The Ballad of Odysseus: A Return to Surprise and Cunning in Operational Art

A Monograph

by

MAJ Cameron S. Craig
US Army

School of Advanced Military Studies
US Army Command and General Staff College
Fort Leavenworth, KS

2019

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

1. REPORT DATE *(DD-MM-YYYY)*	**2. REPORT TYPE**	**3. DATES COVERED** *(From - To)*
23-05-2019	Master's Thesis	JUN 2018 – MAY 2019

4. TITLE AND SUBTITLE
The Ballad of Odysseus: A Return to Surprise and Cunning in Operational Art

5a. CONTRACT NUMBER

5b. GRANT NUMBER

5c. PROGRAM ELEMENT NUMBER

6. AUTHOR(S)
MAJ Cameron S. Craig

5d. PROJECT NUMBER

5e. TASK NUMBER

5f. WORK UNIT NUMBER

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)
U.S. Army Command and General Staff College
ATTN: ATZL-SWD-GD
Fort Leavenworth, KS 66027-2301

8. PERFORMING ORG REPORT NUMBER

9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES)
Advanced Military Studies Program

10. SPONSOR/MONITOR'S ACRONYM(S)

11. SPONSOR/MONITOR'S REPORT NUMBER(S)

12. DISTRIBUTION / AVAILABILITY STATEMENT
Approved for Public Release; Distribution is Unlimited

13. SUPPLEMENTARY NOTES

14. ABSTRACT
This monograph presents the elements and characteristics of the principle of surprise on the modern battlefield. For ages, commanders and theorists regarded surprise as the cornerstone of operations. Given the changing operational environment with the potential for contested domains in the future, the principle of surprise will be pivotal once again in US military planning and operations. The essence of surprise is cunning.

The context of surprise in US Army doctrine is no longer clear for the practitioner. Doctrine should provide a holistic concept of surprise that allows for the practitioner to use it as a guide in any situation of war. Surprise is a key element in achieving operational shock. The Soviet theory of Deep Battle highlights that operational shock requires the elements of surprise: preconceptions, deception, secrecy, and response time. The essence of operational art is cunning.

The cunning practitioner achieves operational shock by creating depth and novelty on the battlefield. Cunning is not a mechanistic arrangement of the elements of operational art, but an intelligent orchestration of the elements of surprise, along with breaking the rules of form and function to create novelty. The Israeli Defense Force's (IDF) operations in 2002 provide a stunning example of surprise and cunning on a future battlefield.

15. SUBJECT TERMS
Surprise; Doctrine; Operational Art; Operation Defensive Shield; Future Operational Environment.

16. SECURITY CLASSIFICATION OF:			**17. LIMITATION OF ABSTRACT**	**18. NUMBER OF PAGES**	**19a. NAME OF RESPONSIBLE PERSON**
a. REPORT	**b. ABSTRACT**	**c. THIS PAGE**			**19b. PHONE NUMBER** *(include area code)*
(U)	(U)	(U)	(U)	48	

Monograph Approval Page

Name of Candidate: MAJ Cameron S. Craig

Monograph Title: The Ballad of Odysseus: A Return to Surprise and Cunning in Operational Art

Approved by:

_____, Monograph Director
Alice Butler-Smith, PhD

_____, Seminar Leader
David C. Meyer, COL

_____, Director, School of Advanced Military Studies
Kirk C. Dorr, COL

Accepted this 23rd day of May 2019 by:

_____, Director, Graduate Degree Programs
Robert F. Baumann, PhD

Abstract

The Ballad of Odysseus: A Return to Surprise and Cunning in Operational Art, by MAJ Cameron S. Craig, US Army, 48 pages.

This monograph presents the elements and characteristics of the principle of surprise on the modern battlefield. For ages, commanders and theorists regarded surprise as the cornerstone of operations. Given the changing operational environment with the potential for contested domains in the future, the principle of surprise will be pivotal once again in US military planning and operations. The essence of surprise is cunning.

The context of surprise in US Army doctrine is no longer clear for the practitioner. Doctrine should provide a holistic concept of surprise that allows for the practitioner to use it as a guide in any situation of war. Surprise is a key element in achieving operational shock. The Soviet theory of Deep Battle highlights that operational shock requires the elements of surprise: preconceptions, deception, secrecy, and response time. The essence of operational art is cunning.

