision making, based on the assumption of persistence of the influence of early evolved signals relevant to bodily states (but not necessarily arising within the body) alerting the brain to the somatic import of one or another behavioral choice (Bechara & Damasio, 2005; Damasio, 1996). As Damasio described it: "the key idea …is that 'marker' signals influence the processes of response to stimuli…." Although this theory acknowledges simultaneous conscious and unconscious processing and superficially dovetails with the ENB effort to specificy the ultimate biological causes and mechanisms of motivation, it is both conceptually weak and empirically invalid. Conceptually, somewhat like Maslow's theory, it assumes that brains hierarchically process stimuli to favor somatic survival. Yet neurobehavioral evidence suggests that the amygdala simultaneously coordinates cognitive/emotional responses to circumstances, initially by way of the hypothalamus, as well as physiological responses in a top down manner, via the brain stem (see, e.g., LeDoux, 2000; 2003; LeDoux et al., 1988; 1990; McDonald, 1998; Phelps & Anderson, 1997; Pitkanen, Savander, & LeDoux, 1997; Turner, Mishkin, & Knapp, 1980). Moreover, several authorities have outlined the inconsistencies in the experimental evidence alleged to support the somatic marker hypothesis (e.g., Dunn, Dalgleish, & Lawrence, 2005; Maia & McClelland, 2004).

Rather than proposing a neurobiological mechanism for emotions, I will merely comment that these are multi-determined innately variable adaptive brain states that serve the ultimate goal of facilitating brains' fitness promoting decisions to do or not do motor acts. They are neither determined primarily by cognitive appraisal nor by representations of the bodily states the brain

predicts might arise from actions. Far from the somatic marker hypothesis, ENB theory posits that it is the nervous system's "satisfaction" rather than the body's homeostasis that explains the existence of emotions and will someday explain the mechanism of emotions. Positive emotions, especially those associated with reward, facilitate motivation to act in fitness promoting ways by driving goal seeking in the direction of PWB. Negative emotions may facilitate motivation to act in fitness promoting ways, for instance, by collaborating with cognitive appraisals of others' deviations from the social contract, precipitating anger and the drive for punishment when one witnesses threats, experiences injustice, or suffers losses. Multiple emotional states are relevant to political psychology, including anger, moral outrage, humiliation, perceived oppression, perceived injustice, jealousy, envy, resentment, love and romantic obsession, happiness, contentment, and perceived security. Policymakers who consider the likely fitness-relevant emotional reactions to proposed interventions may not be able to predict individual tactical responses, but should better predict *average* and *communal* responses, and better predict strategic results.

Do brains estimate Δω themselves?

It is important to clarify that ENB theory does not require that brains specifically calculate estimates of how the next act will impact the net change in fitness, or even in reproductive output for one or more generations of self plus close relatives. Future neurobiologists may or may not identify a neural signal representing such an extraordinary calculation. Instead, ENB theory posits that brains favor behavioral options *in order to* maximize fitness. In a sense, evolution did the math. Over a huge number of trials, brains were selected that employ fast and frugal heuristics *consistent with* fitness maximization—even if no fitness prediction is made.

For example, human brains were selected that mediate very complex mating skills. Unless a neural calculation mechanism predisposed people to exhibit consistently fitness maximizing mating behaviors in a large social group over decades of one's life history, that neural mechanism would have vanished into the pool of discarded trials. The brain might follow a heuristic that never touches on the nuances of reproductive rate but merely yields acceptable results. The heuristic might be as simple as *act manly in front of girls*. Following such a rule will favor a positive Δω, whether or not, in the course or sucking in one's gut at a pool party, the brain does a quick estimation of gut-sucking-related Δω.

That having been said, it seems likely that there exists some common brain state, arrived at by the network of consequence-predicting cerebral units, that signals "Looks good to send the motor plan back to the premotor cortex." Evidence suggests that the DLPFC, the ventromedial PFC, the anterior cingulate gyrus, and the insula together manage that consequence prediction. Animals are predisposed to select behavioral options that are judged favorably by this consequence-prediction module. Again, ENB theory posits that PWB is the intermediate construct that motivates mammalian brains in the direction of fitness maximization. Yet *before* an action, the state of well-being is not perceived. It is anticipated. This suggests the possibility of a final common brain state en route to action—a state that brains seek between consideration of options and arrival at a choice—a state that might be described as reward anticipation (in animals one guesses are incapable of perception) or PWB-anticipation. In other words, before the consequence-prediction system sends a motor plan to the premotor and motor cortices for

actualization, it must arrive at a state equivalent to "I predict this action will make the brain's self feel right." This raises the sensitive topic of self.

Most psychologists and philosophers discuss human "minds" as if there exists some emergent property of the material in the head that has a collective and unitary identity. Many of these mind-centered thinkers believe in *agency*—the autonomous self-hood of a person. From the ENB perspective, organisms with nervous systems need not have minds to have selves. Nervous systems may be more spatially clustered, like those in human social actors, or more distributed, like those in social actors such as the roundworm, *caenorhabditis elegans*. Both types of organisms must generate fitness maximizing body movements (or non-movements/impulse control). Moreover, both types of organisms must reach some state just preceding the activation of the motor plan. It seems reasonable to propose that, the moment before neurons flick on post-synaptic potentials to orchestrate action, a common neural state of "this will do the trick" exists across actions, i.e., just before eating and just before mating and just before fleeing danger. In animals with cortices, this is probably a state just preceding the generation of the bereitschaftpotential. That is, brains were selected that choose behaviors that increase the odds of $+ \Delta\omega$. Such brains perhaps have a way of telling when they are about to do the right thing. Deferring to the future an answer to what that brain state looks like, one might call this a facet of brain self—the neural state of intentionality.

Here we come to a semantic, and perhaps philosophical, speed bump. The term *mind* is used to refer to an empirically invisible "emergent" property of neural assemblies. Again, most psychologists posit that human brains have *minds* that support *agency* capable of forming *intentions*. Yet roundworm neural assemblies equally must arrive at beneficial action plans from literally infinite behavioral options. The moment before their little bodies writhe in a particular way likely to enhance survival and reproduction, their neural assemblies must arrive at a state that is conceptually similar, and perhaps physiologically related, to human intention. Few would claim that roundworms have minds. However, ENB theory is egalitarian. All motile organisms with neurons move in ways that neurons have calculated will achieve benefits, and those benefits must be, on the whole, compatible with the promotion of fitness. The well-calculated readiness to act can be called the *intention* of a *mind* belonging to an *agent*, or, more generally (and more fairly to the small organisms that dominate Earth's biospace), the final common state of pre-action that satisfies certain conditions specified by the neural-self. In humans, that state perhaps comprises a prefrontal lobar polysynaptic homeostatic equipoise consistent with the evolutionary imperative. I leave it to others to debate whether a common neural state of pre-beneficial action is what mind is, and whether, therefore, all motile organic objects have minds.

The problem of imagination

Progressive encephalization of mammals has led to the current human brain, with its very high ratio of neo- to isocortex and its estimated 100 billion adult neurons. With an average of 7000 synaptic connections each, there are approximately 100 - 500 trillion total synapses between these neurons. Each synapse is capable of multiple levels of activity, such that the estimated number of potential human states of cerebral activity exceeds the number of elementary particles in the universe.

For the purposes of comparison, again consider the roundworm, *c. elegans*. This worm has 302 neurons and only 8000 total synapses. Those synapses are not exactly 'hard-wired' in the sense of electrical circuits, since each one can support multiple levels of interneuronal activity. (Note: even this little creature exhibits genetically influenced variation in sociality. Among many polymorphisms impacting behavior, a neuropeptide Y receptor isoform distinguishes worms that forage alone from those that do so in social groups (Avery, 2010; de Bono & Bargmann, 1989). Yet the 302 roundworm neurons are pretty much the same from one individual to the next. The roundworm probably calculates the fitness benefits more or less immediately prior to its action. This makes it possible, with sufficient computational power, to map the worm's nervous activity and predict its next behavior.

A human, in contrast, with his 100 - 500 trillion synapses, can mull over his options—for example, career or life history strategy choice—decades in advance of taking the action. "I will go to college, marry, and move to a coast. Two or three kids. Oil painting when I retire." His brain's calculation is based on circuitry that evolved to balance probabilities, costs, benefits, and somatic efforts based on adaptation to an expected set of environmental contingencies, only some of which still exist in modern human society. His processing will involve a highly individualized sequence of synaptic activations, even when compared with an identical twin. We will surely develop computer heuristics to predict the most likely fast and frugal cerebral circuit activity mediating human calculations of what to do next, but we will probably never be able to compute the actual polysynaptic neurophysiological underpinnings of any human decision.

One emergent property of this vast conglomeration of synaptic connectivity is self-consciousness. It remains to be determined what function consciousness serves, from the point of view of adaptation to our ancient ecological niche. However, the fact that the human cortex demands a large proportion of the body's caloric expenditure implies that its various functions somehow enhance inclusive fitness. One proposal has been that *theory of mind*—the appreciation that another person is also conscious and motivated to act in somewhat predictable ways—is the main reason for the evolution of consciousness. (If so, the present SMA/VEO pilot project is exemplary of this evolutionary purpose: we are trying to use our Western brains to figure out why Yemeni brains might favor Yemeni bodies joining AQAP, and what might motivate them not to.)

The problem, if it may be called that, with both the vastness of the cortex and its variable states of activity, some of which mediate human consciousness, is that it allows for tremendous diversity of behaviors. Furthermore, it allows people to ruminate about what occurred in the past and imagine what might occur in the future, and develop conscious plans for motor activity based on long-term associative memories and on anticipation of events that have not yet occurred. Thus human brains, unlike those of worms, may arrive at important decisions based on imagination. Imagination is a problem for the ENB theory of motivation. A tiny brain lacking foresight and imagination will be largely somewhat hard-wired to rapidly calculate, within its biologically constrained instinctive calculation of certainties, the likely fitness costs, benefits, and efforts involved in a behavior. A huge brain can take in all manner of information, process it in neuropsychologically biased ways, and generate action plans that seem irrational.

For example, a young Yemeni man may imagine himself as a goatherd, a computer programmer, a husband and father, or a suicide bomber on a U.S. bound flight. He will make best guesses

about the impact of these life strategy choices on his subjective well being—the brain's signal to consciousness that the body is on track toward more inclusive fitness. Yet he will base his estimates of the fitness benefits not just on evolved instincts or even learning from observations but also on the brain's enthusiastic consideration of fantasies, dreams, stories, and cultural and religious mythology. He will have learned, for example, that certain Hadiths and Muslim scholars promise that if he undertakes certain heroic actions he will be rewarded with the company of 72 virgins. It is irrelevant whether heaven exists. It is irrelevant whether he has ever seen anyone win the virgins. The possibility sticks in his mind—a remarkably explicit appeal to the primary proximate motivations of sexual gratification and reproduction and a potential spur to action.

The next question is how to translate the biological fact that human motor actions are motivated by the exigencies of fitness into a useful mathematical formula that might help to predict behaviors.

Mathematical expression of human motivation

The foundational literature of evolutionary psychology was not, for the most part, authored by psychologists. Instead, evolutionary biologists, ethologists, and population geneticists have made the critical quantitative contributions. This perhaps explains why, despite the implications of Hamilton's formula, there has not been an explicit quantitative extension to motivation. Again, Hamilton said altruism evolves in a population (organisms who exhibit altruism will be relatively fitter) when this behavior leads to a net benefit in inclusive fitness, that is, when $rB - C > 0$.

Since reciprocal and indirect altruism permit compensation for donation from non-kin, relatedness drops out of the equation so that altruism evolves so that the net benefit of those actions exceeds their cost, or $B - C > 0$. One could simplify this formula to emphasize that the behaviors that promote inclusive fitness tend to be selected when

$$\Delta\omega > 0$$

where ω = inclusive fitness. At a given moment, when facing a choice two behavioral options, an animal should choose the option with the higher value of $\Delta\omega$. In other words, animals will be motivated to perform action 1 versus action 2 whenever $\Delta\omega_1 > \Delta\omega_2$. The brain is constantly engaged in evaluating environmental contingencies and calculating optimum motor actions. Even remaining at rest is an action. The animal is motivated to get up and do something whenever the brain calculates that doing $\Delta\omega_{\text{doing something}} > \Delta\omega_{\text{rest}}$.

The simple formulation $\Delta\omega > 0$ theoretically accounts for all animal action and $\Delta\omega_1 > \Delta\omega_2$ theoretically accounts for all motivated choice. However, these expressions are insufficiently specific to have much utility for predicting action or choice. $\Delta\omega > 0$ might be referred to as the Big Bang level of explanation: although the Big Bang may in fact offer a complete account for the motion of the spheres, one still needs Galileo to describe that motion with more specificity. Unpacking the components of ecological circumstances a brain must analyze to estimate relative benefits and costs of behavioral options may better illuminate how the pursuit of inclusive fitness

drives actions, and better equip one to predict how a person will respond to a contingency, for instance, a proposed political policy or military strategy.

As per Table 1, the major proximate motivators might be described as operating in four fitness-promoting domains: (a) somatic, (b) reproductive, (c) social, and (d) psychic. Therefore, motivation at any given moment in time will be a function of the integrated effects on $\Delta\omega$ in these domains. But brains cannot know the actual impact on fitness of any planned or executed behavior. Brains can only estimate that impact. For example, a man who approaches a woman at a rooftop party does not know that his direct reproductive rate will increase by 0.5 (assuming an episode of sexual intercourse and the production of one offspring that survives to reproductive age). His brain can only estimate the probability (p) that his behavior will lead to this benefit. Say he estimates p = 0.5% chance that approaching her and asking for a date will lead to a $\Delta_{reproduction}$ of 0.5. Again, since fitness is elusive but reproductive output is concrete, we might accept that $\Delta_{reproduction} \sim/= \Delta\omega$. Hence, the man's brain motivates his approach to the woman partly based on some function of:

$$p_{repro} \text{ X } \Delta\omega_{repro} = (0.005) \text{ X } (0.5) = 0.0025$$

He will consume some calories deciding what to do. He will consume about 3 kCal ambling toward her. He may get a glass of wine thrown in his face, which has various somatic and psychic costs. He may even fall of the roof as he approaches her. His brain calculates the net impact on his soma, balancing the probabilities of such potential gains and losses in a way that tends to serve his fitness goal. She may reject him and both hurt his feelings and his social reputation. Aspects of somatic, social, and psychic motives enter into his brain's calculation of risks and benefits. Thus, his motive—and every person's motive for every action—is some unconsciously calculated function of the integration (not necessarily linearly summed but weighted in ways yet to be determined) of perceived probabilities relevant to each primary proximate category of motive:

$$f(p_{repro} \text{ X } \Delta\omega_{repro} + p_{somat} \text{ X } \Delta\omega_{somat} + p_{social} \text{ X } \Delta\omega_{social} + p_{psychic} \text{ X } \Delta\omega_{psychic})$$

One might express this more simply:

$$M = f \sum_{k=a}^{d} p_k \Delta\omega_k$$

where M = motivation

p = the brain's estimate of the integrated probabilities of the various fitness-related effects of an action within that class of proximate motives

a - d = the classes of somatic motives, reproductive motives, social motives, and psychic motives

Recalling that fitness is devilishly hard to quantify, for practical purposes, one might again substitute reproductive rate, ρ. Hence, a more accessible approximate measure of motivation would be:

$$M = f \sum_{k=a}^{d} p_k \Delta\rho_k$$

The action threshold

ENB theory posits that brains are constantly engaged in deliberation about the next motor action. A semi-conscious action plan emerges in the dorsolateral prefrontal cortex (DLPFC) in response to the present environmental circumstances and future needs in the four classes of proximate motivation. At a certain point, when the brain calculates that one particular action is more urgent than all others in the pursuit of inclusive fitness, the DLPFC transmits its plan to the pre-frontal lobar cortex, where a specific sequence of muscle activations is planned. Prior to action—and probably prior to conscious awareness that a decision to act has been made—the *bereitschaftpotential* (readiness potential) indicates that the prefrontal cortex is on the verge of transmitting the signal for a coordinated motor action posteriorly to the motor strip (e.g., Kornhuber & Deecke, 1964; Libet et al., 1983; Shibasaki & Hallett, 2006). These signals activate large well myelinated descending corticobulbar and corticospinal tracts that will in turn activate anterior motor horn cells that will make a person move or speak.

The brain reaches this *action threshold* by organizing and analyzing the innumerable action options into a "choice," although it is not clear to what degree free will and consciousness contribute to the processing of environmental contingencies and balancing of versus short versus long-term fitness needs. While we understand some aspect of the neurophysiology of the action threshold, we are far from having a mathematical formula that predict both the type and timing of a person's next act, even knowing something about the factors of greatest probable salience under consideration in his DLPFC.

Illustrative example

Attempting to illustrate the concept of ultimate motivation with a numerical example exposes the gap between current theory of fitness-related phenomenon and empirically validated quantification of the impact on fitness of any such phenomenon. To truly uncover the brain's motivation algorithm is far beyond the state of the art of ENB. However, since we know every person's ultimate motivation and proximate domains of motivation, we can make reasonable speculations about how given circumstances might impact his motive with respect to a major life strategy option.

For example, consider a 19-year-old Yemeni man named Ali deciding between being a goatherd and a suicide bomber. What could posses him to do the latter?

Ali's ultimate motivation for becoming a goatherd will be the result of a brain function. His brain will utilize an evolved fitness-promoting heuristic. That heuristic will need to take into account the likely impact of a given action plan on somatic, reproductive, social, and SWB components of inclusive fitness. He may, for instance, be aware of the physical hardships of the goatherd's lifestyle, the risk of exposure to onchocerciasis, his competition with brothers for inheritance of land, the threat of violent death in local tribal disputes, and his attitude about being a goatherd. For the sake of illustration, one can drop all but the reproductive concerns from the motivation equation. Assume Ali has the typical 4 siblings. As a goatherd, say he has 90%

confidence that he will survive to middle adulthood and marry and have 5 offspring, as will each of his sibs. Ali's perceived (or imagined) reproductive rate for the first generation is his estimate of the probabilities of the sum of his direct and indirect reproductive outputs, so his motive to become a goatherd is some function of [0.9 X (0.5 X 5) + 0.9 (5 X 5 X 0.25)] = [2.25 + 5.625] = *f*7.875.

Ali might instead join AQAP. He may have no intention of being a suicide bomber. Yet he anticipates a faster LHS with several modifications:

- • Exhibit costly signal to enhance reciprocal donations
- • Gain reputation
- • Gain popularity among fertile young women by risk taking
- • Risk early death, hope to marry at 28, have 6 children (one illicit)

Ali's brain estimates 0.75 chance of survival/reproductive success; 0.25 chance that his sibs benefit from reflected glory and generate 3 additional nieces/nephews. Under these assumptions, Ali's motive for this life choice = *f* [(1.0 X 4 X 0.5) + (0.75 X 6 X 0.5) + (0.9 X 20 X 0.25) + (0.25 X 3 X 0.25)] = *f*8.9375

A third option is to not only join AQAP but also intend to become a suicide bomber. Ali's brain might estimate a 0% chance of surviving to have 5 offspring. This superficially seems to represent such a profound – Δω as to beggar credulity: how could ENB theory justify such a self-defeating choice? Ignoring the evidence that bombers achieve a major reputation gain and that bomber's kin receive multiple fitness enhancing benefits, for the sake of argument one can drop social and psychic factors from the equation and focus on somatic and reproductive factors. On the other hand, his brain is also influenced by imagination. Remember the virgins.

The Quran suggests that martyrs will gain access to round-breasted virgins (*houris*). Several Hadiths (e.g., number 2,562 in the *Sunan al-Tirmidhi* collection) (wikiislam.net, 2011) specify the number 72. While a debate exists regarding the meaning of these passages, it is reasonable to presume that most Muslim men have some familiarity with this possibility. Virgin females are prized throughout the world because sexual intercourse with them, under conditions in which they can be guarded from outer sources of sperm, has the highest likelihood of yielding an offspring of guaranteed paternity. One cannot measure the bomber's perception that this fantasy is real. Yet it seems plausible that, at some level of consciousness and with some degree of confidence, at least some potential suicide bombers are influenced by the enormous, if imaginary, fitness gain at stake.

Assume for the sake of argument that Ali's brain has deep doubts about getting the virgins—just a tiny faith that his imam and AQAP mentors are telling the truth. It estimates that (a) he is sure to die childless and (b) he has only a 1% chance of acquiring the company of 72 virgins. Again, even fragmentary faith in such an immense gratification of sexual and reproductive motivations may be enough. The implications of absolute faith in paternity and his culturally determined expectation of ρ-per-wife cannot help but influence his cerebral calculus. If so, Ali's motive for this life choice = *f* [(1.0 X 4 X 0.5) + (0.01 X 72 X 5 X 0.5) + (0.9 X 20 X 0.25)] = *f*10.1. Thus, even if his brain does not calculate that his family will gain any reproductive advantage due to

reputation gain for his costly signal and indirect reciprocity or direct financial compensation, Ali has greater motivation to be a suicide bomber than a goatherd.

The above quantitative estimates are offered for the sake of argument. Until a credible body of rigorous research tests hypotheses regarding whether young people's perceptions and imaginations jibe with the fitness costs and benefits of different actions, one cannot assume ENB theory validly quantifies the allure of the LHS of suicide bombing or predicts the choice of this LHS, given a person's temperament and environmental circumstances. However, policy makers struggling to understand why VEOs flourish may benefit by such ENB-based insights: even the slightest faith in sacred texts may be enough to make martyrdom a biologically rational choice.

This, whatever its vices or virtues, is the dénouement of this essay. Animals are motivated in order to maximize their inclusive fitness. Human animals are influenced, in calculating that maximum, by imagination. Conscious "decision making" may be a post-hoc phenomenon. Large brains employ fast and frugal heuristics in largely unconscious processing to make estimates that evolved to maximize the fitness consequences of behavioral options. Brains probably arrive at a final common state of "intention" prior to action that the brain judges likely to enhance $\Delta\omega$ by increasing the qualia-like intermediate construct of PWB. The motivation of Yemenis either to join or not join AQAP will be a function of their brain's calculation of costs vs. benefits, which will integrate the net impact of that behavior on somatic, reproductive, social, and psychic factors pertinent to fitness. In order to defeat AQAP, we must (a) understand, from the biological point of view, why Yemen is such an attractive home for AQAP and (b) examine how our potential interventions are likely to be perceived as relevant to their fitness by the brains of young Yemeni men.

I readily acknowledge that much needs to be done to test the validity of this theory. A long road to falsifiability lies between the theoretical promise of my ENB-based approach to human motivation and delivery on that promise. In particular, since a cherished goal is to predict human behaviors after specifying environmental contingencies—for example, predicting whether a military strategy or political policy will alter behaviors of others in ways that enhance U.S. security—much needs to be done to establish whether ENB-based analysis of options is superior to (a) any other formal alternative or (b) leader instinct. In fact, my theory proposes that one reason leaders rise in the estimation of their followers is that they have superb and entirely unconscious instincts in the evaluation of the ENB implications of their options: they intuit how members of both in- and out-groups will behave when presented with new facts on the ground. Therefore, it is entirely possible that employing either informal, semi-quantitative, or quantitative applications of ENB theory to weigh policy options will have marginal or no utility when compared with a good leader's best guesses. That remains to be seen.

The biological explanation of Yemen's attractions as a home for AQAP

Yemeni men choose one or another life history strategy. Supporting or joining AQAP is a LHS option we would very much like to demote in their brains. Table 1 listed major fitness-relevant factors that make Yemen an attractive refuge for AQAP. Each of these factors has biological significance and feeds directly into our equation for motivation. In this section, we will apply ENB theory to the analysis of how each of these factors is likely to be perceived by the Yemeni's man's brain as he weights his LHS. Note: Arab women also play an important role in the

promotion and persistence of jihad. However, for the purposes of this pilot project, acknowledging the limitations of the single gender viewpoint, the focus will be on factors increasing or decreasing the motivation of Yemeni men to support or join AQAP.

I. Socioeconomic/Demographic Factors

I.A. Poverty

Yemen is the poorest Arab country (Boucek & Ottaway, 2010; CIA World Factbook, 2011; Hull, 2011; World Bank, 2006). Although a much-cited literature claims that no associations exists between poverty and terrorism (e.g., Krueger & Maleckova, 2003), that literature fails to address the question of disparities in income, perceived injustice in the distribution of resources, or empathy among militants with more resources for those with fewer resources. Recent empirical studies demonstrate several ways in which poverty can directly promote recruitment to militant Islam (Mousseau, 2011; Piazza, 2011). Yemen's poverty facilitates its service as an AQAP safe haven in multiple ways:

I.A. (1) The central government lacks sufficient financial wherewithal to mount a well-trained and disciplined army. Neither the loyalty of the troops nor their fighting capacity can be assumed. General Petraeus's recent doubling of support for Yemeni security is a drop in the bucket. This is setting aside the fact that there is no compelling motivation for Yemen's army to fight AQAP, apart from as a source of money for the Saleh regime. While I have not found specific survey data addressing this question, I would wager that average Yemeni soldiers do not regard AQAP as a meaningful threat to their own personal interests, that of their families, or that of their tribes. They may fight for cash, but their motivation does not match that of committed militants, who fight for a new world order.[4]. Unless a completely different narrative were persuasively offered to the army—one in which their personal well-being, status, and reproductive fitness depends on ridding the nation of AQAP—no amount of cash will make it an effective fighting force against Islamist extremism.

Highly trained Special Forces are another matter entirely. Yemen's poverty plays a causal role in its need for expert outside help in counterterrorism matters, but outside help means injecting an irritating outside presence into a very conservative Muslim society. Alternatives will be discussed in the section titled Recommendations.

I.A. (2) The central government lacks sufficient financial wherewithal to control the tribes. An oil-dollars-based patronage system temporarily permitted Saleh and his cronies to maintain power by co-opting tribal shaykhs. To some degree, this patronage system has bought allegiance in the fight against AQAP. Leaders of the Abida and al-Ashraf tribes pledged to "stop harboring people wanted by the security forces or who are accused of belonging to al-Qaeda" (Terrill, 2011, p. 65).

But there are two disadvantages of this patronage system. First, while Saleh could temporarily rent the loyalty of a few élites, this alienates the shaykhs from their tribes: "The patronage system has eroded many of Yemen's tribal codes and norms" (Phillips, 2010, p. 76) —a factor

[4] As one example, Gen. Muhammad al-Somli, the Abyan commander near Zinjibar, has by some reports sat relatively passively in his compound, allowing militants to overrun Zinjbar (Worth, 2011).

contributing to a deterioration in traditional hierarchies. Second, the money is about to run out. Even if some kind of central government retains power in the next several years, Yemen's oil will be depleted in about 2017. Newly identified natural gas revenues may not make up the difference. At that point, tribes will revert as best as they can to ancient methods of fiscal autonomy (e.g., herding goats, growing *qat* and selling it to urbanites, immigrating and sending back remittances, smuggling, or accepting bribes to fight in one of the various tribal and regional conflicts).

Since the central government is too poor to control the tribes, each tribe makes its own decision about hosting (or even potentially partnering with) AQAP. Unless both tribal leaders and their followers come to believe in a narrative that their hugely important autonomy (which is actually a proxy for their self-determination of their reproductive fitness) depends on overruling the tradition of protecting guests and making their territories fatally hostile to AQAP members—one does not expect a significant decrease in the vast geographic territory where AQAP feels safe.

I.A. (3) Yemen has a desperate need for water. Sana'a, where extraction from its aquifer is four times as fast as replacement, is predicted to be the first major Middle Eastern city that will literally run out of water. This is predicted to occur about the same time oil reserves are depleted, in 2017.

Multiple hydrological, political, and social issues stand in the way of resolving Yemen's water crisis. About 40% of Yemen's water is wasted irrigating fields to grow the semi-narcotic *qat* plant. 75% of Yemeni men chew *qat* virtually every afternoon. They will not easily change their habit and much valued tradition. Awareness of impact of this nearly universal addiction on the water shortage will not lead to a timely change in this gross waste of resources.

Water management in Yemen is gradually improving, but local water authorities have yet to be established in the very places where AQAP is being hosted, including the Marib, Jouf, and Shabwa governorates. Although a water basin was discovered near Mukalla in 2009, it is not clear whether this will significantly mitigate the problem. As Boucek drew the connection between water and AQAP: "The Saleh regime prioritizes the delivery of services to urban areas at the expense of rural governorates. The failure to establish local water corporations in several governorates that historically have not received much support or social services from the central government, and where control is exercised largely by tribal authorities, has raised fear that a resurgent al-Qa'ida may seek refuge."

Yemen's failure to assure water access is directly related to its poverty. One can buy irrigation from neighboring countries with sufficient money. Since Yemen does not have that money, the options for obtaining water will be limited to (a) accelerating long-delayed efforts at conservation and improved governance (b) hoping for massively increased foreign financial and technical aid beyond that already provided, mostly by the KSA, (c) launching one of history's periodic wars for water.

AQAP already exploits the water shortage by tuning its narrative to frame this problem as one of central government injustice toward rural tribes—making the vital need for water another part of the story that young Yemeni men must fight for their basic survival needs (indispensable for reproductive fitness) by supporting or joining AQAP.

I.A. (4) Yemen, due to its poverty, is on the brink of a massive humanitarian crisis. Unlike Egypt, which is wealthy enough to weather the storm of transient losses of income related to the transition in the Arab Spring, Yemen's poverty makes it less resilient in the face of the current political turmoil. Very soon there may be not just organized and largely peaceful protests but chaos in the streets caused by the lack of provision of essential resources such as gas, water, and food. These shortages will exacerbate tensions between all the conflicting parties. That deterioration in the quality of life will increase the consequences of income disparities, confirm predictions in AQAP's propaganda, and further reduce an effective partnership between the U.S. and the remnant or replacement central government in the struggle to defeat AQAP. The coming crisis will probably be woven into AQAP's already persuasive narrative. They are likely to argue that loyalty to Salafist leaders will bring an end to corruption, enhanced security, provision of basic needs, just sharing of resources, and the benefits of Sharia law that will enhance reproductive fitness by increasing the increasingly anxious, unemployed, self-doubting Yemeni man's control over fertile women. The Talibanization of Yemen is a reasonable possibility. Moreover, a humanitarian crisis creates an every man for himself ethos in which a fast LHS may seem more attractive to assure fitness than a slow LHS. One fast LHS is to participate in militant behaviors.

I.A. (5) Due to its poverty, (to borrow William's clause), Yemen has "always depended upon the kindness on strangers." The Gulf Cooperation Council, which some have described as a club for rich Arab autocrats, has been the major donor. Saudi assistance alone is estimated as $1.75 to 2.0 billion per year (Ottoway & Boucek, 2010)—figures that dwarf the paltry military ($155M) and development ($45M) aid from the U.S. We are not a major player.

Dependence on others fosters both languor and resentment. However close the cultures of Yemen and the KSA, Yemeni men surely covet and resent the wealth of their northern neighbors and the KSA's paternalistic oversight. This factor will animate some to see extremism as an attractive alternative to humiliation.

I.A. (6) Due to its poverty, its poor governance, and its lack of natural resources, unemployment in Yemen overall stands at about 35%. The figure is probably higher among the young men who are perhaps most vulnerable to AQAP propaganda and most in need of demonstrating their worth to themselves and others (including young fertile women) by costly displays of altruistic virtue. 89% of young Yemeni males believe it is a bad time to find a job. 65% are willing to relocate to another country for work (Naurath, 2010).

Employment options for Yemeni men are limited. Agriculture and herding are the most common careers. With rapid urbanization, there is a shift to service industries and light manufacturing. Some men are professional smugglers. Unlike Somalia, Yemenis have yet to make piracy a commonplace career aspiration. This may change, especially as AQAP strengthens ties with al-Shabab and begins to set its sights not just on profit-making but on disrupting shipping in the Bab al-Mandeb strait chokepoint in the Red Sea as a terror tactic.

Ali Mohammed al-Ansi, recently director of the Presidential Office and Chairman of he National Security Bureau, argued that unemployed youth are exploited both by AQAP and by the Houthi rebels (Boucek, 2010). The Saleh administration has much to gain by inflating the danger of AQAP, and it is not clear what data al-Ansi could cite to support his claim about the link

between unemployment and security, or whether this is one more appeal for foreign dollars that may never be spent to advance their intended goals. Still, a lack of jobs for a distressed population of hormonally driven young men will increase the attraction of fast LHSs that include participation in militance.

To clarify: unemployment itself does not cause terrorism. Terrorist leaders, including those of AQAP, typically have middle class or even well-to-do socioeconomic backgrounds. However, some followers, foot-soldiers, (and those who will rise through the ranks to replace the leaders killed) may arrive in the group because they perceive their LHSs to be limited. Young men need to feel that they are on track toward primary goals, including identity, life purpose, sexual activity, marriage, fatherhood, reputation, and for some, sensation seeking—all of which are proximate goals enroute to inclusive fitness. Unemployment greatly reduces the options for furtherance of oneself toward those essential goals, and somewhat increases the odds that a man will see membership in a militant group as a promising route to identity, purpose, reputation, and sensation seeking. More importantly, if the man blames his unemployed status on the central government's unjust dispersal of jobs, on Saudi rejection of Yemeni economic migrants, or on a Western conspiracy, his anger at these blockades to his reproductive fitness will be more likely to motivate radicalization.

I.A. (7) Poverty creates a major barrier to obtaining reproductive access to fertile young women. Yemen tradition requires payment of a bride price. Young men at the peak of sexual drive, eager both for sexual gratification and perhaps for a relationship, beginning to envision themselves as fathers, must come up with money, remain frustrated, or sublimate their frustration in fast LHSs that may include succumbing to the allure of AQAP.

I. B. Population dynamics

I.B. (1) Yemen's population is the youngest in the Arab world. More than 43-46% are age 14 or under (CIA World Factbook, 2011). The national rate of population growth is one of the highest in the world, about 3% per year, and even higher (perhaps 7%) in Sana'a due to urbanization (Boucek, 2010). Yemen's population stands at 24,133,492 (CIA World Factbook, 2011) but may double by 2033. These approximations may or may not include the large and extremely vulnerable Somali refugee population. While the U.N. Relief agency estimates that 48,000 Somali refugees live in Yemen, they also admit that this estimate is probably a "a fraction of the total number of Somalis in the country" (UNHCR, 2011).

It is controversial whether youth bulges in populations per se increase the risk of radicalization. Hart, Atkins, Markey, Youniss (2004) argue that such bulges at least increase the chance of political activism, while Ginges (2004) comments that the available evidence is insufficient to draw that conclusion. In fact, the youthfulness of the Yemeni population conceivably presents a window of opportunity: if the U.S. is perceived as promptly and dramatically changing its behavior with respect to Yemen and Islam, the next generation of leaders may regard the West more favorably and be more sincere partners in resisting jihadists. However, there is no way that Yemen can accommodate its young people with gainful employment. Unemployment, already dangerously high, will almost certainly rise in the next decade—the very time at which Yemen oil and water will be depleted. A progressively larger proportion of young Yemeni males will probably be out of work, bored, restless, and angry. They will seek to enhance their fitness

prospects however they can. Many will migrate in pursuit of employment, although it is not clear whether this relief valve will (a) be available, due to changing immigration policies of neighboring nations or (b) be sufficient to depressurize internal youthful disaffection. Unless AQAP is virtually decimated, membership will be an increasingly attractive life strategy for Yemen's unemployed, Salafist educated boys. The impact on Somali refugees will probably be similar, if not more acute. Already deriving from a community that is divided between Islamist militants and others, already exposed to al-Shabab's rhetoric, the large and young Somali refugee population of Yemen represents a wild card.

I.B. (2) Another aspect of population dynamics relevant to ENB analysis is sexual activity, marriage, and contraception. The modal age of marriage for Yemeni girls is 15. 90% are married by age 19. Only 25% use contraception by age 25. For this reason, abortion is the main method of family planning. Estimates of Yemeni women's fertility vary. The CIA World Factbook (2011) estimates that Yemeni women, on average, have 4.63 children. The U.S Library of Congress country Profile for 2008 ranks the rate as "almost 6.5 children per woman in 2007." The World Bank's World Development indicators illustrate a slow decline in fertility rate since 1985 with a fertility rate of 5.1 in 2009. One might use 5 as a fair current estimate. At least 1/3 of Yemeni men resist the use of contraception—a factor that plays a role in the high fertility rate, drives the fast population growth, and adds to the multifactorial economic distress related to insufficient resources and jobs.

One idiosyncrasy of Yemen is the very high rate of consanguineous marriage. About 1/3 of children are born to consanguineous marriages, mostly between first cousins. Such marriages are popular because family loyalty permits lower bride prices. There is subsequently a high rate of congenital deformity. The long-term impact on health and average cerebral function (and collective cognitive capacity) is difficult to predict. I am not aware of research reporting young men's awareness of the disadvantages of marrying inexpensive first cousins versus more expensive members of other families. If young men realize the problem it is one more pressure to gain employment and make money.

I.B. (3) Evidence from multiple sources suggests that (a) virtually all Yemeni men will marry by middle age, (b) virtually all will eventually have children. However, some evidence suggests that Yemeni men who are fully employed are able to marry at younger ages, while partially or unemployed men must wait.

It is obvious that Yemeni culture, whether Sunni or Shi'a, values marriage and the production of offspring. While premarital sex is increasing in Yemen (Abu-Raddad et al., 2010), this conservative Muslim country is probably not a place where young men are likely to achieve regular sexual intercourse until marriage. Given the fact that full employment increases a young Yemeni man's chances of being marries or of having children, it is very likely that unemployment represents a major barrier not only to relief of sexual frustration but to achievement of early reproductive success, reputation, and access to the benefits of an enlarged affliative network via in-laws.

Yemeni men are very likely to feel especially eager to gain full employment. The already very high and still rising rate of unemployment is a factor likely to cause widespread emotional distress, frustration, some anger, and perhaps political unrest. Realizing his chances for a

conventional life history strategy are forestalled by his unemployment, an unemployed and disaffected Yemeni man's brain will demote indefinite pursuit of a job and promote alternatives. Those include militance.

I.B. (4) **Delay in a marriage and social unrest**

Evidence exists that marriage reduces a young man's (a) level of aggression, (b) intermale competitiveness, (c) participation in criminal activity, (d) participation in risky activity, (e) likelihood of joining a criminal gang, and (f) likelihood of participating in violent extremism. Abundant empirical research supports points a – e (e.g., Booth & Dabbs, 1993; Burnham et al., 2003; Farrelly & Nettle, 2007; Gray et al., 2002, 2004, 2006; Wingfield et al., 1990). Some empirical evidence specifically supports the theory that marriage is a specific protective factor against participation in extremism. For instance, Berrebi (2007) found that marriage reduces the risk of Hamas membership among Palestinians in Gaza. Apart from Berrebi's report, insufficient research has been done testing hypothesis f. Moreover, a legitimate concern is whether marriage renders men less aggressive or whether instead less aggressive men are more likely to marry. Yet Kouaouci (2004) argued that a youth bulge and socio-economic barriers to marriage specifically enhanced the risk of recruitment to violent extremist organizations in Algeria. Married men are less sexually frustrated, more aware of their likelihood of achieving ultimate fitness goals by preserving the relationship, and less inclined to take risks that will undermine this direct path to fitness. Thus, ENB theory and preliminary evidence suggests the testable hypothesis that marriage reduces the risk of a young man's becoming a terrorist.

Knowing the answer to this question with more confidence may be a high priority in the global struggle against violent jihadi extremists. This is just one of many social science questions that demand prompt, high quality scientific effort. Pending more confidence in the hypothesized relationship, it would seem to be a low risk and prudent counter-extremism tactic to promote marriage in vulnerable Yemeni populations.

I. C. Salafist educational system

Literacy in Yemen stands at 50%, though the rate is higher among males than females. School expectation is an average of 11 years for males (CIA, 2011). Yet the kind of schooling may have implications for counterterrorism.

Three players are pushing a Salafist educational agenda in Yemen. First, Saudi Arabia began populating Yemen with Salafist schools at some point after 1962 (e.g., Worth, 2010). These ironically named "scientific institutes" focused on traditional Islamist/Salafist/Wahhabist religious instruction. It is difficult to determine how large the KSA investment in promoting Wahhabist education has been, how radical it has been, or what proportion of adult Yemenis were educated in this way. There have been unverified claims that these schools have been closed, but it remains unclear how many Yemeni children today receive primarily Saudi-funded Wahhabist educations. Second, the political party al-Islah has long fought to control the portfolio of the Education Ministry, and continues to support the parallel system of Salafist schools called Islamic Institutes that are independent of those run by the state and are used to recruit party members (e.g., Whitaker, 2009). Third, al-Qa'ida itself provides teachers. In fact, al-Qai'da has expressly competed with other providers of education in some regions. Worth

(2010), for example, quotes his guide in the Rafadh Valley: "The people were saying, 'We would rather have our kids get an al-Qaeda education than be illiterate.'"

Yemenis are sophisticated enough to appreciate the value of education. They may be ambivalent or even enraged regarding many aspects of Western culture, but evidence suggests a strong desire for college and post-graduate education, emphasizing technology and science, in the urban centers. As in the case of Mr. bin Laden, however, enthusiasm for technology may not trump deeply held anti-Western attitudes acquired early in life and reinforced by social learning. From the ENB perspective, it is hard for children to overcome subconscious bias, regardless of later education or positive contact.

Social science research has yet to determine with confidence whether educational systems based on rote memorization of the Quran and that promote Salafist ideology breed violent extremists. To the best of my knowledge, no studies have shown (a) proportionally higher rates of *madrassa* education among jihadi militants versus matched non-jihadi controls or (b) changes in the rate of terrorism with changes in the prevalence of madrassa education. One nonetheless suspects that a society where the schools demonize the west, promote the worldview of a clash of civilizations, and encourage Salafist values—including a manifest destiny of global Islamic hegemony--will contribute to the net social learning of the rightness of militant jihad.

II. Cultural Factors

II. A. Anti-Americanism

In a 2010 interview, Yemen's President Saleh was asked about the American presence in his country. "Arrogant," he described them. "Cowboys" (Worth, 2010).

Saleh is ostensibly our friend. If the leader of Yemen publicly declares contempt for Americans, on whose dollars and weapons and tolerance he depends, one can imagine the candid opinions of average Yemenis. Multiple authorities confirm that anti-Americanism is rampant in Yemen (e.g., Boucek & Ottoway, 2010; Whitaker, 2009).

Recent data collected by Glevum Associates (2011) were gathered from a representative sample of 1005 Yemeni adults in eight of the 21 governorates. Their findings include the fact that only 1% regarded the U.S. as the outside source of help of choice. 53% feel the U.S. takes Yemeni interests into account 'very little,' versus 34% feel the U.S. takes Yemeni interests into account 'somewhat' or a 'great deal.' Only 4% strongly approve of Saleh's cooperation with the U.S. 59% are very unfavorable regarding the U.S. led war on terrorism. Most importantly for policy makers trying to understand what we are up against—both in Yemen and throughout the Islamic world—96% believe the West is at war with Islam, 66% believe the West wants to dominate and enslave Muslims, and 92% believe Western culture corrupts Muslims.

Such figures have profound implications for an ENB-based understanding of our fight against AQAP. The depth and breadth of anti-Americanism (and North Yemen's proud tradition of never having fallen under Western colonial) rule helps AQAP tell a story: your choice is between fidelity to Mohammed, Islam, and Sharia or acquiesce to the central government's plan to cede control of Yemen to infidels. Americans are perceived as a dangerous, immoral, domineering

outgroup that conspires to rob young Yemeni men of their birthright, their reproductive prospects, and their free will. We may be able to change this perception over the next 20 years by dramatically re-imagining our relationship with the Muslim world. We will not change this perception in the next 5 years by any amount of development aid, and certainly not by invading Yemen with trainers, Special Forces troops, and drones. Every contact with the U.S. is perceived as perilous and undesirable by major segments of the population. They may smile and accept roads and hospitals and night vision goggles. The will keep their hands and hearts close to their *janbiyas*.

II. B. Tribalism

Yemen is primarily a tribal collective. Yemeni men, in so far as they consort with the central government, have divided loyalties. Many are primarily loyal to their tribes and secondarily loyal to the larger group of identity that we call a nation. The implication for an ENB-based analysis of the opportunity to intervene against AQAP is that we are not negotiating with a single entity. We cannot regard agreements made with the central government as binding throughout the governorates. Since young Yemeni men must look to satisfy their tribe's requirements in order to maximize their changes of life success—including access to an affordable bride—they will look to their shaykhs for guidance.

The Hashid tribal collective—a Zaydi Shi'a group—is, for the most part, loyal to the central government. President Saleh is a member (but not the tribal leader). The Bakil tribal collective is primarily in the north, including Saada, where they play a role in the Houthi rebel movement. Thus, rather than a "Shi'a insurgency," as it has sometimes been called, one way to conceptualize the northern Houthi conflict is a test of wills between the Hashid Zaydi Shi'a tribal collective and the Bakil Zaydi Shi'a tribes.

Tribalism is perhaps being undermined by the central patronage system, as well as by urbanization. The place of tribal allegiance in the consciousness of average potential recruits of AQAP is hard to measure. However, so long as loyalty to the tribe remains a potent proximate motivator pertinent to reputation, reproduction, and material prospects, the U.S. must be prepared—as the KSA has done—to make multiple deals with multiple arbiters of authority. This raises another problem with tribalism: identity tends to be mutually exclusive. From the point of view of U.S. relations with the Yemeni people, whichever tribe we seem to favor signals disrespects and fitness threat toward all others.

II. C. Sectarian religious divides

The religious affiliations of Yemenis are complex and somewhat dynamic. They complicate a simple analysis of the way an average Yemeni youth will think of his duties vis-à-vis his sect and his Prophet. 99% of Yemenis are Muslim. About 42% belong to the Shi'a and 55% to the Sunni sect. Sunnis predominate in the south and southeast. Shi'as predominate in the north and northwest. Among the Sunnis, there seems to be an historic shift in the direction of Wahhabism, probably due to the influence of the KSA, which has both controlled a great deal of education in Yemen and hosted hundreds of thousands of Yemeni laborers who have returned home, some bearing the Wahhabist message. Among the Shi'a, almost all belong to the Zaydi (Fiver) order,

though several hundred thousand in the north belonging to Ismaili, Imami, and Jafari (Twelver) orders.

The Zaydis status as Fivers (followers of the Fifth imam, Zayd bin Ali) is politically important. First, unlike Iraq, where there is longstanding tension between Sunni and Shi'a, since Fivers are close to Sunnis in their theological orientations, until relatively recently, there has been somewhat less tension between sects in Yemen. That, however, changed in 1994 when the central government aligned with Wahhabist Sunnis to fight the secessionist south (also see section III.C. (1) Saada/Houthi conflict). Second, however, one Fiver tradition is to fight oppression and corrupt rulers. This flavors their worldview, their finite willingness to tolerate injustices perpetrated by the central government, and potentially, their malleability to the narratives of AQAP.

In promoting this narrative, AQAP is ably assisted by such mainstream figures as Shaykh Abd-al-Majid Al-Zindani (a.k.a. Abdelmajid Al-Zindani; a.k.a. Shaykh 'Abd Al-Majid Al-Zindani), head of the Sunni al-Iman University in Sana'a and a leading al-Islah party figure, who has railed against the government's cooperation in counterterrorism as threatening "the return of colonialism" (BBC news, 2010). Al Zindani was designated on 2/24/2004 as a Specially Designated Global Terrorist under the authority of Executive Order 13224 and the International Emergency Economic Powers Act, in part due to his reported role in purchasing weapons for al-Qa'ida and in part because he preaches militant jihad in such a way as to influence youth (e.g., John Walker Lindh) to take up arms against the West (U.S. Treasury, 2004). The role of this man and his university as a long-term threat to U.S. security is probably important. However, al-Zindani derives some of his authority from his personal relationship with the declining President Saleh. It remains to be seen what role Mr. Zindani or his university will play in the new Yemen.

II. D. Culture of honor/revenge/anti-social punishment

This factor was discussed in the section on the evolution of behavior titled "Cooperators versus cheaters, green-beards versus reputation, bias and punishment versus antisocial punishment." The point is simple: Arab culture is a culture of honor. In such cultures, evidence suggests there is a greater than average willingness to undertake costly, risky behaviors to inflict punishment on those judged to have violated social compacts. To the extent that Islamists are convinced that the Prophet mandated global Islamic hegemony, Judeo-Christian Western infidels will be understood as defectors—especially in view of the still salient memory of the Crusades, exacerbated by multiple more recent wars in which U.S. boots have stomped on sacred ground in the Middle East. A rhetorically gifted imam will have no trouble using the Quran and history to suggest, in the brain of a young Yemeni man, that his biological prospects will be enhanced by supporting or joining an enterprise to fight the U.S.

II. E. Universality of weapon access

This factor deserves only brief mention. Virtually all adult Yemeni men own one or more guns. Many of these are Kalashnikovs (or copies) with full automatic capability. These are small arms. They pose a threat in close combat but not in open field battle that permits the use of armored vehicles or artillery, so even if Yemeni men join AQAP, their arms will not significantly alter the calculus of a major assault by Yemeni security forces.

