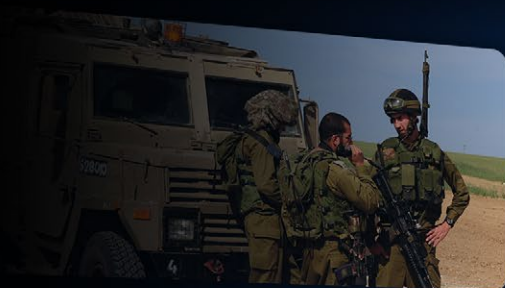


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# Infinity Journal



## IN THIS EDITION

Yacov Bengo & Shay Shabtai | Francis Park | Antulio J. Echevarria  
A.E. Stahl | Nathan K. Finney | Adam Elkus

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# A Note From The Editor

Historically there might never have been a better time to produce a Strategy journal, when strategy, as we understand it, is so widely misunderstood. Again, the “something must be done” school of reasoning rears its head in reaction to the Paris attacks.

To be clear, whether or not the USA, UK, France et al. should intervene in Syria is a product of political opinion, as is the policy their intervention should seek. How that gets done is the product of strategic practice, as in strategic theory applied within a theatre as a campaign.

Defeating Daesh (ISIS/ISIL) is not militarily hard. The hard bit is having a policy that makes defeating them at cost, a sensible endeavour. Yet again, Clausewitz’s wisdom and insights preside over the Syrian and Iraqi conflicts with near unmatched clarity compared to all others. If your policy is wrong, then strategy and tactics cannot help you.

Failing to kill enough of the right people, for the right reasons, in the right time and place is quite simply the source of all strategic failure. If there are no “right people to kill,” then, yet again, the policy wrong, and policy is the product of politics, thus political opinion.

Killing is what creates defeat. In essence the questions regarding Syria and elsewhere can be boiled down to who do you want to defeat and why. Of course, defining why you need to defeat them is the critical question. Inflicting defeat on anyone in Syria, from an applications stand point, is not that hard to do, if they are actually worth defeating? If ISIS is a threat to the future of both France and the UK, then both should commit the vast majority of their armed forces to the task. If not, then why not? If nothing else, framing the debate in those terms forces those who think that the basic principles of military “strategy” can be applied to business need to understand that if there is no one to defeat, then strategy is simply not your game.

**William F. Owen**

Editor, Infinity Journal

November 2015

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# The Post-Operational Level Age: The Operational Focus Approach, Part 3

*In memory of our friend and colleague, IDF Brigadier General Giora Segal, a military thinker and practitioner who was our partner in the journey in the post-operational level age.*

*May his soul rest in peace.*

**Yacov Bengo**

Israel Defense Force, Israel

**Shay Shabtai**

Israel

Yacov Bengo is an IDF Brigadier General and currently a Division Commander. He has an MA in Political Science and 25 years of experience in force build up and operations on the tactical level and within the General Staff. His current research deals with the utility of military force in the evolving environment of operations and therefore the adequate principals of force build up.

Shay Shabtai, an IDF Colonel (res), has more than 20 years as an expert and practitioner in Middle East issues, Israel's national security, strategic issues and military issues. His current research includes alternative strategies for Israel; the influence of human global trends on strategy; strategic communication and perception management; and redefining the operational level of armed conflicts. In 2014, Shay received his Master's Degree (*Magna Cum Laude*) from Tel Aviv University's Executive Program for Middle East Studies, and is currently a PhD candidate and lecturer at Bar Ilan University and the IDC in Herzliya.

## General

To achieve the optimal connection between policy, strategy and tactics (described in part 1) through an operational focus approach that connects the strategic value to the combat worth (described in part 2), a new kind of situational assessment is required. The staffs from brigade to General Staff level should include two separate groups: a Planning Group

that will include the required military and civilian experts dealing with all the topics that affect the operational focus who will conduct general situational assessments and define the principles of the campaign plan, guiding the discussion between the commander and his sub-commanders; and a C2 Group that will conduct the processes of command and control in addition to monitoring the implementation of the plan. We believe the dramatic question mark hovering over the utility of military force in achieving the national goals makes this new structure crucial for the effective application of that force.

## The Post-Operational Level Age - Direct Contact Between Tactics And Strategy

In Part 1[i], we described the worsening problem created by the conceptualization of the operational level as a central component in the methods of command, structure of headquarters and processes of operational planning. We showed that the current environment and the types of problems armies face today this concept creates difficulties, and even failings, more than advantages.

## The strategic context of conducting military operations is becoming tacticalized, and makes redundant the artificial mediation of the Operational Art.

The strategic context of conducting military operations is becoming tacticalized, and makes redundant the artificial mediation of the Operational Art. The connection between policy, strategy and tactics is created by experts of the three disciplines brainstorming and discussing the issues with the commander. The commander, in his mind, is the connector.

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The participants in this process create simple (though not simplistic) understandings of the environment by learning, analysis and conceptualization. The results of the process are the creation of an understanding, common to both the commander from General Staff level to brigade level (and the commanders of the sub efforts) of the commander's intent vis-à-vis achieving the political objectives, the central strategic concept, the definition of the mission and the principles guiding the tactical actions. This is translated into a Campaign Plan which is then implemented.

### The Post-Operational Level Age – The Operational Focus Concept, Strategic Value And Combat Worth

In Part 2[ii], we described the approach we use to connect the strategic and tactical levels in the design and planning process – Operational Focus on Strategic Value and Combat Worth. Operational Focus means that only the exactly suited actions are undertaken, because we have no spare resources or time.

Focus is a cognitive process that enables people to understand each other. The focusing process is based on information acquired from all relevant external environments. The more relevant the information, the sharper is the picture. Every commander and every staff officer at every level interprets the situation differently. Historical experience shows that military organizations can create a common understanding, or at least consent, of how to interpret the situation they face. However, the chaotic nature of war can distort the situational assessment and it therefore must be constantly adjusted. Strategic and tactical assessment of intelligence, the operational capability to exploit it and the commander's leadership capabilities will determine the Operational Focus.

The combat worth of military mass is a tactical concept that describes the overall capability of a military force – aerial, ground, naval or cyber – to conduct missions relevant to achieving the campaign objectives. The strategic value of employing force is determined by the political gain acquired by its actions. If the military force's actions have achieved the policy objectives decided by the statesman, it has high strategic value. It follows that the strategic value is a function of the objectives of the war or of the conflict as a whole – as decided by the statesman.

The definition of Combat Worth and Strategic Value and the ability to connect them in the design and planning phases of the campaign as well as in the conduct phase are the basis for achieving Operational Focus. In this context we will aspire that the activation of a mass of high Combat Worth to fight for objectives of high Strategic Value will lead to decisive outcomes and further the overall strategic achievements of the campaign. Understanding the connection between these concepts enables us to ask questions concerning the connection between various combat worth and their contribution to achieving overall strategic value.

### The Post-Operational Level Age – How To Do It

#### Situational Assessment

The basis for optimal connectivity between policy, strategy and tactics through operational focus requires a form of situational assessment different from that conducted today. This assessment requires combining the experts on the multiplicity of factors influencing the operational focus of a military force:

- a. Military experts able to define the potential combat worth of all relevant force types: air, ground, sea, cyber/information warfare and special-forces.
- b. Intelligence and Civilian Population Liaison officers able to assess the enemy in depth – his strategic decision making process and style, the civilian environment within which he operates and his military capabilities.
- c. Experts on the wider context of the campaign – diplomats, foreign liaison officers, public-relations experts, media and psychological warfare specialists for both overt and covert perception management operations and experts on the home public's resilience and mood.
- d. Military and Civilian Strategic Planners able to add insights on the policy of the home government and the wider national context - the diplomatic, economic, social and national infrastructure issues. In some cases there must also be experts representing the thinking of international or regional allies.

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### It is therefore a collection of inter-service, inter-agency and, in some cases, international, experts.

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It is therefore a collection of inter-service, inter-agency and, in some cases, international, experts. It has a permanent core of members, but it can add others according to the needs of the evolving planning process and battle situation.

This group is constantly discussing the integrative situational assessment with the commander in order to inculcate in his mind the optimal situational awareness as a background for his decision-making. It is conducted on all levels – General Staff, Regional Command, Corps, Division and Brigade, each level adapting the assessment to suit its purposes. The General Staff, for example, might include a techno-tactical expert on underground warfare, whereas the Brigade might include an expert on the home front civilian population in its area of responsibility or an expert on a foreign army with which it is coordinating actions or cooperating.

This is not a new idea. In his book, *The Utility of Force*, Rupert Smith wrote: "There are two sets of questions to be asked in making a plan. The first set deals with the context of the operation as a whole, at the political and strategic level, and the second with the context of its conduct at the theatre level... The questions in each set are iterative... the first set is to define the outcome and the effort to achieve it... The second set of questions is answered on the basis of the answers to the first set of questions, and the circumstances in the theatre understood at the time... one is establishing at what level it is possible to expect military force on its own to have utility... it must be clear that the answers to the questions lie with a

wide range of agencies, in which the military is but one, and only a minor one at that".[iii]

U.S. Army COIN Field Manual, FM 3-24, COIN, published in 2006, states that: "...dialog among the commander, principal planners, member of the interagency team, and host nation (HN) representatives helps to develop a coherent design. This involvement of all participants is essential. The object of this dialog is to achieve a level of situational understanding... such that the situation no longer appears complex... framing the problem rather than developing courses of action".[iv]

### Designing Force Employment

Situational awareness and framing of the problem create the understanding and common language needed between the commander and his group of experts and between the commander and his sub-commanders. This facilitates the designing of the force employment according to the operational focus. The experts discuss the combat worth of various actions with the commander and the connection between them and the strategic value.

The discourse with his sub-commanders leads the commander to define the stratagem of the operational efforts he intends to conduct. The stratagem must be of high combat worth and strategic value in order to properly complement the civilian effort, political, economic and strategic communication, and combine the civilian and military efforts.

This framework enables the unique and optimal mix of civilian and military efforts required to achieve the strategic objective and ultimately the policy goals. This mix will be expressed in the formation of the relevant task force as per the unique mission requirements.

### Planning Force Employment - task forces

## Operational focus requires the different levels, from brigade level up

This is a critical component of the concept. Operational focus requires the different levels, from brigade level up, to completely integrate the various services and agencies and enable the employment of a wide variety of civilian and military capabilities:

- a. Ground maneuver of all types.
- b. Fire efforts whether aerial, ground or naval.
- c. Information warfare including cyber warfare, electronic warfare and overt and covert strategic communication assets.
- d. Intelligence assets from tactical UAVs and interrogators to the allocation of General Staff or national assets whether military or civilian in origin.
- e. Civilian administration for maintaining and assisting the civilian population in or near the battlefield; defensive

assets for protecting the home front population from various threats; and liaison with international organizations (inter-governmental or non-governmental) operating in the area.

- f. Secured IT capabilities to link all the assets into one communication network enabling command and control of all the various combat, civilian and logistic efforts.

This integration of these capabilities complicates the campaign planning process, specifically the conduct of standing operating procedures, assembling of the components and organizing the task force. It requires a staff and headquarters different from those that currently exist, at least in the IDF, and probably in other western militaries.

### Execution and controlling of the campaign

## The execution and controlling of the campaign is also a more dynamic process than in the current method.

The execution and controlling of the campaign is also a more dynamic process than in the current method. The situational assessment process is continuous, constantly updating the situation report and integrating it into the commander's understanding. It takes into account numerous changing factors of the reciprocal effects and consequences of the various elements and actions that reframe the reality. All of those could affect the task force's ability to maintain operational focus in order to achieve its mission in accordance with the strategic objective.

The changes could be in any element of the situational assessment - the combat worth of one of the military efforts is high or too low; the effect of our actions or the enemy's actions on each other's leadership, military operations and home front or on the international arena may be different from what was anticipated; international, regional or media reaction is more negative or positive than expected; our own leaders and public change their opinions and perceptions vis-à-vis the political goals and the strategic objectives; an unexpected singular event can basically change a variety of the elements.

Such an analysis, that guides the commander in understanding the changing environment and in redefining the problem, is an integration of the knowledge and understanding of each expert in his own field and the joint learning of all the experts together.

The commander's and sub-commanders' conclusions from these new insights can lead to one of three decisions:

- a. Stick to the plan - despite the changes, it will still create a positive outcome even in the evolving context.
- b. Change the plan - based on revised operational focused analysis in order to improve the fit between the combat worth and the strategic value of the current task force.



- c. Redesign the concept - an updated plan that changes the task force composition and mix of efforts.

### Recommendations

#### Proposed Starting Point - Headquarters Structure

Headquarters Structure seems to be the best starting point for the required transformation. The operational core of these staffs must be split clearly between the planning group and the Command & Control (C2) group. The idea seems simple but to all those with actual experience it is clearly not wholly simplistic.

### The fierce controversies between the planners ("The Thinkers") and C2 staffs ("The Doers") are well known to all military professionals.

The fierce controversies between the planners ("The Thinkers") and C2 staffs ("The Doers") are well known to all military professionals. The tensions between them are escalated in the post-operational level age. This separation will enable a better connection between the strategic and the tactical, because it correlates to the commander's core position of bridging planning and execution. His position in between the two groups will affect the planning and the execution of the operations, and will compel him and his staff to act with operational focus based on integrated forces conducting military and civilian efforts coordinated in context and rapid in time. He will be the agent of constant adaptation of the plan and its implementation to the changing situation continuously striving to achieve strategic value.

The concept requires first the creation of the team of experts. Part of this team should be formed from the existing staff officers dealing with analysis of the enemy and planning of fighting and supporting efforts. To them must be added aerial, naval, special-forces, cyber advisors and a variety of experts - population officers, public-relations and media officers, psychological warfare officers, liaison officers, law officers and home front officers, strategic planning officers, representatives from civilian intelligence agencies and the Foreign Ministry and if needed representatives from various civilian authorities or foreign armies. This team, though the exact composition might vary, should not include more than 11 members and should be headed by the chief of staff of the unit.

The planning team conducts overall situational assessments and defines the operational plan principles. It will operate according to a flexible time cycle adapted to the operational situation, the commander's schedule and its working methods.

The C2 team will be headed by the chief operations officer (G3) and be the commander's tool for command, control and monitoring the forces in action. This team will translate the commander's decisions into detailed orders, will monitor in detail the execution of operations for the purpose of

command and control, and will decide on issues relevant to the implementation of the plan.

