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CUTTING THE GORDIAN KNOT**

**By**

**Michael D. Reilly**

*LtCol, USMC*

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**HYBRID THREAT CENTER OF GRAVITY ANALYSIS:  
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**Michael D. Reilly**

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**A paper submitted to the Faculty of the Joint Advanced Warfighting School in partial satisfaction of the requirements of a Master of Science Degree in Joint Campaign Planning and Strategy. The contents of this paper reflect my own personal views and are not necessarily endorsed by the Joint Forces Staff College or the Department of Defense.**

**This paper is entirely my own work except as documented in footnotes.**


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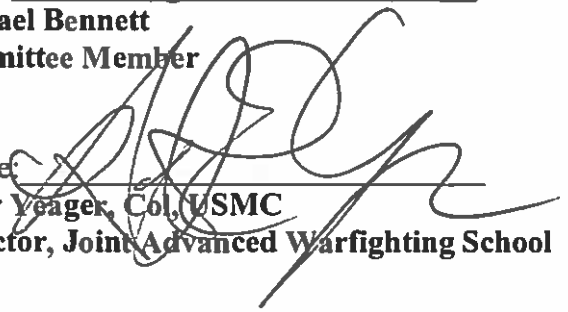
**4 April 2016**

Thesis Advisor:

Signature:   
**Dr. Gregory D. Miller**  
Associate Professor

Approved By:

Signature:   
**Michael Bennett**  
Committee Member

Signature:   
**Peter Yeager, Col, USMC**  
Director, Joint Advanced Warfighting School

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## Abstract

The United States, as the *de facto* global guarantor of stability, will face increasingly hybrid adversaries that choose asymmetric ways to challenge American dominance. The Center of Gravity constructs currently in practice either fall short of providing a useful method for discerning a hybrid threat's Center of Gravity or omit the concept entirely. This critical deficiency in threat analysis may result in the implementation of improper strategies and operational designs to defeat these threats due to the dilemmas created by hybrid adversaries. Hybrid threat adversaries are ambiguous and difficult to analyze. This creates a dilemma as denial, deception, and integration efforts make a hybrid adversary's Center of Gravity elusive and difficult to identify in a timely manner. This increases the probability of observing, orienting, deciding, and acting (OODA-loop) too slowly to effectively counter the threat or misidentifying the Center of Gravity and taking inappropriate actions based upon legacy definitions that may not apply to hybrid adversaries.

This thesis defines a Center of Gravity as the actor's "main effort" to achieve its objectives at that given level of war and proposes an analytical method for hybrid threat Center of Gravity analysis that takes into account the ambiguity inherent in these kinds of adversaries. This work is intended to assist operational level planners in accurately identifying a hybrid threat's operational Center of Gravity in a timely manner. It hypothesizes that identifying the hybrid threat's operational level Center of Gravity as the "modality of principal use" enables planners and commanders to design operations to quickly and effectively defeat hybrid threats. This new methodology is then applied to recent examples of hybrid war as demonstrated by Hezbollah in 2006 and Russia in 2014.

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## **Dedication**

This thesis is dedicated to all the intelligence personnel and operational planners who continually struggle behind the scenes to make order out of chaos.

## **Acknowledgments**

I'd like to thank Col Eric Walters, USMC (Ret) for his mentorship, tutelage, and instruction on threat analysis. You set the standard for the intellectual rigor necessary to succeed in today's complex environments. I would be remiss if I did not acknowledge the great contributions Dr. Greg Miller made to this work as my Thesis Advisor. You provided a window into the world of academia that I had not known. Thank you for your patience and meticulous attention to detail. I also thank my wife for her continued love and support as we walk this road together.

## Table of Contents

CHAPTER 1: INTRODUCTION .....	1
CHAPTER 2: CENTER OF GRAVITY DISCUSSION .....	5
CHAPTER 3: WHAT ARE HYBRID THREATS? .....	13
CHAPTER 4: AN UPDATED METHOD FOR CENTER OF GRAVITY ANALYSIS .....	17
CHAPTER 5: CASE STUDY #1: THE 2006 LEBANESE WAR .....	24
CHAPTER 6: CASE STUDY #2: THE 2014 RUSSIAN INVASION OF UKRAINE .....	32
CHAPTER 7: CONCLUSIONS AND RECOMMENDATIONS FOR JOINT DOCTRINE .....	42
APPENDIX A: STRANGE AND EIKMEIER CENTER OF GRAVITY MODELS .....	46
APPENDIX B: FREIER’S HYBRID THREAT QUAD CHART .....	49
APPENDIX C: DIFFERENCES BETWEEN COMPOUND AND HYBRID THREATS .....	52
APPENDIX D: GRAPHICAL DEPICTION OF THE HYBRID THREAT CENTER OF GRAVITY METHOD .....	54
APPENDIX E: GRAPHICAL DEPICTION OF PROPOSED HEZBOLLAH COG ANALYSIS .....	55
APPENDIX F: GRAPHICAL DEPICTION OF PROPOSED RUSSIAN COG ANALYSIS .....	56
APPENDIX G: ISLAMIC STATE COG ANALYSIS .....	57
BIBLIOGRAPHY .....	61
VITA .....	66

## **List of Figures**

Figure 1: Strange Center of Gravity Method.....	46
Figure 2: Eikmeier Center of Gravity Method.....	47
Figure 3: Freier Quad Chart.....	49
Figure 4: Hybrid Threat Center of Gravity Method .....	54
Figure 5: Proposed Hezbollah COG Analysis .....	55
Figure 6: Proposed Russian COG Analysis.....	56

## Chapter 1: Introduction

“However absorbed a commander may be in the elaboration of his own thoughts, it is sometimes necessary to take the enemy into account”<sup>1</sup>  
– Winston Churchill

In February, 333 B.C, Alexander the Great arrived in the Anatolian town of Gordium, located in present-day Turkey. Alexander was marching through Anatolia on his famous campaign to conquer Persia. Arriving in Gordium, Alexander was presented with an opportunistic challenge as it was the home of the fabled knot of King Midas. This knot was so renowned for its complexity and intricacy that an oracle stated that the one who could solve its riddle would be king of all Asia.<sup>2</sup> With the future of his expedition on the line, Alexander accepted the challenge of solving the riddle of the Gordian Knot.

Complexity, deception, misdirection, and ambiguity are characteristics of warfare dating back to ancient times that are enjoying a transformation due to an emerging method of conflict described as hybrid warfare. Hybrid warfare falls into an area of conflict within the gray zone of “competitive interactions among and with state and non-state actors that fall between the traditional war and peace duality.”<sup>3</sup> The emergence of hybrid war, as demonstrated by Hezbollah in 2006 and Russia in 2014, creates a panoply of problems for operational planners and commanders due to the enigmatic nature of the threat.

The elegant simplicity inherent in conventional, interstate warfare is foreign to hybrid war and the United States, as the *de facto* global guarantor of stability, will face

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<sup>1</sup> U.S. Joint Chiefs of Staff. *Joint Preparation of the Operating Environment*. Joint Publication (JP) 2-01.3. (Washington D.C.: Joint Chiefs of Staff, 16 June 2009), II-55. This quote is originally found in Churchill’s book *The World Crisis* written in 1923.

<sup>2</sup> Theodore Dodge, *Alexander*, (Cambridge, MA: Da Capo Press, 1890), 287-288.

<sup>3</sup> Joseph Votel, “The Gray Zone,” White Paper, United States Special Operations Command (September 9, 2015), 1.

increasing hybrid conflicts as states and non-state organizations develop asymmetric ways to challenge American dominance. This thesis defines a hybrid threat as any adversary that creates a dilemma across the political, military, economic, information, and infrastructure (PMESII) spectrum by simultaneously employing a tailored mix of traditional warfare and weapons, irregular warfare, catastrophic terrorist actions, and disruptive and/or criminal behavior in the same time and battlespace to obtain political objectives within operational or political limitations. The resulting threat is akin to the ancient Gordian Knot in the dilemmas it creates due to its complexity and ambiguity.

Hybrid threats are the “DoD’s new ‘wicked problems’ where precise identification of what is most harmful or important is problematic” and “the true depth, complexity, and impact of these hazards lies un- or under-recognized until attempts to contend with them are well underway.”<sup>4</sup> By their very nature, hybrid threats are highly integrated, amorphous, and difficult to analyze. As such, identifying a single unit, force, person, or ideology as the Center of Gravity (COG or CG) is potentially dangerous and misleading. Likewise, identifying a hybrid threat’s Critical Vulnerabilities (CV) is extremely difficult as there is no single source of strength to defeat and no silver bullet powerful enough to neutralize the Critical Capabilities (CC) inherent within a hybrid adversary. The real danger in applying traditional Center of Gravity analysis to hybrid threats is that it misleads senior leaders into believing that operations against hybrid adversaries will be shorter, less costly, and less risky than is probably the case.

The lack of an adequate method for operational level Center of Gravity analysis for hybrid adversaries is a critical deficiency that must be rectified if these gray zone

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<sup>4</sup> Nathan Freier, “Hybrid Threats and Challenges: Describe ... Don’t Define.” *Small Wars Journal* (2009): 7, <http://smallwarsjournal.com> (accessed August 16, 2015).

threats are to be effectively confronted. The Center of Gravity constructs currently in doctrine and practice either fall short of providing a useful method for discerning a hybrid threat's Center of Gravity or omit the concept entirely. Hybrid adversaries create dilemmas for commanders as denial, deception, and integration efforts make rapidly identifying a hybrid adversary's Center of Gravity elusive and difficult. The main problem with using the current analytical methods for Center of Gravity analysis in a hybrid threat scenario is the "ambiguity about the nature of the conflict, opacity of the parties involved, or uncertainty about the relevant policy and legal frameworks."<sup>5</sup> This increases the probability of responding too slowly to effectively counter the threat (OODA-loop) or misidentifying the Center of Gravity and taking inappropriate actions based upon legacy definitions intended for a traditional interstate (or Westphalian) construct that may not apply to hybrid adversaries.

This thesis proposes an analytical method for hybrid threat Center of Gravity analysis that takes into account the amorphous and agile nature of hybrid threat adversaries. Specifically, this work is intended to assist operational level planners in identifying a hybrid threat's operational Center of Gravity in a timely manner. In a hybrid war scenario, identifying the hybrid threat's operational level Center of Gravity as the 'modality of principal use' enables planners and commanders to develop operational approaches and designs to quickly and effectively defeat these threats before they escalate to the point where later adaptation is unacceptably costly in blood and treasure.

Before proposing a new method of Center of Gravity analysis, debilitating problems in current approaches must be understood and accepted. Current perspectives

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<sup>5</sup> Votel, "The Gray Zone," 1.

on Center of Gravity analysis are examined with an eye to determining if those constructs adequately support the analysis of a hybrid threat adversary. This thesis then discusses current thinking regarding hybrid threat adversaries and the uniqueness of hybrid warfare actions they conduct. Third, this thesis recommends an updated method for Center of Gravity analysis specific to understanding hybrid threat actors.

This new methodology is then applied to recent examples of hybrid war, as demonstrated by Hezbollah in 2006 and Russia in 2014. These two case studies are deliberately selected as they are well documented, recent conflicts that demonstrate divergent applications of the hybrid war methodology and highlight the difficulties and consequences of not correctly identifying the threat's Center of Gravity in a timely manner. Specifically, the modalities and tactics employed by Hezbollah and Russia differ dramatically, yet they are both considered examples of hybrid warfare with clear effects on potential future conflicts—both from the non-state and state actor perspectives.

This thesis concludes with recommendations for Joint Doctrine as twenty-first century adversaries continue to seek asymmetric advantages against U.S. conventional superiority. Nathan Freier calls these asymmetrical conflicts the “hybrid norm” of the future<sup>6</sup> and it is critical that military professionals not allow themselves to become myopic in their vision of future threats, thus seeing each new conflict the same as the last, as U.S. and coalition forces are more likely to face hybrid, gray zone, threats in future conflicts.<sup>7</sup>

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<sup>6</sup> Nathan Freier, “*Strategic Competition and Resistance in the 21<sup>st</sup> Century: Irregular, Catastrophic, Traditional, and Hybrid Challenges in Context.*” Strategic Studies Institute (May 2007): 47, <http://www.strategicstudiesinstitute.army.mil> (accessed August 18, 2015).

<sup>7</sup> Russell Glenn, “Thoughts on “Hybrid” Conflict.” Small Wars Journal (2009), [ww.smallwasjournal.com](http://www.smallwasjournal.com) (accessed October 9, 2015).



## Chapter 2: Center of Gravity Discussion

“The first principle is that the ultimate substance of the enemy strength must be traced back to as fewest possible sources, and ideally to one alone.”<sup>1</sup>

- Carl von Clausewitz

Joint Publication 5-0, *Joint Operational Planning*, identifies Center of Gravity analysis as the “linchpin in the planning effort.” But to many military professionals and policy makers Center of Gravity analysis is still an unknown art form practiced only by those schooled in the ways of advanced military planning or intelligence analysis.<sup>2</sup> The Center of Gravity concept, as practiced today, was originally described by Prussian military theorist Carl von Clausewitz in his seminal work, *On War* (first published posthumously in 1832).<sup>3</sup> The current translations of Clausewitz’s work define the Center of Gravity as the “hub of all power and movement, on which everything depends.”<sup>4</sup> Clausewitz approached warfare from the perspective of nation-states using organized violence in a battle of wills, where the ultimate objective was the enemy’s submission through the destruction of its military forces. Mary Kaldor notes that “the logic of absolute war suggests that war should be concentrated in a single blow”—otherwise known as the decisive battle.<sup>5</sup> Clausewitz theorized that defeating the enemy’s Center of Gravity in a decisive battle provided the best avenue for victory and achieving a decision in war.

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<sup>1</sup> Carl von Clausewitz. *On War*, Edited by Michael Howard and Peter Paret. (Princeton, NJ: Princeton University Press, 1984), 617.

<sup>2</sup> U.S. Joint Chiefs of Staff, *Joint Operation Planning*, Joint Publication 5-0 (Washington DC: Joint Chiefs of Staff, August 11, 2011), III-23.

<sup>3</sup> Clausewitz. *On War*, xi.

<sup>4</sup> *Ibid.*, 595-596.

<sup>5</sup> Mary Kaldor, “Inconclusive Wars: Is Clausewitz Still Relevant in these Global Times?” *Global Policy*, Vol 1, Issue 3 (October 2010), 272-273.

Military planning staffs use Center of Gravity analysis to provide detailed insight into an enemy's critical factors (both strengths and weaknesses) with the expectation of identifying exploitable weaknesses or vulnerabilities that are neutralized or attacked. The same analysis is conducted on friendly forces to identify the "friendly" sources of strength and potential vulnerabilities. Theoretically, if accomplished timely and accurately, Center of Gravity analysis enables planners to identify an adversary's greatest strengths (or single source of strength) along with potential areas of vulnerability that are attacked, resulting in the neutralization of the enemy's great strength, leading to its eventual defeat. But does the current interpretation and application of Clausewitz's concept hold true for amorphous hybrid threats that may not seek decisive battle?

The 2008 version of Joint Publication 3-0, *Joint Operations*, states that neutralizing, weakening, or destroying an adversary's Center of Gravity "is the most direct path to mission accomplishment."<sup>6</sup> The updated, 2011 version of Joint Publication 3-0 states "the objective for operational maneuver is usually the COG [Center of Gravity] or a decisive point."<sup>7</sup> The key point is that accurately identifying an adversary's Center of Gravity is a critical element of operational design and a vital step in the Joint Operation Planning Process (JOPP) to defeat an adversary by either directly or indirectly attacking the Center of Gravity.<sup>8</sup> There are numerous papers, articles, and books written about this topic. Even so, the concept proves challenging for those who attempt to conduct Center of Gravity analysis on even the most monolithic conventional threat—not to mention an elusive hybrid threat. In essence, it is tough to get right.

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<sup>6</sup> U.S. Joint Chiefs of Staff, *Joint Operations*, Joint Publication 3-0 (Washington DC: Joint Chiefs of Staff, February 13, 2008), IV-12.

<sup>7</sup> U.S. Joint Chiefs of Staff, *Joint Operations*, Joint Publication 3-0, III-29.

<sup>8</sup> U.S. Joint Chiefs of Staff, *Joint Operation Planning*, Joint Publication 5-0, III-18, III-31-III-32.

Historically, the Army and Marine Corps trace the Center of Gravity concept back to Clausewitz, while the Air Force applied the terminology to promote its theories of air power. The Navy has no direct linkage to the Center of Gravity concept and only slowly adopted it as doctrine.<sup>9</sup> Not surprisingly, these historical roots produced different Center of Gravity definitions and concepts in each service. Attempting to blend these views, joint doctrine defines a Center of Gravity as “the source of power that provides moral or physical strength, freedom of action, or will to act.”<sup>10</sup> The Marine Corps further identifies an operational level Center of Gravity as “normally an element of the enemy’s armed forces” that is the “most dangerous to us or the one that stands between us and the accomplishment of our strategic mission.”<sup>11</sup> These definitions provide the doctrinal baseline for threat analysis. The four scholars who stand out as the most useful and comprehensive in their understanding of this concept, and who are briefly discussed here, are Dr. Joe Strange, COL Dale Eikmeier, USA (Ret), Dr. Milan Vego, and COL Antulio Echevarria, USA (Ret).