However, from the ENB perspective, the universality of weapon ownership combined with the culture of honor represents a potential challenge to Special Forces operations. Every mud hut in every village must be assumed to be defended with an automatic weapon. Searches will invariably be provocative. Some hot headed Yemenis, taking offense, will reach for their weapons. Some anxious U.S. personnel will shoot innocent people. These occurrences will precipitate the oft-repeated scenario of a small unit's moral dilemma: whether, and with what veracity, to report this event. There will be cover-ups and atrocities. Each non-combatant death regarded as unjustified by a tribal shaykh will greatly complicate the campaign to root out AQAP.

II. F. Tradition of protecting guests

Arabs in general and Yemenis specifically have a powerful cultural mandate to be good hosts and to protect guests. This tradition is perhaps strained by the presence of AQAP. Tribal leaders are ambivalent regarding the relative fitness value of reputation maintenance related to compliance with cultural mandates in the face of adversity, versus threats to survival and autonomy caused by military attacks attracted by their guests. To the extent that the U.S. is perceived as disrespectful to the tradition of guest sanctuary, it risks increasing tribal resistance to the process of eliminating AQAP.

II. G. Anergy, perhaps related to *qat* addiction

Qat, (aka khat) is Catha edulis, a flowering plant widely cultivated in Yemen for the psychotropic properties of the alkaloids released when it is chewed, cathine and cathinone. These agents are molecularly similar to amphetamine and pharmacologically similar to cocaine. They enhance adrenergic stimulation but they also bind to serotonin receptors, perhaps explaining the addition of euphoria to the primary stimulant property (Balint, Falkay, & Balint, 2009; Hoffman & Al'Absi, 2010). 75% of Yemeni men chew qat, mostly in the afternoon, and mostly in social situations. A daily qat break is a very strong cultural tradition. Its function as a social lubricant and mild stimulant is probably nearly as benign, for many users, as the Western dependence on caffeine. This extraordinarily high prevalence of regular use is unmatched in the world, and explains why 40% of the Yemen's total water use is devoted to (and in some opinions, wasted on) the cultivation of qat (MacLeod & Vidal, 2010). As discussed in the section on poverty, qat farming offers pros and cons. Its profitable growth year round growth cycle has the economically stabilizing virtue of transferring funds from wealthier urban to impoverished rural communities, but its growth consumes enormous amounts of water without generating any nutrients. Qat is also a potential public health problem: qat use is associated with cases of psychosis, stroke, liver disease, and driver impairment (Ali et al., 2010; Feigin, Higgs, Hellard, & Dietze, 2010; Odenwald, Klein, & Warfa, 2010).

It is intriguing to speculate whether qat chewing meaningfully impacts the Yemeni ecological favorability to AQAP, or how the US might use this dependency as a lever to fight AQAP. The impact of qat use on the political psychology of Yemenis is complex. Two factors make the Yemeni dependence on qat potentially problematic from the point of view of U.S. security. First, business deals and other major decisions are routinely made while men are experiencing the euphoria of qat intoxication. This might somewhat compromise the decision-making process. Stimulants make many people irritable and impulsive rather than euphoric and

energized. Male abstainers specifically believe that chewing qat causes social problems in Yemen (Wedegaertner et al., 2010). In fact, one report found that male Ethiopian college students who use qat are more likely to be violent (Gelaye et al., 2008). When the U.S. negotiates major security or economic partnerships, we must appreciate the fact that they may be hammering out important decisions with somewhat intoxicated men. Second, and more importantly, the enormous diversion of the water stock for qat cultivation has reportedly already led to armed conflicts over this precious and dwindling resource (MacLeod & Vidal, 2010). Therefore, Yemen's qat problem is one more cultural factor that lowers the threshold for (a) young men to regard warfare as a route to fitness and (a) tribal leaders to host AQAP, which has specifically promised to help assure access to water.

II. H. Emotional distress

Yemenis are sadder than most Arabs. In a 2008 Gallup pole, Saudis rated their overall quality of life and well being as 7/10. Yemenis rated their as 4.5/10. Table 3 further illustrates the emotional comparison:

Table 3: Comparison of emotional status of Yemenis and Saudis

Emotional Measure	Yemenis	Saudis
Angry	37%	25%
Depressed	28%	10%
Worried	48%	30%
Bored	41%	28%
Feel love	46%	75%

Source: Rheault, 2008

This portrait of a people reveals yet another factor consistent with Yemen's suitability as a home for a militant jihadi group: Yemenis are angry and feel that their nation is moving in the wrong direction. 3% feel the country's movement is in the right direction versus 88% in the wrong direction—figures that compare disfavorably with those in Iraq where 41% feel the direction is right and 56% feel it is wrong (Glevum Associates, 2011).

On the one hand, we must be wary of making any assumption that personality or emotional traits predicts extremist violence. Angry, sad, bored, loveless people have not been shown by an empirical study to be more likely to join terrorist groups. Yet no study has prospectively or retrospectively tested this hypothesis. The few available studies of terrorist personality are methodologically problematic. One potentially important study of incarcerated Palestinian extremists relied entirely on projective tests such as Rorschach and the Thematic Apperception Test (Merari, 2010)—measurement methods that were discredited by mainstream researchers decades ago. The only published study employing the Minnesota Multiphasic Personality Inventory (Gottschalk & Gottschalk, 2004) found that 90 Palestinian and Israeli Jewish terrorists

had significantly higher psychopathic deviate, paranoid, depressive, and hypomanic scale scores compared with 60 demographically matched non-terrorists living in the community. Yet the translation of the MMPI-II used in this study was not normed or validated, and limited conclusions can be based on this single report.

On the other hand, ENB-theory posits that individuals seek well being by whatever means are at hand. Depressed persons may not have the energy to seek the best life solutions, but may make impulsive decisions out of a desperate pursuit of better mood and exhibit increased rates of aggression. Angry persons need an outlet for their anger and may be vulnerable to channeling it into radical agendas. Bored persons need sensations and, as has been observed in studies of gang membership, seem more vulnerable to thrill seeking opportunities. Yemeni's sadness is probably a risk factor for radicalization.

III. Political Factors

III. A. Failing state status

It will be hard to know the moment that Yemen transitions from a fragile to a failed state. The intractable Saada rebellion, the re-energized southern secessionist movement, the (as of 7/20/11) poorly organized but vocal opposition movement, the terrible financial straits, the failing natural resources—all at a time of global economic constraints—represent major threats to Yemen's stability.

I believe the nation will survive because its tribalism and decentralization of power makes it resilient in the face of threats to central authority. However, AQAP (and probably a larger Salafist Islamist militancy) is exploiting the current disorganization to advance its immediate agenda—taking control of some southern towns.

From the ENB perspective, failing state status leads to uncertainty, despair, and desperation for those at the margins of economic sufficiency. Like poverty, failing state status increases the attraction of fast LHSs, which include consideration of the advantages of joining militant groups. Leaders of VEOs gain stature amidst chaos because young men seeking place and purpose need someone's model and direction, and authority in an unstable primate hierarchy shifts away from the alpha male toward whichever individual or small alliance seems ascendant.

III. B. Leadership vacuum

Yemen's president Saleh is currently in Saudi Arabia, allegedly for medical treatment after an attack on his palace June 3, 2011. His real reasons for remaining in KSA are not clear, but probably include tremendous pressure from the West, and perhaps from KSA, to stay out of Yemen. Note that the attack on his palace followed shortly on Saleh's May 23, 2011 attack on the home of Shaykh Sadiq bin Abdullah al-Ahmar, the leader of the Hashid tribal confederation, in the Hasaba neighborhood of Sana'a. Many opine that the attack on Saleh was simple revenge by the powerful and wealthy al-Ahmar clan.

Saleh's absence is an obvious destabilizing factor. Perhaps even more problematic is the breakdown in honor that permitted the exchange of attacks between these two leaders. Like

failing state status, this phenomenon will lower the threshold for young men to choose fast LHSs.

III. C. Internal conflicts

III.C. (1) Saada/Houthi conflict

The conflict between the northern Houthi rebels (aka, the Saada conflict) has been characterized as Shi'a versus Sunni contest, since the north is the center of Zaydi Shi'a tribes, since much of the central government is Sunni, and since the government has a history of collaborating with Wahhabist Salafist Sunnis both from inside and from outside Yemen (the KSA) in both its northern and southern wars. As noted above, the Shi'a v. Sunni characterization is perhaps simplistic, given the fact that President Saleh himself (along with about 42- 45% of Yemen's population) is a Shi'a Zaydi. In one respect, the conflict is more about (a) the northern tribes' anti-Westernism, and (b) Saleh's shaky genealogical claim on leadership. He is an uneducated commoner. He probably fears that his inferior genealogy inspires the formerly *sayyid* (descendants of the Prophet) imam-led Zaydis to try to exert their hereditary superiority and reactivate the pre-1962 caliphate.

Setting aside speculations about President Saleh's self-esteem, important aspects of the unresolved Saada/Houthi conflict are that it (a) has inspired the central government's forces, under the leadership of Ali Muhsin, to collaborate with Salafist Sunnis, including former muhajedin (e.g., Raghavan, 2010), (b) helps cement the central government's ties to the KSA, which perhaps has periodically launched anti-Houthi offensives in a low level border war, and (c) exacerbates sectarian tensions. While the Saleh government has reportedly attempted to claim that the northerners are AQAP-inspired or affiliated, this is highly unlikely, given al-Qa'ida's notorious anti-Shi'a bias (e.g., Salmoni, Loidolt, & Wells, 2010).

In fact, evidence suggests that the Houthi conflict in the north derived directly from anti-American animus. The tribal leader Hussein Badreddin al-Houthi reportedly began his campaign against Saleh because he found Saleh's collaboration with the infidel U.S. abhorrent (e.g., Boucek, 2010). This oversimplifies a complex intransigent conflict, which also involves (a) the Houthi Zaydi's preference for leader blood from more notable families than Saleh's, (b) the Zaydi Shi'a irritation at the central government's embrace of the Sunni Wahhabist KSA, and (c) decades of unjust distribution of resources. Yet it clarifies again that Americans are undesirables in Yemen.

One question is the association between the Houthi rebels and al-Shaba al-Mumin (Believing Youth). Believing Youth was founded in 1992 in Saada governorate, perhaps by Mohhamed Salem Azzan, Abdul-Karim Jadban, and Hussein al-Din al-Houthi. These men possibly had contacts among Shi'a figures in Iran (e.g., Hussein's father Badr al-Din may have visited Iran in 2003)— one source of the Saleh government's poorly documented claim that the Saada rebels are influenced by Iran, Libya, and/or Lebanon's Hizbullah (UNHCR, 2008). Hussein al-Houthi himself may or may not have had direct relations with Believing Youth. However, following the U.S. led occupation of Iraq in 2003, he reportedly encouraged radicalization, urging youth to chant Anti-American and anti-Israeli slogans, and Believing Youth are widely regarding as in the vanguard of the al-Houthi movement (globalsecurity.org, 2011; Petersen, 2008). At present,

Believing Youth may be regarded as a threat both to Yemen's central government and to the U.S.:

It may be assumed, then, that the extremism of al-Houthi and his followers is a reaction to what they regard as a creeping Salafi invasion of their territory and faith. It might also be conjectured that the violent path adopted by "Believing Youth" is a reflection of – and influenced by – the violent extremism practiced by local al-Qa'ida elements and their imitators… (Petersen, 2008. p. 2).

While I doubt that AQAP will make major gains recruiting in Saada, from the ENB perspective, the persistence of the Saada conflict presents a major barrier to devising a strategy that will engage Yemen as a whole in the fight against AQAP. In particular, it elevates the salience of Wahhabism/Salafism, and puts all those who perceive themselves in conflict with the northerners in the quandary of collaborating with Salafist radicals who are ideologically sympathetic to AQAP versus bowing to U.S. pressure to cut ties with Salafist and mujahedin. The conflict's role in sharpening the contrast between Yemeni and U.S. interests and increasing, hard-to-displace cerebral salience of ingroup/outgroup differences reduces the chance of our developing reliable partners in Yemen.

III.C. (2) Southern secessionist movement (SSM)

The former People's Republic of Yemen, united with the north since 1990, continues to irk the central government with its demands for just treatment. Although the SSM has only occasionally employed violence, the depth of anger at Sana'a's perceived duplicitous and biased behavior toward southerners represents one more threat to the stability of this fragile state. Since southerners are Sunnis, it is perhaps here where AQAP will have more success selling a narrative that the people's grievances are theirs, and that convergence on a goal of replacing the government with one more friendly to Sharia is worth risking one's life.

III.C. (3) Opposition movement

The so-called opposition is, at the time of this writing, an amorphous beast. There exists no hierarchical leadership or long-term shared agenda, only a consensus of many voices that President Saleh and his corrupt inner circle must go. Attitudes toward the U.S. and the "war on terrorism" are hard to gauge and probably diverse, with some opposition figures attempted to gain advantage by claiming to be the authentic fighters of AQAP (who therefore deserve U.S. dollars and weapons), and others eschewing the central government's recent collaboration with the U.S.

What the opposition has in common is a wavering but elevated level of emotion and at least some hope for a major change in SWB. This is exploitable. The altered cerebral dynamics of heightened emotional tone makes an audience more vulnerable to narratives that fit with optimistic fantasies. Local political rivals are working hard to exploit that emotional turmoil and openness to the new by presenting their credentials as saviors. AQAP is exploiting this phenomenon not just by capturing territory in the south but also perhaps by appearing—among a slew of options—to represent the new that is most likely to serve a young man's fitness aspirations and urge for sensation seeking. The potential opportunity for the U.S. to capitalize on

this moment in the interests of national security will be discussed in the section titled Recommendations.

III. D. Institutional injustice

Young Yemeni men do not look to the central government or regional authorities for justice. They often encounter harsh and unjust treatment from those who, in a civil society, would be expected to provide stability and justice. Some opine that this, more than the global and local renaissance of anti-Western jihadi ideology, accounts for the allure of participation in extremist organizations. For example, a report submitted to USAID by the Education Development Center (2008) states:

> Youth violence and extremism are associated with the exclusion and isolation they experience within their families and communities, as well as the injustice they face under weak and corrupt law enforcement and security systems. This finding refutes the mainstream assumption that youth resort to violence because of lack of tolerance to other religions or the West.

I do not have access to data that would confirm or disconfirm this opinion. However, if it is true, then efforts to establish good governance—perhaps a multi-generation project—may be more important than efforts to counter anti-Western propaganda.

III. E. Mainstream Islamism

Islamism—which might be defined as a suite of cognitions and emotions according to which all humans should comply with the teaching of the Prophet—is widespread in Yemen. Three aspects of Yemen's current society are potentially problematic from the point of view of developing a partnership against AQAP.

First, Yemen's constitution includes a specific mandate to support the principles and practices of Sharia. While the phraseology was somewhat watered down in the new constitution (from stating that Sharia be the *main source* to the *source* of laws), Westerners need to recognize that Yemen is a very conservative Muslim land that is torn between hopes for the benefits of modernization and urbanization and magical thinking about what has been called the dream palace of the Arabs—a wish for a renaissance of Muslim pre-eminence and even world hegemony. Second, as noted above, driven in part by the KSA, Yemen's south is becoming progressively more Wahhabist. Third, an explicitly Islamist party enjoys mainstream status.

The *al-Tajmu al-Yamani li al-Islah* (al-Islah, Yemen Congregation for Reform) party is a mainstream element of the Yemeni political landscape. In the 2003 election, al-Islah took 22.6% of the votes and captured 46 of the 301 (15.3%) seats in the *Majlis al-Nuwaab* (House of Representatives) (Election Guide, 2011). (The parliament was supposed to have had another election in 2009, but it has been indefinitely delayed.) Al-Islah refers, collectively, to three entities: a political branch, essentially Yemen's Muslim Brotherhood, led by Mohammed Qathan, a tribal confederacy led by Shaykh Sadeq al-Ahmar (brother of Hamid) and the Salafists in Yemen, led by Shaykh al-Zindani—perhaps Yemen's preeminent Sunni scholar (Stratfor Global Intelligence, 2011). President Saleh is reportedly close to al-Zindani, and perhaps

tolerates Salafism in part because that system of education preaches obedience to the ruler (Worth, 2010).

Al-Islah's political program was published in English in the late 1990s (Anonymous, 1996). This remarkable document reads like Huntington's *Clash of Civilizations* from an Islamist point of view. Early in the introduction, it summarizes the very dilemma that makes the U.S. focus on al-Qa'ida inadequate for anticipating the real threat to long-term Western security:

In the early stages of decline of Islamic Civilization, anxiety grew as the decline became a fact that has withered various aspects of the Islamic way of life - starting with the political system. This erosion of identity reached to the core of the human being. When all this was recognized, the Islamic Nation's (Ummah) anxieties turned to limited confused action searching for the way to return, and escape from this destructive trap.

Al-Islah conceives the hundreds of years since the days of the Prophet as a temporary set back that will eventually be overcome. They do not only blame the evil empires of the West that have launched "large conspiracies, and recurring attacks and wars," al-Islah also blames Yemeni society itself for a fault of negativism and stagnation that must be identified "before initiating the renaissance." The solution is "to put forward a comprehensive Islamic system in the arena of conflict between civilizations." The ultimate goal is consistent with ENB theory and similar to that proposed by Thomas Jefferson: "man's goodness and well-being."

Yemen is not just another Muslim country with a restive population of dangerously unemployed youth. It perceives itself as a wellspring of Islamic civilization, and a major political party perceives Yemen as the potential fountainhead of a renaissance in the Islamist project: a caliphate with grand designs of hegemony. "The Islamic civilizational endeavor which we are seeking is essentially an international one, seeking goodness of mankind…It is an endeavor of broad horizon which knows no boundaries…" (Anonymous, 1996). This historical, cultural, philosophical background makes Yemen an interesting place for AQAP to set up shop. They are late to the party. A robust Salafist tradition long preceded their arrival. However, unlike Afghanistan where the aspirations of the Taliban movement dovetailed naturally with those of al Qaeda, Yemenis are more independent minded, more wary of these Sunni, Wahhabist, Saudi-influenced outsiders.

Whitaker (2009) offered the reasonable suggestions that granting Islah official standing might help Yemen avoid Algerian–style radicalization. That is, tolerating official Islamism may acts as a relief valve for the pressure of conservative sub-populations. Some might interpret Egypt's long toleration of the Muslim Brotherhood as a successful example of co-opting Islamists and deterring them from adopting Hamas-like violent rejection of political competition (although it remains to be seen what happens in the new Egypt in which Islamist competition for political power may be less fettered).

To the best of my knowledge, insufficient political and social science research has been done testing the hypothesis that pluralistic Muslim-predominant nations including strong Islamist elements in mainstream politics are less likely to face or become hosts to VEOs. From the point of view of ENB, the presence of a mainstream Islamist element in Yemen, and the lip service to

Sharia in the constitution, may indeed undercut the rhetoric of AQAP, and reduce the allure of the forbidden for young men seeking identities, reputation, and well-being.

III. F. Dependent relationship with KSA

A 2008 cable released by WikiLeaks (Anonymous, 2011) purports to have originated from our Embassy in Yemen. Titled, "Yemen's Big Brother: What Has Saudi Arabia Done For Yemen Lately?" it states:

> Yemen has a long history of relations with Saudi Arabia based primarily on their 1500 km shared border, which has led to extensive social, religious and business ties. Yemenis perceive the relationship as heavily balanced in favor of Saudi Arabia, which remains involved in Yemen, to the extent necessary, to counter the potential threat of Yemen's unemployed masses, poor security, unrest, crime and the intentions of foreign countries (Libya and Iran) that might create a threat on Saudi Arabia's southern border. Yemen, on the other hand, growls at the hand that might feed it. It is resentful of Saudi Arabia's preeminence and is weary of Saudi involvement in its domestic affairs…. Yemenis are aware that other Arab nationalities, including Saudis, see them as backward uncivilized people… Saudis treat Yemenis as second class citizens….(Anonymous, AMEMBASSY SANAA, 2008).

This appraisal jibes with everything I've learned regarding the awkward, resentful, dependent relationship of Yemen with respect to its wealthy northern neighbor. From the ENB perspective, several factors figure into our calculations of the impact of this relationship on our fight against AQAP. First, the relationship with the KSA is somewhat humiliating to Yemenis, especially to young Yemeni men who want to demonstrate their independence not just to all around them (especially fertile young women) but also to themselves. This key developmental milestone, usually achieved in human societies between age 12 and 17, will be indefinitely delayed if one is forever beholden to the generosity of a big brother. Second, the KSA's designs on Yemen are not necessarily benign or consistent with our own. Every country seeks its own advantage. The KSA has not only economic motives and security concerns, not only paternalistic and domination-hierarchy desires, but a double-barreled ideological agenda: The kingdom wishes to quash democracy on the Arabian Peninsula and to promote Wahhabism.

A dependent people who perceive themselves to be regarded as second class will regard themselves as second class. They will chafe at that self-assessment and strive to escape its bonds. Some will merely sidestep KSA authority, smuggling or migrating illegally. Others will have an emotional incentive to harm the KSA, a fact that will motivate support for and joining AQAP.

The 2008 U.S. Embassy cable also contains the following: "Comment: Yemen's willingness to acquiesce to Saudi wishes deserves more study by the USG in our attempts to advance USG interests in Yemen. End Comment." One might equally comment: the U.S. government's willingness to acquiesce to Saudi wishes deserves much more study in our attempt to manage the risk of VEOs.

IV. Geographic Factors

IV. A. Saudi adjacent

This issue has been discussed in terms of (a) Yemen's humiliating dependency, (b) the KSA's paternalistic oversight, and (c) the KSA's attempt to proselytize for Wahhabism, all of which favor the prospects for AQAP. The geographic position of the KSA has both pros and cons for AQAP. Many of their declared targets are relatively nearby. Many of their recruits are also up north, across a porous border. The mountainous topography of the north provides innumerable hideouts. On the other hand, there is no retreating into KSA as al-Qa'ida retreated to Pakistan upon our invasion of Afghanistan. If yet another war became strategically unavoidable, AQAP will find itself squeezed between the hostile KSA and the sea.

IV. B. Somalia adjacent

Evidence suggests increasing contact and tactical collaboration between al-Shabab and AQAP. The drought in Somalia will exacerbate its people's desperation, and the attraction of fast LHSs. There is surely a tight communal spirit between the tens of thousands of Somali residents of Yemen and those in Somalia. Somalis and Yemenis have excellent small boat sailors, facilitating contact. It remains to be seen whether AQAP and al-Shabab will continue to merge.

IV. C. Bab al-Mandeb strait adjacent

Bab al-Mandeb strait adjacent controls access to the southern Red Sea. This choke point for the transport of fossil fuels is a definite target of regional extremists. To date, the problem of Somali piracy has been largely based on their economic goals. I predict that it is simply a matter of time before AQAP collaborates with al-Shabab in a major attack on a ship carrying oil, not only to hijack it but also to threaten to or actually spill the oil. Such a terror attack will cause tremendous economic disruption. The recent success of Islamist extremists on Yemen's southern coast is a worrisome development, since their control of Aden would greatly increase their capacity to conduct such an attack. It is this threat, perhaps at least equal in potential strategic implications to the Christmas bomber or printer bombs, that might compel an escalation in our war on AQAP, and provoke the invasion that would represent a tipping point, plunging the U.S. into yet another occupation with enormous costs and unpredictable consequences.

Summary and Recommendations

The U.S. is between a rock and a hard place with regard to devising a comprehensive policy to defeat al-Qa'ida in the Arabian Peninsula (AQAP). AQAP is now an insurgency, not just a terrorist group seeking a safe haven. Boots on the ground are necessary to defeat an insurgency. Yet neither the global Muslim community nor the U.S. electorate currently (late 2011) has any stomach for one more war of occupation. This limits our options, and will probably push policy makers to adopt the potentially controversial National Strategy for Counterterrorism, released by the White House in June of 2011 and described by Brennan June 29, 2011: hitting al Qaeda "hard enough and often enough" with increased Special Operations forces and rapid deployment of "unique assets" (presumably drone attacks) (also see Schmitt & Mazzetti, 2011).

The disadvantages—and ultimately, the unintended consequences—of this doctrine are self-evident. It ignores root causes of the present historic struggle against violent extremism and narrowly focuses on al Qa'ida, just one temporary manifestation of the global renaissance of Islamist sentiment. It will fail to eliminate the threat and it will radicalize young Muslims. As written, it might be taken to conflate the extremely diverse and amorphous problem of "Violent Extremist Organizations" with the psychologically unique problem of militant Islamist VEOs. It may serve some political purpose to conceptualize all VEOs as representing a similar threat. That conceptualization is dangerous, missing the point that, unlike innumerable other VEOs, a millennium of momentum supports the tsunami of militant Islamist ideology.

Unfortunately, insufficient transdisciplinary research has been conducted to predict whether the net impact of the recently announced National Strategy for Counterterrorism will be to increase or decrease U.S. security. My own opinion is that the Strategy views a deadly serious long-term threat through a short-term lens—a tunnel view down the wrong end of a telescope averted from the broader social psychological and biopolitical implications of the war we are fighting. We can do better. It would be relatively quick and inexpensive to commission a rigorous social scientific review of the new Strategy.

The bad news is that, excluding an invasion (with or without the acquiescence of the tenuous remnants of a central government) our present options in Yemen all have drawbacks. The good news is that, although the above listed factors increase the likelihood of Yemen providing a safe haven for AQAP—and to some degree increase the likelihood of young Yemeni men joining AQAP—that does not mean that the essential ideology of Salafist jihad is alluring to average Yemenis. Phillips (2010) opined, "Yemenis are not inherently sympathetic to militant jihadism…" (p. 75). From the ENB point of view, any negative emotional valence attached to a behavioral option reduces the likelihood of that option being favored by the DLPFC. The main point: thinking through the ENB implications of military strategies or political policies is likely to improve the accuracy of policy-maker's predictions of the others' behaviors.

I. Military recommendations

A. High value target attacks

High value targets (HVTs) are controversial entities. One man's HVT is another man's suspicious pixel. The term "targeted" (perhaps replacing the discredited euphemism of "surgical" strikes) correctly designates the shooter's best intentions but fails to acknowledge the shooter's real effect. For perspective, this very recent new report:

> Government airstrikes in southern Yemen targeting Al Qaeda–linked militants accidently killed 40 pro-government tribesmen, officials said. The botched airstrikes reflect the deteriorating security situation that has spread across the impoverished, heavily armed country…" (Anonymous, Los Angeles Times, 2011)

First, the Special Operations Command can continue to pursue manned and unmanned *aerial attacks* to kill high value targets (HVTs), or on-the-ground incursions by SOC/CIA teams. Yet (a) whether or not civilians were harmed, some Yemeni tribal leaders have expressed outrage following U.S. drones attacks such as the one in 2002 that reportedly killed Abu Ali al-Harithi

and those in early May of 2011 that reportedly killed the two Aldaghery brothers, and (b) insufficient social science research has been done to determine whether drone campaigns and small team SOC/CIA incursions in general tend to increase or decrease U.S. security, and (c) a very young, impressionable and well armed Muslim population may only need such an aerial campaign to shift its priorities from (1) obtaining local subsistence resources through agriculture, herding, or smuggling, dominating competing tribes, chewing *qat*, and saving up a bride price so they can increase their direct fitness by having sexual intercourse and rapidly producing multiple offspring to (2) enhancing their reputations by becoming heroic anti-Western warriors defending the commons against a perceived assault on tribal, national, and religious honor and highly valued autonomy by outgroup members perceived as racially alien infidel crusaders, thus undertaking a potentially costly show of ingroup allegiance to earn reciprocal altruism that may also increase their inclusive fitness. We may kill every known member of AQAP with drones and F-22s. With or without civilian casualties, such behavior may be pouring gasoline on the fire of nascent Islamist culture of Yemen.

Targeted assassinations do not have an established record of benefiting the security of nations that employ them. Indeed, some reports suggest that these tactics not only fail to achieve but undermine their strategic goals (e.g., Hafez & Hatfield, 2006; Khan, 2011). The civilian casualty rate of our "covert" campaign in Pakistan is estimated at 32% (Bergen & Tiedmann, 2010). As Clodfelter (2011) put it:

In so-called wars for hearts and minds, perceptions count more than reality—indeed, perceptions are reality… The problem for American air chiefs—and political leaders—is that their default position for applying airpower is often its kinetic aspect. American air commanders today cannot be expected to forgo the bombing option when insurgents attack US troops or when intelligence pinpoints "high-value" targets. Yet, those commanders—and their political leaders—must have a complete appreciation for the potential costs of such bombing and for whether the potential long-term price is worth the desired short-term gain. (p. 86)

Mannes (2008) studied the snake-head strategy more broadly and concluded: "the limited effect of the decapitation strategy, particularly on fatal attacks by terrorist groups, raises doubts about its overall efficacy" (p. 43).

I must express deep concern about the Joint Chief's falling into the magic bullet mindset. Killing a few leaders of AQAP, for instance, with drones, will satisfy the urge for retribution and eliminate the specific risk they pose, perhaps gaining us a brief respite in threat level. Yet we lack critical knowledge that would help predict the unintended consequences from this tactic. HVT attacks potentially encourage support of and recruitment to VEOs in four ways: (1) violation of sovereignty, (2) violation of international law, (3) angering those who feel a sense of affiliation with these three men, and (4) angering those without a personal affiliation who nonetheless see such attacks as proof of the U.S.'s war on Islam. Before acting, one must make at least some earnest scientific effort to predict the long-term fallout of the US killing the most popular leaders of AQAP. Moreover, the legal, moral, and ethical implications of drone campaigns deserve close scrutiny. As convenient as robotic killing may be, and as dangerous as certain individuals may be, one expects the US to hew to the accepted standards of international comportment.

Setting aside the important question of when and whether the US should ever assassinate individuals, I discussed this challenging question with Christine Fair, Ph.D., Assistant Professor in the Security Studies Program at Geogetown University—an authority on drone campaigns who has frequently testified before Congress (Fair, 2008, 2010 a,b). Dr. Fair strongly urged that, prior to proceeding with a drone campaign in Yemen and prior to killing these individuals, at least some minimal representative survey must be conducted and analyzed to help determine (a) how Yemenis think and feel about drone campaigns and SOC incursions, and (b) whether the deaths of these three men, in particular, is likely to spark widespread rage. She stated that her team and other teams are poised to conduct such a survey, if requested, within two months. She admonished that the major delay in obtaining this important information would be the contracting process, not the scientific research.

Recommendations

Establish a moratorium on HVT attacks pending at least minimal survey results on Yemeni opinions regarding such attacks in respect to (a) violation of sovereignty, (b) harming civilians, and (c) specific targets. Such a survey could be conducted in 2 months (after the contracting delays). Unlike UBL, these individuals are not widely known to have killed many Americans or even Muslims, and the first two have huge followings. While the USG is obliged to eliminate the threat from these persons, a brief moratorium on HVT attacks is necessary to predict whether extra-judicial killing of these men might pull the cork of rage among their millions of admirers.

Conduct transdisciplinary social science research to determine the net intermediate-term (5– 10 year) impact of drone campaigns on support for and participation in anti-Western jihad and suggest culturally informed ways to mitigate the inevitable backlash.

Crystallize a policy strictly limiting attacks to genuine HVTs. Avoid imposing an intrusive U.S. presence on the skies of Yemen and misapplying this weapon against low value shadows.

Engage the best authorities on international law and human rights to provide the Congress and the Executive Branch with guidance regarding the legality and morality of drone campaigns.

If the collective wisdom of the best authorities supports the continued pursuit of drone campaigns, accelerate the engineering push for technology to facilitate absolute precision in targeted assassinations, e.g., armed micro-drones. We must capitalize on new technology to better hew to the principle that killing in war is limited to legitimate targets.

B. Trainers

We are probably employing *trainers* in an effort to enhance counter-terrorism capabilities of the Yemeni security services (and possibly of selected tribes). We may regard our trainers as skilled and dedicated citizen soldiers. However, insufficient social science research has been done to determine whether Yemenis are more likely to interpret this alien presence as a way to enhance their own fitness by gaining fighting skills and access to free weapons or more likely to diminish their fitness by (a) implying their inferiority and somewhat infantilizing their adult military men, (b) making them demonstrably yield human authority and control of vital resources to people they perceive as swaggering, muscle bound, gum-chewing, sunglass-wearing, alcohol-drinking Judeo-Christians who claim they are there to help but, for all their cultural sensitivity training,

behave like alpha apes and, in the semi-conscious minds of Yemenis, threaten to unman their trainees by hierarchical domination and implicit competition for fertile women. It is important to realize that many Arabs view Americans not just as ideologically faulty but as morally despicable. Absent a successful AQAP attack on U.S. territory or an existential threat to the U.S., our boots do not belong on their ground. We should make every effort to withdraw, and turn training over to others such as the Jordanians who may be perceived as closer social affiliates.

Recommendation: Quickly conduct survey research in Yemen to determine the attitudes of young Yemeni men toward (a) U.S. trainers—whether they come to Yemen or they train Yemenis elsewhere—versus alternative sources of counter-insurgency training, such as the Jordanians, and (b) U.S. Special Operations teams functioning independently in Yemen. Employ social science of conflict principles to analyze the likely long-term (>10 year) impact of U.S. versus Arab trainers on support for and participation in anti-Western jihad. Consider turning training over to Arabs, e.g., via Jordan's King Abdullah II Special Operations Training Center.

II. Political recommendations

A. Revise our narrative

Over a decade, the U.S. has lost the war of narratives. Due in part to our behavior throughout the Middle-East (including our perceived appeasement of Israel) many millions of Muslims regard us as an existential threat. 96% of Yemenis believe the U.S. is conducting a war on Islam.

Recent research demonstrates how memories follow crowds: functional neuroimaging has shown how strongly social influence modifies amygdalar function to revise neuronal representations of memory in the direction of conformity (Edeleson, et al., 2011). Hence, we are up against a tremendous handicap in the narrative war. Whatever story about the ancient and recent suffering and injustice afflicting Muslims catches hold in the minds of Yemenis will be extremely hard to displace, unless a very large number of them reconstrue past events and current relations with the West. Until the USG undertakes a dramatic introspective examination of how we arrived at this point, we will persist in making errors that facilitate the spread of militant Islamist VEOs. There is no simple or painless option, and a detailed prescription exceeds the charge of this pilot project. Yet multiple mechanisms exist to revise our narrative, as expressed through our behaviors, in ways likely to both reflect our founding principles and respect for other cultures and reduce the threat.

B. Rethink tactical communications

At present, young Yemeni men hear narratives consistent with the notion that they may achieve a $+ \Delta\omega$ by participating in VEOs via:

- AQAP's magazines
- AQAP's broadcasts
- Some imams

We can compete much more effectively in the communication realm, not by transparent propaganda and direct disputation with AQAP's message, but by a large scale campaign to (a) understand the impact of AQAP's communications on their efficacy, and (b) offer honest, forthright information that may change the narrative both literate and illiterate young Yemeni males are likely to encounter. Those attending mosque, browsing the net, watching TV, listening to radios, or attending movies should be exposed to consistent, persuasive evidence that, at the same time the West must express its hopes for universal human rights and democratic self-determination, far from intending a war on Islam, the West completely supports the aspirations of Muslims to live full and secure lives, free to choose their traditions and practice their beliefs.

Recommendation: Actualizing this part of the ENB-based fight against AQAP is beyond my training and experience. I do not know how to meaningfully change a society's exposure to a major narrative. Perhaps one might develop communications likely to reframe U.S.-Yemeni relations in the minds of those with electricity. E.g.: via al Jazeera, produce a telenovella—an emotionally compelling epic of a family facing choices about love, faith, and extremism (see e.g., Paluck, 2009; Paluck & Green, 2009).

I have ethical concerns about such actions, and acknowledge the difficulty of balancing the urgency of our fight against the potential abuses of media. One wants to inform, not manipulate. I urge that any such campaign be specifically informed by an ENB-based review of potential messages to assure that young Yemeni males receive a consistent, honest, and potent story suggesting inclusive fitness benefits for lives that forego extremism.

C. Align with the new leadership

At the time of this writing the leadership of Yemen is undetermined. The USG has expressed an unequivocal wish to assure that President Saleh never returns to power. I do not have access to the U.S. Administration's intentions with regard to the suite of possible replacements. My main recommendation is to avoid one-sided emphasis on the leader we imagine will best partner with us in a 2-year campaign against AQAP and instead forge ties with the leaders who will look out for the long-term stability of Yemen.

D. Reconsider relations with tribal confederations

The current socio-political disruption makes it very hard to predict (a) what political orientation and religious bias the next central government will exhibit, (b) how the many stakeholders—from Iran and the KSA to the Houthis and southern secessionists—will comply with that new government, and (c) to what degree the central power vacuum during the transition will profit AQAP. Even assuming a rapid transition to a democratically inclined Sana'a, insufficient social science research has been conducted to predict whether the many Yemenis' tolerant attitudes toward AQAP will be meaningfully altered. U.S. money will be welcomed by every recipient and will buy temporary collaboration in the fight. However, it does not seem likely that buying mercenary behavior, either among centrally-loyal troops or among far-flung tribal Yemeni fighters, will either build a quality relationship with the new Yemen or dislodge AQAP.

Recommendation: Conduct a definitive study of the costs-vs.-benefits of past collaboration with shaykhs and warlords (e.g., in Afghanistan) on long-term U.S. security agendas and bilateral

relations. Carefully study the networks of ties among tribal confederations and between those and Sana'a. Devise a policy that, based on such research, seems likely to both enhance US security and benefit the Yemeni people.

E. Reconsider our partnership with the Kingdom of Saudi Arabia

We will probably continue to *partner with the Kingdom of Saudi Arabia (KSA)*. However, the KSA has its own religious and geopolitical agenda, including (a) protecting the monarchy against the creeping threat of Arab democracy, (b) assuring a supply of cheap labor (c) projecting Sunni Wahhabist ideology, and (d) defending its territory, not just from terrorists attacks but also from a flood of humanitarian refugees. Insufficient social science research has been done to help predict whether this West-East conspiracy of wealthy external powers will enhance or detract from our long-term security goals in Yemen and the Middle East. As much as Yemeni men have come to depend on KSA largesse for assuring their evolutionary fitness, the implied humiliation of outgroup control and the simmering resentment caused by embarrassing dependence on rich northerners will not be easily dislodged from the young Yemeni's *weltanschauung (worldview)*. It is extremely hard to balance the competing U.S. goals of (a) appeasing the KSA by enabling their paternalism in Yemen as part of our global strategy to reward even ambivalent partners in the fight against violent extremist organizations (VEOs) and placate wealthy friends with oil, versus (b) reconsidering the long-term costs of this marriage of convenience and instead showing respect for the simmering anti-foreign, anti-Saudi, anti-Sunni, anti-Wahhabist, anti-dependence cognitions and emotions of significant segments of Yemeni's society. If we continue to publicly embrace the KSA, we may, for instance, push previously wary Houthi Zaydi Shi'a Fivers into the welcoming arms of nuclear armed Iranian Shi'a Twelvers.

Recommendations: Quickly conduct survey research in Yemen to determine the attitudes of young Yemeni men toward the KSA. Employ social science of conflict principles to analyze the likely long-term (>10 year) impact of the global Muslim sentiments regarding the perception of a U.S.-KSA conspiracy on global support for and participation in anti-Western jihad.

III. Development recommendations

A. Rigorously evaluate the efficacy of development aid

Through USAID and other entities, one might fund *development projects*, for example, to improve access to water, electricity, and health care. USAID, for example, plans to spend $237 million for 15 projects as of 10/10. "USAID's overarching strategic goal in Yemen is to increase *stability through targeted interventions in highly vulnerable areas"* (Bell, 2011, p. 2). The largest of these ($125 million) is the Community Livelihoods Project (CLP). This project has been described as follows:

> The project is intended to mitigate the drivers of instability in some of Yemen's most difficult areas through the facilitation and implementation of quality government service delivery, job creation, responsive local governance, and active civic participation. Rapidly responding to community-based initiatives to demonstrate USAID's and the Government of Yemen's commitment to underserved communities will be a hallmark of this project. Youth under 25 years

> old, representing 75% of Yemen's population, will be a particularly important demographic group throughout implementation. Activities will quickly and effectively mitigate critical threats to stability in Yemen by building trust and relationships between communities with historically difficult relations with Yemeni authorities and the citizens in targeted areas (CYES Network, 2011).

The claim that this project will "quickly and effectively mitigate critical threats" reads like empty rhetoric, disconnected both from the realties of Yemen and the literature on the efficacy of such projects. USAID acknowledges that lack of staff experience and continuity, travel restrictions, and lack of oversight have hampered success. Moreover, we may imagine we are sending a completely different narrative from that received by Yemenis. Insufficient social science research has been done to determine whether development projects we consider altruistic are widely perceived, instead, as patently paternalistic and intrusive demonstrations of superiority in financial resources, technical knowledge, and power that are likely to increase anti-U.S. anger and perhaps recruitment to AQAP.

Multiple problems accompany the continued pursuit of development in Yemen via USAID. First, our current investment in development projects is grossly inadequate to alter the quality of life in Yemen. Second, development means imposition of alien non-Muslims on a conservative Muslim society. Even if we multiplied our "gifts" a hundred-fold (still not competitive with the Saudis) it is unclear whether American-run projects will impress Yemenis as a way to enhance their own personal fitness—the ultimate motivation. Fitness promoting benefits for participating Yemenis may include (a) improved access to and management of natural resources, which may both enhance *inclusive fitness* by improving health and enhance *direct fitness* by conferring status on leading collaborators, (b) enhanced reputation via association with wealthy, if undesirable, foreign infidels, and (c) opportunities to enhance fitness by siphoning off development funds for tribal and personal use. Fitness demoting prospects of such projects include (a) disrupting of ancient tribal traditions and quasi-stable hierarchies, and (b) diminished fitness for all the same reasons as described above in the discussion of the blowback expected from incursions of foreign infidel trainers. We should be guided by the 2011 Glevum survey data: America is perhaps Yemenis' least desirable source of aid.

Recommendations: (1) Conduct transdisciplinary research to determine whether development in any country has ever meaningfully impacted participation in extremism. (2) Estimate whether young Yemeni men are more likely to choose slow LHSs if one can enhance:

- Job prospects
- Access to water
- Access to health care
- Access to food
- Access to fertile young women

(3) Re-evaluate the costs-vs.-benefits of USAID operations in Yemen. (4) Quickly conduct survey research in Yemen to determine attitudes of young Yemeni men toward outside-orchestrated development projects versus self-sufficiency. (5) Determine attitudes regarding U.S. development versus projects organized by others (e.g., GCC, Germany, U.K., China). (6) Before approving funding, determine whether projects such as USAID's forthcoming $125M

Community Livelihoods Project have ever achieved their goals. (7) Estimate the likely long-term (>10 year) impact of U.S.-orchestrated development versus deferral to other development sources on support for and participation in anti-Western jihad.

IV. Basic science recommendations

I. Advance the basic science of evolutionary neurobehavior

Facilitate collaboration between authorities in evolutionary biology, neuroeconomics, social sciences and political sciences. Determine whether ENB theory plausibly accounts for new observations regarding the neurobiology of decision-making.

- Reconcile competing concepts of human motivation.
- Optimize theoretical concepts of fitness-relevant categories of proximate motives.
- Conduct neurobiological (e.g., psychoneuroendocrinological and behavioral genetic) and functional neuroimaging studies testing ENB hypotheses. Examine whether neural mechanisms exist that are likely to evaluate environmental contingencies and choices according to their impact on fitness.

II. Conduct empirical tests of ENB predictions

Devise empirical tests of the hypothesis that human actions can be predicted by manipulation of perception of *a priori* primary proximate motivators.

Devise investigations to estimate how people:

- Estimate probable $\Delta\omega$
- Weigh and integrate categories
- Vary (e.g., genetic/temperamental/learned bias)
- Optimize lab measurement of perceived probabilities of $\Delta\omega$ outcomes.

III. Advance quantitative validity of ENB theory

Neural network (or similar quantitative strategies) to model cerebral processing of ENB-based processing relevant to political aggression

Game development: beyond iterated Prisoner's Dilemma to better approximate tensions between K and r LHS selection

Applied science recommendations

I. Apply ENB theory to fight AQAP

Rigorously assess the evidence that:

- We know what causes extremism.
- We understand the trajectory of global *ummah's* collective psyche.

- Social-science-informed interventions have predictable outcomes.
- Empirically test the hypothesis that ENB-based analysis of proposed political/military interventions predicts historically-observed behavioral outcomes.
- Populate agent based models with Yemeni fitness maximizers.
- Employ evolutionary neurobehavior-based analysis to estimate the impact of proposed political/military interventions on average Yemeni's likely cerebral calculations of $\Delta\omega$.
- Obtain detailed biographical information on:
- AQAP members (esp. *followers*)
- All Islamist militants
- For each group, within the subgroups that joined under somewhat known conditions,
- Test the hypothesis that ENB theory predicted radicalization & joining.
- Examine modifiable points of intervention.

The last recommendations deserve fleshing out. We should do our utmost to *learn why men join AQAP* (and VEOs, in general). Today we can offer educated guesses. Yet to the best of my knowledge, there has not been a systematic analysis of the biographies of the known members, employing transdisciplinary psychological analysis, that points to s specific set of risk factors and promising points for intervention in this chosen life history strategy. My impression is that psychologists have interviewed Yemeni jihadis at Guantanamo, and perhaps elsewhere as well. My concern is that the orientation of those interviewers may have been primarily to uncover plots or to plug data into network analyses rather than to truly understand the factors distinguishing joiners form non-joiners. Moreover, if one asks a member of AQAP "why did you join?" his answer might be interesting but is not likely to explain why he joined. His motives, like all of ours, are not accessible to his conscious mind. The critical determinants of motive and action are illogical, evolved, and incarnated in dynamic neural matter. Nonetheless, psychologically sophisticated interviewers may divine motives in spite of (a) the interviewee's intention to mislead and (b) the interviewee's predictable ignorance of his own motivations, no matter how candidly he responds.

Recommendation: (1) Biographical information on all known members of AQAP should be compiled into a database accessible to analysts familiar with both the social science of aggression and the psychology of terrorism. (2) Truly expert interviewers (not interrogators) should have access to the Yemenis at Guantanamo Bay and elsewhere, be permitted to develop therapeutic alliances in so far as possible, and perhaps even indemnified against participation in legal proceedings. (3) Teams of scientists should develop algorithms intended to predict joining, and test the predictive validity of their hypotheses against known cases, blind to membership status. (3) If psychosocial factors are (a) shown to be reliable predictors of joining and (b) thought to be cost-efficiently modifiable, programs should be adjusted to modify those risk factors.

II. USG agencies may benefit from an advisory panel or in-house scientific capacity for translational application of ENB principles

- CIA

- National Counterterrorism Center (NCTC)
- US Special Operations Command (USSOC)
- DARPA, e.g.
- Information Innovation Office: computative analysis of vast data collections may better predict human intentions if informed by ENB principles.
- Defense Sciences Office/Biomimetic computing: "biologically motivated" neurosimulations may benefit if those motives simulate the Δω focus of biological systems.

III. Evaluate the ENB implications of the National Strategy for Counterterrorism (NSC) White House, 2011)

Model the long-term security implications of its most obvious drawbacks:

- Narrowly focuses on al Qa'ida = one temporary manifestation of a global Islamist phenomenon.
- Ignores root causes.
- May increase radicalization of many young Muslims.
- Enhances us-versus-them cognitions and affect.
- Ignores jihadi prospects for identity, life purpose, reputation gain.
- Underestimates blowback from territorial/fitness threats.
- May increase allure of fast LHSs among temperamentally vulnerable subgroup.
- Model long-term security outcomes of the new NSC vs. alternative doctrines informed by ENB and by empirically determined factors impacting allure of extremism.

IV. Beyond half measures: Organize an intensive, coordinated, multidisciplinary 1-year Manhattan-project-like effort, ideally on a single campus, to study the best way to respond to the global renaissance of militant Islamism given:

- Emerging insights from the social, biological, and quantitative sciences regarding the roots of extremism,
- Reconceptualization of 'war on terrorism' doctrine, and
- Cost constraints

To date, the U.S. has looked to a number of independent minded scholars in isolated and often competing disciplinary and institutional boxes using weak data sets to slog toward uncoordinated preliminary conclusions about how to apply social science to fight VEOs. It would not require a huge investment to do this research properly. If the U.S. elected to make it a true priority to facilitate transdisciplinary collaborative research to help predict the benefits versus costs of our various strategic options in Yemen, a dedicated full time team including experts in political psychology, evolutionary psychology, sociology, anthropology, political science, game theory, and counterinsurgency could probably produce far better guidance than is currently available within a year. Half-measures will continue to delay the evolution of a scientifically advanced strategy. Political resistance, even to bipartisan advise from panels such as the 9/11 Commission, will continue to leave us at the mercy of a committed enemy. What we face is not so much a military threat as a social-scientific phenomenon more than a millennium in the

making. If the U.S. comes to appreciate that this threat must be fought with all the abundant social scientific powers at our disposal—a coordinated Manhattan-Project-Like transdisciplinary initiative—and stand up for the resulting advise in the face of partisan political detractors, we will probably be safer.