Instead of the general designation of 'operators', which, as we explained above, causes more harm than good ("Jacks of all trades and experts in none"), every staff from brigade up will have two separate groups, each manned by true experts trained and educated in their specific professions and the integration of them into an overall concept.

#### Force Build-up

The Operational Focus Approach does not change the current force composition. The various combat and support services, branches and arms - aerial, naval, ground, intelligence, cyber and information warfare, communications and computers, logistics, public-relations and media, psychological warfare and home front - will continue to create the same basic unit building-blocks of today. The decision concerning how many individuals from each area should make up the group will be determined and prioritized according to the threat analysis.

### The Operational Focus Approach does not change the current force composition.

The change will occur in the realms of organization, doctrine and training of force employment headquarters from the General Staff down to the brigade. These will be rebuilt to include the two staff groups; the planning group and the C2 group.

It will require creating the appropriate military and civilian joint communication networks and logistics capabilities that can adjust to numerous unique operational contexts.

Focusing on these realms of force build up and not the issues of capability development and force composition diverts the discussion from the ever sensitive budgetary and political major platforms and projects debate to the safer environment of concepts implementation.

#### Bottom Line For All 3 Parts - On The Crucial Necessity To Change

Ostensibly everything that has been presented is not new - political leaders have always designed policy and defined strategic goals for military leaders to achieve by tactical operations. Our argument is that the extent and strength of the change in the human-global context within which military force is being employed has already overrun the question posed by Rupert Smith a decade ago on the utility of force and raised a new question: what is the essence of military force beyond the mere recounting of its organization and capabilities? What is its new ethos?

This is not an easy question to answer - especially in Western armies which are under constant scrutiny and criticism from their populations and the elected government that is employing them. These questions contain severe tensions and span a spectrum of issues such as; allocation of national

resources, prioritization of national efforts, motivation to serve and legitimacy of employing force. They directly impact questions of national security and national resilience of each state for itself and the Western World as a whole. A clear example is the tension placed on the US military between the actual employment of its forces across the globe versus the public desire to reduce military involvement in situations in which it incurs casualties.

These tensions raise the question on the central ethos of any military organization – its willingness to sacrifice the lives of its personnel in order to protect the state and its interests. The one characteristic unique to military organizations, relative to other national organizations (police, intelligence agencies, diplomatic service, etc.) is the depth of identity between it and the national existence. Everything else is deemed to be a supporting service or subsidiary in importance.

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## the proposed post operational level age change in concept, implementation methods and structures is necessary not for the tactical effectiveness of the military force

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The serious doubt raised on the effectiveness of the military force in achieving national goals requires an in-depth analysis by decision-makers and commanders. We think that the proposed post operational level age change in concept, implementation methods and structures is necessary not for the tactical effectiveness of the military force, but to maintain the political and strategic relevance of the military organization, without which it has no reason to exist.

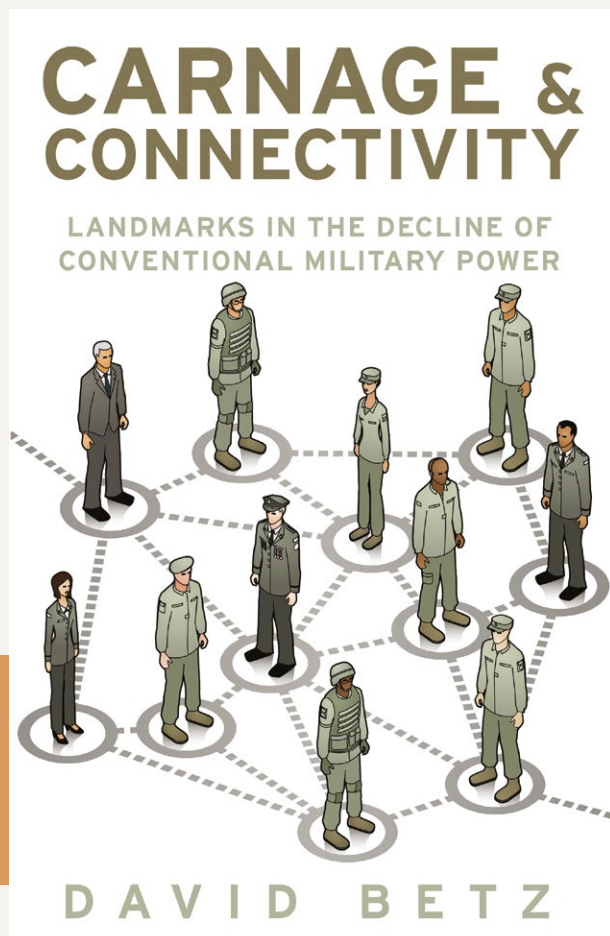
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[ii] Bengo, Yacov and Segal, Giora, The Post Operational Level Age: The Operational Focus Approach, part 2, Infinity Journal, vol. 4 issue 4, Summer 2015, pp. 4-11.

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# A Framework for Developing Military Strategists

## Francis Park

Office of the Chief of Staff of the Army, United States

Lieutenant Colonel Francis Park is a Functional Area 59 Strategist assigned to the Office of the Chief of Staff of the Army, Operation Enduring Freedom Study Group, Washington D.C. He is a graduate of the School of Advanced Military Studies and holds a Ph.D. in history from the University of Kansas. He has served in strategic plans and policy assignments at the division, joint task force, army service component command, and service staff levels. As a strategist, he has deployed once to Iraq and twice to Afghanistan.

*The opinions expressed in this article are the author's own and do not reflect any official capacity or position.*

*Frankly, I am troubled when I observe apparently competent officers who apply the tools of our trade inappropriately in operational situations, or who fail to scrutinize rather basic but critical assumptions underlying our plans, or who substitute program guidance in situations which clearly demand military judgment.*

*General Edward C. Meyer, Chief of Staff, U.S. Army (1979-1983)[i]*

The topic of identifying strategic thinkers in the ranks has been a topic of no small interest as the United States emerges from its longest period of combat operations in over a century. One catalyst for the inquiries on strategic thinkers and how to make them has been hindsight from errors of strategy and campaigning in Afghanistan and Iraq. Another has been the difficulties that military leaders experienced attempting to reconcile strategy with the policy goals set out for the military instrument of national power. One observation that emerged from those conflicts is that a singular focus on tactics is simply not enough to achieve more than localized success in engagements and battles. Conflict termination, on the other

hand, highlighted the broader role of the military instrument of national power at the strategic level, where success in combat operations is only a transition to establishing a more stable set of conditions after combat nominally ends.

Strategists who are trained, educated, and experienced in the competencies of thinking, visualizing, and acting at the strategic level are an important part of the conduct of military strategy in both operational and institutional settings. Those military strategists provide a capability for their organizations and nations that officers trained in tactical methods alone cannot provide. The U.S. Army has formally designated officers by career field for such duties, but those officers do not command organizations as a matter of institutional policy.[ii] Thus, its future commanders will also need development as strategists, even if not to the same degree as their staff officer counterparts. This article offers a framework for preparing commanders and staff officers over a career for duties roles in military strategy and its related disciplines and tasks, using the U.S. Army's experience as a case study.

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## future commanders will also need development as strategists

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### Why Military Strategists?

The efforts to create military strategists have included empowering generalists to conduct strategy duties, and creating a body of general staff officers dedicated to the conduct of strategy and its related disciplines. The literature that has guided those efforts has been largely constant since the mid-1990s.

Since the mid-1970s, the U.S. Army has had an additional skill identifier (coded "6Z" in its personnel system) to recognize military officers of any basic branch or specialty who were "qualified for high-level staff positions requiring an understanding of the international environment and the ability to analyze strategic problems." [iii] Several programs conferred that identifier, but the pressures of maintaining proficiency in traditional military skills in a limited career timeline eroded the expertise that it connoted—making the credential effectively unequal to the task. One of the attempts

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to address the capability shortfalls of military strategists in public debate remains relevant today.

That attempt appeared in the pages of *Parameters*, the journal of the U.S. Army War College, as General John Galvin's article "What's the Matter with Being a Strategist?" Galvin, an infantryman whose experience spanned airborne, air assault, and mechanized units, also served in a number of positions at service staff, joint, and allied organizations, culminating in duty as Supreme Allied Commander, Europe and Commander-in-Chief, U.S. European Command from 1987 to 1992. Originally published in 1989, the article was reprinted in 1995 and 2010. Galvin's description of what a military strategist remains a concise articulation of what such an officer should be:

*A military strategist is an individual uniquely qualified by aptitude, experience, and education in the formulation and articulation of military strategy (making strategy and articulating strategy are equally important). He understands our national strategy and the international environment, and he appreciates the constraints on the use of force and the limits on national resources committed to defense. He also knows the processes by which the United States and its allies and potential adversaries formulate their strategies.[iv]*

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## Galvin's description of a military strategist remains as equally true now as it was then

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In spite of fundamental changes in the security environment from 1989 to the present day, Galvin's description of a military strategist remains as equally true now as it was then.

The next element of the body of work on the essence of what a military strategist must do appeared in 1995, when Major General Richard Chilcoat, the commandant of the U.S. Army War College, penned "Strategic Art: The New Discipline for 21st Century Leaders." Informed by the theoretical work on operational art at the U.S. Army Command and General Staff College in the 1980s and the development of joint doctrine in the early 1990s, Chilcoat sought to define a comprehensive approach to "a distinct discipline that every strategic leader must master," and defined it as "the skillful formulation, coordination, and application of ends (objectives), ways (courses of action), and means (supporting resources) to promote and defend the national interests." [v]

Chilcoat envisioned three roles for those responsible for strategic art: strategic leader, strategic practitioner, and strategic theorist. While those three roles overlap each other, they are all skills that require long study and development over a career. More troublingly, he also observed that the U.S. Army's officers were reluctant to look outside of their tactical comfort zones, compounded by a lack of understanding of the other instruments of national power, reinforced even further by a career path that overwhelmingly weighted tactical experience above all others up to that point. [vi] Chilcoat's observations of those officers' shortfalls in strategic art were undoubtedly a function of his own observations of students at the U.S. Army War College, but also during his

previous assignments at Headquarters, Department of the Army and at the Joint Staff.

In 1998, the U.S. Army, recognizing the limitations of the additional skill identifier 6Z officers in the force, introduced a new functional area called Strategy and Force Development as part of Officer Professional Management System XXI, the redesign of its personnel system. By 2000, that functional area had been split into two parts, the second of which was designated as Functional Area 59, or Strategic Plans and Policy, its first cohorts arriving in 2001. That career field effectively became a body of general staff officers who were specially trained in the conduct of strategic art. [vii] Those officers would in turn serve as trusted advisors and practitioners for those commanders who may not have had the same kind of formal training, but were responsible for leading units through situations where tactics alone were not enough.

### Lessons of combat operations

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## U.S. military combat operations since 2001 offer examples of shortfalls in policy, strategy, and operational art

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U.S. military combat operations since 2001 offer examples of shortfalls in policy, strategy, and operational art, one of the most disastrous was related to the establishment of Combined/Joint Task Force-7, near the outset of Operation IRAQI FREEDOM. The joint task force was formed around V Corps, a unit that had been organized and trained primarily for large unit tactical operations. When its higher headquarters at the Combined Forces Land Component Command was broken up at the nominal end of major combat operations in May 2003, V Corps was left as the nucleus of Combined Joint Task Force-7. In the absence of any other headquarters short of U.S. Central Command, the joint task force's responsibilities spanned theater strategy, operational art, and tactics. Instead of the bevy of talent that had been provided for its previous higher headquarters, the joint task force headquarters was heavily under-resourced with structure and personnel, to include its commander Lieutenant General Ricardo Sanchez, the most junior officer of that grade in the U.S. Army at the time, who had served predominantly in tactical assignments.

To make matters worse, the Office of Reconstruction and Humanitarian Assistance (ORHA) or its successor in the Coalition Provisional Authority (CPA) were unable to exercise any effective civilian governance, while military forces initially defaulted to heavy-handed cordon and search operations that may have been tactically sound, but actually fanned the flames of what became a full-blown insurgency. The failure to manage actions on the ground, combined with the dearth of effective policy direction during that time, almost resulted in catastrophic failure of the campaign. [viii]

One of the first documents to highlight those shortcomings was *Decade of War, Volume 1*, produced by the Joint and Combined Operational Analysis division of the Joint Staff J-7

Directorate. Among its observations was one on the strategic failures of conventional combat operations early on in Iraq and Afghanistan, and the need for a broader response than what the military was prepared to provide. A related, but more pointed observation cited that “failure to adequately plan and resource strategic and operational transitions endangered accomplishment of the overall mission. While military forces were well-prepared for combat operations, they were not well-prepared to integrate non-military instruments of national power.[ix] While some of these failures stemmed from drastic failures of policy, a cultural bias on tactical operations within the U.S. military delayed the adaptation to the circumstances that occurred in both Afghanistan and Iraq.