Joe Strange wrote extensively about Center of Gravity analysis with an eye to assisting military planners through a logical construct commonly referred to as the “Strange Method.” He defines a Center of Gravity as the “moral or physical strength, power, and resistance.” Revolutionary at the time, Strange developed his now famous CG-CC-CR-CV construct that forms the basis of joint doctrine, to assist planners in

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<sup>9</sup> Mark Cancian, “Centers of Gravity are a Myth,” *Proceedings* (September 1998), 32.

<sup>10</sup> U.S. Joint Chiefs of Staff, *Joint Operation Planning*, Joint Publication 5-0, GL-6

<sup>11</sup> Headquarters U.S. Marine Corps, *Campaigning*. Marine Corps Doctrinal Publication 1-2, (Washington, D.C.: Headquarters United States Marine Corps, 1 August 1997), 42.

identifying the Center of Gravity (CG) along with its Critical Capabilities (CC), its Critical Requirements (CR), and its potential Critical Vulnerabilities (CV).<sup>12</sup>

Eikemeier's view on Center of Gravity analysis is similar to Strange's. As an instructor with the Army's School of Advanced Military Studies (SAMS), Eikmeier argued that the Center of Gravity concept is useless if it cannot be readily understood and applied in a real-world planning situation. Eikmeier defined the Center of Gravity as "the 'primary doer' with the capability required to achieve the objective."<sup>13</sup> Understanding that an enemy's Center of Gravity may be elusive, Eikemeier built upon Strange's CG-CC-CR-CV model to include an assessment of the threat's strategic and operational objectives. This addition assists planners in understanding the Critical Capabilities required to meet those objectives and points more accurately to the Center of Gravity (the "doer") that inherently has those capabilities to accomplish that objective<sup>14</sup> (See Appendix A for more information on the Strange and Eikmeier methods).

Vego argues that "the concept of center of gravity (COG) is perhaps the most critical element of operational and strategic warfare. No plan for a campaign or major operation can be executed quickly and decisively without identifying enemy and friendly COGs and properly applying combat power to degrade, destroy, neutralize or protect them."<sup>15</sup> Vego defines a Center of Gravity as "that source of leverage or massed strength—physical or moral whose serious degradation, dislocation, neutralization or destruction will have the most decisive impact on the enemy's or one's own ability to

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<sup>12</sup> Joe Strange, *Centers of Gravity and Critical Vulnerabilities: Building on the Clausewitzian Foundations So That We Can All Speak the Same Language*, (Marine Corps University Press, 1996), 43.

<sup>13</sup> Dale C. Eikmeier, "After the Divorce: Clausewitz and the Center of Gravity." *Small Wars Journal* (March 6, 2014), <http://smallwarsjournal.com/jnl/art/after-the-divorce-clausewitz-and-the-center-of-gravity> (accessed August 16, 2015).

<sup>14</sup> Ibid.

<sup>15</sup> Milan Vego, "Center of Gravity." *Military Review* 80, no. 2 (Mar, 2000), 23.

accomplish a given military objective” and can be associated with all three levels of warfare.<sup>16</sup>

Echevarria approaches the Center of Gravity argument from a more mechanical perspective. He identifies the Center of Gravity as the (centripetal) force, or focal point that holds the various entities together.<sup>17</sup> He argues that the Center of Gravity concept was originally aimed at achieving the total collapse of the adversary’s forces and, is only applicable for absolute (or total) war where the destruction of the enemy’s force is the primary goal. This distinctively Clausewitzian point-of-view holds true to the essence of *On War*, where each side seeks an advantage against the other in a decisive battle. However, Echevarria’s perspective is not helpful when approaching gray zone or limited war scenarios, as there may never be a decisive battle and the destruction of an adversary’s force is generally not the primary goal. Echeverria does not advocate the partitioning of Centers of Gravity at the strategic, operational, or tactical levels. He argues that these are modern artificial constructs and not how Clausewitz viewed warfare.<sup>18</sup> Additionally, Echevarria concludes that the Center of Gravity concept is not applicable to the array of limited wars (of which hybrid war usually falls) as the concept of attacking the Center of Gravity often comes in conflict with limited political objectives and rarely results in the total collapse of the enemy’s forces through a decisive battle.<sup>19</sup> Therefore, Echeverria’s conclusions serve as the null-hypothesis to this thesis as he

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<sup>16</sup> Ibid., 24.

<sup>17</sup> Antulio J Echevarria, II, “Reigning in the Center of Gravity Concept,” *Air and Space Journal* Vol 17, No. 2:87 (2003), 3.

<sup>18</sup> Echevarria, “Reigning in the Center of Gravity Concept,” 6. Echeverria does note that the current conflict with Islamic terrorism (and al-Qa’ida), when viewed as a “war to the death,” qualifies as Total War and is the type of conflict that warrants Center of Gravity analysis.

<sup>19</sup> Antullio J Echevarria, II, “Clausewitz’s Center of Gravity: It’s Not What We Thought,” *Naval War College Review* Vol 56, No. 1 (2003).

argues that the Center of Gravity concept is not applicable to hybrid threats and that planners should spend their time on other matters.

There is currently no adequate model or methodology to determine a hybrid threat's Center of Gravity. The Strange and Eikmeier methods fail to account for the multi-modalities and ambiguity presented by hybrid threat adversaries. Joint Publication 2-01.3, *Intelligence Preparation of the Operating Environment*, does not mention hybrid threats or discuss the use of denial, deception, or the blending of conventional and irregular modalities in its chapter on Center of Gravity analysis.<sup>20</sup> In the case of a hybrid threat, the Center of Gravity may not be the traditional source of greatest strength, power, or resistance described by the traditional Clausewitzian models. In practice, a single moral or physical source of strength may not exist due to the blending of capabilities and resources required in constructing a hybrid force. This raises an interesting conundrum for planners: what if the Center of Gravity of a hybrid threat adversary is not his source of greatest strength, power, or resistance? Is Clausewitz's Center of Gravity concept still relevant to these types of threats?

Eikmeier postulates two key hypotheses that could radically change how Center of Gravity analysis is understood and practiced. First, he argues that Clausewitz used mechanical metaphors to communicate with Prussian officers who did not understand social science, but did know engineering. Eikmeier argues that Clausewitz "was trying to explain 19<sup>th</sup> century European social-political theory and the phenomena of war, the ultimate social-political contest, to military officers whose formal education was

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<sup>20</sup> U.S. Joint Chiefs of Staff, *Joint Intelligence Preparation of the Operating Environment*, Joint Publication 2-01.3 (Washington DC: Joint Chiefs of Staff, June 16, 2009), II-65-II-68.

generally in engineering, not social sciences.”<sup>21</sup> It follows that Clausewitz resorted to the use of mechanical metaphors, while imperfect, to convey his Center of Gravity concept and that this mechanical metaphor is no longer needed (or useful) for modern military officers schooled in the “soft sciences.” If true, this would seek to negate the current “mechanical” approaches to Center of Gravity studies in favor of a more operationally-friendly approach. As Eikmeier concludes, “if a metaphor has to be explained then the use of a metaphor is inappropriate to begin with.”<sup>22</sup>

Eikmeier also argues that Clausewitz’s *On War* was mistranslated by Michael Howard and Peter Paret resulting in the current understanding of Clausewitz’s idea being slightly, but significantly, off. He assesses that the “hub of all power” description of the Center of Gravity is not Clausewitzian, at all, rather it is the product of Howard and Paret’s transliteration. He argues that this mistranslation fosters a crucial misunderstanding as Clausewitz never actually uses the term “center of gravity” in German—“gravitationspunkt.” Rather, Clausewitz uses the German word “schwerpunkt” (usually translated as the Center of Gravity), which literally means the weight of focus or point of effort. In reality, he may have been describing what is currently described in doctrine as the “main effort.” This makes sense as Clausewitz was most concerned with the decisive battle and defeating the enemy’s main effort was the surest way to win the contest of wills. Vego agrees with Eikmeier and states that:

The main factors in selecting a Schwerpunkt include the situation, terrain and commander's intent. In German theory and practice, commanders should "build up" a point of main decision (Schwerpunktbildung) within their areas of responsibility. When appropriate, a commander should

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<sup>21</sup> Dale C Eikmeier, “Give Carl von Clausewitz and the Center of Gravity a Divorce,” *Small Wars Journal* (July 2, 2013), <http://smallwarsjournal.com/jrnl/art/give-carl-von-clausewitz-and-the-center-of-gravity-a-divorce> (accessed August 16, 2015).

<sup>22</sup> Ibid.

designate a point of main decision for his subordinate commanders. A change in the situation requires a change or shift in the point of main decision (Schwerpunktverlegung). The same term is often used for variety of military and nonmilitary situations to describe where the main focus of effort is or will be.<sup>23</sup>

Operationally, the main effort is established to “attain the primary objective of a major operation or campaign.”<sup>24</sup> This doctrinal concept is consistent with this thesis’ definition of a Center of Gravity as the actor’s “main effort” to achieve its operational level objectives. This is a simpler concept to understand than the “hub of all power” metaphor. Following this logic, the real task is identifying the enemy’s operational “main effort,” not necessarily its greatest source of strength.<sup>25</sup> Identifying the Center of Gravity as the “main effort” allows for it to be the greatest source of strength if the situation dictates, but is not binding in all circumstances. This definition opens the aperture on Center of Gravity analysis at the operational level, is applicable to hybrid threat scenarios, and acknowledges that the Center of Gravity can shift as the situation develops, thus forcing periodic re-assessment and, if necessary, problem reframing.

In the case of hybrid war, the Center of Gravity may not be the source of great power, strength, resistance, or the focal point because the use of a particular force may negate the identified political objectives, provoke the full application of U.S. military might, or cause unacceptable second and third order effects—like the loss of international support. Clausewitz’s concept is still applicable, but the doctrinal definitions and methods for Center of Gravity analysis are less useful for analyzing a hybrid threat. Rather, planners require an updated method.

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<sup>23</sup> Vego, “Center of Gravity,” 24.

<sup>24</sup> U.S. Joint Chiefs of Staff, *Joint Operation Planning*, Joint Publication 5-0, IV-48.

<sup>25</sup> Dale C Eikmeier, “Give Carl von Clausewitz and the Center of Gravity a Divorce,” *Small Wars Journal* (July 2, 2013).



### Chapter 3: What are Hybrid threats?

“Now an army may be likened to water, for just as flowing water avoids the heights ... so an army avoids strengths and strikes weakness ... water has no constant form.”<sup>1</sup>

- Sun Tzu

Hybrid warfare is a topic of much academic and military debate. Similar to Center of Gravity analysis, there are divergent views and definitions. Hybrid warfare has been called “the most complex and, in the future, probably the broadest expression of modern warfare.”<sup>2</sup> Unfortunately, hybrid warfare is sometimes relegated to a sub-set of irregular warfare or lumped into a category some academics call “New War.” New War advocates, like Mary Kaldor, Feargal Cochrane, and Shannon Beebe, argue that the nature of war has changed due to the post-Westphalian erosion of the nation-state which no longer holds the monopoly on violence. Kaldor contends that the core aspects of Clausewitzian war theory are “no longer applicable”<sup>3</sup> as warfare has shifted from a “contest of wills” to a “mutual enterprise” where “both sides need one another in order to carry on the enterprise of war therefore war tends to be long and inconclusive.”<sup>4</sup> This thesis disagrees with the New War theorists and contends that while the conduct and character of warfare evolves over time, the nature of war remains unchanged. War is a violent struggle—a deadly contest of wills—for a political purpose and hybrid war represents an evolution in the conduct of warfare. Even Kaldor agrees that “new wars are also fought for political ends and ... war itself can be viewed as a form of politics.”<sup>5</sup>

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<sup>1</sup> Sun Tzu, *The Art of War*, (Oxford University Press, London, 1963), 101.

<sup>2</sup> Alba Iulia Popescu, “Observations Regarding the Actuality of the Hybrid War. Case Study: Ukraine.” *Strategic Impact*. No. 4 (2014), 119.

<sup>3</sup> Mary Kaldor, “Inconclusive Wars: Is Clausewitz Still Relevant in these Global Times?” *Global Policy*, 1, Issue 3 (October 2010), 271.

<sup>4</sup> *Ibid.*, 274.

<sup>5</sup> Mary Kaldor, “In Defence of New Wars,” *Stability*, 2(1):4, (March 7, 2013), 11.

In 2008, the U.S. Army Chief of Staff characterized hybrid threats as adversaries that incorporate “diverse and dynamic combinations of conventional, irregular, terrorist, and criminal capabilities.”<sup>6</sup> The former U.S. Joint Forces Command defined a hybrid threat as, “any adversary that simultaneously and adaptively employs a tailored mix of conventional, irregular, terrorism, and criminal means or activities in the operational battlespace. Rather than a single entity, a hybrid threat or challenger may be a combination of state and non-state actors.”<sup>7</sup> The U.S. Army, in 2011, codified the term into doctrine as, “the diverse and dynamic combination of regular forces, irregular forces, criminal elements, or a combination of these forces and elements all unified to achieve mutually benefitting effects.”<sup>8</sup> NATO loosely defines hybrid warfare as “the war with a wide range of hostile actions in which the military force is only a small part and which are executed together as part of a flexible strategy with long-term goals.”<sup>9</sup> The 2007 *A Cooperative Strategy for 21<sup>st</sup> Century Seapower* states that future conflicts will be “increasingly characterized by a hybrid blend of traditional and irregular tactics, decentralized planning and execution, and non-state actors, using both simple and sophisticated technologies in innovative ways.”<sup>10</sup>

Recognizing that hybrid warfare is far more than a subset of irregular warfare, Nathan Freier developed a comprehensive description of hybrid warfare and defines it as an adversary’s integration and use of at least two of the following modalities: traditional

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<sup>6</sup> George C. Casey, “America’s Army in an Era of Persistent Conflict,” *Army Magazine* (October 2008), 28.

<sup>7</sup> Russell W. Glenn, “Thoughts on Hybrid Conflict,” *Small Wars Journal* (2 March 2009), 2. <http://smallwarsjournal.com/blog/2009/03/thoughts-on-hybrid-conflict/> (accessed September 30, 2015).

<sup>8</sup> U.S. Army, *Field Manual 3-0 Operations C-1* (GPO, Washington, DC: February 2011), 1-5.

<sup>9</sup> Daniel Stefanescu, “Similarities and Differences Between the Armed Confrontations in the Middle East and Ukraine,” (*Journal of Defense Resources Management* 6, no. 1, 2015), 68.

<sup>10</sup> Thad Allen, U.S.C.G., James T. Conway U.S.M.C., and Gary Roughead U.S.N. “A Cooperative Strategy for 21st Century Seapower.” *United States Naval Institute Proceedings* 133, no. 11 (November, 2007), 14-20.

warfare, catastrophic terrorism, irregular warfare, and disruptive use of technology.<sup>11</sup>

Freier developed a quad chart to highlight the differences between the four modalities as they relate to the current and future operating environment (See Appendix B for Freier's Quad Chart and detailed description of each modality).

The blending and integrating of these four modalities (or challenges)—Traditional, Catastrophic, Irregular, and Disruptive—into a single hybrid entity is increasingly characterized as “high-end asymmetric threats” or HEAT. These hybrid threats, or HEAT, are entities that bridge strategy to tactics in an asymmetric way with the capabilities to threaten American core interests.<sup>12</sup>

Frank Hoffman builds upon Freier's concept and includes “criminality” within the Disruptive modality, as criminal activities are closely intertwined in many of the current gray zone or limited war conflicts.<sup>13</sup> He defines a hybrid threat as “any adversary that simultaneously employs a tailored mix of conventional weapons, irregular tactics, terrorism, and criminal behavior in the same time and battlespace to obtain their political objectives.”<sup>14</sup> A state or non-state entity capable of fully integrating these operational-level modalities into a viable and unified course of action across the PMESII realms has a significant advantage over an adversary still approaching warfare from a purely traditional, irregular, or compound perspective (See Appendix C for a description of compound war). It is this concept of multiple, unified and integrated modalities void of

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<sup>11</sup> Frank G. Hoffman, “Hybrid vs. Compound War, the Janus Choice,” *Armed Forces Journal* Vol 14, 2009, 1-2.

<sup>12</sup> Nathan Freier, “Hybrid Threats and Challenges: Describe ... Don't Define.” *Small Wars Journal* (2009). <http://smallwarsjournal.com> (assessed August 16, 2015), 4.

<sup>13</sup> Frank G. Hoffman, “Hybrid vs. Compound War, the Janus Choice,” *Armed Forces Journal* Vol 14, (2009).

<sup>14</sup> Frank G Hoffman, “On Not-So-New Warfare: Political Warfare vs Hybrid Threats,” *War on the Rocks* (July 28, 2014), <http://warontherocks.com/2014/07/on-not-so-new-warfare-political-warfare-vs-hybrid-threats/> (accessed October 10, 2015).

traditional military customs or norms that makes hybrid war distinct from other types of conflict that include multiple modalities, like compound war.