Conceptual recommendation

Perhaps more than a counterterrorism doctrine or even a counter-extremism doctrine, we need a counter-the-Muslim-perception-of-a-clash-of-civilizations doctrine.

The elephant in the room is U.S. policy toward predominantly Muslim social collectives. No matter how successful we may be in defeating AQAP, that victory will not make us much safer. Widespread heartfelt anti-U.S. sentiment will continue to present a deadly threat to U.S. security. Whether it is true or false does not matter: America is perceived to exhibit a grossly unjust bias in favor of Israel and a morally indefensible selective support of Arab autocrats. These perceptions will remain wellsprings of rage and powerful incentives for young Muslim men to self-recruit to anti-Western jihad. The Arab Spring has been interpreted as a repudiation of al-Qai'da-style violent extremism and embrace of democracy that makes al-Qa'ida's ideology passé. The reality is more complex. Opposition forces may share a rejection of the autocrats and yearn for freedom. They do not all share a vision of secular modernity, nor are they necessarily enthused about a closer affiliation with the infidel West. To many Muslims, our behaviors will continue to make us pariahs. Vanquishing al-Qa'ida will not vanquish the underlying problem.

Insufficient social science research has been conducted to calculate with confidence the relative merits of staying the present course versus dramatically re-imagining the U.S./Islamic relationship. My instinct is that the Arab Spring perhaps represents a once-in-a-generation opportunity to seize the day and reconsider the relative merits of our oil-dependence-based realpolitik and perceptions versus adopting a visionary responsiveness to legitimate grievances of a vast, fast growing, and restive world Muslim population.

We can squeeze the balloon in Sudan. It will expand in Afghanistan. Squeeze it in Afghanistan. It will expand in Pakistan & KSA. Squeeze it in Pakistan and KSA. It has inflated in Yemen. Squeeze it in Yemen. It will expand in Somalia and the Islamic Maghreb. So long as we fail to let the pressure out of the balloon of a perceived "war on Islam," true believers will be inspired to form networks that will seek to harm the U.S.—and the day of nuclear terror possibly approaches.

We must fight AQAP. We cannot allow this cancer to grow for long. Yet our identity as undesirables limits our options for interventions that will not inevitably exacerbate the very problem we are trying to solve. Every foreign policy and military strategy option is fraught with obvious potential for backlash. We are forced to choose among sub-optimal alternatives.

More importantly, a strategy that focuses narrowly on AQAP may slow or even reverse our progress regarding the larger issue: global Muslim disaffection feeding the renaissance of militant Islamism. We would be in a stronger position to make the necessary extremely tough choices if a relatively modest investment were made in concerted, coordinated social science research, not to address pieces of the puzzle (e.g., AQAP in isolation), but to tackle the grand

historical challenge we face in a comprehensive, globally oriented way. Of course, partisan politics in Washington, a dangerous tendency to compartmentalize, and the vested interests of stakeholders represent barriers to actualizing a visionary new comprehensive approach to the problem—no matter how vital such a step might be for long term U.S. security. Yet we are in a race. One hopes the U.S. will invent a more effective response to the threat faster than the current march toward the alternative scenario: nuclear terrorism.

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Chapter Four

Reducing Recruitment into Islamic Terrorist Organizations: The Antagonistic Effect of Liberal Democracy Promotion

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1. INTRODUCTION

Democracy promotion (DP) has become one of the core foundations of the US strategy to combat terrorism and is assumed to reduce recruitment into terrorist organizations and diminish incentives to engage in hostile actions toward the U.S. (Brooks, 2009; Windsor, 2003). President Bush's 2005 State of the Union address argued that "the best antidote to radicalism and terror is the tolerance and hope kindled in free societies." DP was at the core of the Bush Doctrine (Krauthammer, 2008).

Although not couched in the specific language of democracy promotion, the current White House Counter Terrorism strategy (2011) advocates for adherence to the core American liberal values which undergird democracy in general, and respect for human rights in particular. In articulating central U.S. values, this document states that: "The United States was founded upon a belief in a core set of values that is written into our founding documents and woven into the very fabric of our society. Where terrorists offer injustice, disorder, and destruction, the United States must stand for freedom, fairness, equality, dignity, hope, and opportunity." It then goes on to contrast these basic American values against those advocated by our primary terrorist adversary, al-Qa'ida: "Our respect for universal rights stands in stark contrast with the actions of al-Qa'ida, its affiliates and adherents, and other terrorist organizations. Contrasting a positive U.S. agenda that supports the rights of free speech, assembly, and democracy with the death and destruction offered by our terrorist adversaries helps undermine and undercut their appeal, isolating them from the very population they rely on for support."

Note that the constituent foundations of the "positive U.S. agenda" rest on basic elements of Lockean liberal values, including free speech and democracy, goals the U.S. government wants to perpetuate. The implicit assumption suggests that free speech and assembly will enhance the appeal of American values and the explicit assumption is that *only* terrorists oppose these values.

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These assumptions are then often simplified to a dichotomous categorization whereby individuals either espouse American liberal values or they are terrorists.

At its essence, U.S. democracy promotion in its current form is founded on two core principles: 1) All peoples want to live in a liberal democracy and will naturally be drawn to and support liberal ideals; 2) Even if they do not, their attitudes will be changed once a liberal democracy is installed. To be clear, the version of democracy America seeks to promote involves more than simply support for free and fair elections and representative governance; for example, the election of Hamas in the Gaza strip was both free and fair, yet not approved by the U.S., because the version of democracy advocated by the U.S. also inculcates respect for minority rights, political tolerance, and free speech, in addition to representative governance.

Given the contentious nature of domestic American politics, which represents divisions across only a very small portion of the world-wide political spectrum, it seems possible that trying to impose even more alien values on foreign nationals might not prove to be an easy or successful strategy. However, although these assumptions constitute the basis for DP strategies worldwide, they have never been empirically tested.

In this chapter, we explore four questions that must be addressed if we hope that democracy promotion can reduce terrorist recruitment. 1) Do all people really want to live in a liberal democracy? 2) Do they support the political values necessary to create and sustain such structures? 3) If not, are the attitudes necessary to maintain such structures, once instantiated, malleable? And, 4) are there unintended consequences for trying to impose alien values onto sovereign foreign nationals?

In doing so, we provide empirical support for the contention that the assumptions upon which DP is based are untrue. We do this with a four-pronged empirical approach. First, we demonstrate that the mass publics in different countries and regions differ drastically in their support for the values of freedom, tolerance, and political and civil liberty, which provide the foundation for the kind of liberal democracy America seeks to promote. We further show that these differences are not a function of the type of government in place in these areas. These views are not due to regime type, but rather to personal preference. That is, regardless of what type of governance people live under, their value structures do not simply change to match that type of governance.

Second, we examine the source of tolerance attitudes in a genetic model which explores individual differences *within* a given population to validate our argument about the foundational nature of tolerance dispositions. In this way, we show that individual differences in tolerance are genetically informed. This psychological architecture is not nearly as malleable as often assumed by those who believe that once you build democratic structures, people will naturally change their attitudes to align with such institutional incentives. Yet this is precisely the endorsement that would be needed in order to successfully shift any mass public far enough to endorse liberal values, once the institutions which rest up them are imposed. We show that we cannot simply assume that it is easy or straightforward to change others' attitudes, though this may seem obvious in hindsight. For example, even in a highly educated, highly functioning first world country with all the resources, support, safety, and opportunity the world allows, it takes more than rational argument, structural change or political incentives to change underlying belief systems about issues ranging from abortion to the budget crisis. If large-scale attitudinal change

were possible, political parties in the U.S. would certainly be able to use such strategies successfully. So far, however, this has not at all been the case. Rather, partisan systems are much more successful in mobilizing their electorate and demobilizing the opposition than successfully changing the minds of the opposition with rational argument or institutional incentives. If we cannot shift attitudes in the U.S., an environment in which differences on the left and right are relatively marginal in a world political context, how can we expect to do so in states that do not even come close to sharing the economic, bureaucratic, media and societal advantages we enjoy in a modern Western society, and often espouse values much more distant than those which divide republicans and democrats within the United States?

Third, because individual differences in such values are part of one's disposition and genetic influences account for some part of individual variation within a population, we examine if tolerance orientations track with genetic markers. So far, few genetic markers have been found to be genome-wide significant with regard to complex social or political traits. Individual worldviews regarding freedom and diversity, fundamental to a liberal democracy, which are not distributed evenly across the world's regions, rest on particular psychological dispositions. *It is unlikely that the prevalence of these markers differs across regions, but the epigenetic mechanisms, different local ecologies, and differing gene by environment effects and interactions might provide critical information in devising strategies or interventions which might prove most successful in preventing or alleviating the psychological pressures which lead to violent behavior or reprisal against the U.S. or its interests.* That is, if intolerance results from both genetic and environmental conditions, then attempts to understand and prevent hostile action should incorporate all the pathways and mechanisms by which violence might emerge. *The genetic markers that relate to tolerance, if any, might be the same across populations, but the expression and influence of such markers might differ due to the local context and differing environmental conditions.* For example, environments rife with resource deprivation, conflict, tribal factions, and economic and political oppression may trigger the expression of certain genetic influences, which might remain dormant or express themselves in other ways in other environmental contexts. These genetic and environmental influences operate through psychological mechanisms whose operation is important to know and document if we are to develop more effective prophylactic strategies and facilitate more carefully targeted programs of intervention designed to reduce the likelihood of predisposed individuals actually engaging in violent activity.

Finally, using the findings presented, we then consider the implications of attempting to force liberal values onto other cultures. Because values are genetically informed and constitute part of our psychological disposition, we argue that by attempting to impose such values on populations, we only invite resistance. *We argue that forcing one set of cultural values on populations who espouse a different set will be perceived as a direct psychological attack by the recipients of such persuasive attempts.* Indeed, the highest amount of psychosis, anxiety, and distress is reported by first-generation immigrants for similar reasons (Cantor-Graae and Jean-Paul Selten., 2005; Hjern et al., 2004; Leão et al., 2006). The imposition of competing cultural and environmental conditions causes great stress upon an individual. Consider the hostility of political discourse in Western societies when one person tries to instill their views on another, where the difference between left and right remains relatively marginal. Now imagine how frustration would mount a 1000-fold when the difference is real, where the values being fought over are not, for example, whether we should fund abortion in the first or second trimester or how to fund healthcare in

general, but rather if a woman has a right to determine her own sexual, reproductive, and productive future, or whether she should remain the property of a man. If value orientations remain part of an individual's psychological disposition, then attempting to force different values on such populations, however progressive in our own eyes, will likely result in resistance and rejection, and that resistance will come in many forms, including violence. *To be clear, we are not claiming that certain individuals are more inclined to violence because of their values; rather, we suggest that certain individuals are more inclined to hold intolerant attitudes, and thus may be more prone to react violently if their values are threatened.*

Indeed, DP strategies, which impose values, are actually helping terrorists recruit those who are most susceptible to aggression. Any attempt to coerce the adoption of alien values is bound to be perceived as a hostile and coercive act by people who do not espouse such views (Brooks, 2009; Carothers, 2009; Gause, 2005; Krauthammer, 2002; Windsor, 2003). Thus, promoting democracy in areas where populations find such ideas anathema to their foundational beliefs will likely only serve to elicit aggression from individuals attracted to terrorism. If certain individuals possess a proclivity for aggression in the face of provocation (McDermott et al., 2009), American action designed to encourage the adoption of democratic values may serve as the very trigger to direct more rage against the perceived source of such provocation, American military and political intervention. Thus, in the end, we suggest that democracy promotion, which represents one of the primary macro strategies which the U.S. government uses in its endeavors to reduce terrorism, actually inspires the very terrorist activity it is designed to prevent.

In summary, we combine various methodological tools, including survey data and genetic analysis, to examine variation in attitudes. The public opinion data we provide helps uncover the foundational attitudes of the populations we examine. The information provided by the genetic data offers insight into the foundational basis for tolerance, suggesting those values to be much less malleable than assumed by models which subscribe such adherence to processes of socialization. We hope to leverage this data to illuminate and examine the potential unintended consequences of the U.S. government's attempt to deter and influence violent extremist organizations through democracy promotion strategies.

2. False Assumptions of Promoting a Liberal-Values Based Democracy[2]

As noted above, liberal democracy and governance promotion strategies depend on several crucial, often implicit, and largely untested assumptions. The first is that all people, despite where they live, their culture, or their background, are all secret liberal "democrats" waiting to break out of their otherwise constricting governmental structures. Part of the confusion in this belief revolves around differing notions of democracy. When some people refer to democracy, they primarily mean representative governance, with free and fair elections as the necessary foundation for such an outcome. Yet, as we know from the election of Hamas, democratic governance structures alone do not ensure the endorsement of all the liberal values of tolerance and freedom, which most Americans understand to constitute the basis for what they mean when

[2] Portions of this section are drawn from Stenner's work (under review).

they refer to democracy. Yet, for the people of Gaza, the election of Hamas was democratic, free, and fair, and rejection of their choice constitutes hypocrisy at its worst. When people say they want democracy, meaning representative governance, Western media and elites tend to assume that such a group will volitionally choose to pursue additional associated values of political freedom and tolerance, which Americans cherish as well. In this way, it is believed that democracy promotion efforts can help create political institutions that mirror American democratic structures and values. We believe this is naïve and wishful thinking. A superficial understanding of liberal democratic values and the hope falsely offered by the so-called 'Arab Spring' provides illusory evidence in support of this notion. While it is true that most people, including those in the Islamic world, want the right to elect their own officials, evidenced both by public display and scholarly evaluation (Jamal and Tessler, 2008), it is equally true that this feature constitutes only one element of democracy and not necessarily the version of democracy that the West endorses.

Certain populations simply do not appear to want the liberal values that undergird a liberal democracy, including political tolerance, women's rights, and personal freedom, even if they do endorse representative governance. These broader democratic values rest on a foundation of liberal rights, responsibilities, and obligations, which comprise the core constituent elements necessary for instituting western-style *liberal* democracy. When democracy means nothing more than delivering the will of the majority and the majority of the population remains deeply intolerant (e.g., of racial/ethnic minorities, women's rights, moral 'deviants', and 'fringe' political dissidents), then elections, no matter how free and fair, will nonetheless produce candidates and leaders who reflect the will of the people and continue to oppress minorities and restrict human rights and liberties. In fact, a new brand of democratically-elected leaders may be able to engage in anti-democratic activities, perhaps even more openly and effectively than had previously been possible under dictatorship precisely because they can truly claim to do so in the name of the wider populace. For example, consider Tito, a dictator whose rule of the former Yugoslavia included minority protections against the widespread ethic cleansings that occurred under post-Tito democratic rule (Milosevic). If we reconsider the belief that democracy <u>makes</u> people more liberal and tolerant and consider instead that democratic forms imposed on intolerant populations may deliver – into public life and public policy – the intolerant majority will, then ultimately policies of democracy promotion may inspire populations and create governments which espouse values which lie in exact opposition to US interests and values.

Most populations want more power in the hands of their own people and the right to elect their own leaders, but this outcome will almost certainly produce some nations choosing hardline Islamic fundamentalist leaders who support Sharia law and whose values and goals run in opposition to American national interests. In this way, the desire for the right to elect leaders tells us nothing about what other human, civil, and political rights populations are willing to tolerate. The Hamas victory in the Palestinian elections is, by definition, a democratic victory, but of course by no stretch of the imagination does it constitute a liberal democracy writ large, nor is it considered a victory for democracy promotion.

Indeed, there is precious little evidence that the much-vaunted 'Arab Spring' represents a push toward broader liberal world values, rather than, say, a desire to remove leaders who have failed to provide jobs and adequate living conditions. When we see thousands of Middle Easterners clamoring for 'democracy' under CNN lights in a city square, Western sensibilities are so

warmed that so far we have not paused to wonder whether they might simply desire the end to a particularly corrupt and longstanding leadership or a drive toward 'prosperity' or some type of economic 'modernity'. Observers often fail to factor in the possibility that those protesting for democracy may still espouse intolerant and illiberal dispositions, as well-documented in representative sample surveys. Indeed, the interpretation of events surrounding the "Arab Spring" by Westerners is markedly different from those in the Arab world. Uthman Badar, a spokesman for Hizb ut-Tahrir, an international pan-Islamic political organization with more than a million professed members, a presence in more than 40 countries, and a stated goal for all Muslim countries to unify as an Islamic state, reflected on the West's interpretation of the Arab Spring: "Calls for democracy have been misconstrued by some and hijacked by others as calls for liberal democracy, as we know it in the West." In this way the Arabic world makes clear that while they want freedom to choose their leaders, they reject the liberal values that the West associates with democracy.

According to the article, which covered a meeting that featured Badar, "The alleged hypocrisy of Western governments over their conduct during the Arab Spring was a consistent theme. Speaker after speaker damned Western powers for their longstanding support for some of the Middle East's most controversial regimes, and for seeking to appropriate the popular uprisings as the shoots of democracy rather than expressions of Islamic rage" (Maley, 2011).

While the West sees the Arab Spring as a leap towards a liberal values Democracy, the Arab World envisions exactly the opposite, advocating resistance to Western Democracy. This is one of the fundamental misconceptions in U.S. policy. Where the United States assumes that only terrorists do not support liberal values, the Muslim public often does not share liberal values, and yet in no way endorses terrorism. *Thus, United States' assumptions equating terrorists with anti-liberal values essentially assume all those who do not have liberal values are terrorists. This immediately overgeneralizes the challenge confronting U.S. policymakers and unnecessarily makes instant enemies out of potential friends who nonetheless share different values.*

We argue this recognition requires an interrogation of this assumption that all people want liberal rule, and that authoritarian, totalitarian, or religious regimes exist only as a result of coercing or co-opting an otherwise benign, ignorant, or repressed public. Very little attention is paid to the possibility that these publics actually support such non-liberal aspects of these regimes, and at least regarding tolerance values, remain complicit with such leadership. Such populations may rise up in anger at their economic conditions and certainly at authoritarian regimes that support the West, but this anger in no way reflects a change in their own religious and (il) liberal values. Yet American strategy rests on the implicit assumption that all people will embrace a liberal democratic system once they are given the chance. The idea is that all peoples, however initially resistant, can be brought around to appreciate and support democratic institutions and norms once they have had the opportunity to learn about, experience, and benefit from these arrangements. Western policymakers and political elites tend to believe that the establishment of democratic institutions will lead to liberal political dispositions. The issue, of course, is the direction of causality. This leads to the second flawed assumption. Thus, we investigate whether liberal values, in fact, produce democratic institution, or whether democratic institutions alone can generate liberal values.

The evidence is scarce indeed that the imposition of democratic institutions leads to the widespread adoption of democratic values and consists mostly of the simple observation that, in general, people living in democracies tend to have pro-democratic attitudes (Brooks, 2009, Carothers, 2009; Curtis, 2011; Gause, 2005; Hamid & Brooke, 2010; Krauthammer, 2002, Windsor, 2003). Certainly the cases of Germany and Japan come to mind as successful examples of forced democratic transition. After 50 years of occupation, at incredible economic cost, today they are arguably quite liberal. *It took a multigenerational effort to change population values.* Without such investment, the evidence is quite strong that values change is not likely; for example, it appears that the regression of Russia's democracy reflects the population's preference for a totalitarian regime that offers security, as opposed to a democracy, which appears not to be able to provide as much societal order.

In summary, we seek to test the foundational assumptions of DP as a useful strategy for reducing terrorist recruitment and an effective tool for imposing enduring and endorsed democratic governance practices. We first explore the distribution of liberal values across world populations. We then test whether individuals' support for tolerance is influenced by their experience of democracy (specifically, by their society's average level of democracy since their year of birth). Then we explore whether attitudes are indeed as malleable as assumed, or instead constitute part of our stable, genetically-informed psychological disposition.

3. METHODS, ANALYSES AND RESULTS

3A. World Values Differ Across Regions

Individuals around the world vary widely in their core values and belief systems. So far, little work has been done to explore the differences in support for liberal democratic values. What work exists suggests that liberal orientations may not be primarily generated by regime types, institutions, or governance structures (Brooks, 2009, Carothers, 2009; Gause, 2005; Krauthammer, 2002, Windsor, 2003). Rather, cultures with democratic orientations tend to generate and sustain democratic systems (Stenner, under review). In this way, democratic systems do not produce democratic orientations in their subject populations, but citizens who espouse such values create and maintain the structures and institutions which support such values. Over time, a society's institutions and governmental structures will inevitably tend to reflect the fundamental wishes of the majority. This is especially true if social institutions are able to 'evolve' naturally to match the local dispositions and core desires of a given community. However, the response of a population to 'alien' institutions or values, or to those externally 'installed' will also be affected by the fit between those institutions and the local goals of the population. If the fit between the institutional values and cultural wants and needs of a given community are not closely aligned, then the population will become irresistibly inspired to modify the imperative force to meet their local needs and norms. Societal institutions (including institutions of governance) may be imposed upon a population but also reflect the very nature of the population irrespective of whether 'the people' have (from a narrow Western perspective) 'freely chosen' those arrangements.

Using existing survey evidence, including the *World Values Survey* and *Arab Barometer*, we explore the distribution of institutional and attitudinal values that undergird liberal democracies

and non-democracies. The data includes over 355,000 respondents surveyed over several decades in 100 different countries spanning all major regions, including Europe, the Americas, Asia, Africa, and the Middle East. *Using this data, we show that regardless of regime type, economic prosperity, and factors others scholars purport to be influential in attitudinal socialization, populations differ widely and persistently in their preference for liberal democratic values, but not in their desire to self govern.* This reflects the confusion in terms we referenced above. People may support representative governance without endorsing the liberal values of tolerance and freedom, which Americans assume, incorrectly, to be inextricably linked to democratic governance structures. Several key aspects of the data allow us to control for differences in governance on similar populations. For example, we can investigate the values espoused by East and West Germans prior and subsequent to reunification.

The *World Values Survey 1981-2008* (*WVS*) is an aggregate of 261 large-scale random sample surveys, drawn from 99 different nations over the course of nearly three decades. This resource is unparalleled for cross-national research on political attitudes and behavior because it includes a number of items designed specifically for universal applicability. Most importantly for our purposes, these common variables include items tapping racial, political, and moral intolerance, and anti-democratic attitudes. These items have been asked of over 350,000 survey respondents from all major regions of the world, Azerbaijan to Zimbabwe, Sweden to Egypt, China to Chile. Although there are no panels of repeated interviews, many of these nations had multiple waves (2-3 were typical) drawn from independent cross-sections over considerable spans of time. In many cases, these encompassed periods of vast social and political change, including the 1990's collapse of communism in Eastern Europe and the disintegration of Yugoslavia. The breadth of the countries and eras covered by the cumulative *WVS* allows for tremendous social, political, and economic variation of precisely the kind necessary to isolate the effects of cultural learning and experience.

Measures of Intolerance of Difference

We begin in Table 1 by rank ordering our 48 ethnic groups in terms of their general intolerance of difference. Our measure of intolerance of difference was designed to reflect the (inverse of the) orientations that are thought to be critical to the sustenance of liberal democracy, respecting both majority rule and minority rights and extending tolerance to all manner of difference, including racial and ethnic minorities, political dissenters, and perceived moral deviance. These three specific components of the overall measure of intolerance of difference are delineated in Table 2. Each dimension of intolerance is, of necessity, indicated by just one or two items because very few questions (apart from socio-demographics) were asked of almost all respondents; even fewer of those common items could confidently be said to measure the same concept in the same way across our widely varying cultures. We describe our measurement strategies for each of these three dimensions in turn below.

Table 1. General Intolerance of Difference, Maintenance and Democracy by Population Group

Relevant groups in *WVS*	Intol of difference (score)	Intol of difference (rank)	*sample size (# Rs in indiv analysis)*	Avg democ level when ethnic group dominates	Avg level of democ (reverse rank)
Egyptian Arab	0.83	1	*2961*	-0.67	6
Jordanian Arab, Iraqi Arab	0.79	2	*2676*	-1.00	2
Algerian Arab, Moroccan Arab	0.73	3	*1048*	-0.78	5
Saudi Arab	0.72	4	*998*	-1.76	1
Javanese, Malay, Sundanese, Sumatran, Dayak, Sumbawan	0.72	5	*4087*	-0.17	24
Hausa, Lwo	0.71	6	*1508*	.	.
Yoruba, Igbo, Ewe, Ibibio	0.71	7	*3965*	-0.34	19
Armenian	0.71	8	*1796*	-0.62	8
S.Cauc (Georgian, Laz); N.Cauc (Lezgin, Kabardian, Avarian)	0.70	9	*3127*	-0.66	7
Turkish, Azerbaijani, Kirgiz, Uzbek, Uyghur	0.69	10	*7451*	-0.41	17
Rwandese, Swahili, Luganda, Rutoro	0.68	11	*3342*	-0.55	11
Hindi, Bengali, Punjabi, Urdu, Marathi, Gujarati, Oriya	0.68	12	*9473*	0.25	30
Twi, Ga	0.68	13	*1070*	-0.32	20
Persian, Kurdish, Talish, Pashtun, Luri, Hui	0.68	14	*4016*	-0.88	4
N.Chinese, S.Chinese (Min, Cantonese, Wu)	0.67	15	*7427*	-0.56	10
More, Dagbani	0.67	16	*1058*	-0.54	12
Afrikaaner	0.66	17	*1659*	.	.
Romanian, Serbian, Bulgarian, Albanian, Bosnian, Macedonian	0.65	18	*18,781*	-0.51	14
Maltese	0.65	19	*1306*	1.30	36
Berber	0.65	20	*188*	.	.
Tamil, Telegu, Kannada, Malayalam, Romani	0.64	21	*2341*	.	.
Korean	0.64	22	*5655*	0.02	26
Lithuanian, Estonian, Latvian	0.64	23	*5401*	-0.43	16
Russian, Polish, Belarusian, Ukrainian	0.64	24	*20,941*	-0.58	9
Bambara, Dioula	0.63	25	*1374*	-0.49	15
Cebuano, Tagalog, Ilocano, Hiligaynon, Mindanao, Formosan	0.63	26	*2461*	0.19	28
Vietnamese	0.63	27	*2123*	-0.53	13
Oromo, Sidama, N.Omotic	0.63	28	*530*	.	.
Zulu, Tswana, Xhosa, Shona, S.Sotho, Pedi, Tsonga, Sindebele	0.62	29	*7336*	-0.20	23
Bemba, Nyanja, Fula	0.61	30	*1319*	-0.40	18
Japanese	0.61	31	*1654*	1.17	35
Thai	0.61	32	*1221*	-0.23	21
Amharic, Tigrinya	0.59	33	*811*	-0.93	3
Andino, Maya, Quechua, Amazones, Aymara, Mapuches	0.58	34	*10,494*	0.03	27
Lebanese in Mexico, Palestinians in Chile	0.57	35	*668*	.	.
African-origin in Americas/Caribbean	0.56	36	*2423*	-0.04	25
Czech, Slovakian, Hungarian, Slovenian, Croatian	0.55	37	*18,189*	-0.23	22
Irish, Scottish	0.54	38	*4240*	1.30	37
Spanish, Portuguese, Catalan, Gallegan	0.53	39	*21,578*	0.28	31
Greek	0.50	40	*1533*	0.79	32
N.Italian, S.Italian, Gallo-Romance, Sardinian	0.49	41	*6339*	1.53	41
Jewish *(by ethnicity, not religion)*	0.48	42	*674*	1.08	34
Spanish, Portuguese, Catalan, Gallegan	0.47	43	*12,578*	0.24	29
English, American, Canadian, Australian, New Zealander	0.45	44	*18,264*	1.40	39
French, Walloon	0.43	45	*9512*	1.04	33
German, Dutch, Flemish, Luxembourger	0.43	46	*21,540*	1.34	38
Finn	0.42	47	*4222*	1.42	40
Swedish, Norwegian, Danish, Icelander	0.39	48	*12,802*	1.69	42

Note: Figure modified From Stenner 2011 (under review)

Table 2: Components of Intolerance of Difference Among Most and Least Intolerant Ethnic Groups

	Egyptian Arab	Levantine Arab	cf. Rs in autoc	cf. Rs in democ	Finnic	Scandinavian
RACIAL INTOLERANCE						
Rejection of percentage of potential neighbors *(0-100)*						
Mean percentage rejected (std dev)	81.67(14.40)	62.92(22.33)	49.70(25.65)	34.24(25.29)	23.73(22.26)	18.41(18.75)
% of Rs rejecting all potential neighbors	21%	8%	5%	2%	1%	1%
% of Rs rejecting at least half of potential neighbours	99%	78%	54%	28%	14%	7%
% of Rs accepting all potential neighbors	0%	1%	5%	11%	23%	25%
sample size	*n=3049*	*n=6973*	*n=82,912*	*n=248,408*	*n=4671*	*n=15,131*
POLITICAL INTOLERANCE						
Maintain order/Fight inflation vs. Free Speech/More Say *(0-1)*						
Mean (std dev)	.7438(.2708)	0.6546(.3046)	0.6988(.3046)	0.5939(.3406)	.4794(.3413)	0.5324(.3181)
% of Rs entirely favouring maintain order/fight inflation *(1)*	43%	31%	40%	29%	17%	17%
% of Rs entirely favouring free speech/more say *(0)*	4%	9%	7%	14%	23%	17%
sample size	*n=6020*	*n=6819*	*n=83,857*	*n=238,119*	*n=4426*	*n=14,477*
MORAL INTOLERANCE						
Homosexuality unjustifiable *(1-10)*						
Mean (std dev)	9.98(.23)	9.85(.84)	9.17(1.93)	7.28(3.24)	6.30(3.45)	5.27(3.66)
% of Rs saying "never justifiable" *(10)*	99%	95%	77%	48%	33%	27%
% of Rs saying "always justifiable" *(1)*	0%	0%	2%	11%	16%	30%
sample size	*n=3047*	*n=2920*	*n=73,771*	*n=235,513*	*n=4496*	*n=14,446*
Abortion unjustifiable *(1-10)*						
Mean (std dev)	8.84(1.86)	9.55(1.38)	8.02(2.62)	6.99(3.01)	5.65(2.91)	5.02(3.02)
% of Rs saying "never justifiable" *(10)*	57%	84%	52%	37%	15%	12%
% of Rs saying "always justifiable" *(1)*	1%	1%	4%	8%	11%	20%
sample size	*n=3035*	*n=7032*	*n=82,804*	*n=240,002*	*n=4550*	*n=13,783*

Notes: Figure from Stenner 2011 (under review)

Racial Intolerance

The racial intolerance domain naturally presents measurement difficulties with the relevant 'out' groups that might or might not be tolerated obviously varying according to the respondent's 'in' group. Ultimately, we judged there was just one universally-relevant measurement instrument, even if it is imperfectly suited to the task. This was a battery asking respondents to indicate, from a list of out-groups varying with national context, those they "would not like to have as neighbors". While there remained a great deal of variation across different surveys, the typical battery would proffer 10 or so out-groups, with "people of a different race" and "immigrants/foreign workers" typically scattered amidst an array that respondents might initially feel braver about singling out (and presumably thereby be encouraged to continue with their selections); for example, "heavy drinkers," "drug addicts," and "people who have AIDS." On about half the surveys, this battery would also include some other minorit(ies) relevant to the context, e.g., "Muslims," "Jews," "people of a different religion," or "people who speak a different language," as appropriate.

Social desirability effects, unfortunately, also varied across different renditions of the battery with respondents variously required to indicate those they rejected by actually naming them aloud or else just surreptitiously indicating to the interviewer a letter or number associated with the target. One final complication we had to address was that failing to reject (for example) "Muslims" or "Jews" should obviously not 'count' as tolerance for Muslim or Jewish respondents. We have detailed these difficulties to explain the nature of the random error, which is introduced in a cross-national survey such as this, but again stress that this random noise tends to work <u>against</u> finding relationships of any significance. All things considered, the best way to consistently derive a reasonably reliable measure of racial intolerance from such an instrument was simply to measure what <u>proportion of all</u> the available targets the respondent ultimately rejected. This left us straying some way from tapping solely into pure racial intolerance and also considers that in many contexts, moral complaints (e.g., rejecting "people with a criminal record") serve as socially acceptable ways to express racial prejudice.

Political Intolerance

Political intolerance entails at its core a tendency to reject liberal democratic decision-making and the free expression of dissenting opinions, especially in favor of strong central authority and social order. Here again, we do not have access to the most ideal measure with questions specifically pertaining to liberal democracy asked of less than half the respondents, leaving us to rely instead on just two core 'value' questions retained across most *WVS* surveys. These gauged the respondent's first and second preferences among four "objectives" -- "maintaining order in the nation," "fighting rising prices," "free speech," and "giving people more say in important decisions" – with a maximally intolerant score obtained by sacrificing free speech and democratic decision-making to the maintenance of order.

Moral Intolerance

The moral intolerance measure is also contentious. Here we relied upon two items asking, in turn, whether homosexuality and abortion were "justifiable," with responses provided on a 10-

point scale ranging from "always justifiable" up to "never justifiable." We recognize that some may view such measures as unfairly labeling certain respondents as "intolerant" when they are 'merely' "traditional," "conservative," "religious," "tribal," or otherwise insufficiently "modern." However, individuals endorsing such views are by definition "intolerant," in the simple sense of being unwilling to put up with individual deviations from some group moral code. In these circumstances, when reasonable individuals disagree (e.g., about when life begins, or what parts of people's bodies can be put together), free societies leave individuals to consult their own conscience and determine their own behavior, unconstrained by enforcement of group norms, and, as index measures, certainly no society that prosecutes homosexuals or subjugates women lies on the brink of liberal democracy.

General Intolerance of Difference

Our overall measure of intolerance of difference, considered by many scholars to be the critical component of an "anti-democratic" orientation, is simply the sum of the foregoing (equally weighted) components (re-scored to range overall from 0-1), and reflects a general unwillingness to put up with racial/ethnic diversity, political dissent, and moral deviance. We sum measures across the three domains to ensure that one cannot be labeled intolerant merely by having, for example, a complaint about a particular ethnic group, a temperamental discomfort with disagreement, strong religious beliefs, or traditional morality alone.

Intolerance of Difference, and Maintenance of Democracy, by Population

The scores and rank orders for our different groups (column 1 as coded by the World Values Survey) on this overall measure of intolerance are arrayed in the left-hand columns of Table 1, while the right-hand columns pair those aggregated individual dispositions toward democracy with the average post-war levels of democracy across all countries dominated by each of those groups. These democracy scores are the UDS (Unified Democracy Scores) recently developed by James Melton, Stephen Meserve, and Daniel Pemstein. These UDS scores are one of the most reliable measures of a country's level of successful democratic functioning and are available for most countries every year since World War II. They are aggregated via Bayesian estimation from 10 different measures of democracy, including the traditional, well-known scores from Freedom House, Polity IV, PACL and the like, as well as other measures. The UDS scores range from about -2 to +2, and the authors advise that the posterior mean score of .16 represents the cutpoint corresponding to other measures' dichotomous categorizations of 'democracy'.

As Table 1 makes apparent, there is indeed wide variation in general intolerance of difference across different populations, with that variation, moreover, strongly coinciding with those regions of the world that have proved most and least inclined to embrace democratic values and structures. Given that these intolerance measures are compiled from 261 separate sample surveys with sometimes erratic administration of instruments, and we have already described a degree of unreliability in the constituent items, we caution at the outset against over-interpreting these scores. However, given how highly and consistently (in)tolerant a group must be in order to obtain the most extreme scores, we are far more confident drawing conclusions about those in the top and bottom quartiles of the rank order, particularly to the extent there exist evident commonalities among the members. Thus, the much vaunted 'Arab Spring' notwithstanding, it is hard to avoid concluding that no people has less affinity for the values underpinning liberal

democracy than Egyptians, Algerians, Jordanians, and Saudis, a factor which could certainly help account for why these states have not yet produced an indigenous liberal democracy. Likewise, at the other extreme, Western European States espouse values that, in general, provide particularly fertile ground for the flourishing of liberal democracy and, indeed, across the post-war period have rarely been without it.

Variation in Racial, Political & Moral Intolerance Around the Globe

To provide a clearer understanding of exactly what kinds of attitudes we are contemplating, Table 2 specifies in greater detail the responses expressed to the different components of the general intolerance measure by those WVS groups at its upper and lower extremes. It also compares, in the middle columns, these extreme responses offered by all respondents living under autocracy and democracy (according to the UDS scores their countries obtained at the time of their surveys). We see that Egyptians, on average, rejected about 82% of the neighbors they were 'offered' in the *WVS,* while Algerians averaged 63%, and those residing outside democracies typically ruled out about half their potential neighbors. In contrast, Finns generally rejected less than a quarter of the neighbors they were offered and other Scandinavians just 18%, while those residing in democracies tended to rule out just over a third of their potential neighbors. We recognize that certain confounds, such as the homogeneity of the society, may also have some role in determining these results. Nevertheless, these basic differences in response appear particularly striking.

The contrasts were especially sharp with regard to the moral intolerance expressed by different populations (Table 2, lower panel). For example, almost all the Egyptian and Algerian respondents and over three-quarters of those living outside democracies insisted that homosexuality was "never justifiable." On the other hand, only about a quarter to a third of Scandinavians and Finns were equally intransigent on the issue, and total disapproval was registered by less than half of those residing in democracies. The group contrasts were likewise sharp with regard to whether women should be left to control their own reproduction. The domain of political intolerance registered the least striking contrasts (Table 2, middle panel), though the group divergence nevertheless remained significant with just 4-9% of Egyptian and Algerians consistently favoring free speech and democratic decision making over central authority and the maintenance of order, whereas 17-23% of the Finns and Scandinavians were thus inclined. This may reflect the fact that, in general, Scandinavians have needed less externally imposed order because they have historically lived within highly ordered societies, whereas much of the Arab world lives within a quite different ecological context defined by dense populations and scare resources. Some of the reason for this disparity in support for external order may result from greater homogeneity in Scandinavian populations, but some of it may result from differing ecological and environmental pressures as well.

Indeed, of the hundreds of population groups surveyed around the world in the *WVS 1981-2008*, <u>no group</u> displayed more intolerance of <u>other</u> people's rights and liberties than those who reside in Egypt Iraq, Palestine, Jordan, Algeria, Morocco, Libya, and Tunisia. Certainly this argument is given anecdotal credence by the catalyzing event that took place in the center of one of the most widely covered "celebrations of democracy" in Cairo's Tahrir Square. During the largest demonstration in support of Mubarak's removal, a CBS reporter, Lara Logan, was sexually assaulted by scores of Egyptian men, while hundreds if not more watched. All those surrounding

her watched and photographed the assault without intervening to help her or stop the sexual assault. The men, apparently protesting for 'freedom,' were the very ones who at that same moment literally taken the freedom of another, by stripping the physical security and violating the fundamental personal rights of a fellow human being. This is just one example by which the Western media were carried away with talk of the 'new spirit' apparently 'sweeping the country'.

West, East & South Diverge

Returning now to the overall intolerance reported in Table 1, we observe that people in Russia, Poland, Belarus, and Ukraine are attitudinally distinct from those who live in Slovenia, the Czech Republic, Slovakia, Hungary, and Croatia. However, these latter states have, in some regard, led Eastern Europe in the adoption and nurturing of democratic reforms since the fall of Communism. Figure 1 clearly shows these states (combined here for clarity, given their great similarity over this period) expressing far higher levels of intolerance than their Russian, Polish, Belarus, and Ukrainian counterparts, even at the very dawn of Communism's collapse, and looking relatively unmoved even 16 years later, despite massive societal transformation. In contrast, Slovenia, the Czech Republic, Slovakia, Hungary, Croatia, and East Germany start out looking far more tolerant, despite sharing the cultural heritage of their neighbors, and express even greater tolerance after the passage of a tumultuous decade and a half. This demonstration is still more impressive when one considers that it aggregates yearly the intolerance expressed by the different groups, irrespective of where they were residing.

Figure 1: General Intolerance of Difference Among Eastern European Populations After the Fall of Communism

Notes: Figure modified from Stenner 2011 (under review)

West & East Germans Converge

The most significant evidence about population similarity is drawn from *WVS* samples for East and West Germany across three decades. The people of both countries are from the same population, but each lived under a remarkably different political system, artificially imposed by greater powers. Table 3 reports a simple analysis of the intolerance expressed in 1990 by West

and East Germans and their 'cultural neighbors' in Western and Eastern Europe. These findings are truly remarkable for the near identity in attitudes expressed in every domain of intolerance by West and East Germans on the very eve of reunification. That is, despite massive cultural, governmental (democratic versus communist), and institutional differences, their values on tolerance remained nearly the same. The results are even more compelling comparing the Germans' levels of general intolerance to that of their cultural neighbors: Switzerland, Austria, Belgium, and France on the Western side, and Poland, Bulgaria, Hungary, and Romania to the East. It is striking, indeed, that in 1990, East Germans' intolerance looks far more akin to that expressed across the cradle of liberal democracy (West Germany) than to attitudes emanating from other countries with a long history of political similarity behind the former Iron Curtain.

The evidence comes from cross-sectional survey data, and we are keenly aware of the discomfort engendered by the notion that intolerant dispositions might be some function of innate differences, along with culture and governance. Yet, Germany provides one of the few cases where we have access to data across the board regarding changes in values as institutions change. In this way, it provides critical insight into how shifts in institutions may align, or not, with subsequent changes in values. In this case, despite 50 years of different governmental institutions and structures, Germans, East and West, retained remarkably similar values toward intolerance, which differed notably from neighbors on both the right and the left, who themselves held similar institutions. This would suggest that social learning alone cannot fully account for any differences which emerge in endorsement of political values over time and across different governing institutions.

Table 3.1: Comparing West & East Germans' Intolerance Of Difference On Eve Of Reunification

	West Germans 1990	East Germans 1990	
Racial intolerance	0.3077 *(n=2084)*	0.3189 *(n=1330)*	Racial intolerance
Political intolerance	0.4406 *(n=1995)*	0.454 *(n=1293)*	Political intolerance
Moral intolerance	0.6157 *(n=1751)*	0.6366 *(n=1187)*	Moral intolerance
General intolerance of diff	**0.453** *(n=1685)*	**0.4687** *(n=1159)*	General intolerance of diff

Table 3.2: Comparing West & East Germans' Intolerance With That Of Their 'Cultural Neighbours'

Western Neighbours:	General Intolerance of Difference		Eastern Neighbours:
Switzerland 1989	.4172 *(n=1179)*	.6228 *(n=888)*	Poland 1990
Austria 1990	.4898 *(n=1368)*	.6206 *(n=905)*	Bulgaria 1990
Belgium 1990	.4752 *(n=2360)*	.6048 *(n=919)*	Hungary 1991
France 1990	.4359 *(n=912)*	.6694 *(n=1041)*	Romania 1993
Western Neighbours Combined	**.4607** *(n=5819)*	**.6308** *(n=3753)*	Eastern Neighbours Combined

Notes: Figure modified from Stenner 2011 (under review)

Table 4 subjects this notion to closer scrutiny by comparing West and East Germans' relative intolerance to their relative religiosity, broken down by age and income, attributes that ought to impact social learning, if social learning is indeed the generative process. In the domain of intolerance, it is readily apparent that there is more variation within nation, by age and income,

than is evidenced between the two countries, which is consistent with tolerance attitudes that are more than socially learned. In contrast, there is more divergence in religiosity across the two countries than there is variation, at least by income, within nation. This, in turn, is consistent with behaviors related to institutions more dependent upon social learning.

Table 4.1: Germans' Intolerance More Similar Across Than Within Country

General Intolerance of Difference:	West Germans 1990	East Germans 1990
if older (> 45 years)	.5435 *(n=798)*	.5452 *(n=513)*
if younger (<= 45 yrs)	.3715 *(n=887)*	.4080 *(n=646)*
if above median income	.4260 *(n=564)*	.4391 *(n=536)*
if below median income	.4666 *(n=1121)*	.4943 *(n=623)*

Notes: Figure modified from Stenner 2011 (under review)

Table 5 addresses itself directly to the task of ruling out the plausible alternative hypothesis that social learning can account for newfound political attachments to liberal democracy. This straightforward analysis simply regresses our measure of general intolerance of difference against the individual's innate, immutable characteristics (ethnicity, age and sex), the varying societal conditions they may experience (democracy and prosperity), and a vast array of socio-demographic characteristics routinely measured by the *WVS.* The latter includes variables, most notably education, income, class, and religious denomination that ought to impact social learning, if social learning is indeed the force that predominantly affects outcome.

The results are compelling and easily summarized. No attribute we have been able to measure or find consistently across nations more heavily determines general intolerance of difference than country of origin or ethnicity. Over a quarter of the variance in general intolerance is explained by ethnicity alone, and almost 30% is determined by the individual's dispositional characteristics (ethnicity, age, and sex). Ethnicity includes some combination of culture, family, society, and genetic disposition. We attempted to remove the social and cultural variance associated with governance by including years of democratic governance and other social predictors. To be clear, we are not saying that nothing aside from ethnicity matters, but rather that *support for the variables of tolerance assumed to undergird democracy do not track equally around the world, or in the way that those who support democracy promotion programs often contend.* This may help explain why such programs are not equally successful everywhere they are introduced. Notably, GDP and income do not align with support for liberal values of tolerance as closely as ethnicity does, and this factor is important to recognize as well. Making people richer does not necessarily, in and of itself, make them more amenable to the adoption of tolerant values. Nevertheless, the findings so far are compelling; social learning generally (i.e., across diverse cultures) contributes little to the explanation of intolerance, beyond that already contributed by country of origin, and presumably, by whatever societal arrangements and patterns of cultural learning a society's particular composition tends to produce. Even religious denomination and

socio-economic status (education, class, and income) contribute just a few extra percentage points to the explanation.

Table 5: Variance Explained By Ethnicity, Societal Conditions and Social Learning

Dependent Variables↓	Ethnicity alone	Ethnicity, Age & Sex	Level of Democ Since R's Birth	LogGDP Per Cap Since R's Birth	Democ x GDP Since R's Birth	Innate Attributes & Democ x GDP	(includes additional soc-dem vars)
gen intolerance of difference	0.261	0.294	0.1815	0.1842	0.2337	0.3121	0.3513
racial intolerance	0.2294	0.2353	0.1143	0.0895	0.1301	0.2396	0.249
moral intolerance	0.1931	0.2199	0.0924	0.1474	0.1583	0.2412	0.2956
religiosity	0.1911	0.2257	0.0177	0.0748	0.0817	0.2321	0.5114
religious attendance	0.1716	0.186	0.0025	0.0612	0.0709	0.19	0.3182
life satisfaction	0.1502	0.1521	0.0881	0.0523	0.0931	0.16	0.2122
anti-feminism	0.1438	0.1756	0.0777	0.0652	0.0956	0.1873	0.2177
conv political particip	0.1421	0.174	0.0728	0.0862	0.105	0.1791	0.2268
anti-democracy	0.1393	0.141	0.0438	0.0404	0.0532	0.1463	0.1774
authoritarian predisp	0.1364	0.1537	0.0208	0.0279	0.0323	0.1579	0.1943
financial satisfaction	0.1304	0.1322	0.0713	0.0353	0.0726	0.136	0.236
confidence in institutions	0.1064	0.1106	0.0003	0.0224	0.0274	0.1142	0.1287
happiness	0.0991	0.1047	0.0575	0.0089	0.0583	0.1124	0.1584
subjective health	0.0799	0.1623	0.0322	0.0044	0.0315	0.1654	0.1976
political intolerance	0.0782	0.0957	0.0585	0.0465	0.0692	0.1058	0.1254
inter-personal trust	0.0692	0.0697	0.014	0.0132	0.0175	0.0737	0.0857
perceived autonomy	0.0608	0.064	0.017	0.0105	0.0178	0.0691	0.0926
political interest	0.0568	0.0938	0.0021	0.0015	0.0056	0.0936	0.1522
"left-right" self-placement	0.0505	0.0527	0.0002	0.0082	0.0101	0.053	0.0707
pro-radical change	0.0427	0.046	0.0144	0.016	0.0192	0.0482	0.0516
environmentalism	0.0392	0.0447	0.0006	0.0003	0.0025	0.0494	0.0685
free market values	0.036	0.0388	0.0002	0	0.0002	0.0398	0.073
unconv political particip	0.0334	0.0802	0.0089	0.0129	0.0146	0.0846	0.1034

Notes: Sample Sizes Range from 200,000-338,000. Figure modified from Stenner (under review).