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### **While military forces were well-prepared for combat operations, they were not well-prepared to integrate non-military instruments of national power.**

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A subsequent RAND Corporation study, led by Linda Robinson, further identified a number of lessons that explicitly highlighted some general shortcomings in strategic art - not the least of which was that the failures of understanding and applying strategic art occurred across the entire U.S. government. Ends, ways, and means did not align, and in the study's words, “the strategies typically failed to envision a war-ending approach and did not achieve declared objectives in a definitive or lasting manner.” Another one of its observations was that there was no established civilian-military process that would rigorously identify assumptions, risks, possible outcomes, and second order effects—in essence, a rigorous method for strategic planning. Another one of their observations specifically highlighted a failure to think in terms of the political aspects of a conflict, and desired outcomes of a conflict that are inherently political in nature. One of the symptoms of that failure was a reluctance to address the political aspects of war, and a tendency to focus on tactical issues rather than strategic factors.[x]

Joseph Collins, a former Deputy Assistant Secretary of Defense now at the National Defense University, noted after the end of Operations ENDURING FREEDOM and IRAQI FREEDOM that military participation in national decision making is necessary but inherently problematic. However, no party could be held blameless. Civilian national security decision-makers had limited understanding of the complexity of military strategy, let alone operational art, and were generally unable to provide useful planning guidance. Concurrently, the military had grown an organizational blind spot to anything that was not conventional warfare, especially after Vietnam. The predilection of the former for an iterative approach to policy and strategy did not mesh well with the latter's desire for a more linear process more suitable for campaign planning.[xi]

#### **Lessons of institutional strategy**

Errors of strategy are not limited solely to operational

settings. The inappropriate application of tactics to strategic problems also occurred within institutional settings, as the epigraph notes. While the first part of General Edward C. Meyer's ire was directed to the failures of officers to frame operations in their proper strategic context, the second part was directed inwards to the institutional Army. As the Deputy Chief of Staff for Operations and Plans and later as the Army Chief of Staff, Meyer had been witness to officers who had responsibilities to the Defense Acquisition System and the Planning, Programming, Budgeting, and Execution System. He had seen those officers make budgetary or programmatic decisions uninformed by any appreciation by strategy and based primarily on short-term, tactically parochial, or solely fiscal considerations.[xii]

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### **Errors of strategy are not limited solely to operational settings.**

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One of the most striking examples came from the time when Meyer was a captain. While the U.S. Army was involved in internecine fights over its budget and future force structure in the 1950s, it had failed to produce a coherent strategic concept for its role within the U.S. defense establishment. Instead, it had chased acquisitions programs based on doctrinal and technological fads, such as continental air defense and abortive weapons such as the Davy Crockett nuclear mortar. As a result, the U.S. Army revolved through a series of force structures and delayed critical acquisitions such as the M113 armored personnel carrier, eroding the institution's combat effectiveness.[xiii]

These historical anecdotes are but samples for a general observation that a singular focus on tactics and military operations alone does not enable attainment of the strategic ends that are inherently the servant of policy. Instead, a broader set of education, training, and experience is needed to develop the skills necessary to bridge military strategy upwards to policy and downward to operational art.

#### **General Competencies of the Military Strategist**

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### **a military strategist must be able to interpret policy into strategy - the domain of strategic art, which imparts rigor to policy**

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A military strategist has obligations reaching both higher and lower, neither of which can be performed in isolation from each other. First, a military strategist must be able to interpret policy into strategy - the domain of strategic art, which imparts rigor to policy.[xiv] Tacticians can artificially separate themselves from policy considerations; military strategists cannot. Second, a military strategist must turn that strategy into purposeful action—the domain of operational art, which bridges strategy and tactics. Those who only deal with policy do not directly face that challenge; military strategists ignore that challenge at their peril. Expressed another way, the conduct of competent operational art requires understanding strategy for its rationale. The informed

conduct of strategic art requires knowing the tactical implications of that strategy to properly balance ends, ways, means, and risk. That relationship can be described as three general competencies of a military strategist:

1. Provide military advice to policymakers to inform their understanding of the military instrument of national power and its relationship to policy goals and other instruments of national power.[xv]
2. Formulate strategy, through the practice of strategic art, informed by policy guidance and a net assessment of strategic ends and means.[xvi]
3. Implement strategy through the practice of operational art (to include campaign planning), whether institutional or operational, to guide tactical action in the pursuit of strategic ends.[xvii]

By design, these general competencies are not intended to be the same as the core competencies of a Functional Area 59 Strategic Plans and Policy officer. While that career field exists specifically to address those general competencies, the role of a military strategist is not necessarily limited to general staff officers. Indeed, given that future commanders will be drawn from what the U.S. Army calls basic branches (or regiments in Commonwealth militaries), the general competencies of a military strategist span any officer career field. Given the increasing civilianization of defense establishments, it is also possible that some of these functions may also be performed by career civil servants, such as the U.S. Army's Career Program 60, many of which are former strategic plans and policy officers.

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### **Training emphasizes the employment of established procedures and skills that are applied against circumstances that are usually known.**

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It is critically important to distinguish between training and education, a distinction that certainly receives too little attention in the U.S. military. Training emphasizes the employment of established procedures and skills that are applied against circumstances that are usually known. Not surprisingly, training is seen to have immediate utility, and is easy to justify, especially when resources are constrained. In contrast, education emphasizes the application of intellectual and cognitive skills to address circumstances that training cannot. In contrast to training, education often appears to have little direct relevance to immediate demands, and is sometimes seen as an ornament. In general, the demands of tactical operations heavily emphasize training to address the known, while the demands of strategy heavily emphasize education to address the unknown.

The development of a military strategist normally rests upon three foundations: civilian education, professional military education, and relevant experience. The three complement each other in providing the intellectual and experiential basis for greater facility with military strategy. Civilian education is

foundational knowledge for a military strategist. It provides the intellectual basis to address the unknowns that training, doctrine, or experience cannot answer. Professional military education contextualizes civilian education in a common framework for application. Finally, relevant experience is the crucible for a military strategist's application of civilian education and professional military education. It is where the theory and practice come together in the application of military strategy. Without the foundations provided in civilian education and professional military education, relevant experience is brittle, with little utility outside its immediate circumstances. It is for that reason that experience exclusively at the tactical level is not always relevant, and may even be counterproductive in the conduct of policy, strategy, or operational art.

### **Developmental Milestones for Military Strategists**

The development of military strategists, like any other discipline, must occur over time. It is unrealistic, if not dangerous, to think that a military strategist will emerge from a lifetime of service spent overwhelmingly at the tactical level, then become a competent strategist solely through reasoning by analogy. Similarly, it is equally unrealistic that a competent military strategist can be developed overnight from civilian and military education alone. Rather, characterizing the professional development of a military strategist can be done through four developmental milestones: untrained, apprentice, journeyman, and master. These milestones are not tied to a given rank, but to the capabilities that he or she brings and provide an indicator of relative capability among military strategists.

While such a statement may be considered heretical, it is entirely possible that a commander, who will have had to alternate tactical command and staff assignments with those developing strategic art, may be a less experienced strategist than some of his staff. It is in that capacity that strategic plans and policy officers become critically important general staff officer advisors to their commander.

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### **It is in that capacity that strategic plans and policy officers become critically important general staff officer advisors to their commander.**

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#### **Untrained**

The untrained military strategist is typically in their first assignment in a strategic art capacity. While he or she may be a graduate of a program that teaches strategic art, such as a senior service college, the U.S. Army's Basic Strategic Art Program or the U.S. Air Force's School of Advanced Air and Space Studies, it is more likely that the untrained strategist will have only instruction focused on operational art, such as the U.S. Army's School of Advanced Military Studies or the U.S. Marine Corps' School of Advanced Warfighting. In some cases, those officers may only have the benefit of elective coursework offered at the staff college level such as that

required for the 6Z additional skill identifier.[xviii] At this point, the untrained military strategist lacks the relevant experience to properly contextualize what basis may have been received through professional military education.

He or she may be cognizant of the relationship between strategy and policy, but may not recognize the implications between the two. The untrained military strategist should be proficient with the conduct of deliberate planning processes at tactical level such as the U.S. Army's Military Decision Making Process, but will not likely be familiar with planning methodologies as they apply to joint forces. He or she may be aware of the linkage of strategic ends to operational planning, but cannot yet articulate the linkage between the two. The untrained strategist can participate as a member of a strategy working group or operational plans team but does not have the capability or skills to lead it effectively.

Written and oral communication skills are commensurate with the staff college level, but the untrained strategist will require substantial guidance to distill strategic concepts into short papers. One hazard for the untrained strategist is the trap of trying to reason through strategic issues by tactical analogy without considering the factors that affect strategy. The hazard exists because he or she will not have had the experience to inform judgment at that level.

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**One hazard for the untrained strategist is the trap of trying to reason through strategic issues by tactical analogy without considering the factors that affect strategy.**

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### Apprentice

The apprentice military strategist will have served one or more assignments in one of the general competencies (policy, strategy, or plans) in either an institutional or operational setting. He or she will have completed a formal training/professional military education program in strategic art and may hold an advanced degree in a strategy-related field.

The apprentice can clearly draw the relationship between strategy and policy or operational art and strategy. The apprentice should be proficient with both service and joint planning methodologies and capable of leading small groups to address strategy or campaign planning problems. They will have conversancy in one of the general competencies of a military strategist, and are aware of the others.

The apprentice must be a strong writer, capable of writing commensurate to the senior service college level, and should be able to deliver briefings to general officers at the joint task force level. He or she still requires additional guidance to consider the full scope of a problem, whether related to policy, strategy, or operational art.

### Journeyman

The journeyman military strategist will have served in sufficient assignments to gain fluency in two or more military strategist general competencies. He or she will have completed multiple training programs in strategic art and holds an advanced degree in a strategy-related field.

The journeyman may be a subject matter expert in one or more of the general competencies (possibly at the expense of others) but is now capable of leading strategy development or campaign planning efforts. He or she will clearly be able to identify strategic implications across the general competencies ranging from policy to operational art. The journeyman must be familiar with joint, interagency, and multinational structures, and will often have had a developmental assignment in one of those organizations. They will be familiar with the entire joint force and its capabilities but may not be able to articulate the reasons why certain services or organizations approach strategic issues the way they do.

He or she has strong oral and written communication skills, and is fully capable of distilling staff products for general/flag officer consumption, as well as advising untrained or apprentice military strategists. The journeyman is capable of limited predictive analysis spanning multiple general competencies.

### Master

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**The master military strategist will have been educated in multiple academic disciplines, giving a wide range of intellectual methodologies.**

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The master military strategist will have been educated in multiple academic disciplines, giving a wide range of intellectual methodologies. He or she will have experience in all three general competencies, in both operational and institutional settings, and can oversee multiple groups in the conduct of campaign planning or strategic art, or inform policy formulation at the national level. They will have a solid basis in the theory, doctrine, and practice of policy formulation, strategy development, and operational art, and can clearly articulate the implications across all the general competencies. He or she is fully familiar with not only with operational planning methods such as the U.S. military's Adaptive Planning and Execution system (formerly the Joint Operations Planning and Execution System), but also strategic planning frameworks like its Joint Strategic Planning System and the Defense Acquisition System. The master strategist clearly understands and can predict the effects that operational and institutional strategy and campaigning will have on each other. Commensurate to their abilities and background, he or she will routinely write and speak for 4-star general/flag officers serving as service chiefs, unified combatant commanders, or national-level joint task force commanders, or their civilian equivalents.

## Conclusion

In spite of the changes in the security environment and the adversaries that the United States has faced since the end of the Cold War, the role of the military strategist has not changed. In the U.S. Army, that role is not limited solely to career Strategic Plans and Policy officers who are specially trained and educated in strategic art, but must also include future general officers who will become the ones charged with making decisions that reach into future decades.

The identification of military strategists by milestone offers two benefits, one inward, one outward. Internally, this framework can guide the individual career development of those officers who will be responsible for the planning and conduct of policy formulation, strategy development, or campaign planning, whether they occur in an institutional or operational setting. Looking outwardly, that framework can provide a resource to enable the employment of the military instrument of national power in a manner that is strategically

effective.

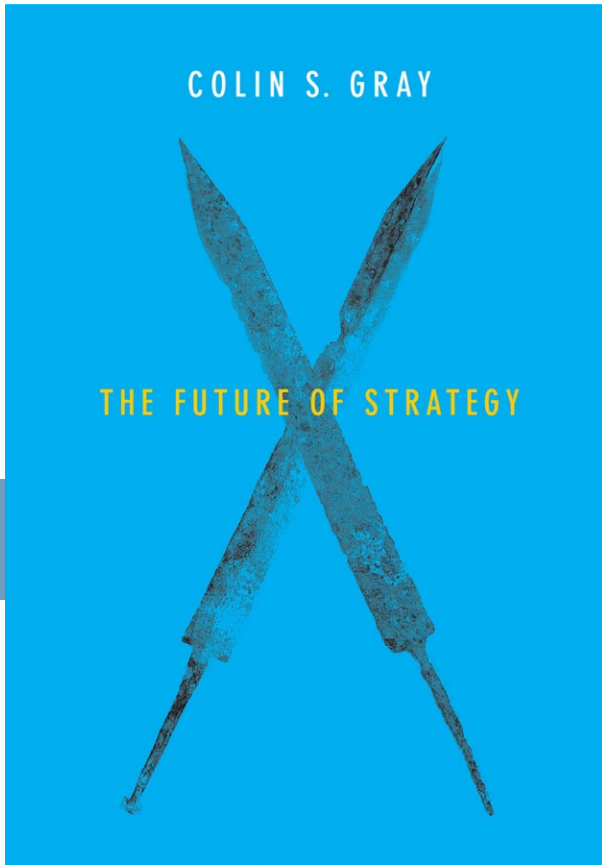
Ultimately, building true military strategists cannot occur overnight, and certainly not through the hasty application of tactical reasoning by analogy. In light of Chilcoat's roles for military strategists, namely the strategic leader, strategic practitioner, and strategic theorist, master strategists must be capable of all three, and inappropriate employment of tactical thinking against strategic problems is a recipe for failure if not disaster. While the skillful practice of policy guidance, strategic art, and operational art is no guarantee of strategic success, the absence of such competent practice virtually guarantees that the military instrument of national power will not best serve its nation's interests. Military strategists, properly developed, are a hedge against that outcome.

*The opinions expressed in this article are the author's own and do not reflect any official capacity or position.*

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- [xvi] "He also translates political policy into military plans and actions. Developing an effective military strategy requires thoughtful analysis, creative ideas, and a sense of perspective." Galvin: *ibid.*,
- [xvii] The use of ends, ways, and means is consistent with Arthur Lykke's model of strategy, which has been in use in the U.S. military since the early 1980s. For an overview of the terms, see Harry R. Yarger, *Strategic Theory for the 21st Century: the Little Book on Big Strategy* (Carlisle, PA: Strategic Studies Institute, 2006), 69-70.
- [xviii] While not well standardized, the current paths for additional skill identifier 6Z ("Strategic Studies") include an elective track at the U.S. Army Command and General Staff College, or a correspondence course offered from the U.S. Army War College. Other methods of far greater rigor include the Army's Strategic Education and Development Program, formerly called the Harvard Strategist program.





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# How Should We Think about “Gray-Zone” Wars?

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**it has evolved into something of a culture of replication in which the labels are repeated more out of habit than reflection**

Whatever its origins, and whether it is a blessing or a curse or both, the expression living in “interesting times” certainly describes strategic life in the present day. Recent events in Ukraine, Syria, Iraq and the South China Sea, for instance, continue to take “interesting” turns. We could say the same of the various ways in which military force has been used of late. Analysts, practitioners, and scholars alike have struggled to come to terms with such uses, assigning labels such as “hybrid wars,” “new generation wars,” and “gray-zone” conflicts, among others, to distinguish contemporary practices from those of so-called traditional wars. While the original aim of such labeling or relabeling may have been to draw the attention of busy policymakers to emerging security issues, it has evolved into something of a culture of replication in which the labels are repeated more out of habit than reflection. As a result, we have an increase in claims about what contemporary wars are (or are not), but little in the way of strategic analysis to support those claims. This article avoids that trend by identifying the problem posed by so-called gray-zone wars, and suggesting how the West’s military strategists and campaign planners ought to adjust

their conceptual frameworks to accommodate them.