This thesis defines a hybrid threat as any adversary that creates a dilemma across the PMESII spectrum by simultaneously employing a tailored mix of traditional warfare and weapons, irregular warfare, catastrophic terrorist actions, and disruptive and/or criminal behavior in the same time and battlespace to obtain political objectives within operational or political limitations. Freier's four modalities framework—with the inclusion of criminality within the Disruptive challenge—is used as the construct with which to assess a threat as hybrid at the operational level. While every conceivable scenario may not fit comfortably into these modalities, this hybrid threat definition adequately captures the means and ways required at the operational level to accomplish the desired ends for the majority of conflicts U.S. forces will confront in the twenty-first century.

U.S. Marine Corps General James Mattis summed this best when he stated that “we expect future enemies to look at the four approaches [Traditional, Irregular, Catastrophic, and Disruptive] as a sort of menu and select a combination of techniques or tactics appealing to them. We do not face a range of four separate challengers as much as the combination of novel approaches—a merger of different modes and means of war. This unprecedented synthesis is what we call hybrid warfare.”<sup>15</sup>

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<sup>15</sup> James N. Mattis and Frank Hoffman, "Future Warfare: The Rise of Hybrid Wars." *United States Naval Institute. Proceedings* 131, no. 11 (November, 2005), 19.

## Chapter 4: An Updated Method for Center of Gravity Analysis

“The fighting forces of each belligerent – whether a single state or an alliance of states – have a certain unity and therefore some cohesion. Where there is cohesion, the analogy of the Center of Gravity can be applied.”<sup>1</sup>

-Carl von Clausewitz

History notes that Alexander the Great did not “untie” the Gordian Knot in any traditional fashion. Whether he unhooked the knot from its wagon or dramatically cut it with a sword, Alexander used creativity and cunning to defeat the puzzle in such a manner that the people believed the omen had come true. His success at this task foreshadowed his destiny as the ruler of all Asia.<sup>2</sup>

In much the same way, hybrid threats cannot be solved with conventional thinking as they do not fit neatly into traditional models. Traditional and doctrinal methods do not adequately provide a process to identify the operational level Center of Gravity of a hybrid threat. It is critical that planners get this right as “operational COGs are linked to both strategic and operational objectives; operational goals and COGs establish the foundation for the selection of tactical objectives.”<sup>3</sup>

The six-step analytical process proposed below is intended for use against hybrid threats, but can be successfully employed against other threats (like conventional or compound threats). Those acquainted with the Strange and Eikmeier method will note many similarities. This is purposeful as the primary goal is to provide operational planners with a more intuitive method for Center of Gravity analysis they can apply quickly and effectively in operational design and the Joint Operation Planning Process (JOPP). This analysis requires a great deal of information about the threat that should be

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<sup>1</sup> Clausewitz, *On War*, 485-486.

<sup>2</sup> Arrian, *The Campaigns of Alexander*, (New York: Dorset Press, 1986), 104-105.

<sup>3</sup> Vego, “Center of Gravity,” 26.

included in the Joint Intelligence Preparation of the Environment (JIPOE) and added to the intelligence collection requirements. This thesis proposes the following six step process to identify a hybrid adversary's operational level Center of Gravity:

### **Step 1: Identify Observed Modalities**

The first, and most important, step is to identify the modalities employed by the adversary. Do the observed enemy actions represent traditional or irregular challenges? Does the threat have a catastrophic chemical, biological, radiological or nuclear (CBRN) capability? Is the threat employing disruptive cyber-attacks in an effort to create opportunities or gaps? During this step, every observed enemy action is categorized into one of the four hybrid modalities detailed in Chapter 3 and Appendix C—Traditional, Catastrophic Terrorism, Irregular, or Disruptive Technology /Criminal Activities. This step requires extensive and persistent intelligence collection efforts to accomplish accurately and timely. There may be some overlap as some tactical actions or military forces could be used in multiple modalities. Operational planners must pay particular attention to their Commander's Indications and Warning decks and Priority Intelligence Requirements (PIR) as they drive the intelligence collection efforts and greatly influence what enemy action is observed and reported. If information gaps are identified, they must be filled in a timely manner to ensure that threat modalities are observed and identified.

### **Step 2: Identify Adversary's Assessed Objectives and Limitations - Ends**

As the modalities of the threat's operation are discovered and identified, an assessment must be made as to the threat's desired ends, military objectives, and limitations. This assessment must be made in a timely manner to inform decision-makers and it is critical that planners continuously review and revalidate this assessment as it

bears great importance on the correct identification of the Center of Gravity. Planners must determine the political end state, the military objectives at the operational level of war, and any limitations (military or political) likely imposed on the forces conducting the actions. This assessment is a critical step as the adversary's desired ends and objectives relate directly to the ways and means required to accomplish those objectives.

### **Step 3: Identify the Critical Capabilities (CC) - Ways**

Planners must identify the "ways" or actions required (or critical) in achieving the desired ends. In keeping with both Strange and Eikmeier, a CC is always an action. CCs are usually noted as an "ability to" perform a certain activity critical to the success of the operation. For example: the ability to integrate guerrilla troops into a conventional prepared defense armed with modern anti-tank weapons may be a hybrid threat's CC. If multiple CCs are required to accomplish the desired ends then these should be prioritized in order of necessity. If possible, capabilities should be narrowed down to the fewest number of "critical" capabilities.

### **Step 4: Identify the Center of Gravity (CG) – The Modality of Principal Use**

Once the employed modalities are identified, the adversary's objectives and limitations assessed, and the required capabilities to accomplish these objectives revealed, a determination is made as to which modality (Irregular, Traditional, Catastrophic, or Disruptive/Criminal) is the enemy's main effort to accomplish those objectives. The modality that possesses the required CCs to accomplish the desired objectives within the identified limitations is now identified as the enemy's Center of Gravity. It becomes the principal "doer of the action that achieves the ends."<sup>4</sup> This is a

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<sup>4</sup> Dale C. Eikmeier, "A Logical Method for Center of Gravity Analysis." *Military Review* 87, no. 5 (Sep, 2007), 62-66.

critical assessment as the subsequent approach and follow-on actions should be designed to attack the Center of Gravity identified as the modality of principal use as this is the enemy's main effort.

At this point it is important to resist the temptation to delve too deeply into the tactical level of war and attempt to identify specific units or weapon systems (unless those particular units or weapon systems are central to the Center of Gravity; like the employment of a weapon of mass destruction). The modality identified as the Center of Gravity should be the form of warfare that the adversary employs as the main effort to accomplish the operational objectives within the identified or assessed operational limitations.<sup>5</sup>

The key difference with this method is the distinction given to the modality in use as it may not contain the greatest source of power, strength, or resistance. Especially when analyzing hybrid threats, the modality of principal use—the main effort (identified here as the Center of Gravity)—may contain lesser powers while the greater powers are used for purely deceptive purposes. This nuance is challenging when analyzing hybrid threats as what is highlighted as its strength may only be for show, while its main effort (or true Center of Gravity) remains hidden until revealed or uncovered as in the Russia-Ukraine case study detailed in Chapter 6. For a hybrid force, the modality of principal use provides a type of cohesion for the employed forces to bind. This cohesion of forces, under a principal modality, allows the main effort to deliver the most effective blows and is consistent with a Clausewitzian view of the Center of Gravity.<sup>6</sup>

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<sup>5</sup> Ibid.

<sup>6</sup> Clausewitz, *On War*, 485-486.



Initially, many planners and commanders may feel uncomfortable with identifying a modality of warfare as the Center of Gravity. This is understandable as doctrine and experience dictate the identification of a unit, person, ideology, or some other physical or moral entity as the Center of Gravity. But hybrid threats are fundamentally different than their traditional or irregular cousins and require new lexicons, doctrines, and intellectual models to counter effectively. While there may be superficial similarities with traditional or irregular warfare, hybrid war requires fundamentally different approaches and executions. This unconventional approach to Center of Gravity analysis is a start to an entirely new doctrine in threat analysis focused towards the most likely threats to American power in the future.

The highly integrated nature of hybrid warfare makes the delineation between the modality of principal use and the supporting modalities difficult to make. This inherent fusion of modes provides the hybrid actor with the capability to shift main efforts should the situation dictate, depending on its own capabilities, the type of adversary, the political objectives, and self-imposed limitations. Similar to a conventional force shifting main efforts in response to the conditions on the ground, the hybrid threat could potentially shift main efforts as part of the plan or in response to friendly actions. However, changing the main effort at the operational level is no easy task and may provide an opportunity to seize the initiative from the hybrid foe. Additionally, the political objectives or limitations may reduce the flexibility of the hybrid force to shift the main effort and dictate which modality must be prioritized to accomplish the objectives. This nuance is further explored in the Russia-Ukraine case study (See Chapter 6).

### **Step 5: Identify the Critical Requirements (CR) - Means**

Once the Center of Gravity—the modality of principal use—is determined, all of the other means and modalities identified are categorized as Critical Requirements (CR). As Strange notes, these are actual things—nouns—required for the CCs to be fully operative. Similar to current doctrine, this should be a list of the other noted modalities, resources, units, or other means required to execute the CCs such as trained guerrilla forces or a flexible command and control network.

### **Step 6: Identify the Critical Vulnerabilities (CV)**

Some of these Critical Requirements (or subsets of CRs) are vulnerable to attack, deficient in some way, or not strong enough to defend themselves and are identified as Critical Vulnerabilities (CV). As these are critical, any interdiction, destruction, or neutralization should have a direct or indirect effect on the ability of the Center of Gravity (the modality of principal use) to accomplish the desired ends. Finding a hybrid threat's CV may be extremely difficult due to its ambiguous and enigmatic nature, and there may be few actual CVs. Planners must resist the pressure to manufacture CVs, looking for the elusive “silver bullet,” as this only oversells the effectiveness of the operational design (See Appendix D for a graphical depiction of this process).

The 2006 Israel-Hezbollah conflict in Lebanon and the 2014 Russian invasion of Ukraine provide two recent examples of hybrid warfare that allow for Center of Gravity analysis with the intent of demonstrating the need for a revised method of such analysis at the operational level. These two case studies highlight the deceptive and unrestricted nature of modern hybrid war with their effects on adversaries who were unable or

unwilling to identify their opponent's Center of Gravity and effectively respond. The events described in these case studies confused many military planners at the time, as the modalities employed by Hezbollah and Russia were not easily discernable, nor were their Centers of Gravity identified in a timely manner. This resulted in ineffective counter-strategies by Israel and Ukraine. As highlighted in the two case studies, the main efforts employed by Hezbollah and Russian forces were not readily apparent and were the exact opposite of the modalities expected by Israel and Ukraine. The misidentification of the Centers of Gravity facing them resulted in the loss of critical time and the initiative to counter the threat's course of action.

Prior to applying a new model for Center of Gravity analysis to these cases it is beneficial to review the specifics of each case from the operational level of war. As stated previously, this thesis focusses at the level of war most occupied by planners at the operational level. Therefore, tactical minutia and strategic policy decisions are not discussed unless there is a direct effect on the operation at hand. Additionally, these cases are reviewed with an eye to the "modalities" employed. Little attention is paid to the type of regular or irregular forces used unless it directly affects the outcome of the operations. The important notion here is for planners to have the ability to gain situational awareness rapidly and convey that understanding of the enemy's ends, ways, and means to commanders and decision-makers in a manner that enables the timely development of counter actions. The identification of the modality of principal use as the Center of Gravity categorizes the threat in a manner that allows a commander to develop an appropriate operational design based upon the nature of the threat quickly as the situation develops, while minimizing the risk of misidentifying the Center of Gravity.

## Chapter 5: Case Study #1: The 2006 Lebanese War

“Israel fought as a limping stepchild of Clausewitz. Hezbollah fought as Sun Tzu's fanatical son.”<sup>1</sup>

- Ralph Peters

On July 12, 2006, Hezbollah forces ambushed two Israeli Defense Force (IDF) High Mobility Multi-Purpose Wheeled Vehicles (HMMWVs) conducting a routine patrol along the border between Israel and Lebanon, near the village of Zarit, killing three IDF soldiers and injuring others. Two soldiers, Udi Goldwasser and Eldad Regev, were taken from the ambush site into Lebanon. Hezbollah designed Operation TRUE PROMISE to kidnap IDF soldiers and exchange them for “the longest held Arab prisoner in Israel, Samir al-Qantar.”<sup>2</sup> David Johnson notes that “this action led to the first Israeli military operation in Lebanon since the IDF’s withdrawal in 2000 and to the largest-scale Israeli military action since the First Lebanon War (1982).”<sup>3</sup> Russ Glenn observed “the response from Jerusalem was both quick and violent, surprising Hezbollah’s leadership and triggering a month-long conflict that, in retrospect, has been labeled the Second Lebanon War.”<sup>4</sup>

Glenn adds that “Israel’s initial air strikes concentrated on Hezbollah rocket and missile capabilities, particularly those medium and long-range weapons with the potential to reach deep into Israel. Other attacks hit infrastructure targets throughout Lebanon.”<sup>5</sup> Specifically, air targeting sought to:

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<sup>1</sup> Ralph Peters, "Lessons from Lebanon the New Model Terrorist Army." *Armed Forces Journal* (Oct 01, 2006), 38.

<sup>2</sup> Shmuel Bar and Richard Crowell, *Hybrid Conflict: A Retrospective Analysis of the Summer 2006 War Between Israel and Hizballah*, Naval War College, (2013), 1.

<sup>3</sup> David E. Johnson, *Hard Fighting: Israel in Lebanon and Gaza*. RAND Corporation, (2011), 9.

<sup>4</sup> Russell W. Glenn, *All Glory Is Fleeting: Insights from the Second Lebanon War*. Santa Monica, CA: RAND Corporation, 2012 (accessed 12 October 2015), xi.

<sup>5</sup> *Ibid.*, 9.

Punish Lebanese citizens for Hezbollah's aggressions, perhaps in an attempt to bring its pressure to bear on Lebanon's elected officials. Israeli decision makers took for granted that applying pressure on the government in Beirut would force its officials into coercing Hezbollah to meet Israel's strategic demands, this despite it also having not done so during conflict 10 years before.<sup>6</sup>

In truth, Hezbollah acted with near autonomy in southern Lebanon and Israeli targeting of Lebanese governmental buildings and infrastructure only increased ill-will towards Israel. The Israeli leadership was so sure in its belief that airpower alone would punish Hezbollah into submission that it delayed its reserve mobilization for two weeks after the initial kidnapping. Glenn relates that "whether due to a belief that Hezbollah's military capabilities had changed little since the IDF's 2000 withdrawal, failures of intelligence, or both, Israel did not expect the levels of resistance met when it eventually launched its ground offensive."<sup>7</sup> Ground action was delayed in the apparent expectation that airpower alone, using effects based operations, could accomplish Israel's strategic objectives. This expectation proved unfounded and resulted in significant ground combat operations in which the IDF was not prepared to match Hezbollah's well-trained and disciplined fighting force.

Ralph Peters detailed that "Hezbollah fielded an impressively innovative military force incisively tailored to meet a specific foe on particular terrain. While it could not match Israel's overall technology, professionalism or number of troops, that didn't matter ... it succeeded, adding a new model terrorist army to the already-daunting range of 21st-century asymmetrical threats: the army without a state."<sup>8</sup> Conversely, IDF officers continued to look upon Hezbollah as an irregular force so much so that the Israeli Army

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<sup>6</sup> Ibid., 10.

<sup>7</sup> Ibid., 4.

<sup>8</sup> Ralph Peters, "Lessons from Lebanon the New Model Terrorist Army," 38.

focused nearly exclusively on training for the same low intensity asymmetric conflicts that it previously prosecuted successfully in the West Bank and Gaza strip. This resulted in a ground force that lacked the capabilities to conduct high-intensity combined arms operations, especially in the size and scope seen in the 2006 conflict.<sup>9</sup>

Hezbollah effectively focused its time and resources to build a force specifically designed to fight against a specific enemy at a specific location: in this case the IDF in southern Lebanon. In a clear departure from the standard “hit and run” tactics of irregular warfare, Hezbollah developed a “cellular anti-tank defense” in depth that frustrated Israeli forces, inflicting a level of casualties unexpected and unacceptable to the Israeli government.<sup>10</sup> Hezbollah employed well-trained and organized forces broken down into small units “armed with sophisticated weapons, including [modern] anti-tank guided missiles [ATGMs], Rocket Propelled Grenades (including RPG-29s), [short, medium and long-range] rockets, mortars, mines, IEDs [Improvised Explosive Devices], and MANPADS [Man-Portable Air Defense Systems].”<sup>11</sup> The addition of C-802 anti-ship missiles gave Hezbollah the capability to strike Israeli naval forces in a manner consistent with a traditional military force.<sup>12</sup> Hezbollah ground forces also occupied prepared defensive positions in Lebanon’s difficult, hilly terrain and urban areas that caught the IDF completely by surprise. Peters notes three distinct advantages employed by Hezbollah in the development of its hybrid strategy:

First, late-generation fire-and-forget missiles were faster, more accurate and easier to wield. Second, the broken, mountainous terrain of southern

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<sup>9</sup> David E. Johnson, “Military Capabilities for Hybrid War: Insights from the Israeli Defense Forces in Lebanon and Gaza.” RAND, (2010), [http://www.rand.org/content/dam/rand/pubs/occasional\\_papers/2010/RAND\\_OP285.pdf](http://www.rand.org/content/dam/rand/pubs/occasional_papers/2010/RAND_OP285.pdf) (accessed September 9, 2015), 2-3.