3B. Attitudes are As Much a Part of One's Disposition as Personality.[3]

In the data provided by the *World Values Survey,* we have shown that tolerance values differ greatly across regions and nations. *Thus, it is now clear that support for the liberal values necessary for a western liberal democracy to function are not evenly distributed across the world, but rather remain absent in precisely the locations that are most at risk for terrorist recruitment*. Prior to our analyses it might seem the strategy of democracy promotion appears attractive. However, this assumes we can simply change attitudes through changing governance, and *the data above admirably refutes that contention*. Indeed, we demonstrated that tolerance did not appear to be a function of governance, since controlling for years of democracy did not affect

[3] Portions of this section was modified from Hatemi et al. (2011).

the outcome. Moreover, even in the case of differing governing structures across East and West Germany, people endorsed the same values despite markedly different governments. So*, the key question remains: if people retain different attitudes toward tolerance, and governance does not account for such variance, can we change their attitudes to a great enough degree to support liberal values?*

The implicit assumptions underlying the belief that attitudes can be changed is that attitudes are environmentally determined and, thus, relatively malleable and subject to situational and circumstantial forces, interventions and incentives. We seek to test this assumption. Are attitudes purely environmentally determined? Are they very malleable? We examine the source of variance in political attitudes to see if they are, in fact, environmentally determined and, thus, subject to environmental intervention and shift, by investigating the source of individual differences in tolerance attitudes. We do this below by using a wide array of genetically informative data sets to identify the relative weight of environmental and genetic influences on tolerance attitudes. If the very values which DP strategies attempt to change are to any large degree genetically influenced, then the hope of successfully changing others' attitudes in a single generation through external pressure is likely to meet with failure.

Policy makers have so far relied on the unexamined assumption that the transmission of values simply occurred exclusively through social and cultural mechanisms and that biological and genetic components had no part to play in their formation. Yet, over a quarter century ago (Martin et al., 1986), evidence from large studies of adult twins suggested between .3-.6 of the variance in social attitudes result from genetic influences (Eaves et al., 1989). However, despite the growing awareness among a handful of political scientists (Bouchard et al., 1990; Hatemi et al., 2010) of the behavior-genetic research that addresses the substantial, but not exclusive role of genetic influences in the transmission of attitudes, there has been no adjustment in State Department and U.S. policy regarding the mechanisms by which ideology and political preferences might shift over time or across regions.

The justification for this lack of integration has rested, in large part, on two foundations. First, the view that values are the result of some interaction between biology and environment runs counter to the principles of most of the social sciences. Durkheim may have best represented this position when he wrote, "The determining cause of a social fact should be sought among the social facts preceding it and not among the states of individual consciousness.'' The roots of this sociological tradition run deep in the disciplines dedicated to exploring values.

A second reason that policy based on a learned model of values has not been redefined as yet might be due to the limited amount of study and data. Past genetic studies on values relied on the use of limited measures and often comprised only one or two populations. The lack of temporal variation, cross-cultural validation, and generalizability in the data used to examine the genetic influence on values might have tempered inclusion of the concept that values are part of one's disposition. After all, liberal values would be expected to change across time and space, and data restricted to a handful of samples, a limited period of time, and restricted measures could not convincingly disprove the central thesis positing socialization as the major mechanism by which individual differences in values form.

In this section, we provide definitive evidence that tolerance values are partially genetically transmitted, regardless of the specific measure, culture, or time in which it was classified. We thus argue that values constitute an essential part of one's psychological disposition, no easier to change than one's personality. Using five separate kinship studies from the United States, Australia, and Denmark conducted over the course of three decades (1980-2008), we employ a diverse set of ideological measures that encompass a wide range of instruments commonly employed throughout the attitudinal and political ideology literature (Table 6).

The picture we portray here suggests that values remain part of an individual's psychological architecture, and this can explain, in part, the enduring nature of value stability, even when institutions are imposed upon a populace. As we demonstrated above, attitudes toward tolerance, for example, differ across the globe, and age, income, and the degree to which people have been exposed to democratic governance structures accounts for little of the individual variance in support for these beliefs, but if the second assumption of DP is correct, and we can change people's minds with the introduction of democratic governance, then such starting values will not prove critical to the creation and support of liberal democratic institutions. However, a whole line of additional research presented in this section suggests that values are genetically informed. They may come about through epigenetic mechanism, development, gene by culture interaction, or other means, but once they have been instantiated, they prove difficult to change. If such is the case, then not only the first, but also the second pillar of DP efforts rests on shaky foundations. We detail the weakness of this second assumption below.

Table 6: Measures of Values

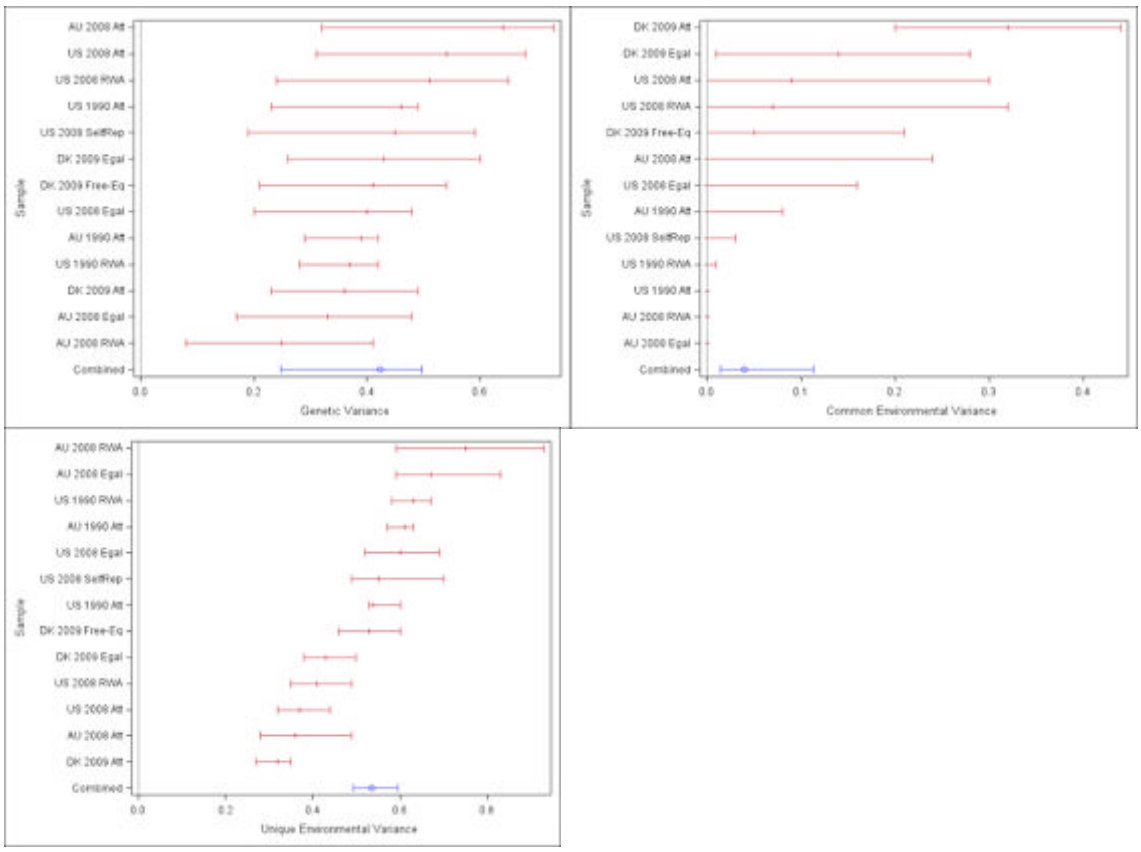
Values Type	Measure	Sample Size
Tolerance Attitudes		
US 1990	Subset of 28 item scale (e.g., gay rights, immigration, etc)	9,072
US 2008	Subset of 27 item scale (e.g., torture, immigration, evolution)	1,158
Australia 1990	Subset of 50 item scale (e.g., immigration, birth control, etc)	6,698
Australia 2008	Subset of 29 item scale (e.g., foreign doctors, gay marriage, etc)	502
Denmark 2009	Subset of 15 item scale (e.g., warrantless searches, porn, immigration)	2,136
Egalitarianism		
AU 2008	Incomes should be made more equal	502
US 2008	economic equality	1,158
Denmark 2009	state should take more responsibility for personal welfare and economic equality	2,136
Authoritarianism and Values		
US 1990	(obey law, obey parents, self control, etc)	3,442
US 2008	(e.g., our country needs a powerful leaders to destroy the radical and immoral currents)	1,158

Australia 2008	(simple unbending moral code)	502

Notes: All subjects are twins.

We conducted twin variance decomposition on each measure. The results presented in Figure 2 provide evidence that a large portion of the variance in liberal and tolerance values are accounted for by genetic influence; this finding remains consistent across measures and samples.

Figure 2: Forest Plot of the Genetic and Environmental influences on Political Ideology



Notes: The combined estimate is weighted by sample size.

Our findings encourage an integrated model that incorporates both genetic and environmental elements in explicating the formation of values. A formal test of the data, which included every measure within a single analysis, revealed that across measures and countries, the genetic component could be statistically equated, but the environmental components could not be similarly equated. This suggests that the genetically-influenced component of values is fairly universal; however, the details of the content shift according to specific cultural context. Such a finding is precisely what one should expect if the genetic pathways are similar in people of

relatively similar genetic ancestry but expressed differently when placed in the context of a modern cultural and political environment.[4]

Genetic influences assessed by variance components are neither determinative nor infinitive. However, our findings require revision to the way the U.S. government should approach their understanding of the origins and maintenance of liberal values. We can no longer consider values as easily malleable attitudes that can be adjusted by culture or institutions imposed on a particular society. Rather, once values are infused, they become part of the genetically-informed, intrinsic elements of our core psychological dispositions, rather like personality. They are not unchangeable, but there is a limit on how much they can change, and the costs and investment to do so is greater than enforced by type of governance. Any policy which attempts to change those values will meet with cognitive and emotive resistance that translates into resisting behavior, both passive and active, and will take a multigenerational investment to shift. That is, democracy promotion strategies must either include generations of commitment, such as what we witnessed in Germany and Japan, and endure hostile actions from members of that population sensitive to perceived threat or aggression for at least a generation, or remain largely unsuccessful.

Summary

Attitudes are not 100% environmentally determined but are, in fact, genetically influenced. Any effective strategy of attitude change must believe that attitudes are as difficult to change as personality. That is, attitudes are not as malleable as presumed by DP strategies, which rely on environmental efforts and incentives in order to change. If this is the case, then we have to consider what it would take to change such attitudes. At the very least, it would require generations of occupation and intervention, as was required in the case of American occupation of Japan after World War II when the U.S. put one soldier in place for every thirteen Japanese citizens for years, in order to impose enduring democratic structures on populations not disposed to support the values which support them. Note that this endemic level of occupation existed among a population, which, by that point in time, was largely devoid of military age men because of the catastrophic losses sustained by that population during the war. Such time and diligent dedication would be required for populations to find accommodations in both institutions and culture in order to build bottom up support in ways that align with local ecological norms and needs.

3C. Can We Identify Genetic Markers That Track with Liberal Values and Are They Expressed Differentially by Cultural and Environmental Pressures?

The variance decomposition above provides compelling evidence regarding the nature of individual difference. However, it is also possible to look for specific genetic markers which may track with particular attitudes toward tolerance. Such analysis is not going to tell us whether specific genetic markers exist in any one population or another. Such findings are extremely rare, although sometimes it has been possible to find these with specific diseases, such as sickle cell anemia or dopamine receptor length (Harpending and Cochran, 2002) where it is plausible to

[4] These analyses are based on a unique subset just for this paper but also remain part of a larger project on attitudes that is under review (Hatemi et al., 2011).

imagine local environmental factors exerting enormous selection pressures on populations over time. We do not have the data to explore this with regard to tolerance across populations. Indeed, on such a complex trait, what genetic influences we can identify will most likely be operating through thousands of complex pathways and on latent traits that are in aggregate expressed as tolerance. However, we nonetheless we attempt to identify specific genetic markers that track with tolerance. This constitutes important basic research because such findings could prove helpful in identifying the basic mechanisms and pathways by which values emerge and/or are modified by environmental conditions. In this way, *it may be that every population has the same fundamental dispositions that influence attitudes toward tolerance but that specific environments characterized by power, dominance, and oppression can interact with these dispositions to create higher degrees of intolerance through a combination of epigenetic mechanisms, and local environmental circumstances*. This could easily lead to differences in expressed attitudes and phenotypic behavior patterns, despite genotypic similarity. Thus, we undertake an attempt to identify whether we can find any genetic markers that might track with attitudes toward tolerance to try to better identify those psychological mechanisms and physiological pathways by which genetics, in combination with specific environmental factors, might work to reduce intolerance.

This phase of our investigation is preliminary, and the methods and data to confirm any relationship between a specific genetic maker and any complex social trait, such as tolerance attitudes, remains elusive. We in no way see this as a simple enterprise. We have collected genome wide markers for over 7,000 subjects from two Australian populations. The population includes a wide range of those from European Ancestry (about 90% of the sample), as well as a more limited number of individuals from other ancestries (Asian, Indonesian, Middle Eastern, Maori, etc). We account for these confound through the use of genetic principal components. We also control for all other individual level factors (such as education, income, age, etc.).

Thus, to empirically identify *specific* genetic variants to account for common genetic variance on Tolerance attitudes, we performed Genome Wide Association Analyses (GWAS) based on Single Nucleotide Polymorphisms (SNPs) typed at high density throughout the genome. It is important to note that while many genes have been identified for health conditions, the loci identified to date have not accounted for much of the heritability in complex traits, so it would be surprising if we were to find single markers, or even a constellation of markers, that could account for complex and dynamic human values which, while genetically influenced, must also respond to a wide variety of local environmental demands and opportunities.

Data

In the first part of the study, participants completed a Health and Lifestyle Questionnaire (HLQ) between 1988 and 1990 and gave blood samples for DNA extraction and genotyping. Complete phenotypic *and* genotypic data were available for 5,140 individuals from 2,619 families, which included parents, siblings, spouses, and offspring. The second study took place as part of an ongoing study of cognition and melanoma in 1999 (Wright & Martin, 2004), ascertaining individuals between 19 to 30 years of age.

Respondents were assessed with a 50 and 28-item social attitudes inventory in a Wilson-Patterson (1968) format. The inventory presented participants with a short stimulus word or phrase and asked them to respond positive, negative, or neutral to each. Subjects who answered at least 80% of the political attitudes questions, which comprise the ideological measures, were

included in the analyses. Factor analysis of these items on this population has shown that a uni-dimensional model fits the data, but several correlated sub-factors were also extracted (Verhulst, Hatemi and Martin, 2010). Here we focus on the Tolerance factor, which most closely matches the *WVS* study. Tolerance was measured by support for: Euthanasia/Assisted Suicide, Evolution, Gay Marriage, Legalized Abortion, Living Together, Not Married, Stem Cell Research, and X-rated movies

DNA

The genotypic data derives from a large genotyping project involving seven waves of genotyping that drew participants from multiple cohorts in Australia. The project focused on alcohol, melanoma risk factors, and other health-related traits. For each project, DNA was extracted in accordance with standard protocols; participants were genotyped on the Illumina 317K, 370K, or 610K SNP platforms, and genotypes were culled with the Illumina BeadStudio software. After integration of the data sets, the data were screened for missingness within individuals (>5%, taking into account the number of SNPs that were genotyped for each individual), pedigree and sex errors, and Mendelian errors (genotypes for all family members for a given SNP were removed upon detection of errors). Standard quality control filters were applied to the genotyping, restricting the imputation to samples and SNPs with high data quality. A set of SNPs common to the seven subsamples was used for imputation in order to remove bias from the imputed data (for more detail on the genotypic data, see Medland et al., 2009). These studies were performed with the approval of the appropriate ethics committees and the informed consent of all participants.[5]

Genome-Wide Results

The analyses provided results in which 4 SNPs reached genome wide significance at the conventional threshold of $P < 5 \times 10^{-08}$ in Study 2 (see Table 7 for all SNPs $P < 5 \times 10^{-06}$). However, the results did not replicate across studies (see Table 8 for Meta-Analytic P-values). Thus, while half of the variance in tolerance is accounted for by genetic heritability, the specific genetic markers remain elusive.

Table 7: GWAS Results for Tolerance: Both Samples

CHR	SNP	FREQ1	STUDY	EFFECT	SE	LOD	PVALUE
2	rs6543023	0.981	STUDY 2	-1.487	0.252	7.544	3.76E-09
2	rs12477520	0.986	STUDY 2	-1.504	0.273	6.599	3.53E-08
3	rs9813052	0.013	STUDY 2	2.06	0.378	6.455	4.98E-08

[5] As imputation is sensitive to both missingness and SNP distribution, to avoid introducing bias to the imputed data, a set of SNPs common to the nine Illuminia subsamples available in Release 5 (N=269,840) were used. These data were screened for ancestry outliers. Full siblings and offspring of individuals who had been identified as ancestry outliers were excluded from the reference set used in Mach stage 1. The imputation was run in two stages using Mach. In the first stage, the data from a set of 450 GenEpi reference individuals was compared to the phased haplotype data from the HapMap CEU I+II data (release 22, build 36). The 450 GenEpi reference individuals were made up of fifty unrelated individuals (with the lowest missingness) from each of the nine Release 5 subsamples. Stage 1 generated recombination and error files that describe how the GenEpi data relate to the HapMap data, in effect allowing us to customize the HapMap data for our population. In the second stage, data were imputed for the 17,862 GenEpi individuals available in Release 5 using the HapMap data (release 22, build 36) as the reference panel and the recombination and error files generated in stage 1 to customize the imputation. All imputation was run on the Genetic Computer Cluster (see acknowledgement above). To account for differences in phenotype collection and age across the samples, each sample was analyzed independently and meta-analysis was used for combining the results when applicable.

3	rs4425256	0.988	STUDY 2	-2.049	0.379	6.33	6.70E-08
6	rs7766902	0.909	STUDY 2	-0.402	0.076	6.04	1.34E-07
5	rs2036023	0.571	STUDY 1	-0.109	0.021	5.937	1.71E-07
6	rs9295794	0.088	STUDY 2	0.407	0.078	5.846	2.12E-07
6	rs9393945	0.912	STUDY 2	-0.407	0.078	5.843	2.13E-07
6	rs6930288	0.912	STUDY 2	-0.406	0.078	5.843	2.13E-07
6	rs9391759	0.912	STUDY 2	-0.407	0.078	5.836	2.17E-07
6	rs9295791	0.91	STUDY 2	-0.405	0.078	5.823	2.24E-07
6	rs9393944	0.091	STUDY 2	0.401	0.078	5.777	2.50E-07
1	rs12734496	0.093	STUDY 2	0.525	0.102	5.729	2.80E-07
2	rs7567981	0.009	STUDY 2	1.618	0.316	5.701	2.99E-07
9	rs10961913	0.217	STUDY 2	-0.271	0.053	5.642	3.44E-07
6	rs4713201	0.132	STUDY 2	0.348	0.068	5.632	3.53E-07
9	rs10961909	0.785	STUDY 2	0.267	0.053	5.487	4.99E-07
9	rs7031497	0.215	STUDY 2	-0.266	0.053	5.453	5.41E-07
6	rs9368591	0.901	STUDY 2	-0.369	0.074	5.365	6.67E-07
9	rs1412255	0.214	STUDY 2	-0.263	0.053	5.363	6.71E-07
9	rs10810355	0.786	STUDY 2	0.263	0.053	5.354	6.85E-07
6	rs9348819	0.901	STUDY 2	-0.365	0.074	5.306	7.69E-07
6	rs4713199	0.901	STUDY 2	-0.365	0.074	5.301	7.77E-07
6	rs9380106	0.901	STUDY 2	-0.365	0.074	5.294	7.92E-07
6	rs4713197	0.9	STUDY 2	-0.362	0.074	5.246	8.87E-07
6	rs4713195	0.1	STUDY 2	0.362	0.074	5.243	8.94E-07
6	rs10946966	0.097	STUDY 2	0.367	0.075	5.229	9.24E-07
6	rs9380103	0.9	STUDY 2	-0.361	0.074	5.214	9.58E-07
12	rs7295376	0.011	STUDY 2	1.124	0.23	5.199	9.92E-07
5	rs6868320	0.603	STUDY 1	-0.104	0.021	5.133	1.16E-06
5	rs6869580	0.397	STUDY 1	0.104	0.021	5.117	1.21E-06
5	rs10067550	0.603	STUDY 1	-0.104	0.021	5.115	1.21E-06
5	rs10069214	0.603	STUDY 1	-0.104	0.021	5.114	1.22E-06
5	rs11949654	0.397	STUDY 1	0.104	0.021	5.113	1.22E-06
5	rs11956143	0.603	STUDY 1	-0.104	0.021	5.113	1.22E-06
5	rs10037464	0.397	STUDY 1	0.104	0.021	5.109	1.23E-06
5	rs7718797	0.608	STUDY 1	-0.104	0.021	5.1	1.26E-06
5	rs7705226	0.393	STUDY 1	0.104	0.021	5.1	1.26E-06
5	rs6887436	0.393	STUDY 1	0.104	0.021	5.099	1.26E-06
10	rs7096311	0.035	STUDY 1	-0.362	0.076	4.874	2.16E-06
1	rs11205854	0.909	STUDY 1	0.173	0.036	4.87	2.18E-06
5	rs7704021	0.388	STUDY 1	0.101	0.021	4.869	2.19E-06
1	rs17106666	0.091	STUDY 1	-0.176	0.037	4.863	2.22E-06
1	rs10493158	0.091	STUDY 1	-0.17	0.036	4.836	2.37E-06

1	rs10493157	0.909	STUDY 1	0.17	0.036	4.828	2.41E-06
1	rs10399889	0.909	STUDY 1	0.17	0.036	4.828	2.42E-06
1	rs10399893	0.091	STUDY 1	-0.17	0.036	4.815	2.49E-06
11	rs11600790	0.917	STUDY 1	0.191	0.041	4.801	2.58E-06
5	rs12153462	0.953	STUDY 1	-0.325	0.069	4.773	2.76E-06
1	rs17106651	0.091	STUDY 1	-0.166	0.036	4.574	4.44E-06
12	rs1442179	0.32	STUDY 1	-0.103	0.022	4.573	4.45E-06
12	rs11179021	0.68	STUDY 1	0.103	0.022	4.566	4.52E-06
2	rs7595365	0.491	STUDY 1	0.094	0.021	4.544	4.78E-06
16	rs2382948	0.358	STUDY 1	-0.098	0.021	4.541	4.81E-06
12	rs10506178	0.68	STUDY 1	0.102	0.022	4.536	4.86E-06
12	rs11179132	0.699	STUDY 1	0.106	0.023	4.531	4.93E-06
3	rs2084386	0.118	STUDY 1	-0.145	0.032	4.497	5.34E-06
3	rs2084385	0.118	STUDY 1	-0.144	0.032	4.497	5.35E-06
1	rs12732738	0.93	STUDY 1	0.199	0.044	4.466	5.75E-06
2	rs13002709	0.484	STUDY 1	0.093	0.02	4.459	5.86E-06
2	rs2081788	0.095	STUDY 1	-0.174	0.038	4.418	6.46E-06
1	rs12737451	0.085	STUDY 1	-0.169	0.038	4.399	6.77E-06
2	rs6430373	0.499	STUDY 1	-0.093	0.021	4.396	6.82E-06
2	rs6747722	0.5	STUDY 1	0.093	0.021	4.391	6.90E-06
2	rs2874172	0.501	STUDY 1	0.093	0.021	4.389	6.94E-06
12	rs7308370	0.344	STUDY 1	-0.101	0.023	4.356	7.51E-06
1	rs12404128	0.091	STUDY 1	-0.161	0.036	4.336	7.88E-06
1	rs12741289	0.909	STUDY 1	0.161	0.036	4.336	7.88E-06
1	rs12756284	0.909	STUDY 1	0.161	0.036	4.329	8.01E-06
1	rs11808604	0.909	STUDY 1	0.161	0.036	4.309	8.40E-06
6	rs11755990	0.984	STUDY 1	-0.581	0.131	4.301	8.57E-06
2	rs16866631	0.985	STUDY 1	-0.414	0.093	4.299	8.61E-06
2	rs16866627	0.985	STUDY 1	-0.411	0.092	4.298	8.62E-06
12	rs11179176	0.667	STUDY 1	0.098	0.022	4.292	8.75E-06
16	rs3751668	0.796	STUDY 1	0.115	0.026	4.277	9.07E-06
12	rs17552679	0.667	STUDY 1	0.098	0.022	4.261	9.45E-06
1	rs12731329	0.909	STUDY 1	0.16	0.036	4.251	9.66E-06
2	rs4664645	0.778	STUDY 1	-0.111	0.025	4.25	9.70E-06

Table 8: Meta Analysis

MarkerName	Effect	StdErr	P-value	Direction
rs11600790	-0.1776	0.0374	2.04E-06	--
rs2036023	-0.0905	0.0192	2.52E-06	--
rs9398764	0.0984	0.021	2.92E-06	++
rs11179021	-0.0946	0.0203	3.11E-06	--
rs1442179	-0.0946	0.0203	3.11E-06	--
rs11580857	-0.2228	0.0481	3.71E-06	--
rs10506178	0.0937	0.0203	3.79E-06	++
rs11179347	-0.0926	0.0202	4.55E-06	--
rs11179132	0.0965	0.0212	5.24E-06	++
rs17552679	-0.0919	0.0202	5.42E-06	--
rs11179176	0.091	0.0202	6.65E-06	++
rs7308370	-0.0947	0.021	6.81E-06	--
rs11613035	-0.0983	0.0221	8.62E-06	--
rs1628225	0.0855	0.0193	9.34E-06	++
rs10506177	0.0898	0.0203	9.50E-06	++
rs11205854	0.1452	0.0328	9.56E-06	

4. UNADDRESSED IMPLICATIONS OF DEMOCRACY PROMOTION: FORCING UNWANTED VALUES ON A POPULATION INSPIRES TERRORISM.[6]

Attitudes toward tolerance differ across the globe, and these attitudes are not as malleable as supposed by those who support DP strategies. Rather, such attitudes can prove hard to change precisely because they derive from genetically-informed dispositional tendencies. Attitudes are part of a person's fundamental disposition, just like personality. Forcing a change is akin to forcing someone to act against their nature, like telling an introvert they have to attend a large party with strangers every night of their life. Such a person will never feel comfortable in that environment, even if they are forced to engage in that behavior. This discomfort will lead some individuals to attempt to stop the force which makes them do things and act in ways which make them uncomfortable.

If the U.S. attempts to install liberal democratic values on those who do not support such beliefs, it will meet with resistance. If telling others that they must be liberal or they are akin to terrorists, it will only create enemies and validate the claims of terrorist organizations that the U.S. is attempting to destroy their way of life. If attitudes are indeed genetically informed, as we find, and exist as part of fundamental psychological disposition, then people will defend those values and attitudes against people attacking them.

[6] This is based on forthcoming work by Hatemi & McDermott, A Neurobiological Approach to Foreign Policy Analysis: Identifying Individual Differences in Political Violence, *Foreign Policy Analysis*

This opposition can emerge in various forms, including resentment or peaceful political protest. But for a small portion of the population, such resistance will spur violence. For example, in the Gaza strip, only a small portion of individuals will blow themselves up in a suicide attack, but they will not do so for no reason. Rather, they are inspired to engage in political violence by the actions and forces they see around them which trigger rage and resistance. Prior to action, such individuals represent latent extremists who wait for the cause to instigate violence, but without such cause live normal lives. Such individuals take action following repression or threat to their cherished fundamental beliefs, attitudes, and values. When such attitudes are threatened, these latent militants become activated to engage in violence against the perceived source of their aggression. *Democracy promotion efforts may give such actors the very motivation they need to kick start their smoldering anger and resentment at the repression they experience into violent action*. Knowing that political attitudes form a core aspect of individuals' psychological dispositions and that most individuals are loath to bend their values to another system of beliefs should help inform policy in a more realistic way. Forcing such attitudes and values onto a population not otherwise sympathetic to their foundational principles, including political tolerance and women's reproductive and financial independence, may cause modest forms of resistance among the majority of the population. However, for that one part of the population which will rise up and take arms against those repressive regimes they perceive as threatening their core values, democracy promotion programs offer among the most powerful forms of motivation to commit violence. In this way, it is easy to see why those who promote such programs become the target for their resistance. Unfortunately, this blowback aspect of democracy promotion has not been so far addressed in the debate surrounding its utility.

How does this work? All behavior results from a complex interaction of environmental triggers and genetic expression operating through a neurobiological and psychological architecture, and with any complex social or political trait, there are likely thousands of genetic markers which act in combination with the environment to produce the behavior we observe and sometimes wish to control. People become activated to engage in violence under conditions of threat, whether physical, psychological, or cultural. We do not believe that any one individual is genetically or biologically predisposed to political violence. Rather, individuals who may be more disposed to engage in violence when threatened in general will become motivated to act because of particular provocations. One of the times when people are motivated to react with violence is when their values systems are attacked. For example, public opinion polls from Yemen showed that the Yemeni population was highly frustrated by the imposition of Western values upon them. In this way, when one country or culture tries to impose their way of life on another, it can instigate individuals in that population to act against the invading force because they will feel oppressed and repressed by the imposition of values they do not share. Attempting to install alien values on a population that does not find such values amenable to their local ecology and social norms will cause those individuals most susceptible to aggression to react violently against the imposition of such values or institutions. Thus, attempting to install liberal values on a population resistant to liberal and tolerant attitudes ignites those most likely to react to threat and provocation with violence.

Past Approaches to Political Violence

Several arguments have been most commonly put forth to account for those who choose to engage in terrorist acts. The first typically relates to divisions associated with the allocation of

financial and economic resources and their distribution across society. This includes a focus on the clash of cultures and civilizations and capitalizes on fractures between rich and poor, Christian and Muslim, and democrat and autocrat (Barber, 1996; Friedman, 2000; Huntington, 1996; Fukuyama, 1996). While such arguments certainly help locate the social stage upon which environmental triggers make their play, they do little to help explain the reasons why individual actors differ in the way they play their scenes within the confines of the set into which they are born.

Another set of arguments focuses on the role of those supposed individual psychopathologies in precipitating political violence. For example, Post (1998) argues that terrorists suffer from specific personality disorders, and their particular psychology drives them to be drawn to terrorist groups. However, this view has been challenged by most research which finds that terrorists are, in fact, psychologically normal and that there is no such thing as a particular personality type which characterizes terrorists (Crenshaw 1981; Atran, 2003). Moreover, insofar as more recent Middle Eastern terrorism is concerned, despite public sentiment that suicide terrorists are "crazed cowards bent on senseless destruction," no recognizable psychopathology is present (Atran, 2003). On average, they are similar in education level and economic class to the general population. Rather, terrorists are not mentally ill, emotionally disturbed, or depressed, (Rasch, 1979; Jager, Schmidtchen, and Sullwold, 1981; Sullwold, 1981; Jager, 1981; Ferracuti and Bruno, 1981; Heskin, 1980). Ruby (2003) concludes that "...terrorists are not dysfunctional or pathological; rather, terrorism is basically another form of politically motivated violence that is perpetrated by rational, lucid people who have valid motives."

After all, in order to become an effective terrorist, a person must retain at least a semblance of an ability to engage in efficacious, organized action, or his or her terrorist activities would only meet with failure. Psychopathologies, such as anti-social disorders, schizophrenia, and other personality *disorders* would preclude such abilities.

Thus, people are motivated to join terrorists groups not because they are "crazed cowards bent on senseless destruction" (Atran's, 2003), but because they feel threatened and are fighting back against the source of that perceived challenge. We argue that the imposition of Western values on a people that do not want them constitutes a critical part of that threat. Indeed, based on the evidence above, some combination of complex factors, both genetic and environmental, lead people to espouse the attitudes and beliefs they hold dear. While there is little evidence to show that it is genetic differences in the ethnicity measures that account for the tolerance differences we review, no matter how such beliefs and values come to be, whether taught or innate, they end up as part of an individual's genetically-informed psychological architecture. Once such attitudes become embodied and instantiated into someone's disposition in this way, they become fairly immutable. No matter the culture from which they emanate, attitudes are hard to change, and even more so to move from the outside. Those who seek to change them have to deal with this intransigence, because it can then manifest in aggressive ways and trigger violence.

5. LIMITATIONS

It is possible that, despite the numerous cultural controls we have introduced, we are missing something which can explain the associations we find between particular regions and support for particular values. We have based our argument on the data available and used uniform measures,

such as the *World Values Survey,* and our own data allow. There are few alternative sources which provide the same questions to every population in a way that allows systematic comparison. However, restrictions in the number of domains of inquiry along each dimension raise the possibility that other, more systematic, data might elicit different responses across populations.

We have also shown that attitudes are part of one's psychological architecture, through genetic transmission. While there is no one "gene" for tolerance or for any particular attitude or belief, one's genetic disposition does inform the precursors to particular attitudes; however, the view that genetic and biological factors can profoundly influence political attitudes is controversial. We understand that behavior genetics represents an imperfect science and that what we present here constitutes only preliminary evidence in support of the notion that biology can influence politics in predictable and systematic ways.

CONCLUSION

We are not arguing that people are genetically disposed by region to be tolerant or not. We provide no methods or evidence in support of such a contention, but people do differ in their intolerance across the globe. However such attitudes develop, once such attitudes are formed, they prove difficult to change, at least in part because they appear to be genetically influenced in origin. Therefore, any strategy that relies on changing anyone else's value system, such as DP, must be understood and undertaken as a multiple generational effort with the expectation that imposing alien political and social values on those who do not otherwise embrace them will result in violent blowback among at least part of the population proven to react aggressively in the face of threat and provocation.

A peculiar democratic myopia tends to assume that institutions and leaders not 'freely chosen' by a people are not wanted, needed, or well-suited to the local political environment; yet, particularly if such leaders have any longevity, they are bound to be more wanted, needed, suited, <u>and</u> chosen than the 'alien' alternatives democracy promotion strategies seek to impose without full understanding of the implicit norms such governance structures perpetuate. Just as Hartz's "tyranny of unanimity" identified the unerring influence of Lockean liberal values on American political debate, we note that leaders and governing institutions in all societies, democratic or not, grow out of and indelibly reflect the fundamental values of the communities from which they emerge. Individual differences in these fundamental orientations are, in part, genetically influenced, and while such influences may be substantially moved by external forces, they will not necessarily uniformly move in the direction such a force desires. If American democratic experiments move disinclined people at all, such efforts may instigate unintended blowback effects in the form of local bitterness, resentment, and even <u>violent resistance</u> to our ill-advised efforts to displace their values with our own. In other words, underlying political dispositions, now known to be at least partly biologically influenced, can undermine the very basis upon which liberal democracy promotions strategies reside, precisely because they demonstrate that social conditioning alone, no matter how forceful, may not be able to change a population's political preferences in the way or in the direction that the U.S. wants.

Like any other effort to force people to act or behave in a certain way, well-intentioned democracy promotion strategies can produce unintended blowback. Rather than combat

terrorism and reduce terrorist recruitment, these strategies have so far demonstrably provoked hatred, resistance, and backlash. From what we know about the nature of violence in general, and political violence in particular, forcing liberal democracy on populations that are predisposed to contrary values is viewed as hostile and coercive by those recipients, serving only to inspire certain individuals to act out against the perceived aggressor, in this case the United States. The strategy of democracy promotion may serve then, in the long run, only to provoke those individuals who are most sensitive to threat to react with violence against those who try to impose their will onto them (Hatemi and McDermott, forthcoming).

In this way, democracy promotion strategies themselves may furnish the weapons and inspiration necessary for terrorist organizations to recruit those individuals to act against U.S. interests. Democracy promotion may actually help activate the most violent and aggressive individuals in populations we try to influence to fight against the U.S. by giving them a target against which to rally their political opposition. Thus, we propose removing the interest such individuals have in fighting against the West by ceasing the single most aggravating factor of forcing specific values onto people who do not want them. For example, opposition to female economic and reproductive equality presents a large threat to more traditional societies whose social structure depends on the subjugation of women, and yet, clearly, any society which enforces such structural domination over half its population cannot be understood as truly endorsing or enforcing fundamental democratic values, no matter what their governance structure entails. Quite simply, as it currently stands, and directly counter to its explicit intent, democracy promotion abroad constitutes a serious threat to national security at home.

Efforts to prevent individuals and groups from taking violent/extremist action once they are so committed tend to be costly and of limited effectiveness. There is no evidence that it is possible to recondition terrorists. We could be far more effective at prophylaxis, however, by encouraging those more disposed toward violence once provoked to change targets by removing the inspiration to act violently against the U.S. Just as it is almost impossible to stop a single assassin from killing, we may not be able to stop those who are dispositionally most sensitive to react to threat with violence, but we can change the source of their motivations and their targets. An optimal strategy is to ensure that our enemies cannot coalesce their hostility and disaffection into adversarial action against U.S. interests. Rather, it serves U.S. interests to allow such individuals to focus instead on their own internal strife and leadership struggles without furnishing a convenient external enemy that distracts them from their main purpose and transforms the U.S. unnecessarily into a target. In this way, we also deprive our opposition from using our own actions to inadvertently enhance their recruitment efforts.

What does our argument mean for the ultimate success of democracy promotion? We do not mean to imply in any way, shape, or form that democracy is bad. Indeed, we make this argument in order to explore more successful ways to encourage populations to find their own way to more representative governance, which accurately reflects their local cultural traditions. Rather, we suggest that while democracy is good, the U.S. promotion of liberal democracy and governance through the forced imposition of liberal values remains counter-productive and wrong-headed. Thus, we suggest that while democratic institutions can be installed in a given country and offered to a given population, albeit often at great cost in both financial terms and American lives lost, liberal values themselves cannot be successfully imposed in a single generation. They

must be developed within the context of the local ecologies in which they must operate and sustain and not be externally imposed, unless we are willing to invest over multiple generations.

Instead of trying to instill specific values in other populations, we should consider supporting those economic institutions and health and welfare programs which breed the emergence of stable governance and opportunity. China might represent a kind of model in this regard, modeling a country with no history of democracy which, nonetheless, has begun to build economic structures which allow Americans to engage in trade and other cooperative relations to a greater degree without concomitant major fear of physical terrorism in the wake of increased engagement. Note, however, that the United States has not tried to instill Western political values in China as much as it has encouraged and supported capitalist economic growth.

In this way, strategies that focus on supporting the development of science and engineering education, economic development, job growth and training, and free and fair elections will likely not be met with much resistance. They often become illiberal democracies, in which free and fair elections can result in Sharia law. This is the price of democracy. However, telling people how to think, or which values they should hold dear, will be met with great, potentially violent opposition. Thus, the U.S. should change their strategy in the Middle East from one focused on liberal values and governance promotion to one instead primarily based on economic engagement. This has worked with regard to China and Vietnam better than the alternative has worked in the Arab world.

We suggest that the very people we most want to pacify we instead mobilize against us with our democracy promotion strategies. By mobilizing these individuals in another way, by engaging them economically through the opportunity for jobs and other resources rather than threatening them socially, we can encourage them to take action on their own behalf rather than in opposition to the U.S. and American interests.

We propose that this offers a reasonable solution to consider by returning to the less ideological pre-World War II kind of engagement when the U.S. interacted rationally with states not actively hostile to U.S. interests, irrespective of their form of government. Establishing and sponsoring particular forms of governance served American interests when two ideologies were in competition for the world system during the Cold War. That bipolar world has collapsed, and this multi-polar world system has accepted Capitalism. Europe is no longer threatened by Communism, and the U.S. is no longer hegemonic in economic and military terms. The Marshall Plan worked. In today's world system, only one country is forcing an ideology on others, and that is the U.S. We suggest that by changing U.S. policy to meet the current world system, we may avoid the creation of new enemies and the provocation of old ones. By retrenching the strategy of democracy promotion, hostile and disaffected persons at risk of violent action in the absence of perceived displacement of their value systems and hostile and coercive intrusions into their political and social arrangements, are more likely to act out against their own government, rather than ours.

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Chapter Five

The Neuroscience of Social Decision-Making & Social Cognition: Implications for Violent Extremist Organization (VEO) Recruitment and Retention

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Overview of the Problem

What are the psychological and neural events that lead to a person strapping a bomb to his or her body and blowing up himself and others? This seemingly barbaric act may result from a series of decisions that any human being could make. This report will attempt to explain this complex social decision-making process.

People in parts of the Arabian Peninsula are joining organizations with harmful intentions towards the United States and other Western countries.[1] Social decision-making processes underlie these behaviors. As a social psychologist and neuroscientist, I believe that a combination of personal individual disposition, together with situational or contextual factors, influence decisions to join and remain in these organizations. Since the individual dispositions responsible for playing a role in these decisions are present in all people everywhere in the world, but people are joining primarily from countries in the Arabian Peninsula and surrounding Middle East and North Africa, I believe that focusing on the situational and contextual factors may help shed light on often ignored reasons why people make the decisions and take subsequent actions. This report will describe the neural correlates of these social factors and their impact on decision making, discussing the ways these factors are malleable.

Basic social neuroscience findings can be applied to complex real-world human problems (Todorov, Harris, & Fiske, 2006). My discussion begins by describing the neural systems underlying decision-making, social cognition, and social emotion. I will then review the social neuroscience literature on person and group perception, dehumanization, anthropomorphism, value formation, moral judgments and decisions, and disgust. Finally, I will relate this literature to pro and anti-social behaviors, and aggression. This body of work describes a complex system, and below I will link different parts of the system together in an attempt to explain decisions to join VEOs, as well as highlighting gaps in the research. I will then describe what all of this implies for the potential Al Qaeda in the Arabian Peninsula (AQAP) recruit living in the Middle East.

Caveats

[1] I should clarify that the harmful intentions belong to the organizations, not necessarily the people who join these organizations. Eventually, they take on the identity of the organization and may themselves develop harmful intentions as described above, but it is an open question whether they come in with these harmful intentions.

My implications can be used to discourage recruitment and retention for AQAP if they can be carried out in precisely the manner described. Because I am describing a complex system, any small changes become amplified as they are carried through the system, leading to different outcomes than intended. The great contribution of social psychology is demonstrating the power the smallest situational effect has on both conscious and unconscious behavior (Lewin, 1943). Therefore, to avoid unintended consequences, it is most imperative to consider the conclusions highlighted in this report in the abstract and to take into account individual differences inherent in human beings.

Method

I will review the basic social neuroscience literature on social decision-making, social cognition, and dehumanization primarily. I will not discuss applied findings, since my expertise is as a basic scientist. As a result, I will not make specific suggestions that claim to be silver bullets to solving any of these complex problems. However, I will apply my discussion of the basic science to specific questions relevant to AQAP, such as recruitment and retention; primarily I will suggest that framing can shape the psychological landscape, affecting real-world behaviors. I hope my discussion illustrates the complexity of the social psychological processes underlying these behaviors and provides an impetus for new ideas for people with expertise on AQAP and VEOs.

Social Decision Making: Learning and Affect

A number of situational or contextual factors influence decision-making (Fehr & Camerer, 2007; Rilling & Sanfey, 2010). Many of these social factors exert influence below conscious awareness, making it difficult to identify one particular factor that guides a decision (Bargh, 1994). Therefore, psychologists have begun to examine the neural correlates of social decisions to understand the basic mechanism. I will describe some basic decision-making psychological models and neural systems in this section.

Most models of decision-making factor in learning. Traditional learning models in psychology begin with Pavlov's conditioning demonstrations (Pavlov, 1927). Classical conditioning states that the continual pairing of a neutral stimulus with a valenced stimulus produces an association of the neutral stimulus (conditioned stimulus [CS]) with the valenced stimulus (unconditioned stimulus [US]) such that the presentation of the CS without the presence of the US elicits a response concurrent with the US. Moreover, researchers have identified neurons in the ***striatum*** with firing patterns consistent with this highly reliable theory. These neurons initially fire to the US but transition to firing simply to the CS over time (Schultz, 1998). The striatum is a sub-cortex complex of structures associated primarily with learning. Many structures within the striatum utilize the neuro-transmitter dopamine, a chemical associated with reward. Indeed, learning depends not simply on prior histories and associations, but rewards and punishments as well.

However, decision-making depends on more than prior histories. There are systems in the brain that support valuation, the process of assigning value to a stimulus (Loewenstein, Rick, & Cohen, 2008; Glimcher & Rustichini, 2004). Value is a strange construct in the sense that it depends on context (Grabenhorst & Rolls, 2009); water is more valuable to a thirsty man than one who is satiated. Similarly, expensive clothes are more valuable when compared to

department store wares, not that of royalty. Value also depends on what might have been (Lohrenz, McCabe, Camerer, & Montague, 2007); winning ten dollars instead of ten thousand, for instance. This means that value is essentially a social construct. Value interacts with prior histories, constantly being updated. Neural systems that underlie value in the ***medial prefrontal cortex*** (***MPFC***) interact with the striatum during social and non-social decision-making (Van den Bos, McClure, Harris, Fiske, & Cohen, 2007).

Trust

Because human beings engage in reciprocal exchange and other forms of cooperative behavior (Fehr & Fischbacher, 2004), determining which social targets can be trusted and which cannot is extremely important for survival. Moreover, because people can deceive, taking advantage of pro-sociality, it is important to be able to detect possible deception. Trust decisions, like many social decisions, does not depend on a single neural system; the context of the decision determines the neural architecture used to make the decision (Engell, Haxby, & Todorov, 2007; Todorov, Baron, & Oosterhof, 2008; Winston, Strange, O'Dohtery, & Dolan, 2002). Lesions to the ***ventromedial prefrontal cortex*** (***vMPFC***) and frontal pole impair trust decisions (Krajbich, Adolphs, Tranel, Denburg, & Camerer, 2009). These neural systems have been implicated in valuing future rewards.

Trust decisions also depend on the striatum (Delgado, Frank, & Phelps, 2005). Interestingly, research suggests that social information can act as a heuristic for trust decisions in social context; for instance, trust decisions with other players for whom there is moral information fails to activate the striatal system. Instead, participants depend on their social cognition system when making social decisions ([Delgado, et al., 2005]. I will discuss the social cognition system in more detail below).

Trustworthiness judgments depend on the amygdalae complex, even implicit judgments (Todorov et al., 2008; Winston et al., 2002). People without intact amygdalae are unable to make these judgments (Adolphs, Tranel, & Damasio, 1998). The neuropeptide ***oxytocin*** reduces amygdala activity and increases behavioral expression of trust (Baumgartner, Heinrichs, Vonlanthen, Fischbacher, & Fehr, 2008; Kosfeld, Heinrichs, Zak, Fischbacher, & Fehr, 2005), though not in women (Domes et al., 2010). Though it is debatable whether this sub-cortical structure is a part of the social cognition system, it certainly is involved in affective processing (Hariri & Whalen, 2011; LeDoux, 2007; Phelps, 2006; Whalen & Davis, 2001), allowing rapid trustworthiness judgments. Moreover, trustworthiness specifically depends on this structure, not all trait judgments. This is consistent with social psychological theory establishing warmth, an appraisal of good or ill intent, as the primary dimension of social perception (Asch, 1946; Fiske, Cuddy, & Glick, 2007), though warmth ratings of human beings depends on the ***anterior insula*** (a structure I will discuss in more detail below).

The amygdalae complex contains different nuclei involved in affective processing and learning. Vicarious social learning depends on the amygdala (Olsson & Phelps, 2007), as well as basic reward contingency and conditioning (Delgado, Jou, & Phelps, 2011). The amygdala is the most connected area of the brain and has strong receiprocal connections to most, if not all, regions described. Areas of ***orbitofrontal cortex*** (***OFC***) and, indirectly, vMPFC and ***dorsolateral prefrontal cortex*** (***DLPFC***) have connections to the amygdala, possible exerting mutual

activating and regulating influences on the amygdala. The amygdala also sits right next to the hippocampus in the temporal lobe, an important memory and learning structure, and shares strong reciprocal connections. Research has already shown the influence of affect on memory (Phelps, LaBar, & Spencer, 1997). The amygdala also has strong projections to regions in the striatum and anterior insula, as well as a separate pathway from primary visual cortex based on retnotopic differences in rods and cones; research has already shown that emotion affects early visual processing (Phelps, Ling, & Carrasco, 2006). Therefore, the amygdala is responsible for everything from guiding visual input to executing action.

The act of being trusted may also be rewarding; there is activation in parts of the reward system corresponding to being trusted by other people (Delgado et al., 2005; Rilling et al., 2002; Rilling, Sanfey, Aronson, Sanfey, & Cohen, 2004). Presumably, this reward is greater than rewards earned through deception, so people are more likely to seek others' trust than deceive them. This facilitates social interactions, joining social groups, and behaving in a manner consistent with those whose opinion is valued. ***Serotonin*** modulates these reward signals, decreasing serotonin levels via tryptophan depletion (fasting), decreasing cooperation and trust (Crockett, Clark, Tabibnia, Lieberman, & Robbins, 2008). This suggests that the physiological state of the person at the time of decision can influence their decision-making. Also, increased serotonin levels in the vMPFC may increase cooperation and reciprocity (Robbins, 2000; Siever et al., 1999).

An alternative explanation of trust behavior may be a minimization of negative emotions. Guilt and other emotions based on imagined outcomes may drive trust decisions. Feelings of guilt have been associated with activation of the insula, DLPFC, ***anterior cingulate cortex*** (***ACC***) (Baumgartner, Fischbacher, Feierabend, Lutz, & Fehr, 2009). Since the latter two neural regions are associated with cognitive control (Cohen, 2005), this research suggests that breaking promises and betrayal requires cognitive effort, making trust and reciprocity default responses. However, this stands in contrast to research suggesting that minimizing another negative emotion underlies trust—fear. As discussed above, trust occurs in the absence of a fear of betrayal, and trustworthiness judgments depend on the amygdalae.

