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STUDIES

Understanding terrorism: A behavioral developmental approach



Comprendre le terrorisme : perspective de développement comportemental

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Received 3 August 2018; accepted 28 February 2019

KEYWORDS

International politics;
Model of Hierarchical
Complexity;
Terrorism

Summary Countries, governments, and cultures must move through each of the behavioral-developmental stages of human development sequentially. It is hypothesized that each behavioral-developmental stage must be achieved, and failure to recognize this may be a major contributing factor to the rise of terrorism and crime in a society. In a war-like situation, an occupying country's attempts to have the conquered country skip behavioral-developmental stages will fail more often than not. This will possibly result in negative sentiment and terrorist behavior among those in the occupied country. Terrorism is an omnipresent condition worldwide. It is common for non-scholarly observers to not know that terrorist attack lethality is now extremely low. Terrorist attacks are often constituted by suicide bombings, which makes them relatively difficult and costly to perform. Remote controlled detonators already exist but they are not used in the Middle East. In the future, terrorists likely have access to not only biological weapons, but also small and easily transportable nuclear weapons which can be smuggled across the world. It is for these reasons that this article was written, to address these problems from an adult developmental perspective. An adult developmental perspective is useful for several reasons. One of the problems is that terrorists are not the same as conventional armies. They do not have a central location so conventional wars against them do not show the same promise. With the Internet and its successors, the difficulty to organize terrorist activities worldwide has decreased drastically. At the moment, many of the attacks are suicidal, but there is no reason to believe that is necessary given remote detonation devices are widely available. This article addresses the larger issue of how to manage and reduce conflict between terrorists and their targets. The approaches for the most part are based on adult behavioral-developmental

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stage theories. The history of the behavioral-developmental stage theory harks back to Piaget as well as Kohlberg and his students such as Kegan, Selman and Commons. The article provides a systematic framework for viewing many present suggestions that abound in the policy area. What is different is these authors provide a behavioral-developmental-stage diagnostic means for deciding what actions are appropriate for a society and a terrorist group at a given time.
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MOTS CLÉS

Politique internationale ;
Modèle de complexité hiérarchique ;
Terrorisme

Résumé Les pays, les gouvernements et les cultures doivent passer par chacune des étapes de développement comportementale de la personne de façon séquentielle. L'hypothèse posée est que chaque stade de développement comportemental doit être atteint et l'incapacité à reconnaître cela pourrait être un facteur majeur contribuant à la montée du terrorisme et du crime dans une société. En situation de guerre, les tentatives de la puissance occupante pour forcer le pays conquis à sauter certains stades ont tendance à échouer. Il est possible que cela donne suite à des sentiments négatifs et un comportement terroriste parmi les habitants du pays occupé. Le terrorisme est une condition omniprésente dans le monde. Désormais, la létalité des attaques terroristes est très basse. Ce sont souvent des attentats-suicides, qui sont relativement difficiles et coûteux à réaliser. Les détonateurs télécommandés existent, mais ils ne sont pas utilisés au Moyen-Orient. À l'avenir, il est probable que les terroristes auront non seulement des armes biologiques, mais aussi de petites armes nucléaires faciles à transporter pouvant être passées en contrebande à travers le monde. Cet article abordera donc ces problèmes dans la perspective du développement de l'adulte. Une telle approche est utile pour plusieurs raisons. Un problème majeur est le fait que les terroristes ne sont pas comme des armées conventionnelles. Ils n'ont pas un emplacement central, donc les techniques de guerre conventionnelle ne sont pas efficaces. Cet article examine de façon plus générale comment les conflits entre terroristes et cibles peuvent être gérés et réduits. L'histoire de la théorie du développement comportemental remonte à Piaget, ainsi qu'à Kohlberg et à ses élèves. Cet article se distingue des autres en fournissant une méthode diagnostique basée sur le développement comportemental pour décider quelles actions sont convenables pour une société et un groupe terroriste à un moment donné.

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The importance of understanding terrorism to public health

The occurrence of terrorist attacks often causes severe damage and death, as well as interruption to the center of attack and to surrounding health-care delivery systems. In response to such attacks, hospitals and medical centers are forced to attend to an overwhelming number of casualties and panic-stricken patients, who are often in critical condition [1]. Frequently, these facilities are not sufficient to provide enough aid to their people, therefore in need for aid from other avenues, such as neighboring states and countries, prompting aid from other avenues such as through neighboring states and countries.

Most victims of acts of terrorism require immediate medical attention. Unfortunately, even with immense resources from surrounding areas, some injuries may leave individuals disabled for life. In addition to treatment for physical symptoms, survivors often require external psychiatric help to overcome post-traumatic stress. In some instances, families who have lost loved ones to terrorist attacks may receive

support from both the community and/or medical professionals.

Pervasiveness of terrorism

Terrorism has appeared on the lands of the most developed nations in the world but its cause has not been identified precisely or communicated clearly to the general public. After 9/11, the United States made terrorism a national and political focus by passing the Patriot Act, identifying the focal point of being an American in this time and age as to assist the eradication of every single terroristic entity that poses threat to the American people. A side effect of that enthralled enthusiasm stemming from a national wound was a division in the American people. Each group holds their own political belief of "who", "what", "when", "why" and "how" terrorism should be dealt with. Race, immigrants, even video games were drawn under the spotlight for the public's thirst of a scapegoat, a reason to explain terrorism, in due process fueling more separations and disputes.

But underneath all those assumptions lies the public's yearning desire to know more. At the core of every heated argument about terrorism, people are trying to defend for their sources of knowledge and the effort they have put in forming such opinions. Such motivation of learning is exactly what informational articles, such as this one, aim at by providing a rich, logical, global, objective and scientific analysis. The public has been searching for a deeper understanding; yet the logical systematical knowledge has not reached them yet. It is the duty of the researchers to communicate their knowledge for the benefit of the general society. Especially on the topic of terrorism, public knowledge and opinions possess crucial power. Only when the people understand terrorism at the causality level, could they be in a better position to fulfill their civic duty at the voting booth, consequently guiding their political representatives in the system. Once the gunpoint is well-aimed and terrorism is tackled with systematic and psychosocial understanding, the battle could become more promising and a peaceful future might be closer in sight. The sake of public health, or simply, people's lives, actually depend on this age-old process of democracy.

Terrorism is one of the most pervasive threats to humankind. It may be executed using weapons of mass destruction such as nuclear devices in the future, or anthrax spores (bioterrorism), in the recent past. These attacks and possible attacks have had a rampant effect on public health and policy in both the United States of America and worldwide [2,3]. According to a Stimson Center study between 2002 and 2017, the United States of America spent a total of \$2.8 trillion to fund their counterterrorism efforts [4]. This included government-wide homeland security, international funding programs, and wars in Afghanistan, Iraq.

According to Calkin, the rate of terrorism has reduced since the 1970s [5]. Although acts of terror are less frequent, the casualties from each attack remain large, and each attack is highly prominent across global media. It is not clear yet how to deal with the terrorists who pose infliction of death by deploying weapons of mass destruction. Failure to reduce and prevent terrorism is an ethical issue. It is inexcusable to use ineffective approaches to better deal with the issue when more effective means are known. At the moment, most of the interventions do not directly engage participants or leaders of terrorist activities.

Responding successfully to terrorism first requires an understanding of the conflicts among the parties involved. It is true that the existing conflict may be due to opposing ideologies and belief systems. Ideologies are present at the Metasystematic stage because they present a system of rules.

Belief systems are a-stage, social science metaphors that have a different definition for each stage. Ideologies are deceptively effective at the Systematic stage. The strict father model would be an example of the abstract behavioral-developmental stage because it is normative and consists of only one rule [6]. At the formal stage, without the father making the decision, the person would state that there is either chaos and conflict. At the systematic stage there can be multiple rules in the ideology.

It can be argued that such ideological explanations have been exaggerated in the public discourse. It can be observed, however, that some societies with whom

developed nations, such as the US, are allied, share the terrorists' religious and economic beliefs and ideologies (e.g., Saudi Arabia). Note that the ideologies and beliefs in Saudi Arabia has led to a terrorist population, but that the country as a whole is anti-terrorist even with its forays into Yemen. Many members of the ruling family have also supported terrorist activities by ISIS and Al-Qaeda. With that, we pose the following questions to better understand why we reject the idea of belief systems in accordance with adult behavioral-development: What allows any society to get along with the US and Western Europe in the absence of a common ideology or belief system? Moreover, what causes societies who adhere to certain belief systems to become terrorist in nature, while others do not? This question suggests that ideology and belief systems may be useful, but insufficient, to account for the choices made by members of terrorist subcultures. This thus raises the question: on which other factors might we focus our attention? Our pilot analysis shows that the participants of these conflicts, both "terrorists" and those who oppose terrorism, operate at different behavioral-developmental stages. Understanding these differences in behavioral-developmental stage makes it possible to design effective strategies for policy development, communications among parties, the creation of beneficial joint enterprises, and possibly, the decrease of terrorism.

In order to understand why terrorist attacks take place, it is necessary to learn how the terrorists and the organizations that oppose them operate. For example, the United States and other modern societies have developed weapons that terrorists often use, and do not respect the people who become terrorists and use those weapons against the US. We, as a society, do not respect the ideologies. Due to the fact that the technology for biological, chemical, and even nuclear weapons is relatively simple, it is likely that people will be able to construct and possess weapons of mass destruction. Therefore, attempts to control behavior by military means alone seem rather unlikely to succeed.

This article will address six questions:

- What is our developmental approach to terrorism?
- What are the institutional forces that contribute to terrorism?
- What is the difference between International Conflicts, Terrorists, Civil War Insurgents and Gangs?
- What developmental progression makes a society more or less likely to generate terrorists?
- What are the institutional and social factors that support or block those sorts of developments?
- How do the above tie into public health?

In order to understand the development of countries and governments, we need to first understand the development of societies within a country. Developmental notions can help us understand how a society successfully binds people together, and why societies that do not attempt to do so might generate terrorists. In order to examine the developmental underpinnings of a particular group, one may use the Model of Hierarchical Complexity of Development (MHC) [7–9]. This model provides a way to characterize the hierarchical complexity involved in reasoning and taking action. It is based on an a-priori mathematical model, determining the difficulty of tasks. Though these tasks are performed by

Table 1 Stages described in the model of hierarchical complexity (adapted from Commons et al. [22]).
Étapes décrites dans le modèle de hiérarchie complexe (adaptée de Commons et al. [22]).

