Countering Insurgency and the Myth of "The Cause"

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There is much already written on the importance of winning "hearts and minds" and how this relates to the insurgent cause.[1] However, most works on the causes of insurgency tends to focus on the spark that ignited the insurgency. That is, the stated list of issues, grievances, or indeed insults, that engaged the hearts and minds of the population sufficiently to motivate them to rebel. Crisis events and initial grievances may serve as a catalyst for the mobilization of an insurgent movement; however, it is often discovered in retrospect that underlying societal tensions fomented rebellion before and after the seemingly critical spark event. In fact, successful insurgents continue to identify and leverage underlying tensions in a society as part of their cause to further the movement and expand participation. In many cases, multiple tensions and propensities fueling the insurgency overlap and intertwine with one another, weaving a complex web that confuses and deceives both academic and military attempts to determine appropriate approaches to defusing the cause of the insurgency.

It is possible for an insurgency to develop from a single cause, for the insurgents to identify and communicate this unifying cause to the population, and for the insurgents to remain steadfastly focused even as counterinsurgents undermine their organization and redress the cause. But often the case that there is no single cause, that popular support is mobilized by appealing to multiple motivations, and

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that by the time counterinsurgents resolve the initial grievance, the insurgency has found alternative justifications to mobilize popular support. Since insurgent leadership is often competent and adaptive, it would be wise to consider the latter scenario against any counterinsurgency strategy. Yet, even when this is acknowledged in the counterinsurgency literature, the theory is remarkably silent how this affects the choice of operational approach. We must venture outside of the standard counterinsurgency (COIN) literature to address this gap.

The structure of this article is as follows. The next section briefly reviews the way classic COIN theories deal with underlying tensions and the insurgent cause. This is followed by two case studies in the Philippines and Indonesia, which illustrate how propensities and tensions within a society give rise to and sustain the insurgents' cause. Next, the authors introduce a framework for considering insurgencies with more than one potential cause. This presents a number of practical implications for COIN strategy, which are developed in the last section.

The Cause in Counterinsurgency Theory

Roger Trinquier's early recognition of the link between underlying tensions in society and insurgent movement formation is a good place to begin this discussion. Trinquier notes:

> Warfare is now an interlocking system of actions—political, economic, psychological, military—that aims at the *overthrow of the established authority in a country and its replacement by another regime*. To achieve this end, the aggressor tries to exploit the international tensions of the country attacked—ideological, social, religious, economic—any conflict liable to have a profound influence on the population to be conquered [italics in original].[2]

Trinquier identifies four broad categories of tension in the above quote: ideological, social, religious and economic, which seem to encompass most of the specific complaints that could emanate from a group in society and be used by an exploitative insurgent or group of insurgents to develop a cause which can be used to rally support around. Trinquier also emphasizes that the tensions that can turn into the foundation of an insurgent cause seemed limitless even in 1964. He observes that, "from a localized conflict of secondary origin and importance, they will always attempt sooner or later to bring about a generalized conflict."[3]

It is ironic that while Trinquier observes underlying tensions as being fundamental to the cause and insurgency formation and sustainment, he spends the rest of his book explaining how population and resource control through accurate censuses, intelligence, and restricting and monitoring movement, is the key to victory. His original observations regarding tensions seem lost and it is almost as

if he has taken for granted that once an insurgency begins, it must be dealt with using almost the same COIN methods that the insurgent is employing: clamping down on the population instead of addressing those issues that are fueling the movement.

Galula places more emphasis on the necessity of the cause and notes that, "problems of all natures are exploitable for an insurgency."[4] But he does not discuss these problems in terms of tensions or even local grievances, instead focusing on what makes a good and sustainable cause. While Trinquier explains the role of tensions in cause formation well, Galula does a far better job of providing avenues for attacking the underlying tensions and thus undermining the insurgent's cause. Galula argues that even after the insurgency has initiated armed violence, a good COIN strategy would be to research insurgent demands and comprise a list that the counterinsurgent will immediately use to identify easily addressed complaints. If successful, the entire insurgency can be undermined by addressing some of the core complaints or tensions that the insurgent had previously used to develop the insurgent cause.[5]

Propensities and Tensions Feeding Insurgent Causes

Appreciating the historical and cultural context is particularly important to understanding the dynamics of insurgencies. The history and culture of a nation-state, identity group, or region is an important source of underlying tensions. The collective memories of actors, kept alive through narrative accounts of histories often extending back hundreds or thousands of years, are relevant because they guide and constrain future actions.