As mentioned above, the anterior insula is related to warmth ratings of people. Parts of the insula are implicated in disgust (Calder, Keane, Manes, Antoun, & Young, 2000). The ***anterior insula***, along with the ***putamen*** in the striatum, activate to disgust (Calder et al., 2000), and people with lesions to these regions do not recognize facial expressions of disgust or respond to disgusting stimuli, including moral disgust (Calder et al., 2000). The anterior insula has also been implicated in interoception, the ability to decode a current internal feeling or state (Craig, 2009). The putamen is part of the subcortical striatum. The striatum has been implicated in valuation and learning (Delgado, 2007), and receives ***dopaminergic*** input from the ***substantia nigra***. The ***posterior insula*** has been implicated in moral decision probability estimation, along with vMPFC and ventral striatum (Shenhav & Greene, 2010).

Normative Behavior

Social heuristics, like stereotypes or schema, seem to obey the same principles as other psychological constructs; violated expectations related to stereotypes and schemas are treated like any other learning experience and activate striatal regions (Harris & Fiske, 2010). This suggests that social decisions may depend upon traditional learning systems during formation.

However, once in place, they become heuristics for navigating social environments and depend on the social cognition system (described next), not the learning system, when making decisions. Normative decisions support these ideas. Social norms guide behavior, and people strive to behave in line with these norms to prevent ostracism and gain social approval (Williams, 2007). Such approval also depends on primarily ventral striatal regions. For instance, charitable decisions depend on ventral striatal regions (Harbaugh, Mayr, & Burghart, 2007; Izuma, Saito, & Sadato, 2010). Moreover, the presence of others observing these decisions increases both charity and ventral striatal activity (Izuma et al., 2010). This suggests that a charity norm governs these decisions and behaviors, and neural systems are sensitive to this norm during decision-making. Positive social evaluations also activate this system (Harris, McClure, van den Bos, Cohen, & Fiske, 2007), consistent with the idea that social approval is rewarding (Taylor & Brown, 1988) and promotes normative behavior.

Normative behavior may only occur with the threat of punishment (Fehr & Gachter, 2002). There are various forms of punishment, including ostracism, scolding, and physical forms of punishment. Evaluating potential punishment and deciding punishment involves the DLPFC and OFC (Buckholtz et al., 2008). Conflict between norms also activates prediction error signals describe above (Klucharev, Hytonen, Rijpkema, Smidts, Fernandez, 2009), suggesting that the threat of punishment for social norm violation is sufficient to engage learning signals seeking to make the decision that would minimize punishment.

Finally, human beings are capable of altruistic behavior, self-sacrifice for the benefit of another. Many of the neural regions described above support these behaviors. Though there is still debate as to whether pure altruism actually exists, there are many behaviors that can be construed as such. For instance, a suicide bomber is presumably altruistic if he or she believes that their sacrifice is actually going to result in benefits to their group. Even without pure altruism, the promise of benefits in the after-life can lead to such behavior. Because these acts result from the complex neural architecture just described, it is difficult to pinpoint a single neural region responsible. Future research should better delineate the structures involved in these decisions.

Social Cognition

Social cognition is the process by which people understand other being's minds (Fiske & Taylor, 2007). I say beings, not people, because this ability is not restricted to human beings, but can be applied to animals, objects, or abstract concepts. In fact, as I will discuss below, the abstract concept of religion has been powerful enough to be an initiating or subsequent group mechanism for a lot of these people. The perception of abstract concepts is in the realm of anthropomorphism, applying social cognition to things that actually do not have minds (Kwan & Fiske, 2008). Social cognition is the process that underlies social interactions and all resulting processes, including stereotyping and morality. Naturally, social cognition is crucial for social decision-making. Moreover, failing to engage in social cognition with people is a characteristic of dehumanization (Harris & Fiske, 2009; 2011). Psychologists have begun to understand the neural correlates underlying social cognition. I will describe the social cognition neural system and relate it to the valuation and decision-making systems in this section.

There is a reliable pattern of activation in MPFC and temporal lobes extending to the temporal-parietal junction (TPJ) (Frith & Frith, 2001; Amodio & Frith, 2006; van Overwalle, 2009). This

social cognition network becomes active when people perceive other people, infer the mental states of others, and infer false beliefs. The superior temporal sulci (STS), in particular, are implicated in intentionality, since it responds to eye gaze cues and biological motion (Heberlein, Adolphs, Tranel, & Damasio, 2004). Also in the temporal lobe are fusiform face areas (FFA) that respond selectively to faces (Kanwisher, McDermott, & Chun, 1997) and stimuli that are a person's visual expertise (Gauthier, Skudlarski, Gore, & Anderson, 2000; Tarr & Gauthier, 2000). TPJs respond to abstract stimuli involved in different Theory of Mind processes (Saxe & Kanwisher, 2003). Finally, MPFC regions play an associative role, integrating valence information with reasoning processes during social cognition (Harris, Todorov, & Fiske, 2005). Other neural regions activate in concert with this network during different kinds of social cognition. For instance, the amygdala activates to untrustworthy individuals, to members of minority racial groups (Hart et al., 2000; Phelps, et al., 2000; Wheeler & Fiske, 2005), and when inferring the dispositions of objects (Harris & Fiske, 2008). Areas of DLPFC, cingulate, and angular gyrus all activate during moral decisions (Greene, Sommerville, Nystrom, Darley, & Cohen, 2001). Therefore, social cognition can recruit any number of neural regions, depending upon the particular kind of social cognition. Moreover, there exists a separate mirror neuron system in pre-motor cortex that activates when observing and performing behavior (Rizzolatti, Fogassi, & Gallese, 2001). Presumably, this system also activates in conjunction with social cognition systems, perhaps as an early rather than later link between perception and action, but the relationship between these systems is not as yet understood.

Social cognition is crucial for predicting other people's behavior. Stereotypes and schemas, mental constructs containing trait information, are an efficient means for predictions. Social cognition depends upon cues available from the target and in the environment to trigger such schema and stereotypes associated with the perceived social category of the target. These include the physical appearance of the target, the target's previous behavior, other people's behavior in the situation, and the target's behavior in different situations. Age, gender, and race are examples of characteristics relevant in American culture triggered by social targets, but other physical cues, such as dress, gait, speech pattern, accent, and even facial hair and hair color all play a role on triggering schemas and stereotypes. Behavior is also important; for instance, a single behavior can lead to a trait inference about the target (Ambady & Rosenthal, 1992). Therefore, people use all available information to help them predict what another person might do.

Groups

People use social cognition to simplify the social world. Categorization processes place stimuli into groups. Social groups come with schemas or stereotypes about the potential behaviors of the group member (Fiske, & Neuberg, 1990). This provides a heuristic for dealing with any person, as long as they can be categorized, and is the prevalent and spontaneous response in-person perception. Categorization is used to perceive objects as well. For both types of stimuli, categorization results in emotional responses to that stimulus consistent with the schemas and stereotypes associated with the category (Fiske, Cuddy, Glick, & Xu, 2002).

Predicting a person's behavior is extremely important, and people quickly and spontaneously categorize others as either potentially threatening or helpful (Fiske et al., 2007). The trait dimension warmth captures this initial appraisal. People also decide if the target is capable or not of enacting their good or ill intentions. The trait dimension competence captures this secondary

appraisal (Fiske et al., 2007). Warmth appraisals depend upon the anterior insula, showing a negative correlation such that as target warmth increases, anterior insula signal decreases (Harris & Fiske, 2011). Prediction error signals for warmth are processed in the putamen in the striatum and ***inferior frontal gyrus*** (Harris & Fiske, 2010). Expectation confirmation signals reside in the ***parahippocampal gyrus***. This structure, also engaged in memory, seems to interact with other regions of the temporal lobe to store and match social information. Warmth interacts with the perceived trait of a social target in STS and parahippocampus, and the decision to make an attribution to the target engages just the latter (Harris & Fiske, 2010). All three come together in the inferior parietal lobule to drive behavior (Harris & Fiske, 2011). Warmth can be divided into morality and sociability domains (Leach, Ellemers, & Barreto, 2007).

Morality domains tend to have a hydrolic relationship with the other person perception dimension competence. Competence is an assessment of ability to enact intentions, and competence appraisals depend on the posterior insula, showing a positive relationship. Prediction error signals depend on the ventral striatum, specifically caudate head, and expectation signals for this trait dimension depend on structures in the parietal lobe, but it is also sensitive to warmth confirmation signals in the parahippocampus. Regions in the parietal lobe also integrate trait and attribution decision information, including warmth information in signals in the STS and inferior parietal lobule (IPL) (Harris & Fiske, 2011). This suggests that warmth acts like a valence dimension appraisal (good or bad) based on prior and current information gained from the target and the environment. Therefore, neural regions underlying competence may act like a control or gauge on warmth signals, inhibiting or exciting them when necessary.

Social Emotions

Emotions accompany social cognitions. Whether these emotions arise from or preclude the cognitions is an ages old question (Cannon, 1927), but emotions do influence cognitions, specifically decision making. Social emotions can only be experienced by the actual, imagined, or implied presence of another person (Niedenthal, Krauth-Gruber, & Ric, 2006). Denial of these social or secondary emotions or infrahumanization, a form of dehumanization, occurs commonly in inter-group contexts (Leyens et al., 2001; 2003). Interestingly, these emotions all have a cognitive/appraisal component that requires social cognition. I will describe social and moral emotions in more detail below, as well as the neural systems that support these processes.

Many models in social psychology describe the differentiated emotions that result from social group perception (Mackie & Smith, 2002). One such model predicts that disgust, not a more exclusively social emotion, arises from dehumanized target or extreme outgroup perception (Fiske, Cuddy, Glick, & Xu, 2002). Disgust is an important moral emotion, because it seems to operate as a boundary between harm and not (Haidt, Rozin, McCauley, & Imada, 1997; Rozin & Fallon, 1987). Disgust motivates avoidance, moving people away from the stimulus, striving to eradicate it or simply escape. The emotion also morally dumbfounds people; they usually have no reason why something disgusts them; it simply does (Haidt, 2001). This powerful negative response stands in contrast to more ambivalent and positive emotions commonly felt to people. People are positive social stimuli (Taylor & Brown, 1988), I argue as a default response, and people that spontaneously engage disgust either for physical or moral reasons are perceived as extremely threatening, contaminating, and need to be eradicated.

Dehumanization

Dehumanization describes behaviors typically not reserved for people (Staub, 1989; Bar-Tal, 1989; Schwartz & Struch, 1989; Opotow, 1990). These include violent or degrading acts where the victim is reduced to the level of animals or objects (Haslam, 2006). Dehumanized perception describes a phenomenon whereby people fail to spontaneously engage in social cognition processes when encountering another person (Harris & Fiske, 2006; 2009; 2011). Dehumanized perception is a cognitive mechanism that may facilitate dehumanization. Dehumanized perception is characterized by reduced spontaneous social cognition, absconding of attention, unwillingness to interact, disgust, reduction in neural regions that are involved in social cognition, and increased activation in neural regions involved in disgust.

Perceptions of dehumanized targets fail to engage the social cognition neural system and instead activate other systems involved in affect and disgust, specifically like the anterior and posterior insula and the amygdala (Harris & Fiske, 2006). People can re-activate the social cognition network by inferring meaningless preferences for the social target (Harris & Fiske, 2007), suggesting that dehumanized perception, though spontaneous, quick (within 110ms), and unconscious (Harris & Fiske, 2009), is highly malleable. Furthermore, conscious appraisals of any human being along human perception dimensions that differentiate dehumanized targets who elicit a reduced social cognition neural response and behavior, reveal activations of other regions (Harris & Fiske, 2011), some described already, others to join the description.

Evaluation of typical humanity engages ACC negatively such that increased humanity ratings are related to decreased ACC. This is consistent with other work showing utilitarian decisions in a reprehensible moral dilemma involving valuing life also depends on ACC (Cikara, Farnsworth, Harris, & Fiske, 2010). Self evaluations of the experience of inferring people's minds depend on STS and parahippocampus, while imagining the daily trials of a person's life involves a host of regions, including STS, anterior insula, parietal lobule, as well as early visual, frontal, and cerebellar regions. Perceived similarity to self is inversely related to STS and pons activity in the brainstem, while perceived familiarity is positively related to STS activity. This all suggests that there might be multiple routes to dehumanization based on simple psychological processes. It is yet unknown whether these mechanisms work in concert or isolation, as well as the nature of the relationship between potential mechanisms, but social neuroscience research is now beginning to peal back some of the complexity for this most fundamental human behavior.

Anthropomorphism

Social cognition can be extended to agents that do not have minds (Heider & Simmel, 1944). This feature of social cognition ability is all the more striking, given the ease at which it occurs. Agents that are anthropomorphized include pets and other animals, abstract concepts like religion, animate objects like cars, processing objects like computers, cartoons and avatars, companies and organizations, and imaginary people and things. Anthropomorphism is instantiated by threat; even visual illusions increase anthropomorphism (Tullett & Harris, under review), and objects that do not function properly or as expected trigger the process (Waytz et al., 2010). Dispositional attribution, a form of social cognition, to objects depends upon the bilateral amygdala (Harris & Fiske, 2008), in contrast to the same process for people relying on the MPFC and STS (Harris, et al., 2005). This suggests that anthropomorphism may be a default response to stimuli. It is still unclear what stimuli trigger this response and how exactly it differs

from similar processes to people. But it is intimately related to the perception of people, since anthropomorphic concepts like religion can create real groups with moral consequences (Morewedge & Clear, 2008). Therefore, perceptions from the abstract concept may easily be transferred to the people and vice versus because of the interconnected nature of the brain, causing errors in perception and decision-making.

Moral decision-making and judgments

Moral decisions influence early brain signals 200 milliseconds after encountering stimuli (Boksem & De Cremer, 2010). These signals have been localized to the ACC (Fallgatter, Bartsch, & Herrmann, 2002) and suggest that this region very quickly has information about moral appraisals and has computed the decision criteria. This reflects the rapid and fundamental nature of moral decision-making. Activation in MPFC (in altruistic decisions), (De Quervain et al., 2004) DLPFC, and STS also underlie moral decisions (Buckholtz et al., 2008). Moral judgments function on abstract thought networks and influence a number of regions, including anterior insula, TPJ, angular gyrus, and DLPFC (Greene et al., 2001). This overlap with regions involved in other social processes suggests that moral decisions, like all things social, depend on the tools of social perception, affect, and social cognition.

Charitable economic decisions depend on the striatum, specifically ventral striatum and ventral tegmental area (Harbaugh et al., 2007; Izuma et al., 2010); both regions are inervated by dopamine. Research also implicates the subgenual cingulate in moral decisions (Luo et al., 2006). This region, also strongly connected to the amygdala, dissociates social and non-social rewards and punishment as part of the value system. It is also a region of particular interest in depression research. Since social relationships support self-esteem, this may suggest that depression can be triggered by factors affecting social relationships, influencing social decisions, and moral appraisals and decisions.

Punishment involves the medial and lateral OFC, along with regions in the prefrontal cortex, the anterior insula, the peri-aqueductral grey (PAG), regions in the striatum, and the amygdala (Buckholtz et al., 2008). This stands in contrast to the reward system that involves the entire striatum, the amygdala, MPFC, and other regions in prefrontal cortex (Harris et al., 2007; Van den Bos et al., 2007). This implies that the carrot and the stick are separate systems, and different strategies that integrate these systems might be more effective at influencing social decisions.

Decision Making and Aggression

The dominant theory in the aggression literature describes aggression as a consequence of previous frustrations. This frustration-aggression hypothesis dictates that aggressive behaviors result from frustrations or obstacles to goals (Dollard, Doob, Miller, Mowrer, & Sears, 1939). The literature on anger, presumably the emotion most involved in aggression, also highlights frustration as a cause of anger. Such appraisal theories seem to be applicable to people in the Arabian Peninsula and many other third-world countries. Depressed living conditions, economic hardships, and a lack of safety, combined with uncertainty about the future, may all cause frustration, triggering anger and subsequent aggression.

The Entire Person

Each human being is unique. This great wonder of humanity is negated by categorization processes evolutionarly selected for efficiency. This mistake cannot be made when considering why people join VEOs. The first question surrounds whether membership is voluntary, or just a rite of passage based on family membership or personal obligations. Even if membership is voluntary; any one of the above-mentioned processes could be solely relevant, or partially relevant, or in interaction with any of the other processes. This means that the same solution will not be as effective for every prospective recruit.

Future Research

The research described above reveals a number of gaps. We still do not understand how people decide which bits of information are more valuable than others and how information about different groups are incorporated into a schema. Moreover, we do not know why people make decisions to join different organizations, and the debate about the role of personality traits versus environmental factors still rages on.

Unintended Consequences

There could be a number of potentially harmful and beneficial unintended consequences from efforts to dissuade people from joining VEOs. Hippocampal, striatal, and ACC volume changes due to aggressive behavior relate to later development of depressive symptoms in adulthood (Ducharme et al., 2011; Whittle et al., 2011).[2] This suggests that displays of aggressive behavior may affect adolescents in AP regions, expressing these harmful societal symptoms later on in life. Therefore, the pipeline for potential AQ membership is higher than it would be had there not been a potential prevalence of depressive disorder spectrum adults. Interestingly enough, one of the neural regions affected by this aggression/depression interaction is a neural region important for memory and buried in a lobe crucial for biological and social processes. Strong reciprocal connection between the amygdala and hippocampus exist, creating a ready-made communication center with the director of vigilance, learning, and affective response in the brain, the amygdala.

Implications

Consider displays of aggression are interpreted, not actual manifestations of the behavior's intentions. Social psychology research, until recently, has almost completely ignored accuracy in its study. This suggests that accuracy or truth is not an important factor in the psychological landscape. Instead, people create their own truths consistent with their beliefs, values, and view of the world. I suggest that the construction of this truth is perhaps the most effective way to deal with these complex problems. As human beings, we are motivated to find explanations of meaning for events that occur (Tullett, Teper, & Inzlicht, in press). AQAP members certainly provide meaning in the form of propaganda publications and construe the negative outcomes in AP as being caused by the West. This provides a framework for prospective VEO members, painting the West as evil and beginning a cascade of psychological phenomena that lead to human atrocities, but the people that commit these atrocities do not see them as such; they themselves do not view their behavior as evil, but just. Therefore, in my opinion, it all begins with framing. The more people frame their situations as being caused by evil Western forces, the more some will be motivated to begin a journey along a path that leads to terrorism.

[2] There are significant gender differences with these findings, but it sufficient it to say hippocampal volume and aggression interact to produce a negative outcome.

Moreover, there needs to be adjustments to the frames in the West as well. The stories and narrative we tell in our culture fuels the problem, causing us to see people in the AP as evil. Promoting a "War on Terror" or a "War on Drugs" or a "war" on anything simply creates morally-opposed groups. As discussed above, the mere creation of such groups, even under minimalist conditions, can lead to all the problems this report tries to address. Therefore, the correct frame in both the AP and the West is going to be crucial, not only for eradicating the AQ problem, but future threats that may emerge. For instance, painting acts of terror as criminal offenses, not acts of terror, or a salvo in a war, can go a long way to reducing future aggression.

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Chapter Six

AQAP External Operations

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This project will focus on the branch of al Qaeda in the Arabian Peninsula (AQAP), which now represents the greatest threat to the West, as al Qaeda proper in the Afghan Pakistani frontier is fading. From reading the literature, it seems that AQAP is a loose organization that mainly poses a local threat, to Yemen and Saudi Arabia next door. Indeed, the vast majority of AQAP operations are local, targeting local authorities. However, in the past two years, AQAP has become active in targeting Western countries, both in Yemen (embassies in Sanaa and Western tourists) and in the West. This paper attempts to understand this new development through the analysis of the prominent members of the branch of AQAP and their publications to assess the scope of the danger to the West. In this study, we will try to understand the history of this new branch, how people formed and joined it, what they say about their goals, strategy, and tactics, and derive implications about their strengths and vulnerabilities.

History

AQAP formally announced its creation on January 19, 2009, from the merger of two groups of jihadi militants, one from Yemen and the other from Saudi Arabia. The Yemeni group was a remnant of al Qaeda that had been eradicated in Yemen by 2003. On February 3, 2006, twenty-three militants escaped from prison by tunneling out of their cell into a neighboring mosque.[1] Within a year and a half, all but six were still at large. Among the six were Nasir Abd al-Karim Abdullah al-Wuhayshi (a.k.a. Abu Bashir) and Qasim Yahya Mahdi al-Raymi (a.k.a. Abu Hurayrah).[2] Al-Wuhayshi was born in al-Baydha, Yemen in 1976. In the mid 1990s, he travelled to Afghanistan, where he became Osama bin Laden's personal secretary. After the U.S. invasion of Afghanistan, he fled to Iran where he was arrested. He was extradited to Yemen in November 2003 and stayed in prison until his escape. In June 2007, he was named the Amir of al Qaeda in Yemen[3] and on January 24, 2009, he appeared on a video posted on the al Fallujah Forum announcing the creation of AQAP with him as the overall leader.[4] Al-Raymi was born in Sanaa in 1977. Two of his brothers had fought in Afghanistan, and one of them is detained in Guantanamo Bay. Al-Raymi was arrested in connection to a series of explosions in Sanaa in 2002. He was convicted and sentenced to five years in prison in 2004. After his escape, he became involved in various operations against foreigners in Yemen and against the Yemeni

[1] See Nasir al-Wuhayshi's account of the prison breakout in Open Source Center (OSC), "Al-Qa'ida Leader in Yemen Details Prison Escape of 'Group of 23' in Feb 2006," Al-Taghyyir Website, 25 June 2007, GMP20070702377001
[2] Gregory Johnsen, 2007, "Tracking Yemen's 23 Escaped Jihadi Operatives – Part 2," Terrorism Monitor, Vol 5, No 19, October 24, 2007
[3] Ibid
[4] OSC, "Video Shows Saudi, Yemeni Al-Qa'ida Leaders Announcing Merger," Al-Fallujah Forum website, 24 January 2009, GMP20090124050005

government.[5] He appeared in the January 2009 video with al-Wuhayshi as the military leader of the newly formed AQAP.[6]

Al Qaeda in Yemen was determined not to repeat the mistakes of its defunct predecessor. Instead of large one-time coordinated attacks, it advocated a policy of a constant stream of small attacks. Domestic attacks against foreign tourists, diplomats, foreign official buildings, and small government posts began in 2006. The strategy was outlined in the first issue of the AQ in Yemen online magazine *Sada al-Malabim* (The Echo of Battles) published in January 2008.[7] The frequency of attacks reached several dozen a year.

The Saudi half of the newly-formed organization consisted of remnants of the old Saudi-based al Qaeda in the Arabian Peninsula. Various al Qaeda groups in Saudi Arabia had decided to take on Saudi authorities in a series of attacks in May 2003. In the next two and a half years, the Saudi authorities relentlessly pursued these networks and eliminated them from the Kingdom. The survivors fled to Yemen for refuge by 2006.[8] Typical of these militants were the brothers Ibrahim and Abdullah Hasan Tali al-Asiri from Riyadh. Ibrahim was older, born in 1982, and Abdullah four years younger.[9] Their father is a retired military man. Ibrahim went on to study chemistry at King Saud University in Riyadh, where he excelled. Both brothers tried to go to Iraq to join the resistance after the coalition invaded the country.[10] The Saudi authorities arrested Ibrahim, while Abdullah avoided capture. Ibrahim managed to escape from prison, and the two brothers joined other jihadi friends in attacks on Saudi oil facilities. They were involved in a gunfight against Saudi forces in al-Nakhil but survived. As the authorities were closing in on Ibrahim, the two brothers fled to Yemen in June 2006. They succeeded in entering Yemen in August 2006.[11] They both underwent extensive weapons training, and Ibrahim became the leading AQAP expert on explosives and poisons.[12]

In February 2009, the Saudi government published a list of 85 most wanted people, 26 of whom were thought to have gone to Yemen and become part of AQAP.[13] At the top of the list was Ibrahim al-Asiri, and his brother also made the list. Eleven of the Saudis were Guantanamo Bay returnees who had graduated from the Saudi de-radicalization program. Two of the Guantanamo Bay returnees featured prominently in the video announcing the creation of AQAP. One was Said Ali Jabir al Khathim al-Shihri, born in 1973 in Riyadh and allegedly a former officer in the Internal Security Force, who was discharged in 1998. He went to Afghanistan in September 2001. In 2002, he was injured in an allied air strike and was captured. His identity was never confirmed in Guantanamo Bay,[14] and he was discharged to the Saudis in 2007. He went through the de-radicalization program and slipped into Yemen with other detainees. Al-Shihri was

[5] Johnsen, op. cit.
[6] "Video Shows Saudi, Yemeni Al-Qa'ida Leaders Announcing Merger," op. cit.
[7] Gregory Johnsen, 2008, "Al-Qa'ida in Yemen's 2008 Campaign," CTC Sentinel, Vol 1, No 5 (April): 2
[8] Thomas Hegghammer, 2010, Jihad in Saudi Arabia: Violence and Pan-Islamism since 1979, Cambridge: Cambridge University Press
[9] Abdallah al-Irifij, 2009, "Ukaz Publishes Real Roles of 85 Wanted Men," Ukaz Online (Jeddah), 5 February 2009, OSC GMP20090205614002
[10] OSC, 2010, "AQAP Documentary on 'Martyrs,' Failed Bin Nayif Assassination Attempt," Shumukh al-Islam Network, 4 October 2010, GMP 20101004836001
[11] Salim al-Najdi, 2009, "Men on the Path: A Biography of Abu-al-Khayr – Abdullah Hassan Tali al-Asiri," Sada al-Malahim magazine, No. 11, posted on Al-Fallujah Islamic Forum, 29 October 2009, OSC GMP20101216554011
[12] Abdullah al-Irifij, 2011, "Asiri Prepared His Brother, Participating in Making of Capsule used in Assassination Attempt Against Muhammad Bin-Nayif," Ukaz Online (Jeddah), 26 March 2011, GMP20110326001004. Abdullah was the suicide bomber, who tried to kill Prince Muhammad bin Nayif on 27 August 2009, while Ibrahim was the bomb maker.
[13] Irifij, 2009 and Christopher Boucek, 2009, "Examining Saudi Arabia's 85 Most Wanted List," CTC Sentinel, Vol 2, No. 5: 7 - 10
[14] Department of Defense, 2007, JTF-GTMO Detainee Assessment (ISN US9SA-000372DP), 13 April 2007, from Wikileaks

appointed deputy of AQAP in the video. In February 2009, the other Saudi militant, Muhammad al-Awfi, turned himself in after Saudi authorities put great pressure on his family.[15]

The merger with the Saudis expanded the horizon of the new organization, which up to then had been involved only in domestic attacks. The Saudis, of course, were interested in Saudi targets as well, and the first AQAP attack in Saudi Arabia was the attack on Prince Muhammad bin Nayef bin Abdul Aziz in August 2009, carried out by the Hasan Tali al-Asiri brothers. Ibrahim manufactured the bomb, and Abdullah was the suicide bomber.[16] However, little is known about either the decision-making process for this attack or all the people involved in the plot.

The first AQAP attack against the West was four months later, the Christmas Day 2009 Terrorist Attack on Northwest flight 253. The attack was carried out by Umar Farouk Abdulmutallab, and the bomb was designed by Ibrahim al-Asiri. U.S. born Yemeni preacher, Anwar al-Awlaki, was also involved. The second attack was the cargo planes bomb plot on October 29, 2010, involving explosive devices concealed in printer cartridges that were discovered in two planes, one in Dubai and one at the East Midlands Airport in Britain. This plot again involved Ibrahim al-Asiri as the bomb maker, but also involved al-Awlaki and Samir Khan, who released information about the plot in the third issue of their online magazine, *Inspire*. These few people became the core of the AQAP group conducting external operations against the West. With the exception of Ibrahim al-Asiri, who had a history of violence in Saudi Arabia and was already integrated in AQAP by the time of the attack against Prince Muhammad bin Nayef, the plotters did not have violent histories. Rather, they were propagandists in the West in support of violent global neo-jihad. They were not part of the core leadership of AQAP, which still concentrated on domestic operations inside Yemen and, more rarely, in Saudi Arabia. Let us examine more closely this outside group.

Anwar al-Awlaki (also spelled Aulaqi) is a dual U.S. and Yemeni citizen, who was born in 1971 in New Mexico, when his father was a student there, but grew up in Sanaa, Yemen after his family returned there when he was seven years old. His father became a prominent politician and the chancellor of two universities in Yemen.[17] Teenagers in Sanaa were mesmerized by the Afghan mujahedin, who fought off the Soviet Army and gathered to watch the latest videotapes of the mujahedin. "There was constant talk of the heroes, who were leaving Yemen to join the fight and become martyrs and go to paradise," said a friend from these days.[18] Al-Awlaki returned to the United States in 1991 for his university education. He enrolled in Colorado State University and graduated in 1994 with a B.S. in civil engineering. He visited Afghanistan in the summer of 1992 and seemed interested in politics and religion. Back in Colorado, he often quoted Sheikh Abdullah Azzam and sported an Afghan hat. He was active in Muslim affairs and sometimes gave the Friday sermon at the local Islamic Center. He became president of the Muslim Student Association. He did not advocate strict Muslim dress code and showed no resentment against America. After graduation, he married a cousin from Yemen and took a part-time job as imam at the Denver Islamic Society. He preached against vice and sin and celebrated family values. However, he advocated jihad against the Russians in Chechnya, and when some of his students decided to take his advice, their parents objected, and he left Denver shortly

[15] Gregory Johnsen, 2009, "The Expansion Strategy of Al-Qa'ida in the Arabian Peninsula," CTC Sentinel, Vol 2, No. 9 (September): 9
[16] Al-Irifij, 2011; al-Najdi, 2009; OSC, 2010
[17] Scott Shane and Souad Mekhennet, 2010, "Imam's Path from Condemning Terror to Preaching Jihad," New York Times, May 8, 2010
[18] Ibid

afterwards. In 1996, he became the imam of Arribat al-Islami in San Diego. He bonded with the youth, organizing soccer and paintball games. He was the local head of a Yemeni charity founded by Abdul Majid al-Zindani, one of the prominent Salafi preachers in Yemen. He recorded a series of talks on the Prophet and the following caliphs in 2000, with little indication of extremism. He was also arrested twice for soliciting prostitutes and given probation.[19]

In January 2001, al-Awlaki took over as the imam of the Dar al-Hijrah mosque in Falls Church, Virginia, and chaplain at George Washington University. After 9/11/2001, he was interviewed a few times by the FBI because of his prior meeting with several of the hijackers. However, as Muslims were rounded up after the attacks, he became furious: "So, this is not a war on terrorism, we need all to be clear about this, this is a war on Muslims!"[20] While some branches of the government invited him to conduct a prayer service at the U.S. Capitol and to a luncheon at the Pentagon, the FBI was looking for ways to arrest him after seeing him crossing state lines with prostitutes in the D.C. area. However, he returned to Yemen in March 2002. During his absence, more attempts to get a warrant for his arrest failed. Al-Awlaki returned to the U.S. in October 2002. He stayed for about two months before leaving the U.S. for good because of a climate of fear and intimidation. He moved to Britain, where he gave lectures at mosques and universities for one year. He had trouble supporting himself and his growing family, now including five children, and they decided to return to his ancestral village in Yemen in early 2004. He lectured at Imam University, headed by Zindani. He hardened his views on jihad and released a series of hard-line lectures advocating global jihad, based on Ayyiri's *Constants on the Path of Jihad,* where he argued that jihad was a pillar of Islam, just like fasting during Ramadan. He was arrested on August 31, 2006, on vague charges of kidnapping for ransom. He blamed the U.S. for pressuring Yemeni authorities to imprison him. In prison, he read Sayyid Qutb and Yusuf Ayyiri, the former head of the Saudi AQAP. With intercession of his tribe, he was finally released on December 12, 2007, and returned to his family home. Prison seemed to have further radicalized him, and he now openly advocated violence against the West in the name of Islam. His released *44 Ways to Support Jihad* in early 2009. By that time, he had acquired a large Internet following, with boxes of his CD lectures selling well in general Islamic bookstores around the world, and on his own web blog and Facebook page. His followers also created social media pages for him to exchange and download his lectures. Almost all English-speaking suspects who have been arrested in connection to violent terrorism on behalf of al Qaeda had some of his lectures on their computers. The Yemeni government sought him again in connection with ties to al Qaeda. He went underground in March 2009 and has been linked to the Ft Hood shooting as Major Nidal Malik Hasan exchanged emails with him in early 2009, and later Abdulmutallab came to Yemen to meet with him. After the Ft Hood massacre, the U.S. government took down his web blog site; YouTube removed his most incendiary videos, and Facebook took down his page. In March 2010, al-Awlaki released a video on YouTube advocating jihad against the U.S. "With the American invasion of Iraq and continued U.S. aggression against Muslims, I could not reconcile between living in the U.S. and being a Muslim, and I eventually came to the conclusion that jihad against America is binding upon myself, just as it is binding on every other Muslim."[21] Al-Awlaki now expressed himself through

[19] Ibid. Some people think that he was implicated in the 9/11/01 attacks against the U.S., but intense review by several committee has not shown anything definitive.
[20] Ibid
[21] Paula Newtom, 2010, "Purported al-Awlaki message calls for jihad against U.S.," CNN, March 17, 2010, at http://articles.cnn.com/2010-03-17/world/al.awlaki.message_1_awlaki-qaeda-islam-and-muslims?_s=PM:WORLD

the AQAP website, with interviews in *Sada al-Malahim* magazine and in AQAP's English magazine *Inspire*. The Yemeni government accused him of being linked to the murder of a Frenchman in Yemen and, on November 6, 2010, a judge ordered him to be caught "dead or alive."[22] He is accused of not just being a propagandist for AQAP, but being the chief of AQAP external operations targeting the U.S.

Umar Farouk Abdulmutallab came to Yemen in August 2009 to meet with al-Awlaki. Abdulmutallab was born in 1986 in Nigeria, where his father, a banker, is one of the richest men. Although Abdulmutallab grew up in luxury in a very secular family, he was a very devout child, who sometimes chided his father for not being pious enough. At the age of six years, he moved to his family home in Kaduna. Kaduna is a predominantly Muslim city,[23] notorious as the site of huge sectarian riots over the attempt to impose shari'a law in 2000 and over a newspaper article in 2002 defending the Miss World beauty pageant about to be held in Abuja. The article argued that had the Prophet been alive, he would have ended up marrying one of the contestants.[24] Abdulmutallab was not present during the riots, as he was studying at The British School, an exclusive boarding school in neighboring Lomé, Togo, from August 1999 to May 2005.[25] As a student, he had the reputation of being very pious and even defended the Taliban's destruction of the ancient Buddha statues in Bamiyan. His history teacher remembered that he was very interested in world affairs and wanted to go to Yemen to study Arabic after high school graduation.[26] In the summer leading to his final year at The British School, he came to the U.S. to participate in the Global Youth and Leadership Conference in Washington, D.C. and New York.[27]

In his senior year, he started posting his feelings online in Islamic chat rooms and later on Facebook, using the name "farouk1986." In January 2005, he wrote about his loneliness: "I have no friend. Not because I do not socialize, etc., but because either people do not want to get too close to me as they go partying and stuff while I don't, or they are bad people who befriend me and influence me to do bad things… As I get lonely, the natural sexual drive awakens and I struggle to control it, sometimes leading to minor sinful activities, like not lowering the gaze. And this problem makes me want to get married to avoid getting aroused… But I am only 18."[28] He continued, "The Prophet (S) advised young men to fast if they can't get married but it has not been helping me much and I seriously don't want to wait for years before I get married."[29] In February 2005, he wrote, "I won't go into too much details about my fantasy, but basically they are Jihad fantasies… I imagine how the great jihad will take place, how the Muslims will win (Allah willing) and rule the whole world, and establish the greatest empire once again."[30] He did not seem anti-American. Indeed, he wrote that he wanted to study engineering at Stanford

[22] Al Jazeera, 2010, "Yemen orders arrest of Awlaki," November 6, 2010 at http://english.aljazeera.net/news/middleeast/2010/11/201011613102535305.html
[23] Umar Farouk Abdulmutallab, 2008, "Autobiography," posted on a website sometime in 2008, and retrieved from http://nefafoundation.org/file/Abdulmutallab_autobiography.pdf
[24] Adam Nossiter, 2010, "Long Trek to Radicalism for Terror Suspect," The New York Times, January 17, 2010
[25] Independent Inquiry Panel, 2010, Umar Farouk Abdulmutallab: Report to UCL Council of independent inquiry panel, September 2010, retrieved from http://nefafoundation.org/newsite/file/Abdulmutallab_uclreport.pdf
[26] Stephen Adams, 2009, "Airline bomber suspect 'defended Taliban.," The Telegraph (London), December 29, 2009
[27] Umar Faouk Abdulmutallab, 2008: 3
[28] Duncan Gardham, 2009, "Detroit Terror Attack: Bomber Dreamed of Muslims Ruling the World," The Telegraph (London), December 30, 2009
[29] Philip Rucker and Julie Tate, 2009, "In online posts apparently by Detroit suspect, religious ideals collide," The Washington Post, December 29, 2009
[30] Gardham, 2009

University, the University of California at Berkeley, or the California Institute of Technology, but his SAT score was only 1200, "a disaster!!!"[31]

After graduation, he went to Yemen to study at the Sanaa Institute for the Arabic Language for three months, taking an intensive one-on-one Arabic course. He left able to read the Quran without referring to the English translation. He enjoyed interactions with the locals and the beautiful scenery of Yemen, which mixed the historical with the modern.[32] In September 2005, he enrolled in the B.Eng. Engineering and Business Finance program at University College London. He joined the UCL Union's Islamic Society (ISoc) in his first year and became its President during his second year– a common trajectory, as the position is very time consuming, and seniors tended to concentrate on their studies and final exams. From the UCL Independent Panel Inquiry, he was characterized "as modest and polite; they [his fellow students] remember him as a quiet, well-spoken, affable student. He was described by members of his peer group as someone who enjoyed social interaction, much of it light-hearted; he was a keen soccer player."[33] He was obviously religious and always wore traditional Nigerian dress for prayers on Fridays. However, his appearance did not change during his UCL career, and he did not try to convert his fellow students to his way of thinking.[34] His postings showed that he was concerned about the injustices perpetrated against fellow Muslims; he compared the inhumane conditions at Guantanamo Bay with the more humane treatment that a woman journalist captured by the Taliban had received.[35] Press reports after the Christmas bombing attempt suggested that Abdulmutallab was lonely and isolated at UCL, which led to his radicalization. This is disputed in the UCL Independent Inquiry Panel, which concluded that he was neither isolated nor lonely during his undergraduate studies.[36]

In his second year Abdulmutallab was encouraged by the ISoc president to stand for the position and, as his rival withdrew at a late stage, he was elected by default. He became active in the university's Islamic Society and became its president in 2006. In his autobiographical note, he stated that the president was responsible for the day-to-day running of the ISoc, but the chairman of the society was the final decision maker. As examples of some of his achievements, he listed making trailers to advertise ISoc events on YouTube and the OneEid project, aiming to promote unity through Eid celebration, similar to a Christmas celebration.[37] On the other hand, the press reported only that he organized a "War on Terror" week to discuss human rights and Muslim detainees worldwide in January 2007.[38] One witness remembered, "when we sat down, they played a video that opened with shots of the twin towers after they'd been hit, then moved on to images of mujahedeen fighting, firing rockets in Afghanistan. It was quite tense in the theater, because I think lots of people were shocked by how extreme it was."[39] The implication of this reporting was that Abdulmutallab was an extremist during his undergraduate years and tried to

[31] Rucker & Tate, 2009
[32] Umar Farouk Abdulmutallab, 2008: 7. Some newspapers claimed that he went to Zindani's Imam university, but there is no good evidence for this claim.
[33] Independent Inquiry Panel, 2010: 9
[34] Ibid.: 10
[35] Dan McDougall, Claire Newell, Christina Lamb, Jon Ungoed-Thomas, Chris Gourlay, Kevin Dowling and Dominic Tobin, 2010," Umar Farouk Abdulmutallab: one boy's journey to jihad," The Times (London), January 3, 2010. Some of the facts in this article are wrong and the tone of the article is not consistent with the later UCL report by the Independent Inquiry Panel, 2010.
[36] Independent Inquiry Panel, 2010: 10
[37] Umar Farouk Abdulmutallab, 2008: 4 - 7
[38] Sean O'Neill, 2009, "Umar Farouk Abdulmutallab organized 'War on Terror Week' while studying at UCL," The Times (London), December 30, 2009
[39] Nossiter, 2010

proselytize his extreme views onto the student body. Abdulmutallab did not mention this event as one of his accomplishments in his autobiography.[40] The UCL Independent Inquiry Panel explicitly addressed this issue:

A good deal was made in press and media coverage of Mr. Abdulmutallab's role in organising the ISoc's 'War on Terror' week during the year of his presidency. We learned from his immediate predecessor as President that the ISoc committee saw the week in question as an important opportunity to address issues that were not otherwise widely discussed on campus and that he, rather than Mr. Abdulmutallab, had been mainly responsible for organising the event. As current ISoc President, Mr. Abdulmutallab was required to sign off the arrangements for the week, but he was not a principal organiser. His immediate predecessor as President also recalled Mr. Abdulmutallab attending only two of the 'War on Terror' week events, as he was very busy with academic work at the time. We noted that the corresponding event in the following academic year, when Mr. Abdulmutallab was still a member of ISoc, was renamed 'Justice Week' and its scope extended to cover issues such as Darfur.[41]

Abdulmutallab graduated on August 1, 2008, with a mediocre record. He got a multiple entry visa to the U.S. for two years and went to Houston, Texas, for the first half of August 2008 to attend a conference before returning home to Kaduna. His UCL peers lost touch with him after he returned home.[42]

Abdulmutallab wanted to pursue religious studies in Saudi Arabia or Egypt, but his father was opposed. Abdulmutallab caved in and agreed to get a Master's in International Business in Dubai.[43] He studied in Dubai from January to July 2009. He seemed lonely there, and his grades reflected that his heart was not in his studies. In July, Abdulmutallab abruptly asked his father for permission to go back to the Sanaa Institute for the Arabic Language for the summer, and his father agreed. Although it appears, in retrospect, that by this point Abdulmutallab wanted to go and meet with al-Awlaki, it is not clear what prompted him to do so. On July 14, 2009, al-Awlaki posted a note "Fighting Against Government Armies in the Muslim World" on his blog *Anwar al Awlaki On-Line*.[44] In this posting, al-Awlaki argued that the armies in Muslim countries were the "defenders of apostasy in the Muslim world," fighting on behalf of the enemies of the *ummah*, "the Zionists and Crusader." It was thus an obligation for young Muslims to fight these armies.[45] If this interpretation is correct, Abdulmutallab was inspired by this posting to come and fight on behalf of AQAP in Yemen.

Abdulmutallab flew to Sanaa on August 4. He enrolled at the Institute and stayed there until September 21, when he disappeared on his way to the airport. His fellow students said he would pray five times a day and missed some of the classes. He stayed to himself, did not interact with students, and did not join them at dinner.[46] He spent the last ten days of Ramadan sequestered in

[40] Umar Farouk Abdulmutallab, 2008
[41] Independent Inquiry Panel, 2010: 10
[42] Ibid.: 8, 29
[43] Dan McDougall et al, 2010
[44] Anwar al-Awlaki, 2009, "Fighting Against Government Armies in the Muslim World," Anwar al Awlaki On-Line, July 14, 2009. This was taken off the Internet, but was archived at the NEFA foundation, where it was retrieved: http://nefafoundation.org//file/nefaawlakiarmies1109.pdf
[45] Ibid
[46] Muhammad al-Qadhi, 2009, "Detroit Bomb Suspect 'Smart but Introverted' Says Yemen Classmate," The National Online (Abu Dhabi), December 29, 2009

a mosque. The fact that Abdulmutallab stayed at the Institute for two months before disappearing to meet with AQAP is not consistent with the widespread notion that he was recruited on the Internet by al-Awlaki and summoned to come to Yemen.[47] If that were the case, he would have gone straight to al-Awlaki and AQAP. It seems far more likely that Abdulmutallab came to Yemen trying to meet with al-Awlaki, with whom he was undoubtedly acquainted from the Internet, but did not know how to make contact. The time at the Institute was probably spent trying to physically connect to al-Awlaki and then being vetted by AQAP. The fact that this was Ramadan probably slowed things down. After he left Sanaa, Yemeni officials claim that he went to Shabwa Province, where he trained with AQAP elements.[48]

In October, Abdulmutallab sent a text message to his father saying he was dropping his course in Dubai and wanted to study shari'a and Arabic in Yemen. His father threatened to cut off his funds, but the son replied that he was already getting everything for free. A month later, he sent his father another message, "Please forgive me. I will no longer be in touch with you." It appears that now Abdulmutallab was no longer interested in fighting on behalf of AQAP in Yemen, but the finality of the message suggests that he had made up his mind to conduct a suicide operation. His father was so alarmed that he went to the U.S. Embassy on November 19 and warned them about his son.[49] Apparently, Abdulmutallab left Yemen on December 7 and flew to Ethiopia, then to Accra, Ghana, where he arrived on December 9. There on December 16, he bought a round trip ticket from Lagos to Detroit, via Amsterdam. He flew to Lagos on December 24, just in time to catch his flight to Amsterdam.[50] Just before landing at Detroit, Abdulmutallab tried to detonate an explosive device concealed in his underpants, but was overpowered by other passengers before he could carry out his suicidal act. Intelligence officials in both Yemen and the U.S. briefed the press that al-Awlaki had been involved in the plot;[51] al-Awlaki later confirmed that Abdulmutallab was one of his students, and AQAP hailed Abdulmutallab as one of their heroes.[52]

Samir Zafar Khan is the last of the foreign fighters now involved in AQAP external operations. Khan was born in 1986 in Riyadh to Pakistani parents, but the family moved to Queens, New York in 1993. He was a typical teenager, expressing himself in slang and wearing baggy pants until August 2001, when he attended a weeklong summer camp at a mosque in Queens sponsored by the Islamic Organization of North American (IONA),[53] a local branch of the Pakistani extremist but non-violent group Tanzeem-e-Islami.[54] He later said to a journalist, "they were teaching things about religion and brotherhood that captivated me." He decided he knew "what I wanted to do with my life: be a firm Muslim, a strong Muslim, a practicing Muslim."[55]

[47] Dina Temple-Raston, 2010, "Official: Cleric Had Role in Christmas Bomb Attempt," NPR, February 23, 2010
[48] Adam Nossiter, 2010. Later a video of Abdulmutallab appeared on a jihadi website showing him at a terrorist camp in Yemen.
[49] Dan McDougall et al, 2010
[50] Ibid
[51] Steven Erlanger, 2010, "Yemen Says Bomb Suspect Met with Qaeda Figures," The New York Times, January 7, 2010
[52] Talib al_Hayqa'ah, 2010, "The Umar al-Faruq Raid: Details and Results," Sada al-Malahim, No. 12, February 14, 2010, OSC GMP20100223343002
[53] Michael Moss and Souad Mekhennet, 2007, "An Internet Jihad Aims at U.S. Viewers," New York Times, October 15, 2007
[54] ADL, 2008, "Samir Khan: American Blogger and Al Qaeda Propagandist," Anti Defamation League website, posted on February 6, 2008, retrieved from http://www.adl.org/main_Terrorism/samir_khan.htm
[55] Moss and Mekhennet, 2007

He later befriended members of the Islamic Thinker Society in New York, an offshoot of the now banned British group Al Muhajiroun.[56]

In 2004, Khan and his family moved to Charlotte, North Carolina.[57] The move encouraged Khan to escalate his political activism. Shortly after his arrival in Charlotte, Samir Khan hired a local lawyer to advise him about the First Amendment: How far could he go on the Internet without running afoul of the law? The lawyer replied that Khan could say anything he wanted as long as he did not incite violence.[58] Khan followed this advice to the letter. On November 1, 2004, Khan started a new blog *Inshallahshaheed* (Martyr, God willing) in the basement of his parents' new home.[59] His first site was called *Human Liberation – an Islamic Renaissance* and blogged about militant Islamic politics and courses in sociology that he had started at a local community college.[60] This first blog was abandoned in October 2005 and replaced by a new blog, also called *Inshallahshaheed*, a far more militant site that now posted translated books arguing for violent jihad, links to hundreds of al Qaeda videos from Iraq, and celebratory comments about these videos. The blog skyrocketed to the top one percent of 100 million Internet sites in the world.[61]

Khan's father grew alarmed at his son's violent extremism and solicited the help of the leader of the Islamic Organization of North America (IONA), Imam Mustapha Elturk, to bring his son back to a more moderate view of Islam. The Imam tried to persuade Samir Khan that his beliefs were not true, but Khan rejected these arguments. IONA did not support violent jihad without the endorsement of a Muslim nation's leader, while Khan believed that it was *Fard 'Ayn*, an individual obligation on every Muslim to participate in jihad[62] – a view also advocated by al-Awlaki in his latest lectures. On his blog, Khan posted his views that there were three ways to fulfill this obligation: join the fighters in Iraq, Afghanistan, or Algeria; send them money; or promote militant videos as part of the jihad media, as he was doing.[63] His father also cut off his son's Internet access from time to time, but his son persuaded him to restore it when he added a disclaimer disavowing responsibility for the views expressed on the blog.