<sup>10</sup> Ralph Peters, “Lessons from Lebanon the New Model Terrorist Army,” 38.

<sup>11</sup> David E. Johnson, “Military Capabilities for Hybrid War”, 3.

<sup>12</sup> David E. Johnson, *Hard Fighting: Israel in Lebanon and Gaza*. RAND Corporation, (2011), 53.

Lebanon, with its towns and villages crowded within supporting distance of one another, strongly favored a prepared defense. Third, Hezbollah's tactical defense was also a strategic defense, and the terrorist army had years to prepare fixed bunkers and connecting passages. Designed by Iranian engineers, the most formidable of the bunkers proved impervious to Israeli precision weapons -- and Hezbollah also took care to embed its defenses amid civilian populations, preventing the Israelis from applying devastating area fires.<sup>13</sup>

Whether a catastrophic intelligence failure or a lack of operational vision, Israeli leaders did not understand the nature of the conflict they entered or the enemy they faced. They did not fully grasp that the extensive fortifications constructed in southern Lebanon indicated a fundamental shift in Hezbollah ground tactics from irregular in principle to an irregular-traditional hybrid. Expecting another irregular (low intensity) war characterized by counterinsurgency operations, Israeli forces abruptly received a conventional (high intensity) conflict in rugged and urban terrain against a well-trained, disciplined, and determined enemy that defended ground. The complete failure of effects-based operations, based on airpower and artillery attacks, to stop the rocket attacks on Israel and gain the return of the captured soldiers demonstrated that Israeli leadership either did not conduct Center of Gravity analysis or misidentified Hezbollah's operational Center of Gravity, resulting in a ground campaign that the IDF was not manned, trained, or prepared to win. It appears that Israeli political and military leadership were so blinded by the promises of airpower through effects-based operations to achieve their objectives that they neglected to study other options.<sup>14</sup>

In the end, the Second Lebanon War concluded when all participants agreed to abide by UN Security Council resolution 1701 on August 14, 2006. Seen as a defeat for

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<sup>13</sup> Ralph Peters, "Lessons from Lebanon the New Model Terrorist Army," 38.

<sup>14</sup> Shmuel Bar and Richard Crowell, *Hybrid Conflict: A Retrospective Analysis of the Summer 2006 War Between Israel and Hizballah*, (Naval War College, 2013), 3-4.

the IDF, Hezbollah appears to be the first Arab force able to claim victory against the Israeli armed forces. Peters sums up the Second Lebanese War well when he states that “Israel fought as a limping stepchild of Clausewitz” while “Hezbollah fought as Sun Tzu's fanatical son.”<sup>15</sup> Hoffman similarly notes that “Israel faced this problem [hybrid war] in 2006, in southern Lebanon when it confronted Hezbollah's admixture of advanced rockets, determined village defense forces, and Iranian-trained foreign fighters equipped with advanced anti-armor guided-missile systems. Many excuses have been offered for the Israeli Defense Forces' failure to perform effectively in this conflict, but the most unforgivable is underestimating and misunderstanding one's opponent.”<sup>16</sup>

Hezbollah effectively merged modern weapons and conventional defensive tactics with guerrilla forces employed as small units. This created a hybrid threat capable of standing its ground against Israeli forces. Hezbollah integrated full-time guerrilla fighters with local militia forces and used extensive camouflage and deception to mask their defensive fortifications and make Israel believe that it was facing an irregular force.<sup>17</sup> In total, there were “elements of conventional warfare, guerrilla fighting, and terrorism, as well as insurgency, in July and August 2006.”<sup>18</sup>

Glenn provides detailed insights into the Second Lebanon War and specifically tackles the critical issue of Center of Gravity analysis against a non-state hybrid adversary. He contends that it is unclear from the way Israeli leaders prosecuted the war

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<sup>15</sup> Ralph Peters, "Lessons from Lebanon the New Model Terrorist Army," 38.

<sup>16</sup> *House Armed Services Subcommittee on Intelligence, Emerging Threats and Capabilities Hearing*. (Lanham: Federal Information & News Dispatch, Inc, 2013), <http://search.proquest.com.nduezproxy.idm.oclc.org/docview/1287631876?accountid=12686> (accessed August 17, 2015).

<sup>17</sup> David E. Johnson, *Hard Fighting: Israel in Lebanon and Gaza*. RAND Corporation, 2011, p 46-48.

<sup>18</sup> Russell W. Glenn, *All Glory Is Fleeting: Insights from the Second Lebanon War*, (Santa Monica, CA: RAND Corporation, 2012), <http://www.rand.org/pubs/monographs/MG708-1> (accessed 12 October 2015), 73.



that there was ever an assessment of Hezbollah's Center of Gravity (at the Strategic or Operational levels). Glenn states that "IDF actions seem to support a conclusion that its planners (consciously or unconsciously) regarded Hezbollah's [strategic] center of gravity (COG) as either (1) the Lebanese government and its ability to force Hezbollah to meet Israeli demands or (2) Hezbollah's military forces in southern Lebanon."<sup>19</sup> But it is unclear if this analysis ever took place. This question of Center of Gravity analysis is salient due to Israel's decision to rely on effects-based operations to strike Lebanese government targets in the early stages of the conflict with disastrous results. It appears that if Center of Gravity analysis was done the IDF chose incorrectly, resulting in a course of action that did not attack Hezbollah's real Center of Gravity effectively, thus prolonging the war and resulting in greater losses. The IDF's mistake "reinforces the aforementioned criticality of carefully analyzing the nature of the conflict in which an armed force is involved. The case of the Second Lebanon War demonstrates that misidentification in that regard—and an associated mistaken selection of COG—can have catastrophic consequences."<sup>20</sup>

If, however, the Israeli leadership had conducted a Center of Gravity analysis using the methodology proposed in this thesis, the outcome may have been significantly different. It was clear that Hezbollah employed Traditional, Irregular, and Catastrophic modalities. Their prepared defensive positions and uniformed fighters with modern weapons represent the Traditional modality. Their guerrilla fighters and uniformed militia employing hit and run tactics represent the Irregular modality. And their short, medium,

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<sup>19</sup> Ibid., 60.

<sup>20</sup> Ibid., 61.

and long-range rocket attacks on Israeli population centers represent the Catastrophic Terrorism modality.

Since Hezbollah initiated this conflict by the ambush and kidnaping of IDF soldiers, it can be assessed that its political and military objectives were to defend its positions in southern Lebanon, exploit IDF vulnerabilities, and terrorize Israeli citizens while gaining the release of al-Qantar. Hezbollah was limited in its ability to conduct conventional offensive operations, but developed a purpose-built defensive capability to accomplish its objectives through the use of prepared ground defensive operations and rocket attacks on the Israeli people. Hezbollah's CC in its embarrassment campaign against Israel was the ability to interdict and bog down Israeli ground forces in such a manner that caused unacceptable level of casualties while firing a continuous stream of rockets deep into Israel to terrorize the populace. This explains why the Israeli effects-based bombing campaign against Lebanese targets was completely ineffective in applying pressure on the Hezbollah leadership.

Although Hezbollah demonstrated capabilities in three modalities, the Traditional was the only modality with the inherent ability to fulfill the critical capability of interdicting and bogging down Israeli ground forces and cause unacceptable levels of casualties while terrorizing the Israeli populace with rocket attacks. Therefore, the Traditional modality (prepared defensive positions and uniformed fighters with modern weapons), as main effort, was Hezbollah's operational level Center of Gravity. The Irregular and Catastrophic modalities were supporting efforts and identified as critical requirements (CR) along with prepared defensive positions, modern weapon systems, and trained fighters required for the employment of the Traditional modality. Out of these

CRs, few critical vulnerabilities (CV) emerge, due to the elusive and purpose-built nature of the force. Potential CVs include Hezbollah's command and control network, isolated outposts, and seams in its defensive positions. The neutralization of these vulnerabilities would have indirectly weakened Hezbollah's Center of Gravity thus reducing its ability to delay IDF units and cause unacceptable casualties during the ground combat phase. But these CVs are not silver bullet solutions to Hezbollah's hybrid defense. Rather, actions against the CVs is needed for the systematic reduction of their defensive positions. In reality, there was no single CV that would have toppled the Center of Gravity and caused Hezbollah to release its hostages.

Hezbollah understood Israeli arrogance and correctly concluded that the IDF viewed the 2006 Hezbollah military force the same as they did in 2000. Hezbollah counted on Israeli leaders dismissing its ground forces as a mere irregular threat and not understanding that the operational environment and nature of the conflict fundamentally changed. Hezbollah represented a non-state actor with a traditional military force capable of defending territory and inflicting great damage on the attacking IDF units. Had the Israeli leadership understood the true nature of the conflict, and conducted the analysis proposed in this thesis, they would have abandoned their effects-based operations and either used diplomatic channels to obtain the release of their kidnapped soldiers or anticipated a conventional ground operation against prepared defensive positions in rugged and urban terrain. They did not and it cost them in lives, equipment, money, and prestige (See Appendix E for a graphical representation of this Center of Gravity analysis).

## Chapter 6: Case Study #2: The 2014 Russian Invasion of Ukraine

“It’s a frightened, unstable world and we need to wake up and realize that.”<sup>1</sup>  
- James Stavridis

On 27 February 2014, well-armed gunmen seized a government building and airport in the Crimean peninsula of Ukraine. These “green men” had no identifying marks or uniforms yet operated with amazing efficiency and tactical proficiency.<sup>2</sup> No shots were fired, but Russia’s hybrid war against Ukraine had begun. Following the December 2013 ousting of pro-Russian President Yanukovich, and subsequent election of pro-western President Viktor Yushchenko, Russia enacted a plan designed to regain its lost influence and control over a previous part of the Soviet Union.<sup>3</sup>

Russian operations against Ukraine occurred in two phases. Phase one involved operations in the ethnically-Russian Crimean peninsula, while phase two redirected operations to the ethnically-Ukrainian Donbas region of eastern Ukraine. Russian forces used similar, yet slightly different, hybrid designs in these two phases against their Ukrainian (and NATO) foes. Before reviewing the modalities used in their Ukrainian operations, it is important to understand two points concerning the doctrine and tactics used by Russian forces.

First, the use of denial, deception, and disinformation, in conjunction with complex operational maneuvers is integral to Russian doctrine.<sup>4</sup> The Russian doctrine of

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<sup>1</sup> Sam Jones, “Ukraine: Russia’s New Art of War.” *Financial Times* (August 29, 2014), <http://www.ft.com/cms/s/0/ea5e82fa-2e0c-11e4-b7600-00144feadbdc0.html> (accessed August 16, 2015).

<sup>2</sup> Alba Iulia Popescu, “Observations Regarding the Actuality of the Hybrid War. Case Study: Ukraine,” *Strategic Impact*. No. 4 (2014), 118.

<sup>3</sup> F. Stephen Larrabee, Peter A. Wilson and John Gordon. *The Ukrainian Crisis and European Security: Implications for the United States and U.S. Army*, (Santa Monica, CA: RAND Corporation, 2015), [http://www.rand.org/pubs/research\\_reports/RR90](http://www.rand.org/pubs/research_reports/RR90) (accessed October 6, 2015), 3-5.

<sup>4</sup> Bret Perry, “Non-Linear Warfare in Ukraine: The Critical Role of Information Operations and Special Operations,” *Small Wars Journal* (August 14, 2015), <https://smallwarsjournal.com> (accessed Sept 15, 2015).

*Maskirovka*, employed since the early 20<sup>th</sup> Century, “stands for deliberately misleading the enemy with regard to own intentions causing the opponent to make wrong decisions thereby playing into your own hand.”<sup>5</sup> Second, the idea of employing hybrid warfare is not new to Russian military thinking. Valery Gerasimov, Chief of Staff of the Russian Armed Forces, published an article in February 2013 entitled “The Value of Science in Prediction.” In this work Gerasimov discussed the future of war and necessary measures in what is known informally as the ‘Gerasimov Doctrine’ of non-linear warfare.

In a separate article coauthored by Col. S.G. Checkinov (Ret.) and Lt.Gen. S.A. Bogdanov (Ret.), titled “The Nature and Content of a New-Generation War,” the authors assert that information warfare, along with Special Operations Forces (SOF), and a coordinated escalation, will play a key role in future conflict.<sup>6</sup> This document is occasionally referred to as a “how-to manual” for the Crimean seizure.<sup>7</sup> Gerasimov is also quoted as noting that “war and peace are becoming more blurred,” that the methods involved in a conflict include “the broad use of political, economic, informational, humanitarian and other non-military measures ... supplemented by firing up the local populace as a fifth column and by “concealed” armed forces.”<sup>8</sup> Gerasimov has also quoted the Soviet military theoretician Georgii Isserson when stating that “mobilization does not occur after a war is declared, but unnoticed, proceeds long before that.”<sup>9</sup> The

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<sup>5</sup> Joergen Oerstroem Moeller, "Maskirovka: Russia's Masterful Use of Deception in Ukraine". *The Huffington Post*, (23 April 2014), [http://www.huffingtonpost.com/joergen-oerstroem-moeller/maskirovka-russias-master\\_b\\_5199545.html](http://www.huffingtonpost.com/joergen-oerstroem-moeller/maskirovka-russias-master_b_5199545.html) (accessed October 13, 2015).

<sup>6</sup> Perry, “Non-Linear Warfare in Ukraine: The Critical Role of Information Operations and Special Operations,” *Small Wars Journal* (August 14, 2015).

<sup>7</sup> Ibid.

<sup>8</sup> Sam Jones, “Ukraine: Russia’s New Art of War.”

<sup>9</sup> Ibid.

mere speed with which Russia commenced operations and seized the initiative in Ukraine indicates that Russian leaders prepared for this type of ‘opportunity’ for some time.

The Russian seizure of the Crimean peninsula was skillfully and rapidly executed. Through the extensive use of information operations and covert use of SOF, wearing no insignia or distinguishing marks, Russian forces captured Ukrainian government facilities “without firing a shot.”<sup>10</sup> The annexation of Crimea was aided by “the fact that the Ukrainian armed forces stationed in Crimea were under strict orders from the Ukrainian government not to take military action against these forces to avoid escalating the violence and provoking a broader and harsher intervention by Russia.”<sup>11</sup> Through the employment of covert SOF, “Putin was able to sow enough confusion and doubt to prevent effective countermeasures from being taken.”<sup>12</sup> Dr. Phillip Karber states that the U.S. even pressured the Ukrainian government to not react to Russian actions out of fear of escalating the crisis into a conventional military conflict.<sup>13</sup> Russian information operations significantly contributed to the Irregular and Disruptive modalities. They primarily targeted the ethnic Russians living in Crimea who were generally in favor of annexation. These operations resulted in strong public support among the ethnic Russians living in Crimea and very little response from the Ukrainian government.

Perry states that the groundwork for Russian operations in Crimea and eastern Ukraine was set well in advance due to the impressive efforts placed in their information operations. Russia had three lines of operations for their information operations. First,

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<sup>10</sup> Larrabee, Wilson and Gordon. *The Ukrainian Crisis and European Security: Implications for the United States and U.S. Army*, 6.

<sup>11</sup> Ibid.

<sup>12</sup> Ibid., 6.

<sup>13</sup> Phillip A Karber, “Russia’s Hybrid War Campaign: Implications for Ukraine and Beyond,” VIDEO (March 10, 2015), <http://www.thepotomacfoundation.org/russias-hybrid-war-campaign-implications-for-ukraine-and-beyond/> (accessed October 10, 2015).

Russia promoted the teaching of the Russian language and culture through the extensive employment of Non-Governmental Organizations (NGOs) in Ukraine. The purpose of these efforts was to “to increase the number of Russian speakers in Ukraine and the number of Ukrainian citizens who identify with the Russian culture.” This was important as “individuals that consider themselves to be Russian speakers and Russian citizens are able to understand Russian propaganda, and subsequently enable Russian information operations.”<sup>14</sup> Second, Russia leveraged the Russian-owned media within Ukraine to spread propaganda to the Russian speaking audience. Third, Russia “waged an effective information campaign against the international community leveraging a similar set of resources: 1) TV programs, and 2) a ‘swarm’ of pro-Russia internet commenters. These efforts, which revolve around denial and deception, distract international actors—hindering their response to the Ukrainian crisis.”<sup>15</sup> These operations provide good examples of disruptive challenges that contributed to the overall success of the operation.