What makes gray-zone wars “interesting” is they sit below NATO’s Article 5 threshold, and below the level of violence necessary to prompt a UN Security Council Resolution. Examples are the aggressive moves undertaken in recent years by Moscow in Ukraine and by Beijing in the South China Sea. In each of these cases, there was little or no legal premise for a military response by the West; hence, the tendency to refer to such hostile actions as gray-zone wars, that is, uses of military force that fall short of actual war but which definitely do not qualify as peace. Moscow and Beijing have been able to exploit this zone of ambiguity to accomplish “wartime-like” objectives outside the normal scope of what military strategists and campaign planners are legally authorized or professionally trained to address. Figure 1, which shows how the level of military effort is expected to increase and decrease over the course of a typical campaign, depicts this problem graphically.

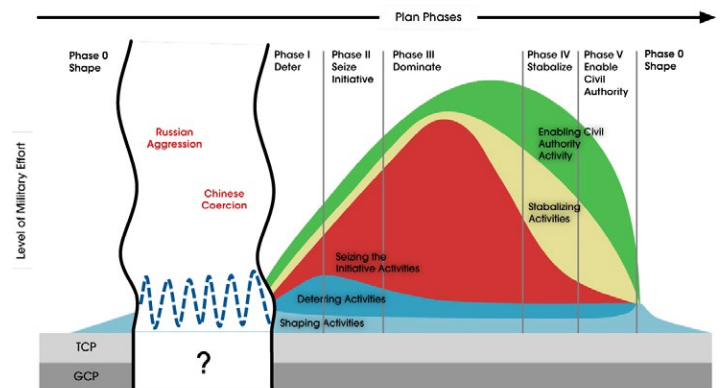


Figure 1

**gray-zone wars would appear to take place within the space or gap that precedes traditional military campaigning**

Accordingly, gray-zone wars would appear to take place within the space or gap that precedes traditional military

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campaigning.[i] Moreover, they were likely designed this way intentionally. Nor are they “wars,” per se, as much as they are the outgrowth of strategies aimed at exploiting the West’s legalist view of war and its inherent restraints. Clearly, Western military strategists and campaign planners need an alternative model by which to develop strategies and campaign plans for such conflicts. In short, they need to think in terms of campaigns that can be conducted, with appropriate approval, below the thresholds mentioned above. What might the new campaigning model look like?

It is important to note the operational phases depicted in Figure 1 are currently under revision. Whenever the new doctrine is published, it may not have the same phases or even the same number of them. In fact, it likely will not; however, that is immaterial. The schematic of operational phases, referred to by some insiders (less than affectionately) as the “sand chart,” merely serves as a reference point, a way to visualize the problem.

One way to approach the problem of gray-zone wars is to reduce the hostile actions undertaken in Ukraine and the South China Sea to their core dynamic - which is a combination of coercion and deterrence. As Clausewitz once said, war is the use of force to *compel* an opponent to do one’s will.[ii] War, he believed, was basically coercion by violent means. Obviously, peace can also involve coercion, diplomatic and otherwise, but presumably with less bloodshed. What distinguished war from peace, in Clausewitz’s view, was simply the explicit use of coercive violence. Moreover, when we consider Clausewitz’s *On War* holistically, particularly his discussion of the defense in Book VI, we find that his understanding of coercion included a necessary complement, namely, deterrence. The defense is stronger than the attack because, in theory, deterring one’s foes is easier than coercing them. However, in practice the two are essentially opposite sides of the same coin: we are attempting to make others do what we want, while at the same time dissuading them from doing what we do not want.

Furthermore, we can find the coercion-deterrence dynamic in virtually every type of war. The exception that proves the rule is a genocidal war because it is aimed not at coercing a population but eradicating it. Even ethnic cleansing (which differs in nature from genocide) is at bottom about driving a people from a territory, and essentially involves using both coercive and deterrent force.

However, the dynamic is also present in situations short of war. Between 1936 and 1939, for instance, Adolf Hitler’s willingness to risk war - juxtaposed against the allies’ desire to preserve peace - made his use of coercive force and diplomacy quite effective. We might call it coercive diplomacy today, though the term was not in vogue at the time. Instead, it was more likely to be called “armed diplomacy,” or “gunboat diplomacy” in maritime situations.[iii] Hitler’s brand of armed or coercive diplomacy used an expanding military force (Wehrmacht), which was nonetheless already obsolete in important ways (such as many of its tanks), to exert both deterrent and coercive pressure: the idea of going to war, even with demonstrably favorable odds, was so uncomfortable to British and French diplomats they could be intimidated by Hitler.

One answer for dealing with gray-zone wars, therefore, is to design operations and campaigns around this dynamic, that is, around the basic idea of coercing or deterring foes or rival powers. Peacetime coercive operations might include activities such as mobilizing military forces, initiating training exercises along a border, conducting aircraft over-flights, or launching an overt show of force in nearby territories, arms transfers, and intelligence sharing. Actions once referred to as “military operations other than war” might also constitute coercive or deterrence operations; these include: enforcement of sanctions, implementation of no-fly zones, strikes and raids, among others.[iv] Such uses of force are sometimes necessary to establish credibility or to demonstrate resolve; key elements in the success of any coercive or deterrence operations.

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### **Actions once referred to as “military operations other than war” might also constitute coercive or deterrence operations**

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How might such operations apply to the situation in Ukraine? The West might elect to deter further Russian (or separatist) aggression in specific areas of Ukraine, for instance, while also compelling Moscow to withdraw and to relinquish some of the territories they have already taken. One step toward accomplishing that aim would be to provide Ukrainian troops with qualitatively superior military hardware, and in enough numbers, so Ukrainian units are capable of inflicting significantly higher casualty rates on hostile forces than they themselves incur. The battlefields in Ukraine are high-tech in many respects, and the speed and range of one’s weapons actually matter a great deal. Furthermore, operations to supply Ukrainian troops with specific kinds of high-tech weapons would dovetail with the West’s imposition of economic sanctions because doing so would compound the costs of Moscow’s aggression. At some stage, so the theory goes, Moscow will find the war untenable economically and begin suing for peace. Thus, a strategy aimed at hastening the arrival of that moment would seem worthwhile. In any case, the point is, even in gray-zone wars, operations designed to coerce or deter opponents can support campaigns, which in turn support military strategies, which subsequently aim at achieving policy objectives.

Such operations need not involve physical combat on the part of US and other NATO and non-NATO partners if that is not desired. Their military strategists and campaign planners can have a hand in designing and orchestrating such operations regardless. In many gray-zone situations, military hardware, advisors, and intelligence support may be all that is permitted legally. Nonetheless, the West has most of the planning tools it needs. The key to success is to think of ambiguity as an opportunity and to use it to one’s advantage by ensuring military support to a beleaguered party is not haphazard and is well integrated into a larger plan.

To be able to do that, however, the West’s military strategists and campaign planners need to study the strategies of coercion and deterrence closely because each has important limitations. As stated above, coercion is usually understood to mean compelling people *to do* something,

such as surrender; whereas deterrence is commonly defined as getting people to decide *not* to do something, such as continuing to fight as guerrillas.[v] Moreover, making our adversaries elect to *do* something (coercion) is closely related to making them choose *not* to do something else (deterrence). Coercive strategies typically include such measures as punishment, denial, intimidation, and reward. These have been used for centuries. Rome’s legions executed many punitive actions designed to coerce opponents rather than to annihilate or enslave them. Punishment might have been severe in some cases, but ultimately Rome wanted tribute, not ruins. Medieval wars, as well, often aimed at coercing foes through military actions designed to punish or deny, such as taking livestock, burning crops, or imposing levies.

Although coercive strategies have been in use for centuries, serious study of them did not begin until the 1950s and 1960s. The two pioneers in this regard were political scientist and national security analyst Robert E. Osgood and the Harvard economist, game theorist, and Nobel Prize winner, Thomas C. Schelling. As Osgood, a veteran of the Second World War, noted: “The purpose of war is to employ force skillfully in order to exert the desired effect on an adversary’s will along a continuous spectrum from diplomacy, to crises short of war, to an overt clash of arms.”[vi] To this view, Schelling added the argument military force could not only shape an adversary’s behavior short of all-out war, it could be applied in “controlled” and “measured” ways to compel, intimidate, or deter. “The power to hurt,” Schelling claimed, “is bargaining power. To exploit it is diplomacy - vicious diplomacy, but diplomacy.”[vii] Its purpose is to alter an opponent’s behavior without having one’s own conduct modified too greatly in the process.[viii] This view comes to form the basis for the “bargaining model” of war in which military power is seen as a form of currency to be expended in a process of violent bartering.[ix] It is a view well suited for gray-zone wars, though strategists would need to remember the currency of exchange is actually lives, not coins.

Coercion and its complement, deterrence, thus both require viewing diplomacy and war as a “continuous spectrum” rather than as an endeavor bifurcated along political and military lines. Unfortunately, as stated earlier, today’s spectrum of conflict is partitioned for legal, doctrinal, or bureaucratic reasons. While those boundaries must be respected as far as military actions are concerned, they are no justification for ceasing military planning and strategizing. To be sure, the partitions render the West vulnerable to exploitation by rival powers. However, the task of the strategist is to find workarounds that are both legally and politically acceptable. Common sense suggests the West could remove its self-imposed partitions, if it wished, or at least adjust them so they are less limiting. Nonetheless, doing so would be extraordinarily difficult because those partitions serve a number of vested interests tied to the West’s values. A change in those values is not likely to occur short of an existential threat, which by design, neither Russia nor Beijing is posing.

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**Like most other strategies, both coercion and deterrence are vulnerable to mirror-imaging**

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Coercion and deterrence have many of the same limitations. Both require active monitoring of potentially fluid situations, credible communications across cultural and psychological boundaries, and at least some shared expectations regarding the use of force. Like most other strategies, both coercion and deterrence are vulnerable to mirror-imaging, or projecting one’s values and ways of thinking onto one’s adversaries. Such projections lead to risky assumptions about what one’s rivals hold dear and how they will behave.

In theory, coercive strategies offer us more flexibility and greater control over escalation than military strategies such as attrition or annihilation. We can, for instance, apply coercive force gradually in what is known as “graduated pressure,” an approach tried by US Presidents James Polk in the Mexican-American War (1846-1848) and Lyndon Johnson in the Vietnam War. Each applied force incrementally, increasing its intensity in steps or phases with the aim of bringing their opponents to the negotiating table. The idea was to avoid committing more military power than necessary, or more than the American public would abide. However, each ran into difficulty because their respective opponents’ pain threshold was higher than anticipated, which in turn meant the amount of coercive force had to be increased beyond what was expected.[x] As one historian noted with regard to the war in Vietnam, “The level of pain Hanoi was prepared to endure was greater than Washington could inflict.”[xi]

To be sure, applying coercive pressure gradually may help achieve one’s objectives at minimal cost; however, it can also prolong the struggle and increase one’s losses until war weariness sets in and the public demands an end to the conflict. Friction and human emotion can also make it difficult to measure and control the level of force one employs, thereby potentially leading to escalation.

In addition to these limitations, deterrence has several others that are unique to it. A military strategy of deterrence requires making our adversary believe we have the physical and psychological capacity either to defeat an act of aggression, or to make its costs exceed its benefits. International relations literature currently recognizes four types of deterrence: (a) *direct*, which refers to deterring an attack against oneself; (b) *extended*, or deterring an attack against a friend or ally; (c) *general*, or deterring a potential threat; and (d) *immediate*, which refers to deterring an imminent attack.[xii] These are usually combined in some way. For instance, French and British efforts at immediate and extended deterrence on behalf of Poland failed to dissuade Adolf Hitler from invading that country on September 1, 1939.

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**It is not always possible to know whether the absence of a rival’s action was because of deterrence, or despite it**

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First, it can be difficult to assess how well a strategy of deterrence is working. It is not always possible to know whether the absence of a rival’s action was because of deterrence, or despite it. As former US National Security Advisor, Henry Kissinger, once noted:

*Since deterrence can only be tested negatively, by events that do not take place, and since it is never possible to demonstrate why something has not occurred, it became especially difficult to assess whether the existing policy was the best possible policy or a just barely effective one.[xiii]*

Second, deterrence is inherently fragile. It is based on a balance of power - in technological, military, political, and diplomatic dimensions - that can change quickly, and give one party a decisive advantage over the other. Or, one party may feel it is losing parity and must act before it is too late. Consequently, deterrence can have a short shelf-life. For that reason, it is useful to think of deterrence as a delicate balancing act requiring constant attention.

Third, as with any military strategy, deterrence requires knowing one's adversaries, especially since not all would-be aggressors can be deterred. Some, like Adolf Hitler, could be delayed, but not truly deterred; whenever they hesitated, they did so only long enough to gain a better advantage. Additionally, "suicide bombers" may have challenged the rational-actor model of deterrence in recent years. One way of coping with such actors is by denying them the conditions they require for success, such as by hardening defenses and dispersing likely targets so as to reduce casualties and make the attack less attractive.[xiv] Deterrence also works best when the parties share a baseline of expectations. Each party needs to be able to "read" the motives and actions of its rival; otherwise, profound misunderstandings may occur that lead to undesirable actions.