Internet watchdogs also worked hard to knock his blog off the Internet. In September 2007 alone, his blog was taken off when his service provider shut him down after other customers complained about the nature of the postings.[64] By May 2008, the site had changed location six times. It was called *Revival* in December 2007 and *Revolution* in 2008 before returning to *Inshallahshaheed* in August 2009. The various blogs attracted contributions from other American online jihadists like Yousef al-Khattab, Zachary Chesser, and Abdullah as-Sayf Jones.[65]

Although Khan had a large following online, he had very few friends locally. His blog was notorious in his community, which tried to talk to him about it. In late 2007, the elders of the Islamic Center of Greater Charlotte gathered at the house of the spokesman for the mosque and

[56] See Quintan Wiktorowicz, 2005, Radical Islam Rising: Muslim Extremism in the West, Lanham, Maryland: Rowman & Littlefield Publishers, Inc.
[57] Dina Temple-Raston, 2010, "American Editor Brings U.S. Savvy to Jihad Outreach," NPR, October 12, 2010
[58] Ibid
[59] http://inshallahshaheed.blogspot.com/2004_11_01_archive.html
[60] http://inshallahshaheed.blogspot.com/2005/10/sociology-of-knowledge.html
[61] Moss & Mekhennet, 2007
[62] Ibid
[63] Ibid
[64] Ibid
[65] ADL, 2010 at http://www.adl.org/main_Terrorism/samir_khan.htm?Multi_page_sections=sHeading_2

invited Khan and his father to join them. They sat in a circle and talked for hours, trying to correct his beliefs that injustices against Muslims around the world justified violence. They tried to convince him that terrorism was wrong. Khan was quiet and respectful, but he did not say much. Two more meetings were scheduled to track his progress, but only one took place in 2008.[66]

In April 2009, Samir Khan published anonymously online a new English magazine *Jihad Recollections*, which was immediately referred to as al Qaeda's Vanity Fair. Khan had basically packaged his blog into an online magazine format. The purpose was to: "(1) Tackle issues that are not only happening abroad in the Muslim world, but also focus on domestic issues pertinent to the Muslim community in the West; (2) Clean the image of the Mujahideen; and (3) Present well-researched and thought-out articles on relevant issues of interest."[67] In it, Khan published articles by Osama bin Laden, Anwar al-Awlaki, Ayman al-Zawahiri and other prominent jihadists; practical articles on grenades and night vision technology; do-it-yourself program of exercise; all illustrated with color photographs. Two other issues were published at two-month intervals.

During the summer of 2009, Khan told the congregation that he was going to Yemen to learn Arabic and teach English. He flew to Yemen in October 2009 and has since disappeared.[68] In July 2010, the first issue of *Inspire* was published online and looked identical to the issues of *Jihad Recollections*. Since *Inspire* is the mouthpiece of the terrorists involved in AQAP external operations, let us turn to the five issues of this online magazine for hints of the dynamics of this terrorist branch.

Strategic hints from *Inspire*

The first issue of *Inspire* was published on the al Fallujah Islamic forum June 30, 2010, and was immediately hacked by British intelligence, making it difficult to download. A second version was published two weeks later, but the al Fallujah forum eventually closed because of the attack.[69] *Inspire* looked a lot like Khan's *Jihad Recollections*. *Inspire* was geared "towards making the Muslim a mujahid" and aimed to "give the most accurate presentation of Islam as followed by the *Salaf as-Salih*" (righteous ancestors).[70] It celebrated the Christmas Day bombing attempt, which it called "Operation of Umar al-Faruq al-Nigiri," and warned the American people, "As you support your leaders and are standing behind them to kill our women and children, rejoice for what is coming to you! We will come to you with slaughter and have prepared men who love death as you love life, and with the permission of Allah, we will come to you with something you cannot handle. As you have killed us, so shall you be killed…"[71] It carried small news bulletins and articles by Osama bin Laden, Ayman al-Zawahiri, Anwar al-Awlaki (two articles), Abu Musab al-Suri and AQAP leader Nasir al-Wuhayshi. The latter stated the objectives for AQAP were "driving out the occupiers from the Arabian Peninsula and purifying its land from them, establishing the law of shari'ah, the establishment of khilafah, spreading the call to the oneness of Allah, defending against the transgressors and helping the

[66] Dina Temple-Raston, 2010, "Grand Jury Focuses on N.C. Man Tied to Jihad Magazine," NPR, August 18, 2010
[67] Editors, 2009, Jihad Recollections, Issue 1, April 2009: 2
[68] Dina Temple-Raston, 2010, "Grand Jury Focuses on N.C. Man Tied to Jihad Magazine," NPR, August 18, 2010
[69] Duncan Gardham, 2011, "MI6 attacks al-Qaeda in 'Operation Cupcake'," The Telegraph (London), June 2, 2011
[70] Editor, 2010, "Letter from the Editor," Inspire, Issue 1, Summer 2010: 2
[71] Al-Qa'idah Organization in the Arabian Peninsula, "The Operation of Umar al-Faruq al Nigiri," Inspire, issue 1, summer 2010: 5

weak."[72] Al-Wuhayshi repeated that he wanted the West to stop its aggression and oppression against the Muslim nation and to withdraw from its land.[73] He further claimed that AQAP's obligation was now greater than fighting for people's lives, land, or wealth. "The issue now is the defense of the Prophets and supporting them against these obscene people" in reference to the Danish cartoons and various curses addressed against the Prophet.[74] Al-Awlaki reinforced this last message: "If you have the right to slander the Messenger of Allah…, we have the right to defend him. It is part of your freedom of speech to defame Muhammad… it is part of our religion to fight you."[75] In a separate article, al-Awlaki stated that AQAP had not recruited Major Nidal Hasan, who tried to revenge American crimes, such as its foreign policies. On the other hand, Umar Farouk Abdulmutallab's attack was in retaliation for American cruise missile and cluster bomb attacks against Yemeni women and children.[76]

The magazine inaugurated a section called Open Source Jihad: "A resource manual for those who loathe the tyrants; includes bomb making techniques, security measures, guerilla tactics, weapons training and all other jihad related activities; informal: a disaster for the repressive imperialistic nations: *The open source jihad is America's worst nightmare*; It allows Muslims to train at home instead of risking a dangerous travel abroad: *Look no further, the open source jihad is now at hands*."[77] This section included a step-by-step practical guide on how to "Make a bomb in the kitchen of your Mom" by the AQ Chef; "How to use Asrar al-Mujahideen" encryption software for communicating with the magazine; and "what to expect when traveling for jihad" by Mukhtar Hassan.

The second issue of *Inspire* was published on the *Shumukh al-Islam network* on October 12, 2010, and featured photos from AQAP operations in Abyan Province. It started with news features that concentrated heavily on American events, such as the popular opposition to building the Cordoba center near Ground Zero in New York, Sharif Mobley's injuries in Yemen, and went on to the ritualistic article by bin Laden. It published the second part of abu Musab al-Suri's series of articles preaching on jihad strategy. It continued its practical advice to young men on what to expect in jihad.

Why not the West? If you are coming from the West, you might be asked by the mujahidin why you did not partake in the jihad inside your country. If you tell them, "to help the mujahidin," many will tell you that attacking the enemy in their backyard is one of the best ways to help the jihad. Nevertheless, they will be exceptionally happy to have you in their ranks. They certainly will not force you to go back home, but they will leave that option open for you in case you change your mind and decide to attack the enemy back home. Put yourself in the shoes of the leadership for a moment. They have with them an individual who is not wanted by the intelligence services, and they could use that person to further the Islamic cause. That person is you. I strongly recommend all the brothers and sisters coming from the West to consider

[72] Al Malahem Staff, 2010, "Interview with Shaykh Abu Basir," Inspire, issue 1, summer 2010: 14
[73] Ibid: 15
[74] Ibid: 17
[75] Anwar al-'Awlaki, 2010, "May our souls be sacrificed for you!" Inspire, issue 1, summer 2010: 26
[76] Anwar al-Awlaki, 2010, "Message to the American people and Muslims in the West," Inspire, issue 1, summer 2010: 57
[77] Ibid: 32

attacking the West in its own backyard. The effect is much greater, it always embarrasses the enemy, and these types of individual attacks are nearly impossible for them to contain.[78]

Al-Awlaki wrote a critique of the Mardin conference in Turkey. After an interview with AQAP deputy Said al-Shihri, which barely mentions the West, Samir Khan wrote an article under his real name, "I am proud to be a traitor to America."[79]

I decided to take up the pen and write out my thoughts and feelings regarding America's cowboy behavior in the Islamic lands. I knew that I had to stay under the guidelines of the laws regarding freedom of speech, but at the same time, I knew the real truth would not be able to reach the masses unless and until I was above the law.

I proceeded to travel to Yemen, the land of faith and wisdom. After spending some time in Sana'a as an English teacher, I made my move quietly… [He described several instances of FBI surveillance.] I knew I had to rush out of America before the FBI got me in for a flimsy excuse as they have done to individuals like Tariq Mehanna. Even when in Sana'a, I caught one of their agents spying on me near my hotel. As I left Sana'a, I was surprised that they all easily fell for my cover… It still surprises me when I reflect on it; I mean, I was quite (sic) open about my beliefs online and it did not take a rocket scientist to figure out that I was al Qaeda to the core… I traveled from Sana'a, for what seemed like years, in a car to one of the bases of the mujahedin…[80]

Khan argued that his betrayal was a religious (not a political) individual obligation to recapture their land from the occupiers and attributed his intellectual conviction to Sheikh Abdullah Azzam.[81]

The most important article in this issue might be Yahya Ibrahim's "The Ultimate Mowing Machine," giving readers suggestions on how to wage their individual jihad. One idea is to transform their pickup truck into the ultimate mowing machine by attaching or welding large blades to its front sides.[82] Ibrahim also advised his readers, especially in the U.S., to be suspicious, be careful in using electronic equipment, and avoid jihad websites and like-minded individuals.

Do not attempt to travel overseas to join the mujahidin in an overt matter. In November 2009, five brothers from Virginia were arrested in Pakistan for attempting to join al Qaeda. Brother Zachary Adam Chesser is also accused of attempting to travel to Somalia. Therefore, we strongly encourage our brothers to fight jihad on U.S. soil. In fact, even if traveling to join the fronts of jihad was accessible and easy, we would still encourage them to perform operations in the West. To kill a snake, strike its head.[83]

In terms of operations, suggested are firearms operations like Nidal Hasan's, the above ultimate mowing machine operation, or making a bomb, as suggested in the first issue. More ominously,

[78] Mukhtar Hassan, 2010, "What to Expect in Jihad," Inspire, issue 2, Fall 2010: 24
[79] Samir Khan, 2010, "I am pround to be a traitor to America," Inspire, issue 2, Fall 2010: 45 - 49
[80] Ibid: 47
[81] Ibid: 49
[82] Yahya Ibrahim, 2010, "The Ultimate Mowing Machine," Inspire, issue 2, Fall 2010: 54. I'm not sure who Yahya Ibrahim is, but his use of very colloquial American English suggests that it is a nom de plume for Samir Khan, or that Samir Khan translates his writings.
[83] Ibid: 55

for those mujahid brothers with degrees in microbiology or chemistry lays the greatest opportunity and responsibility. For such brothers, we encourage them to develop a weapon of mass destruction, i.e., an effective poison with the proper method of delivery.

Poisonous gases, such as nerve gas, are not out of reach for the chemist and require simple equipment. A microbiologist would be capable of developing the most effective strains of Clostridium botulinum and, thus, develop the most lethal toxic of all: botulin. An effective botulin attack administered properly could lead to hundreds if not thousands of casualties.

Brothers with less experience in the fields of microbiology or chemistry, as long as they possess basic scientific knowledge, would be able to develop other poisons, such as ricin or cyanide.

Due to the extreme importance of moving the war with America over to the next state, the stage of weapons of mass destruction, we will *In Sha'Allah* cover such topics in more details in our upcoming issues.[84]

The third issue of Inspire is a special issue published out of turn on November 21, 2010, on the *Shumukh al Islam* network to gloat over the Air Parcel bombs attack, or Operation Hemorrhage, as the magazine calls it. Its cover has a photograph of a UPS plane with the sum of $4,200, which was the total cost of the operation. The magazine claimed that it had blown up a UPS cargo plane on September 9, 2010, right after its takeoff from Dubai International Airport. However, since the explosion was not detected, AQAP decided to duplicate it again, but with two bombs targeting two different cargo planes.[85] In a one-page article "The Objectives of Operation Hemorrhage," AQAP's "head of foreign operations" explained:

The air freight is a multi-billion dollar industry. FedEx alone flies a fleet of 600 aircrafts and ships an average of four million packages per day. It is a huge worldwide industry. For the trade between North America and Europe, air cargo is indispensable, and to be able to force the West to install stringent security measures sufficient enough to stop our explosive devices would add a heavy economic burden to an already faltering economy. We knew that cargo planes are staffed by only a pilot and a co-pilot, so our objective was not to cause maximum casualties, but to cause maximum losses to the American economy. That is also the reason why we singled out the two U.S. air-freight companies: FedEx and UPS for our dual operations.

In our discussions prior to the operation, we set the passage of explosive devices from any airport as a benchmark of success. For us, blowing up the planes would have made us very pleased, but according to our plan and specified objectives, it was only a plus. The first package made it successfully and brought down the UPS flight in Dubai. The experiment was a brilliant success. In our following operation, we a used a different explosive package and determined that if both packages passed through the inspection at the FedEX and UPS facilities and passed through the x-ray systems at the airport, that would raise a worldwide alert that would force upon the West two choices: you either spend billions of dollars to inspect each and every package in the world or you do nothing and we keep trying. The packages not only made it out of Sana'a, but one of them made it all the way to London and, if it were not for an intelligence tip, both devices would have detonated.

[84] Ibid: 57
[85] Al Qaeda in the Arabian Peninsula, 2010, "Operation Hemorrhage," Inspire, Issue 3, November 2010: 4

After the operation of brother Umar Farouk, we have been experimenting with ways to bring down airplanes. We have researched the various security systems employed by airports. We looked into x-rays, full body scanners, sniffing dogs, and other aspects of security. The resulting bomb was a device that we were confident that, with the will of Allah, it would pass through the most stringent and up-to-date security equipment.[86]

The author explained that the names of the packages were symbolic of the long fight against crusaders. Reynald Krak was a reference to Reynald de Chatillon, the Lord of the Krak des Chevalier Castle during the Crusades. Diego Diaz was a reference to Don Diego Deza, the Spanish Inquisitor after the fall of Grenada in 1492.[87] This sharp interest in history suggests that the author, "head of foreign operations," is Anwar al-Awlaki himself, who has taped dozens of lectures on historical subjects, mostly pertaining to the Prophet and the succeeding Caliphs.

An interesting translated technical article by "Ikrimah al-Mujahir" from the explosives department, explained how the device was designed to evade detection from metal detectors, sniffer dogs, x-ray machines, and even human inspection. They countered the suggestion that the West could solve this problem by killing the bomb makers by saying that they were the products of the teachings of Abu Khabab al-Masri and Abu Abdur Rahman al-Muhajir, who had been killed in Afghanistan this past decade. The author wrote that their research would be shared with other mujahedin.[88] The success of the operation was further stressed by Yahya Ibrahim.

During the initial discussions of the team, it was determined that the success of the operation was to be based on two factors: the first is that the packages pass through the latest security equipment; the second, the spread of fear that would cause the West to invest billions of dollars in new security procedures. We have succeeded in the former and are now witnessing the inception of the latter.

We will continue with similar operations, and we do not mind at all in this stage if they are intercepted. It is such a good bargain for us to spread fear amongst the enemy and keep him on his toes in exchange for a few months of work and a few thousand bucks. We would gladly dispense with remote-controlled device that does not require us to put a mujahid on board a plane. For our enemies to think that intercepting such a package is evidence of their success is truly ridiculous.

What has passed is the first of a multiphased operation. The next phase would be to disseminate the technological details of our device to the mujahidin around the world to use from their respective countries. The following phase would be for us to use our connections to mail such packages from countries that are below the radar and to use similar devices on civilian aircrafts in Western countries. We are laying out for our enemies our plan in advance because, as we stated earlier, our objective is not maximum kill but to cause a hemorrhage in the aviation industry, an industry that is so vital for trade and transportation between the U.S. and Europe.[89]

[86] Ibid: 7
[87] Ibid. The magazine does not note that the article was translated (which is the case of the other technical articles in this issue), again consistent with the idea that this was written by an English speaker like al-Awlaki.
[88] Ibid: 13 - 14
[89] Yahya Ibrahim, 2010, "$4,200," Inspire, issue 3, fall 2010: 15

In a section showing Western press reports of the late October 2010 attack, one shows a CNN anchor that asked how al-Asiri had been able to elude being captured and where he might be. The magazine answered, "Our brother Ibrahim al Asiri is sage & well & he is currently busy teaching a new batch of students the latest in bomb making skills."[90]

The fourth issue of *Inspire* was published on January 17, 2011, on the *Ansar al Mujahedin* network. This issue seemed more theoretical than the previous ones. Al-Awlaki provided justification for robbing infidels in one article and his religious justifications for joining al Qaeda in another. Samir Khan argued that the individual obligation to carry out jihad is the central issue facing Muslims. Al-Suri discussed insurgencies, and there was an interview with Shaykh Adil al-Abbab, the head of AQAP religious committee. The magazine continued its Open Source Jihad section with the now familiar columns about what to expect in jihad and AQ Chef's practical advice for blowing up buildings.[91] The magazine continued its celebration of individual attacks against the West, in this issue Roshonara Choudhry and Taimour Abdulwahab al-Abdaly.

The fifth issue of *Inspire* was published on March 30, 2011, on the Ansar al Mujahedin network and carried the title "The Tsunami of Change." In a letter from the editor, signed by Yahya Ibrahim,[92] the magazine addresses the changes of the Arab Spring.

The issue of Palestine is central to the Muslim ummah, and now that the masses have spoken, there is no doubt that it will be back to the forefront.

The friends of the West are leaving, the issue of Palestine will be back on the table, the preaching of jihad for the defense of the Muslim ummah will be heard publicly in societies that have freed themselves from the tyrants, and we pray that the heavy-handed security measures imposed by the despots to keep America and its allies safe and keep their population terrorized, will be over.

The West has publicly stated its support for the revolution of the masses. But do they really mean it, or is it because they do not realize the reality of what is happening, or is it just because they feel that they must join the bandwagon?

The West also believes that the revolts are bad for al Qaeda. This is not the case. Why would the freedoms being granted to the people be bad for al Qaeda?...

Another line that is being pushed by Western leaders is that because the protests in Egypt and Tunisia were peaceful, they proved al Qaeda, which calls for armed struggle, to be wrong. That is another fallacy. Al Qaeda is not against regime changes through protest, but it is against the idea that the changes should be only through peaceful means to the exclusion of the use of force. If the protesters in Libya did not have the flexibility to use force when needed, the uprising would have been crushed.

It is our opinion that the revolutions that are shaking the thrones of dictators are good for the Muslims, good for the mujahidin, and bad for the imperialists of the West and their henchmen in the Muslim world.[93]

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[90] Ibid: 19
[91] AQ Chef, 2011, "Destroying Buildings," Inspire, Issue 4, winter 2010: 39 - 41
[92] Yahya Ibrahim, 2011, "Protest Focus: Spring 2011," Inspire, issue 5, spring 2011: 5. Since it is clear that Samir Khan is the actual editor of the magazine, this is consistent with the hypothesis that Yayha Ibrahim is one of his noms de plume.

In the news section, the magazine celebrated the killings perpetrated by Arid Uka in Frankfurt, noting "he was inspired by the internet works of the mujahidin."[94] This issue had an interview with Qasim al-Raymi, AQAP's militant commander. He provided the standard justification of attacking the West to expel it from the Middle East. He also stressed the importance of *Inspire*. "As for executing operations on the ground there, this *Inspire* magazine thankfully works towards preparing great ideas for that matter, and soon if Allah wills, there will be a military section explaining what the Muslim should do in that field."[95] The issue also carried the fourth part of Abu Musab al-Suri's military strategy, individual jihad.

So the most important of the jihadi actions is the liquidation of their leaders, by murder and assassination…

The assassination of leaders of disbelief among civilians and military personnel, among men from politics, propaganda and media, among the ones who discredit Allah's religion, and among the supporters of Allah's enemies who invade the Muslims, is a confirmed tradition of Allah's Messenger. It is one of the most important arts of terrorism and one of its most beneficial and deterring operations and methods…

Observations about past terrorist operations and individual jihad:

We observe that those operations remain limited. They were performed by a few people here and there, as an expression of an emotional reaction following some hostile acts against Muslims. They increase in the places of aggression themselves, and this is because the minds and spirits are still naturally disposed towards a local or national awareness. If the colonialist invades a country, there would be a lot of reactions there, but when the same colonialist, with his military and civilian power of different kinds, is present in neighboring countries, no one threatens their interests.

We also observe that the ones performing these operations are not programmed [i.e., part of an organized program], in order to become a phenomenon for the sake of setting an example, pushing the Islamic Nation's youth to follow it, and building upon it. They are merely emotional reactions.

They have not transformed it into a phenomenon, because they are spontaneous, and nobody has occupied themselves with making them part of a program and presenting them with a strategic operational method. This is what we will adopt as a fundamental strategy at the base of our military theory in the Global Islamic Resistance Call…

It is … impossible for *all the youth* who want to participate in the Resistance to travel to the arenas of [open] confrontation… Hence, our method should therefore be to guide the Muslim who wants to participate and resist, to operate where he is, or where he is able to be present in a natural way. We should advise him to pursue his everyday life in a natural way and to pursue

[93] Ibid
[94] Ibid: 6
[95] Qasim ar-Raymi, 2011, "An interview with Shaykh Abu Hurairah," Inspire, issue 5, spring 2011: 28

Jihad and Resistance in secrecy and alone, or with a small cell of trustworthy people, who form an independent unit for Resistance and for the individual Jihad.[96]

The issue continues with articles by Ayman al-Zawahiri addressing the recent developments in a theoretical way and by Samir Khan urging Egyptian protestors to become loyal to Islam. The feature article of the issue by Anwar al-Awlaki, "The Tsunami of Change," notes that the recent events showed that there was a change in the collective mind of Muslims: "The revolution broke the barriers of fear in the hearts and minds that the tyrants couldn't be removed (sic)."[97] However, instead of analyzing these developments, he concentrated on the false reaction in the West, both in terms of political leaders and media personalities.

Conclusions

The external branch of AQAP is a very small but very focused and dangerous group. Its chief, Anwar al-Awlaki, is probably accountable directly to the Amir of AQAP, Nasir al-Wuhayshi, and targeting the West. He probably needs al-Wuhayshi's sanction to conduct actual operations against the West. From their interviews, the rest of AQAP's leadership does not seem very interested in the West, nor does it know much about the West besides some platitudes about fighting off infidel invaders on their own turf. This is reflected in the fact that the overwhelming majority of AQAP operations (over 90%) are domestic, targeting government, Shi'a, and enemy tribal targets. Indeed, most of AQAP is composed of Yemenis and Saudis, who know little about the West and might have difficulties operating in the West. They are far more concerned by local issues, including Saudi issues, since a large portion of AQAP is Saudi, and targeting the West is not a priority. This runs counter to the various requests by al Qaeda Central, especially Osama bin Laden, to stop focusing on domestic Muslim targets and concentrate instead on Western targets in order to regain support among Muslim masses. The small AQAP external branch allows AQAP leadership to claim that it is complying with AQ Core leadership.

AQAP's external branch consists of its chief; a master bomb maker, Ibrahim al-Asiri; and a propagandist, Samir Khan. This group hides its smallness in its magazine by publishing articles both in their own names and under pseudonyms. The rest of the articles are taken off the jihadi websites and are not exclusive to *Inspire*. The troika of leaders of this branch were not recruited, but volunteered and drifted to AQAP. The same is true for Abdulmutallab, who came to Yemen to volunteer his services to al-Awlaki. None were "susceptible or vulnerable youths," indoctrinated by a recruiter or even formally "recruited." Two were university graduate students and two were university dropouts. Al-Awlaki and Abdulmutallab were indeed part of the elite of their respective countries. All had foreign connections, as none were actually born in Yemen. Al-Asiri fled Saudi Arabia and acquired fame first for his attacks against Saudi oil facilities and later for his ingenuity in devising new bombs, used respectively in his brother's assassination attempt on Prince Muhammed bin Nayef, Abdulmutallab's underwear bomb, and the parcel bombs. His discussion of the making of the parcel bomb devices was very impressive in its grasp of the challenges he faced and the way he resolved them. He is a very dangerous man. Given the fact that the number of attacks against the West was extremely small (two in fact in a two and a half year period), his elimination may well spell the end of direct attacks against the West.

[96] Abu Musab al-Suri, 2011, "The Jihadi Experiences: Individual Terrorism Jihad and the Global Islamic Resistance Units," Inspire, issue 5, spring 2011: 32
[97] Anwar al-Awlaki, 2011, "The Tsunami of Change," Inspire, issue 5, spring 2011: 51

AQAP operations against the West were non-existent until al-Awlaki formally joined the group in the aftermath of the Ft Hood shooting. It seems that he is the one who is focusing AQAP against the West. Without him, it is very possible that AQAP would revert to a strictly domestic or Arabian Peninsula agenda. While al-Asiri would probably go back to focus on his native Saudi Arabia, Samir Khan just does not have the credentials and Yemeni background to have much influence with the leadership of AQAP. Therefore the external branch is very vulnerable to elimination through decapitation of its two key members, al-Awlaki and al-Asiri. There does not seem to be anyone on the bench to take their place in case they are eliminated. Without al-Awlaki as a local sponsor, Samir Khan would be unlikely to flourish inside AQAP. He is not an Arab, and his Arabic fluency is questionable, although he spent his early childhood in Riyadh.

AQAP's external operation branch has a twofold objective, to cause maximum damage on the West, either in the form of casualties or economic losses to an already faltering economy. Its strategy is also twofold, directly through AQAP attacks in the West on people or economic targets and indirectly by inspiring domestic homegrown attacks in the West with their online magazine *Inspire*.

The direct terrorist attacks on the West may have come from the opportunity that Abdulmutallab presented with his ability to travel to the U.S. His attack initiated the direct strategy. Al-Asiri was already working on explosive devices that could elude any form of detection, as shown by the failed assassination attempt on Prince Muhammed. When Abdulmutallab made contact with al-Awlaki and AQAP, al-Asiri's devices were adapted to the new challenge of going through airport screening without detection. In this task, I suspect that he was helped by both al-Awlaki and Khan, who might have done the study online in English of airport screening processes in the West. They probably also researched for him the nature of cargo screening and the troika may have planned together for Operation Hemorrhage. The very quick turnaround of the publication of the special edition of *Inspire* suggests that Khan and Awlaki were well acquainted with the goals and execution of this operation.

The continuation of direct attacks suggests that al-Asiri will continue to improvise new ways of building bombs and concealing them, including concealing them inside a human body (as he did with his brother) to defeat body scanning and bomb-sniffing dogs and machines (as the bomb material will be sealed within a human body). Instead of concentrating in natural human cavities, al-Asiri might try surgical implantation of the device that would be triggered through electro-magnetic waves, like resetting a pacemaker. This would be the logical progression of his work on humans so far.

Another disturbing aspect of AQAP external branch operations is their encouragement of Westerners to carry out chemical and biological attacks in the West. This means that AQAP is interested in carrying out such attacks. However, from the composition of the external operations branch, it does not seem that it has any expertise in the biological aspect of this threat. Khan and al-Awlaki can do research online, but they are not microbiologists and will not be able to go very far along this road. On the other hand, al-Asiri was a very competent chemistry student and might design some crude chemical weapons, as Aum Shinrikyo was able to do in the Tokyo subway attack of 1995. Therefore, there is some danger that we may see a crude chemical weapons attack, perhaps attached to an explosive device, in the West in the near future. AQAP at this point has no biological expertise, but may in the future cash in on such expertise if it comes

its way through a walk-in of a microbiologist. The advice to homegrown jihadists in the West may be taken as an indicator of the whole organization's (AQAP) interest in WMD, and this push to develop such weapons is one of the most worrisome aspects of AQAP.

The surprising aspect of al-Asiri's Operation Hemorrhage is that he has not duplicated his success of defeating airport screening processes in the nine months since his attack. There is no indication that he has shared his skill with other terrorist organizations as AQAP threatened to do in the special edition of *Inspire*. This fact and AQAP external operation branch's decision to promote WMD attacks against the West point to the urgency of eliminating him before he has the chance to do so.

The inspiration of indirect attacks by disconnected homegrown groups in the West is the purpose of *Inspire*. In other words, more than propaganda, the magazine is the weapon through which AQAP hopes to trigger scattered individual or small group terrorism in the West. While al-Awlaki's downloaded lectures from the Internet have been cited as the proximal cause for several individual terrorist attacks in the West – Major Nidal Hasan, Roshonara Choudhry, Umar Farouq Abdulmutallab – in addition to inspiring Khan to come to Yemen, there is so far no evidence that the first five issues of *Inspire* have contributed to any terrorist attack in the West. It seems that the Arab Spring might be more inspirational now for young Muslims, who may want to join the protestors in Libya, Syria, and Yemen against the regime rather than the West. The exhortations of the last issue of *Inspire* fell flat, as it ignored that the West has supported the protestors with demands that tyrants leave (Egypt, Yemen, and Libya), imposed sanctions on Syria and Libya, and even provided direct military support for the Libyan protestors, something that Islamist militants have not been able to do.

I suspect that the practical advice in *Inspire*'s Open Source Jihad with articles full of pictures and very short paragraphs, that are to the point without much religious justification, and the constant celebration of lone wolves in the West will have some impact on terrorist wannabes in the West. However, these would be recipes for carrying out individual operations once a jihadi wannabe has *already* decided to carry out an operation in the West. In other words, the magazine would not inspire a potential homegrown jihadist to carry out an operation in the West (al-Awlaki's lectures might), but if someone has already decided to do so, the instructions in *Inspire* might help him to execute his operation. The rest of the magazine is probably the wrong medium for its target, mostly young Muslims in the West. They are not likely to read long boring articles by bin Laden, al-Zawahiri, al-Suri, or even al-Awlaki. On the other hand, they are quite likely to see and listen to him lecture on YouTube. One may consider his lectures far more successful than his writings, as there is little or no evidence that any militant arrested in the West was inspired by his writings, as opposed to his lectures on tape, CD, or online. Therefore, *Inspire* may help those who have already decided to carry out terrorist operations in the West, but would not inspire them to do so in the first place.

In conclusion, AQAP external operation branch is a small and very dangerous terrorist group that has access to the resources of the larger AQAP organization, but its size limits the size of the threat to the West (only two operations in the last two and a half years) and makes it vulnerable to extinction through decapitation.

Chapter Seven

The war of ideas in Yemen: Analysis of the 2011 Glevum polls

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This paper examines polling data from Yemen to develop a view of the conflict between Islam and the West in the eyes of the people of this troubled country. In order to understand these data, two issues must be addressed. First is the relation between ideas and action, in particular the relation between radical ideas and radical action. Second is the relation between opinions and meta-opinions.

In the realm of action, the conflict in Yemen is a competition between Al Qaeda in the Arabian Peninsula (AQAP) and U.S. power represented by Special Forces and drone attacks on militants. In the realm of ideas, this conflict is a competition between images of AQAP and images of the U.S. I argue that the relation of ideas and action is complex, and that the two forms of conflict in Yemen—the kinetic war and the war of ideas—are related but in many ways independent.

The second issue is raised by the nature of the Glevum Associates poll conducted in Yemen. The questions in this poll, after a first general question about the state of the country, are all questions about respondents' perceptions of others' opinions, rather than the usual form of polling question that asks about a respondent's own opinion. Before examining the Yemen poll, it is important to consider whether or to what degree meta-opinions can be a proxy for personal opinions.

After reviewing these two issues—ideas vs actions, and opinions vs. meta-opinions—I examine some results of the Yemen poll and suggest some implications for U.S. policies in the conflict with AQAP in Yemen.

IDEAS AND ACTIONS

For decades psychologists have studied the relation between opinion (beliefs and feelings, or in psychological jargon, cognitions and attitudes) and action (behavior). There is no simple generalization to be made about this relation. Under some circumstances, beliefs and feelings are good predictors of action (in a voting booth, for instance). In many circumstances, however, beliefs and feelings are weak predictors of action (when strong social norms run counter to an individual's attitude, for instance). Thus, radical beliefs and feelings are likely to be unreliable predictors of an individual's commitment to terrorism.

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One reason for this weak relationship is that when action consistent with beliefs and feelings is costly (such as joining a militant group), the gap between belief and behavior is likely to be large. This is the situation for Islamists: the opportunity cost of believing in a war on Islam and feeling that suicide attacks are justified in defense of lslam is relatively low, whereas action in defense of Islam is disproportionately costly in time, energy, and, at least in Western countries, risk of incarceration or death.

The gap between belief and action is evident in the contrast between polling data and security reports in the U.K., where polls found that about five percent of adult Muslims saw suicide attacks as justified, but only several hundred terrorism-related arrests have been made since 9/11. Five percent of Muslims projects to about 50,000 of the roughly one million adult Muslims in the U.K., but only hundreds of these 50,000 U.K. Muslims have acted on their beliefs. The difficulty for security forces is finding this needle in the haystack, the one among hundreds with radical opinions who will move to action (Leuprecht et al, 2010).

A similar situation exists in the U.S. According to the 2007 Pew survey of U.S. Muslims, eight percent find suicide attacks on civilians in defense of Islam justified *often* or *sometimes*. There are at least one million adult Muslims in the U.S., indicating perhaps 80,000 who agree that suicide bombing is justified. Yet terrorism-related arrests in the U.S. since 9/11 have numbered only in the hundreds.

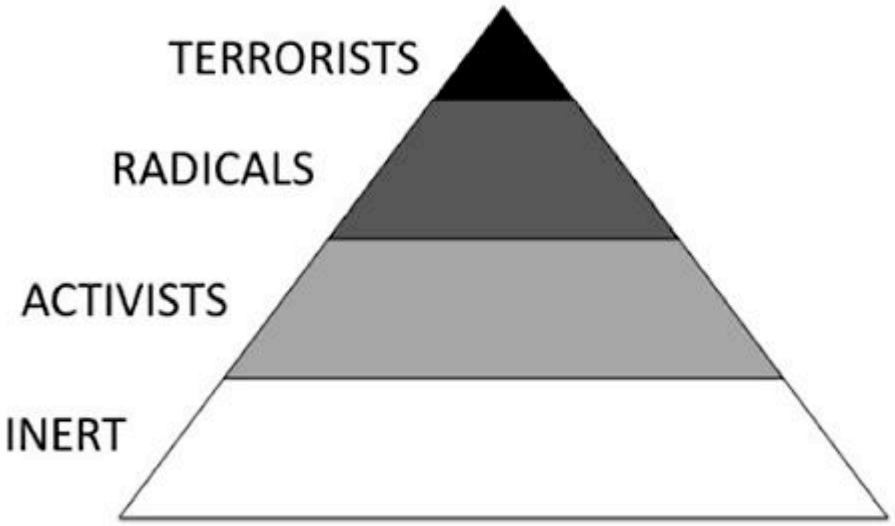
The gap between opinion and action points to the need for the separate analysis of radicalization of opinion and radicalization of action. Consider two pyramids, the *action pyramid* and the *opinion pyramid*, in relation to jihadist radicalization.

Radicalization in the Action Pyramid

In the *action pyramid* (see Figure 1), the base includes all Muslims who are politically inert, whatever their beliefs or feelings. The next higher level represents activists engaged in legal and nonviolent political action, although some may join in one or another aspect of radical beliefs. Hizb ut-Tahrir members, for instance, are legal activists in both the U.K. and the U.S. (Hizb had its first national meeting in the U.S. in Chicago in July 2009), even though Hizb, like al-Qaeda, is striving to re-establish a supra-national Caliphate. Higher yet are radicals—those engaged in illegal political action that may include violence. Finally, at the apex of the action pyramid are the terrorists, radicals who attack civilians with lethal violence.

The borders between the levels of the action pyramid represent important transition points of radicalization in action: from doing nothing to doing something; from legal political action to illegal political action; and from illegal political action to killing civilians. It is important to be clear, however, that the action pyramid is neither a conveyor belt nor a stage theory in which an individual must progress through each succeeding level in a linear fashion to become a terrorist. It is not necessary to be an activist to become a radical, nor is it necessary to be involved in nonviolent radical action to move to violent radical action. How is it possible for an individual to move from politically inert to radical action in one step? How can radicalization in action occur without prior radicalization in opinion?

Figure 1. Radicalization: The Action Pyramid



Individual-Level Mechanisms of Radicalization in Action

McCauley & Moskalenko (2011) have identified seven mechanisms that can move individuals to join a militant group. Notably, many do not require prior radical opinions or prior political activism.

1. *Individual Radicalization through Personal Grievance*. An individual can be moved to join a militant group by the perception of unjustified harm to self or loved ones. Although often cited as an explanation for terrorism, this mechanism is difficult to quantify. I am not aware of any research that attempts to count the proportion of terrorist group members with a personal grievance against the government they oppose.

Terrorist groups may include individuals seeking a personal revenge, but a terrorist group usually aims to represent a political cause that is more than a collection of vendettas. Indeed, personal motives of revenge can undermine the cohesion and united action required for effective group action. Thus, personal grievance seldom leads to terrorism unless it is interpreted (with the help of group-level and mass-level rhetoric) as part of a larger political struggle.

2. *Individual Radicalization through Political Grievance*. An individual can be radicalized as a result of strong identification with a political group or cause that is portrayed in mass media or Internet as victimized and endangered. It is rare that this mechanism of radicalization goes all the way to violent action without some group or organizational support; more commonly the growing radicalization of beliefs and feelings leads an individual to associate with similar others and enter into group dynamics that are beyond the individual level considered here (but see McCauley & Moskalenko, 2011). But cases of lone-wolf radicalization, such as Mohammed Khawaja and Major Nidal Hasan, do occur with non-negligible frequency. In these cases, identification with a group seen as victimized may be enough to move an individual to violence.

3. *Individual Radicalization in Action: The Slippery Slope*. Individuals may become radicalized as a result of experiences they have after joining an existing radical group. Except for suicide bombers, it is rare for a terrorist recruit to be entrusted with carrying out a lethal attack. Instead, interviews with former group members indicate that progression toward the most radical behaviors is deliberately slow and gradual. At first, a recruit may be asked to carry insignificant pieces of information, or to serve as a lookout. Later, the recruit may be asked to deliver a weapon and later still asked to drive a senior member to a meeting. This progression continues until the now-tested recruit is ready to use a bomb or a gun.

The power of this progression is its gradual nature. The first step is easy with little risk to the recruit and little harm to anyone. Each new step in the progression is only minimally more extreme. On this slippery slope there is no transition marked "terrorist," and an individual looking back on a terrorist career can find it difficult to answer questions about "When did you decide to become a terrorist?"

4. *Individual Radicalization in Relationship: The Power of Love*. An individual may join a radical group in order to be with or protect a loved one who is already a member. The bond that brings people into the group is likely to become even stronger as they share common experiences of threat from the authorities or rival groups, as well as the experience of isolation common to radical groups that tends to make group members more dependent on one another. Love can bring radicalization in behavior without radicalization of opinions or ideology: even politically inert individuals can feel the pull of a loved one asking for help.

5. *Individual Radicalization in Status and Thrill Seeking*. Radical groups offer a number of rewards to those who seek adventure and the admiration of others: access to a secret society with grandiose goals; the thrill of operations that involve guns and money; and status and fame unparalleled by the achievement of an ordinary life. Young men, in particular, are susceptible to the appeal of these rewards as they transition from adolescence into young adulthood, trying to position themselves relative to their peers. For some individuals, the ideology of the group they join matters less than the anticipation of thrill and status. Abu Musab al-Zarqawi was an example of this kind of radicalization.

6. *Individual Radicalization as Escape.* There are places in the world—parts of Columbia, Somalia, and Yemen, for instance—where an individual is safer in a group with guns than on the street alone. In these places joining a radical group can be a move to relative safety and security. Similarly, an individual who believes he or she is sought by police or security forces, and who fears mistreatment and incarceration, may join a radical group as an escape from streets that are no longer safe.

7. *Individual Opening to Radicalization: "Unfreezing."* For most individuals, the path to radicalization is blocked by everyday routines of commitment and responsibility. Supporting a family, building a career, and attachments to friends and neighbors would all be jeopardized by joining an illegal and dangerous organization. But what if these commitments and attachments are lost? Perhaps parents or a spouse die suddenly. Or an individual moves far from home for schooling or a new job, and has to begin again with no social ties and few resources. Thus disconnected, an individual is an easy prospect for any group that offers comradeship and

connection. If these come with new ideas of grievance and what to do about it, the combination may be easily swallowed.

It is important to note that unfreezing can open an individual to the attractions of many new identities, but for a Muslim living in a non-Muslim country, shared religion is a likely to be a salient source of similarity and support. The 9/11 attacks began with young Arab men seeking new friends in Germany.

Looking back over the seven individual-level mechanisms of radicalization, it is striking how few depend on political beliefs and ideology. Political grievance may be framed in terms of ideology, as jihadists usually invoke a fundamentalist view of Islam in justifying violence in response to a perceived war on Islam (more about this in relation to the war of ideas below). But the other mechanisms of radicalization—personal revenge, slippery slope, love, thrill and status seeking, security, and unfreezing—do not depend on ideas and ideology.

In short, the six mechanisms of radicalization that can move an individual to join a militant group without political ideas or ideology are an answer to what might otherwise seem difficult questions. How is it possible for an individual to move from politically inert to radical action in one step? How can radicalization in action occur without prior radicalization in opinion? Personal grievance, love, thrill and status seeking, security seeking, and unfreezing are mechanisms of radicalization that do not depend on prior political activity or prior radical opinions.

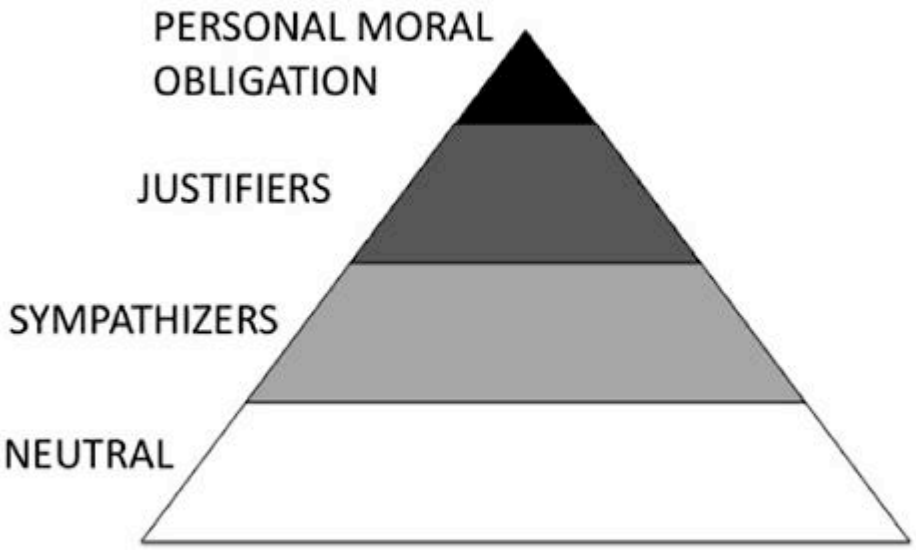
Of course once an individual becomes part of a militant group, he or she will learn whatever ideology the group espouses and will join in using this ideology to justify violence. Humans do not kill other humans without a story to justify their violence. The six mechanisms of radicalization that do not depend on ideology suggest, however, that ideology—including radical Islam—is more rationalization than driver of radical action.

Radicalization in the Opinion Pyramid

Betz (2008) has analyzed the jihadist side of the war of ideas into a four part narrative. (1) Islam is under attack by Western crusaders led by the United States. (2) *Jihadis*, whom the West refers to as "terrorists," are defending against this attack. (3) The actions jihadists take in defence of Islam are proportional, just and religiously sanctified. (4) Therefore it is the duty of every good Muslim to support these actions. Such is the rationale behind Global Jihad.

The Global Jihad narrative is conveniently analysed in terms of a pyramid of radicalization in which the base includes Muslims who currently do not accept any of the Global Jihad narrative (Figure 2). A layer above the base are those who sympathize with the first step of the jihadist frame: that the West is waging a war on Islam (Global Jihad level 1, pyramid second level). Next higher in the pyramid are Muslims who believe that jihadis are acting in defense of Islam and that their actions are morally and religiously justified (Global Jihad levels 2 and 3, pyramid third level). Higher yet in the pyramid are Muslims who believe there is an individual duty to support and participate in defense of Islam (Global Jihad level 4, pyramid fourth level).

Figure 2. Radicalization: The Opinion Pyramid



There is some complexity here: Islam distinguishes between defence that must be mandated by legitimate authority, a group responsibility, and defence that is an individual obligation of every good Muslim. Osama bin Laden has argued that the current threat to Islam justifies an individual obligation not dependent on having state or religious authority behind it, and belief in the individual obligation is represented as the highest, most radicalized level of the opinion pyramid.

The implication of a pyramid model of the Global Jihad narrative is that the lower levels represent more people, with lower levels of radicalisation. Polling data offer some support for this implication.

ICM telephone polls of U.K. Muslims have asked the following question: "*President Bush and Tony Blair have said the war against terrorism is not a war against Islam. Do you agree or disagree?"* In November 2004, 80% of a national sample of 500 Muslims disagreed, that is, endorsed the idea that the war on terrorism is a war against Islam. In other words, about 80% of U.K. Muslims agreed with level (1) of the Global Jihad narrative.

A July 2005 ICM poll of U.K. Muslims asked a more extreme question*: "Do you think any further attacks by British suicide bombers in the UK are justified or unjustified?"* This poll was conducted after the July 7, 2005 bombings in the London underground, and 5% of a national sample of 500 Muslims said that further attacks were justified. In other words, about 5% of U.K. Muslims agreed with levels (2) and (3) of the Global Jihad narrative.

There do not seem to be any polls that have asked about the individual obligation for jihad, level (4) in the pyramid, but it seems likely that the number agreeing would be less than 5%.

It is worth noting that in the case of U.K. Muslims in 2004-2005, the pyramid model is misshapen insofar as the neutral base of the pyramid, those who do not accept even the first level of the Global Jihad, that the West is engaged in war against Islam, is smaller than the next level. Only 20% of U.K. Muslims do not see a war on Islam, whereas 80% do see a war on Islam. Descriptively, then, the base of the pyramid is smaller than the first level of opinion radicalisation.

An important implication of the pyramid model of radicalisation is that different parts or combinations of the Global Jihad narrative are held by Muslims in different layers of the pyramid. Not all who justify suicide bombing also see a war on Islam, but most do. Similarly, not all who feel a personal moral obligation for jihad also defend suicide bombing, but probably many do. In short, those who accept more radical elements of the Global Jihad narrative are more likely – but not 100% likely – to accept less radical elements. Given that different subsets of Muslims accept different elements of the Global Jihad narrative, it seems likely that the origins, or sources or predictors of acceptance differ for different elements.

The opinion pyramid can be measured, as already indicated, with the usual tools of social science, especially polls and focus groups, but what is the relation between the opinion pyramid and the action pyramid? The answer is not clear. At one extreme, sudden loss of mass sympathy in the opinion pyramid has been associated with the sudden decline of at least two terrorist groups, the Armenian Secret Army for Liberation of Armenia (ASALA; Dugan, Huang, LaFree & McCauley, 2009) and Egyptian Islamic Group (EIG; Wheatley & McCauley, 2009). At the other extreme, terrorists like the Greek *November 17* group can persevere in murder at a low level despite decades of dwindling mass support. More generally, however, terrorist groups with more mass support, such as ethnic terrorists often enjoy, tend to last longer.

In short, the relation between the action pyramid and the opinion pyramid is a major conceptual issue for understanding political radicalization. Despite the absence of theory, the examples of ASALA and EIG provide some warrant for thinking that a decline in radical opinions helps reduce radicalization in action, including terrorism, whereas an increase in radical opinions provides encouragement and support for terrorism. This paper focuses on Yemeni polling data relating to the war on terrorism, but with full recognition that studying the opinion pyramid is no substitute for studying the action pyramid.

Before moving to analysis of the data from the 2011 Yemen poll, there is another issue to be considered. The Yemen poll asks about opinions of opinions rather than asking directly for respondents' own opinions. There is reason to believe that taking meta-opinion as proxy for opinion is warranted, and I move now to consider some data that make this case.

OPINIONS AND META-OPINIONS

As noted in the introduction, most polls ask questions about respondents' own opinions. Who do you favor in the next election? Do you approve or disapprove of how the president of the U.S. has been doing his job? What do you think is the biggest problem facing our country?