In the eastern Ukraine, Russia encountered a different operating environment as the majority of the population is ethnic Ukrainian, not Russian. Although their primary language is Russian (making them vulnerable to Russian information operations), they did not want to be a part of Russia or independent from Ukraine. This meant that Russian leaders could not count on the support of the local population, providing another example where the Center of Gravity is not “the people” as is often claimed.<sup>16</sup> “The people” or the

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<sup>14</sup> Perry, “Non-Linear Warfare in Ukraine: The Critical Role of Information Operations and Special Operations,” *Small Wars Journal* (August 14, 2015).

<sup>15</sup> Ibid.

<sup>16</sup> Larrabee, Wilson and Gordon, *The Ukrainian Crisis and European Security: Implications for the United States and U.S. Army*, 7.

“will of the people” is often the goal of both sides in these operations and does not inherently possess the qualities needed for consideration as a Center of Gravity

Russia employed many of the irregular tactics that it used in Crimea with the addition of massing its conventional Russian forces along the Ukrainian-Russian border to conduct exercises. This overt military presence represents the Traditional modality and was intended to keep Russian forces ready if called upon to conduct conventional operations, intimidate Ukrainian forces from interfering in the Donbas operations, and to serve as a warning to the European countries about the seriousness of Russia’s intent. It also served to confuse Ukraine as to which method Russia would employ to accomplish its objectives: irregular or traditional. It worked. Ukrainian leaders misidentified the Russian operational Center of Gravity as its conventional military forces and hesitated in countering the Russian unconventional forces operating within their borders. This hesitation cost Ukraine dearly in the long run.

The means employed by Russia in its Donbas operation include SOF and information operations similar to the Crimean phase, but also included the forming, equipping, and employment of pro-Russian separatist units and cross-border artillery fires in support of separatist actions. Perry notes that “unlike the *spetsnaz* forces conducting seizures in Crimea, these units have primarily provided tactical training and strategic advice to pro-Russian separatists fighters.”<sup>17</sup> Russian leaders employed these irregular fighters (the “little green men”) to convert the Donbas region into “a web of chaos,

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<sup>17</sup> Bret Perry, “Non-Linear Warfare in Ukraine: The Critical Role of Information Operations and Special Operations.” *Small Wars Journal* (August 14, 2015), <https://smallwarsjournal.com> (accessed Sept 15, 2015).



humanitarian catastrophe, and artificially generated civil war.”<sup>18</sup> The Ukrainian Army eventually mobilized and attempted to assert control in the Donbas, only to be decimated by Russian cross-border artillery fire. Russia’s irregular tactics eventually culminated in a direct invasion by pro-Russian forces using unmarked Russian armored vehicles, heavy equipment, and weapon systems. Separatist forces with Russian commanders carried out this conventional-styled military operation, however, Russian leaders continue to deny this accusation even though Russian material assistance to the separatists is well documented.<sup>19</sup> Official Russian government denials inject just enough uncertainty to inhibit any substantial Western response. At this moment there are several thousand pieces of equipment employed by pro-Russian separatists—“many of which are unique only to Russian forces.”<sup>20</sup> This ambiguity allows Russian leaders to support the separatists while disavowing direct intervention. It also demonstrates how the Irregular and Traditional modalities can blur into a confusing hybrid war. Interestingly, Russian hybrid warfare not only combines the four modalities of Traditional, Irregular, Catastrophic, and Disruptive/Criminal, but also “combines low-end hidden state involvement with high-end direct, even braggadocio, superpower involvement.”<sup>21</sup>

The response from the European Union (EU) or NATO was weak in the face of Russian provocation. Alba Popescu argues that economic dependency, endemic corruption, and fear of economic repercussions caused the failure of the EU and NATO countries to act decisively in response to Russia’s aggression in Ukraine.<sup>22</sup> This is a form

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<sup>18</sup> Phillip A. Karber, “Russia’s New Generation Warfare,” *NGA Pathfinder*, Vol 14, No 2 (Spring 2015), [http://issuu.com/nga\\_geoint/docs/47080\\_pf\\_final\\_lr](http://issuu.com/nga_geoint/docs/47080_pf_final_lr) (accessed October 10, 2015), 12.

<sup>19</sup> *Ibid.*

<sup>20</sup> *Ibid.*

<sup>21</sup> *Ibid.*

<sup>22</sup> Alba Iulia Popescu, “Observations Regarding the Actuality of the Hybrid War. Case Study: Ukraine,” 122-130.

of the Disruptive/Criminal modality. Popescu describes Russian hybrid war as the Russian state being “behind most, if not all, operations” employing “elements specific to conventional, symmetric military conflict” as well as “those characteristic of guerilla warfare and insurgency.”<sup>23</sup> Additionally, disruptive “cyber warfare attacks have been launched against Ukraine, its allies and honest brokers” as “the Russians are conducting economic, psychological and imago-logical warfare operations.”<sup>24</sup> Russian cyber operations against Ukraine included a type of malware known as “Snake.” The Snake “infections” targeted Ukrainian government computers with a powerful exploitation tool used to access secret information.<sup>25</sup> The cumulative effect of these disruptive actions was the “Russian infiltration inside European politics and economy ... designed to limit, split and distort European and American political decision maker’s response capacity.”<sup>26</sup>

Karber constructed a framework for hybrid warfare, specific to Russian operations in the Ukraine, that includes five components: political subversion, proxy sanctuary, intervention, coercive deterrence, and negotiated manipulation.<sup>27</sup> He argues

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<sup>23</sup> Ibid., 130.

<sup>24</sup> Ibid.,

<sup>25</sup> Sam Jones, “Ukraine: Russia’s New Art of War.”

<sup>26</sup> Alba Iulia Popescu, “Observations Regarding the Actuality of the Hybrid War.,” 130.

<sup>27</sup> Dr. Phillip A Karber, “Russia’s New Generation Warfare,” 11-13. Karber describes Political Subversion as the insertion of agents; classic “agi-prop” information operations employing modern mass media to exploit ethnic-linguistic-class differences; corruption, compromise, and intimidation of local officials; backed up with kidnapping, assassination, and terrorism; recruiting discontented elements into a cellular cadre enforced with murderous discipline. He describes Proxy Sanctuary as seizing local governmental centers, police stations, airports and military depots; arming and training insurgents; creating checkpoints and destroying ingress transportation infrastructure; cyberattacks comprising victim communications; phony referendum with single party representation; establishment of a “people’s Republic” under Russian tutelage. Intervention is described as the deploying of Russian forces to the border with sudden large-scale exercises involving ground, naval, air, and airborne troops; surreptitious introduction of heavy weapons to insurgents; creation of training camps and logistics camps adjacent to the border; commitment of so-called “volunteer” combined-arms Battalion Tactical Groups; integrating proxy troops into Russian equipped, supported and led higher-level formations. On the more overt side of the spectrum, Coercive Deterrence is composed of secret strategic force alerts and snap checks – forward deployment of tactical nuclear delivery systems; theater and intercontinental “in your face” maneuvers; aggressive air patrolling of neighboring areas to inhibit their involvement. Finally, Negotiated Manipulation is the use and abuse of Western negotiated ceasefires to rearm their proxies; using violations to bleed the opponent’s Army while inhibiting

that Russia used these five components at various times throughout its hybrid campaign with some components denied and hidden (political subversion and proxy sanctuary) while other components are overtly employed (coercive deterrence). Karber's framework is useful for this thesis as he rightly identifies the use of denial, deception, distraction, and integration of forces common to hybrid war and demonstrates why it is extremely difficult to accurately identify a hybrid threat's operational level Center of Gravity; especially during the early stages of the conflict.<sup>28</sup>

Russian operations in Ukraine represent a modern example of hybrid warfare employed by one state against another. Russia employed a lethal mixture of Traditional, Irregular, and Disruptive challenges against Ukraine, all under Russia's nuclear umbrella. Since this conflict is ongoing there will undoubtedly be additional actions by both sides, but this brief review of Russia's opaque invasion of Ukraine demonstrates the critical need to identify a hybrid threat's operational Center of Gravity accurately and rapidly and develop countermeasures to neutralize it prior to the situation escalating. As Perry sums up in his analysis, "Russia's sophisticated information operations and effective employment of SOF were ultimately the most important factors in its non-linear warfare campaign. Russia's effective use of Political Subversion and Proxy Sanctum elements provided escalation dominance—allowing the Kremlin to leverage conventional forces and strategic coercion in its non-linear warfare strategy."<sup>29</sup>

As with the Israeli case, if the Ukrainian leadership had conducted a Center of Gravity analysis on the Russian forces using the methodology proposed in this thesis the

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other states from helping under fear of escalation – divide the Western alliance by playing economic incentives, selective and repetitive phone negotiations infatuating a favorite security partner.

<sup>28</sup> Ibid.

<sup>29</sup> Perry, "Non-Linear Warfare in Ukraine."

outcome may have been significantly different, especially in the early days of the invasion. First, it was clear that Russia employed all four hybrid modalities. Its use of covert SOF, separatist forces, unmarked Russian equipment, and heavy information operations represent the Irregular modality. Russian conventional forces arrayed along the border, as well as the cross-border artillery fires, qualify as the Traditional modality. Russia employed the Disruptive/Criminal modality through the use of Cyber operations, information operations, and criminal activity in Ukraine and other EU countries. Finally, Russian strategic communications ensured that Ukraine was aware of Russia's nuclear capabilities. Russia's nuclear intimidation of its neighbor implied the presence of the Catastrophic modality even though it is unlikely Russia would employ those weapons.

Russia's political objectives are assessed as expanding its hegemony over a former Soviet region by annexing the ethnic-Russian and Russian-speaking parts of Ukraine: Crimea and the Donbas region. It is unlikely that Russia would have overtly used its conventional forces to accomplish these objectives due to the severe political repercussions and additional economic sanctions imposed by the EU and U.S. This political reality likely resulted in the operational limitations to use only non-attributable Russian personnel and equipment that could be disavowed within Ukraine's borders.

The CCs required to accomplish these objectives include the abilities to seize key government and military facilities covertly, create and support a pro-Russian militia, stoke Russian nationalism, and conduct brutal irregular warfare operations to wrest control of key areas from Ukrainian control. The operational limitations discussed above negate the Traditional modality as the Center of Gravity, even though it contained Russia's greatest sources of strength. Russian conventional forces were a key supporting

effort in its operational design as it conducted exercises along the Ukrainian border to deceive Ukrainian leadership and provide cover for the main effort and real operational Center of Gravity: the Irregular modality. Covert Russian forces and pro-Russian separatists constituted the Center of Gravity for Russia as they were the main effort employed to accomplish the political and military objectives.

Ukrainian leaders realized this too late and were unable to respond in a rapid and effective manner, resulting in the loss of Crimea and eastern portions of Ukraine. Had the Ukrainian leadership recognized Russia's real Center of Gravity earlier they could have immediately counterattacked the "little green men" in Crimea and reinforced government bases and buildings in eastern Ukraine. These actions, along with a concerted diplomatic effort with the EU and U.S., would have placed the Russian leadership in a dilemma: abandon its Ukraine operations or shift the main effort to its conventional forces (resulting in a Center of Gravity shift) and conduct an overt invasion of Ukraine, accepting all the resulting military, political, and economic consequences. In the end, Russian leaders did not have to make that decision as their hybrid war successfully achieved its military and political objectives with an acceptable level of international condemnation (See Appendix F for a graphical representation of this Center of Gravity analysis).

## Chapter 7: Conclusions and Recommendations for Joint Doctrine

“The first, the supreme, the most far-reaching act of judgment that the statesman and commander have to make is to establish by that test the kind of war on which they are embarking; neither mistaking it for, nor trying to turn it into, something that is alien to its nature.”<sup>1</sup>

-Carl von Clausewitz

The fundamental nature of war remains unchanged, however, the character and conduct of twenty-first century warfare continues to evolve. Compared to the Clausewitzian vision of conventional interstate conflict, modern warfare is increasingly characterized by the erosion of the state’s sovereignty and monopoly of violence coupled with the continuing effects of de-colonialization in developing nations, the vacuum created by the fall of the Soviet Union, and the realities of a globally-interconnected society. The wars of the twenty-first century are best described as a transnational asymmetric mixture of globalization and radicalized tribalism, enabled by high-speed communications and modern weapons, employing ancient and barbaric tactics, sustained by criminality and foreign aid, and located in geographic areas of instability characterized by weak or failed states where poverty is endemic and the majority of the population has little to no access to the political system. These are protracted gray zone conflicts.

Commanders and planners cannot expect gray zone conflicts to “portend a suite of distinct challengers” separated into “boxes of a matrix chart.”<sup>2</sup> Colin Gray states that the one feature “we can predict with confidence is that there is going to be a blurring, a further blurring, of warfare categories.”<sup>3</sup> Hoffman contends that the “most distinctive change in the character of modern war is the blurred or blended nature of combat ... their

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<sup>1</sup> Clausewitz, *On War*, 88

<sup>2</sup> Frank G. Hoffman, “Hybrid Warfare and Challenges.” *Joint Forces Quarterly*, Issue 52 (1<sup>st</sup> Quarter 2009), 37.

<sup>3</sup> *Ibid.*, 36. Hoffman quotes Gray from his work, *Another Bloody Century: Future Warfare*.

convergence into hybrid wars.”<sup>4</sup> The American military must reshape its “intellectual, organizational, and institutional models” to develop innovative ways to understand and counter this type of warfare.<sup>5</sup> In the same way that Alexander the Great demonstrated *coup d’oeil* in finding a creative and unorthodox solution to the Gordian Knot, commanders must quickly recognize the hidden truth behind today’s complex, non-linear, and opaque problems that have no simple or easily discernable solutions.<sup>6</sup> Confronting these complex hybrid threats places a “premium on the cognitive skills needed to recognize and quickly adapt to the unknown.”<sup>7</sup> Rapidly and accurately identifying a hybrid threat’s Center of Gravity is critical in mitigating or defeating the most likely type of adversary U.S. forces will meet on the twenty-first century battlefield.

Since the method for Center of Gravity analysis in the thesis is an ideal type, examples can be used to support the theory, but it is, in principle, unprovable. The real question is not if the method is provable, but rather is it useful; does it work in the real world? The real goal of this methodology is to provide a useful tool for operational planners that can be adapted quickly to today’s challenges. Indeed, both Hoffman and Ionta argue for renewed study specifically in correctly identifying a hybrid adversary’s Center of Gravity as that assessment greatly affects the entire operational art employed to counter the threat.<sup>8</sup>

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<sup>4</sup> Ibid., 37.

<sup>5</sup> Votel, “The Gray Zone,” 1.

<sup>6</sup> Clausewitz, *On War*, 102. Clausewitz described *coup d’oeil* as “the quick recognition of a truth that the mind would ordinarily miss or would perceive only after long study and reflection.” Joint Advance Warfighting School (JAWS) Professor Bryon Greenwald further explains *coup d’oeil* as “an inward eye capable of recognizing and understanding a given situation in a moment, amidst the fog (uncertainty), confusion, danger, and exhausting nature of combat.”

<sup>7</sup> Frank G. Hoffman, “Hybrid Warfare and Challenges,” 38.

<sup>8</sup> Frank G. Hoffman, “Hybrid Warfare and Challenges,” 38 and Craisor-Constantin Ionita, PhD. “Is Hybrid Warfare Something New?” *Strategic Impact*, No. 53 (2014), 68.

To better equip commanders and planners for the hybrid challenges of the twenty-first century the following recommendations are made for inclusion into Joint and Service doctrines: First, a full revision of the definition of the Center of Gravity is required to unify the numerous versions currently in use. Vego states that “any sound plan for employing combat forces essentially hinges on properly determining a COG.”<sup>9</sup> Correctly determining a Center of Gravity hinges on adopting a single, usable definition. Joint doctrine should define the Center of Gravity as an actor’s “main effort” to achieve its objectives at a given level of war.

Adopting this definition simplifies the process of Center of Gravity analysis, is applicable to operational-level hybrid threat scenarios, and acknowledges that the Center of Gravity can shift as the situation develops. This ensures that Center of Gravity analysis is continually assessed and the problem reframed throughout the operation. It also reduces the confusion and friction often associated with determining the Center of Gravity using multiple definitions or divining it via mechanical metaphors.

Second, the specific approach for hybrid threat Center of Gravity analysis described in this thesis should be adopted as Joint doctrine and included in future revisions of the applicable Joint Publications. Identifying the Modality of Principal Use as the Center of Gravity provides planners with a holistic approach to hybrid threat analysis where none currently exists. It is also useful in establishing requirements for intelligence collection operations and information needed for inclusion into JIPOE to support planning.

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<sup>9</sup> Vego, “Center of Gravity,” 23.



Third, Joint and Service doctrines and education programs need to account for hybrid threats and hybrid warfare in a consistent, formal, and holistic manner. The definition of hybrid war used in this thesis provides a foundation and should be incorporated into both Joint and Service doctrines. Additionally, enlisted and officer Professional Military Education (PME) programs must infuse their curriculums with a real understanding of this concept and the operational implications of its employment on the future of warfare.