Order or stage	What they do	How they do it	End result
0—Calculatory	Exact computation only, no generalization	Human-made programs manipulate 0, 1, not 2 or 3	None
1—Automatic	Engage in a single “hard-wired” action at a time, no respondent conditioning	Respond, as a simple mechanism, to a single environmental stimulus	Single celled organisms respond to a single stimulus in a way analogous to this stage
2—Sensory or motor	Discriminate in a rote fashion, stimuligeneralization, move	Move limbs, lips, toes, eyes, elbows, head; view objects or move	Discriminative establishing and conditioned reinforcing stimuli
3—Circular sensory-motor	Form open-ended proper classes	Reach, touch, grab, shake objects, circular babble	Open ended proper classes, phonemes, archiphonemes
4—Sensory-motor	Form concepts	Respond to stimuli in a class successfully and non-stochastically	Morphemes, concepts
5—Nominal	Find relations among concepts	Use names for objects and other utterances as successful commands	Single words: ejaculatives & exclamations, verbs, nouns, number names, letter names
6—Sentential	Imitate and acquire sequences; follow short sequential acts	Generalize match-dependent task actions; chain words	Various forms of pronouns: subject (I), object (me), possessive adjective (my), possessive pronoun (mine), and reflexive (myself) for various persons (I, you, he, she, it, we, y’all, they)
7—Preoperational	Make simple deductions; follow lists of sequential acts; tell stories	Count event roughly events and objects; connect the dots; combine numbers and simple propositions	Connectives: as, when, then, why, before; products of simple operations
8—Primary	Simple logical deduction and empirical rules involving time sequence; simple arithmetic	Adds, subtracts, multiplies, divides, counts, proves, does series of tasks on own	Times, places, counts acts, actors, arithmetic outcome, sequence from calculation
9—Concrete	Carry out full arithmetic, form cliques, plan deals	Does long division, short division, follows complex social rules, ignores simple social rules, takes and coordinates perspective of other and self	Interrelations, social events, what happened among others, reasonable deals, history, geography
10—Abstract	Discriminate variables such as stereotypes; logical quantification; (none, some, all)	Form variables out of finite classes; make and quantify propositions	Variable time, place, act, actor, state, type; quantifiers (all, none, some); categorical assertions (e.g., “We all die”)
11—Formal	Argue using empirical or logical evidence; logic is linear, 1-dimensional	Solve problems with one unknown using algebra, logic and empiricism	Relationships (for example: causality) are formed out of variables; words: linear, logical, one-dimensional, if then, thus, therefore, because; correct scientific solutions

Table 1 (Continued)

Order or stage	What they do	How they do it	End result
12–Systematic	Construct multivariate systems and matrices	Coordinate more than one variable as input; consider relationships in contexts.	Events and concepts situated in a multivariate context; systems are formed out of relations; systems: legal, societal, corporate, economic, national
13–Metasystematic	Construct multi-systems and metasystems out of disparate systems	Create metasystems out of systems; compare systems and perspectives; name properties of systems: e.g. homomorphic, isomorphic, complete, consistent (such as tested by consistency proofs), commensurable	Metasystems and supersystems are formed out of systems of relationships, e.g. contracts and promises
14–Paradigmatic	Fit metasystems together to form new paradigms; show “incomplete” or “inconsistent” aspects of metasystems	Synthesize metasystems	Paradigms are formed out of multiple metasystems
15–Cross-paradigmatic	Fit paradigms together to form new fields	Form new fields by crossing paradigms, e.g. evolutionary biology + developmental biology = evolutionary developmental biology	New fields are formed out of multiple paradigms
16–Meta-cross-paradigmatic (performative-recursive)	Reflect on various properties of cross-paradigmatic operations	Explicate the dynamics of, and limitations of, cross-paradigmatic thinking	The dynamics and limitations of cross-paradigmatic thinking are explained as they are recursively enacted
17–Ultra human	Not yet known	Not yet known	Not yet known

individuals, the stage of development can also be applied to the various social and institutional atmospheres in which they function. As such, it allows for a highly precise characterization of interactive processes among individuals within groups. It also provides a measure of the sensitivity of individuals to complex relationships among events and people. The analyses that are made as to behavioral-developmental stages of development throughout the article are based on the Hierarchical Complexity Scoring System [10] (Table 1).

Early theories of cultural development

From the 1930s to the 1960s, there was a predominant notion of cultural and economic development, in which cultures and economies advanced in a progression in response to the cultural relativists. In regard to economic progression, one example is the Rostow theory of economic growth

which guided US aid during this time [11]. Anthropologists did not use the words “behavioral-developmental stages of development” but they did create sequences for such development. However, no evidence has been provided for this development based on a systematic mathematical model. In this discussion, we apply the behavioral-developmental view of behavioral-developmental stage progression to the problem of cultural development. It may be a view that is increasingly becoming the consensus.

We also discuss why cultures, countries, and sub-cultures that function at less hierarchically complex political behavioral-developmental stages fail to respond to “rational arguments.” We use the term rational to indicate logical and utility-based arguments. The western world ideology is usually an inconsistent system of stated logical causal relationships. For example, without capitalism, one gets slower economic rates of growth. We would rather use the difference between pre-formal and utility-based, systematic stage arguments. Pre-formal-stage

arguments do not use logic with variables or evidence. Formal-stage arguments only use one variable, logical or empirical arguments. In assessing the utility of an ideology, there would only be risk or value but not the product of the two, which would occur at the systematic stage. The task of understanding these arguments is several developmental behavioral-developmental stages above where many of these leaders or cultures perform in the political and attachment arena. We provide examples from the developed world of politics, and military pressure and intervention.

Countries, cultures, subcultures, and individuals must move through each of the developmental behavioral-developmental stages sequentially. This is because a more complex behavioral-developmental stage is defined by and built up with the behaviors of the previous less complex behavioral-developmental stage. Therefore, a society or group must achieve each behavioral-developmental stage before tackling the next. Attempts by developed countries to encourage cultures and subcultures to skip more than one behavioral-developmental stage will fail, no matter what their initial behavioral-developmental stage of functioning. This is the thesis of this article. The US is considered effective by many at winning small wars such as those against Panama, Grenada, etc. However, it fails at making and maintaining peace. This is because its government fails to recognize that behavioral-developmental stages exist, nor does it understand that countries need to transition through the behavioral-developmental stages. Its efforts to build institutional infrastructure are therefore misplaced. We will address some behavioral-developmental stages of tasks of governing.

We will also address some of the means by which government activities move up in behavioral-developmental stage, and how larger political communities may speed up this change. Finally, we will address reasons why the US has had its various successes and failures, and why governments in general operate at increasingly more complex behavioral-developmental stages in political and economic arenas. In these introductory remarks, it might be useful to mention that the political domain is quite broad. It contains the legal domain, the economic domain and the military domain, as well as other domains of infrastructure. Governments can vary widely not only across these domains, but also within them. For example, the US may have a great deal of free speech, but have rather draconian laws on association as embodied in the Patriot Act. It might support most civil rights, but continue to incarcerate rather than treat large number of drug addicts. The best examples can be seen in China, which is developing a relatively high behavioral-developmental stage economy, but continues an oppressive low behavioral-developmental stage political system.

Difference between terrorists and cults, international conflicts, civil war insurgents and gangs

Some terrorist organizations are confused with other organizations such as cults, gangs, tribes, extreme-left (anarchists) and other kinds of groups. For example, the "terrorists" in East Congo belong to tribes rather than cults.

Terrorists share some common qualities with "cult" members, and may be considered true believers in the teachings and practices of their organizations. However, the two can be distinguished by their behavior. Cult members do not aggress outside their groups, but terrorists do. There are also other groups considered terrorist organizations but are different in nature. They engage in a civil war rather than terrorism. The difference between rival forces during civil wars and terrorism needs clarification and recognition. The goal of the majority of terrorists is to convert people and save the world. They are not confined to a single country by their ideology and "magical thinking". They fight and often expect to die for the reward that they are promised. Some examples of terrorist groups include al-Qaeda in Afghanistan, ISIS, Hitler and the German Nazis. Al-Qaeda is now reduced to that of online armies, focusing on inspiring acts rather than executing. Inspiring acts consist of influencing people to behave in particular ways.

In contrast, insurgencies during civil wars operate on different terms. They are more military oriented, more organized and fight with military tactics in comparison to terrorists. In battle, the insurgent fighter expects to survive. Their goal lies in power, in ruling a certain area that they claim territorial, not changing the world. On those terms, groups such as the Taliban are civil war insurgencies rather than terrorists. Another example could be North Vietnam during the Vietnam War. In essence, the war in Vietnam was a civil war between North and South Vietnam with the support of foreign forces fueled by tensions during the Cold War. North Vietnam engaged in acts of terror, using many weapons, secret bombings and heavy raids; they were never called terrorists because it occurred during civil war. Their goal was to gain power over the territory, not fulfilling a world-domination role, thus distinguishing them from terrorists. Additionally, the North Vietnam forces invaded Cambodia, but left before they could occupy it. Terroristic groups would never invade a country and leave because their goal is to influence groups of people. In our present day, the African War in Nauru is another example of the civil war type.

Another different category than "terrorists"/insurgencies in civil wars are gangs. Specifically, gangs such as MS-13 and Hell's Angels use violence and terror for business purposes. They exert control over territories to extract money from its illegal activities such as drugs and prostitution. In contradistinction, civil wars and insurrections aim to claim civil control over a territory. Moreover, most of the civilian deaths in gangs are often due to crossfire during conflicts between gangs and/or individuals, which is not the case with terrorism. Gangs also do not inflict terror in order to keep people in line with their doctrines and ideology unlike what USSR or Mao Tze-Tung of China did. Gangs induce terror to claim power over other gangs. A similar construct could be found in mafias as well. Except for those in Chicago and Los Angeles, the gangs do not usually run the civil government. Gangs in New York only run the part of the government that are important to them, such as the police, out of insurance for their business. In general, their goals are strictly monetary, not political.

Gang members have significantly shorter life-expectancies than non-gang members. In addition, unlike

terrorists, gang members may not look forward to death. With such a dangerous life, if there is a way to steer them from terrorist activities then there is a high chance they will stop being terrorists. With the presence of stable governments, the incidence of terrorism goes down. Actions such as co-opting in Los Angeles, where gang members and terrorists are invited to join legal committees, could increase transparency and reduce the gang's activities which inflict terror. Two things that bother police about gang warfare: gangs engage in illegal activity and the government does not like to recognize that they are not in control of those territories, and the fact that police have to spy on gangs, involving undercover missions that put the police in danger. The problem persists even when gang members are imprisoned because gangs are still able to actively operate when they are in the prisons. Gangs are similar to terrorist organizations in that they too function outside of the government, and the government has great difficulty in giving them control over the activities they are already running. As a result, the government is living in as unrealistic of a world as the terrorists are, because they fail to recognize who is really in control.

Loner attacks, which typically consist of white male violence against schools, women, youth, gays etc., are considered terroristic in nature, but the perpetrators are not classified as terrorists. This is because their acts are not inspired by terrorist organizations (e.g., Ted Kaczynski), but are usually the result of their mental capacity. These acts are excluded from our discussion because there is no solution to dealing with these individuals. In practice, other forms of terrorist activity, but not terrorism, include attacks that are planned, and/or designed to make headlines, etc.

What conditions may generate terrorism?

What an organization is and how one form of the organization changes into another, is a long-standing controversy. Traditionally it has been addressed in the morphing of authoritarian organizations into democratic ones. Development of organizations requires completion of sequential tasks to progress from one behavioral-developmental stage to the next. For example, entities such as individuals, groups, organizations, subcultures, cultures, and countries, must successfully accomplish tasks at each Order of Hierarchical Complexity (OHC) to *acquire* the components necessary to undertake more complex tasks in the next order. This approach could supply rigor to inform and perhaps transcend key debates about democratization between "sequentialists," "gradualists" [12], "preconditionists" and "universalists" [13], among others. Efforts that ignore or attempt to force the process of development increase social, political, and economic instability, even when the effort is to spread democracy [14,15]. The purpose of a government is to provide members of society with stability and protection, but if there is no ruling government, then everybody is in danger. For example, the war in Iraq, a time of government instability, resulted in anarchy (i.e., ISIS). The failure to recognize the role of behavioral-developmental stages, may be major influences contributing to the rise of terrorism and insurgency [16].