The present study refers to the influence of past events, ideas, and emotions on future events as the propensity of a situation. This is not a deterministic relationship between past and future states, but rather a conditioning of future possibilities on the past. For example, a history of exploitative engagements with Western nation-states and past colonizers could place a counterinsurgent in the unenviable position of actually having to "fight" history, or at least historical perception, just to be accepted as a legitimate actor by the local population. This society may have a propensity for xenophobia and defiance against external intervention.

There are multiple insurgent groups that have operated or are currently operating in the Philippines, including Abu Sayyaf Group (ASG), Moro National Liberation Front (MNLF), and the Moro Islamic Liberation Front (MILF). These groups have exhibited very little operational synergy. In fact, ASG and MILF are splinter groups from MNLF. However, they and their civilian support-

ers share one key propensity. They view the national government and any foreign military interveners on behalf of the national government as nothing more than an extension of unfair and brutal repression of Muslims, which began with Spanish colonization.

Case of the Philippines

Islam was introduced to the Philippines in the thirteenth century. Originally, it was isolated to the Sulu islands but eventually spread to encompass not only the Sulu islands but, almost all of the southern island of Mindanao. Spanish conquistadors arrived shortly after the spread of Islam in 1565 and a brutal colonization effort was waged for three hundred and thirty four years.[6] Eventually, the Spanish relinquished control of the Philippines to the United States in 1898, but this almost immediately resulted in hostilities between the United States and the Philippines and ultimately resulted in the American-Philippine War (1899-1902). The bloody war that ensued produced over seven thousand U.S. casualties and a far greater magnitude on the Filipino side. The war cost the United States $400 million to prosecute.[7] The goal of the United States was to ultimately produce a self-governing Philippines.[8] Even though the Philippine Independence Act of 1934 was crafted guaranteeing a free and sovereign state, the damage done during the war—coupled with the Spanish colonial experience—created a deep-seated mistrust of foreign military intervention, especially among Muslims in the south.[9]

The animosity from this historical legacy and the resulting distrust of outsiders is just one of many aspects that must be taken into account when intervening in the Muslim-dominated regions of the Philippines. Considering this obstacle, the successful trajectory of the U. S. Special Forces continuing Joint Special Operations Task Force-Philippines (JSOTF-P) operation is particularly noteworthy. The use of the indirect approach by U. S. Special Forces manifested in operating by, with, and through the Filipino military may have allowed the U. S. Special Forces to mitigate the negative propensity described above.

Unfortunately, propensities are not the only critical part of the operating environment that a counterinsurgent has to indentify and contend with. Underlying tensions are also an important aspect feeding into the insurgent cause. Tensions exist whenever two or more opposing forces coincide. For the case of insurgency, we are particularly interested in tensions arising from value conflict, whether this is within or between actors. Because these tensions can be layered, this creates a problem of transparency. This, in turn, may create a causal link problem whereby the counterinsurgent addresses the most recent tension being exploited by the insurgent without addressing root tensions or causes, which initially or more fundamentally fed the insurgent cause. Conversely, new tensions may have replaced

old ones, creating a situation whereby the counterinsurgent is wasting time and resources addressing the original tension(s) that were formative to the movement but no longer active.

Case of Indonesia

The Banda Aceh region of Indonesia located on the northern tip of the island of Sumatra provides an example of layered tensions that can fuel an insurgency. Indonesia is a patchwork of disparate peoples, many of whom have only the historical experience of repressive Dutch colonialism in common. Both Sukarno's and Suharto's dictatorial rule, while admittedly very brutal, helped to forge a national identity for Indonesia. But even this was fragile, and poor economic and human rights treatment of the people of East Timor eventually led to the small southern island breaking away from the Indonesian nation-state. Further, both the Papuans of West Papua and the Acehnese of northern Sumatra have expressed their desire for independence.