Finally, deterrence is vulnerable to friction and chance. Accidents, large or small, always happen. It can be difficult to determine whether such accidents were truly accidental; was the military aircraft that crossed another's borders simply lost, or was it on a special mission? How parties respond to accidents or unforeseen events can easily upset deterrence, particularly if efforts at communication are misperceived; this is especially true of nuclear deterrence. Communication is, of course, vital, but cultural and psychological filters can act like a form of friction and distort one's intended message. That is not to say ambiguity is never beneficial in strategy. Sometimes it can be useful to keep rivals guessing as to where one stands. Ambiguity is, in fact, one of the principles underpinning the 1979 Taiwan Relations Act, which clearly stated the United States did not support Taiwan independence, but also laid the groundwork for a "robust unofficial relationship" between the two parties.[xv]

**That is not to say ambiguity is never beneficial in strategy. Sometimes it can be useful to keep rivals guessing as to where one stands.**

Beijing's particular approach to gray-zone wars involves a form of direct deterrence. It consists of positioning several hundred land-based, anti-ship ballistic and cruise missiles in a manner that could deny or restrict the movement of other countries' naval vessels within the East China and South

China Seas. Beijing may well view its strategy as "counter-intervention" or "peripheral defense," since it is designed to prevent other powers from interfering in off-shore areas the Chinese see as vital to their interests.[xvi] In contrast, the Pentagon refers to this strategy as "anti-access/area-denial," or A2AD, since it hampers Washington's ability to provide extended deterrence for its allies in the region. Beijing's counter-intervention strategy includes not only the use of modern air and missile technologies, but also what the Chinese call "political warfare," which entails refuting the lawfulness of any interventionist acts (also known as law-warfare or "lawfare"), the mobilization of public opinion against an intervention, and psychological warfare.

In response, the United States and its allies have considered employing their own A2AD strategy, one that would restrict the movement of Chinese and North Korean vessels within the Western Pacific Region.[xvii] If implemented, the West's countermove will result in overlapping missile and aircraft defensive zones along the Pacific Rim. Yet, the West can also do more by strengthening its alliances in the region, and by conducting more coercion and deterrence operations. A word of caution is in order, however, since implementing either strategy can lead to an arms race. Defined simply, arms races are efforts to keep pace with, or surpass, an adversary's military might. History, in fact, shows arms races are often the outgrowth of the coercion-deterrence dynamic. The salient question, then, is whether the West believes its collective economic power is sufficient to win such a race, and whether it wants to accept the risk of doing so.

## **the coercion-deterrence is a useful way to approach gray-zone wars. Military strategists and campaign planners can develop options around this dynamic**

In sum, the coercion-deterrence is a useful way to approach gray-zone wars. Military strategists and campaign planners can develop options around this dynamic. Their courses of action can look to exploit the ambiguity of such wars, while remaining within their legal and political restraints. Conceptually, the result would be a new "sand chart" that might look something like Figure 2.

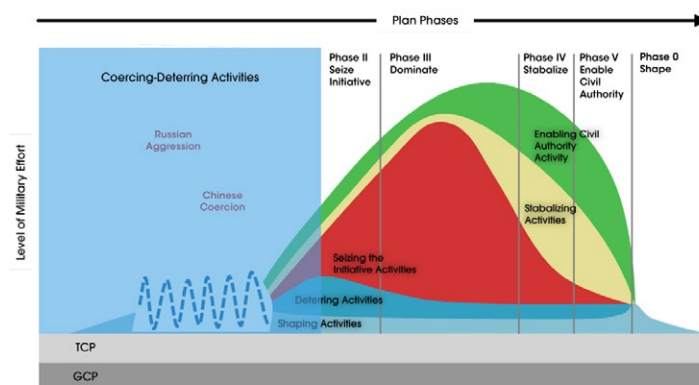


Figure 2

In truth, we might use any number of ways to depict the changes graphically. The goal is really to slide the military strategist's orientation further to the left of the diagram, and to become experts at conducting our own "gray-zone" campaigns to coerce or deter, or both, before we must begin shooting (though indigenous forces may already have). One difference worth mentioning in Figure 2 is that "detering activities" remain, but are to be expanded; while "shaping activities" are replaced by "coercing activities," which are also to be expanded.

The larger point is, under current conditions, both of these strategies need to become more prominent features in the military strategist's "tool kit." Political leaders and diplomats will rarely have the training or time to study these strategies thoroughly and become experts in their use. Thus, it falls to military professionals to revise their doctrine and thinking appropriately and to train themselves to describe such activities in terms of formal courses of action. If we do not do so soon, we will continue to find ourselves at a disadvantage in responding to the coercive-deterrence activities of our rivals.

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# Israeli Policy, Strategy and the 2012 Eight-Day War

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*"War is political action. It arises from political conditions, it ends in political conditions."*[i]

*"Is it wise to structure your military strategy based on a segment of your overall policy?"*[ii]

## Introduction\*

From 14 - 21 November 2012, Israeli forces and Palestinian combatants fought a brief but intense and costly war, officially labeled Operation 'Pillar of Defense'. Within this eight-day span, at least 1,600 rockets were fired at Israel from the Gaza Strip and the Sinai Peninsula, including long-range missiles aimed at Israel's cultural and economic center, Tel Aviv. Jointness amongst Israel's security apparatus led to dozens of targeted killings of senior leaders of various Palestinian organizations, as well as the destruction of more than 1,500 targets, including combatants' operational control centers, weapons depots, and rocket launchers.[iii] This short war had a high intensity level mainly due to the amount of firepower employed by both sides in relatively urbanized areas. However, a low noncombatant casualty count emerged.[iv] This article is written from an Israeli perspective, and the aim of this analysis is to raise and subsequently answer five key questions: precisely how does Israel view Hamas in the Gaza Strip?[v] What was the policy during the war, and what was the strategy that was employed to achieve it? Was the policy actually realized? Lastly, what can others battling violent irregulars learn from the Israelis during this eight-day war?

## An Unofficial Security Arrangement

The Government of Israel (GOI) does not have a 'Hamas Policy'. Rather, Israel's political and military behavior,

specifically regarding Hamas in the Gaza Strip, is part of a larger 'Gaza Policy'. That policy can be understood as containment, which in the world of action is maintained via suppression in its various forms. That is, since Hamas's seizure of the Gaza Strip in the 2007 'Battle of Gaza', Israel manages Hamas based on a segmented policy which, as will be shown, has both advantages and disadvantages. The GOI aimed for a political condition where a contained and controlled Hamas in the Gaza Strip would continue to exist, living side-by-side with Israel, with violence kept to a tolerable level. Despite rhetoric to the contrary, the GOI accepted that Hamas was in power; resultantly, a type of unofficial security arrangement came into being. While officially Israel views Hamas as a terrorist organization, one would be remiss not to accept that a certain level of political utility exists between the two actors.

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## Israel manages Hamas based on a segmented policy

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Two general perspectives are evident amongst Israeli security officials regarding how Israel views Hamas in Gaza. [vi] According to one perspective, the relationship is about creating the understanding that the Gaza Strip cannot exist as a viable independent state on its own. Hamas would thus need to recognize that it had to rely on Israel to survive; in turn, Israel would have to rely on Hamas, to an extent, for maintaining control of Gaza, which includes Hamas controlling the level of violence applied by other groups in the Strip. According to one former Israeli strategist and senior government official:

*"Hamas is the only viable political entity that exists in the Gaza Strip that is capable of being responsible for Israeli interests. Now, if you will hit him too strongly and destroy him, you will find yourself without a reliable and responsible political adversary in the Strip. Actually, you are going to create chaos, a dangerous vacuum. Strategically, this is much worse for you."*

Hamas's takeover of Gaza left Israel with two practical ways of dealing with the organization. First, Hamas would remain in control of the Gaza Strip in its entirety and it would have to behave as a responsible political actor, while at the same

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time, Israel had to be prepared to use force to deter them. Deterrence, especially with regards to competent and resourceful irregular combatants in Gaza, requires patience and resolve when seeking to gain a larger political condition. Importantly, Hamas had to be convinced that Israel was ready to swing its military instrument, if and when necessary. Violence would be applied if Hamas were to exert an intolerable level of violence against Israel, or if Hamas did not control the level of violence applied against Israel by other violent irregulars in Gaza.

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### **If Hamas has no concrete assets, the organization is unlikely to be contained.**

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The second practical method to deal with Hamas was with regards to assets. In order to deter Hamas, "they must be convinced they have something of value to lose." [viii] This first perspective holds that only Israel could have provided these assets by allowing Hamas to be the main political power in the Gaza Strip. This meant that Israel was responsible for providing Hamas with some concrete effects, mainly political authority but also some independent economic capabilities that could be seized if necessary. If Hamas has no concrete assets, the organization is unlikely to be contained. The idea was to keep Hamas satisfied with what it had, and to keep it centered on its own political issues such as its own survival as the controlling authority in Gaza. Political authority is something that Hamas truly values, and Hamas is aware that it remains in control because of a mutual security interest with Israel. There is a rational inference in this relationship that, being the stronger power, Israel can change its mind and political control can be seized. If Hamas can be convinced that Israel is determined to take their authority away, then deterrence may be achieved. Successful deterrence ought to lead to comprehensive containment, or at the very least 'good enough' containment (i.e. policy). Essentially, this first perspective on Israel's relationship with Hamas is about what 'Israel gives'.

The second perspective is more about what 'Hamas gains'. That is, the Israelis did not provide Hamas with assets. Rather, it gained the assets that it desired via the takeover of the Gaza Strip in 2007: "Saying that we provided them with assets is not correct. In fact, we tried to make life harder for Hamas via blockades and destruction of smuggling tunnels, among other actions. The fact is that Hamas seized power and ended up with sufficient assets, which possibly acted as a deterrent because they now had something to lose – but Israel did not give it to them." [ix] By way of a violent takeover of the Gaza Strip in 2007, Hamas immediately gained everything that came with that seizure – territory, various types of infrastructure, weaponry, and of course control of the Gazan population and the economy.

In point of fact, it appears that both perspectives are correct. The reason is that both are viewing the situation as a zero-sum game. That is, either Israel gives or Hamas gains. However, the unofficial security arrangement is far from zero-sum. For officials in intelligence the perspective is, most often, that Hamas gains. However, "from a more net assessment point of view, one is more likely to think, 'what Hamas gained was a lot

but they gained it because decisions made by Israel allowed them to gain.'" [x] If one does not view it as a zero-sum game, another scenario presents itself: as a result of the security arrangement, Hamas's gains are, in a way, what Israel gives.

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### **as a result of the security arrangement, Hamas's gains are, in a way, what Israel gives**

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Plainly stated, there exists an understanding, albeit unofficial, between Israel and Hamas. Hamas desires relative quiet in order to continue strengthening its power. Israel aims for quiet borders so as to continue focusing on its own socio-economic development. Hamas needs Israel to stay in power in Gaza, and Israel prefers that Hamas maintains control over the Gaza Strip so long as it does so in accordance with Israel's security desires. When Hamas – and other violent irregulars that Hamas is responsible for – stray from Israel's desires, then Hamas is reminded of the unofficial security arrangement. At times, non-violent methods will do the trick. If these fail, the use of military force may be applied. By and large, since 2007, containment has been preserved.

Prior to the 50-day war in 2014 – Operation 'Protective Edge' – as well as Operation 'Pillar of Defense' in 2012, the only other real exception, regarding containment, was the 2009 Gaza War (also known as Operation 'Cast Lead'). In all of these wars, totaling less than 80 days of combat in eight years, Israel's military aims have always been focused on applying armed force to reduce rocket fire and weapons smuggling. Those aims were in pursuit of the containment of the Gaza Strip. As Israeli Prime Minister Benjamin Netanyahu noted during 'Protective Edge,' the operation "would not halt until the rocket fire on Israel from Gaza ceased and quiet was restored." [xi] Israeli Ambassador to the United States, Ron Dermer, made a similar comment during an interview: "It ends when we are able to achieve our military objective, which is to restore a sustained period of quiet..." [xii]

However, regarding the 2008-2009 Gaza War, Israel added another political condition to the list. The additional aim was the alteration of the security agreement. That is, "the amendment to be made was to the level of violence that Israel was prepared to accept; it now needed to be decreased to an even lower level." [xiii] Yet, even with a change in the security arrangement, Israel preferred that Hamas remained in control of Gaza. In order to do this, Hamas had to be jolted back in the direction that Israel desired. This was accomplished by the application of limited military force, aimed at combatants' weaponry and infrastructure and also against the combatants themselves. This is precisely what occurred during Operation 'Protective Edge', albeit with an increase in targeted killing operations. Overall, even with the *relatively* minimal rocket fire emanating from Gaza and with the ongoing Israeli military operations against combatants in the Strip, there has been a steady 'maintenance of the threat.'

Of no less importance, Israeli military operations in Gaza are not always aimed at Hamas, even when Hamas is publicly held responsible for certain attacks. Moreover, there have been instances when Hamas has openly taken responsibility for rocket fire despite the fact that another group perpetrated

the attack.[xiv] For the purposes of maintaining the security arrangement, at times the only viable option is for Israel to hold the organization accountable and for Hamas to take responsibility. The main reason, of course, is politics – the distribution of power and the realm of influence. Hamas wants power so as to be the influential, controlling authority in Gaza, and Israel prefers that Hamas has ‘enough power’ so as to be ‘influential enough’. Once Israel and Hamas offer too much legitimacy to other combatants by acknowledging their role in attacks, Gazans may begin to question if Hamas is truly in control. This can be harmful for Israel. In the interests of national security, Israel often targets groups that threaten the security arrangement with Hamas and the Israelis utilize Hamas by transmitting intelligence (usually via Egypt) and allowing the organization to deal with the threats themselves. [xv] Such groups include, among others, the Salafist-jihadi *Jaysh al-Islam* and *Jund Ansar Allah*, both of which have been dealt violent blows by Hamas. [xvi] Even the Palestinian Islamic Jihad (PIJ), Gaza’s second largest and powerful Islamist organization, is, for the most part, kept in check by Hamas.

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### Israel often targets groups that threaten the security arrangement with Hamas

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For the foreseeable future, it is in Israel’s interest to ensure that Hamas has ‘strong-enough’ control over the Gaza Strip. Both Israel and Hamas do not want the territory to fall into unwanted hands, as major Iraqi and Syrian cities have fallen to ISIS.[xvii] The damage that this has already done to Iraq, Syria, Libya, and other territory is extensive, and as U.S. officials warned following the fall of Mosul, ISIS is an “extremely serious threat that could impact the entire region.” [xviii] The former Director of the Mossad, Israel’s national intelligence agency, noted last summer with regards to Israel’s security interests with Hamas, “Hamas is the most bitter and efficient rival of ISIS... Hamas in Gaza is preferable to ISIS in Gaza.” [xix] Until a more viable solution becomes feasible, Israel’s unofficial security relationship with Hamas, an organization that Israel has dealt with for over two decades and knows intimately well, will need to stay in place just as it did during the eight-day war.