Evolutionary behavioral science perspective

An alternative concept in making sense of terrorism is how groups are formed at different stages, and the relationship between group membership and the stage of the organization. From an evolutionary behavioral science perspective, terrorism can be considered a conflict between two evolutionary forces: assortativeness and affiliativeness. Assortativeness is showing preference for membership in a group whose members share a large number of characteristics. One characteristic of assortativeness is to defend one's own group and aggress against other groups that do not share their values. Assortativeness might lead to the formation of actual and virtual terrorist groups (i.e., one that communicates by electronic means as opposed to face-to-face means). Individuals, even when living within a seemingly benign culture, may still feel a strong affiliation with a different group, while having shifting levels of affiliation with the relatively benign groups around them. On the other hand, affiliativeness promotes social cohesion by being inclusive. The way to fight terrorism is to move from assortativeness to affiliativeness.

In addition to terrorist-like behaviors, terrorism can also be understood as a historical phenomenon that implicates involvement in conflicts. To better understand terrorist actions, one should study the history of the places which the terrorists come from, what the conflicts were, and how people acted in these conflicts. This can help one understand why terrorism might appear to be a good solution to them. To understand terrorist behaviors, one must consider their perspective. Their perspective includes everything they have been indirectly exposed to, through reading, media, and accounts from others within their group. People may be traumatized by learning about and witnessing the mistreatment of "their people" (i.e., the terrorists' in-group) even without directly experiencing those events. There is a long chain of events that forms the conflicts in which terrorists act, including contemporary issues and concerns. The chain of events is reflected in outcomes of many years, and even centuries, of actions, reactions, and interactions.

A great deal of terrorism is generated by wars and their aftermath, specifically as the result of collapsing archaic societies. These collapsing societies, which can result from periods of anarchy, may promote the success of terrorist organizations. If authoritarian governments are able to enhance societal stability, it is likely government-opposing forces such as terrorist groups are suppressed. Specifically, impoverished countries experiencing little economic development seem to remain among the most stable societies. This may be attributed to the presence of authoritarian rulers. There are very few of them today, but historically, authoritarian rule in ancient China is a concrete example of societal stability.

In contrast, countries where there has been development under terrorists include the Soviet Union under Joseph Stalin and China under Mao Tse-Tung. After serious military defeats by western allies in Afghanistan under the Taliban, Iraq under Saddam Hussain, Japan under Tojo, Germany under Hitler, these conquerors had essentially destroyed those authoritarian governments. They also had to take over

the functions of that government if they were to become democracies. Unfortunately, this does not always happen in a smooth manner, which may leave room for anarchy.

During a state of anarchy, the lack of governmental control allows for a number of contenders who could potentially take control or gain power. For example, in Russia, World War I gave rise to the successful terrorist revolutionary war of Bolsheviks. They overthrew the provisional government led by Kerensky, which had failed because of its decision to continue in the unpopular war against Germany. The 1947 war between Jordan and other Middle Eastern countries with Israel generated the Hamas, Hezbollah, Islamic Jihad, and the Palestine Liberation Organization (PLO), which is now the Palestinian government. The US, Soviet Union, and Afghanistan civil war generated Al Qaeda. Furthermore, the civil war between the Tutsi and the Hutus caused the collapse of Rwanda, and the subsequent waging of a terrorist war in the Congo by the Hutus. In these cases, the state of societal and governmental disarray caused by war both directly and indirectly contributed to the rise of terrorism in the participating nations.

Another condition that could result in governmental instability may be related to the presence of large minority groups. For example, countries such as Papua New Guinea, the Southern Philippines Muslim (Mindanao), and Chechnya (Russia), have large minority groups and therefore may be more susceptible to terrorism and governmental abuse of minorities. Usually large minority groups are discriminated against, such as the ex-slaves in the southern United States. Large religious minorities may also be discriminated against. Furthermore, humiliation, or the product of shaming procedures, is one way in which societies degrade minorities. In response, these minorities may become angry and become terrorists.

In addition, people diagnosed with personality disorders may respond especially poorly in discriminatory situations [17]. These disorders are mainly characterized by closed-mindedness and narcissism. Those with personality disorder traits may display ingrained, inflexible, and maladaptive patterns of behaviors that cause discomfort, and impair an individual's function in a positive manner. Although many personality-disordered people are prone to anger, there is an even higher potential for violence including the willingness to kill others, criminal activity, and the humiliation of others by people with antisocial, paranoid or borderline personality disorder. Non-empathic behaviors are characteristic of lower behavioral-developmental stages of development.

Many personality disorders are associated with the inability to form attachments past the nominal stage. This inability may result in terrorists' treating their victims as objects rather than as individuals. This behavior and its developmental basis is parallel to the behaviors of those who participate in acts of terrorism. Since many terrorists operate at lower behavioral-developmental stages, they are more likely to respond to discrimination in a negative manner (e.g., violence). Their responses may then lead to further discrimination, and the cycle only perpetuates. Regardless of an individual's stage of behavioral-development, those who are discriminated against are more likely to respond poorly. Individuals who

operate at a more complex stage of behavioral-development are less likely to respond with violent, non-empathic behavior [18], because they have better perspective taking skills and are more inclusive. Therefore, it is important to take this into account for countries where shaming procedures are embedded in the culture. Most often, the victims of discrimination, and even terrorism, are those who operate at a low behavioral-developmental stage and therefore, are more likely to respond negatively. These negative responses are likely to contribute to future acts of violence and possibly even terrorism. This will likely foster future acts of violence and terrorism [19,20].

Introduction to the Model of Hierarchical Complexity: determining if one task action is more hierarchically complex than another

Behavioral-developmental stages of humans and groups of humans can be assessed using the MHC [21]. This model organizes animals, humans and groups of humans according to the difficulty of the task accomplished. Every task is associated with a specific stage of behavioral-development [16].

Task of higher hierarchically complexity exists when the task can be broken down into subtasks of less hierarchical complexity, and the coordination of these subtasks is both unique and necessary to successfully complete the task. There are three main definitions in the MHC, which state that one task action is more hierarchically complex than others if it:

- is defined in terms of two or more adjacent lower order task actions;
- organizes these lower order task actions;
- the organization is non-arbitrary.

The terms "action" and "task action" are used interchangeably here. The nonarbitrary organization of several lower order actions constitutes one action of a higher order of complexity. For example, completing the entire operation $3 * (4 + 1) = (3 * 4) + (3 * 1)$ constitutes a task requiring the distributive act. That act uniquely orders adding and multiplying to coordinate them. The distributive act is, therefore, one order more hierarchically complex than the acts of adding and multiplying alone, and it indicates the singular proper sequence of the simpler actions. Although someone who simply adds repeatedly can arrive at the same answer, knowing to do so requires the same degree of complex thinking. By combining both actions appropriately, they enjoy a greater freedom of action. Therefore, the order of complexity of the task is determined through analyzing the demands of each task action by breaking it down into its constituent parts. The hierarchical complexity of any complex task is, thus, mathematically determined.

Stages described in the MHC (adapted from [22]) are shown in Table 1. The societal and terroristic behavior descriptions start at the Concrete stage and end at the Paradigmatic stage.

Overview of societal behavioral-developmental stages

The moral and political characteristics of criminal and terrorist organizations can be organized by behavioral-developmental stages. The behavioral-developmental stage at which individuals operate within governments, societies, and countries is used to characterize the behavioral-developmental stage at which such entities operate [16]. Societies are comprised of individuals operating at multiple behavioral-developmental stages of development in various domains. Thus, political cultures and social systems display concurrent operations of several different behavioral-developmental stages. There is a difference between the behavioral-developmental stage (MHC) of a person's action, and of "cultural memes." There are many overlapping systems and relationships among different people and entities. This overview does not attempt to tease apart component tasks to address that issue of multiple systems and relationships, but portrays behavioral-developmental stages for many of those relationships. The following summaries of societal behavioral-developmental stages are composites chiefly drawn from Commons and Goodheart [16] and Ross [14,15,23,24].¹

Concrete behavioral-developmental stage societies

The Concrete Behavioral-developmental Stage 9 is defined by actions that organize two actions from the Primary Behavioral-developmental Stage 8. For example, carrying out distribution (Stage 9) of full arithmetic in long multiplication coordinates multiplying (Stage 8) and adding (Stage 8). This stage also focuses on events, people, and places that are personally known. Societies at this behavioral-developmental stage are dominated by subsistence concerns (e.g., food gathering, hunting, etc.) and demonstrate short time horizons.

Social behavior is characterized by reciprocal exchanges between two or more people, involving concrete goods and services and simple social rules. Dyadic relationships are prevalent in reciprocal exchanges (e.g., to plan deals, trade favors, and barter) and lead to forming factions. Other persons' perspectives are considered only *if* those others affect oneself or one's close group or enable deals that both parties regard as fair. Thus, those operating at the concrete behavioral-developmental stage, such as human slave and sex-slave traders, only consider slaves' perspectives and feelings to an extent. Centralized governments are personally feudal or dictatorial, populated by lesser lords and aristocracy, advisers, retainers, friends, family, servants, and sycophants. Bureaucracies as civil services do not exist in societies at a (hypothetically) pure concrete behavioral-developmental stage.

¹ For additional discussion of behavioral-developmental stages of political development, see [25,26], and for in-depth descriptions of individuals' political reasoning at several of these behavioral-developmental stages, see [27,28].

In cultural evolution, societies operating at the Concrete behavioral-developmental stage 9 may introduce some form of formal government. Hunter-gatherers operate at this stage. They have no wealth, but they do have power. At the Concrete behavioral-developmental stage, in general, ideas about what "democracy" is, if any, are vague because the purpose or function of government is not about democracy but rather power and wealth of its leaders, and only to some degree the protection of its subjects (see section on formal behavioral-developmental stage societies, later in the article). At this behavioral-developmental stage, specific officials (e.g., a king, leader, warlord, president, or minister) essentially "are" the government from the concrete behavioral-developmental stage perspective. This is because roles are not separated from the ones who fill the roles. They do not have to be, because leaders are personally known or known of, and followership is based on personal and economic ties, not roles. Without concepts of contracts or title to goods, government is not needed to regulate transactions; physical possession constitutes ownership and power. Despite possible appearances of a form of central government, rule is exercised in traditional ways: making deals and exerting raw power in the "friend or foe" mode. Warlords' power often exceeds that of a fledgling government. If election processes are introduced, the Abstract behavioral-developmental Stage 9 concept of political party is meaningless. Instead, votes predominantly follow a tribal or ethnic group's choice or patrons, that is, those who are "like us." Societies that are operating at Concrete Behavioral-developmental stages societies' make efforts to have and run governments. They are commonly judged corrupt by higher behavioral-developmental stage governments and international bodies. Yet, from the concrete stage society perspective, bribes and "under the table" reciprocal arrangements are the normal way to conduct affairs. Attempts to regulate free speech and media access are common ways to limit the formation of a public voice at the concrete behavioral-developmental stage. Among other characteristics of this behavioral-developmental stage, such actions inhibit political development. This may be the behavioral-developmental stage in the least developed countries. Bribes are common in many developing countries.