The layering of tensions fueling the rebellion against the Indonesian government is most evident in the Acehnese case so it will be briefly described here. The people of the province of Aceh have suffered a great deal from the founding of the nation through the rule of President Megawatti. Under the rule of President Suharto, Indonesia was witness to a great deal of persecution of out-groups. Developing his dictatorial vision of the "New Order," Suharto enforced authoritarian rule to pursue economic development. He initially targeted communists, culminating with the outlawing of all communist parties.[10] After dealing with the communists, Suharto turned his attentions to Muslim political activists, persecuting key leaders and movements.[11]

Understandably, a resistance movement formed known as the Free Aceh Movement, Gerakan Aceh Merdeka (GAM), which soon drew violent crackdowns from the Indonesian government. This movement has been labeled as a terrorist organization by the central government but there is little proof that GAM ever perpetrated an attack against civilian targets. The present authors feel GAM would be better labeled an insurgent or secessionist movement although most of the actions taken by members of GAM fell under the domain of peaceful protest. Despite these facts, GAM was a threat to Indonesian control of the province of Aceh and several notable violent clashes did occur between members of GAM and the Indonesian military.

The tsunami of 2005, which killed over 160,000 people, changed the landscape and created an opportunity for the Indonesian government and America to step in and provide emergency aid and longer-term aid to rebuild the catastrophe ravaged province. Susilo Yudhayono had only recently replaced Megawatti as

President but he decided to extend a hand to the people of Aceh offering profit sharing from the massive natural gas reserves off the coast of Aceh as well as greater participation in Indonesian politics.[12] Stability soon returned to the region and GAM entered a period of inactivity. This would have been the end of the story except that a new background tension had already developed fueled by the same government mistreatment that the people of Aceh had suffered at the hands of the national government.

The propensity to distrust central government rule engendered through an unbroken succession of Presidents willing to use heavy-handed military tactics against the Acehnese from Sukarno to Megawatti is now being enmeshed with a tension, engendered by regional terror group Jemaah Islamiyah (JI), between religious fundamentalism and secularism. Therefore, despite massive aid to the province following the tsunami of 2005 and despite recent political and local rule concessions granted by the Indonesian government to the Aceh province, a strong fundamental Islamic movement is forming. It should be noted this is a novel development in Indonesian history.[13] In 2003, Aceh's first sharia court opened. It was initially promised by local religious leaders that implementation of sharia law would be "moderate" and that human rights would not be abused. However, punishment for failing to attend Friday prayer, for example, could be public caning.[14] Any pretentions at moderation are quickly passing. In Fall 2009, new laws passed which stated "married people convicted of adultery can be sentenced to death by stoning. Unmarried people can be sentenced to 100 lashes with a cane."[15]

Similarly, a specialized police unit, Wilayatul Hisbah, is now patrolling the streets of Aceh looking to disrupt or arrest "unmarried couples, Muslim women without headscarves or those wearing tight clothes, and people drinking alcohol or gambling," which is apparently aimed at combating Western influence, especially influence that seeped into the region when Western nations provided post-tsunami aid.[16] Even though some Acehnese citizens have expressed discontent with the increasingly harsh religious laws, most are afraid to voice their concerns for fear of being branded unreligious.[17]

Overlaying this fundamentalist trend is increasing violence surrounding elections in the province and an increasingly active and violent JI. While a period of quiescence has ensued after the 2005 peace agreement, if violence aimed at the Indonesian national government ensues again, a new tension—religious fundamentalism vs. political secularism firmly layered over old economic grievances and a history of poor human rights treatment—will create an even more complex insurgency to deal with than was ever presented by GAM.

In summary, even if one could identify "the cause" for an insurgency, it must still emerge from a complex web of dynamic tensions and propensities. As the

underlying tensions evolve, so too can the cause. Consequently, a singular, static definition of the insurgent cause is not a reliable foundation for planning COIN operations. While this is already largely recognized in COIN doctrine and theory, the logical implications for COIN strategy have not been fully resolved. A multi-causal account of insurgency requires new conceptual tools not available within traditional COIN theory.

A Conceptual Framework for Multi-causal Insurgency

This section develops a multi-causal framework for understanding insurgency. First, a distinction is necessary between causation and insurgent causes. Causation is the inference of relationships of necessity and sufficiency between a cause and its effects. Research into the causes of war seeks to uncover this kind of causal relationship. In the previous discussion, the complex web of dynamic tensions and propensities links causes and effects.