The cunning practitioner achieves operational shock by creating depth and novelty on the battlefield. Cunning is not a mechanistic arrangement of the elements of operational art, but an intelligent orchestration of the elements of surprise, along with breaking the rules of form and function to create novelty. The Israeli Defense Force's (IDF) operations in 2002 provide a stunning example of surprise and cunning on a future battlefield.

Contents

Acknowledgements

First and foremost, I want to thank my family for their patience and the many hours of their time they sacrificed so that I could work on this project. Second, I would like to give thanks to my director, Dr. Alice Butler-Smith, who believed in me from day one and provided me with the right amount of intellectual oversight to explore and learn. Additionally, I am grateful for her patience. I would also like to acknowledge Ms. Venita Krueger, who helped me with editing and format.

Introduction

> Sing of the wooden horse Epeus built with Athena's help, the cunning trap that good Odysseus brought one day to the heights of Troy, filled with fighting men who laid the city waste.
>
> —Homer, *The Odyssey*

In the classic masterpiece, *The* Odyssey, Homer tells the tale of Odysseus' use of cunning in war. Odysseus led the Greeks to victory not because of superior strength or speed, but because of cunning wit. He understood that the vulnerability of the Trojans rested in their ability to defend themselves behind the famed walls of Troy. At surface level, the premise is simple, deception and surprise allowed Odysseus to achieve victory over a formidable opponent. A more in-depth analysis reveals that he deceived the Trojans by changing the paradigm of battle: through novelty, he turned an army into a wooden horse. A simplistic story, Odysseus' use of cunning highlights the depth of surprise, from the mental sphere of deception to the physical sphere of an object being pushed through the gates of Troy all to achieve an effect in the moral sphere. Homer's classic work *The Odyssey* came after his masterpiece *The Iliad*, a tale of the gods where heroic strength prevailed. *The Odyssey* is a classic work that portrayed a shift in ages, where the Greek concept of métis, or cunning, became the coin of the realm over brute strength.

Robert Jervis stated that "because actions change the environments in which they operate, identical but later behavior does not produce identical results. Indeed, history is about the changes produced by previous thought and action as people and organizations confront each other through time."[1] This study is about achieving surprise through cunning.[2] The operational environment is evolving and so are the potential adversaries. Academics and military scholars acknowledge that

---

[1] Robert Jervis, *System Effects: Complexity in Political and Social Life* (Princeton, NJ: Princeton University Press, 1997), 55.

[2] Shimon Naveh, *In Pursuit of Military Excellence: The Evolution of Operational Theory* (London: Frank Cass Publishers, 2004), 19, Kindle. Israeli academic Dr. Shimon Naveh described cunning as the essence of operational art because it requires the creative orchestration of actions in time and space to create a fundamental surprise that shocks an adversary's system into paralysis.

the character of war is changing as technology develops at a phenomenal rate. The former President of the US Naval War College, Retired Vice Admiral Arthur K. Cebrowksi, emphasized technology's role in creating new metrics in war where "it will reappear in a new and shocking form to challenge our current conception."[3]

The future battlefield will no longer provide the United States with a position of relative advantage.[4] George J. Andreopoulos and Harold E. Selesky illuminated that the roots of defeat and failure come from the inability to understand changes in the operational environment as a result of technological innovations.[5] In *The Utility of Force*, General Rupert Smith concluded that the historical construct of industrialized warfare no longer existed; instead, he argued that war in the twenty-first century would not be like the old paradigm of industrial proportion, but that of a new paradigm, a war amongst the people.[6] Deploying and generating combat power to conduct a pre-emptive surprise attack will be difficult. Intelligence, surveillance, and reconnaissance capabilities within warfare now allow adversaries to negate the effect of strategic surprise through indications and warnings. Technology also provides adversaries ways to subvert America's strength on the cheap. The future battlespace, according to the *Joint Operating Environment (JOE) 2035*, will possess two likely trends of state hybrid stratagems and proxy forces. These trends will be "characterized by convergence [of] physical and psychological, kinetic and non-

[3] Vice Admiral Arthur K. Cebrowski, "Foreword," in *Rethinking the Principles of War,* ed. Anthony D. McIvor (Annapolis, MD: Naval Institute Press, 2005), xii.