Abstract behavioral-developmental stage societies

Throughout history humans have been viewed as territorial animals. By the Abstract behavioral behavioral-developmental stage 10, allegiance of people and leaders becomes a major issue. In chimpanzees, the alpha male takes on the role of the leader and the rest of the pack begins to follow him but they will not die for the beta or gamma male. In general, the Abstract behavioral-developmental stage 10 is defined by actions that form variables out of finite classes, and make quantifying abstract propositions (none, some, all). This underlies forming generalizations, such as stereotypes. The end result at this behavioral-developmental stage is the use of a comprehensive set of variables used to make classifications: time, place, act, actor, state, and type, and quantifiers and categorical

assertions (e.g., "We all die"). In abstract behavioral-developmental stage societies, group associations begin as membership in political parties, group associations, trade unions, and religious organizations. In contrast to the concrete behavioral-developmental stage, one can feel that one is in a social relationship with others and be loyal to it, even without proximity to other members. Loyalties to groups, leaders, and belief systems are strong. These loyalties are sometimes unquestioned, because group memberships help people form their identity at this behavioral-developmental stage. Strong, paternal-type leaders, often charismatic, tend to be preferred, on the assumption they will take care of their children/followers and keep the group or society harmonious and fair. A so-called ideology often espoused by leaders in abstract behavioral-developmental stage society is actually comprised of characteristically dualistic assertions about prejudices, stereotypes, and definitions of the "in-group" and the "out-group."

In non-Western settings, individuals performing at the abstract behavioral-developmental stage are likely to associate with concrete-behavioral-developmental stage persons who are often their clients, but abstract behavioral-developmental stage *groups* are more likely to become an elite class, distanced from concrete behavioral-developmental stage groups. At this behavioral-developmental stage, the beginnings of the concept of *roles* are learned, such that people understand that different individuals may fill and later leave the same role (e.g., boss, broker, religious leader, teacher, president). Among other factors, this enables bureaucracies to *begin* to form. At that point, a leader may rule by decree and be served by the organization. Individual rules can be conceived to accomplish a desired end, but the method to implement the rule cannot be conceived (although punishments for breaking rules come easily as they have since the Primary behavioral-developmental Stage 7 and even earlier). A rule can be explained and followed, yet contradictions with other rules or norms go unnoticed. For example, a bureaucrat may be as faithful to the norm of charging bribes (because that is the way things get done), as to the rule to be honest and give constituents fair and equal service. People performing at the abstract behavioral-developmental stage value social norms, thus can negotiate by trading normative values (unlike Concrete behavioral-developmental Stage 8s dealing in tangible currencies from money to animals to people). When real differences cannot be solved any other way, abstract behavioral-developmental stage negotiations can agree to live with them to preserve harmony. This behavioral-developmental stage may be the behavioral-developmental stage in many less developed countries.

Formal behavioral-developmental stage societies

The Formal behavioral-developmental Stage 11 involves solving problems using logic, mathematics, and empirical investigation in order find out what is true. What is true is based on forming relations out of variables, where logic is linear and one-dimensional because only one input variable can be considered at one time. Formal behavioral-developmental Stage 11 societies develop empirical

interests in increasing productivity, training, and wealth distribution, which in turn lead to formal economics and laws. People functioning at this behavioral-developmental stage participate in the formal economy. Truly bureaucratic governments form, with extensive written laws and regulations that are implemented in "letter of the law" fashion. Law is effective at moderating crime, including terror. Societies discover that the existence and enforcement of criminal and civil law promotes trade and investment. This connection is made easily at this behavioral-developmental stage because each is a simple empirical relationship between two variables. Competition is largely civil and regulated. The contingencies of the marketplace control social relations and status. This societal behavioral-developmental stage is the objective of many efforts to introduce democracy.

However, when formal behavioral-developmental stage regulatory ideas are exported to non-Western countries, there may be too few persons performing at the formal behavioral-developmental stage to understand how procedures are supposed to work or their underlying logic (e.g., separation of legal powers or administrative duties). The non-Western society may be mistaken for a formal behavioral-developmental stage society because at the formal stage is the rule of law. In the earlier period even though they had laws, they were more like metaphors than rules. Confucius was an attempt to make a Formal behavioral-stage society but it was more like the Abstract behavior-stage because it established norms rather than rules. However, the new forms of government or business procedure provide new facades to which conventional behaviors of patronage adapt and persist, usually more effectively because access to new resources is available. For example, the formal behavioral-developmental stage concept of employees on payroll is used to pass resources to clients, often as "ghost employees" who do not work for the employer. Bureaucracies become engorged through such arrangements. Because in-group ties are stronger than other ties in abstract settings where formal behavioral-developmental stage structures are imported, many people are often less successful at distinguishing an employment role from political party role, for example, party loyalty trumps formal role responsibility. People who use formal behavioral-stage reasoning are good at using rules to find or create loopholes to implement strategies. They are not very successful at foreseeing unintended consequences of their strategies. They may be clever at "cooking the books" to hide bribes yet cannot foresee how they will still get caught. Countries that operate at this behavioral-developmental stage do not necessarily have a real multiparty system, even if they have relatively free and fair elections. This behavioral-developmental stage may have been, or be, the behavioral-developmental stage for Eastern bloc and some number of Latin American countries.

Systematic behavioral-developmental stage societies

Actions at the Systematic behavioral-developmental Stage 12 are defined by the coordination of more than one variable as input and the contextualized consideration of simple relationships. Parts of the system are compartmentalized. This coordination and consideration construct multivariate

systems, matrices, and webs of causation, resulting in more complex societies. In systematic behavioral-developmental stage societies, systems of relations are coordinated among the legal, societal, corporate, economic, and national spheres. At this behavioral-developmental stage, government systems are complex enough to address and achieve multiple goals simultaneously, society is predominately lawful, and advanced accounting practices make business relatively transparent. Markets, stock exchanges, and the like produce complex impersonal relationships among people, and more intricate laws and regulations stabilize markets and prevent monopolies. These laws deal with multidimensional aspects, requiring advanced systematic behavioral-developmental stage actions. Applications of laws are more “in the spirit of” than “the letter of” the law. Democracy can function as such and governmental processes are orderly and mostly fair.

At this behavioral-developmental stage, more highly abstract concepts appear, such as transparency, accountability, social justice, and sustainability. Note that these ideals are imposed on and expected from lower-behavioral-developmental stage societies to no avail. They fail because they are systematic behavioral-developmental stage actions. The introduction of professional norms reduces corruption at this behavioral-developmental stage because part of being a professional is having a role independent of personal affiliations and conflicts of interest [29]. People can consider a multivariate combination of such factors as the rule of law, fear of exposure, preservation of image, methods of reporting, and market pressure. People can conceive a system of transparency to reduce corrupt practices, but also conceive a system to skirt efforts to enforce transparency. This behavioral-developmental stage can neither succeed in entirely escaping transparency measures nor eliminate efforts to sabotage efforts to institutionalize transparent practices and reduce corruption. Legislators, judges, and administrators tend to view the problems of government based on their own experiences, which are then projected onto others in a logical, but non-empirical or scientific manner. This tendency results in assumptions that in turn motivate the export of Western systems to non-Western settings where they fail. In a related way, at this behavioral-developmental stage people also assume that everyone has free will and will respond as they assume they would to inducements and threats. They assume a common value system or where values differ, that the system of the international body, legislators, or government officials is “right” and that of the others is “wrong.” Thus, at this behavioral-developmental stage, there are still “in-groups” and “out-groups,” and war is still used in international conflicts.

Metasystematic behavioral-developmental stage societies

The Metasystematic behavioral-developmental Stage 13 is defined by actions that create metasystems out of systems of relationships, compare systems, and systematic behavioral-developmental stage perspectives. Where they appear to exist, metasystematic political systems to date are incomplete and inconsistent [30]. At this

behavioral-developmental stage, our analysis suggests that governments must do a more complex job of, for example, conceptualizing the legal system and international development. They would use context aware environmental, behavioral, and psychological analyses in conjunction with scientifically informed bases. A successful example is the way the U.S. Bill of Rights and Constitution together form a metasystem, reflecting the coordination of the system of rights under the Bill of Rights and the system of duties under the Constitution. Such coordination is evident also in the U.S. Declaration of Independence and the concepts and principles embedded in the European Union. One source of incompleteness of such political metasystems is that they still fail to incorporate the much higher amount of complexity involved to adequately qualify any system of duties, for example, beyond “one size fits all.” Such systems are limited by assumptions that do not stand up to the order of complexity that actually must be addressed.

People performing at the Metasystematic behavioral-developmental Stage 13 and above do not project enemy status on others because they successfully coordinate multiple actors’ perspectives. These other people may be in opposition to one’s own group. Still, there will always be mixtures of people operating at various behavioral-developmental stages who do perceive enemies. Thus, performed at a much more complex order, this societal incorporation of “the other” can be perceived as somewhat similar to the Systematic behavioral-developmental Stage 12 action of forming of an alliance with the “healthy” part of a person so that a mutual set of positive goals may be pursued (e.g., in psychotherapy and counseling settings). Public and other forms of discourse and inquiry will become embedded in society, including “discursifying bureaucracies” at perhaps a yet higher behavioral-developmental stage of society [30, p. 133]. Discourse will flow from higher principles and the coordination of metasystems. Torbert posits the establishment of the principle of inquiry at this behavioral-developmental stage, to incorporate with equality and other bedrock principles the perspectives of all behavioral-developmental stages of development [31,32]. In a similar way, Ross sets forth a developmentally structured discourse process that embeds recognition of issues’ complex causation and perspectives and tasks of multiple behavioral-developmental stages of development [33,34]. Such are necessary to institutionalize, enable, and motivate use of replicable processes that she proposes can result in Metasystematic behavioral-developmental Stage 12 tasks as outcomes of issue-analysis, deliberation, decision making, and systematic action, and permeate all levels of society in doing so.

Paradigmatic behavioral-developmental stage societies

Just as for individuals, as the Order of Hierarchical Complexity of the tasks increases, the number of societies at that behavioral-developmental stage that successfully address those tasks decreases. The Paradigmatic behavioral-developmental Stage 14, for example, does not yet exist at a societal level, thus, this section is speculative [35]. In general, this behavioral-developmental stage is defined

by fitting metasystems together to form new paradigms. Tasks at this order are more difficult than governments' behavioral-developmental stage of performance can yet recognize or even address the need to do so. Because the tasks are extremely complex and therefore difficult, processes to enable at least partial syntheses tend to be developed instead. These may take the form of weak political structures, accommodating the impossibility of developing a complete and consistent set of governing principles, as did Madison, in drafting the U.S. Constitution: he recognized the incommensurate and potentially conflictual systems of administration, legislation, and justice. Future paradigmatic societies, we expect, will resolve such institutionalized conflicting claims. In doing so, they will employ choice between many possible axioms underlying abstract conceptions of society that is not tethered to and thereby limited by the abstraction of the individuals that limits earlier behavioral-developmental stages. They will attempt to coordinate the complex array of metasystems that constitute the complex causation of societal ills. Paradigmatic approaches to governmental and societal issues will use co-construction of an acceptable shared set of precepts [31] and co-constructed solutions [33,34] by all stakeholders, including real or perceived enemies.