#### The War

This eight-day war was a violent flare-up of a protracted conflict reaching back more than 45 years.[xx] However, as this article is not a history of the Israeli-Palestinian Conflict, it must begin with a more ‘immediate’ cause for the outbreak of hostilities. From an Israeli security perspective, it is widely regarded that the most immediate cause stemmed from the firing of over 100 rockets into Israel within a 24-hour period (November 11-12, 2012), two days prior to the outbreak of the war.[xxi] A number of violent irregular Palestinian groups claimed responsibility, such as the PIJ. Unsurprisingly, and in part due to the security arrangement with Hamas, then-Defense Minister Ehud Barak held Hamas responsible: “It is Hamas that will pay the price; a price that will be painful.” [xxii] Hamas was responsible for the firing of rockets; however, they were also responsible for the violent actions of other groups

in Gaza, which it had failed to contain. That is, Hamas failed to behave as a responsible political actor and was thus held accountable more than other groups.

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### Hamas failed to behave as a responsible political actor and was thus held accountable

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At the same time that Israel was holding Hamas responsible, Israeli forces were conducting military operations against other Palestinian combatant leaders, their infrastructure (such as smuggling tunnels, and so-called “terror tunnels”) and weapons depots.[xxiii] Those targeted included the PIJ and the Palestinian Popular Resistance Committee (PRC) – a type of union of armed Palestinian factions, among others. The Israelis announced the possibility of a ground invasion in order to halt the rocket attacks, and some eminent Israeli strategic thinkers made rational cases for an “armored push” into the Strip.[xxiv] At this point, no one knew how feasible an actual ground invasion into Gaza would be; the cost in blood and treasure to Israel may have far outweighed what the policy permitted. Nevertheless, there was a large call up of reserves and troops quickly amassed along the border. However, all that was known was that Israel was preparing to activate some plan of military action to deal with combatants in Gaza.

In an article published in the *Jerusalem Post* on 13 November, an Israeli military affairs correspondent pondered possible military responses to the rocket fire into Israel. One response, he wrote, is that the “air force could strike figures even higher up, such as Hamas’s military commander, Ahmed Jabari.” [xxv] That was a striking presage given that the Israelis killed Jabari the very next day when missiles slammed into his car in Gaza.[xxvi] Jabari was the highest-ranking Hamas leader to be killed since the 2008-2009 Gaza War, and apparently a figure long held to be “at the top of Israel’s most wanted list.” [xxvii] Hamas declared that the targeted killing (TK) was a declaration of war, and the organization vowed to retaliate by striking deep into Israeli territory.[xxviii] Over the following eight days, the Israelis overtly targeted more than 30 senior leaders belonging to at least five different organizations. Not since the 2000-2005 Israeli-Palestinian War had there been such a high focus on Israel targeting individual Palestinian combatants.

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### the Israelis overtly targeted more than 30 senior leaders belonging to at least five different organizations

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In point of fact, Ahmed Jabari makes for a prime example of how certain aspects of this inconvenient relationship works. The decision to eliminate a senior and popular official of the only organization in the Gaza Strip that has the ability to control the territory in the way Israel desires was a bold move. As has been noted, Jabari was “in charge of maintaining Israel’s security in Gaza.” [xxix] Yet, viewing Jabari as “in charge” is perhaps an over-simplistic description. On the one hand, as Hamas’s military chief, Jabari certainly assisted the Israelis by helping to keep Gaza under control. On the

other hand, he was also one of the individuals responsible for the kidnapping of Israeli soldier Gilad Shalit who spent five years in captivity; Jabari urged Hamas to continue kidnapping Israeli soldiers and he was intimately involved in weapons smuggling into the Gaza Strip.[xxx] While assisting in the control of Gaza, Jabari also 'crossed the line' in terms of tolerable violence. There may be an unofficial security arrangement but that does not mean these two actors are allies.

Ultimately, it was Israel who was in charge of Israeli security regarding Gaza, and while Jabari might have played an important role in the security arrangement, he was clearly expendable. For all intents and purposes, the TK was a three-fold message to Hamas:

1. Israel is ultimately in control;
2. This is what happens when the security arrangement is strayed from and too much violence is applied against Israel, or when there is a failure to rein in other groups from doing the same;
3. There will always be another Jabari to handle Israel's security desires.

By day's end, Operation 'Pillar of Defense' was officially announced. Nearly 150 rockets were fired at Israel; Israeli forces continued military operations, attacking dozens of rocket launchers and Fajr-5 depots in an attempt to minimize possible long-range missile attacks on Tel Aviv.[xxxi]

### Policy and Strategy

## Policy is dominant, it represents the "faculty instrument", and all decisions regarding war and warfare flow from it.

What was the policy? That is the question that must be asked before all others. Policy is dominant, it represents the "faculty instrument", and all decisions regarding war and warfare flow from it.[xxxii] According to a former senior Israeli government official from the Office of the Prime Minister, Hamas's sought political condition, via violence, was to strengthen its position and its hold on the Gaza Strip as the dominant political power.[xxxiii] Adding to the official's statement, a senior IDF officer noted,

*"Desiring to strengthen its position in and its hold on the Gaza Strip, Hamas managed to gain political conditions from the Israelis with the use of violence, and by that, I mean two specific points. First, there was the issue of extending the fishing limit off the coast of Gaza. Second, Hamas desired to narrow the width of Israel's security perimeter along the Gaza border in order to allow Palestinian farmers the ability to cultivate more land. These were the two political conditions that Hamas made use of in order 'to strengthen its position and its hold on the Gaza Strip as the dominant political*

*power."*[xxxiv]

As regards Israel's policy during the war, a senior Israeli official stated, "We'll continue the pressure and the attacks on Gaza until Hamas begs for a *cease-fire* [Emphasis added]."[xxxv] The military aims, which are always in pursuit of the political object were to "damage rocket-launching networks, deliver a 'painful blow' to Hamas and other terrorist organizations, and protect the home front", as well as to "cripple" as much combatant infrastructure in Gaza as was possible.[xxxvi] A cessation or severe reduction in hostilities, mainly rocket fire, was the political aim of the war; the operative word being *ceasefire* and not anything further that would damage Hamas's standing too much in Gaza; a similar message was given to Hamas during the 2014 Israel-Gaza War (Operation "Protective Edge"), showing that the security arrangement had only slightly altered since 2012.[xxxvii]

## One seeks to deter for some larger political aim. In other words, one may "achieve deterrence", but for what exactly? The answer is policy.

While a ceasefire was the aim, so was keeping Hamas in power because for Israel the alternative was worse.[xxxviii] It has been purported that the purpose of the war was the restoration of Israeli deterrence. That is, "the main motive that led the Israeli government to initiate the operation" was "the erosion of Israeli deterrence" following the 2009 Gaza War.[xxxix] However, this is only partly correct. To deter the opponent is only one element, albeit a critical one, of Israeli policy and strategy. If Israel is successful at deterring an opponent, it is the outcome of that activity that can be understood as a political condition. One seeks to deter for some larger political aim. In other words, one may "achieve deterrence", but for what exactly? The answer is policy. As then-Israeli Defense Minister Ehud Barak noted on the second day of the war, "...in the long run I believe that this operation will contribute to strengthening deterrence and reinstating the calm in the South."[xl] Further, as national security expert, Avner Golov wrote after the war, "Deterrence was a central aim of Operation 'Pillar of Defense', and its purpose - pacification of the south."[xli] It has also been referred to as the restoration of peace to the southern communities.[xlii] The words are different but the meaning is the same, and the sought political condition was clear and understood by policymakers and the armed forces: a return to the *status quo ante bellum*.

What was the strategy employed in order to return to the *status quo*? One IDF officer noted, "Essentially 'Pillar of Defense' entailed a selective limited air campaign. In the end, a very small segment of the fighting forces were attacked. At best, it was 'partial annihilation.' Exhaustion seems closer to what actually occurred during the war."[xliii] According to one senior level government official, Israel's strategy was to counter Hamas "with just enough force, so as to keep the violence to an acceptable level, while at the same time trying to ensure that Hamas does not become too big a threat."[xliv] This latter notion was followed up by a senior IDF officer who noted that the aim was to show them "you see, we can and we will act, and here is the price you will pay. As

a reminder, you may pay an even higher price if we enter Gaza.” [xliv] Israeli forces did in fact operate in accordance with a strategy of exhaustion. Apart from statements by government officials, the aim to exhaust can be deduced by observing Israeli military behavior. From the outset of the war, the Israelis progressed with an unabating military offensive destroying weaponry and ‘command centers’, with occasional strikes against combatants; the result was a day-by-day erosion of their will to continue in combat. Reportedly, on the second day of fighting, Hamas began calling for a ceasefire. Also on the second day, Israel made it clear that “continuing the offensive” and not pursuing a truce was the aim. [xlv] For example, by day three and four, nearly 500 combatant sites were hit, including medium and long-range rocket launching sites and storages in the Gaza Strip. [xlvii] Moreover, jointness between the air force, the army and the Israel Security Agency (ISA) led to four TK operations against high-ranking Hamas members. [xlviii] Israel’s non-stop offensive action intensified over the days.

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### **Israeli forces did in fact operate in accordance with a strategy of exhaustion.**

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At the same time, a balance in the application and in the use made of organized violence against Palestinian combatants had to be maintained; this was not a war solely against Hamas, despite rhetoric to the contrary. For example, the British Foreign Secretary openly, though incorrectly, held Hamas responsible for the violence with little to no mention of other groups. [xlix] Hamas might have been the main threat but it was not the only organization with the capabilities to strike cities in both the south and center of the country. The PIJ also possessed Iranian-supplied Fajr-5 missiles and it was the PIJ, not Hamas, who fired the first rockets at central Tel Aviv and its surrounding areas. [l] Unsurprisingly, Israeli forces were carrying out TKs against senior members of the PIJ as well.

Ultimately, and mainly via a “selective limited air campaign”, in eight days Israeli forces targeted “30 senior Hamas and Palestinian Islamic Jihad” combatants; 19 high-level command centers; nearly 1000 underground rocket launchers; over 200 smuggling and “terror” tunnels; “42 operation rooms and bases owned by Hamas; 26 weapons manufacturing and storage facilities” and “dozens of long-range rocket launchers and launch sites.” [li] Moreover, Israel eliminated over 100 combatants, including over 70 from Hamas, nearly 20 members of the PIJ, as well as members of the PRC, Fatah, the Army of Islam, the PFLP, and a “Salafist-jihadi network.” [lii] Their rocket launching sites and weapons depots were also struck. By the time the ceasefire came into effect Palestinian combatants’ weaponry and infrastructure were severely impaired; so much so that Hamas understood it was time to sue for a suspension of hostilities.

#### **A win-win?**

How can it be demonstrated that Israel ‘won the war’? One senior government official holds, “‘Pillar of Defense’ was the ‘smallest big operation’ specifically because in order to alter the equilibrium, we needed to have a big-enough operation

so Hamas would use most of its power. In return, we used more force to show them that we are stronger, but also to demonstrate that we are both willing and able to use stronger amounts of force if necessary. In the end, we didn’t even have to invade on the ground.” It is also likely that the very threat of a ground invasion was influential. As Eado Hecht and Eitan Shamir noted, “It is correct that Operation ‘Pillar of Defense’ in the Gaza Strip achieved policy aims without an IDF ground invasion, but the mere threat of a ground invasion and the public preparation of such an invasion by ground forces exerted great pressure on the enemy to end the conflict.” [liii] Moreover, and prior to the war in 2014, the government official continued by stating, “the fact that we were willing to use greater force truly convinced them. The proof lies in the amount of rocket fire since this operation. In terms of cost/benefit, specifically the relatively low cost to Israel, made this a near-perfect operation.” [liv] Hamas and other violent irregulars did suffer severe blows to both personnel and infrastructure. However, as was desired by both sides, Hamas remained the dominant power in Gaza. Ultimately, a severe reduction of rocket fire emanating from the Gaza Strip was obtained and combatants’ behavior was altered. These were the conditions that comprised Israel’s policy, and both were established via the application and use made of combat. That is how one can know who ‘won the war’ – the side that establishes its political purpose via military behavior. This is not to say that Hamas walked away with no gains of its own. The organization did obtain some conditions, but importantly they were conditions that did not trouble the Israelis.

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### **In terms of cost/benefit, specifically the relatively low cost to Israel, made this a near-perfect operation.**

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*“The result was a win-win, but a win-win was a victory for Israel. If you come out of the operation in a situation where Hamas is in control of Gaza but its security behavior is constrained, it’s a full Israeli victory because these are the two conditions desired by Israel. Yet, it can also be understood as a win-win because Hamas gained as well; they were strengthened, but this was something that Israel was content with. However, one additional political outcome for Hamas following the war was that Hamas ‘gained ground’ in Judea and Samaria. Today, there currently exists a stronger Hamas presence in the West Bank. The outcome of this result is something Israel is less content with.” [lv]*

#### **Lessons?**

The main lesson that can be learned from this short war is about the benefit of basing one’s military strategy on a segment of one’s policy, rather than on a comprehensive policy approach. That is to say, looking at all aspects of policy and ultimately doing nothing of substance because a comprehensive approach is too complicated and ought to be avoided. Operation ‘Pillar of Defense’ was based on a segmented policy, a larger ‘Gaza Policy’ to be exact, and that is perfectly acceptable. Had the Israelis attempted to deal with rocket fire from the Gaza Strip based on all aspects of its Gaza Policy, it is unlikely that they would have succeeded

militarily. Simply put, there are too many constraints, making it far too complicated. The history of warfare provides ample evidence that one should only threaten or apply violent means to what is considered to be an overriding concern. Every war sensibly fought throughout history has applied violent means only to those policies that can be advanced by violent means. The use of organized violence has and will continue to trump everything else.

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**Operation 'Pillar of Defense' was based on a segmented policy, a larger 'Gaza Policy' to be exact, and that is perfectly acceptable.**

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As stated, the lesson is only to threaten or apply violence to what is considered to be a significant concern. For one negative example, one can look to the U.S. and Syria in the summer of 2013. The U.S. was practicing 'good enough' strategy, as four U.S. Navy destroyers positioned themselves off the Syrian coastline – thus the threat of violence in pursuit of a stated political object. As President Obama stated, "The use of chemical weapons is a red line." [lvi] In other words, one aspect of the U.S. administration's stated policy vis-à-vis Syria's civil war was 'no chemical weapons'. Following the use of chemical weapons, Obama stated, "It is not in the national security interests of the United States to ignore clear violations." [lvii] In the end, and after chemical weapons were utilized, the U.S. took no action. For the U.S., the issue in Syria appears to have not been worth the [potential] cost of using military means when weighing it against the [potential] benefits. For the Americans, there were too many other policy considerations but arguably, that is due to a comprehensive policy approach. In the end, it was a mistake to threaten military behavior in pursuit of a political condition that apparently was never going to be enforced. The threat or application of violence can only be applied to that part of policy that will advance it.