[4] US Department of Defense, *Summary of the 2018 National Defense Strategy of the United States of America* (Washington, DC: Government Printing Office, 2018), 1. The *Summary of the 2018 National Defense Strategy of the United States of America* highlights that the United States is emerging from a period of strategic atrophy; after nearly fifteen years of conducting counter-insurgency operations, the enormous competitive military advantage it once had post-Desert Storm no longer exists. America now faces an "increased global disorder . . . creating a security environment more complex and volatile than any we have experienced in recent memory."

[5] George J. Andreoupoulis and Harold E. Selesky, *The Aftermath of Defeat: Societies, Armed Forces, and the Challenge of Recovery* (New Haven, CT: Yale University Press, 1994), 2.

[6] General Rupert Smith, *The Utility of Force: The Art of War in the Modern World* (New York: Alfred A. Knopf, 2007), 5, Kindle.

kinetic, combatants and noncombatants."[7] In the future, adversaries are likely to avoid a direct confrontation with the United States but use other means available to exploit the weaknesses in America's way of war.[8]

Doctrine provides the practitioner with a cognitive framework for thinking about the operational environment. It reflects an institution's understanding of the current nature and form of warfare, codified by lessons of history and theory.[9] The British military theorist, J.F.C. Fuller, in *The Foundations of the Science of War*, posited that doctrine is the central idea of a military which is founded upon the principles of war. Fuller emphasized that the principles of war must "be elastic enough to admit of mutation in accordance with change in circumstances. In its ultimate relationship to the human understanding this central idea or doctrine is nothing else than common sense—that is, action adapted to circumstances."[10] Within doctrine are principles that provide the military practitioner fundamental rules or assumptions that guide how an individual or organization thinks about or approaches the conduct of operations.[11] Humans use mental models to simplify and perform intuitive thinking in situations of uncertainty, yet they can restrict thinking as a result of biased judgments.[12]

---

[7] US Department of Defense, Joint Staff, *Joint Operating Environment (JOE) 2035: The Joint Force in a Contested and Disordered World* (Washington, DC: Government Printing Office, 2016), 6.

[8] Williamson Murray, *War, Strategy, and Military Effectiveness* (New York: Cambridge University Press, 2011), 92. The historian Williamson Murray illuminated that "[i]n the future, the United States will confront adaptive enemies who have thought long and hard about American weaknesses."

[9] G. Stephen Lauer, "The Tao Of Doctrine: Contesting an Art of Operations," *Joint Force Quarterly* 82 (3rd Quarter 2016): 119, accessed July 16, 2018, https://search-proquest-com.lumen.cgsccarl.com/docview/1809936789?accountid=28992.

[10] J. F. C. Fuller, *The Foundations of the Science of War* (London: Hutchinson and Company, 1926), 254, accessed July 28, 2018, http://cgsc.contentdm.oclc.org/cdm/ref/collection/p16040coll3/id/173.

[11] US Department of the Army, *Army Doctrine Publication (ADP) 1-01, Doctrine Primer* (Washington, DC: Government Printing Office, 2014), 2-1.

[12] Daniel Kahneman, *Thinking Fast and Slow* (New York: Farrar, Straus and Giroux, 2011), 8. Daniel Kahneman identifies the availability heuristic as the cognitive function that causes people to focus on some things and ignore others, where practitioners in a field tend to share the basic assumptions.

Army doctrine fails to provide the practitioner with a coherent theory of the principle of surprise, instead, the nature of the principle is lost with no conceptual context to serve the tactician as a useful guide.[13] "Since ideas drive actions, intellectual confusion must promote confused activity," as professor Colin S. Gray observed, then the primary problem is that doctrine does not coherently present the full depth of surprise required to produce novelty.[14]