An analysis of how to bring about change

Which general processes facilitate political behavioral-developmental stage change, irrespective of the beginning behavioral-developmental stage? In order to answer this question, it is important to first examine the process by which such a transition takes place. An overview of stage transition is covered by Commons [36]. The first part of a behavioral-developmental stage transition (based on a discussion by Flavell in [37,38]) involves deconstruction of the previous behavioral-developmental stage actions. Deconstruction starts with the individual or group engaging in action A, the present behavioral-developmental stage action. This step is followed by a new, added step, in which the person or group learns that the present behavioral-developmental stage action fails them. This new step, the failure of A (the previous behavioral-developmental stage action) is the critical step. When the action A is perceived as failing, there is a resulting drop in the perceived rate of reinforcement, as previously discussed. Detection of the rate of reinforcement may be done through self-checking (observing what happens when one engages in different actions), observing others receiving reinforcement for certain actions, or merely through trial and error. The next step is when individuals or groups use a present behavioral-developmental stage action, B, which is either the opposite or complement of behavioral-developmental stage action A. The deconstruction part of transition ends when there is alternation between A and B, the relativistic step. The second part of transition, construction, follows deconstruction. In this part, the construction of the new-behavioral-developmental stage actions takes place. Construction begins with a new step, which is made out of sub-steps (these are based on Kuhn's analysis of behavioral-developmental stage change [39]; they in turn base their analysis on dialectical strategies described in the Piagetian

probabilistic transition model [37,38].) These steps were later systematized by Commons and Richards [40,41]. The sub-steps illustrate three possible ways of learning to coordinate actions A and B in an incomplete manner. Random parts of both A and B are combined into more complex actions. Since the coordination is not complete, actions A and B are said to be "smashed" together. Finally, the individual or group reaches the last step, where A and B are coordinated, forming a new action, C. It is not until this step that a successful transition to the next, more complex behavioral-developmental stage can take place.

In order to examine this process from a political perspective, one can look at the governmental actions that have previously failed to facilitate developmental behavioral-developmental stage progression. For example, it seems that just giving instruction in democracy to individuals has not necessarily worked, Action A. Neither visitation to, nor residency in, democratic countries seems to induce many individuals to become democratic leaders. Moreover, Western nations' attempts to Christianize people did not lead to good governments based on Christian principles as seen, for example, in Nigeria, Rwanda, and Haiti. Our society assumes that observing democratic ways "supports" the modeling of such behavior. However, the observed democratic actions and perceived ideals are translated through the sometimes less complex behavioral-developmental stage filters of distant observers, and understood in ways very different from what we often assume [42]. Piaget showed that behavior of more than one behavioral-developmental stage away was not even remembered by observers [43,44]. "Considering the behavioral-developmental stage of the society one plans to make more democratic" could be Action B. When these are fit together, they become "presenting information about democracy, exposing people to it, and supporting democratic activity" — all at the behavioral-developmental stage of functioning of that society, as this article describes, and given that is the mission. This in turn, leads to the next behavioral-developmental stage behavior.

It is also important for all societies to realize that successful methods of progressing in behavioral-developmental stage and decreasing terrorism are dependent upon the present developmental behavioral-developmental stage of the individuals, groups, organizations, and countries. Studies have shown that interventions targeting change in one or two behavioral-developmental stages are most successful. Intervention studies have shown that interventions targeted to produce a change of one or two behavioral-developmental stages work best with individuals [45,46]. Contingencies within tasks that are more than one or two behavioral-developmental stages above the current working behavioral-developmental stage of the person fail to make contact with the behavior, and there is no stage transition. Reinforcement contingencies that do not make contact with a behavior require additional support. There are different types of support that have varying degrees of effectiveness [47]. With one level of support, people are shown exactly what to do. This is the level of support of a peacekeeper. They demonstrate how to run a government. With two levels of support, people are actually walked through a given procedure, and their progress is monitored. Any correct performances are also noted,

which leads to increased confidence and, therefore, future correct performances. Offering two levels of support is especially effective when the participants operate at a low behavioral-developmental stage. Kegan and Lahey [48] discuss how changing the way we talk can change our developmental behavioral-developmental stage. The specific application of support levels to governments will be later discussed with respect to each behavioral-developmental stage.

How financial support facilitates governmental behavioral-developmental stage change

Support is another factor that facilitates governmental behavioral-developmental stage change. Government building can come in many forms. When countries ask for help building governmental institutions, such as civil law in China's case, or a court and accounting system, behavioral-developmental stage change will follow. China has moved from the formal operational behavioral-developmental stage (with many abstract behavioral-developmental stage elements) to the beginnings of the systematic behavioral-developmental stage. Such help may be considered "support" of next behavioral-developmental stage behavior in the Fischer sense of support [47]. Requests for economic transparency are usually accompanied by technical support, an obvious form of support. The requirements for joining the World Trade Organization and, to some extent, for obtaining loans from banks such as the IMF (International Monetary Fund), leads to greater economic transparency. Transparency is openness and accuracy in financial dealing and accounting, both of which are prerequisites for economic democracy. Under one level of support, one finds imitation. Maintaining close contact with the US, and being subjected to a great deal of pressure, the US has strongly influenced Korea and Taiwan to adopt governments friendly and acceptable to the US. Both Korea and Taiwan have, for the most part, transitioned from late abstract behavioral-developmental stage governments to democratic, systematic behavioral-developmental stage governments. As shown by Korea and Taiwan, even many of the liberated countries have been transitioning from late abstract behavioral-developmental stage dictatorships to formal operational bureaucracies into more democratic, systematic behavioral-developmental stage governments. Both have opposition parties, and have dramatically reduced corruption.

Conversely, under two levels of financial support, one finds direct administration. Two levels of support directly institute the higher behavioral-developmental stage of behavior being required. It directly trains and instructs the people on how to carry out the required new behavioral-developmental stage behaviors. It goes beyond modeling the behaviors by actually training them directly. This may have led to democracy in Germany, Italy, Japan, and India, but did not lead to true democracy in Pakistan. It might be due to differences in education, the relative power of the army

and, among other reasons, Pakistan is a relatively religious state, and has not successfully dealt with the corruption. Direct administration has been what NATO has done in Bosnia and Kosovo with only some positive results. The fact that we directly administered the Philippines did not lead to the Philippines becoming democratic until recently.

Societal transitions from one behavioral-developmental stage to another

There is always a mixture of the orders of hierarchical complexity evidenced in tasks performed by individuals and larger social entities. Ross demonstrates this using the MHC to analyze cases researched and reported as ethnographies [25]. For example, in an Argentine study, there was a particular Formal behavioral-developmental Stage 10 government program that was "managed" by patrons and patron/politicians who, in certain domains related to it and its clientele, functioned at Abstract behavioral-developmental Stage 9 (and in other domains, at Formal behavioral-developmental Stage 10) [49]. These, together with the program, served a mixture of Concrete behavioral-developmental Stage 8 and Abstract behavioral-developmental Stage 9 "followers." Followership roles (and thus, tasks in those roles) included those of social welfare program recipients, clients of the patrons' brokers, and voting citizens. Such roles were not mutually exclusive; the same person could have all three follower roles. Such mixtures as these indicate the amount of complexity inherent in understanding social systems and actors and tasks within them, including changing behavioral-developmental stages of performance of tasks.

Because the MHC establishes that skipping any behavioral-developmental stage of development is impossible, it is necessary to account for *how* behavioral-developmental stage change occurs, and *what* changes [50]. The transition step sequence posited by the Model accounts for *how* the change of moving from one behavioral-developmental stage to the next occurs (see "Fractal Transition Steps to Fractal Behavioral-developmental stages: The Dynamics of Evolution, II," this issue). *What* changes is the behavioral-developmental stage of performance of a task, from one order of hierarchical complexity to the next. A comparison of the tasks *from* which and *to* which one transitions in behavioral-developmental stage change is one way to shed light on what changes. To illuminate such task-level behavioral-developmental stage change, this section focuses on the task changes from Concrete behavioral-developmental Stage 9 to Abstract behavioral-developmental Stage 10, and then to changes from Abstract behavioral-developmental Stage 10 to Formal behavioral-developmental Stage 11. All of the changes require the coordination of elements from the next lower order. "Coordinate" means compare, contrast, synthesize, or otherwise put disparate elements into coherent relationship at a higher-order of complexity. Examples are provided to illustrate this task.

From the concrete behavioral-developmental stage to the abstract behavioral-developmental stage

As posited by the Model, actions of the Concrete Order 9 tasks coordinate two or more Primary behavioral-developmental Stage 8 task-actions in a nonarbitrary way, such that an interrelationship of them is formed. For example, at Primary behavioral-developmental Stage 8, one may see army trucks leave the base each morning and the clock says six o'clock. One may also observe that some of the trucks have a big cover over things of different shapes. One saw an army truck with a particular covered shape arrive in the village. A soldier was heard telling the local chief, "Your grenades are here." one concludes that a truck with that particular shape under the back cover means grenades are under the cover. A possible Concrete behavioral-developmental Stage 9 coordination of these Primary behavioral-developmental Stage 8 "building blocks" could result in such interrelationships as the following: "John, you will be on lookout at 6 o'clock each morning to tell me the next day they truck out grenades. I will follow the grenade truck when you give me the word. I can make a deal with the chief they deliver them to. He will want something from us that he cannot get from the army. He might want some of our tobacco stash. I could trade him part of what we have here for a couple boxes of grenades. Once we have our hands on them, we can plan our next attack. The sooner we can blow up those 'explicatives', the better.'".

The example above highlights two key tasks possible for the first time only at Concrete behavioral-developmental Stage 9. One is planning deals, while another is *social perspective-taking* [51–53]. The speaker in the scenario performed the task of taking the perspective of the chief and coordinated it with the speaker's perspective. The other party in the transaction would plan to get something meaningful out of the trade, just as the speaker did. Note also the absence of perspective-taking with regard to the lives of those who would be blown up using the thus-acquired grenades. The only persons whose perspectives are considered and coordinated are those who "matter." At subsequent behavioral-developmental stages, more people matter as broader forms of perspective-taking develop.

To move from Concrete behavioral-developmental Stage 8 to Abstract behavioral-developmental Stage 10 performance requires that one coordinates two or more Concrete behavioral-developmental Stage 9 task-actions in a nonarbitrary way such that an abstract class that refers to them is formed. An abstract class is often a variable because it refers to a class that has ordered values of members. For example, our side of the conflict and the terrorist's side of the conflict are two values. Abstract variables are new concepts that enable and play crucial roles in this behavioral-developmental stage change. The following composite indicates challenges of this behavioral-developmental stage change in the political domain, which have much to do with the *significance* of forming and using abstract variables. Certain variables infer the key political tasks: boundaries, social or political conflict, social

or political decisions, degree of fairness, group, social or political group loyalty, majority, opinion, organize, paperwork, policy, political party, politics, popularity, property, private versus public, religion affiliation, roles. None of these abstractions "exist" with any meaning to people functioning at the concrete behavioral-developmental stage, who instead use concrete concepts such as those in the grenade scenario. This behavioral-developmental stage change involves moving from specific knowns like "land" to generalizations that include unseens like "boundaries" and "property." But before one can name an abstract class to refer to types of people, types of events, and types of things, one generalizes about people, events, and things that are not concretely familiar.