In contrast, the Yemen poll available for this report asked questions about respondents' opinions of others' opinions. From what you know or have heard from others, on a scale of one to four, do people in this area approve or disapprove of: the Yemeni government's cooperation with the US? These opinions about opinions are referred to as meta-opinions, as distinguished from own opinions.

An advantage of asking the meta-opinion format of item is that it does not require the respondent to commit him or herself to a position on what may be a sensitive issue, perhaps an issue that respondents feel unsafe answering honestly. It is easier to ask Do people in this area approve of Al Qaeda in the Arabian Peninsula? than to ask Do you approve of Al Qaeda in the Arabian Peninsula?

Of course the disadvantage of asking meta-opinion questions is that the respondent may have no idea what local opinion is on the issue. Rather than saying Don't Know a respondent may hurriedly invent something with no connection to reality. In technical terms, meta-opinions may produce data with neither reliability nor validity.

Fortunately there are data to show that meta-opinions on sensitive political issues are quite closely related to own opinions on the same issues. These data come from polls conducted in 2006 by the National Consortium for Study of Terrorism and Responses to Terrorism (START; www.start.umd.edu). The same questions were asked in four Muslim countries: Morocco, Egypt, Pakistan, and Indonesia. Four of the questions were paired such that respondents were asked about both their own opinion and their opinion of others' opinions about the same issue. Table 1 shows the first pair of questions, which focused on opinions of Osama bin Laden.

Table 1. Means (SDs) of Self and Meta-opinions about Osama bin Laden

	Q36: Overall, Would You Say Your Feelings Toward Osama Bin Laden Are	Q36A**.** Just based on your impressions, how do you think most people in **[your country]** feel? Would you say the majority's feelings toward Osama bin Laden are:
Morocco	3.0 (1.2)	2.7 (1.0)
Egypt	2.6 (1.2)	2.4 (1.1)
Pakistan	2.7 (1.2)	2.7 (1.0)
Indonesia	3.0 (1.1)	3.0 (1.0)

Note. Data from START polls 2006. Response scale for both items: *1 Very positive, 2 Somewhat positive, 3 Mixed, 4 Somewhat negative, 5 Very negative.*

For each country, average self-opinion was within 0.2 units of average meta-opinion about bin Laden. On a five point scale, a difference of 0.2 is reassuringly small. As might be expected, the 'safer' meta-opinion version of the question was slightly more favorable toward bin Laden than the own opinion version for the two countries where there was a difference: Morocco and Egypt. Similarly the measure of dispersion or variation of opinion, the standard deviation or SD, did not differ by more than 0.2 for self and meta-opinions. This again is a reassuringly small difference. Taken together the proximity of means and SDs suggests that perhaps meta-opinions can indeed be used as proxy measures of own opinions about bin Laden.

The second pair of items, which ask own opinion and other's opinions about groups that attack Americans, appear in Table 2.

Table 2. Means (SDs) of Self and Meta-opinions about Muslim Groups Attacking Americans

	Q52: How Does The Average Person In **[your country]** Feel About Groups In The Muslim World That Attack Americans?	Q53: On The Same Scale, How Would You Rate Your Feelings?
Morocco	4.0 (3.0)	3.4 (2.9)
Egypt	5.6 (2.8)	5.1 (3.4)
Pakistan	5.0 (3.0)	4.7 (3.2)
Indonesia	5.0 (3.0)	4.5 (3.1)

Note. Data from START polls 2006. Response scale for both items: *Please answer on a scale of 0 to 10, with 0 meaning not at all supportive and 10 meaning very supportive.*

Support for groups attacking Americans shows differences between meta-opinions and own opinions that range from 0.3 (Pakistan) to 0.6 (Egypt). These differences are numerically larger than the differences in Table 1, but on a response scale that is twice as large (0 to 10 whereas the bin Laden response scale was 1 to 5) the differences are again relatively small. On this more sensitive scale, every country showed more support for groups attacking Americans on the 'safe' meta-opinion version of the question than on the self opinion version Again the SDs are similar for the two forms of question.

Taking Tables 1 and 2 together, these results offer some support for the idea that meta-opinions can provide a 'safer' version of self opinions on sensitive topics. But there is another aspect of the question to be considered. Suppose we are interested in the individual differences in opinion on an issue. Suppose, for instance, we are interested in finding the demographic characteristics—age, gender, education, income—that might be linked with more or less positive views of bin Laden, or with more or less support for groups attacking Americans. Even if the means are similar for opinions and meta-opinions, are individual differences similar? Is there evidence that individuals more positive toward bin Laden are the same individuals who report others as more positive toward bin Laden? Table 3 suggests that the answer is positive.

Table 3. Correlations of self and meta-opinions about bin Laden and about groups attacking Americans

	Morocco	Egypt	Pakistan	Indonesia
Q36. Your feelings toward Osama bin Laden *vs.* Q36A most people in [your country] feel toward Osama bin laden	.68	.73	.70	.73
Q52. Average person … groups in the Muslim world that attack Americans? *vs.* Q53. … Your feelings …groups in the Muslim world that attack Americans?	.81	.78	.83	.81

Table 3 shows that the Pearson correlation between self opinion and meta-opinion is high for evaluations of both bin Laden and groups attacking Americans. Indeed these are very high correlations for polling data, perhaps as high as found when the same item is asked twice in different parts of the same survey. The correlations shown in Table 2 are strong evidence that individual difference analyses conducted with meta-opinion items should, even for sensitive issues, produce results similar to what would be found with corresponding self opinion items.

With some reassurance about interpreting meta-opinion items as revealing self opinions, it is possible now to move to analysis of the Yemen meta-opinion poll conducted in 2011.

OBSERVATIONS FROM JANUARY-FEBRUARY 2011 POLL IN 8 YEMEN GOVERNORATES

Glevum Associates provided data from its 2011 Yemen Stability Survey.[2] The data specifically come from a poll conducted by Glevum in eight Yemeni governorates between 22 January and 20 February 2011. The governorates included were Abyan, Aden, Aljawi, Amran, Hadramout, Marab, Sana, and Shabwah; the poll included a total of 1005 respondents. The poll data are proprietary to Glevum Associates, LLC, who prepared the research questionnaires, collected the data, and prepared the original "2011 Yemen Stability Survey" released by Glevum in March 2011.

These data are of special interest because the polling period included the beginning of the "Arab Spring" protests in Yemen in early February.

Who are the poll respondents?

Demographic measures show that 51% of respondents are male, age ranges from 15 to 64 (Mean=31, SD=13), and 100 percent are Muslim (Shi'a about 30%). A substantial minority (25%) have not completed secondary school and nearly half (45%) are currently unemployed (25%).

What are respondents most concerned about?

The first substantive question in the poll was as follows: *In your opinion, what is the greatest problem facing our country today?* In response, 40% of respondents pointed to an economic issue (infrastructure such as electricity, gas, energy, and water 3%, jobs/unemployment 7%, poverty/standard of living 13%, other economic issues 17%). Almost as many respondents, 35%, were most concerned about *overall security of the country.* It seems likely that economic problems would have drawn more respondents, and security fewer, before Arab Spring unrest reached Yemen.

What do respondents think of AQAP?

Most say that AQAP is unpopular and that Osama bin Laden is unpopular, but opinion about al-Awlaki is split.

[2] To access Glevum's full survey report, see: http://glevumassociates.com/presentations.html.

From what you know or have heard from others, on a scale of one to four, how popular are the following people or groups amongst the population of this area? Only 13 percent say al-Qaeda in the Arabian Peninsula is somewhat popular, less than one percent say it is very popular. Only 8 percent say Osama bin Laden is very or somewhat popular. Surprising in relation to the unpopularity of AQAP and OBL, 50 percent say Anwar al-Awlaki is very or somewhat popular.

One might imagine that these three items would be substantially related, that individuals saying that AQAP is popular would also be saying that Osama bin Laden and Anwar al-Awlaki is popular. Surprisingly, the correlations are only weakly positive (ranging from .14 to .24).

Who sees AQAP as unpopular?

AQAP is reported most unpopular in Amran, most popular in Shabwah.

Demographics of age, gender, and education are unrelated to perceptions of AQAP popularity. Similarly, perceptions of AQAP popularity show only few, small, and scattered correlations with perceived opinions related to other political issues.

There are significant differences across governorates in the perceived popularity of AQAP. Looking at the percent reporting that AQAP is *very unpopular* in their area, the ranking is Amran (58%), Marab (54%), Aljawf (50%), Sana (44%), Abyan (41%), Hadramout (27%), Aden (20%), and Shabwah (15%). The forty percentage point difference between Marab (most unfavorable toward AQAP) and Shabwah (most favorable) could be of practical significance on the ground in these two governorates.

What do Yemenis think of the U.S.?

In brief, they mostly do not want us around.

From what you know or have heard from others, on a scale of one to four, do people in this area approve or disapprove of: the Yemeni government's cooperation with the US? Only 4 percent say others in their area approve cooperation somewhat or strongly, 96 percent say others disapprove somewhat or strongly.

Similarly, 96 percent say others in their area see *the economic power of the U.S. in the world* as somewhat or very bad; 83 percent say others see *the military power of the U.S. in the world* as somewhat or very bad; 99 percent say others see *the cultural influence of the U.S. in the world* as somewhat or very bad; 98 percent say others have a somewhat or very unfavorable view of *the U.S. Government*; 99 percent say others have a somewhat or very unfavorable view of *the U.S.-led war on terrorism*; 95-97 percent say others somewhat or strongly oppose U.S. troops in *Iraq*, *Afghanistan*, and *Saudi Arabia*; 96 percent say others agree with the statement *The West is at war with Islam.*

Who sees more unfavorable opinions about the U.S.?

Opinions of the U.S. are reported most unfavorable in Marab, most favorable in Aljawf.

Demographics of age, gender, and education are unrelated to perceptions of opinions of the United States. Similarly, perceptions of opinions of the United States show only few, small, and scattered correlations with perceived opinions related to other political issues.

There are significant differences across governorates in perceived opinions of the U.S. Looking at the percent reporting that others are very unfavorable toward the U.S. government, the ranking is Marab (65% say others are very unfavorable), Shabwah (63%), Sana (58%), Hadramout (56%), Abyan (54%), Aden (53%), Amran (48%), and Aljawf (46%). The twenty percentage point difference between Marab (most unfavorable toward U.S. government) and Aljawf (least unfavorable) could be of practical significance on the ground in these two governorates.

It is interesting to note that the ranking of governorates in terms of reported unpopularity of AQAP is only weakly related to their ranking in terms of reported unfavorable attitudes toward the U.S. (correlation of ranks -.24). Marab, for instance, is most unfavorable toward AQAP and second most unfavorable toward the U.S.

What is the relation of perceived opinion about the U.S. and perceived opinion about AQAP?

There is no relation. Yemeni respondents who are more positive toward the U.S. are *not* more negative toward AQAP

Opinion of how others see AQAP is unrelated to opinion of how others see U.S. military power, U.S. economic power, U.S. cultural influence, or Yemeni government cooperation with the U.S. (correlations ranging from .03 to .09).

POLICY IMPLICATIONS

Many Yemenis are uneducated and unemployed. Even in January-February of 2011 (after the beginning of the Arab Spring unrest), respondents were more concerned about economic issues than about security (40% vs 35%). Despite their economic and security problems, few Yemenis have turned to al-Qaeda in the Arabian Peninsula for help. Only 14 percent say AQAP is popular in their area, and only 8 percent say Osama bin Laden is popular in their area. The high level of disapproval of AQ is a resource for the U.S. in Yemen, but it is a resource that can be lost by presuming that disapproval of AQ implies approval of the U.S.

U.S. training for Yemeni armed forces?

In fact, about half of Yemenis select the most extreme option in expressing unfavorable opinions about the U.S. and its role in Muslim countries. Perhaps most important is the finding that 95-97 percent say others somewhat or strongly oppose U.S. troops in Iraq, Afghanistan, and Saudi Arabia. This opposition to U.S. troops in Muslim countries needs to be taken into account in the U.S. National Strategy for Counterterrorism, released in June 2011. A relevant excerpt (White House, 2011) reads as follows:

> Our Counter Terrorism (CT) efforts in Yemen are embedded in a broader effort to stabilize the country and prevent state failure; such a scenario would have significant adverse implications for the United States and the region. The United States is working

> with regional and international partners to advance a number of political and economic development initiatives that address the underlying conditions that allow Yemen to serve as a safehaven for AQAP. These broader efforts complement those CT initiatives that are focused on building the capacity of Yemeni security services so they are able eventually to disrupt, dismantle, and defeat AQAP with only limited U.S. involvement. (p. 14)

Given Yemenis' strong negative opinions about the U.S. and strong opposition to U.S. troops in Muslim countries, the U.S. focus on "building the capacity of Yemeni security services" might better be implemented by training that occurs outside of Yemen. U.S. forces in Yemen are likely to provide AQAP a cause with which to raise its currently low popularity with Yemenis.

Even better than U.S. training for Yemen's security forces outside of Yemen might be U.S. support for Egyptian or Saudi forces training Yemen's security forces. Even with Egyptian or Saudi trainers, the training might better be conducted outside of Yemen. Both Saudi and Egyptian forces have made incursions into Yemen in the past; indeed Yemen was called "Egypt's Vietnam" when Egyptian troops ran into trouble pacifying Yemen in the 1960's.

Opinion of the U.S. Versus Opinion of AQAP

It is perhaps surprising to find that Yemeni respondents who are more positive toward the U.S. are *not* less positive toward AQAP. This is not the first such surprise, however.

McCauley et al. (in press) conducted a poll of Ottawa Muslims in which they were surprised to find that approval of the government of Israel was unrelated to approval of Hizballah or Hamas. They had expected a substantial negative correlation, such that those who approved of Israel's government would disapprove of Hizballah and Hamas. Although approval of one Western actor (U.S., Canada, Israel, or the U.N.) was correlated with approval of other Western actors, and approval of one Islamic militant actor (Hizballah, Hamas, Al Qaeda, or the government of Iran) was correlated with approval of other militant actors, the surprising result was that opinions of Western actors were unrelated to opinions of militant actors (correlations close to zero).

McCauley et al. also analyzed data from a 2002 Jordanian poll (Tessler & Robbins, 2007) to show that trust in President Bush was uncorrelated with trust in Osama bin Laden or trust in Saddam Hussein. Thus, three sets of results—from Yemeni Muslims, Ottawa Muslims, and Jordanian Muslims—converge in showing that attitudes toward Western actors are uncorrelated with attitudes toward those who challenge the West.

Implications for the War of Ideas

In 2009, Admiral Mike Mullen, Chairman of the U.S. Joint Chiefs of Staff, offered an evaluation of the U.S. war of ideas against the Taliban in Afghanistan. The military designation for the war of ideas is "Strategic Communication," and Mullen began by pointing to the fuzzy lines separating strategy, tactics, and operations in an asymmetric conflict. Then he moved on to his main point: "Our messages lack credibility because we have not invested enough in building trust and relationships, and we haven't always delivered on our promises" (Mullen, 2009, p.3). He concludes "To put it simply, we need to worry a lot less about *how* to communicate our actions and more about *what* our actions communicate."

Recognizing that actions speak louder than words is certainly a constructive refutation of spin-doctor promises to turn negatives into positives through the magic of advertising. However, Mullen continues to assume that if Muslims like us better and trust us more, then we are making progress in the war of ideas.

Results reviewed in this report offer a different perspective. Yemenis more approving of the U.S. are not more likely to see AQAP negatively. As already noted, similar results have been found with Ottawa Muslims and Jordanian Muslims. The implication is that the war of ideas has not one target, but two. If opinion of the U.S. is not the inverse—the "flipside"—of opinion of AQAP, then changing attitudes toward the U.S. is a goal that must be separated from the goal of changing attitudes toward AQAP.

This differentiation of goals can be difficult to accept. In a schoolyard fight, it is easy to assume that our friends share our feelings toward our enemy, and that the enemy's friends share the enemy's hostility toward us. In interstate conflict, it is easy to assume a similar symmetry and consistency: the bad guys and their allies lined up against our allies and us. Perhaps, however, this kind of black-and-white division is less natural in cases of asymmetric conflict.

The U.S. government's response to 9/11 included a general claim that whoever is not with us in the fight against terrorism is against us. At least for Yemeni, Ottawa, and Jordanian Muslims, this communication has not been successful. Some Muslims approve of both the U.S. and its current challengers, and many others disapprove of both the U.S. and its challengers. This pattern might suggest a different response to terrorism, in which whoever is not against us is with us.

Most generally, our results suggest that the competition between Western governments and radical Muslim groups is not adequately represented as a "clash of civilizations" (Huntington, 1993). At least for Yemeni, Ottawa, and Jordanian Muslims, there is no indication that Muslims feel compelled to choose sides. Muslims who come to like the West more may not like Muslim militants any less.

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Chapter Eight

Uses of Narrative in Promoting and Countering Violent Extremism

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Al-Qaeda's capacity for survival "is not predicated on the total number of jihadists that it may or may not have trained in the past, but on its continued ability to recruit, mobilize, and to animate both actual and would be fighters, supporters, and sympathizers" (Hoffman, 2003, p. 9). The process by which support for violent extremism is generated – known as radicalization -- can be viewed as having two conceptually distinct, but inter-related components. One is the class of psychological changes that encompasses beliefs, attitudes, intentions, and, perhaps, behavior. As individuals become radicalized they tend to see the world in increasingly binary terms, to judge members of outgroups negatively, and to be endorse violence as a solution to the problem of group differences (e.g., Horgan, 2005). But, these psychological changes do not occur unaided. Rather they are a function of the second component: messages. It is messages that stimulate thought, invoke feelings, and provide justification for past and future action. Although messages may take a multitude of forms, one that is especially germane to violent extremism is narrative. Narratives play an important role in creating and sustaining terrorism at the level of individuals, organizations, and societies (Casebeer & Russell, 2005; Halverson, Goodall, & Corman, 2011). Accordingly, this paper focuses on the processes and effects associated with narratives by (a) summarizing what is known and not known about narrative from an empirical, scientific standpoint, (b) presenting a theoretical analysis of narrative processes, and (c) extending the logic of that analysis to radicalization and counter-radicalization.

Properties of Narratives

Defining Features

Although there are many definitions of narratives most would agree that they possess the following features:

- A narrative consists of at least two and typically three or more events that are temporally and causally sequenced (e.g., Abbott, 2008). The most conventional story forms possess a beginning, middle, and an end in which events in the early in the story explain and bring about subsequent events (Aristotle, 1970).

- Story events are composed of characters, relationships among characters, and information about the setting or scene in which action occurs (Bal, 1997; Richardson, 2002).

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- Stories contain (a) a description of the wants of the characters, (b) a triggering action that puts the wants in conflict with other characters or some element of the environment, (c) and this conflict followed by some kind of resolution (Hogan, 2003; Ryan, 2007).

The elements in the list above should be seen as general, but flexible properties of the narrative form. Whereas most stories possess all of the listed features, the presence or absence of individual elements is insufficient to create a bright-line definition of narrative versus non-narrative. In part this is true because stories are human creations, the form of which can be modified by humans. So, for dramatic effect, a story might told in reverse chronological order. Or, an author whose goal is to prompt critical thinking might craft a story that has no apparent resolution. Thus, as a group the elements above enable traction on the conceptual problems associated with identifying the narrative form. Further clarification can be gained by considering aspects of narrative that should remain unconstrained.

What Narratives Are Not

Narratives may or may not be true in an objective sense. Some stories are part of an historical record. Others have their roots in with some actual event, but with many retellings the ratio of fact to fiction is altered. Over the course of time less-relevant details drop away at the same time that other story events are highlighted and sharpened. Still other narratives are made out of whole cloth. They arise from the imagination of their creators and make no pretense of ever being anything other than fiction. Form and truth status are independent.

Narratives are not constrained to any specific medium. It is obvious the different media enable different ways to engage with a story. For example, video presentations are designed along a timeline established by the creators of the message, whereas the written word can be consumed at any rate preferred by the reader. Stories that are conveyed in face-to-face settings may benefit from the emotional expressivity of the story teller. But, regardless of medium, there are universal aspects to narrative structure and processing that that render it a potentially important mechanism for changing beliefs and attitudes. In line with that point, the terms *reader* and *viewer* are used interchangeably in what follows.

Can Narratives Change Hearts and Minds?

Braddock's (2011) summary of the empirical literature provides the best available answer to the question of whether stories are an efficacious means of opinion change. This series of meta-analyses evaluated the effects of story exposure, where exposure was most commonly operationalized in experimental studies as a story condition versus a no-story condition and in correlational studies as frequency of exposure to an on-going narrative such as a television series. The outcomes variables were beliefs, attitude, and intentions. *Beliefs* may be defined as estimates of the likelihood that some state of affairs is correct or that some event has or will occur. For example, the statement that "no Jews died in the 9/11 attack on the twin towers" may be judged in terms of the likelihood that it is true. As the example suggests, beliefs are subjective judgments that may or may not correspond with objective reality. Braddock's quantitative synthesis of 12 studies showed an effect size for stories of .20, expressed as a correlation coefficient whose 80% credibility interval did not include 0 (see Table 1 for additional detail). Thus, the evidence indicates that stories have the capacity to change beliefs.

Table 1. Summary of Meta-Analyses of the Effects of Stories

Outcome Variable	k	N	Effect size (*r*) and 80% credibility interval
			|----------|---------|--------|---------|
			0 .1 .2 .3 .4
Beliefs	12	4618	.09--------.20-------.31
Attitudes	8	5753	.05----------.21----------.37
Intentions	8	4218	.09-------.19-------.29

Note. k = number of studies, N = number of participants summed across studies.

Attitudes are evaluative judgments of a person, object, or idea, such as endorsement of the statement that "Martrydom is a valuable and justifiable act." Whereas beliefs reflect true/false judgments, attitudes capture the distinction between good and bad or desirable and undesirable. Thus, they cannot be viewed as right or wrong except as they pertain to the goals of a given individual. Eight studies provided the basis for an effect size estimate of $r = .21$ whose 80% credibility interval did not include 0: Stories can create attitude change.

Intentions are the result of a decision process that outputs some degree of personal commitment to a plan of action. "If asked, I will provide support to Al-Qaeda" is one example of an intention. Previous research has shown that, when measured properly, intentions are excellent predictors of volitional behaviors (Kim & Hunter, 1993). Braddock's (2011) meta-analysis of eight investigations produced an effect size estimate of .19 with an 80% credibility interval that did not include 0. Thus, stories are able to bring about changes in intention.

There are important points to be drawn from the meta-analytic findings. For one, all of three of the effect sizes were statistically significant (assuming a 95% confidence interval around an uncorrected correlation coefficient). In addition, they were consistent in sign -- all three were positive. Thus, the available empirical evidence indicates that stories are an efficacious means of changing hearts and minds. Specifically, they can alter individuals' beliefs about the world, their judgments of what is desirable and undesirable, as well as their plans for behavior – all of which are the psychological underpinnings of radicalization.

But, there are several notable limitations to available empirical evidence that circumscribe the results of the meta-analyses. Most importantly, the evidence is not especially plentiful: The individual meta-analyses were based on between eight and twelve investigations involving 4200 to 5700 research participants. Although there is some diversity of topics – from cornea donation to skin cancer to hate groups – *not a single study takes radicalization or terrorism as its focus*. In

short, larger and more diverse samples of both individuals and messages are needed to ensure the scientific validity of existing findings, especially as they apply to radicalization and violent extremism.

What Factors Determine the Relative Potency of Narratives?

Are certain kinds of stories better than others? Are particular types of people more responsive to narrative than are others? A number of moderator variables were tested in Braddock's (2011) meta-analyses, but none were sufficient to explain the variation in the effect sizes across studies. For example, there was no indication that narrative-outcome relationships were different in (a) large sample studies as opposed to small sample studies or (b) in experiments versus surveys. The apparent lack of effect for these methodological variations can be viewed as testimony to the universality of the power of narrative.

But, there were no observed effects for variables of theoretic interest either. For example, Some studies identified the narrative as non-fictional (e.g., What you are about to read is a transcript of a newscast that was shown . . .), whereas others clearly stated that the stimulus message was a work of fiction. Yet no difference in the magnitude of effect for narrative was observed on any of the three outcome variables. These results might be attributed simply to low statistical power: There were only 12 or fewer studies in each analysis. But, the finding is consistent with narrative theory, which supposes the existence of an intriguing and counter-intuitive property to story processing (Strange, 2002). Specifically, it is assumed that the default value for narrative processing is belief (Gerrig & Prentice, 1991). The assumption of veridicality suggests that readers do not have to overcome incredulity or to suspend disbelief. Rather, the opposite occurs. Incoming information is initially accepted as credible. To the extent that it can be seen as false, message consumers must effortfully create incredulity.

This might be taken to mean that people cannot tell the difference between fiction and reality. But, there is a more subtle point than that. Surely individuals know that they are reading a book or watching a film and that these activities are distinct from their own lives. However, once absorbed into the narrative they fail to discriminate many of the implications of the story for reality. For instance, participants in Dahlstrom's (2010) investigation rated novel (and untrue) statements such as "Wild pansies rotate throughout the day to constantly face the sun" as truthful. The absence of an effect for fiction versus non-fiction manipulations lends credence to Gilbert's (1991) contention that belief in observed events (whether fictional or non-fictional) is the default value for information processing. "Unbelieving" something is an effortful process of undoing what is already settled.

Overall, the statistical tests of observed variation relative to expected variation were clear in indicating that there was greater variance in the distribution of effect sizes than would be expected by chance alone (Hunter & Schmidt, 1990). Put differently, the data suggest that the effect of narrative on beliefs, attitudes, and intentions *is* susceptible to the influence of other variables. Regrettably, the available empirical evidence does not permit confident generalizations regarding what those variables might be. This shortcoming of the research literature can also be addressed by careful tests of existing theory using larger and more diverse samples of people and messages.

How Does Narrative Achieve Its Effects?

Knowing that narratives can influence beliefs and attitudes constitutes one piece of the puzzle of violent extremism. Identification of variables that moderate the magnitude of narrative effects is a second piece. A third, equally important piece is concerned with how those effects are achieved. That is, by what process or processes do narratives create change? To see most clearly how narratives function, it is useful to contrast them with another type message: Persuasive appeals or, more precisely, advocacy messages, that is, messages designed to alter opinions via the presentation of arguments.

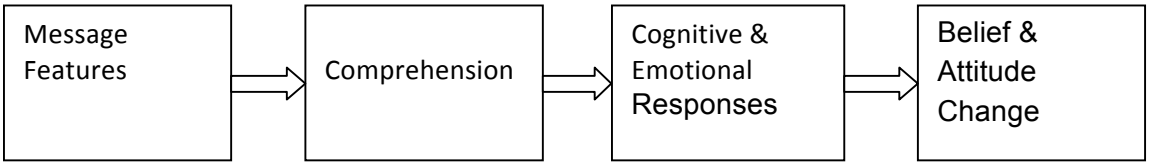
As point of departure it is useful to ask why people would bother attend to and think about a persuasive message. One answer is that persuasion is a form of decision making. Because individuals wish to advance their interests and minimize their potential harms, they must choose from among various possible courses of action: Should I join the Navy? Purchase *Crest* toothpaste? Try to become friends with Sally? Start or stop smoking? The correct answer to each of these questions can only be determined by what is best for the individual at a particular time given his or her values, goals, constraints, and so forth. Thus, people are motivated to think about persuasive messages because doing so can help them to solve pertinent problems. Accordingly, when individuals come to a situation that they recognize as persuasive, they arrive with a more or less analytic mindset.

Processing Persuasive Messages

One classic model of persuasive message processing sees utility in breaking the process into four steps (cf., McGuire, 2001). That model is adapted here as Figure 1.

Presentation and Comprehension. Persuasive messages can be recognized by their content and structure. For instance, they often announce their intent to persuade as well as the belief or attitude position that is recommended. An example, drawn from AQAP's e-journal *Inspire* (2011, issue 5), illustrates this point. Page 61 shows a page dominated by the image of a mujahad pointing a rifle whose faced is hidden by traditional headwear. At the bottom, the accompanying text reads as follows: "the following [article] is a COME TO JIHAD ad production. It seeks to inspire the believers to leave their homes and join the global jihad effort." Although not all persuasive appeals use such explicit language, the expression of intent signals to readers that they are being asked to make a decision. Specifically, they are being asked to consider how the upcoming material applies to their own beliefs, attitudes, and, perhaps, future actions. Consequently, their approach to processing the messages is analytic which, in turns sets up the expectation that the message will possess certain features, such as reasons offered in support of the advocacy, and that those reasons should be evaluated against criteria that are pertinent to the genre.

Figure 1. A Processing Model for Persuasive Messages



Thus, there is no surprise when the next page first poses a question that links a specific behavior to the more abstract concept of jihad, then offers three answers. To wit, "Why did I choose Al Qaeda? [Because] (1) They have the qualities of the Victorious Group, (2) They are the al-Ghurabá [strangers] of our times, and (3) They are the happiest in following the religion of Ibrahim" (pp. 62-64). Each of these claims is accompanied by prose that unpacks and elaborates the three justifications for joining Al Qaeda. Note that persuasion research typically has little to say about message comprehension. It is taken as a given. But, subsequent to understanding, individuals have two general categories of evaluative reactions to persuasive messages: Cognitive and emotional.

Cognitive Engagement. *Cognitive responses* are evaluative thoughts that arise from consideration of the message. Although they can be viewed along a variety of dimensions, one that has proven especially valuable emphasizes their congruence with main thrust of the appeal, that is, the valence of the cognitive response. A thought such as "The fact that Al Qaeda is fighting in Afghanistan, Pakistan, and Iraq is consistent with Uqbah bin Amr's prophetic hadith." Because the evaluative judgment echoes the reason given in the message, it is termed a *supporting argument.* A different cognitive response, "Uqbah bin Amr is mistaken about what actions define the Victorious Group" exists in opposition to the reason given in the message and, by implication, to the overall advocacy. Thoughts of this latter sort are called *counter-arguments* because they are critical of some aspect of the argument or the message. The two types of thoughts can be used to create a difference score – the number of supporting arguments minus the number of counter-arguments – that characterizes the *dominant cognitive response* (Petty, Brock, & Ostrom, 1981). Decades of research has shown this score to be a good predictor of attitude, at least in circumstances that induce moderate to high levels of thought about the message (Petty et al., 1981). Other work has established clear empirical links among attitudes, beliefs, intentions, and behavior (e.g., Kim & Hunter, 1993). In short, cognitive responses mediate the effect of persuasive messages on the same psychological outcomes that underlie radicalization.

Emotional Engagement. *Emotional responses* to persuasive messages represent a set of discrete reactions that vary in intensity. As a general phenomenon, emotions arise from appraisals of the person-environment relationship as it pertains to the person (e.g., Lazarus, 1991; Roseman, 2008; Scherer, 2001). When the implications of that relationship are favorable, positive emotions ensue. But, if the ramifications are perceived as disadvantageous, the result is negative feelings. Negative affects, in particular, motivate individuals to solve the problems that evoked the emotional response.

Individual emotions can be understood in terms of their instigating appraisals, their functions, and their action tendencies (see Table 2). For example, when one individual feels slighted by another, the emotional outcome is likely to be some variation on the theme of anger: Irritation at one end of the continuum to rage at the other. Fear is the consequence of perceiving possible harm, whereas the loss of something or someone valued entails sadness. Happiness results from progress towards one's goals.

Each emotion has an action tendency that aligns with the function of that emotion. Although all action tendencies are some form of approach/engagement or inhibition/withdrawal, particular emotions produce tactical-level variations on these two strategic-level themes (e.g., Roseman,

2008). Happiness and anger both motivate approach, but the resulting behaviors are quite distinct as can be seen in the contrast of embrace (happiness) and attack (anger). Although sadness and fear are both withdrawal emotions, their behavioral manifestations are notably different: Sadness is characterized by lethargy, whereas tension is typical of fear.

Table 2. Properties of Selected Emotions

Emotion	Appraisal	Function	General Action Tendency	Specific Action Tendency
Anger	Injustice	Remedy Injustice	Approach	Attack
Fear	Threat	Protection	Avoid	Withdraw
Sadness	Loss	Learning	Avoid	Plan
Happiness	Individual Progress	Reward	Approach	Embrace
Pride	Group Progress	Group Identity	Approach	Signal Membership

There is substantial research showing that emotions induced by persuasive messages bring about changes in intention and attitude that are largely consistent with their respective action tendencies (Dillard & Nabi, 2006; Dillard & Peck, 2000). For example, many health-related messages warn of the hazards of certain behaviors, such as failure to obtain a vaccination against influenza. To the extent that the message arouses fear, it also increases the likelihood that the message recipient will form both a favorable attitude toward vaccination and an intention to be vaccinated (Dillard & Anderson, 2004). The relationship between specific emotions and persuasion is a complex function of the content, structure, and style of the message. But, at the general level the relationship is straightforward: Individually and collectively, emotions mediate the effect of persuasive messages on beliefs, attitudes, and intentions.

Processing Narrative Messages

Presentation. Like persuasive appeals, narratives often contain devices that signal their message type and suggest how they should be processed. A curtain rises, a chapter heading appears or someone says "That reminds me of story." *Inspire* (2011, issue 5, page 56) contains a section entitled "Jihad Stories." Shorter narratives appear as in the News Flash section (page 6) as single-paragraph descriptions of events around the world, which nonetheless involve characters, scenes, motivations, and outcomes.

Comprehension. Contemporary approaches to understanding narrative depend heavily on the notion of pre-existing cognitive structures that represent features of the lived world (e.g., Busselle & Biliandzic, 2008). *Schema* is used here to refer to knowledge structures composed of real-world information. For instance, most adults possess a schema for building a fire that contains information about obtaining wood of various sizes, arranging the twigs and logs, applying a spark or flame to start the smaller sticks, then encouraging the flame to spread to larger pieces by blowing or fanning. These actions can be performed in different locations including out of doors or in a fireplace. Among the many possible reasons for building a fire, two are (a) for generating heat and (b) for creating a satisfying visual experience.

Information contained in schemata is used to create various cognitive structures that are relevant to the narrative, which may be referred to as *mental models*. For instance, person schema provides general knowledge of the characteristics of individuals and their motivations that make possible the creation of story specific *character models* (Rapp, Gerrig, & Prentice, 2001): Boy scouts start fires as part of their training, while arsonists have a different purpose. *Situation models* adapt general knowledge about spatial setting, causality, and chronological sequence to the specific narrative (Zwann, Langston, & Graesser, 1995). If a character observes that sunset will occur soon, then begins to collect wood, these actions suggests that the character may be anticipating a cold night. *Story logic models* represent a more stable and abstract set of relationships that provide meaningful connections between events and continuity in the behavior of characters. A character's series of efforts to eat, sleep, and create shelter in the wild could be accounted for by knowledge that she is enrolled in an Outward Bound experience or that the wagon train has inadvertently left her behind. Finally, to the extent that they are applicable, *genre schema* can be drawn upon to flesh out the details of any given mental model. In this vein, the genre known as western fiction requires a specific setting (i.e., west of the Mississippi River), often examines the challenges involved with bringing civilization to the frontier, and sometimes celebrates the actions of principled nomadic loners who take risks that are out line with self-interest.

Implications of Comprehension Theory. From the juxtaposition of schemas and mental models, it is possible to discern a larger and more important point. That is, narrative comprehension is fundamentally a process of constructing meaning. It leverages something that is known (i.e., schematized knowledge) into something that is novel (i.e., a mental model of the story). Narrative comprehension represents active engagement insofar as it requires drawing selectively upon stores of knowledge to create one or more new and synthetic knowledge structures. It is an active process that both demands and consumes cognitive capacity. So, it should not be surprising that individuals self-report varying degrees of attentional focus and comprehension of the narrative (Busselle & Bilandzic, 2008).

The notion that story comprehension consumes cognitive resources leads to the question of why individuals process narratives at all. One common response is that narratives are pleasurable (Oliver, 2009 provides a review). This seems a satisfactory answer for certain narrative forms such as comedy, but a less workable account of tragedy and many types of drama. To provide a more convincing explanation for the attraction of these narratives, Oliver (2009) proposed the concept of *eudaimonic motivation*, an idea that corresponds roughly to personal insight. Both pleasure-seeking and eudaimonic motivation can be seen a proximal causes of narrative process.

The question of why people process narratives can also be posed with regard to a longer timeline. That is, what is the evolutionary function of narrative? It seems plausible that narratives function as a means of social learning. They are simulations that allow individuals to learn about the behavior of others and the consequences thereof without having to directly experience those consequences themselves. To the extent that the simulations and their conclusions were representative of reality, the knowledge that they bestow would have significant value for the narrative consumers. It would help them to know the structure of various human interactions ranging from sexual engagement to martial conflict and the sort of outcomes that be expected from different configurations of actors and events. Indeed, it seems plausible that a dependence on narrative may have evolved because of the fitness advantages it conferred to message

consumers. Those who listened well and learned information that was useful for interacting with the environment were more likely to achieve the midrange goal of survival and, hence, the longer term goal of inclusion. Fitness benefits would derive from the capacity for individuals to adopt the perspective of characters in the story. Closing the gap between simulation and reality would render the simulated experience real in terms of cognitive and emotional responses as well as understanding of the implications of the story for one's own well-being. By this logic too, the ability to tell stories became a valued fitness marker in individuals for the benefits that it provided to members of the group.

This reasoning also suggests an interpretation of the no-difference finding for fiction versus non-fiction in Braddock's (2011) meta-analysis. Consider the assumption that reality preceded fiction. Or, more specifically, that, over the course of evolutionary history, individuals told stories about events that had actually happened before they developed fictional accounts. If so, the mental machinery that evolved for narrative processing would have developed originally for the purpose of running simulations whose veridicality was never in question. There was no need for reality testing because the possibility of fictional narratives did not yet exist.

Consideration of the various types of mental structures that are used for narrative comprehension enables one further insight. In brief, schema are those structures that draw upon real world knowledge for the purpose of constructing mental models, that is, structures specific to the narrative being processed. In rough analogy to the logic of experimental design, schema are concerned with questions of external validity, while mental models have as their focus internal validity. Most centrally, however, we see that there are two types of structures activated concurrently to achieve two different ends. Accordingly, it is reasonable to posit the existence of a *story logic monitoring system* that keeps tracks of the elements of narratives (i.e., motivations, characters, and scenes) the causal connections among them. Operating in parallel is real-world *correspondence monitoring system* that evaluates the plausibility of conceptual linkages between the lived world and the narrative. Similar distinctions may be found in Fisher (1989) and Busselle and Bilandzic (2008).

Cognitive Engagement. Cognitive engagement occurs when the story processor makes an evaluative judgment about some aspect of the story. These reactions have sometimes been referred to as counter-arguments, but that lexical choice is freighted with inaccurate implications. Stories are not composed of arguments, so one cannot argue for or against them. That said, there are at least two broad standards for judging the goodness of a narrative and, as with persuasive messages, two sorts of cognitive responses that readers might make. One set of standards for judgment derive from the story logic monitoring system and reflects the degree to which the story is well executed by its own internal standards. Is it systematic and coherent? Is it fluid and rich? Narrative consumers may generate a negative cognition if a story is incomplete (Le, Coelho, Mozeiko, & Graham, 2011) of if a character is seen as behaving implausibly. A thought such as "Why doesn't he just leave town? She is there and he doesn't want to see her" is a critique of a character's action vis a vis the story logic. Positive cognitions are possible too as when the reader judges the plot as especially well-crafted, a turn of phrase as particularly apt, or the ending as unexpected, but convincing.

The second set of standards has to do with the correspondence monitoring system and, thus, the mental model of story and the schema-based knowledge of the real world. Negative cognitions

arise when readers perceive an inconsistency between some aspect of the story and their understanding of how the world actually works. In this vein, a character who pulls branches from a living pine tree, then easily starts a fire with them, might engender disbelief in the reader (because green wood does not burn). In contrast, story events that replicate or underscore existing beliefs might stimulate cognitions indicative of a favorable story evaluation. For instance, a News Flash story (Inspire, 2011, issue 5, page 6), which reports that President Obama was "saddened and outraged" by the successful killing of American service men by a "courageous Kosvan mujahid" might prompt a cognition such as "This is just" in an audience member who is sympathetic to the aims of Al Qaeda.

It is worth noting that all forms of cognitive responses just described are evaluations of the story, not interpretations. They go beyond the story itself as they draw out implications of the narrative for the life of the reader or as they treat story itself as an object of judgment. Relative to the sort of processing that occurs in story comprehension/construction they are meta-cognitive.

Emotional Engagement. It was argued above (in the section on persuasion) that emotions are evoked in response to a person's appraisal of his or her goals relative to the state of the environment. In other words, individuals respond emotionally to events that are taking place as they understand them via the message. But, advocacy messages sometimes describe events that have not yet occurred, such as when they warn of the potential hazards of smoking, drug use, or risky sex. People report experiencing more fear in response to messages that describe serious as opposed to mild consequences (e.g., death vs. discomfort) and they change their intentions to obtain a vaccination as direct function of the intensity of their fear (Witte & Allen, 2000). Indeed, there is substantial evidence that individuals adjust their behavior on the basis of anticipated emotions (O'Keefe, 2002 for a review). These facts underwrite a general premise of cognitive science: Individuals do not respond to reality, but rather to their representation of reality. Hence, emotional response to all events – past, present, and future – are equally genuine. From this vantage point, it is easy to see that narrative-induced emotions are not fundamentally different from emotions induced by any other means. They utilize the same cognitive mechanisms (Gendler & Kovakovich, 2005) and might reasonably be expected to produce similar effects on beliefs and attitudes as were shown with persuasion, but with certain qualifications.

Premier among those qualifications is the way in which individuals are involved in the narrative experience. Whereas involvement in persuasive appeals often hinges on the consequences of the issue or the values it invokes (Cho & Boster, 2005), narrative engagement likely turns on identification with one or more of the characters (Moyer-Guse, Chung, & Jain, 2011). Specifically, identification is the extent to which the reader vicariously adopts the perspective and goals of a character (or characters) and thereby also experiences the thoughts and feelings that follow from a character's movement through the events in the story (cf., Cohen, 2001). To the extent that the reader becomes immersed in the story line, and thus the reality of the characters, he or she is likely to experience emotions related to the story logic that move beliefs, attitudes, and intentions in the same way that emotions induced by persuasive messages alter these same psychological outcomes. Thus, an injustice done to character with whom the reader identifies is likely to evoke anger that has the potential to motivate the reader if he or she perceives the circumstances as similar.

Conclusion

Understanding the processes that are instigated by narratives is an essential part of understanding how narratives create changes in beliefs, attitudes, and intentions. This section examined research on mediators in persuasive message processing, then showed how that was both similar to and different from narrative message processing. Although there are important differences between the two message types, both involve cognitive evaluation and emotional response as momentary precursors to the more stable psychological outcomes that underlie radicalization (i.e., belief, attitudes, and intentions). The next section focuses on applying the ideas developed earlier in this paper to counter-radicalization.

Countering Radicalization Narratives

Stories are subject to Darwinian pressures of selection. Some survive to be told repeatedly and others do not. Narratives exist in competition with one another, some winning inclusion in the metaphorical gene pool while others failing to maintain their presence. This underscores the accurate notion that stories are part of the social milieu and, thus, elements in an interactive environment that is constantly evaluating their worth. But, independent of the value of any particular story there are two general approaches by which governmental actors might shape the process of narrative selection and retention. Those are (a) destabilizing existing narratives that promote radicalization and (b) introducing new narratives that function as devices for counter-radicalization.

De-Stabilizing Radicalization Narratives

Attribute Persuasive Intent to the Story Teller. In the account of narrative functioning developed above, the storyteller is implicitly assumed to be a benign message source whose interests may lie in entertaining, informing, or providing personal insight to an audience. In reality, narrators may have less altruistic motivations. The persuasion literature is informative on this point in that meta-analyses show that to the extent that a source is seen as possessing persuasive intent the message is less effective (Benoit, 1998). Although the evidence is far more limited with regard to narrative processing, the data point to the same effect: Perceived persuasive intent is negatively associated with change in belief, attitude, and intention (Moyer-Guse & Nabi, 2010; Slater & Rouner, 2002). Thus far, the research indicates that this process is the mainly cognitive (not emotional), involving heightened scrutiny of the message (Wood & Quinn, 2003). This is probably true for both advocacy and narrative message, though rather than looking for flaws in the argument, narrative processors would presumably be alert for inconsistencies in the internal and external quality story, two issues dealt with below.

resent Alternative Explanations for the Event Sequences. As noted at the outset of this paper, one of the defining properties of narratives is that past events (in the story) explain subsequent events. Because there are characters involved in stories, it is often the goals and other psychological properties that provide an understanding why a decision is made or a course of action chosen. The events of September 11, 2001 established a public image of Al Qaeda operatives as highly trained and fervently committed individuals who are part of an efficient and well-organized worldwide operation. While there may be elements of truth to this characterization, it is equally true that the function of media organizations is to sell the news (or, more accurately, the advertising space that accompanies the news). News outlets are seen by consumers as vital sources of information to the extent that they provide information that is

relevant and consequential to those consumers. There is financial incentive for news organizations to maintain an image of terrorists as expert killers who could unpredictably wreak devastation in local, national, and international settings. Regrettably, this characterization is surely an excellent recruiting tool for organizations interested in promoting violent extremism.

Alternative explanations of the behavior of Al Qaeda characters are possible. One option is to provide information on story characters that is at odds with their role in the narrative. For example, Osama Bin Laden has been cast as a mythic figure in the centuries-old narrative of struggle between the east and the west. The discovery of a cache of pornography in his home in Abbottabad seems to offer a means of undermining his status as legend.

Another means of creating alternative accounts focuses on the motivation of characters. Whereas Al Qaeda's public relations efforts emphasize religious commitment, evidence that the organization is involved in drug trafficking suggests motives that are more self-interested than transcendental. Al Qaeda might be portrayed as a business organization or as a criminal organization, one often being not to different from the other.

Dispute the Implications of the Narrative. Just as language is inherently polysemic, so are narratives. Both are often sufficiently malleable as to admit to more than one conclusion. For example, Al Qaeda actively promotes the notion that jihad is the obligation of all Muslims and many of the stories presented in *Inspire* take this as a premise for the action of characters in those narratives. But, the meaning jihad as the responsibility to violently attack non-believers can be disputed.

Conclusion. It is unlikely that a single application of any of these strategies would be sufficient to create a deterrent to radicalization. Indeed, it is important to bear in mind that narrative and counter-narratives are not levers that apply force in a unidirectional manner. Rather, the contest for hearts and minds is an ongoing undertaking that involves series of messages generated by multiple state and non-state actors and exchanged over a substantial period of time. Appreciation of this fact quickly leads to the conclusion that a successful approach to counter-radicalization will not be purely reactive (i.e., limited to attempts to destabilize existing narratives). Rather, it should involve the creation of stories explicitly designed to work against the changes in beliefs and attitudes that underlie radicalization.

Creating Narratives for Counter-Radicalization

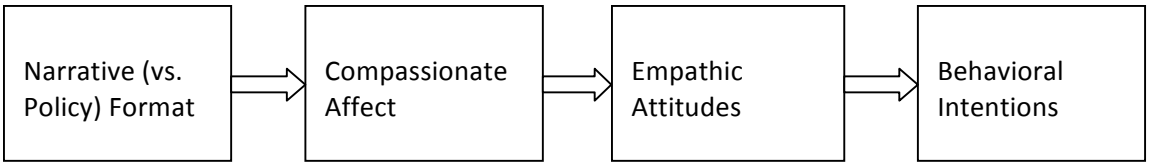
In several laboratory investigations, participants listened to an audiotaped interview with a young woman who had been diagnosed with AIDS (Batson et al., 1997). They were subsequently asked to indicate their level of agreement with a series of policy oriented statements such as "Our society should do more to protect those with AIDS." But, listening to the interview half of the participants were asked to "imagine how the woman who is interviewed feels about what has happened and how it has affected her life" whereas the other half were told to "take an objective perspective toward what is described" in the interview. The results showed a clear tendency for those in the empathy condition to make more favorable policy judgments than those in the objective processing condition.

Oliver, Dillard, Tamul, and Bae (2011) argued that differences in the way in which news articles were framed constituted a naturally occurring parallel to the empathy manipulation. In their experiment, two types of newspaper articles – all with a general focus on problems related to health care -- were created for each of three stigmatized groups: Immigrants, the elderly, and prisoners. *Policy format* news articles gave general substantive and factual information about the health-care issue as a group problem. For example, the policy article on immigrants began with: "Undocumented workers in the United States are receiving far less health care than their naturalized counterparts and full citizens, according to a Harvard University study published Thursday." In the *narrative format*, the health-care issue was illustrated using a specific person and his or her experiences to frame the information: "Alejandro Martinez, 36, of Leesburg, Va., fumbles with the buttons on his shirt, clumsily working around two missing fingers. Some mornings his heavily bandaged hand seems to have a will of its own." But, despite these differences in emphasis and structure both types of articles contained essentially the same information. Length was also similar across articles ranging from 528 words to 549 words.