Acceding to a lack of clarity and mental framework for the principle of surprise, the military practitioner will simply default back to experience in thinking heroically.[15] Like the heroes of old portrayed in Homer's, *The Illiad*, the United States tends to focus on the principles with material strength. The "addicts of attrition," as theorist Richard Simpkin highlighted, only see war's intangibles as combat multipliers, basing plans on material superiority to win rather than surprise.[16] The reason for this is that for nearly three decades, the US military remained uncontested in every domain of warfare. C. H. Builder, *The Masks of War*, presented the idea that each military service possesses a distinct personality, or mask, that directs and shapes its behavior. He argued that despite the Army elevating the deep history of service to the nation, it is increasingly emphasizing high-cost toys.[17] Historians Williamson Murray and MacGregor Knox identified this obsession with technology as a potential problem, arguing that the watchword for the US military post-Desert Storm was one of "generic technological superiority." Murray and Knox argue that all the services, minus the US Marines Corps, think the future keys to success are

---

[13] B. A. Friedman, *On Tactics: A Theory of Victory in Battle* (Annapolis, MD: Naval Institute Press, 2017), 7, Kindle.

[14] Colin S. Gray, *The Strategy Bridge* (Oxford: Oxford University Press, 2010), 17.

[15] Huba Wass de Czege, "Systemic Operational Design: Learning and Adapting in Complex Missions," *Military Review* (January-February 2009), 4-5, accessed October 23, 2018, https://usacac.army.mil/CAC2/MilitaryReview/Archives/English/MilitaryReview_20090228_art004.pdf. The former Director of the US Army's School of Advanced Military Studies, Brigadier General (Ret.) Huba Wass de Czege stated that the "Greeks taught Western civilization to think heroically.

[16] Richard Simpkin, *Race to the Swift: Thoughts on Twenty-First Century Warfare* (McLean, VA: Pergamom-Brassey's International Defense Publishers, 1985), 181.

[17] C. H. Builder, *The Masks of War: American Military Styles in Strategy and Analysis* (Baltimore, MD: Johns Hopkins University Press, 1989), 38.

in the procurement of advanced technology "rather than any searching ongoing reassessment of strategic, operational, and conceptual possibilities. . . [thus] slighting intellectual and conceptual preparation for war."[18] It is what Murray argued is a "love affair with technology," where Americans for decades focused on reducing the complex nature of war with engineering solutions, emphasizing a "clear, mechanistic set of principles for the conduct of war."[19] The military strategist, Edward Luttwak, highlighted that "more common is the phenomenon of armed forces that overestimate their own strength and therefore follow linear logic to optimize the administration of their own resources, without even trying to surprise the enemy by suitably paradoxical moves."[20] America's technological and material dominance last three decades may no longer prove effective; novelty through cunning will need to resurface in military operations.

The Israeli Defense Force's (IDF) operations in 2002 provide a stunning example of surprise and cunning on a future battlefield. In 2002, Hamas conducted terror and guerrilla operations from inside the Palestinian territories, a daunting urban environment with a complex battlespace geometry and urban syntax. Despite the position of relative disadvantage, the IDF initiated Operation Defensive Shield and fundamentally surprised Hamas by producing novelty in maneuver and the way they viewed physical space. The IDF, who understood the operational environment and enemy, broke the rules of their concept and operational form of themselves and the physical environment. Thus, foiling the preconceptions of their adversary while leveraging maneuver to create cognitive and physical depth by literally "walking through walls."[21]

---

[18] Williamson Murray and MacGregor Knox, "Conclusion: The Future Behind Us," in *The Dynamics of Military Revolution: 1300-2050*, ed. MacGregor Knox and Williamson Murray (New York: Cambridge University Press, 2001), 192.

[19] Murray, *War, Strategy, and Military Effectiveness*, 6.

[20] Edward Luttwak, *Strategy: The Logic of War and Peace* (Cambridge, MA: The Belknap Press of Harvard University Press, 2001), 14.

[21] Aviv Kochavi, quoted in Eyal Weizman, *Hollow Land: Israel's Architecture of Occupation* (New York: Verso, 2017), 198, Kindle.

The primary research question for this monograph is "how can the practitioner conceptualize surprise and cunning in tomorrow's operational environment?" It also asks: what is surprise? Why study it? How does surprise and cunning link to operational art? What are the elements of cunning? Is there any demonstrated example of cunning in modern warfare? Given the US Army's doctrinal understanding of surprise, in what ways can Operation Defensive Shield (2002) help the US Army conceptualize surprise on the future battlefield?