An understanding of the consequences of threatening or applying violence for policy ends is also critical. For example, the decision to use violence may cause diplomatic problems

to arise. However, those problems may be worth the cost. If a war against combatants in Gaza is necessary, Israel has clearly shown that it will go to war, placing other 'political' issues aside, including relations with other countries. Israel has shown that it is willing to pay the price because the benefits have, so far, outweighed the cost. That is how important a 'contained Gaza' is to Israel's national security.

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**the decision to use violence may cause diplomatic problems to arise. However, those problems may be worth the cost**

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### Conclusion

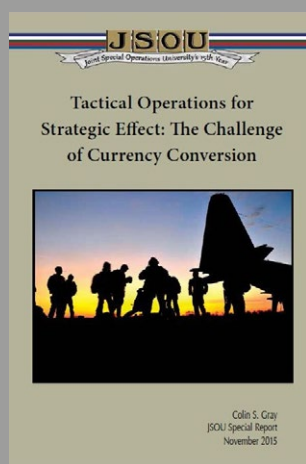
Who obtained the political object? As the Prussian military theorist August Otto Rühle von Lilienstern gleaned over 200 years ago: "War is... the means of states to assert their rights or wrongs, in other words, their political purposes against each other; and *the realization of these political purposes is the true final purpose of war*, not victory, peace, or conquest, unless these happen to fit the political intentions." [Emphasis added] [lviii] The use made of combat enabled the Israelis to reach their political objective: a quiet southern border, which implies an acceptable or tolerable level of violence (rocket fire) and not necessarily a full ceasefire, which rarely occurs.

Further, the war should not be interpreted simply as ' Hamas versus Israel'. For Hamas, the war was partly about Israel and partly about dealing with the very real threats to its own power in Gaza from other combatant organizations. [lix] The war enabled them to achieve this aim, albeit to a limited extent. From the outset of the fighting, the Israelis aimed to use tactical means to gain a limited policy condition that, while not perfect, achieved both a condition and behavior they demanded, without producing conditions that would detract from their wider policy. Strategy does not have to be executed perfectly. It merely has to be 'good enough' strategy so as to outdo your opponent.

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# Land Power: More than Simply the Element of Decision

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*The opinions expressed here are the author's alone, and do not reflect those of the U.S. Army, the Department of Defense, or the U.S. Government.*

*Every war, and every belligerent in every war, manifests a distinctive pattern of strategic behaviour among an expanding list of geographical environments. It is true that modern strategy and war registers trends towards ever greater complexity, ever greater 'jointness' to offset and exploit that complexity, and in the maturing potency of new modes of combat...It is no less true, however, that land, even ground, warfare has yet to be demoted to an adjunct, auxiliary, or administrative, role vis-à-vis superficially more modern modes and foci of fighting.[i]*

In a discussion over the modes of power that are employed to achieve political purpose, the above quote would likely halt all communication before it even started. Some would even immediately engage their cognitive biases and fill their slings with the tried-and-true military service-focused and parochial rhetorical ammunition. Contemporary narratives from the various services can certainly be seen to support such an assertion.

However, while the above quote captures repeated insistence on the importance of land power, Professor Gray also indicates that while land power is vital, it is not sufficient, for "In practice, thus far, no single geographical domain suffices as provider of all strategic effect that belligerent states need." [ii]

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## when a political decision requires a definitive, more enduring answer, land power will likely be the main element of national power employed

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So, when a political decision requires a definitive, more enduring answer, land power will likely be the main element of national power employed—there's a reason Clausewitz, the key theorist of war and land power, focused on destroying an adversary's armed forces, occupying his country, and breaking that nation's will as his three main objectives in war.[iii] Such use of large amounts of men and women in campaigns of physical control are not the only use for land power, however. While it is the only element of national power that can compel through physical dominance (or as those that might quote Wylie, through a sequential strategy), land power can also accomplish tasks through three other approaches to the use of force—assurance, deterrence and coercion—to create strategic effect. [iv]

### Beyond Physical Control

To Gray, "strategic effect is the [cumulative and sequential] impact of strategic performance on the course of events." [v] It is the expression of how well a force translates tactical action into political gain; or said another way, how well the effects of military action maintain alliances and/or force an adversary (or adversaries) to change their behavior to match our desires. Given the fact that land power will likely be the element of national power least used to create strategic effect in today's environment given its high political cost at home and abroad, how does an army, as the principle manifestation of land power, provide options to assure, deter, and coerce?[vi]

Deterrence and assurance require both credibility and capability. Credibility is created through the perception that force will be used to achieve stated interests. However, without an acknowledged force required to achieve said interests, i.e. the capability, then the threat of its use to deter undesired behavior or assure anxious allies is empty. In the end, an adversary cannot be deterred or an ally assured

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unless they believe the offending party can be compelled to appropriately change their behavior. While other elements of national power are important to either deterrence or assurance, both require credible and capable land power, the only element of national power that can compel behavior through physical control. The size, capability, proficiency, and posturing of land forces is what provides a credible deterrent and assures allies. As has been shown in recent events in Eastern Europe and in Iraq/Syria, the lack of a credible and capable force for deterrence can lead to political adventurism by adversarial entities and a failure to assure allies in a region.

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## Coercion is used to impel adversary behavior by shaping choices, either by punishment or denial

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Coercion is used to impel adversary behavior by shaping choices, either by punishment or denial; both utilize physical and psychological factors. Coercion by punishment is accomplished by damaging or destroying adversary capabilities required to achieve their interests, such as destroying naval assets that are being used in a blockade. A recent example of this approach is the air campaign against the so-called Islamic State in Syria by U.S. air power. Aside from "strategic raiding" by special operations forces, land power is rarely used in contemporary warfare to coerce through punishment. Coercion by denial, on the other hand, is using force to prevent the adversary from accessing the resources or territory required to accomplish their goals. Land power largely utilizes coercion by denial, such as placing American troops in a threatened country to significantly raise the costs of any action by an adversary. This also provides a degree of assurance for that partner nation. A recent example is the deployment of U.S. troops to Poland, Lithuania, Latvia and Estonia.

The use of these three approaches to force—deterrence, assurance, and coercion—can be seen as largely an attempt to control the choices of an adversary through the threat of force or limited use of violence. In Wylie-speak, since he appears in vogue these days, the threat of force or limited use of violence by land forces in this manner reduces the adversary's choices through a sequential strategy, ideally creating "implications of certainty of the end" through "its persistent exercise...typically steadily reduce the number of viable options open to the enemy." [vii]

### The Praxis of Deterrence, Assurance, and Coercion by Land Forces

One common thread seen above in the discussion in the use of land forces to deter, assure, and coerce is the physical placement of forces. While not required in all instances, the *presence* of land forces increases the effectiveness of their use for these three purposes (and is required to control territory and people, thereby compelling adversaries to our political desires). As discussed above, to deter an adversary, credibility and capability is required. While neither aspect indicates a need for physical presence in an area where deterrence is desired, at the very least credibility is increased

– to assure allies, as well as deter adversaries – when land forces are in physical proximity to the adversary to be deterred. Political will has been placed on display, increasing credibility by showing the willingness to act on behalf of allies and our national interests. The same aspect of presence can be seen in coercion through the use of land forces. To deny an adversary the physical space and resources required to achieve their aims through the use of land forces (or to conduct an action aimed at punishing an adversary), they must be present. These dynamics, and the mechanics of land forces to deter, assure, and coerce contemporary adversaries of the United States, can be seen in a few quick examples.

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## to deter an adversary, credibility and capability is required

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### The Baltic States and Eastern Europe

With the annexation of Crimea by Russia and its continuing fomentation of violence in Eastern Ukraine (as well as the Republic of Georgia from 2008 to the present), the United States and European allies struggled to determine a way to reduce military adventurism in the region. Outright conflict using military force to compel Russia to halt the interference in the internal politics of its neighboring nations was an unsatisfactory solution. Coercion through punishment, destroying Russian military capability to attack their neighbors would likely result in escalation to war. This largely left the tools of deterrence, assurance, and coercion by denial to the U.S. and its allies – and one of the main levers to accomplish this was the employment of land forces. Those U.S. forces in Europe were sent to NATO allies along the Baltic Sea, as well as those bordering the affected areas in the Ukraine.

While miniscule in size compared to the Russian forces just over the border, the employment of land forces – as well as the creation of joint and combined exercises with NATO allies – provided the *presence* and *credibility* required to assure allies and a first step in denying free access to Russian forces in those states. The U.S. has continued this approach, slowly sending more forces to Europe, increasing the integration with NATO allies through increased exercises and the creation of a larger reaction force through the Readiness Action Plan, [viii] and sending trainers to Ukraine to increase their capability to combat Russian-backed forces in the east of their country. Altogether, this can be seen as a long-term, deliberate, sequential approach to reducing the number of viable options open to Russia.

### Iraq and Syria

Far less clear is the U.S. approach to addressing the instability in Iraq and Syria. With a political environment preventing the use of wide-scale land forces to compel adversaries, the tools of assurance, deterrence, and coercion can again be employed, as seen in the Baltics above. However, there are significantly more factors at play. One such factor is the plethora of actors in the conflict, including: the Syrian government apparatus under Assad; his allies Hezbollah, Iran, and now Russia; U.S.-backed anti-Assad forces; "extremist"

anti-Assad forces shunned by the U.S.; the so-called Islamic State (IS); Kurdish forces (in both Turkey and Iraq); and Iraqi governmental forces. The sheer complexity of attempting to deter, assure, and coerce so many actors makes the approach significantly more difficult.

the large number of actors and minimal U.S. political will in Iraq and Syria has reduced the tools available to assure allies and coerce, let alone deter, adversaries.

### Conclusion

In discussions of military power today there is much elaboration upon of the loss of “overmatch capability”. This term is largely meant in terms of the decreasing technological gap between the U.S. and its likely adversaries, from non-state actors with anti-access/area-denial capabilities to near-peer states with air and sea platforms that look suspiciously like our own technology still in production. Another aspect of overmatch is how presciently forces are postured and organized to prevent conflict – or its employment to address current conflict – through the assurance of allies or the deterrence or coercion of adversaries, or to be used to compel an enemy, if necessary. A decrease in overmatch from this aspect of *presence* creates risk that our military will not be able to achieve the missions the U.S. requires of it. This can be seen in the two examples of recent U.S. actions in Europe and the Middle East; the use and presence of land forces can be used for far more than simply forcing a decision on an adversary or compelling them through “decisive” military combat. Land forces can be critical for deterrence, assurance, and coercion.

## The U.S. appears to have focused on three aspects of the use of force, all largely devoid of land force presence.

The U.S. appears to have focused on three aspects of the use of force, all largely devoid of land force presence. First, assurance of its ally in Iraq and supporting their forces to take back parts of their country occupied by IS forces through coercion by denial from the air. What few land forces the U.S. have provided are being used to help manage the intelligence, command and control, and training aspects of the campaign. Second, the U.S. has attempted to assure other allies in the region – namely Jordan, Turkey, Kurdish forces, and U.S.-supported “moderate” forces in Syria – through various training and weapons procurement programs. The effectiveness of these approaches are in doubt and are currently being reassessed by the U.S. Department of Defense. [ix] Finally, the U.S. is attempting to coerce both the Assad government and IS through an air campaign designed to punish both to capitulation. While this punishment has allowed for Iraqi forces to regain some territory from IS within their borders, it has not reduced the capacity or the capability of either IS or the Assad government from continuing to achieve their objectives.


While we must mitigate risk across all domains, risk to the land domain is the most strategically costly. For, “Military success in land warfare can have a decisiveness unmatched by success in the other geographies. If a state loses on land, it loses the war.” [x] We would be wise to keep that in mind as we support our allies in Europe and the Middle East, as well as we posture our own land forces for the future.

Each of these aspects appears to form a sequential strategy focused on minimal support to allies in the region. The minimal use of both air and land power to assure and coerce various allies and adversaries in the region, however, is unlikely to create the desired political results. Unlike in Eastern Europe,

*The opinions expressed here are the author's alone, and do not reflect those of the U.S. Army, the Department of Defense, or the U.S. Government.*

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- [v] Gray, *Modern Strategy*, 19. The “cumulative and sequential” was added to the definition in Gray, *Strategy Bridge*, 18.
- [vi] Elements of this strategic environment are not unique, of course, nor are its impact on the use of land power. For example, Clausewitz acknowledged the facts of limited war in his 10 July 1827 note and Corbett recognized land power was often ill-suited for limited warfare because of its inherent threat to the territorial imperative in his *Some Principles of Maritime Strategy*.
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# Strategic Theory and the Logic of Computational Modeling

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Computational theories, models, and simulations are revolutionizing countless areas of research.[i] Could they do the same for strategy? Yes, but only if strategic theory's core concepts and questions can be captured within the logic of computational modeling. This article justifies this argument by exploring why previous attempts at modeling strategy have failed and why different assumptions about modeling could yield more positive results. The article investigates this debate by first examining challenges in strategic theory and why mathematics and models have not been attractive to strategic researchers. Next, it is explained how computational modeling may be of assistance to inquiries in strategic theory. Finally, the theoretical insights of the prior section are practically outlined by a comparative analysis of how research concerns in strategy can be best matched with different styles of computer program design.

## Models and Mischief

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**strategists are far more interested in the *process* of goal-oriented, adversarial strategic interaction than other areas of inquiry**

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Strategic theory is a complex, evolving discipline that has both a storied past and an uncertain future.[ii] Generally,

strategists are far more interested in the *process* of goal-oriented, adversarial strategic interaction than other areas of inquiry.[iii] Many disciplines concerned with the use of organized violence treat the formulation and dynamics of strategy as a black box. A core tenet of faith among many researchers in strategy is that the process by which political communities organize and employ organized violence is necessary precise because other disciplines treat the rationalization of force as an instrument of policy as a trivial matter. It is not enough simply to write about the context in which force is used or the means available for its use. Rather, we must also consider the object to which force is directed and how it is directed towards such an object.[iv]

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## What are current research problems in strategic theory?