One obstacle at the concrete behavioral-developmental stage lies in the difficulty generalizing about people and events. This poses major political implications in that individuals are unable to take the perspectives of those perceived as the enemy. With major political implications, an obstacle to generalizing about people and events is the inability at the concrete behavioral-developmental stage to take the perspectives of others who are the perceived enemy. The ability to consider alternative perspectives is necessary in any negotiation to resolve a conflict. It also underlies terrorist attacks. The perspective that matters to someone operating at the concrete behavioral-developmental stage is that person's own perspective. Thus, it is very difficult for people at the concrete behavioral-developmental stage such as warlords and tribal leaders to care about anyone but "their own" or anything but exercising their own power through control over armed bands, a wealth of resources, and fear. They require only concrete behavioral-developmental stage interrelationships among people, things, and events to function successfully. For warlords and tribal leaders to shift from the concrete to the abstract behavioral-developmental stage; they need to trade one form of power for another. The trader power must be one that contributes to the law and order of an abstract behavioral-developmental stage society. The pressure from others of following social norms, which develops at the abstract behavioral-developmental stage, can be an inducement to such an exchange. Strict approaches to maintaining law and order are essential to overcome the concrete behavioral-developmental stage chaos of tribal warfare and anarchy. That is why areas in developing countries that instigate Islamic law demonstrate more general order than those that do not. Some such strong authority is essential for this behavioral-developmental stage change to occur.

To eschew non-democratic but benign authoritarian leadership is a mistake if a concrete behavioral-developmental stage society is ever to move to the abstract behavioral-developmental stage. Democracy is impossible at this behavioral-developmental stage. First, there must be control, fair rules, some early social contract, and pre-bureaucratic structures to enforce order and safety, such as, police forces. During the Middle Ages, commerce grew only after sheriffs and police came to control highwaymen. Such early structures support the abstract behavioral-developmental stage need to identify with an extended group beyond one's face-to-face peers. A strong king or dictator who uses a social contract with the populace thereby defeats warlords and tribal leaders,

forcing movement to the abstract behavioral-developmental stage. Recordkeeping is completed at the Abstract stage. Abstract behavioral-developmental stage public record-keeping becomes essential for tasks such as collecting fines and issuing tickets for violations and permits for certain activities. These transactions, become fodder for charging abstract behavioral-developmental stage bribes, which only a formal behavioral-developmental stage society can just begin to address successfully.

The connection of terrorism reduction with the change from concrete to abstract behavioral-developmental stage society was developed in Commons and Goodheart [22]; other points are mentioned briefly here. The abstract behavioral-developmental stage's social contract in a collectivity is to provide order and safety as a social norm. They are not the prerogative of a powerful individual leader, nor attributes to be used as a bargaining chip. Order and security as a social norm in the abstract behavioral-developmental stage does not represent the idea that "everyone fends for themselves". While people do excel at fending for themselves. It is when they feel trapped in conditions over which they have no control, they perform tasks to attempt to change their condition. At the concrete behavioral-developmental stage, attempts to change their condition include subverting, punishing, or destroying the perceived perpetrators of the unlivable conditions. Some of the tasks they perform may be terroristic. Thus concrete behavioral-developmental stage societies are observably the prevailing seedbeds of terrorist activity.

The behavioral challenges are not only to leadership roles and terrorist activities of a few, but also to citizens at large. Members of society — and the international community — must initially accept, for example, former warlords or military leaders into newly sanctioned political roles, as in the new political parties that form at the abstract behavioral-developmental stage. Initially, they are not true political parties, but rather politicized forms of existing ethnic and kinship groups. This, too, is a necessary step in the change. Concrete behavioral-developmental stage identities are tethered to such concrete relationships, and abstract behavioral-developmental stage identities are tethered to abstract group memberships. Political parties evolve to idea-based groups only at the later, formal behavioral-developmental stage. Finally, an abstract behavioral-developmental stage performing society is defined by its geopolitical boundaries and identity. At the societal level, this means national identity, and may include or be preceded by provincial boundaries and identities. This task is akin to perspective-taking. It means subjugating smaller groups' status to that of a group of groups that comprise a state or nation. Many early nation-building tasks are involved, well described by Ayoub [54] The nationalism that becomes possible only at the abstract behavioral-developmental stage requires tasks of:

- forming the concept of geopolitical boundaries;
- forming the concept of nation with larger unknown territory defined by political boundaries;
- identifying with the new group, "us," the whole nation.

At the concrete behavioral-developmental stage, only geographic and other such concrete markers define a group's territory. Jordan has employed a developmental

behavioral-developmental stage approach to issues related to developing concepts of boundaries and the conflicts related to them [55]. These and the other changes mentioned in this section indicate some of the major tasks involved in the change from concrete to abstract behavioral-developmental stage society. In some societies, terror is used to keep people in line; for example, dictators killing innocent people to scare a population into not opposing them. But terrorism is attack on groups at the Concrete stage.

From the abstract behavioral-developmental stage to the formal behavioral-developmental stage

As posited by the Model, in tasks performed at the Abstract 10 order, one coordinates two or more Concrete behavioral-developmental stage 8 task-actions in a nonarbitrary way, such that an abstract class referring to them is formed. For example, at Concrete behavioral-developmental Stage 8, one may know that in large buildings there are rooms called an "office" in which men and women work. One may know that the local government has a building with such rooms where men and women work. Possible Abstract behavioral-developmental Stage 10 coordinations of these Concrete behavioral-developmental Stage 9 "building blocks" could result in such abstract classes as "government offices," "government buildings," "office workers," "government workers," and "government people" Note that it is only at the abstract behavioral-developmental stage of performance that the abstract concept of *roles* is first developed, for example, government workers.

To move *from* Abstract behavioral-developmental Stage 10 to Formal behavioral-developmental Stage 11 performance requires that one coordinates two or more Abstract behavioral-developmental Stage 10 task-actions in a nonarbitrary way, such that formal relations among them are formed. Table 2 provides examples of what this coordination looks like at this behavioral-developmental stage transition. The content of most of the examples is designed to highlight an important task of moving from the abstract to the formal behavioral-developmental stage in the political domain (and equally so in all other social domains). The task is to discriminate (i.e., coordinate) *that* a particular role is distinct from the person who fills the role and therefore that behaviors by the same actors may vary by virtue of their roles. For example, in the patrol duty scenario (Table 2), at the formal behavioral-developmental stage, the person subjugates performing personal errands to the behavior demanded by the work role. This involves a more complex task in perspective-taking. In various combinations depending on the situation, the perspective of the individual, another person, a role, and/or an entity like employer or other organization may be coordinated. Such tasks as this are possible only at Formal behavioral-developmental stage 10 or higher.

To provide a level of support for considering *what exactly it is that* changes between the abstract and formal behavioral-developmental stages, the key abstract behavioral-developmental stage variable within each of the abstract behavioral-developmental stage statements in Table 2 is in italics. This is done to call attention

Table 2 Political tasks of moving from abstract stage 9 to formal stage 10. *Mission politique pour passer de l'étape 9 à 11.*

Political tasks of moving from abstract Stage 9 to Formal Stage 10			
Examples' Categories	Abstract Variable 1	Abstract Variable 2	Example of a Formal Stage 10 Task Coordinating Variables 1 and 2
Tasks related to work	In our jobs at the Treasury Ministry...	...the files are well supposed to be <i>private</i>	Because our job is to handle private records, we have to keep everything we know about them confidential
	I am on patrol duty until after the store closes today	But I need to run some errands at the store	If I take time out of patrol duty to run the errands, I will not be able to respond if there is trouble somewhere at the same time
	We always charge <i>bribes</i> with the permit fees. We deserve to get a tip for doing this work	Two people said my paycheck is the only <i>payment</i> I should get	1 never thought of that before. Since I get a paycheck from the government for doing this job, I do not deserve to take money out of customers' pockets for doing the job
Tasks related to roles in groups	I pledged <i>loyalty</i> to our jihad cell for the glory of Allah... Everyone in the government sets up as <i>employees</i> lots of the people they are used to helping out	... but they never said we would be <i>militants</i> . blowing up our own city The Minister announced new <i>rules</i> for putting people on the payroll	1 have to break my oath to the cell and leave, because 1 did not join it to do that I cannot help my family and friends anymore because there is just no way to get around the new rules
Tasks related to other entities	We used to just turn in all our <i>ticket paperwork</i> at the end of the night and not have to do anything else As President, I am used to making all the <i>decisions</i> about this sort of thing	Now we write a long report on everything that happened, look at the list, and match the ticket to one of the new <i>violations</i> New legislation forces me to get approvals from the Cabinet on such decisions	If we can match our description to the definitions of the violations, then we know we cited the right ordinance for issuing the tickets, and then we know they will stand up in court If I can appoint a few more of the right people to the Cabinet, and if they know I will steer contracts their way, then I should be able to get the approvals I want

to the higher behavioral-developmental stage coordination evident in the formal behavioral-developmental stage statements.

Such examples as in Table 2 indicate why Commons and Goodheart (2007) observe that abstract behavioral-developmental stage societies are somewhat chaotic, inconsistent, and eventually fail because their governments do not base decisions on logical or empirical relationships. However elementary it may appear to be, the "logical rigor" evident in each of the aforementioned Formal behavioral-developmental stage 11 statements stand in sharp contrast to the declarative assertions of the Abstract behavioral-developmental stage 10 statements it coordinated. Those examples serve as a backdrop to the following summary, drawn from Commons and Goodheart [22] and Ross [14,15,24,25], of common tasks from which Abstract behavioral-developmental stage 10 performances must move to *change to* Formal behavioral-developmental Stage 11.

At the Abstract behavioral-developmental stage, civil servants use government structures to maintain and/or extend their patronage and brokerage influences with relatives, friends, and political allies. Personal and public budgets are strained as the abstract-behavioral-developmental stage norm of bribes inflates the cost of obtaining goods and services for individuals and the society, and benefiting few at the expense of many. To reduce corruption, logical cause-and-effect-based regulations and procedures are required to prevent payroll abuses. Development in such tasks as social perspective-taking, distinguishing roles, and developing formal logic to understand procedures, benefits, and consequences occurs in the move from abstract to formal behavioral-developmental stage behaviors. The ability for individuals to exercise personal power over public resources declines once regulations define power in legal and regulatory terms, supported by systems of checks and balances. On the other hand, there are processes of institutional decay, also described

in Fukuyama's magnum opus [56]. People will always work to take back control of resources and direct them to self, friends and family. Citizens begin to explicitly demand the rule of law to prevent the range of corruption in public service positions. Depending on the culture, it takes time and courage for citizens to publicly voice such demands. Such behavior may risk one's status in the patronage systems that people have long relied on. A key government task in the change from abstract to formal behavioral-developmental stage is to legislate a social contract that takes over that function from these ubiquitous informal systems. Elections gradually increase the government's behavioral-developmental stage as people vote for effective anti-corruption candidates. People prefer uncorrupt practice once they deduce they can save money and have more predictability. People gradually reduce their attachments to selecting parental figures as leaders, and elect those who will shift the social contract to government [57]. These new logical relations give people functioning at the abstract behavioral-developmental stage the needed experience in distinguishing roles from persons who play the roles. Roles and procedures come to be viewed as logical necessities for organizations and government to function well enough to succeed. This helps people adapt to more impersonal contacts to get things done. This reduces abstract behavioral-developmental stage corruption, despite the fact that it also paves the way for formal behavioral-developmental stage corruption.