This monograph does not develop a new theory of surprise but aims to expand the conceptual understanding of surprise within current US Army doctrine. The scope of this monograph focuses on the principle of surprise at the operational level. It considers the concept of operational shock within the theoretical framework of Soviet Deep Battle, maneuver theory and Systemic Operational Design. As an extensive literature exists on the study of strategic surprise, this monograph does not go into depth on the topic. It highlights strategic surprise but does not focus on the ways to prevent or achieve strategic surprise. Furthermore, this study does not address the tactical actions of responding to surprises such as adaptation, flexibility, or resilience.

This monograph acknowledges the differences that exist between the societies, culture, doctrine, and strategy of the United States and the IDF. Despite these differences, both countries do share similarities. Both the United States and Israel face the dilemma of preparing for the full range of military operations. Like the United States, Israel's strategy requires that they prepare for large scale operations while deterring strategies employed by terrorists and asymmetric actors who seek to disrupt their way of life and gain political victory while using the element of surprise.

Within the case study itself, the inherent limitations of researching the Israeli-Arab conflict rest with different challenges. The first being the access to primary resources. Limited resources exist, and those that do are classified and kept under the strictest guard due to the security protocols of IDF. Additionally, the researcher must also rely on the sources that translate original texts from Arabic and Hebrew to English, or that publish in English, thus, losing insight and context into the actual contextual meaning. Furthermore, much of the military analysis is

from a US doctrinal point of view. This speaks to the mental models of the researcher which could lead to a confirmation bias. The final intent of this paper is to draw a conclusion that is as objective as possible with the information available.

For this study, the assumption is that the future operational environment will present both conventional and unconventional threats who will seek the initiative through surprise by exploiting the gaps in the United States' way of warfare, predictability, and reliance on strength and material capabilities. Additionally, this study assumes that at the operational level, commanders will have a defined end state and objectives.

Using a qualitative approach, this study presents ideas from both military and civilian literature to highlight the characteristics of the future operational environment, surprise, cunning, and operational shock. The first section evaluates the definition, elements, forms, and aims of the principle of surprise. Second, this monograph presents the essence of cunning and Shimon Naveh's idea of operational shock. Last, this presents the case study of how Israel achieved success with surprise during Operation Defensive Shield in 2002. This monograph expands upon the four elements of surprise as criteria for evaluation: preconception, deception, secrecy, and response time.

Surprise is the Key to Success

> Surprise therefore becomes the means to gain superiority, but because of its psychological effect it should also be considered as an independent element. Whenever it is achieved on a grand scale, it confuses the enemy and lowers his morale; many examples, great and small, show how this in turn multiplies the results.
>
> —Carl von Clausewitz, *On War*

Why is Surprise Important?

For ages, classical and contemporary military theorists considered surprise to be paramount in formulating strategy and war.[22] Clausewitz dedicated an entire chapter to the principle of surprise in *On War* calling it "more or less basic to all operations."[23] The military historian, Trevor N. Dupuy, conducted a study analyzing more than 100 historical battles and determined that the principle of surprise is the primary cause of military defeat.[24] Surprise becomes the "secret of victory and the key to success" in warfare by providing superiority at a decisive point in battle.[25] Recent studies show that surprise optimizes the economy of force.[26] The French theorist Ardant du Picq highlighted the symbiotic relationship between surprise and the economy of force. He stated that "[m]an does not enter battle to fight, but for victory. He does everything that he can to avoid the first and obtain the second . . . [b]ecause the arms are similar on both sides, the only way of giving the advantage to one side is surprise."[27] In a 1994 study titled, "Breakthrough and Manoeuvre Operations: Historical Analysis of the Conditions for Success," the British Defense Operational Analysis Centre analyzed over 159 battles since World War I and concluded that the element of surprise was more important than force density and

---

[22] General Waldemar Erfurth, *Surprise*, trans. Stefan T. Possony and Daniel Vilfroy (Harrisburg, PA: Military Service Publishing Company, 1943), 1. In his seminal work, *Surprise*, the German military theorist General Waldemar Erfurth concluded that surprise is the key to victory writing that it "was considered an essential element of victory by almost all ancient military writers."

[23] Clausewitz, *On War*, 198, Kindle.

[24] COL (Ret.) Trevor N. Dupuy, *Understanding Defeat: How to Recover from Loss in Battle to Gain Victory in War* (New York: Paragon House, 1990), 72.