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What are current research problems in strategic theory? Because strategy as a discipline deals with processes that are often ambiguous, poorly understood, and otherwise ill-structured, it risks the production of just-so stories and other problems of internal consistency and explanatory rigor.[v] Another issue lies in basic assumptions of instrumental rationality and coherence that are often unconsciously used by strategic thinkers and how they differ from what we know about human behavior in the real world.[vi] Strategy has always been criticized for rationalizing what may be unrationalizable.[vii] It does not hurt that it is possible to retroactively impute strategies or otherwise rationalize them or make inferences about them without any heed to whether or not doing can be meaningfully justified.[viii] Finally, while all research programs rest on untestable assumptions, those assumptions' real test is whether they bear fruit in terms of novel discoveries and continued disciplinary progress.[ix] This generation of new hypotheses and ideas is conceptually separate from the reactive act of adjusting existing theories and ideas to protect them from criticism.

There have been several kinds of research methodologies utilized to pursue such analytical aims. One method has been the writing of books and articles that describe the underlying logic and content of ideas about how the process of strategy works. For example, in *Arms and Influence*, Thomas Schelling argued for a conception of strategy oriented around the

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“diplomacy of violence,” the process of how violence and perceptions about its use could be used to compel and deter.[x] Another method has been the usage of qualitative case studies to draw out the logic of a theoretical idea by analyzing its emergence in a situation of interest. Carl von Clausewitz himself did so, famously, in his historical analyses of campaigns and other raw material for his theories.[xi]

Verbal theory is certainly useful, but the ambiguity of natural language often can mask hidden assumptions or important issues in its internal consistency. Writers in the political realism tradition have often sought to strip away such ambiguities and lay the logic of how power is contested bare.[xii] Second, case studies can, if not utilized carefully, may be manipulated to tell desired narratives.[xiii] Given the powerful ambiguities inherent in characterizing the context, preferences, knowledge, goals, methods, and success or failure of particular strategic actors, strategic researchers need to recognize the problems of fitting history into the frame of theory or other abstractions.[xiv]

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## **Their efforts have yielded some useful insights, but today very little work in strategic theory is done with these tools and methods.**

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However, strategic researchers have been wary of changing course simply due to the disappointing record of competing records and approaches. Ever since Bernard Brodie called for strategy to be regarded as a science akin to economics and other social scientific theories of choice, researchers in various disciplines have sought to apply statistical, mathematical, and computational tools to the study of strategic behavior.[xv] Their efforts have yielded some useful insights, but today very little work in strategic theory is done with these tools and methods. Why? There are multiple valid explanations, but a method is only useful if it helps the researcher investigate problems of interest to them and is effective compared to the alternatives. In general, the usage of quantitative, mathematical, and computational tools in strategic practice has often been marked by an inability to properly select tools for investigating strategic theory’s own unique disciplinary questions, problems, and topics.[xvi]

Many mainstream methods in the social sciences are “behaviorist” in nature.[xvii] Theory assumes a set of fixed entities with variable attributes.[xviii] Theoretical claims are translated into hypotheses and in turn are tested by operationalizing the hypotheses into a statistical model that aims to account for observational data. There are multiple reasons why this has proved problematic for strategy. First, it is questionable whether doing so truly allows tests of the theory. The phenomena being studied is not linear, additive, or straightforward. Nor are the processes involved in many complex situations necessarily consistent with the assumptions of enumerative probability behind much of basic social science statistics.[xix] Even when this is assumed away, a core problem lies in the assumption that strategies are equivalent to simple, mutually exclusive choices (e.g.,

use airpower or use landpower). Finally, the data to test such assumptions is often elusive.[xx] And even when it exists, the researcher may nonetheless fail to find the right measure for how to deal with the complexities of strategic interaction.[xxi]

While the prior set of methods are mainly inductive in form, another tradition is deductive and highly formal in nature.[xxii] It is often rooted around the construction of mathematical models of both individual and group choice, allowing the researcher to formally demonstrate that certain tendencies inevitably result from the structure of the situation.[xxiii] If we assume X, Y, and Z, what logically follows? While this method is has undoubtedly more roots in strategy’s past than many alternatives, it also has some flaws.[xxiv] Certainly criticisms may be made about the assumptions such ideas make about the actors and situations being surveyed.[xxv] However, the most basic problem is simply that it represents strategy as a discrete choice. Most work in strategic theory today makes no assumption, rather arguing that strategy is either a bridge between goals and behavior or a way of changing the context of the interaction to put oneself in a commanding position in regard to some goal.[xxvi]

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## **If we assume X, Y, and Z, what logically follows?**

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### **Computational Models and Mechanisms**

Can computer simulation help? It can, but only when used in view of a particular philosophy of programming and modeling. Computer models may be seen as a unique “third” method of inquiry in between deduction and inductive methods of research and theory development.[xxvii] Computational modeling is far more similar in philosophy and outlook to existing research methods than many may believe, and where it is different it offers a useful complement. Computational modeling’s emphasis on investigating complex and often ill-understood and intangible structures and processes and interest in the use of qualitative structure and mechanisms for explanation is both similar to existing approaches in strategic analysis and also when different provides a methodological complement to traditional methods of strategic theory research and theory development. Computational methods offer numerous useful similarities to existing methods in strategic research. They are oriented around processes, mechanisms, and structures, eschewing pure parsimony and black boxes in favor of a way to explain how some underlying mechanism or interaction produces the behavior or outcomes of interest.

Like strategic researchers, computational modelers are more interested in explanation, proof of concept, assumptions, and illumination of hierarchy and process than simply providing the most parsimonious fit possible for the “data.” Computational modeling may be a useful tool to use when trying to get a hold of the process of adversarial behavior and choice matters more than anything else. Computational models may be most useful in simulating the context and decision processes of strategic actors as well as internal

cognitive and behavioral elements that figure into these processes. To understand how and why, a brief review of the history and philosophy of research with computer models and computational theories is provided.

In many disciplines, computer simulation has been utilized for purposes of research. Computer simulation may be regarded as a “third” approach to theory that is not necessarily inductive or deductive, but combines features of the two.[xxviii] The mode of analysis is discovering how the relation between the environment, task, and the agent produces behavior.[xxix] Theory development involves the construction of computer programs whose algorithms and data structures encode and formalize theories or aspects of theories.[xxx] Empirical experiments are performed utilizing these programs in the hope that they may shed light on systems whose structure and operation are complex and often unobservable or difficult to quantify.[xxxi]

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**Computer simulation may be regarded as a “third” approach to theory that is not necessarily inductive or deductive, but combines features of the two.**

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What many fields that utilize such methods share lies in an emphasis on process, hierarchy, choice, and mechanism.[xxxii] Many sciences have elaborate hierarchies and taxonomies of the phenomena they study. But how the components of a system interact and produce dynamic behavior is a much trickier matter.[xxxiii] While other sciences focus on quantitative data, a computational theory often may be judged by its ability to present the full range of important behaviors of interest, the breadth of situations to which it is applicable, and the parsimony of the mechanisms it uses to explain behavior.[xxxiv] Hence, this approach strikes a balance between the formality and precision of statistical and mathematical models and the sometimes vague and static nature of purely verbal theories.

Still, a skeptical audience may find the idea of building computer programs and then experimentally evaluating them suspicious. How do we know that they have any relationship to reality? Some of these criticisms stem from their lack of predictive power. However, it may be countered that utilizing prediction as the sole criteria of modeling value is problematic in the extreme. Prediction is often most achievable when phenomena of interest is stationary and regular, it is much more problematic when the object of study does not conform to such postulates. Additionally, there are many other reasons to model other than to predict.[xxxv] Models can explain phenomena of interest, guide data collection, suggest useful analogies, cast light on core uncertainties, expose hidden assumptions, bound outcomes to plausible ranges, illuminate core aspects of interest, challenge conventional wisdom, and generally reveal what is simple to be complex.

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**The idea of a mechanism is of some shape or form has become increasing popular in the social and behavioral sciences.**

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This laundry list can be simplified by saying that computational models help us examine mechanisms behind theory. The idea of a mechanism is of some shape or form has become increasing popular in the social and behavioral sciences.[xxxvi] Mechanisms entail some entities and activities that produce regularities of interest to the researcher.[xxxvii] One half of the explanation is how the system’s internal parts interact to product external behavior; the other lies in the way in which mechanism connects observed events of interest[xxxviii].This suggests two primary uses of mechanisms in computational models that are broadly similar to research traditions in strategy: formalizing theory and hypothesis discovery.

By constructing a computational artifact that renders a theory precise in its qualitative assumptions and performing experiments with it, researchers attain the opportunity to discover flaws and hidden assumptions that might not otherwise be clear from the verbal theory alone. This may be an interesting theoretical result in and of itself or a spur to further research. Likewise, building a computational artifact and then performing experiments with it may suggest interesting new hypotheses for future research. Even familiar situations may look very different when their core assumptions are altered and the results simulated.[xxxix] Work in simulation of military strategy, deterrence, and decision behavior has focused on both research aims.[xl]

**Computer Programming for Strategic Theory: A User’s Manual**

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**All tools have limitations, and computer programming is no different.**

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The next natural question a skeptic might ask is “sounds great in theory, but how do I actually program something of intellectual value?” All tools have limitations, and computer programming is no different. That said, computers, while limited and often crude tools, at least offer an array of diverse solutions for the discerning researcher. This is illustrated through a brief review of practical advantages, tradeoffs, and limitations of several well-known programming languages, their program design philosophies, and their respective potentials for strategic research. The previous section identified two basic advantages of computational models in regards to strategy. Computational models may be most useful in simulating the context and decision processes of strategic actors as well as internal cognitive and behavioral elements that figure into these processes. As a basic proof of

concept, it will be explained how both can be modeled using object-oriented and symbolic programming respectively.

First, if there is one thing that computer programs are useful for, it is representing the structure and process surrounding complex strategic decisions and interactions. In social science simulations, structure and process is often represented and computed through the use of what are called "object-oriented" programming languages. Examples of object oriented programming languages include Python, Java, and C++.[xli] Object oriented programs may be seen as modular blocks that divide the world into classes of different types of objects and subclasses that inherit characteristics from more general classes. Object oriented program design figures heavily into agent-based simulations of complex social phenomena.[xlii] One can represent interacting components of a system, such as the interacting elements of a society engulfed by civil war, quickly and painlessly.[xliii]

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### **The greatest strength of object oriented program design for strategic theory is that many interacting and heterogeneous elements can be simulated simultaneously.**

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The greatest strength of object oriented program design for strategic theory is that many interacting and heterogeneous elements can be simulated simultaneously. Researchers in security and strategy understand that the structures and processes they are simulating have variegated components and dynamics and often highly nonlinear interactions.[xliv] Moreover, multi-scale regularities often interact with each other.[xlv] Because instances of objects in object oriented programs have both data fields to store attributes and procedures to perform actions, they allow a kind of representational flexibility that traditional programming languages that separate data and algorithms do not.[xlvi]

Assume, for example, that we would like to create a model of Stephen Peter Rosen's theory of military innovation.[xlvii] Rosen posits military innovation as a struggle between components of a military organization to determine its destiny. However, military organizations are also responsive to external strategic shifts. Various components of the military organization might be represented as objects and given attributes (such as rank and promotional details) as well as the ability to struggle to enact their proposed course of action. They might socially interact with each other according to the principles of Rosen's theory. The external environment might be represented as a simulated world consisting of *other* such military organizations similarly reacting to technological and strategic changes, and so on. This may confirm existing intuitions or suggest neglected assumptions in Rosen's theory that may merit further investigation, as is the pattern in many models of this type.[xlviii]

Other kinds of research that focus more on beliefs, concepts, images, and other intangibles or the representation of

complicated plans and goals necessitate what are called "symbolic" programming languages (such as Lisp, Scheme, and Prolog) that can encode less clear cut kinds of concepts and relationships and offer enormous flexibility for domain-specific use.[xlix] The Lisp programming language, for example, is popular in cognitive science and artificial intelligence because of its "stratified design" approach.[l] Each level of a Lisp program may be regarded as a distinct layer built on a sublevel, and so on. Each level, may, in other words, refer to a different type of concept or abstraction. It is no wonder that this makes Lisp ideal for investigating complex decision processes and the thinking and reasoning behind them. Lisp also offers the flexibility of a "dynamic" language that can be utilized for rapid experimentation, prototyping, and even extension for domain-specific problems.[li]

Lisp and similar languages are useful primarily because they can represent with great detail intangible and often highly tacit strategic research subjects such as plans, problem-solving concepts, and memories in individuals and organizations. For example, analogical reasoning and use of prior historical frameworks is often seen in research on strategy and decision-making.[lii] Defense planning under conditions of uncertainty, processes of reasoning and assessment, and decision-making are also core elements of strategy where cognition and behavior intersect.[liii] This is doubly true when explicit reference must be made to cognitive-affective attributes of adversarial behavior.[liv] Finally, representing highly knowledge-rich strategies and tactics themselves and their various attributes requires flexible tools and representational faculties. Representing the proposed theory of victory for special operations warfare, for example, would necessitate modeling the intersection of both sequential and cumulative strategic approaches to the planning of campaigns.[lv]

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### **representing highly knowledge-rich strategies and tactics themselves and their various attributes requires flexible tools and representational faculties**

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Lisp and similar languages can account for such issues through their representational flexibility. Assume, for example, that we would like to build a model of how a campaign is planned to investigate controversy over a particular theory or approach of campaign planning.[lvi] One could utilize Lisp's capacity for representing symbolic knowledge to build a hierarchy of concepts and sub-concepts representing the knowledge and goals of military decision makers as well as rules for transforming the knowledge into behavior. It may be discovered during the production of such a model that it produces errors, flaws, or seemingly irrational outputs that later can be traced back to inherently flawed assumptions about the reasoning process that guided the plan.[lvii] Perhaps this may suggest some interesting new modes of research about campaign design that may not have otherwise occurred to researchers.

## Conclusion

Computational modeling offers a promising new direction for strategic theory. It is true that modeling in general has often failed to add intellectual value to discussion of strategic theory and strategic problems. However, computational modelers and strategic theory researchers share some

important philosophical and methodological similarities in how they approach their respective areas of study. Of course, computer modeling cannot and should not replace more traditional ways of analyzing strategy. Still, strategic researchers – despite their understandable suspicion of models and simulations – nonetheless should carefully consider how the logic of computational modeling could help improve strategic theory.

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