In contrast, according to U.S. Field Manual (FM) 3-24, "A cause is a principle or movement militantly defended or supported."[18] Galula explains how a cause is linked with underlying tensions:

> What is a political problem? It is 'an unsolved contradiction', according to Mao Tse-tung. If one accepts this definition, then a political cause is the championing of one side of the contradiction.[19]

Insurgent causes are not material causes that produce causal effects; rather insurgent causes provide justification for resorting to violent action. Although the two concepts are related, they are quite distinct and should not be conflated. Causation is generally relevant to the level of tactical action, whereas insurgent causes influence the insurgency at the strategic level. Both causation and insurgent causes will be relevant to our discussion below.

Until recently, most scientific explanations of causation focused on single cause-effect relationships. For example, the *Guide for Understanding and Implementing Defense Experimentation: GUIDEx*, a report produced in collaboration between defense scientists representing Australia, Canada, the United Kingdom, and the United States, asserts:

> Any national or coalition capability problem may be stated as: Does A cause B? An experimental capability or concept—a new way of doing business—is examined in experimentation to determine if the proposed capability A causes the anticipated military effect B. The experiment hypothesis states the causal relationship between the proposed solution and the problem.[20]

This accurately expresses the classical scientific view of experimentation. The GUIDEx goes on to say that an important criteria of a good experiment is the ability to isolate the reason for change in the effect B.[21] In this paradigm, the goal of experimentation is to answer the question of causation between one independent variable and one dependent variable. The method of experimentation is to create a closed system to eliminate alternative sources of variation that could confound the experimental result. In this paradigm, accumulated knowledge from multiple experiments permits reasoning about causal chains: A causes B, which causes C, which causes D.

Although scientists may occasionally approximate the ideal conditions of a closed system for long enough to isolate a single independent variable, this degree of control is of course impossible in any human society. The societies in which insurgencies foment are open systems, characterized by perpetual novelty and an uncountable number of independent variables. Here, causality is networked, and cannot be reduced to single cause-effect relationships, or even to linear causal chains.

Complex systems science provides an alternative perspective capable of making sense of networked causality. Distributed networks of autonomous agents that make local decisions based on local information characterize complex adaptive systems. From these individual local choices, global patterns emerge and feed back to affect the subsequent decisions of the autonomous agents. As a result of these iterative feedback cycles, causation is complex, networked, and circular. Perturbation of A may ripple out to affect B, C, and D, which in turn affects A. Thus, not only do causes have effects but, those effects may actually have caused the cause!

If this all sounds unnecessarily convoluted, it is worthwhile considering the very real effects these feedback loops can generate. A classic example is the self-fulfilling prophecy of a bank run. A rumor that a bank is in financial difficulty—even when it is not—may cause cautious investors to withdraw their money. Seeing long queues of customers withdrawing their savings causes more customers to withdraw their savings, and the problem snowballs. Before the end of the day, the bank has exhausted its liquid reserves, and actually is insolvent. Perceptions and rumors can have similar and no less dramatic effects during revolutions and counter insurgencies. Galula cites the effective use of the slogan "Land to the Tiller" by the Chinese Communists to promote the false idea that land ownership in China was concentrated in the hands of a small minority.[22]

Complex Systems and Intervention Options

Complex systems exhibit self-organization, emergence, hysteresis, latent pathways, and adaptation. Understanding each of these concepts provides important insights for COIN theory, and opens up new intervention options for counterinsurgents.

Self-organization

Self-organization is the spontaneous increase in order over time in an open system. It is spontaneous in the sense that it is not externally imposed, but accrues through interactions between parts of the system as energy flows through it. A widely studied model of self-organization demonstrates a spontaneous increase in organization when agents set their color by following two rules. The first rule, short-range activation, sets the color preference to the most common color of the agent's closest neighbors. The second rule, long-range inhibition, sets the color preference to be opposite of the most common color of the agent's more distant neighbors. Other parameters of the model include the radius for the nearest neighbors, the radius for the distant neighbors, and the weighting given to short range activation versus long range inhibition. The outcome of this model is shown in Figure 1. Within five time steps, an initially random mix of black and white agents has self-organized into a pattern of black and white stripes. With different initial conditions, the model will produce black and white stripes different in detail, but with the same qualitative pattern. With different parameter settings, the same rule set can produce uniformly black or white agents, black spots on a white background, or vice versa. This very simple model has been used to explain growth and differentiation of the structure of an organism, pattern formation in animal fur, and the clustering of industries in regional economics.[23]
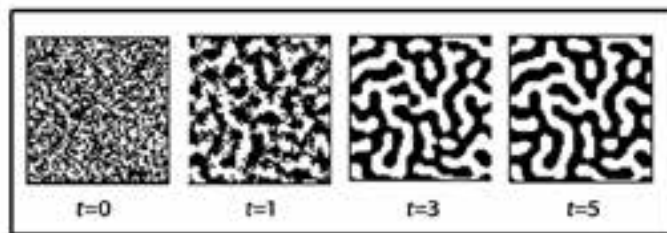