[25] Fuller, *The Foundations of the Science of War*, 272. J. F. C. Fuller agreed with Clausewitz, concluding that "surprise should be regarded as the soul of every operation. It is the secret of victory and the key to success."

[26] US Department of the Army, *Army Doctrine Reference Publication (ADRP) 3-0, Operations* (Washington, DC: Government Printing Office, 2016), 2-2. According to *Army Doctrine Reference Publication (ADRP) 3-0*, *Operations*, economy of force is to "expend minimum essential combat power on secondary efforts in order to allocate the maximum possible combat power on primary efforts.

[27] Charles Jean Jacques Joseph Ardant Du Picq, *Battle Studies*, trans. Colonel John N. Greely and Major Robert C. Cotton (Public Domain Book, 1921), Chapter I: Man in Primitive and Ancient Combat, Kindle.

achieved force ratio, creating an effect of 10:1 in 95 percent of the cases where one side produced surprise.[28] The study also highlighted that surprise is not simply a one-dimensional element achieved solely through a material action. In fact, the mental sphere is the most critical for achieving surprise. In *Stratagem: Deception and Surprise in War*, Barton Whaley recognized that in sixty-seven case studies from World War I to the Six-Day War, 73 percent of the strategic surprises came from using deception.[29]

Surprise then becomes the element in which all practitioners should study in-depth; if history proves it to be effective, then it should be understood both as a tool for victory and as a concept to prepare for conflict. Introspection is vital. The Swiss theorist Baron Antoine-Henri de Jomini emphasized the study of surprise in *The Art of War* stating that "[f]or the same reason that advantage should be taken of all opportunities for surprising an adversary, the necessary precautions should be used to prevent such attacks."[30] The practitioner cannot afford to deal with platitudes, "[e]ven armies boasting generally good combat records are by no means immune to the effects of surprise, of the unexpected, and of uncertainty."[31]

War is a kingdom where chaos is king, complexity is queen, friction the jack, and uncertainty the joker.[32] Author Zvi Lanir, *Fundamental Surprise*, wrote that "[m]odern science, technology, and organizations have, in fact, further complicated our interaction with the environment, creating new and more complex problems, and opportunities for surprise."[33]

---

[28] Jim Storr, *The Human Face of War* (New York: Continuum Books, 2009), 50.

[29] Barton Whaley, *Stratagem: Deception and Surprise in War* (Boston, MA: Artech House, 2007), 87.

[30] Baron Antoine-Henri de Jomini and Charles Messenger, *The Art of War* (London: Greenhill Books, 2006), 210.

[31] Anthony Kellett, "Combat Motivation," in *Contemporary Studies in Combat Psychiatry*, ed. Gregory Belenky (Westport, CT: Greenwood Press, 1987), 220.

[32] Sidney Dekker, *Drift into Failure: From Hunting Broken Components to Understanding Complex Systems* (Boca Raton, FL: CRC Press, 2011), 7. Sidney Dekker, *Drift into Failure*, stated "[c]omplexity means a huge number of interacting and diverse parts give rise to outcomes that are really hard, if not impossible to, to foresee."

[33] Zvi Lanir, *Fundamental Surprises* (Tel Aviv, Israel: Center for Strategic Studies, 1983), 1.

Certainty cannot be guaranteed, thus, by definition surprise is impossible to foresee and is an *ex post facto* phenomenon. Clausewitz posited that the wise practitioner will always leave a "margin for uncertainty."[34] If chaos and complexity rule a kingdom of chance, fog, and friction; then cunning is the ace.[35] The Prussian General Helmuth von Moltke understood that uncertainty is a fact of war and that "in the long run only the intelligent have good luck." Moltke's observed that even though there were instances of chance and fog in war, war is not "blind arbitrary action." Luck manifests itself through the practitioner's ability to penetrate and unveil the mask of uncertainty, or to create it for the adversary, by understanding the facts of the environment.[36] Moltke's ideas echoed Clausewitz' axiom that "[n]o human characteristic appears so suited to the task of directing and inspiring strategy as the gift of cunning."[37] Does doctrine provide an adequate concept of cunning and surprise? This study demonstrate that it is a principle worthy of attention, especially since surprise is inherent in battle.[38]

What is Surprise?