Bureaucrats can operate at stage 10, 11, or 12. Abstract behavioral-developmental Stage 10 bureaucrats can gradually detach from the patronage networks embedded in government structures as new regulations weaken them and government pay becomes adequate to live on – part of the social contract. They also come to want both autonomy and standard rules to follow so decisions are efficient and fewer need approval. Similarly, standard procedures based on logical sequences and relations are required at the formal behavioral-developmental stage before a government can successfully develop, operate, properly maintain, or restore public infrastructures that meet basic needs, such as power, potable water, and roads. The necessity of the Formal behavioral-developmental stage for maintenance of public infrastructure cannot be overstated. These seem to be some prerequisite conditions if governments want to reduce terrorism: they respect and meet basic needs reliably. Government thus depends on tax laws and revenue, impartial public treasury, judiciary systems, citizens and businesses sufficiently educated to participate in the formal economy. Without such formal behavioral-developmental stage tasks, taxes will not be reliably calculated, reported, paid, collected, assessed, or deposited into the treasury. Finally, the Abstract behavioral-developmental stage identification with religious groups may transform slowly into secular but multi-religious states gradually become more secular. Practices of excluding out-groups backfire in violence and secession efforts. The formal behavioral-developmental stage solution of religious freedom increases religious tolerance and reduces conditions for religious-based conflict and terrorism.

People and societies function at different behavioral-developmental stages on tasks in different domains

It is most important to note that although the behavioral-developmental stage of a society may be quite low, it is possible for a number of individuals to operate at behavioral-developmental stages higher than the Formal behavioral-developmental stage. Such people do not confront, but use workarounds. Instead of fighting with people who have power but perform at lower stages, confrontation is avoided. That allows for the development of bureaucracy at the abstract behavioral-developmental stage, and then refinement of bureaucracy at the formal behavioral-developmental stage to replace concrete behavioral-developmental stage groups who govern and run things. Any country at any behavioral-developmental stage can begin this process. After taking over a country like Iraq, in order to keep the system running the infrastructure efficiently, it is important to rehire whatever bureaucracy there is. This includes the implementation of civil service and governmental ministries. Almost all people who work for new governments have more loyalty to their jobs than to their ex-governments. Yet, it is still crucial to remove the previous political leaders.

After a war that ends up in conquest by "democratic" nations, foreign peacekeepers are almost always necessary for supervising and transforming previous governments and long term government building. For example, after the Iraq war, the militarily won, but the peace was lost due to lack of military police. Government buildings were never completed. This allowed ISIS to be established. Another example is the death of Tito, the dictator of Yugoslavia, in 1980. Yugoslavia descended into a civil war which resulted in NATO bombings and many peacekeepers' interference. The new bureaucracies need to be populated broadly. They must consist of all groups, tribes, religions, and political persuasions. This is part of modeling how most successful democratic societies work. The peacekeeping actions serve as an example for people who both think and act at a less complex behavioral-developmental stage to assimilate into democratic practice.

Nepotism, or family, town and tribe favoritism, occurs at the Abstract stage. Nepotism in government leads to instability. Iraq was ruled by nepotism, and the Sunni tribal group from Saddam Hussein city dominated the government. In India, the Nehru/Gandhi family ruled until very recently. Once they stopped ruling and the Bharatiya Janata Party took over, the Indian economy has improved and become much more stable [58]. Nepotism should be reduced to eliminate Concrete behavioral-developmental stage practices that encourage great amounts of corruption and instability. Furthermore, civil service tests should be instituted for hiring, in order to promote competency and fairness in the workplace. The peacekeepers should retrain the present people in their present functions for the most part. This allows the new government to incrementally improve the practices of the government. The government bureaucracies should reduce the number of people necessary to approve

things. They should institute the use of computers, provide computers and training. They should also decentralize function, increase pay rates so that corruption is not as attractive, and finally, fire people who are not performing, or who are found to be behaving corruptly even after a warning.

Since law and order are always extremely important, the police should be rehired and run by the peacekeepers. They should also be reassigned to new areas and reorganized so that they work with new people within their force. This gives the peacekeepers a chance to have higher impact and functions to reduce corruption. As part of that effort, the courts should be available and utilized immediately. The legal system should use local law, but it should be changed by decree to make it fit for democratic standards.

Much of the prevention of terrorism and attempts to combat what will arise after old governments are defeated, depends on a new normalcy being established quickly. This is true for nearly all the behavioral-developmental stages of societies. The presence of obsolete systems functioning in these countries is one of the main obstacles confronting positive reconstruction. It is important to hire purchasing agents to enable and maintain working infrastructure. They can then buy parts to get water, electricity, and water and sewage treatment working if they exist. Getting the infrastructure is a major concern for these countries, because it is difficult to find these parts and the expertise to buy and assemble them. For example, almost all infrastructure and parts in Iraq were from the Soviet Union or France prior to its collapse. In this case, it was crucial that Iraq had competent and clever people to buy parts, since the Soviet Union and France had difficulty providing them.

It is important to understand the relationship between behavioral-developmental stages and terrorist actions. Remember, terrorists often function at the Formal or Systematic behavioral-developmental stage in some domains. The Al-Qaeda "pilots" flew jet planes into the World Trade Center and the Pentagon, which is a Systematic behavioral-developmental stage task, based on the coordination, planning, and jet flight training that it required. However, these same pilots operate, at most, at the Abstract behavioral-developmental stage in the social and empathetic domain. They have only Abstract behavioral-developmental stage loyalty to a charismatic leader, ideology, or religion. Similarly, the suicide bombers that "enact" the terror are likely at the Concrete or Abstract stages at most. They are often young teenagers. Yet, many terrorists appear to exhibit qualities of the Concrete behavioral-developmental stage, in that they do not consider what the people whom they are killing feel.

More examples note both that individuals may differ in the behavioral-developmental stage at which they operate with respect to different domains, and that members of a group, organization, society, or country can also differ in behavioral-developmental stage from each other. The Al-Qaeda is very new, considering it was founded in 1989, by Osama bin Laden and Muhammad Atef. Its membership comes from all over the Islamic and Arabic world. These members come from societies that run the gamut of political problem solving behavioral-developmental stages, from Concrete to Systematic. For example, Al-Qaeda does not have bureaucratic regulations and legal institutions created

at the Formal and Systematic behavioral-developmental stages, respectively. However, there is extensive use of email and websites.

Al-Qaeda also used multivariate organizational (Systematic behavioral-developmental stage) measures to execute a complex plan, by considering many variables and integrating them. But in the attachment domain, it seems that many of the terrorists did not know they were flying to their death and bin Laden laughed about it on the video tape. He appeared to not consider them. They were simply instruments in his convoluted plan. His behavior illustrates the challenge of raising the behavioral-developmental stage of attachment so that people take into positive consideration a wider range of individuals.

Furthermore, Saudi Arabia is a slowly modernizing feudal society. The operative contingencies governing leadership are characteristic of the late Abstract behavioral-developmental stage with a monarchy and a large family dominated bureaucracy, created by the British. The economy of Saudi Arabia is one that functions at the Systematic behavioral-developmental stage. This is due to the fact that it extracts and sells oil to the West in a complex set of interacting rules developed in the OPEC framework. Saudi Arabia also manages its potential oil surplus by increasing or decreasing oil production based on market demand or on agreements adopted among the oil producing nations. This task requires the coordination of multiple variables (a Systematic-behavioral-developmental stage task). However, Saudi Arabia is not a participatory society and mainly functions at the Concrete behavioral-developmental stage in the political arena. Only the royal family has power, wealth, and the ability to determine succession. Also, because the society uses the Koran for much of their law, there is no possibility of changing the laws much other than reinterpreting what they mean. Such changes await more complex thinking. The fundamentalists believe that the Koran does not allow for a society with division of powers or a secular government. This fact constrains the political development of the society enormously. Despite this, there are countries with large Muslim populations that have a good deal of democracy, and do allow for such a division of power such as Lebanon and Turkey, both of which are committed to having a secular state. Civil wars, externally sponsored terrorism and invasions have overwhelmed Lebanon over the past 15 years. Popular institutions such as parliaments, which developed in both Eastern and Western societies early in their history, have not developed in Saudi Arabia. Behavioral-developmental stage research would expect that such a situation would lead to terrorism because of the frustration that the more educated people would suffer.

As retrograde as societies such as Saudi Arabia may appear to us, they are regarded by the Al-Qaeda as modern, and therefore, wicked and corrupt. The Al-Qaeda follows an anti-Formal and anti-Systematic behavioral-developmental stage in its political perspective. It rails against empirical and logical truth over the word of the Koran. If one looks at the Al-Qaeda itself, the contingencies governing political change within were early Abstract behavioral-developmental stage, based, as they are, on prowess and seniority. Osama bin Laden's authority has been based,

to a large extent, on a number of facts: he founded the Al-Qaeda, financed it, and ordered acts of prowess by having the World Trade Center demolished.

In fact, it is the large gaps between the behavioral-developmental stages of the modern societies and the terrorist groups politically that makes terrorism so likely to develop and become dangerous. But, the development of terrorism is a self-limiting process in modern societies. Restricting access to "corrupt western values" from terrorists is difficult because of its presence in the media. Even in the least developed countries, there is increasing access to cassette recorders, televisions, and video tapes. The penetration by the Western media seems to have a larger effect than we are aware of in the West. Otherwise why would these terrorists be so upset? Consider the popularity of VCRs in Afghanistan after the Taliban was overwhelmed. It is basically impossible to have a viable economy and restrict access to media. The media moves people up in behavioral-developmental stage because it sparks dialogue, which is the basis for forming an alliance. Alliances, or affiliativeness as opposed to assortativeness, move people up in stage. First, it models a life of work and economic success. At higher behavioral-developmental stages, it provides a complex world with multiple relationships discussed endlessly.

One of the most important actions for Western countries to take to prevent terrorism is to reduce their rate of internal discrimination so that people from these other cultures may feel at home, welcomed, and valued. They should be eligible for citizenship as is the case in the US. Citizenship, and the protection of equal rights, reduces discrimination. This is all part of the transition to a Systematic behavioral-developmental stage society where the intent of being non-discriminatory leads to improved practices. It is instructive to see that the terrorists do not come from the large number of Muslims and Arabs in the United States, but from countries like Germany, France, and Spain, which have higher rates of internal discriminate. The most violent members of the Al-Qaeda typically have lived in Europe unhappily (and were disaffected with those societies).

Discussion of the 9/11 terrorist attack

Consider the leader of the World Trade Center bombings and the plane crashes. This lengthy description is included almost in total to give the actual history of one of the most important people in the 9/11 terrorist attacks. Mohammed Atta was born on September 1, 1968 in Kafr El Sheikh, a city in the Nile Delta in Egypt, and also carried a Saudi passport [59]. He grew up in Cairo, Egypt and graduated with a degree in architecture from Cairo University. He apparently was not particularly religious at this time. He then moved to Germany, where he was registered as a student of urban planning at the Technical University of Hamburg-Harburg in Hamburg from 1993 to 1999. In Hamburg, Atta worked on a thesis exploring the history of Aleppo's (the second city of Syria) urban landscapes. It explored the general themes of the conflict between Arab civilization and modernity. Atta criticized how the modern skyscrapers and development projects in Aleppo were disrupting the fabric of that city by blocking community streets and altering

the skyline. He received a high mark on his report from his German supervisor.

In Germany, Atta was registered as a citizen of the United Arab Emirates. His German friends describe him as an intelligent man with religious beliefs who grew angry over the Western policy toward the Middle East. This included the Oslo Process and the Gulf War. In MSNBC's special "The Making of the Death Pilots," a German friend of his named Ralph Bodenstein who traveled, worked, and conversed extensively with Mohammed Atta said, "He [Atta] was most imbued actually about Israeli politics in the region and about US protection of these Israeli politics in the region. And he was, to a degree, personally suffering from that." While in Germany, Mohammed Atta became more and more religious, especially after a pilgrimage to Mecca in 1995. A German terrorist of Syrian origin, Mohammed Haydar Zammar, claimed that he met Atta at this time and recruited him into Al-Qaeda. Zammar had Al-Qaeda contacts going back a decade, and knew Osama bin Laden personally. Atta started attending an Islamic prayer group at the university, and was thought to have been recruited for fundamentalist causes there. Other students remember him making strident anti-American and anti-Semitic statements. In a visit home to Egypt in 1998, his former friends noticed that he had become much more of a religious fundamentalist than he had been before [59].