Warfare, the actual conduct of war, is constantly changing based upon any number of factors. Innovations in technology or the use of violence by non-state actors does not change the fundamental nature of war. War continues to be a violent struggle—a deadly contest of wills—for a political purpose. It appears that modern warfare is increasingly characterized as persistent, undeclared, guerrilla-style conflicts between societies than by short, declared, decisive actions between states.<sup>10</sup> This is important as challengers to U.S. policy actively avoid actions likely to result in an overwhelming conventional military response. It is critical that policy-makers and senior military leaders grasp the implications of committing forces into gray zone conflicts, as traditional and hybrid warfare have fundamentally different characteristics and require different approaches.<sup>11</sup> Clausewitz is prophetic and timeless in admonishing the “statesman and commander” to determine the “kind of war” waged and not fall into the trap of entering the desired war and not the real one.<sup>12</sup> The methodology proposed in this thesis helps commanders do just that.

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<sup>10</sup> Herfried Münkler, *The New Wars*, trans. Patrick Camiller. (Cambridge, UK. Polity Press, 2002), 11-12.

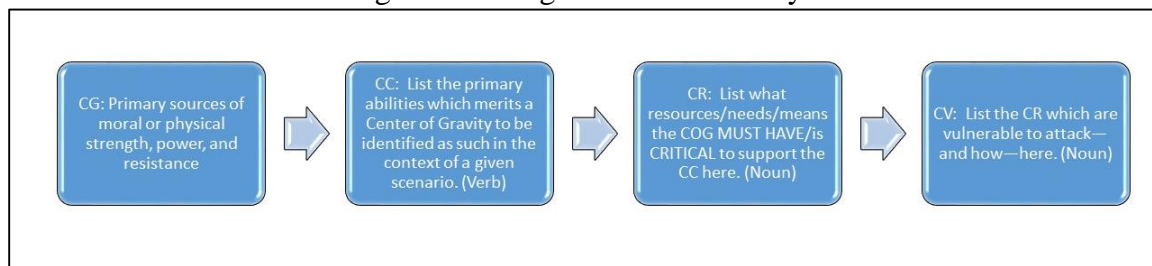
<sup>11</sup> Votel, “The Gray Zone,” 7.

<sup>12</sup> Clausewitz, *On War*, 88.

## Appendix A: Strange and Eikmeier Center of Gravity Models

For many planners, Strange illuminated a topic that was previously shrouded in darkness. The Strange method provides a well-defined, well-articulated theoretical framework supported with many illustrations. It explicitly shows the relationships between the Center of Gravity, the critical capabilities, the critical requirements, and the potential critical vulnerabilities – the key to a systems theory of analysis and target development. His method provides a set of consistent definitions for planners to use and easily communicates the analysis to uninformed decision-makers. Finally, Strange claims that this method is useful in analyzing any kind of conflict and at the tactical, operational, and strategic levels of war.<sup>1</sup> Figure 1 below graphically displays the Strange method.

Figure 1. Strange Center of Gravity Method



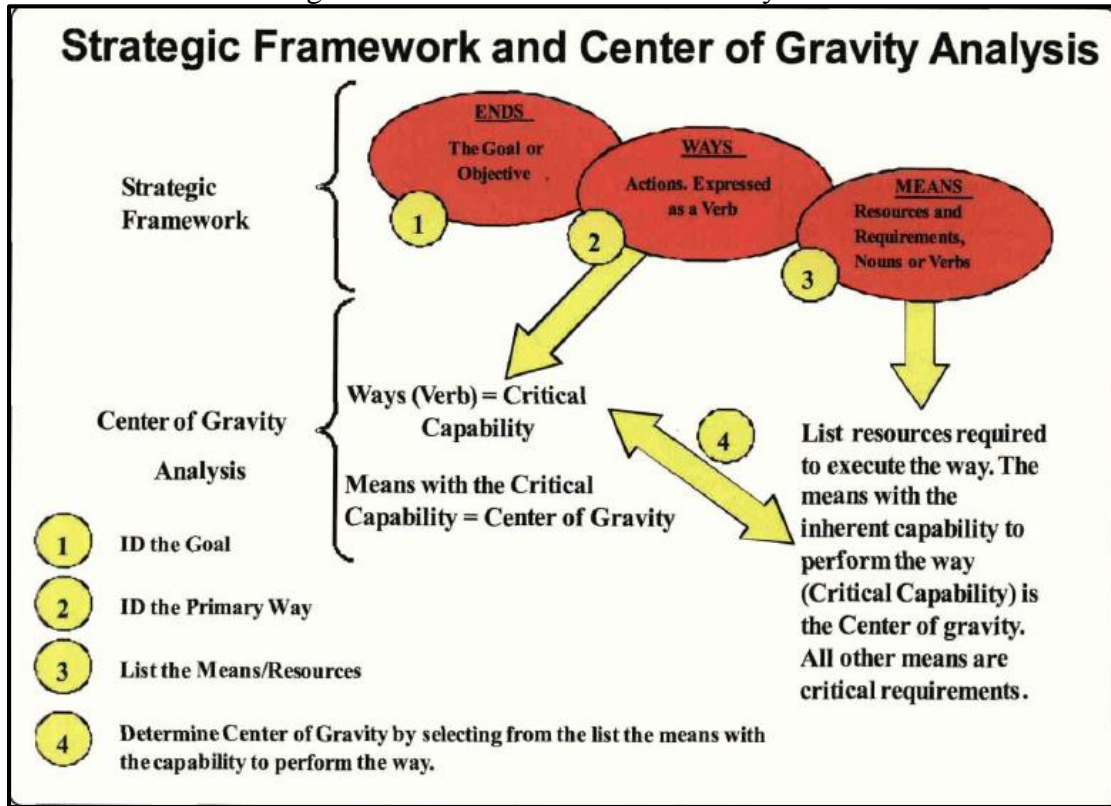
The Eikmeier method has proven so helpful for military planners at the tactical and lower-operational levels in identifying the Centers of Gravity of conventional threats that RAND authors Christopher Schnaubelt, Eric Larson, and Matthew Boyer integrated

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<sup>1</sup> Joe Strange, *Centers of Gravity and Critical Vulnerabilities: Building on the Clausewitzian Foundations So That We Can All Speak the Same Language* (Marine Corps University Press, 1996), 43. Strange defined these terms as such: Centers of Gravity are primary sources of moral or physical strength, power, and resistance; Critical Capabilities are the primary abilities which merits a Center of Gravity to be identified as such in the context of a given scenario, situation, or mission; Critical Requirements are essential conditions, resources, and means for a Critical Capability to be fully operative; and Critical Vulnerabilities are Critical Requirements, or components thereof, which are deficient or vulnerable to neutralization, interdiction, or attack in a manner achieving decisive results.

this method into their *Vulnerability Assessment Method Pocket Guide: A Tool for Center of Gravity Analysis* for the U.S. Army<sup>2</sup> (Figure 2 below shows how Eikmeier approaches Center of Gravity analysis at the tactical and operational levels).

Figure 2. Eikmeier’s Center of Gravity Method



Strange and Eikmeier are similar in their approaches to the topic. Both developed complementary constructs to assist planners in identifying an adversary’s Center of Gravity (with the associated critical capabilities, critical requirements, and critical vulnerabilities).<sup>4</sup> Both argue that the Center of Gravity concept is applicable to limited warfare as well as absolute (or total) warfare, and both irregular and conventional

<sup>2</sup> Christopher M. Schnaubelt, Eric V. Larson, and Matthew E. Boyer, *Vulnerability Assessment Method Pocket Guide: A Tool for Center of Gravity Analysis* (RAND, 2014), 8-18.

<sup>3</sup> Dale Eikmeier, “Centers of Gravity: Changing the Way We Think.” *Marine Corps Gazette* (November 2010), 99.

<sup>4</sup> Joe Strange and Richard Iron, “Understanding Centers of Gravity and Critical Vulnerabilities,” *Joint Forces Quarterly*, No. 35 (Fall 2004).

warfare. Both view the identification of an adversary's Center of Gravity as central in the formulation of feasible and acceptable plans at each level of war (strategic, operational, and tactical).

However, Strange and Eikmeier disagree with respect to the nature of strategic and moral Centers of Gravity.<sup>5</sup> Strange argues that a strong leader, a ruling elite, or a strong-willed populace can (if they have the right conditions) be a strategic moral Center of Gravity. He states that self-sustaining peace can only be achieved by undermining these strategic moral Centers of Gravity.<sup>6</sup> Eikmeier, on the other hand, dismisses the notion of strategic moral Centers of Gravity and argues that at the national (or strategic) level, the Center of Gravity is either the military/security force or economic/industrial capacity of that nation. Eikmeier contends that in a limited war the strategic Center of Gravity is the military/security force while in total war it is the nation's economic/industrial capacity.<sup>7</sup> While both arguments are interesting and educational, the purpose of this thesis is to understand the operational level Center of Gravity for a hybrid threat. Therefore, this thesis does not address the various discussions about strategic Centers of Gravity.

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<sup>5</sup> Dale C Eikmeier, "Center of Gravity Analysis," *Military Review* (July – August 2004):4; Joe Strange and Richard Iron, "Understanding Centers of Gravity and Critical Vulnerabilities," *Joint Forces Quarterly*, No. 35 (Fall 2004).

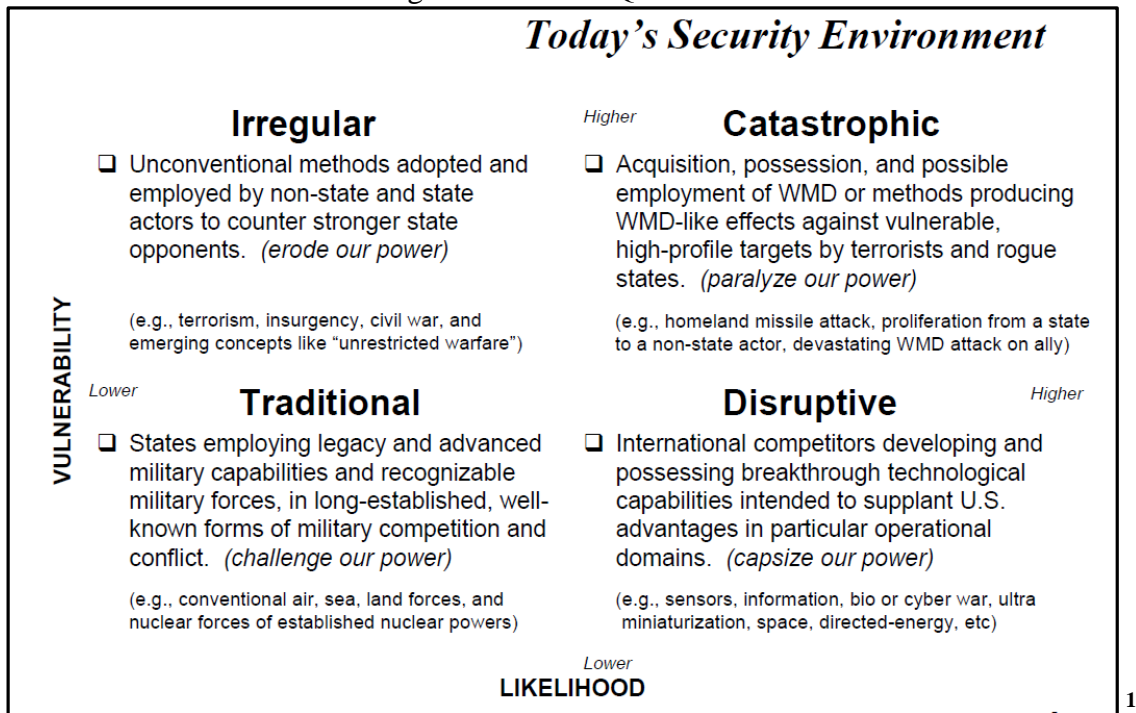
<sup>6</sup> Joe Strange and Richard Iron, "Understanding Centers of Gravity and Critical Vulnerabilities," *Joint Forces Quarterly*, No. 35 (Fall 2004).

<sup>7</sup> Dale C. Eikmeier, "Center of Gravity Analysis." *Military Review* (July – August 2004): 2-5.

## Appendix B: Freier’s Hybrid threat Quad Chart and Description of Modalities

Nathan Freier develop the below quad chart to identify and categorize the forms of organized violence employed by hybrid threats. Although these appear to be four stove-piped modalities, in reality a hybrid adversary blends these modalities into a single, hybrid, force.

Figure 3. Freier’s Quad Chart



Hybrid warfare does not fall neatly into a subset of irregular warfare. Freier describes each of the modalities that construct a hybrid threat within his quad chart to provide a clear understanding of what actions (strategies, tactics, etc) are contained in each. First, Traditional challenges are seen as costly, but familiar. They include the “employment of legacy and advanced military capabilities and recognizable military

<sup>1</sup> Nathan Freier, “Strategic Competition and Resistance in the 21<sup>st</sup> Century: Irregular, Catastrophic, Traditional, and Hybrid Challenges in Context.” Strategic Studies Institute (May 2007), 2.

forces in long-established, well known forms of military competition and conflict.”<sup>2</sup>

These are threats designed to “challenge [American] power” and include “conventional air, land, and sea forces” as well as traditional (rational state-controlled) nuclear forces. Freier notes that Traditional challenges represent the “recognized, highly-structured, and routinized competition between military powers employing their armed forces to deter, threaten, attack, or defend themselves.”<sup>3</sup>

Catastrophic challenges are viewed as likely and paralyzing. They include the use of all forms of weapons of mass destruction (WMD) – to include nuclear – by terrorists or rogue (non-rational) state actors. These challenges also include the use of non-CBRN weapons for the purpose of causing catastrophic destruction, as demonstrated by the use of commercial airplanes on the Sept 11, 2001 terrorist attacks. Catastrophic Terrorism does not include every attack or action by a terrorist or insurgent group. The idea behind this category is to identify if an organization or rogue state has the capability to “paralyze [American] power” through a single or (near) simultaneous or cumulative actions.<sup>4</sup>

Irregular challenges are seen as persistent and corrosive. They are described as “unconventional methods adopted and employed by non-state and state actors to counter stronger opponents.” Irregular challengers seek to “erode [American] power” by employing the full range of unconventional methods – including “terrorism, insurgency, civil war, and emerging concepts like unrestricted warfare.” These are all forms of resistance against a dominant military power and include all of the tactical actions expected (including bombings, assassinations, propaganda/information operations, use of

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<sup>2</sup> Ibid., 20-21.

<sup>3</sup> Ibid., 20-21.

<sup>4</sup> Ibid., 27-33.

sanctuary, etc). However, Irregular challenges can also include “alternative forms of war” including “trade war, financial war, ecological war” as well as high-tech terrorism. In short, Irregular challenges are the “purposeful irregular resistance to the United States” and involve the “unconventional employment of violence, political agitation, social mobilization, and political or economic ‘assault’ ... specifically targeted at undermining the quality and scope of American reach and influence, the security of core American interests, and the stable functioning of key U.S. allies and partners.”<sup>5</sup>

Lastly, Disruptive challenges are not completely understood or defined. They are described as capabilities designed to “capsize [American] power” and are largely seen as emerging technological capabilities that could negate American military superiority. While not explicitly identified, the use of highly sophisticated cyber-operations designed to penetrate and disable military or civilian operating systems (as a stand-alone action or in conjunction with other actions) fits nicely within this category.<sup>6</sup>

By their very nature, hybrid threats are integrated, amorphous, and difficult to analyze. As such identifying a single unit or force as the Center of Gravity is potentially dangerous and misleading. Likewise, identifying critical vulnerabilities is extremely difficult as there is no single source of strength to defeat and no silver bullet powerful enough to neutralize the critical capabilities inherent within a hybrid adversary. There is real danger in applying traditional Center of Gravity analysis to hybrid threats as it misleads senior military and civilian leaders into believing that operations against hybrid adversaries will be shorter, less costly, and less risky than is often the case.

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<sup>5</sup> Ibid., 33-39.

<sup>6</sup> Ibid., 2.

## Appendix C: Differences between Compound and Hybrid threats

Compound threats, like their hybrid cousins, employ two (or more) modalities; usually traditional (or regular) and irregular forces. These forces may coordinate at the highest levels, but rarely, if ever, coordinate action at the tactical or operational levels. Hoffman describes Compound War (CW) as, “the deliberate simultaneous use of a regular main force with dispersed irregular forces.”<sup>1</sup> Historically, these are powerful adversaries when able to effectively command, control, coordinate, and supply. Generally speaking the CW modalities work in concert with each other, but do not directly coordinate efforts. Under the CW construct, the irregular force is usually the supporting effort while the regular force is the main effort and the forces rarely, if ever, combine. Hoffman argues that “the irregular force attacks weak areas, compelling a conventional opponent to disperse his security forces” while the conventional force “generally induces the adversary to concentrate for defense or to achieve critical mass for defensive operations”<sup>2</sup>

Historical examples of CW include the American Revolution, Napoleon’s invasion of Spain, the American Civil War (from the Confederate perspective), T.E. Lawrence’s role as advisor to the Arab Revolt against the Ottomans in conjunction with the British Expeditionary Forces in WW I, the Chinese Communist and Nationalist collaboration against Japanese occupation during WWII, and the American experience against the North Vietnamese and Viet Cong during the Vietnam War. All of these

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<sup>1</sup> Frank G. Hoffman, “Hybrid vs. Compound War, the Janus Choice,” *Armed Forces Journal* Vol 14, 2009, <http://search.proquest.com.nduezproxy.idm.oclc.org/docview/200721648?accountid-12686> (accessed August 15, 2015), 2.