Figure 1: Pattern Formation as an Example of Self-Organization and Emergence

In the COIN literature, it is common to divide the population into three states: actively supporting the Government, the neutral majority, and actively supporting the insurgency. Accepting this simplification for the present discussion,

the dynamics of self-organization help to explain why one village can be pro-Government, while a nearby village with identical social conditions supports the insurgency. Because an actor's choice of state is conditioned by the states of others in the actor's social network, a population that is compelled to choose between insurgents and counterinsurgents will tend to cluster into spatially organized patterns over time.

The first implication of self-organization is that the spatial distribution of pro-Government and pro-insurgent populations is more important than the total proportion of the population in each state. Measures of effectiveness that aggregate national statistical data can be misleading. A color-coded map that shows patterns of allegiance over time provides a much richer assessment tool. In COIN, the local situation can be very different from the neighboring local situation and from the regional situation. Therefore, decision-makers at lower levels need greater autonomy to tailor plans to their local context. Of course, the importance of bottom-up intelligence flows and devolving decisions to the lowest levels are already standard tenets of COIN doctrine.[24] The jointly published U.S. Army and U.S. Marine Corps doctrine Counterinsurgency describes COIN as "a shifting 'mosaic war' that is difficult for counterinsurgents to envision as a coherent whole."[25] What is new here is that self-organization provides a theoretical explanation for the "mosaic war" observed in practice, a justification for decentralized execution of COIN operations, and a prescription for assessment of progress.

The second implication of self-organization is that indirect approaches lead to more radical transformations in the observed pattern than direct intervention. The patterns formed are attractors in a dynamical system, and tend to be robust to local perturbation. For the majority of agents in Figure 1, changing their color from black to white has no permanent effect on the system. The unchanged state of their neighbors simply means the agent will flip back in the next time step. Direct action will only work if a critical number of agents are simultaneously flipped. Even then, as long as the underlying calculus of the agents remains unchanged, direct action will likely only redistribute the location of black and white stripes, and have no long-term effect on their relative proportion. In contrast, a relatively small shift in the weighting between the short-range activation and long-range inhibition rules can qualitatively change the observed patterns. The change sweeps through the system using exactly the same self-organizing dynamics that perpetuated the original pattern. In COIN, this means that in general, taking indirect action to alter the calculus of the population in choosing whether to support the insurgents or the Government is likely to be more effective for transformation than coercion through population control measures.

Emergence

The patterns produced by self-organizing systems are emergent. Emergence means the whole is different from the sum of its parts.[26] In science, there is an emergence hierarchy between physics, chemistry, biology, and psychology. The laws of chemistry are constrained by, but additional to, the laws of physics. Biology is constrained by the laws of chemistry, and chemicals are the building blocks of cells, but chemistry also introduces new theories to explain life. Psychology is constrained by biology, but again new theories operate at the level of mind. At each level, theory is constrained by lower levels, but it also has some autonomy from the level below. New concepts and new rules are needed to explain regularities at the higher level. In Figure 1, one can meaningfully talk about stripes and spots in relation to the whole. Yet, at the level of individual agents, the rule set operates only on local information about the color of close and distant neighbors. Stripes and spots are emergent properties that are meaningless at the individual level. Patterns that emerge from one level provide the building blocks for systems at the next level up.