Current US Army doctrine no longer provides a conceptual construct of surprise in any specific location; to understand the principle one needs to search the entire spectrum of doctrine to arrive to a piece-meal understanding. The *Army Doctrine Reference Publication (ADRP) 3-0, Operations*, uses the joint definition and defines surprise as to "[s]trike at a time or place or in a

[34] Clausewitz, *On War*, 97, Kindle.

[35] Jamshid Ghrajedaghi, *Systems Thinking: Managing Chaos and Complexity* (Burlington, MA: Elsevier, 2011), 175-176, Kindle. Complexity theory highlights that complete knowledge cannot be achieved, thus, to operate within a complex world, the cunning practitioner acknowledges that the only thing certain is uncertainty.

[36] Helmuth von Moltke, *Moltke on the Art of War*, ed. Daniel J. Hushes, trans. Daniel J. Hughes and Harry Bell (New York: Presidio Press, 1995), 45-46, Kindle.

[37] Clausewitz, *On War*, 86, Kindle.

[38] The French theorist, Ardant Du Picq, concluded that "[b]attle, of course, always furnishes surprises." Du Picq, *Battle Studies,* Introduction, Kindle.

manner for which the enemy is unprepared."[39] Movement and maneuver provide the means to conduct a physical action in time, space, and variation that exploits or creates an adversary's unpreparedness. The US Army *Field Manual (FM) 3-0, Operations*, provides prescriptive ways to bring about these actions in time, space, and variation stating that:

> Commanders achieve tactical surprise by attacking or counterattacking in bad weather and over seemingly impassible terrain. They use camouflage and concealment to lure enemy forces into prepared engagement areas. They conduct feints and demonstrations to divert the enemy commander's attention from their decisive operation. They maintain a tempo of operations that allows them to operate within the enemy commander's decision cycle. They select portions of the enemy force for destruction leading to the enemy's defeat in detail. They employ sound OPSEC and MILDEC.[40]

Despite defining and prescribing ways to achieve surprise, doctrine fails to provide a theoretical anchor and concept. Previous versions of the Army's capstone doctrine, specifically the *FM 100-5* series, provided sections dedicated to explaining surprise in its entirety, providing a theoretical anchor, definition, method, and other elements required to create surprise.[41] The former doctrinal publications provided a holistic understanding that the practitioner could then apply to the context of the operational environment. The challenge for the practitioner, planner, or soldier becomes how to understand a principle of war when doctrine does not provide an adequate conceptual framework of it within its publications and manuals.

---

[39] US Department of the Army, *Field Manual (FM) 3-0, Operations* (Washington, DC: Government Printing Office, 2017), 2-41. US Army, *ADRP 3-0* (2016), 2-2. According to the US Department of the Army, *Field Manual (FM) 3-0, Operations*, practitioners achieve surprise by "choosing unexpected directions, times, or types of movement and maneuver."

[40] Ibid., 2-41.

[41] US Department of the Army, *Field Manual (FM) 100-5, Operations* (Washington, DC: Government Printing Office, 1982), 8-5; US Department of the Army, *Field Manual (FM) 100-5, Operations* (Washington, DC: Government Printing Office, 1986), 95; US Department of the Army, *Field Manual (FM) 100-5, Operations* (Washington, DC: Government Printing Office, 1993), 2-5. FM 100-5 (1982) and FM 100-5 (1986) provide an in-depth exposition of the principle of surprise within the context of the Army's AirLand Battle theory. Afterward, doctrine devotes less effort in explaining the conceptual aspect of surprise. Doctrine categorizes surprise under the "operational concepts for the attack," (FM 100-5, 1982), "characteristics of offensive operations," (FM 100-5, 1986), and "The Foundations of Army Operations," (FM 100-5, 2-4).

What is surprise? Is it an emotion, a belief, or a reaction? According to the common English definition surprise is "to take unawares," or "[t]o strike with wonder or amazement especially because unexpected;" additionally, "to cause astonishment or surprise."[42] The critical component of surprise is the condition of uncertainty, where an action occurs that causes a rift in perception and reality. The German sociologist, Matthias Gross, wrote that a "surprise is normally rendered surprising when it occurs unexpectedly and also runs counter to accepted knowledge."[43] Other studies classify it as a reaction caused by a discrepancy or mismatch of previous knowledge and the input of an incoming event.[44] Surprise is the result of the inability to explain an event as it contradicted a preconception, concluding that the more difficult it is to explain, the more surprising it is.[45] Thus, surprise is a cognitive response or output, caused by uncertainty or an unexpected action that creates mismatch in one's perception versus reality.