<sup>2</sup> *Ibid.*, 36.



examples demonstrate coordination between regular and irregular forces, but do not reach the level of integration and unification seen in current hybrid threats, nor do they usually employ three or more modalities at that level of unification.<sup>3</sup>

Alba Popescu succinctly notes the difference between the two types in that “compound wars means the synergy is focused at the strategic level, without the operational and the tactical coordination, with irregular forces usually being used as a compliment to the regular forces, totally separate at the operational level, then in the case of a hybrid war there is a synergy at all the conflict levels whether strategic, operational or tactical, and with a high degree of diffusion, of blending roles among the actors, of interchangeable tactics, the similarity in operations.”<sup>4</sup>

Center of Gravity analysis of compound threats is conducted in the same way as conventional threats, with the regular force identified as the operational level Center of Gravity, and the irregular force identified as a Critical Requirement as it is weaker and generally assigned tasks as a supporting effort to the main, regular, force. While there may be some efforts at deception to mask the regular force, the level of integration seen in hybrid threats is not seen with compound ones. This results in the regular force used for obtaining the decisive victory and the irregular force serving as a vital supporting effort. However, the alternative Center of Gravity analysis method identified in this thesis would work well for compound threats as well as hybrid ones.

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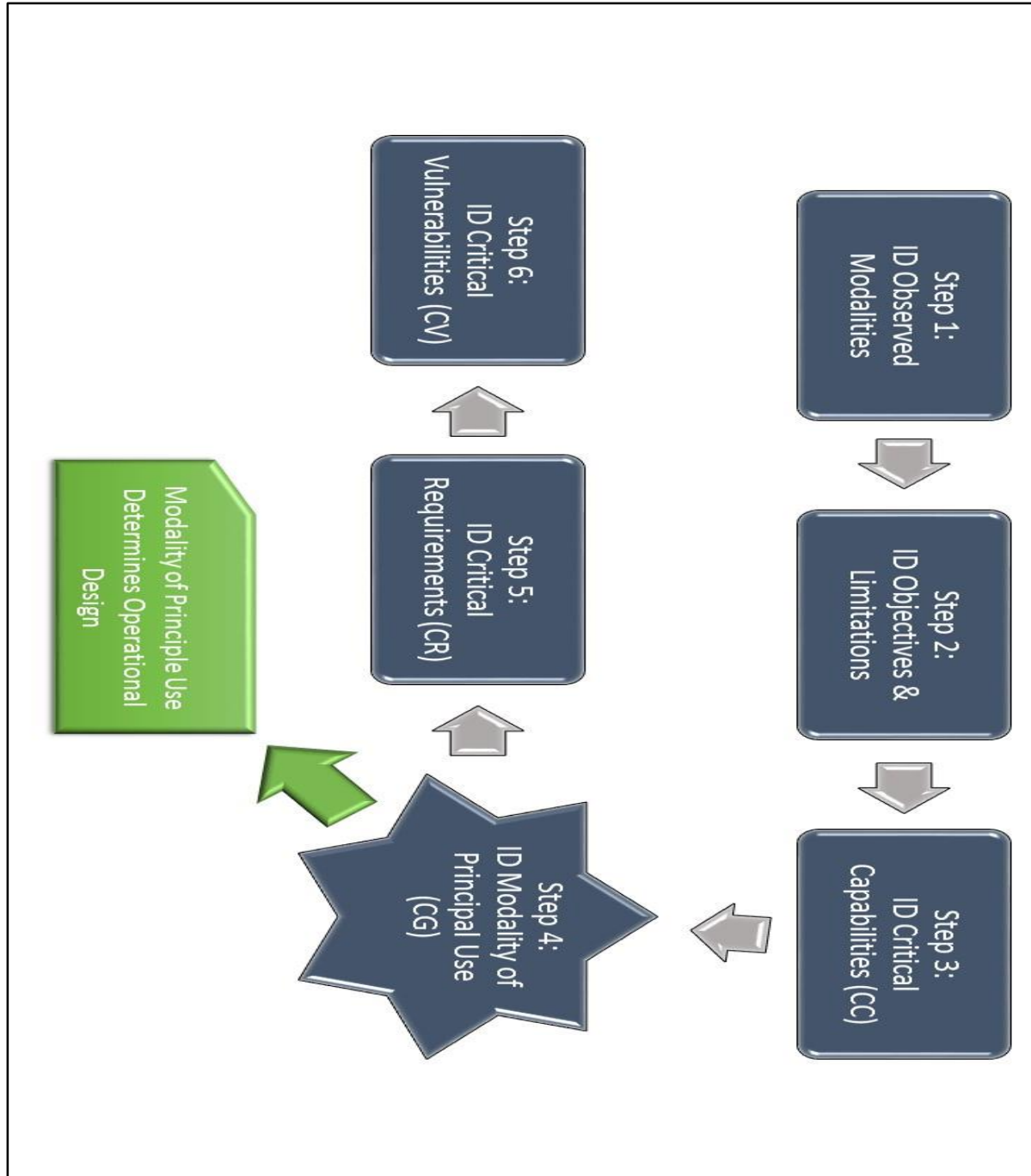
<sup>3</sup> Ibid.

<sup>4</sup> Alba Iulia Catrinal, “Observations Regarding the Actuality of the Hybrid War. Case Study: Ukraine.” *Strategic Impact*. No. 4 (2014): 120.

## Appendix D: Graphical Depiction of the Hybrid threat Center of Gravity Method

The graphic below displays the holistic process for determining a hybrid threat's operational level Center of Gravity in an easily digestible manner.

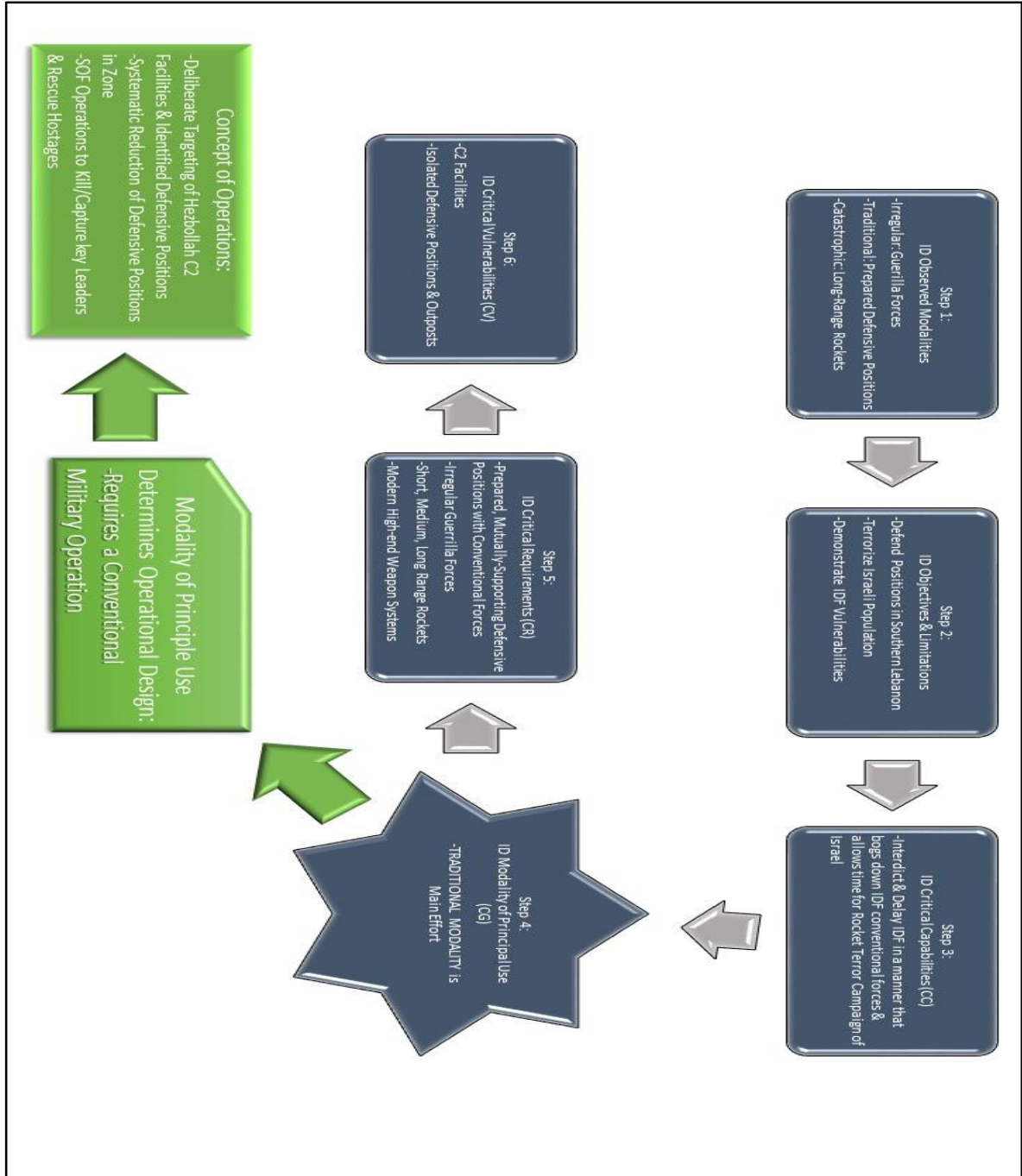
Figure 4. Hybrid Threat Center of Gravity Method



## Appendix E: Graphical Depiction of Proposed Hezbollah COG Analysis

The graphic below figure displays Hezbollah’s operational level Center of Gravity analysis as explained in Chapter 5.

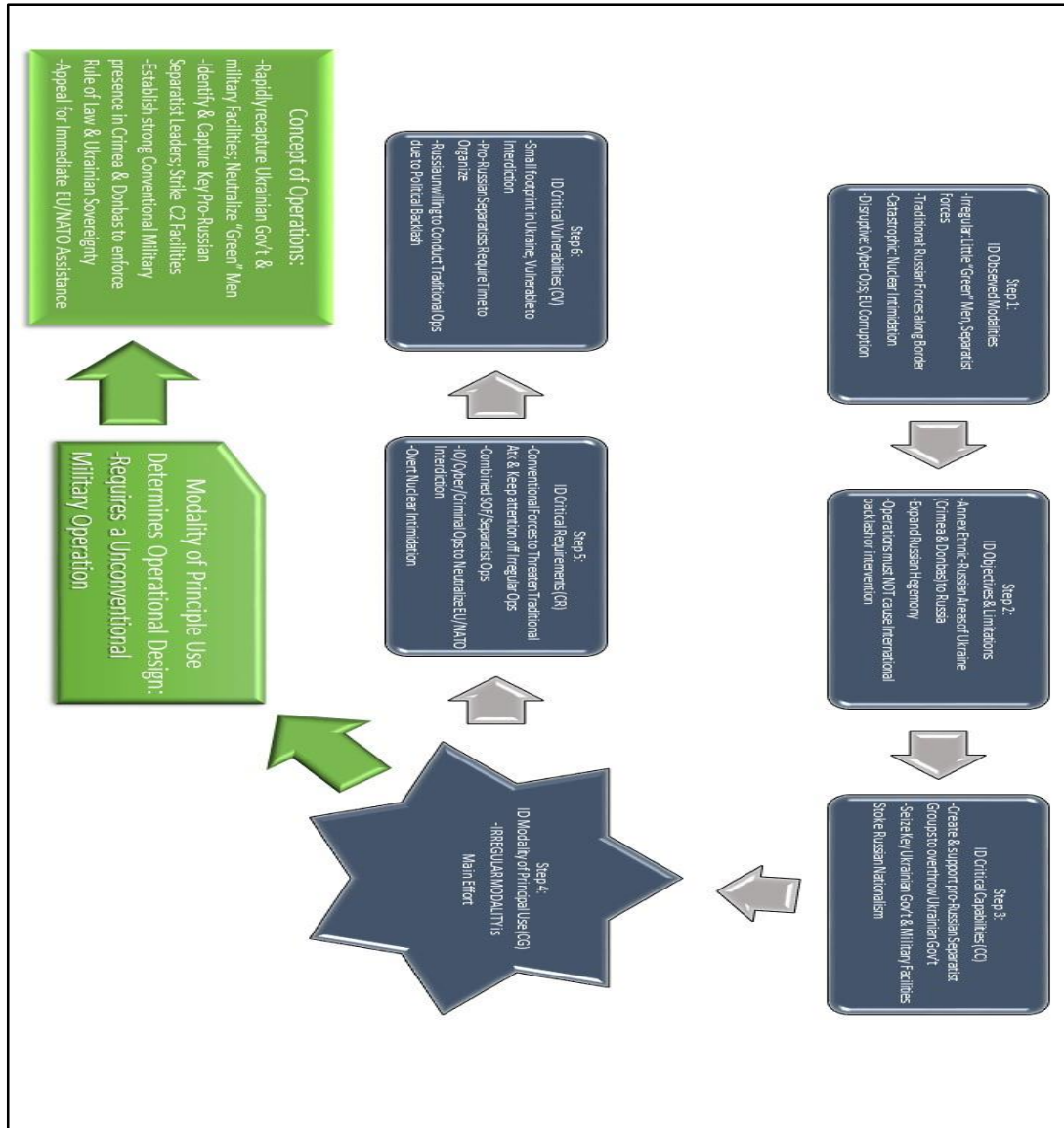
Figure 5. Proposed Hezbollah COG Analysis



## Appendix F: Graphical Depiction of Proposed Russian COG Analysis

The graphic below figure displays Russia’s operational level Center of Gravity analysis as explained in Chapter 6.

Figure 6. Proposed Russian COG Analysis



## **Appendix G: Islamic State COG Analysis**

There are continuing debates about the national strategy to defeat the Islamic State (aka IS, ISIS, ISIL, D'aesh). Imbedded within these debates are fundamental disagreements as to the Islamic State's strategic and operational Centers of Gravity. As noted in this thesis, identification of the Center of Gravity is critical to the operational approach designed to counter the threat. So these are critical debates. As discussed in the two previous case studies, misidentifying the Center of Gravity is the clearest path to defeat against a hybrid foe. So, it is worth adding a quick assessment of the Islamic State's Center of Gravity. The first order of business is to determine if the Islamic State is a hybrid actor and, if so, what is its operational Center of Gravity.

The Islamic State displays attributes of all four hybrid modalities. First, the Islamic State displays the Traditional modality through its fielded military and militia forces. These forces execute traditional military operations with modern weapon systems against traditional armies (Iraqi and Syrian Armed Forces) and local militias. Islamic State fighters typically wear uniforms, deploy in units, and employ rudimentary combined arms offensive operations. They also defend the ground they have taken with prepared defensive positions. Second, the Islamic State displays the Irregular modality through its use of shadow governments, highly visible terrorist operations, killings of Sunni and Shia "apostates," and internet-based recruiting. This modality solidifies its rule in captured areas, frightens potential adversaries, attracts foreign recruits, and increases its stature on the world stage. Third, the Islamic State displays the Disruptive/Criminal modality through its vast network of illicit oil trafficking and sales, illegal bulk cash transfers through charities and individuals, stolen foreign aid, kidnap for ransom

operations, taxes, and illegal checkpoints. Fourth, the Islamic State appears to have acquired or produced chemical weapons and may have the intent to use these weapons. If true, this displays a Catastrophic Terrorism modality that could be used against vulnerable, high-profile targets. The Islamic State's extensive information operations (IO) contribute to all four modalities in much the same manner that IO supports multiple lines of effort in joint doctrine.

The Islamic State qualifies as a hybrid threat as it displays and integrates all four modalities into a single elusive entity. There is considerable overlap between the Traditional and Irregular modalities as well as the Irregular and Criminal modalities. The Islamic State acts very much like a nation-state even though it is technically a non-state rogue actor. This leads into the next step: identify its objectives and limitations.

Strategically the Islamic State desires the recreation of the historical Islamic Caliphate. Operationally, the Islamic State's objectives are to seize the territory required to build the Caliphate, establish the economic infrastructure to fund the Caliphate, build an army to expand the Caliphate, and terrorize all those who oppose them. They appear to have no political or operational limitations that inhibit their ability to seek their objectives through the use of unrestricted warfare.

Strategically, one of the Islamic State's Critical Capabilities is the ability to keep the U.S. from directly confronting its forces on the ground in Iraq and Syria. The Islamic State's ideological call for a decisive battle to take place in western Syria against Western forces is one of the methods used to keep the U.S. at bay. This apocalyptic vision of a grand battle between Islam and the West, coupled with the political limitation of not directly supporting the Assad regime and U.S. strategic guidance to not become a part of

any long-term stability operations, appears to be effective in deterring the U.S. from committing general purpose forces to this conflict. The Islamic State leaders know that the U.S. has no appetite for another protracted ground campaign in the Middle East.