In the same way, there is an emergence hierarchy in counterinsurgency warfare. The operational level of warfare is not simply the aggregation of tactical engagements. The strategic level that connects the military instrument with policy is qualitatively different than the operational level, which plans and executes the campaign within the theatre of operations. Different concepts are required for different levels of war. For example, Stathis Kalyvas finds in his detailed study of violence in civil war, especially in the Greek Civil War, that people, far from being unified to act violently because of fear, ideology, or prewar political social polarization, acted violently selectively for very sub-regional, even local reasons.[27] Kalyvas is not arguing that all violence is local for political and insurgent leaders can certainly move people and groups to violence. Instead, he is attempting to differentiate between the macro and micro motives that move people to violence in all conflicts. As Kalyvas argues,

> indiscriminate violence is an informational shortcut that may backfire on those who use it; selective violence is jointly produced by political actors seeking information and individuals trying to avoid the worst—but also grabbing what opportunities the predicament affords them.[28]

Kalyvas notes that civil wars are distinct from interstate wars mainly through the level of intimacy each exhibits. Interstate wars are affairs between strangers and thus lack intimacy but civil wars, and we would argue insurgencies as well, are wars against countrymen, neighbors, and even relatives.[29] Neighbors, relatives, and friends would regularly denounce each other to legitimate and illegitimate

authorities for myriad reasons including jealousy and personal grievance. It was a short step from denunciation to violence, for neighbors, relatives, and friends, if the opportunity afforded it.[30] Some people were genuinely moved by their leaders' political motives but many others are found in civil war and insurgency to be motivated by petty and extremely personal agendas.

The implication of Kalyvas' study and our current work is that it is misguided to establish an operational campaign aimed at the cause or the center of gravity. As Kalyvas notes, many scholars and practitioners find the cause of violence to be impenetrable so they hand-wave "explanations for violence emphasizing collective emotions, ideologies, and cultures that have low explanatory power."[31] Therefore, the best campaign plan might be to allow brigade and battalion commanders a great deal of latitude in dealing with the local motives for violence in a counterinsurgency since motives might be macro, micro, or a mix of the two.

Hysteresis

The third concept from complex systems science, hysteresis, is a non-linear behavior encountered in a wide variety of processes ranging from ferroelectricity to biology, where the input-output dynamic relations between variables involve memory effects.[32] Hysteresis implies path dependence. When a system returns to a previous state, it may behave differently. Moreover, different paths to the same state can result in different behavior. Consequently, in systems with hysteresis, it is insufficient to know only the current state. The history of the system is essential for making sense of future possible patterns of behavior.

Path dependence and the importance of history are hardly new to the counterinsurgent. The significance of hysteresis is in targeting insurgent causes. Once a Government loses legitimacy, addressing stated grievances would not automatically win back popular support. For example, in Egypt, President Mubarak's concession in response to mass protests may have actually emboldened the protesters to raise additional demands and led to wider support. A more sophisticated approach is required to counter insurgent causes.

Instead of reacting to the insurgent causes directly, counterinsurgents need to understand how causes relate to dominant narratives within a society. Narratives are not simply a disinterested chronology of events. The choice of perspective from which the story is told, which actors are given a voice and which are ignored, which events are emphasized and which are omitted, as well as the bounding of the narrative in time and geography all affect the implied moral of the story. The sequencing of events, feelings, and actions can be used to suggest relationships between effects and their causes. Insurgent causes that can be connected with

existing narratives are more likely to achieve resonance within a society, which can greatly expand the base of support.

Once insurgent causes become associated with a narrative, directly countering the narrative may inadvertently strengthen it. George Lakoff uses a simple example to illustrate this point. The effect of the instruction "Don't think of an elephant!" is invariably the opposite of its intent. Elinor Ochs and Lisa Capps make the point that

> counternarratives do not necessarily involve overt reference to a prevailing narrative world view. It is the voicing of a disjunctive reality itself that constitutes the counterpoint. Indeed, the posing of an alternative account may be more effective in dismantling the status quo perspective than overt critiques. In making reference to them, critiques perpetuate the salience of the dominant discourses they otherwise aim to uproot.[33]

Effectively countering insurgent causes requires the fostering of new identities and a narrative that voices a "disjunctive reality." A good example of this is the change in usage of "United States" prior to the American Civil War as a plural noun, to a singular noun afterwards, representing a transformation from "Union" to nation.

Lincoln's wartime speeches betokened this transition. In his first inaugural address, he used the word "Union" twenty times and the word "nation" not once... In his letter to Horace Greeley of August 22, 1862, on the relationship of slavery to the war, Lincoln spoke of the Union eight times and of the nation not at all. Little more than a year later, in his address at Gettysburg, the president did not refer to the "Union" at all but used the word "nation" five times to invoke a new birth of freedom and nationalism for the United States.[34] And in his second inaugural address, looking back over the events of the past four years, Lincoln spoke of one side seeking to dissolve the Union in 1861 and the other accepting the challenge of war to preserve the nation.[35]

Lincoln used language to help forge new identities and shape narratives as America emerged from civil war. A narrative emphasizing nationalism reframed political discourse away from the divisive Union and Confederate terminology.