After reading the stories online, participants in the study responded to series of questions about how the news articles made them feel: Happy, angry, fearful, sad, and compassionate/sympathetic. They were also asked attitude questions focused on the group and its relationship to society. For instance, "Compared with other social problems we face today (e.g., crime, education, the economy), how would you rate the importance of helping [immigrants/elderly people/prisoners]?" and "Our society should do more to protect the welfare of [immigrants/elderly people/prisoners]." Finally, behavioral intentions were assessed in terms of participants' willingness to donate money, sign a petition, discuss the situation with friends/family, or forward a link to others regarding the target group in the story. Although there were some complexities to the results, the overarching process can be summarized as follows (see Figure 2): Articles in narrative format heightened levels of compassion for the individual, which in turn increased the perceived importance of helping the group, which subsequently predicted intentions to engage in a variety of behaviors aimed at bettering the groups circumstances.

There are several conclusions that are especially important to the project at hand. First, the data show that narratives – presented in an ecologically valid format – have the capacity to instigate a process that begins with emotional response, changes attitudes, then alters intentions. This is consistent with the idea that narratives may be seen as naturally occurring perspective-taking inductions.

Figure 2. Summary of the Effects of Narrative News Format



Second, although little can be said about the role of cognition from these data (because cognitive responses were not gathered), there is clear evidence that emotion serves as a mediator in the change process that is instigated by narrative. It is noteworthy that in this particular case, compassion/sympathy was the key mediator, but that other emotions (fear, anger, sadness) did not apparently figure into the process at all. Thus, whereas the class of variables called emotions may invariably play an important role in narrative-induced opinion change it cannot be said that any given emotion will always do so. Rather, theory and common sense suggest that various emotions will be more or less central to the change process depending on the story and the context in which it is told. Dillard and Nabi (2006) delineate conditions that are necessary for emotion to influence persuasion. For one, emotional arousal must take place. Then, the emotion must be perceived as having been aroused by the message and not the result of some superfluous or unconnected event. Finally, the emotion must be seen as relevant to the [story] advocacy at hand. When all three conditions hold, opinion change is to be expected. Although direct tests of these conditions have yet to be conducted in the narrative context, they seem, *prima facie,* to present plausible boundary conditions for the influence of story-related emotions.

A third conclusion centers on the kind of inferences that are drawn from the narrative. Recall that the narratives were constructed such that they focused on the plight of individuals: An Hispanic immigrant who lost two fingers due to inadequate health care, an elderly couple on a limited budget who were forced to choose between food and medications, and a prisoner whose diagnosis of a brain tumor came too late to implement steps to control the cancer. But, the attitude judgments rendered by participants were focused on how important it was to help and protect *the groups*, not merely the individual characters in the narrative. Complementary findings can be seen in other work which shows that negative stories about interaction with the U.S. criminal justice system leads to more support for policies such as public funding for defense lawyers and higher taxes for rehabilitation in prison (i.e., group- not individual-based solutions) (Mutz & Nir, 2010) and support for the death penalty (Slater, Rouner, & Long, 2006). These findings are notable insofar as they connect to group-based aspects of radicalization including dehumanization (e.g., Moller & Deci, 2010) and deindividuation (e.g., Lee, 2007). Presumably narratives that humanize the opponents of violent extremists would serve as a counterweight to forces for radicalization. It seems likely that creating compassion for groups that are already seen as close to Al Qaeda, such Muslims killed as collateral damage in suicide bombings, might be an especially effective deterrent.

Persuasion Principles for Dissemination

Thus far, the analysis of narratives for radicalization and counter-radicalization has focused on message design. But, even the best of messages cannot produce effects unless individuals are exposed to them. The literature on persuasion campaigns permits some generalizations that may be useful in guiding efforts to disseminate counter narratives.

Channels. Changes in communication over the last half century have dramatically reshaped information flow across the globe. The relatively recent impact of new media, such as Google, Facebook, and Twitter loom large and, as a result, often prompt exaggerated expectations for what can be achieved through their use. It is worth bearing in mind that, regardless of the communication medium, stories are told by people to people. Overall campaign effectiveness is

likely to be facilitated by concurrent use of multiple media, especially when mediated messages efforts can be augmented by peer-to-peer communication (Rice & Atkin, 2009).

S**ources.** Persuasion research tells us that people who have changed their orientation from one side of an issue to the other are seen as highly credible (assuming the absence of other causes for the change). Several crystalline examples can be seen in Horgan's (2009) interview with Omar, a Pakistani who was initially committed to jihad until personal experience with members of Al Qaeda caused him to see their actions as deceitful and exploitative. At this point, he becomes outraged at the injustice of the treatment of helpless countrymen. Although there are a number of complexities to his story that qualify its potential suasory power, the history of radicalization followed by disengagement renders him an appealing message source.

Such evidence as exists suggests that timing of the identification of the source can play an important role in attitude change. Persuasion is maximized when high credibility sources are identified prior to the message, but when low credibility sources are identified following message presentation (Allen, 2002; O'Keefe, 1987).

Persuasion is maximized when different arguments are presented by different message sources (Harkins & Petty, 1987; Lee & Nass, 2004). The effect, as it has been studied to date, seems to follow from the belief that different sources reflect distinct and independent pools of information. It seems likely that repetition of narratives by varied sources can be implicitly construed as endorsement and, thus, produce the same multiple source effect as has been obtained in the advocacy literature. Of course, this effect is likely to be limited to *credible sources,* a point that underscores the risks of utilizing message sources without prior knowledge of how they are likely to be judged.

Sustained Effort. Persuasion campaigns involve the coordinated dissemination of multiple messages with a common theme over a specified period of time (cf., Rice & Atkin, 2009). A considerable body of knowledge exists to show that campaigns are capable of changing opinions and behaviors (e.g., Snyder, 2001). However, that same body of evidence indicates that when campaigns cease, the psychological and behavioral targets tend to move back towards baseline (Yzer, Siero, & Buunk, 2000). The implications are clear: The work of destabilizing and countering radicalization narratives will require a sustained effort. Indeed, to the extent that the most important stories are those that are interwoven into existing cultures (Halverson et al., 2011), a realistic timeline for counter narrative efforts is probably decades.

Research Directions

Descriptive Analysis of Narratives in Use. Halverson et al.'s (2011) effort to identify master narratives of Islamist extremism represents a major step forward in understanding the basis for stories that are told and retold for ideological reasons. But, more can be done to tie their relatively abstract analysis to the instantiation of specific stories that are currently in play. As suggested by the fact that narratives are not bound to any one modality, a comprehensive effort would gather stories from both interpersonal and mediated contexts. And, just as websites, magazines, and social networks display themes of common interest to their audience members/participants, it seems likely that these contexts will manifest recurrent themes. For example, the narratives that appear in *Inspire* are current and anecdotal. But, crucially, they read as simulations of martyrdom: Individual "brothers" fight against the infidels and ultimately die

with a smile (p. 57). A basic understanding of where particular story types are being presented to which segments of the target audience is the first step towards a nuanced, data-based counter-narrative strategy.

Evidence of the Causal Influence of Narrative. Despite widespread interest in narrative among researchers of many stripes, I was unable to locate a single experimental investigation of the effects of radicalization narratives on beliefs, attitudes, or intentions. One cannot help but be concerned that belief in the power of narrative has become a taken-for-granted that is unsupported by careful experimental testing. Laboratory studies that make use of the naturally occurring narratives identified in Step 1 (above) would be an ideal means of generating durable knowledge about the impact of narrative on radicalization. Essential to this undertaking is tracing the cognitive and emotional processes that provide the basis for narrative's impact. One obvious challenge will be recruiting research participants who are representative of the populations of interest.

Developing Destabilization and Counter-Narrative Strategies. The basic experimental design for developing destabilization and counter-narrative strategies involves three conditions: (a) a no-message control whose function is to establish uninfluenced levels of beliefs, attitudes, and intentions , (b) a narrative only condition which exists to demonstrate that the narratives under analysis do, in fact, produce the anticipated change, and (c) a narrative plus prevention condition in which the preventive strategy is paired with the narrative such that the difference between it and the narrative-only condition can be attributed to the prevention strategy. Thus, only after isolating genuine in-use radicalization narratives, then demonstrating their ability to change opinions in research designs with strong internal validity, will it be possible to devise compelling empirical tests of destabilization and counter-narrative strategies.

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Chapter Nine

AQAP's use of norm entrepreneurship in the *Inspire* series

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Cronus Global

Introduction

This project has sought to gain greater analytical traction over the English-language magazine series being issued by Al-Qaeda in the Arabian Peninsula (AQAP). Known by its title, Inspire, the series now in its sixth issue, has become one of AQAP's most infamous propaganda releases. In an effort to press beyond conventional arguments suggesting that Inspire either ought to be dismissed as passing novelty or feared as the jihadist recruitment panacea, this project delved into the primary source Inspire magazines in to understand the deeper, strategic value for AQAP of this series.

The project, directed by Dr. Jarret Brachman, a specialist on Al-Qaeda strategic messaging efforts, employed inductive content analysis of *Inspire*'s six magazines (see Figure 1), examining both its formal textual articles as well as graphics, inserts, text boxes and other included elements of the issues. Through the inductive identification and clustering of the predominant thematic threads throughout the magazine, Dr. Brachman found that AQAP's Inspire series is more than a tactical enterprise simply attempting to market do-it-yourself terrorism to youths in the West. Rather, Inspire can be alternatively understood as an attempt by AQAP to target and shift the existing norms governing online jihadist perceptions of behavior. In other words, AQAP's *Inspire* series is also an effort to transform the norms of how the Western jihadist movement understands itself.

Figure 1. The six covers of Inspire magazine

The following study examines the *Inspire* magazine series through the lens of how it is attempting to do more than just provide answers to

the questions that haunt the typical jihadist-minded youth in the West. Rather, the Inspire series is trying to catalyze these youth to be asking different questions than they are now. The premise of this approach is that the old way in which these youth were seeing the world – and themselves as actors in that world - had not been working well enough. AQAP's hope seems to be, that the new way that they are proposing both explicitly and implicitly in their magazine series, will be different.

Conclusions from this study are limited to what is contained within the magazines. This study does not seek to address the effectiveness of the Inspire magazines at advancing these norm changes. Nor does it attempt to quantify the resonance of the series within the target population. Rather, this study is specifically focused on trying to understand the strategic initiative from AQAP's perspective related to the process of adjusting understandings of what is possible or appropriate, which is known as norm entrepreneurship.

The implications of this study's findings for policymakers and practitioners are significant. Rather than understanding Inspire as a tactical / operational level threat to the security of the United States, this study concludes that the magazine's true genius is in its attempt to rewrite the dominant norms for English-language al-Qaeda supporters. This conclusion demands that a different timeline and toolset be employed when considering policy options than what may currently be on the table.

Inspiring a handful of individuals who are ready to conduct an attack to follow AQAP's bomb-making recipe over an alternative, while important on one level, is a fleeting concern for U.S. national security. What this study will warn of is AQAP's ability to inspire a generation of followers to understand the notion of duty differently. It will caution the U.S. Government about AQAP's attempts to qualitatively evolve the online jihadist mindset from being passive to active.

This final report will proceed in the following manner. First, it will provide an overview of AQAP's media initiative, concentrating on its English-language efforts. It will identify how two Americans now working with AQAP, Samir Khan and Shaykh Anwar al-Awlaki, have helped the organization establish and deploy a range of propaganda products under the AQAP media umbrella of Al-Malahim, to a Western English-speaking audience. It will then provide an overview of the norm entrepreneurship literature and review the inductive content analytical methodology approach that was employed in the study. Next, the report will highlight the major findings. This section will profile the various types of norm entrepreneurship that were found in the Inspire magazines along with representative textual and graphical examples. Finally, the report will provide a series of policy conclusions based on the major findings.

The policy recommendations that flow out of this final report are strategic in that they do not focus on individual policies but rather they advocate a wholesale rethinking about how and what to do in response to propaganda efforts like the Inspire series. Rather than viewing them as an offensive threat that must be countered, emphasizing the tactical and operational dimensions, this study finds that more benefit could be reaped by viewing them as a conceptual guide to where AQAP believes it is weakest and most vulnerable.

AQAP English-Language Media Overview

Al-Qaeda in the Arabian Peninsula's (AQAP) continued ability to recruit and mobilize English-speaking individuals is an obvious point of concern for security and intelligence agencies around the world. On the one hand, AQAP has demonstrated a clear ability to deploy trained operatives against Western targets. On the other hand, AQAP has also proven itself able to empower Western-based Muslims with the media resources they need for perpetrating a terrorist attack. Whereas a great deal of American counterterrorism focus has been on AQAP's direct operational threat, its effectiveness in grabbing the attention of Western-based individuals cannot be denied. Even AQAP has been eager to demonstrate their relevance with Western media in their Inspire magazine series (see "Inspire Reactions", 2010; see also Figure 2).

AQAP releases messages through their official media establishment, Al-Malahim Media. Al-Malahim releases three kinds of products: audio/video, digital magazines and written monographs. Audio and video releases tend to feature individual statements from AQAP leaders, interviews with AQAP leaders, dedications to martyred AQAP members or documentary-styled videos. These productions vary in terms of their thematic focus but tend to be specifically targeted on the theme identified in the title.

Their English-language propaganda is far less developed than the Arabic-language messaging. It nonetheless receives official organizational backing through Al-Malahim media. The English-language wing of AQAP's messaging has employed a number of effective instruments that have increased the group's visibility with, and relevance to, individuals located in Western countries such as the United Kingdom, the United States and Canada. One of the devices most covered by Western media has been the introduction of the American-Yemeni Imam, Anwar al-Awlaki. His brand recognition among English-language Muslims was already high within Western Muslim circles before al-Awlaki began representing al-Qaeda thanks to his prolific publication of compelling sermons and monographs.

Another important device employed by AQAP to reach out to English-speaking individuals around the West has been its English-language magazine series. In May 2010, Al-Malahim released the first issue of *Inspire*. Attractively-designed and released in electronic format through the standard posting on al-Qaeda message boards, this 67-page release was an overnight sensation. Its blending of the religious, strategic and tactical gave something for everyone. It included statements from AQAP and other jihadist leaders. It featured a variety of full-color photographs and cleverly designed banners. Its current affairs commentary was smart and directly relevant to English-speaking al-Qaeda supporters. The magazine had seemingly found an

Figure 2. A world phenomenon

INSPIRE REACTIONS

government & media responses

"They're not looking to outdo the readership of the Economist or Time magazine. They only need to inspire one or two people to blow something up in the right place and they'll make back their start-up costs."

effective format for ensuring receptivity and virality.

Now with its sixth release, *Inspire*, differs from other al-Qaeda magazines in several ways. Most notably, the magazine is al-Qaeda's first official regular online magazine issued in English. Although there have been multiple supporter magazines released over the past decade in English, this is the first magazine publication that has been sponsored officially by an al-Qaeda organization. Its official backing by AQAP provides a legitimacy that the supporter magazines are not able to achieve.

Additionally, one of the magazine's chief architects, Samir Khan, is an American who had developed a highly recognizable brand within the al-Qaeda supporter online world long before joining AQAP. Similar to al-Awlaki, Khan's pre-existing brand positioning allowed him to hit the ground running, tapping into authors, topics and a stylistic approach that he had already spent years crafting.

Media coverage of the *Inspire* series has focused predominantly on two dimensions: its stylized graphical presentation and its aggressive advancement of its do-it-yourself advice for Westerners to perpetrate acts of low-tech terrorism in their home countries. In terms of the magazine's glossy graphical presentation, there is no doubt that its designers have sought to replicate the look and feel of contemporary Western tabloid magazines. Certainly, its vibrant use of colors, stylized fonts in various sizes, exciting banners and text boxes demand the reader's attention. And with regard to the content of the magazine, much of the concern has been focused on the tactical and operational implications of the articles. The various how-to guides for constructing bombs or recommended plots for killing Americans have garnered significant attention.

A closer examination of the various articles contained in the six *Inspire* issues released to date suggests that, despite the barrage of coverage given to the publication, the most important point has been missed. The findings of this study suggest that AQAP's *Inspire* initiative is more than simply recruiting a greater number of people into al-Qaeda or inspiring a higher number of individuals in the West to operationalize their support for al-Qaeda in the form of a terrorist attack.

AQAP's *Inspire* magazine is, in fact, primarily designed to rewrite the existing norms of what is considered possible, appropriate and necessary behavior for a Western supporter of al-Qaeda. *Inspire*, and the editorial staff behind it presumably spearheaded by the Americans, Samir Khan and Anwar al-Awlaki, are in the business of trying to spark more than just new low-level terrorist attacks. They are seeking to alter the ways al-Qaeda followers understand themselves and their potential suite of tools for supporting the al-Qaeda movement. In the international relations field, such targeted and strategic attempts by a specific actor to rewrite understandings of appropriateness for a group of people is referred to as "norm entrepreneurship."

Understanding Social Norms

For the purposes of this project, norms are defined as standards of appropriate behavior for actors with a given identity (Finnemore & Sikkink, 1998). They give rise to how people within a social context come to understand what kinds of behaviors are acceptable or likely in certain situations.

Norms structure the ways in which people consider socially acceptable and necessary forms of behavior.

It comes as no surprise, then, that norms are central to social constructivist theorizing within international relations. Constructivist approaches to international relations examine the ways in which reality is made and remade through social interaction. It rejects innate or *a priori* understandings of what is and rather sees ongoing and dynamic contestation over what should be. What is viewed as socially acceptable or accepted behavior is constantly under question – people must continue to adhere to a norm in order to keep it entrenched.

The study of the impact of social norms falls under constructivism's broader focus on 'ideas, norms, knowledge, culture and argument in politics, stressing in particular the role of collectively held or 'intersubjective ideas and understandings on social life' that construct reality" (Finnemore & Sikkink, 1998). Constructivism believes that only through social interaction actors come to construct their preferences and identities. Moreover, it is those shared understandings within a social context about how the world works that are understood as norms.

Norms can be incredibly powerful within social contexts. They can incentivize certain behaviors while constraining others. They serve to guide, discourage and reinforce the ways in which actors engage in their world by shaping the very lens through which they view that world. In short, norms can be understood as the reference point for what is considered "appropriate" behavior in a social context. Importantly, violating or failing to adhere to an established norm within a social structure can result in sanction. Because norms are inherently social, they can neither be held nor maintained by one person.

The most dominant norms are not well articulated because they are taken for granted (Finnemore & Sikkink, 2001). They are believed to be the way things "ought" to be by those actors within a social context. It is these norms, those most upheld by collective expectations, that wield the behavioral control within a social context, and therefore, the most targeted by those actors seeking to change the ways in which actors in aggregate behave within a specific context (Checkel, 1999). Any change the behaviors of actors within a social context as a result of a new norm alters the social environment for the other agents in a population, catalyzing change in other agents. Eventually, through this process, intersubjective agreement is reached and a norm has emerged. This is often described as a positive feedback mechanism and it works for both approaches to norm emergence.

Literature on how social norms become entrenched within a social context generally points to three broad phases, referred to by some as the 'norm lifecycle' model (Finnemore & Sikkink, 1998). The first phase, and the focus of this study, is the presentation of a new or alternative norm by an actor referred to as a norm promoter. Within the second phase of the model, norm promoters adopt the norm and seek to convert additional actors into adopting it. Finally, the third phase of the model is referred to as norm internalization. It is in this phase that the norm becomes fully adopted within a social context (Finnemore & Sikkink, 1998).

In the first phase of this model, norm entrepreneurs actively seek to persuade other actors that a new norm is superior to the existing standard of appropriateness. This may take extensive efforts, as new norms do not arise in a vacuum, but must contest within a context of existing norms and

oftentimes an array of norm promoters. If a norm entrepreneur is successful at shifting intersubjective understandings of what constitutes possible, necessary or appropriate behavior, the entrepreneur can transform the basic rules of a context, not just spark individual behavioral changes.

This study concentrated on the attempts by AQAP's English-language media editors to promote new norms of behavior through their publications. Therefore, the scope falls entirely within the first phase: norm emergence. The study does not address whether those norms actually did emerge or the AQAP attempts were resonant. Rather it simply seeks to address the ways in which AQAP has sought to shift the ways in which readers came to understand what was possible or appropriate for their own actions in a new way. Norm entrepreneurs, or in this case, AQAP's editors of the *Inspire* magazine, operate from an organizational platform, which is a key element of being in a position to promote norms. From that institutional platform, AQAP's norm entrepreneurs work to persuade their readers to accept specific ideas about the kind of behavior is possible, necessary and appropriate. Norm entrepreneurship is long-term, ongoing and repetitive. It is not restricted to single events, or in this case, publications. It better understood as turning a barge, slowly and incrementally. Rather than employing force or coercing followers into seeing the world through a particular set of lenses, which most often does not work, a norm entrepreneur seeks to persuade their audience about the legitimacy of the norms that they are promoting.

Project Methodology

The project's methodology employed a commonly used qualitative method for examining texts and imagery. No thematic categories were presumed before conducting the review of the *Inspire* magazines. Rather, the goal was to let the content's thematic categories emerge organically, with as little interference from the project researchers as possible.

First, each of the six original, full-text *Inspire* magazines was downloaded off of al-Qaeda websites. Those magazines, which are in PDF format and approximately sixty to seventy pages in length, were then deconstructed by their component elements, including textual articles, word art, floating captions and graphics. Once that qualitative data was organized, the inductive process of identifying driving themes in the components was conducted. Once thematically tagged, the inductively identified thematic categories were clustered and collapsed into higher order headings through multiple iterations.

The primary source data was classified as 'belonging' to a particular group and a number of obvious 'master' categories began to emerge, under which there were a number of micro-variations. Qualitative content analysis such as the kind that was used to analyze the *Inspire* magazines, is more than just counting words or trying to extract content. It is about situating words and images in the context of their intended meaning.

The categorization of themes was conducted organically inasmuch as each of the six magazines were divided by element and reviewed with no pre-existing categories or coding schemes. Analysis of these elements was informed by literature on norm entrepreneurship, which helped elaborate the kinds of rhetorical devices used when attempting to counter an existing norm. Variants of directive words such as "must," or "should," or "ought," or "need" often indicate that

an actor is trying to influence another to think or behave in a particular way. When combined with words such as "believe" or "understand," or "rethink" and similar kinds of variants, the norm entrepreneurship efforts begin to be more apparent (see, e.g., Checkel, 2001; Reus-Smit, 1997; Risse & Sikkink, 1999).

Sometimes these kinds of effort are less apparent, particularly when it comes to graphical elements that may or may not consist of words. The research is then faced with a higher burden of identifying the substantive meaning intended within a particular graphic. While not an exact science, the process is a useful first approach when trying to initially understand the meaning of textual and graphical elements within an unfamiliar or understudied social context.

Upon complete review of the primary source documents, a number of subordinate themes emerged. Each of those themes was compared against one another, across media type (still image, word art, formal article) for thematic similarity. Where possible and appropriate, multiple subheadings were combined in an effort to establish a parsimonious thematic list of norm entrepreneurship attempts.

The challenges of a purely inductive approach such as the one employed in this study is in the collapsing of numerous categories as few as possible without losing or artificially altering the primary source's original intent. The sheer number of instances of norm entrepreneurship language, just within six magazines, necessitated numerous attempts to consolidate and collapse instances of norm entrepreneurship rhetoric under broader subheadings.

Analysis of AQAP's Norm Entrepreneurship

The magazine series known as *Inspire* has elicited various reactions from across the counterterrorism community. AQAP promotes it as knowing what is best for its readers, even if they fail to understand for themselves. This belief, presumably held by the Inspire editors, that the magazine possesses a body of knowledge that (1) its readers do not; and (2) that they ought to have, is a critical premise for understanding the intent of the magazine as an attempt to rewrite the social norms within the online English-language jihadist community. Both of these qualities are indicative of an attempt to shift existing norms within a social context. Take the opening letter from the editor in *Inspire*'s first issue ("Letter from the editor", 2010):

> Allāh ﷻ says: (And inspire the believers to fight) [al-Anfāl: 65]. It is from this verse that we derive the name of our new magazine. The word used in the verse is "ĥariđ" which is commonly translated as incite. However, the word should properly be translated as inspire, motivate, or encourage. The word ĥariđ in Arabic carries none of the negative connotations that the English word "incite" carries. To the contrary, it actually has the opposite meaning. The authoritative Arabic lexicon "Taj al-Arus" quotes the classical Arabic language scholar al-Zajjāj as saying that the verb ĥariđ comes from the adjective ĥāriđ, which means "a person or a being that is perishing." Therefore, he says that when you inspire someone towards something using the verb ĥariđ, you are saying that unless they do what you are inspiring them to do they would perish. So the word ĥariđ is an inspiration that saves a person and guides them towards what is good for them. (p. 2)

The normative focus of the magazine's explanatory note communicates that, at least the first element the editors want readers to focus upon is not tactics, but that they are presented with a choice. It is the magazine that, the note suggests, is informing readers of that choice but also educating them about the implications of behaving one way versus another. In short, this kind of direction of expectations and assumptions by an actor in order to influence aggregate behavior is the definition of norm entrepreneurship.

Figure 3. A dichotomous world

The graphic shown in Figure 3 further highlights this dichotomous existence that the magazine is promoting. By suggesting that there are only two available options, *Inspire* is not just driving behaviors but it is doing so by bounding understandings of what is possible. This is why the process of norm entrepreneurship is such a powerful instrument to wield. By convincing an audience that their available behavioral options fall within a particular sphere, a norm entrepreneur can do more than just influence a conversation of what is possible. They can reshape that conversation, depending on how foundational the norms that they are seeking to supplant are within the target context.

The point of norm entrepreneurship is to change the way that a target audience understands what is possible, necessary or appropriate behavior in a certain context. The more basic the norm being targeted, the more influence a norm entrepreneur can have in constraining the kinds of behaviors that will be considered to fall into the repertoire of acceptable action within that context.

Rethink Your Priorities

When viewing the *Inspire* magazines as an attempt to revise existing norms for the online English-language jihadist community in order to drive certain behaviors down a specific path, its strategic – not just tactical – significance begins to emerge. Perhaps nowhere is Inspire most obvious at its norm entrepreneurship attempts than when seeking to convince shift directive norms: those that demand a specific action in response to a specific stimuli.

Norm entrepreneurship can manifest itself in numerous ways. Sometimes norm entrepreneurs will explicitly address specific norms operating within a social space, suggesting that they are either flawed or need modification if not wholesale overthrow. Other times, norm entrepreneurs will seek to modify social norms using more covert means. The first step to any integrated norm revision campaign is to systematically identify which existing norms are flawed. Some graphics that appear in *Inspire* communicate that the way in which social actors within the target context are failing to understand "the truth" or the proper norm. For example, as seen in Figure 4, whereas most individuals cling to "dunya" or Earthly matters, the authors suggest that this is an

incorrect attribution of priorities and importance. Instead of itemizing a list of higher priorities for their readers, the magazine simply argues that their basic logic for determining what matters is flawed. Accepting the premise of this argument unseats the entire way in which individuals understand themselves and their goals *vis-a-vis* their contexts.

> A key part of influencing change within a social context is shifting normative understandings of behavioral priorities. Norm entrepreneurs seek to persuade actors that dominant understandings of roles and corresponding repertoires of possible action needs to be re-imagined. AQAP employs that technique throughout *Inspire*, with appeals such as, "So, my brothers, you must get ready to perform your vital role in the global jihad against the leaders of kufr…" (Gadahn, 2010 December, p. 17).

Figure 4. What are the social norms?

By re-interpreting the role that one believes one plays within a social structure, a norm entrepreneur is also influencing the way that an actor understands his duties and responsibilities within that context. In other words, new or revised social roles means that actors must adopt new perspectives on the kinds of behaviors that they believe are possible, appropriate or necessary for playing that role.

Rethink Your Means

Whatever means a norm entrepreneur decides to employ, the common trait is that it will be premised on the belief that the existing status quo norms need to be revised and that they are proposing a better logic of appropriateness. Consider the way that AQAP excerpts previous writings of jihadist theoretician, Abu Musab al-Suri in the Inspire magazine (2010, June) in order to help convince their readership that their struggle is not just tactical or operational, but rather conceptual:

> But I look upon the methods as a means, and not as idols. We should use those methods that have given us a proven benefit, and leave behind those methods that have been surpassed by time. Otherwise, we will also be surpassed by time. (p. 50)

The editors of *Inspire* republish al-Suri's writings so frequently across magazine series because his approach fits precisely with the norm entrepreneurship agenda that AQAP seems to be promoting. For al-Suri, the modern jihadist movement was continuously failing, not because they

were just making tactical errors. Those tactical errors were themselves the function of a basic flaw in the way that global jihadist groups viewed themselves, their agendas and their enemies. It was a failure of imagination more than anything for al-Suri. This kind of thinking is uncommon within jihadist literature but fits precisely with the overall logic of appropriateness that AQAP is seeking to advance in their magazines for their audience, which more than likely is already familiar with al-Suri as an authoritative jihadist personality.

Figure 5. Normative shifting

The call for a normative shift in the kinds of actions that are viewed as being necessary, possible and appropriate in the given social context pervade the *Inspire* issues (see Figure 5). Although they vary from technical to operational, from individual to collective in terms of their framing, they are premised on the argument that the current way that the community understands itself and its obligations is wrong, and therefore, so is the community's behavioral responses. As with the rest of the norm entrepreneurship examples presented in this study, they come in any number of means: messages within formal articles, featurettes and even seemingly random sidebars.

Jihadist online communities have long been rife with tactical and technical support sections. Much of this content pertains to software issues on the technical side and explosives/firearms resources on the tactical side. In that sense, there is very little about the sheer content within the Inspire magazine series that is exceptional or anomalous from decades worth of material that has been promulgated around the jihadist community.

Perhaps the most important difference observed in this study between the *Inspire* magazines and previously issued technical advice was the normative undertone that pervades AQAP's propaganda (see Figure 6). Not only is the material presented as being one effective way to execute the intent, but it is also offered as the authoritative guide. What makes it different from other how-to guides is the tone that it takes with the reader. The recipes and instructions within *Inspire* tend to address the reader in a familiar tone, almost as if it was written just for them.

Technical advice advanced in *Inspire* usually includes words about how one ought to best understand or do something, such as employing online encryption technology or assembling a bomb. Normative words demanding certain types of behaviors pervade the text. "Do," "don't," "must," "should," "never," and related words suggest that these types of actions and behaviors are imperative in certain situations. In "Open Source Jihad" (2010), it states clearly:

> Firstly, don't trust the program 100% even though it's been proven to be effective and safe. Strive to use other means such as writing letters or leaving messages using special

> symbols in uninhabited areas… a) Never keep the Asrar program on your computer's hard drive….b) Don't use this USB flash drive whilst connected to the Internet. c) Get in the habit of changing your private key password as much as possible. d) Use any program that provides USB flash drive protection just in case. Some flash drives now come with security protection; invest in security. e) When you send your message to your associate over the Internet, use a proxy and an Internet connection that you don't regularly use (such as coffee shops). f) don't use your regular public Email to send encrypted messages; create a new Email using a proxy and an Internet connection you don't

Figure 6. It's all in the details

> regularly use. g) Do careful research (using a proxy) and exploration to figure out other alternatives besides Email; if you are confident about its security, use it. (p. 44)

Inspire's technical and tactical recommendations cover a wide array of lessons, including the use of encryption software, construction of explosives using homemade ingredients, placing explosives in buildings, modifying vehicles for conducting terrorist attacks and more. None of this material, however, is novel nor presented in any particularly unique way. Normative words aimed directly at the reader help give the magazines a more authoritative feel when compared to other kinds of tactical field manuals, which are crafted more as objective, third-party resources.

A closely related subheading under the normative action category includes a redirection of behavior with regard to targeting. Few instances across the six issues show where *Inspire* seems to authorize the assassination of specific individuals. When it does, however, most attention is focused on the individual being recommended for assassination, as in the following reference to an American cartoonist (al-Awlaki, 2010, June):

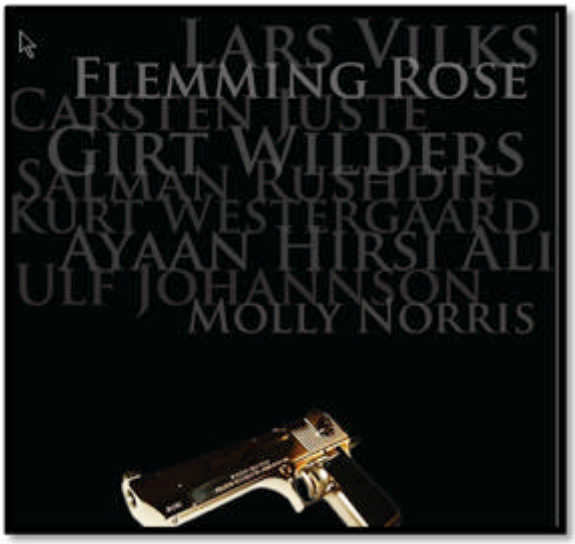
> A cartoonist out of Seattle, Washington, named Molly Norris… should be taken as a prime target of assassination along with others who participated in her campaign. This campaign is not a practice of freedom of speech, but is a nationwide mass movement of Americans joining their European counterparts in going out of their way to offend Muslims worldwide…But even then our campaign should not be limited to only those who are active participants. (p. 28)

After deeper analysis of such statements it becomes more apparent that the individual being targeted is more than just the end. Rather, the named target is just a vehicle through which

AQAP is able to use them to describe a shift in mindset about what kind of behavior is necessary, possible and appropriate within a certain context and as a result of a specific situation.

Figure 7 shows a list of people that *Inspire's* magazine series indicts as enemies of Islam, paired with the picture of a pistol. This kind of linking of the image with the list of names suggests that the appropriate behavior regarding these specific individuals is to assassinate them. However, beyond the operational advocating of assassinating these individuals, these names are being wielded by AQAP as representative of a class of people: those who hate Islam. Therefore, if the proposed behavior of killing these individuals applies, the implied normative entrepreneurship in this kind of graphic is that enemies of Islam – be it this list or others – should be dealt with violently.

Figure 7. A potential hit list?



One of the most obvious forms at shifting strategic-level understandings through the use of tactical-level innovations was in the third, "Special Issue" of *Inspire*. In this issue, released in November 2010, AQAP claims credit for a series of package bombing attempts using UPS and Fed-EX carriers describing the endeavor as follows (Ibrahim, 2010):

> Two Nokia mobiles, $150 each, two HP printers, $300 each, plus shipping, transportation and other miscellaneous expenses add up to a total bill of $4,200. That is all what [*sic*] Operation Hemorrhage cost us. In terms of time it took us three months to plan and execute the operation from beginning to end. On the other hand this supposedly "foiled plot", as some of our enemies would like to call [*sic*], will without a doubt cost America and other Western countries billions of dollars in new security measures. That is what we call leverage. (p. 15)

Although the details of this excerpt are mostly focused on the tactics, techniques and procedures behind the development of the bombs, the broader point being made with these details is much scarier: it is possible to conduct a large-scale attack with a small amount of money, a short amount of time and a low level of technical know-how. This is an ideal example of strategic norm promotion because it gets directly at the point of expanding the horizon for readers of what is deemed to be within their realm of possibility.

Rethink the Battlefield

Norm entrepreneurship relies on rhetorical efforts to change people's behaviors by changing their understandings of what they consider as possible, appropriate or necessary behaviors within a social context. In the case of AQAP, a major focus within the *Inspire* magazines is the issue about traveling to fight on behalf of al-Qaeda. For instance, consider Shaykh Abu Basir's advice during an interview for the magazine: "If you cannot fight, then you *should* emigrate from the

land where he is being cursed because such a land is awaiting the wrath of Allāh" (al-Malahem Staff, 2010 June, p. 17; emphasis added). The question of whether someone should fight does not arise—it is assumed to be a given. Rather, the way that this recommendation is presented is that something must be done, the only real question is which of the two options presented will be the chosen one.

This reallocation of social agency is a key component of AQAP's norm entrepreneurship. By circumscribing the question as one of "which presented option will you choose" rather than making it an issue of whether you will choose at all is the genius behind a successful norm entrepreneurship campaign. Or consider Shaykh Abu Sufyan's advice from the second issue of *Inspire*: "Either immigrate or fight Jihad in the West by individual Jihad or by communicating with their brothers in the lands of Jihad" (al-Malahem Staff, 2010 October, p. 44). Again, there is no need to argue whether this option is the correct one. It is presented within a tapestry of arguments that presents the two options put forward as the only two behavioral responses any normal person would have in light of a certain set of contextual facts.

Not all of AQAP's attempts to shift the way that their readers understand their social position and consequent behavioral reactions are framed in the positive, however. Consider al-Awlaki's (2010, December) discussion of Islamic stipulations regarding wealth from the fourth issue:

> Even though it is allowed to seize the property of individuals in dār al-ĥarb, we suggest that Muslims avoid targeting citizens of countries where the public opinion is supportive of some of the Muslim causes. We therefore suggest that the following should be targeted: Government owned property, Banks, Global corporations, Wealth belonging to disbelievers, with known animosity towards, Muslims. In the case of the United States, both the government and private citizens, should be targeted. America and, Americans are the Imam's of kufr, in this day and age. (p. 59)

Not only is the statement riddled with normative words, including "should," and avoid," but it presents a series of recommendations against conducting certain behaviors. While directive in nature, Shaykh al-Awlaki is not identifying a laundry list of tactical recommendations in this case. He is presenting a series of targets that he advises would be ill-advised for attacking. Analyzing the magazine from a purely tactical perspective would stop analysis at the point of describing the kinds of targets he proposes avoiding. But a norm-based analysis would examine these targets as being instances of a bigger phenomenon. Al-Awlaki is not simply advising against these targets for tactical reasons – because they are too difficult to strike or would not maximize lethality. Rather, he is making a normative argument that some targets ought not to be attacked given the identity and accompanying ideology that he and AQAP are promoting.

Another way that AQAP has tried to facilitate specific types of behavior for readers of their magazine series, specifically the kinds of behavior that lends itself to conducting operations, is to dispel myths about what that experience would be like. In many ways, AQAP is engaged in a systematic campaign of deglamorizing and demythologizing the prospect of joining the proverbial jihad. AQAP has become increasingly candid about the fact that the journey for an al-Qaeda recruit is difficult and replete with challenges. In a series entitled, "What to expect in jihad", *Inspire* writers attempt to be straightforward and blunt. In the first issue (2010), they write:

> Knowing what to expect in jihād is vital in order to avoid confusion, shock, and even depression. The psychological state of mind one is required to have in jihād is far removed from what we see in jihadi videos. In simple language, it's not all about the shooting and ambushing of the enemy; rather it is much greater than this. Here, we will be covering numerous points throughout this series. The transition in mindset is what one needs to focus on when reading through these points. (p. 45)

It is by influencing this "transition in mindset" for readers that AQAP believes that it can best influence their behavior. It is through changing their understanding of what is possible, both by raising expectations in some cases, or in the case of traveling, by lowering them, AQAP's norm entrepreneurs believe that they can shift the dominant norms within their jihadist supporters. Advocating both specific shifts in perspective and a broader evolution in recognition is common within norm entrepreneur rhetoric. In many ways, advocating specific behaviors can be both tactically useful and strategically relevant.

For al-Suri, the need to reformulate the entire jihadist methodology could only occur by revising the mentality and expectations of the jihadist community by education. The decision to excerpt extensive sections of his work is itself an attempt to overthrow accepted norms within the jihadist movement along a host of fronts. Consider this al-Suri excerpt featured in the second issue (2010b):

> It is no longer possible to operate by the methods of the old model, through the 'secret regional- hierarchical' organizations, especially after the September 11th events and the onset of the American campaigns, where the great majority of the existing secret organizations were destroyed, and the conditions made it impossible and futile to establish other secret organizations after this model. We need to concentrate the research on the methods of the open fronts, and the methods of individual jihadi operational activity, along with the methods of total resistance (al-muqāwama alshāmila) in order to develop them, this in order to deduct a military and organizational theory which is suitable for the coming period. (p. 20)

Al-Suri's process of trying to shift the dominant norms of the jihadist movement is systematic and useful for AQAP. First, in this excerpt, al-Suri argues that the current jihadist methodology is outdated because the model itself for structuring the global jihadist movement is fundamentally flawed. Once he is able to undermine the validity of the current organizing logic of the movement, the implication is that the goals, objectives and behavioral priorities are also flawed. In other words, the best way to introduce a new set of norms is to first torch the existing ones, which is where al-Suri is at his most effective.

Rethink What Questions Should Be Asked

A less explicit but nonetheless important way that norm entrepreneurs seek to adjust existing frames of reference for a target audience can be referred to as "agenda-setting." This approach does not entail revising or tweaking existing norms but rather introducing a recognition or new understanding into discourse that may not have existed, or elevating the stature of an existing recognition, as the Figure 8 highlights. It is the strategic insertion of an issue into the discourse of a social context.

Different kinds of articles or elements lend themselves to different kinds of agenda-setting techniques. On the most conceptual level, AQAP tends to draw on the words of Usama bin Laden, who was known for speaking broadly about issues that he believed the Islamic world needed to focus on more. For instance, bin Laden is quoted, "This is a message to the whole world about those who cause climate change and its dangers – intentionally or unintentionally – and what we must do" (2010, p. 8).

Figure 8. Setting the agenda

The issue of climate change had not been previously high on the al-Qaeda to-do list prior to Bin Laden's series of comments on the issue. Inspire has promoted excerpts from Bin Laden's statements on the issue and paired it with Earth-related graphics.

Beyond specific issues like climate change that have become the focus of specific al-Qaeda senior leaders like Bin Laden, AQAP also promotes broader topical themes, particularly those related to economic issues. By advocating what appears to be just tactical level recommendations, such as the assassination of business leaders, AQAP is simultaneously advancing the importance of the underlying issue itself. Statements such as, "there must be accounting and punishment for those who head the major corporations and their political proxies, so that they stop their harmful actions against humanity," (bin Laden, 2010, p. 8) are more than just recommending specific action against a class of individuals. It is shifting or, in this case, trying to more firmly entrench a generally held belief within the bedrock of the English-language jihadist movement. The goal of this exercise is not just to change beliefs, but to shape the behaviors that flow from those beliefs. If a reader can accept the basic premise that Western business executives ought to be considered legitimate targets, they are implicitly accepting the premise: that Western business itself is a corrupt enterprise.

In some ways, the *Inspire* magazines can be seen as trying to forge the abstract archetype of a Western jihadist individual, someone is who self-motivated, self-trained and self-executes. This focus on the autonomy of the individual jihadist is not new – that is not the point of being a norm entrepreneur. Rather, the magazine seems to have cobbled together examples, teachings and reference points from a host of previous jihadist models and developed a new model for promulgating them to a target audience. In short, AQAP is using the *Inspire* magazine to construct the archetype of the ideal Western jihadist: what might be referred to as the "new al-Qaeda man."

Other individuals, such as al-Qaeda's senior-most American, Adam Gadahn, also appear in the *Inspire* series. Gadahn's words, which he had previously delivered but like al-Suri's work has been republished in *Inspire*, reflect a similar thrust but do so without the clarity or persuasive push that al-Suri's words have. *Inspire* (2010) quotes Gadahn as saying:

> So, my beloved brothers: remember your responsibility before Allah and what it is He has purchased, and respond once again to the call, and return to your stations, and finish what you started, and aid your religion and ummah, and be with your brothers the mujahidin, until victory while strengthened or martyrdom while on the advance. (p. 17)

Extolling the sense of duty that one must have is a powerful yet subtle way to influence a target audience's understanding of the necessary (see Figure 9). Duty demands action in accordance with a set of behavioral prescriptions and proscriptions. If you can shape the extent to which a sense of duty influences, or shape how duty is understood, then an effective norm entrepreneur can shape an array of behaviors. The third issue of *Inspire* featured a piece, "Roshonaur and Taimour" (2010) that focused heavily on shaping understandings of duty:

> She had not done merely a good deed; rather, she has fulfilled a deed that is farđ 'ayn (individually obligatory) on the Muslims from East to West ever since the fall of Andalus. Only a few brave people get to fulfill that special deed. A woman has shown to the ummah's men the path of jihad! A woman my brothers! Shame on all the men for sitting on their hands while one of our women has taken up the individual jihad! She felt the need to do it simply because our men gave all too many excuses to refrain from it. (p. 24)

Figure 9. A call to duty

This use of shaming in order to reinforce the proposed norm of how duty and good deeds ought to be understood is another powerful technique employed by norm entrepreneurs. By persuading the reader that they have to make a choice between a binary set of options, and then making one choice so unpalatable through shaming and fear techniques, AQAP believes that it can steer its followers down one specific normative path, because as al-Awlaki notes, "it is not enough to have the intention of doing good. One must do good in the proper way" (2010a, p. 27).

Words like "proper," "need to" and "must" and "better choice" are always strong indicators that an individual is seeking to persuade a group to see aspects of the social context in a revised way. When AQAP released its now infamous article, "Make a Bomb in the Kitchen of Your Mom" in the first issue of *Inspire*, most attention within the counterterrorism community and the global media focused upon the fact that AQAP had provided easily accessible bombmaking instructions in a kitschy format. A re-reading of that article, however, shows that the intention of the authors was not just to offer a resource, but normatively influence its readers. The AQ Chef (2010) writes not only about the technical aspects of bomb-making from household materials, but gets at the core motivation for doing so:

> There are many Muslims who have the zeal to defend the ummah but their vision is unclear. They believe that in order to defend the ummah they need to travel and join the mujāhidīn elsewhere and they must train in their camps. But we tell the Muslims in America and Europe: There is a better choice and easier one to give support to your ummah. (p. 33)

Although the article did include bomb-making specifics, it is the underlying premise that AQAP asks you to first accept that is more significant.

Conclusion and Implications of the Study

This study sought to understand the *Inspire* magazine series published by AQAP from the perspective of its authors. The motivation to conduct such a study came from the principal investigator's belief that U.S. Government conversations about the point of Inspire were shortsighted, overlooking the long-term strategic significance of the series and instead burrowing into the tactical, technical and graphical qualities of the series.

Through an inductive content analysis, this study problematized the six magazines into their component graphical and textual elements. Those components were tagged and clustered by organizing them around the dominant thematic focus of that element.

The results of the study suggest that AQAP has produced a magazine series that, although tactically and operationally important, is focused on changing the underlying nature of the debate. Rather than answering existing questions about how the global jihadist movement should operate, AQAP's efforts in this magazine are questioning the premise of the jihadist movement's existing approach.

After conducting the theme-driven content analysis, this study found that AQAP is using the *Inspire* magazine in order to evolve English-language jihadist understandings of what is possible, necessary and appropriate along certain fronts. Those fronts are important because shifts in understandings entails shifts in the consequent behavior associated with those understandings. The primary fronts in which the *Inspire* magazine seems to be targeting are:

- Rethink Your Priorities
- Rethink Your Means
- Rethink the Battlefield
- Rethink What Matters

AQAP has addressed varying issues across each of these broad categories but they all speak to one very important issue: revising the way that an individual sees himself within the world. Once the rules of the game are changed in his head, then it becomes easier to convince someone to change the kinds of the behaviors that they are willing to undertake.

There is ample room for future research into this topic and related issues. Too often, counterterrorism analysis focuses on issues related to tactical and operational issues. On the tactical side, any suggestion that al-Qaeda might be innovating new kinds of weapons, explosives or technological tools, for example, sends the government into a frenzy. On the

operational side, both news about terrorist plots as well as intra-organizational shuffling seems to dominate government attention. What has been consistently missed is the focus on the evolving norms that govern al-Qaeda's understanding of itself, its world and its role in that world.

One important line of future research might be to tag specific individuals by the normative positions that they hold. Note that this is not their ideological positions, but rather to characterize individual leaders or groups by the kind of normative bounds that they adhere to. What do they believe constitutes "innocence" or "guilt"? What do they believe constitutes the bounds of battlefield? What do they advance as the Islamic world's top priority? Answers to these conceptual, normative, questions can give insight into the behavioral modalities and instrumentalities that they understand flow from them. By focusing on an individual's normative outlook, their behavioral spectrum becomes far easier to understand.

Similarly, counterterrorism analysis about the concern of particular individuals within organizations or groups, would be improved by integrating a norm entrepreneurship element. As demonstrated in this study, norm entrepreneurship is not easy, quick nor subtle. To do it right, a norm entrepreneur must painstakingly use persuasive rhetoric in order to convince a critical mass to change the way that they understand what is possible, appropriate or necessary. That rhetoric can be tracked and, therefore, offers clues into the direction that they are seeking to move the organization.

In the case of AQAP's magazine series known as *Inspire*, the magazines are the attempt by AQAP's English-language editors not just to steer Western-based jihadist behavior. It is a broader, more conceptual attempt to shift their normative understandings in a particular way. In essence, AQAP's magazine is itself their effort to change what they believe to be wrong with the Western jihadist movement. From a counterterrorism perspective, AQAP's own analysis on what changes need to be made in order to make that community more successful could and should be reverse engineered.

In other words, AQAP has presented a systematic, integrated rhetorical campaign aimed at changing the minds of its readers on a number of normative fronts, each of which have been identified in the above report. Rather than viewing the magazine series as being just an offensive effort by AQAP to change existing normative understandings, it can be used as a compass for identifying where AQAP believes its support base is missing the point. Those fronts that it emphasizes the greatest need for change are likely the same fronts where counterterrorism efforts would reap the most fruit.

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