Operationally, there are four Critical Capabilities required to accomplish the Islamic State's operational objectives. First, the Islamic State must have the ability to defeat regional challengers and seize terrain. Second, it must have the ability to govern the areas seized. Third, it must have the ability to self-sustain and generate income. Fourth, it must have the ability to recruit, train, and employ forces.

Determining the Islamic State's Center of Gravity through the traditional methods is extremely difficult and potentially irrelevant. Indeed, applying doctrinal Center of Gravity analysis to the Islamic State likely results in a "mirage" that looks "good in theory, but rarely exists in the real world in a way useful for military planners."<sup>1</sup> In reality the Islamic State has no one source of physical and moral power. It is a network of networks with no single, critical node. It is a truly hybrid threat. But that does not mean that it is indestructible or undefeatable.

The Islamic State contains all four modalities within its hybrid nature, but the Traditional modality is the modality of principal use—the Center of Gravity. The Traditional modality is the Islamic State's main effort to accomplish its operational objectives and create the Caliphate. Its real source of power lies in the forces arrayed on the battlefield engaged in the seizure or defense of terrain.

The other three modalities, along with all the resources and means contained in the Traditional modality, are identified as Critical Requirements. Two critical

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<sup>1</sup> Mark Cancian, "Centers of Gravity are a Myth," *Proceedings* (September 1998), 30.

requirements that must be addressed are the Islamic State's senior leadership and its ideology. The Islamic State's senior leadership must be killed or captured. This is critical to weakening its fielded forces loyalty and ability to coordinate operations. Additionally, these leaders have ordered and carried out barbarous terrorist actions. There is no place for them in the post-war society. Secondly, the Islamic State's Salafist jihadist ideology is not the Center of Gravity, rather is a critical requirement necessary for the recruiting and sustainment of the group's stated purposes. Efforts can be made to neutralize it with counter-messaging, but this generally proves ineffective. Defeat on the battlefield is often the best counter-narrative to the jihadist message.

Assessing the Traditional modality as the Islamic State's Center of Gravity allows for an operational approach designed around defeating that modality as it will have the greatest impact on the Islamic State's ability to accomplish its goals. In layman's terms, the Islamic State is acting more like a traditional conventional force and should be treated as such. Any operational approach that addresses the Islamic State as another non-state actor conducting irregular warfare or terrorism will fail to defeat the Islamic State as its very nature is more traditional than irregular. Understanding this reality provides insight into why current coalition efforts are failing to defeat the Islamic State. To defeat the Islamic State, coalition forces must engage in a conventional campaign to defeat or destroy its uniformed military and ununiformed militia forces. This coalition should be led and manned by those with the most to win or lose in the region – Turkey, Iraq, Jordan, Saudi Arabia, and Kuwait. Only after the Islamic State's traditional forces are systematically destroyed and its leadership erased can the root causes of Sunni disenfranchisement and abuse by totalitarian regimes be addressed.



## Bibliography:

### Books and Monographs:

- Arrian. *The Campaigns of Alexander*. Dorset Press. New York, 1986.
- Bar, Shmuel and Richard Crowell. *Hybrid Conflict: A Retrospective Analysis of the Summer 2006 War Between Israel and Hizballah*, Naval War College, 2013.
- Biddle, Stephen and Jeffrey A. Friedman. *The 2006 Lebanon Campaign and the Future of Warfare: Implications for Army and Defense Policy*. Strategic Studies Institute, September 2008. <http://www.strategicstudiesinstitute.army.mil/> (assessed 15 September 2015).
- Clausewitz, Carl von. *On War*. Edited by Michael Howard and Peter Paret. Princeton University Press, Princeton, NJ, 1984.
- Dodge, Theodore. *Alexander*. Da Capo Press. Cambridge, MA, 1890.
- Freier, Nathan. "Strategic Competition and Resistance in the 21<sup>st</sup> Century: Irregular, Catastrophic, Traditional, and Hybrid Challenges in Context." Strategic Studies Institute, May 2007. <http://www.strategicstudiesinstitute.ary.mil> (accessed August 18, 2015).
- Glenn, Russell W. *All Glory Is Fleeting: Insights from the Second Lebanon War*. Santa Monica, CA: RAND Corporation, 2012. <http://www.rand.org/pubs/monographs/MG708-1> (accessed 12 October 2015).
- Gray, Colin S. *Another Bloody Century: Future Warfare*. London: Weidenfeld and Nicolson, 2006.
- Headquarters U.S. Marine Corps. *Campaigning*. Marine Corps Doctrinal Publication 1-2. Washington, D.C.: Headquarters United States Marine Corps, 1 August 1997.
- Johnson, David E. *Hard Fighting: Israel in Lebanon and Gaza*. RAND Corporation, 2011.
- Larrabee, F. Stephen, Peter A. Wilson and John Gordon. *The Ukrainian Crisis and European Security: Implications for the United States and U.S. Army*. Santa Monica, CA: RAND Corporation, 2015. [http://www.rand.org/pubs/research\\_reports/RR90](http://www.rand.org/pubs/research_reports/RR90) (accessed October 6, 2015).
- McCulloh, Timothy and Richard Johnson. *Hybrid warfare*. Joint Special Operations University, Report 13-4, 2013.
- Strange, Joe. *Centers of Gravity and Critical Vulnerabilities: Building on the Clausewitzian Foundations So That We Can All Speak the Same Language*. Marine Corps University Press, 1996.

Schnaubelt, Christopher, Larson, Eric, and Boyer, Matthew. *Vulnerability Assessment Method Pocket Guide: A Tool for Center of Gravity Analysis*. RAND, 2014.

Tzu, Sun. *The Art of War*. Oxford University Press. London. 1963.

U.S. Joint Chiefs of Staff. *Joint Preparation of the Operating Environment*. Joint Publication (JP) 2-01.3. Washington D.C.: Joint Chiefs of Staff, 16 June 2009.

U.S. Joint Chiefs of Staff. *Joint Operations*. Joint Publication (JP) 3-0. Washington D.C.: Joint Chiefs of Staff, 13 February 2008.

U.S. Joint Chiefs of Staff. *Joint Operations*. Joint Publication (JP) 3-0. Washington D.C.: Joint Chiefs of Staff, 11 August 2011.

U.S. Joint Chiefs of Staff. *Joint Operation Planning*. Joint Publication (JP) 5-0. Washington D.C.: Joint Chiefs of Staff, 11 August 2011.

### Articles:

Allen, Thad, U.S.C.G., James T. Conway U.S.M.C., and Gary Roughead U.S.N. "A COOPERATIVE STRATEGY for 21st Century Seapower." *United States Naval Institute Proceedings* 133, no. 11 (11, 2007): 14-20.  
<http://search.proquest.com.nduezproxy.idm.oclc.org/docview/205986501?accountid=12686> (accessed October 12, 2015).

Cancian, Mark. "Centers of Gravity are a Myth." *Proceedings* (September 1998): 30-34.

Echevarria, Antulio J, II. "Reigning in the Center of Gravity Concept." *Air and Space Journal* Vol 17, No. 2:87 (2003).  
<http://search.proquest.com.nduexproxy.idm.oclc.org/docview/217796611?accountid=12686> (accessed August 16, 2015).

Echevarria, Antulio J, II. "Clausewitz's Center of Gravity: It's Not What We Thought." *Naval War College Review* Vol 56, No. 1 (2003).  
<http://search.proquest.comnduezproxy.idm.oclc.org/docview/205934746?accountid=12686> (accessed August 16, 2015).

Eikmeier, Dale C. "Center of Gravity Analysis." *Military Review* (July – August 2004): 2-5.

Eikmeier, Dale C. "A Logical Method for Center of Gravity Analysis." *Military Review* 87, no. 5 (Sep, 2007): 62-66.  
<http://search.proquest.com.nduezproxy.idm.oclc.org/docview/225302723?accountid=12686> (accessed October 8, 2015).

Eikmeier, Dale C. "Give Carl von Clausewitz and the Center of Gravity a Divorce." *Small Wars Journal* (July 2, 2013). <http://smallwarsjournal.com/jrnl/art/give-carl-von-clausewitz-and-the-center-of-gravity-a-divorce> (accessed August 16, 2015).

- Eikmeier, Dale C. "After the Divorce: Clausewitz and the Center of Gravity." *Small Wars Journal* (March 6, 2014). <http://smallwarsjournal.com/jnl/art/after-the-divorce-clausewitz-and-the-center-of-gravity> (accessed August 16, 2015).
- Eikmeier, Dale C. "Centers of Gravity: Changing the Way We Think." *Marine Corps Gazette* (November 2010): 97-105.
- Freier, Nathan. "The Defense Identity Crisis: It's a Hybrid World." *Parameters* (Autumn 2009): 81-94.
- Freier, Nathan. "Hybrid threats and Challenges: Describe ... Don't Define." *Small Wars Journal* (2009). <http://smallwarsjournal.com> (assessed August 16, 2015).
- Glenn, Russell. "Thoughts on "Hybrid" Conflict." *Small Wars Journal* (2009). [www.smallwasjournal.com](http://www.smallwasjournal.com) (accessed October 9, 2015).
- Hoffman, Frank G. "Conflict in the 21<sup>st</sup> Century: The Rise of Hybrid wars." Potomac Institute for Policy Studies (December 2007).
- Hoffman, Frank G. "Hybrid warfare and Challenges." *Joint Forces Quarterly*, Issue 52 (1<sup>st</sup> Quarter 2009).
- Hoffman, Frank G. "Hybrid vs. Compound War, the Janus Choice." *Armed Forces Journal Vol 14* (2009). <http://search.proquest.com.nduezproxy.idm.oclc.org/docview/200721648?accountid=12686> (accessed August 15, 2015).
- Hoffman, Frank G. "On Not-So-New Warfare: Political Warfare vs Hybrid threats." *War on the Rocks* (July 28, 2014). <http://warontherocks.com/2014/07/on-not-so-new-warfare-political-warfare-vs-hybrid-threats/> (accessed October 10, 2015).
- House Armed Services Subcommittee on Intelligence, Emerging Threats and Capabilities Hearing*. Lanham: Federal Information & News Dispatch, Inc, 2013. <http://search.proquest.com.nduezproxy.idm.oclc.org/docview/1287631876?accountid=12686> (accessed August 17, 2015).
- Ionita, Craisor-Constantin, PhD. "IS HYBRID WARFARE SOMETHING NEW?" *Strategic Impact*, No. 53 (2014): 61-71. <http://search.proquest.com.nduezproxy.idm.oclc.org/docview/1692921983?accountid=12686> (accessed September 9, 2015).
- Johnson, David E. "Military Capabilities for Hybrid war: Insights from the Israeli Defense Forces in Lebanon and Gaza." RAND Corporation, 2010. [http://www.rand.org/content/dam/rand/pubs/occasional\\_papers/2010/RAND\\_OP285.pdf](http://www.rand.org/content/dam/rand/pubs/occasional_papers/2010/RAND_OP285.pdf) (accessed September 9, 2015).
- Jones, Sam. "Ukraine: Russia's New Art of War." *Financial Times* (August 29, 2014). <http://www.ft.com/cms/s/0/ea5e82fa-2e0c-11e4-b7600-00144feadbdc0.html> (accessed August 16, 2015).

- Kalder, Mary. "In Defence of New Wars," *Stability*, 2(1):4, (March 7, 2013), 1-16.  
<http://www.stabilityjournal.org/articles/10.5334/sta.at/> (accessed December 1, 2015).
- Kaldor, Mary. "Inconclusive Wars: Is Clausewitz Still Relevant in these Global Times?" *Global Policy*, Vol 1, Issue 3 (October 2010): 271-281.
- Karber, Dr. Phillip A. "Russia's New Generation Warfare," *NGA Pathfinder*, Vol 14, No 2 Spring 2015. [http://issuu.com/nga\\_geoint/docs/47080\\_pf\\_final\\_lr](http://issuu.com/nga_geoint/docs/47080_pf_final_lr) (accessed October 10, 2015), 11-13.
- Karber, Dr. Phillip A. "Russia's Hybrid war Campaign: Implications for Ukraine and Beyond." VIDEO (March 10, 2015).  
<http://www.thepotomacfoundation.org/russias-hybrid-war-campaign-implications-for-ukraine-and-beyond/> (accessed October 10, 2015).
- Kreps, Sarah E. "The 2006 Lebanon War: Lessons Learned," *Parameters* (Spring 2007), 72-84.
- Krieger, Mark P, Jr. "We the People are not the Center of Gravity in an Insurgency." *Military Review* Vol. 87, No. 4 (2007) 96-100.  
<http://serarch.proquest.com.nduezproxy.idm.oclc.org/docview/225302452?accountid=12686> (accessed August 16, 2015).
- Mattis, James N. and Frank Hoffman. "Future Warfare: The Rise of Hybrid wars." *United States Naval Institute. Proceedings* 131, no. 11 (11, 2005): 18-19.  
<http://search.proquest.com.nduezproxy.idm.oclc.org/docview/205977465?accountid=12686> (accessed August 15, 2015).
- Moeller, Joergen Oerstroem. "Maskirovka: Russia's Masterful Use of Deception in Ukraine". *The Huffington Post*. (23 April 2014).  
[http://www.huffingtonpost.com/joergen-oerstroem-moeller/maskirovka-russias-master\\_b\\_5199545.html](http://www.huffingtonpost.com/joergen-oerstroem-moeller/maskirovka-russias-master_b_5199545.html) (accessed October 13, 2015).
- Münkler, Herfried. *The New Wars*, trans. Patrick Camiller. Cambridge, UK. Polity Press, 2002.
- Peters, Ralph. "Lessons from Lebanon the New Model Terrorist Army." *Armed Forces Journal* (Oct 01, 2006): 38.  
<http://search.proquest.com.nduezproxy.idm.oclc.org/docview/200717838?accountid=12686> (accessed October 12, 2015).
- Perry, Bret. "Non-Linear Warfare in Ukraine: The Critical Role of Information Operations and Special Operations." *Small Wars Journal* (August 14, 2015).  
<https://smallwarsjournal.com> (accessed Sept 15, 2015).
- Pierce, William G. and Robert C. Coon. "Understanding the Link between CENTER OF GRAVITY and MISSION ACCOMPLISHMENT." *Military Review* 87, no. 3 (May, 2007): 76-84.

<http://search.proquest.com.nduezproxy.idm.oclc.org/docview/225302526?accountid=12686> (accessed October 8, 2015).

Popescu, Alba Iulia. "Observations Regarding the Actuality of the Hybrid war. Case Study: Ukraine." *Strategic Impact*. No. 4 (2014): 118-133.

Strange, Joe and Iron, Richard. "Understanding Centers of Gravity and Critical Vulnerabilities." *Joint Forces Quarterly*, No. 35 (Fall 2004).

Stefanescu, Daniel. "SIMILARITIES AND DIFFERENCES BETWEEN THE ARMED CONFRONTATIONS IN THE MIDDLE EAST AND UKRAINE." *Journal of Defense Resources Management* 6, no. 1 (2015): 67-72.  
<http://search.proquest.com.nduezproxy.idm.oclc.org/docview/1691584490?accountid=12686> (accessed October 12, 2015).

Vego, Milan. "Clausewitz's SCHWERPUNKT: Mistranslated from German-Misunderstood in English." *Military Review* 87, no. 1 (Jan, 2007): 101-9.

Vego, Milan N. "Operational Deception in the Information Age." *Joint Force Quarterly: JFQ*, no. 30 (Spring, 2002): 60-66.

Vego, Milan. "Center of Gravity." *Military Review* 80, no. 2 (Mar, 2000): 23-9.  
<http://search.proquest.com.nduezproxy.idm.oclc.org/docview/225324842?accountid=12686> (accessed October 8, 2015).

Votel, Joseph. "The Gray Zone." White Paper. United States Special Operations Command (September 9, 2015).

## VITA

LtCol Michael Reilly graduated from Texas A&M University and was commissioned into the United States Marine Corps in 1994. He initially served as an Infantry Officer and later transitioned to a Marine Air Ground Task Force (MAGTF) Intelligence Officer. LtCol Reilly commanded at the Platoon, Company, and Battalion levels having recently served as the 3d Intelligence Battalion Commanding Officer. He participated in JTF-6 Counter Drug operations as well as Operations STABALIZE (East Timor), UNIFIED RESPONSE (Yemen), ENDURING FREEDOM (Afghanistan, Uzbekistan, Qatar, Yemen), and UNIFIED ASSISTANCE (SE Asian tsunami relief). He also served as an Infantry Battalion S-2, Division Intelligence Collection Manager, Marine Expeditionary Force Deputy AC/S G-2, and Marine Expeditionary Brigade AC/S G-2. LtCol Reilly is a graduate of the Amphibious Warfare School, the USMC Command and Staff College, and the Joint and Combined Warfighting School. He holds a Master's Degree in Ancient and Classical History (with Honors) from the American Military University.