Latent pathways

Complex systems are highly networked. This gives rise to the fourth concept from complex systems science: energy, matter, and information flows along multiple pathways. Observing the current pattern of behavior only provides information about active pathways; latent pathways may not be visible. Consequently, complex systems generally exhibit graceful degradation. When one pathway is

blocked, latent pathways are activated to preserve system functionality. The so-called balloon effect is a good example of multiple pathways in a complex system. To counter the Medellin cartel's drug smuggling operations between Columbia and the United States, the South Florida Drug Task Force conducted a successful operation that dramatically reduced the volume of drugs entering Florida via the Caribbean. However, this did not stop the flow of drugs into the United States. In response, Columbian cartels established relationships with Mexican marijuana cartels to smuggle narcotics across the 2000 mile shared border with the United States. The current violence of the Mexican drug war is an indirect result of successfully closing down one pathway within a complex system.

The concept of multiple pathways is related to insurgent causes. One should expect that effectively addressing one cause would activate new pathways for mobilizing the insurgency. This reinforces the dangers of focusing on a single insurgent cause. Even though latent pathways in a complex system may not be obvious from observing the current pattern of behavior, it is possible to anticipate alternative pathways before they are activated. This is where an understanding of the underlying tensions and propensity within the society is critical, because it illuminates contradictions that the insurgents may seek to exploit. Identifying potential out-groups, such as the Shiite population in Bahrain, also allows the counterinsurgent to anticipate the kind of grievances insurgents may use to mobilize these out-groups, and then take steps to mitigate these latent pathways before they are activated.

Adaptation

The final complex systems concept considered here is adaptation. COIN theorists often remark upon the adaptive nature of insurgents. FM 3-24 claims that competent insurgents are adaptive.[36] Yet, paradoxically, it is the relative weakness of insurgent forces that provides them an edge in adaptability. Complex systems scientists have drawn on Charles Darwin's theory of evolution to show why insurgents adapt faster and more effectively.[37] Adaptation requires the presence of variation, selection, and replication. In an asymmetric conflict, the weaker side usually contains more diversity, are subject to a stronger selection pressure than the pressure they exert on the strong side, and are exposed to combat for longer, which replicates combat experience.[38] This theory is supported quantitatively with data from both Iraq and Afghanistan, which shows that the average time interval between fatal improvised explosive devise attacks increases logarithmically over the duration of the war.[39] To paraphrase Megginson's paraphrasing of Darwin, it is not the strongest insurgencies that survive, nor the most intelligent, but rather the most adaptable to change.

Given the central importance of adaptation in COIN, counterinsurgents need to both improve their own adaptability and counter the adaptability of the insurgent. This requires increased variation in our own forces, stronger selection pressure, and faster replication of successful innovations. Counter-adaptation requires weakening or distorting the evolutionary pressure applied to insurgents. Lieutenant Colonel Michael Ryan, Australian Army, deliberately used counter-adaptation against the Taliban as the commander of the 1st Reconstruction Task Force in Oruzgan Province, Afghanistan.

Recent advances in evolutionary theory provide new insights into how to leverage the power of adaptation. The evolution of evolvability—second order adaptation—applies evolution to the process of evolution itself. For example, the way that variation is generated is far from random, because it has adapted to produce genotypic variation in areas that are correlated with the greatest environmental flux, while error-correcting codes protect regions associated with critical functionality from too much variation. Second order adaptation enables counterinsurgents to accelerate their rate of adaptation. As a simple example, the use of after-action reviews (AAR) helps units to learn and adapt. Adapting how AARs are conducted to improve their effectiveness is a second-order adaptation.

Evolutionary biologists are now also accepting that selective pressure applies not just at the level of the gene, but also to organisms and even groups of organisms. While selection pressures at the lowest level of selection are the most rapid and strongest in magnitude, the subtle effects of group selection may actually dominate over longer time scales. A multilevel view of selection points to a potential key advantage for counterinsurgents. Even if insurgents have an advantage in tactical adaptation because of their highly variable and decentralized structure, counterinsurgents can still be more adaptive at the operational and strategic levels, because they are better integrated. The slower, but more strategic adaptations of the counterinsurgent may steer insurgents into a corner where faster tactical adaptation becomes largely irrelevant. However, this requires counterinsurgents to deliberately work to improve their higher-level adaptive mechanisms.