On November 1, 1998, Atta moved into an apartment in Germany with terrorists Said Bahaji and Ramzi Binalshibh. The Hamburg cell was born at this apartment. They met three or four times a week to discuss their anti-American sentiments and plot possible attacks. Many Al-Qaeda members lived in this apartment at various times, including hijacker Marwan al-Shehhi, Zakariya Essabar, hijacker Waleed al-Shehri, and others. In all, 29 men listed the apartment as their home address, while Atta's name was in the lease. The 9/11 mastermind Khalid Shaikh Mohammed visited the apartment repeatedly. In late 1999, Atta, al-Shehhi, Jarrah, Bahaji, and Binalshibh decided to travel to Chechnya to fight against the Russians, but were convinced by Khalid al-Masri and Mohamedou Ould Slahi at the last minute to change their plans. They instead traveled to Afghanistan to meet Osama bin Laden and trained for terrorist attacks. In addition, Atta was trained in passport alteration. Immediately afterwards, Atta, al-Shehhi, and Jarrah reported their passports stolen, possibly to erase travel visas to Afghanistan. Atta and the other hijackers began to work on appearing normal, shaving their beards and avoiding known radicals. Starting in 2000, the CIA put Atta under surveillance in Germany. He was trailed by CIA agents, and was observed buying large quantities of chemicals [59].

What in general has produced developmental change in political organizations recently?

For the lowest behavioral-developmental stage societies, successful government building counters terrorism most effectively. It denies terrorists the support of the population, and therefore isolates them. Successful governments provide a developing economy, a rule by law, and increase

degrees of law and order. People care more about economic and safety issues than ideological ones in most cases. When governments are more democratic, they mirror the wishes of the populace better. It thereby encourages others to turn in the terrorists. Failure to build and maintain peace occurs when there is a failure to take into account the societal behavioral-developmental stage.

We historically assume that the problem is ideological and cultural. Whereas it is true that ideologies are correlated with behavioral-developmental stage of development of the society, they are not the core of the problem. When other countries assumed that another society has been operating at a more complex behavioral-developmental stage than it has, there is failure in:

- successful government building;
- the development of safety and trust;
- the suppression of the growth of terrorism.

When the behavioral-developmental stages are more similar, as in the case of Mexico (Formal in transition to Systematic) and the United States (Systematic in transitional to Metasystematic), there is more transfer from Western countries who ignore behavioral-developmental stage. A primary way of successfully inducing governmental behavioral-developmental stage change seems to require participation in democracy by the citizens of a country. This was the case in India. In 1917, the British Parliament announced that Indians would be allowed greater participation in the colonial administration, and that self-governing institutions would be gradually developed [60]. By 1919, the promise of self-governing institutions was partially realized with the passing of the Government of India Act by the British Parliament. The act introduced a dual administration, in which both elected Indian legislators and appointed British officials shared power. India did move from a Concrete monarchy to a Formal democratic bureaucracy. To a much lesser extent, Nigeria and Ghana have also begun to follow the same route. This appears to be effective from the Concrete behavioral-developmental stage up. Actually, engaging in more complex behavioral-developmental stage behaviors in the country is one of the most effective ways of raising behavioral-developmental stage of citizens who previously operated at primarily lower behavioral-developmental stages.

As previously stated, the United States is a shining example of a modern-day country undergoing behavioral-developmental stage transition. What factors, then, are promoting this transition from the Systematic to Metasystematic? What could promote transition in behavioral-developmental stage from where the US operates, the Systematic behavioral-developmental stage toward the Metasystematic? One factor is the inverse of Kirkpatrick's Law. That inverse states that political democracy promotes higher productivity and profits. This has recently been manifested in the US stock market. Companies that had more democratically run boards of directors earned 7% more than companies that had dictatorial practices. Democratically run boards did not have poison pills, and did not have many rules or bylaws, which made takeovers difficult. Corporations are more responsive to their environment when they face the prospect of being taken over. Maybe, they are more likely to become "learning" corporations, which require a

movement from the Systematic behavioral-developmental stage toward the Metasystematic behavioral-developmental stage. There is no reason to change at the Systematic behavioral-developmental stage because there is no threat of takeover that would force a comparison with other corporate systems. But in a learning corporation, such a comparison takes place.

As Jeanne Kirkpatrick warned during the 1980s, totalitarians (who operate at the Concrete and at most the Abstract behavioral-developmental stage) are adamantly opposed to markets (which is how you can distinguish them from authoritarians), because freedom in the market always leads to political freedom [61,62]. The "Kirkpatrick's Law" stipulates that institutions follow a certain path to democracy. The sufficient foundation of this path is capitalism; capitalism leads to the formation of democratic market structures, characterized by openness and transparency. In her idealized view, democratic economic structures then give rise to democratic governmental structures, characterized by the same qualities of openness and transparency. As mentioned above, companies in the US with democratic control by stockholders (no poison pills or other methods to disenfranchise stockholders) have significantly higher earnings. This leads stockholders, both large and small, to buy the stocks of democratic companies. By the laws of selection, the number of democratic companies thereby increases. Of course, there is a need for regulations to require accurate accounting, means to stop fraud, means to break up monopolies, and means to require companies to pay for the indirect cost (such as tobacco companies paying for health effects). Capitalism leads to democracy, which is the only way to counteract terrorism because inclusive democracy allows lower-stage groups to communicate rather than fight each other indefinitely.

Limitations in fairness are reflective of a Systematic behavioral-developmental stage society. For example, in the US, discrimination against certain minorities exists. There are huge inefficiencies in the social policies, which are mostly the result of the Formal and Systematic behavioral-developmental stages' inability to resolve conflicts and antisocial activity. This is can be largely attributed to our policies being determined by folk psychology rather than compelling social science research. The education system and the correctional system are two egregious examples of gross inefficiencies. In Tennessee, generally, private school scores on college entrance exams were above the state average, with private schools' ACT scores as much as 6.6 points higher than the 2002–2003 state average of 20.4 [63]. Four Midstate public school systems also bested the state average. Metro, with an ACT average of 19.1, did not. But private education probably does no better than public when one corrects for the "quality" of the students entering. And of course, this article argues that US and other Western countries' foreign actions (there is no policy) leave a great deal to be desired. The limitations of fairness lead to terrorism. Only at the Metasystematic stage in democracy do they start treating people well enough that terrorism is not generated.

Democracy serves as a necessary foundation to the development of groups and governments alike. However, the question arises whether the wish for world-wide democratic

governments is, in a figurative sense, a religious endeavor. The argument is made in the West that wars for democracy protect existing democracies. Although one could sustain this argument with regard to World War II, it is much more dubious when applied to Vietnam or, for that matter, Haiti, and Iraq. In the case of World War II, after Germany, Japan and Italy were defeated, there were extensive government building activities. The US, the UK, and France occupied the West and the US occupied Japan. All but Japan are in transition to the Metasystematic behavioral-developmental stage. All had governments, constitutions, courts, law, banks, and accounting, some of which were set up by the US, Great Britain, and the newly "free" France. But what about Brazil, Mexico, Chile, Venezuela, and the like? How did they advance in behavioral-developmental stage from Formal to Systematic behavioral-developmental stage? They were not occupied, nor were their governments imposed. One may argue that they followed Kirkpatrick's Law. Kirkpatrick's Law is relatively true. Free economies do seem to lead to democracies over an extended period of time.

Conclusion

What has changed about our understanding of the development of more complex behavioral-developmental stage governance? Societies must have multiple operating institutions that are transparent and based upon consent of the governed:

- accounting (necessary for business and investment);
- law (deeds for property that people are currently using as squatters are missing in most societies. Absolutely essential for the formation of capital);
- courts (independent of politics and non-corrupt);
- administration (the election of officials in particular is a major topic in the news. It is necessary, but not sufficient);
- legislative (this is another focal point of reporting and Political Science);
- opposition;
- a free press;
- communication.

These seem to be part of the transition to Systematic behavioral-developmental stage government. In Russia, the Internet is open, but papers and TV are not. The Internet has become a driving force of behavioral-developmental stage change. One reason governments are so bad in Africa is that they are so isolated. This is also true of the Islamic countries in general.

There are a number of questions left unanswered at this point. How far will US policy get with its wars of "liberation?" How much will government building be developed systematically? Will Afghanistan, Bosnia, and Kosovo, among others, become democratic? How far will the Islamic world go? How far will Africa get? The only successful means of reducing terrorism is to move governments up in behavioral-developmental stage. When governments operate at least at the Systematic behavioral-developmental stage, there is a high probability that there will be a

sufficient collaboration between the citizens and the government. There will be sufficient means for people to alter the policies of the government and to engage in political and religious acts of a wide range. As the effectiveness of individual terrorists increase, the importance of civil ways of reducing terrorist acts increases. This can be done through integration of behavioral-developmental stage research into governmental processes, and successful government building for all parties involved. Government building is an activity that has not yet been scientifically studied sufficiently, and it is crucial that upon the commencement of such research, behavioral-developmental approaches are considered.

Terrorism is multilevel, with recruiters and their followers who commit the acts of terror having different interests and personal natures. The terrorists, including the recruiters, are using terrorism as an approach to asymmetry in resources. Terrorism, they hope, will even out the playing field. The gangs lack a political set of goals beyond the domination of a territory or an activity. In common, gangs, insurrections, and terrorism may reflect the feeling that the weaker group is not being heard, and their interests and grievances are ignored by the government and society. It may be interesting to explore what would occur if dissident groups, including terrorists, were given free and uncensored cable channel access, or a place at a negotiating table? Would they still feel that they need to engage in terror to get people's attention? Our society fears their messages, but free speech seems to promote affiliation over the long run. A method that has led to great success in many countries is to bring the dissident factions into the governance structure, thereby giving them a real voice.

Despite the initial perceived absurdity of the idea of collaboration with the terrorists, in the long run it might be the only way to neutralize their terroristic behavior. Collaboration is different from cooperation, which is a state of working together but the effort is not necessarily equal. Examples of cooperation could be found in any teamwork where a number of people participate together but in essence, only one or two people do most of the work. Collaboration promotes working together and putting in maximum effort together. It is not necessarily equal partnership but rather a mutually-beneficial relationship where both sides negotiate and compromise. Baseball is a good example of collaboration to some extent; everybody gets a chance at the bat. The difference between cooperation and collaboration is similar to that between modernization and traditionalism. While traditionalists look to conserve and ban, modernists stimulate conversations, integration, and alliances. With the terrorism problem, a collaboration between governments and the terrorists means to collaborate on what is possible and acceptable to both, looking to come to terms with each other. This is in contradistinction to constant warfare and antagonism, which is shown to only encourage the terrorists to engage in extreme actions. To conclude, behavioral-development needs to be applied to institution building. Interventions and realistic time scales will support societies' functioning and limit the generation of terrorism.

Acknowledgement

I would like to thank Daniel Geörtz, Robert Allen Miller, Rachel Abramowitz and Eliza Going for their help editing this paper.

Disclosure of interest

The authors declare that they have no competing interest.

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