Conclusion: Implications for COIN Approaches

Given what has been argued thus far, a premium is placed on developing historical and cultural intelligence on the leader and member mindset. What has propelled these individuals to transmutate from peaceful political grievance to violent rebellion? This is just one example of a cogent question that must be answered before the cause can be fully understood and dealt with. Such cultural and historical intelligence necessitates that deep knowledge be developed on the in-

surgent identity group(s) but that is a positive development as it narrows the scope of study when addressing the insurgent cause. For example, in terms of operations and tactics, it is certainly important to know that Iraqi citizens harbor a deep distaste for dogs. However, this information is of little use in developing a plan to combat the insurgent cause, excepting, of course, that employment of culturally insensitive tactics only adds fuel to the insurgent cause.

What needs to be discerned are the historical, political, and cultural antecedents to insurgency. One needs to understand the historical propensities that will have to be considered when developing a campaign to combat the insurgency. But one also needs to know the individual tensions in society, like discrimination against certain minorities, historical economic exploitation of a region, religious discrimination, etc. that are not only currently being used by the insurgents to develop their cause and broaden their appeal, but also tensions that could be exploited in the future either to expand the insurgency or can be shifted to it if the counterinsurgent is successful in combating one or more of the original tensions that fueled the insurgent cause. The counterinsurgent would take all of this into consideration developing a more sophisticated Galulesque list of not only insurgent demands but, underlying tensions and propensities which are feeding these demands.

Galula suggests immediately addressing the demands that the legitimate national government can and ignoring the rest.[40] The present authors do not suggest this course of action. Before meeting even a single demand or addressing a single underlying tension in society one must attempt to think through how injecting energy into the system will affect the overall system. For example, does dealing with the underlying poverty in a society push the insurgent to a more religious tension from which to fuel the insurgency? Are there other tensions the insurgents are not using which could be co-opted after poverty is addressed? When one views just the cause through the lens of complexity, it becomes clear that engaging in counterinsurgency is a very messy endeavor.

Also, it should become clear from this analysis that COIN operations will have to be very fluid and undergo a process of constant revision as one notes changes in the environmental frame. Such an approach should also help one to successfully categorize what type of insurgency is being presented. Bard O'Neill makes a valiant attempt at disaggregating types of insurgency noting that each type demands different COIN approaches to address it.[41] This implies that certain strategies might work with some insurgencies while they inadvertently fuel others making identification of the tensions and cause even more important.

The current situation in Pakistan serves as an illustrative example. The Pakistani government has always had great trouble penetrating and controlling the

Baluchistani area and Northwest Frontier Porvince (NWFP). This problem has become particularly acute in the post-Musharef era and the Pakistani Taliban have experienced success exploiting this historical lack of control coupled with the chaos created by the fall of Musharef. The government initially attempted to offer conciliations to the Pakistani Taliban such as more local autonomy and stricter religious standards in schooling and local law enforcement. But this approach soon backfired as the Taliban rather than entering into a period of calm inactivity actually became emboldened and challenged the rule of the national government more forcefully. A messy and violent counterinsurgency campaign ensued and the outcome regarding whom will eventually rule Pakistan is still in doubt.

Noting all of the above, conciliations given to insurgents has been successfully employed as a counterinsurgent strategy in past insurgencies, but according to the 2010 RAND study *How Insurgencies End* this is rare, occurring in less than a third of modern insurgencies. Notable twentieth century examples include El Salvador, Guatemala, South Africa, and Northern Ireland.[42] The key is in understanding the system, propensities, and tensions that feed and frame the cause before attacking it.

In the final analysis, if one takes Kalyvas's thesis that all violence is local at face value, and one recognizes the complexity of social interactions, then one must also admit that causes will be highly personalized. One person might join the insurgency out of a real hatred for the central government. Another might join for social reasons. Still others might be drawn for religious reasons or even by the allure of potential criminality. Not only will different people and different groups join for different reasons but the main cause will likely shift over time.

This article is aimed at beginning the conversation and shifting the mindset of counterinsurgency researchers. Without a more sophisticated approach toward understanding the causes of insurgency, countering them will be impossible.

Notes

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