Like war, surprise is multidimensional.[46] Fuller, in *The Foundations of Science of War*, provides a cognitive framework to help the military practitioner understand the elements of surprise. Fuller contended that that like the universe, war is conducted in a "threefold order": military space, military time, and military force.[47] He characterized the dimension of force as both the physical and cognitive dimensions, of a person and of the world, within the construct of

---

[42] Merriam-Webster Online, s.v. "surprise," accessed August 9, 2018, https://www.merriam-webster.com/dictionary/surprise.

[43] Matthias Gross, *Ignorance and Surprise: Science, Society, and Ecological Design* (Cambridge, MA: Massachusetts Institute of Technology Press, 2010), 156, Kindle.

[44] Emiliano Lorini and Cristiano Castelfranchi, "The Cognitive Structure of Surprise: Looking for Basic Principles," *Topoi* 26, no. 1 (May 2007): 1, accessed December 2, 2018, https://www.researchgate.net/publication/225757775_The_cognitive_structure_of_surprise_Looking_for_basic_principles. Researchers Emiliano Lorini and Cristiano Castelfranchi associated "previous knowledge" with an actual or potential prediction.

[45] Meadhbh I. Foster and Mark T. Keane, "Why Some Surprises are More Surprising than Others: Surprise as a Metacognitive Sense of Explanatory Difficulty," *Cognitive Psychology* 81 (2015): 74, accessed December 2, 2018, http://hdl.handle.net/10197/8532.

[46] Professor Alex R. Hyble concluded that "surprise is multidimensional." Alex Roberto Hybel, *The Logic of Surprise in International Conflict* (Lexington, MA: DC Heath and Company, 1986), 1.

[47] Fuller, *The Foundations of the Science of War*, 175.

space.[48] Within the physical construct of man, Fuller stated that there existed three spheres: moral, mental, and physical.[49] The moral sphere consisted of the soul, or of sentiment and the will to fight. The mental sphere regarded the mind, or that of thoughts and reason. Last, the physical sphere consisted of the body, or that regarding actions, both constructive and destructive. Fuller concluded that surprise influences all forms and modes of war, and without it, it is impossible to maintain the law of economy of force.[50] To create uncertainty or unexpectant conditions, the practitioner needs to understand the elements of surprise within all three spheres.

Barton Whaley defines preconception as the formation of an estimate regarding an adversary's intentions or capabilities.[51] Whaley's idea of preconception regards the field of intelligence. For the practitioner, preconceptions and intelligence are essential for cunning. Sun Tzu highlighted the essence of intelligence and surprise with the axiom "know the enemy, know yourself; your victory will never be endangered."[52] Intelligence is the "key to success in military operations."[53] Intelligence is the genesis of understanding the environment and the adversary and it occurs within the mental sphere. Here is where the practitioner makes assumptions and preconceptions, forms biases, and potentially demonstrates overconfidence based on the intelligence estimates of the opponent's intentions and capabilities.[54] The conduct of strategy and warfare requires some degree of anticipation. Intelligence efforts provide early warning and helps reduce surprise by providing information that allows the practitioner to shape the battlefield and

---

[48] Fuller, *The Foundations of the Science of War*, 51.

[49] Ibid., 58.

[50] Ibid., 272.

[51] Whaley, *Stratagem*, 87.

[52] Sun Tzu, *The Art of War*, ed. and trans. Samuel B. Griffith (Oxford: Oxford University Press, 1971), 129.

[53] John Keegan, *Intelligence in War: The Value – and Limitations – of What the Military Can Learn About the Enemy* (New York: Vintage Books, 2004), 25.

[54] Whaley, *Stratagem*, 87.

capitalize on emerging opportunities or situations.[55] If surprise rests on the unexpected, then intelligence and knowledge of oneself with relation to an adversary in the environment can negate surprise.[56]

Intelligence attempts to reduce the amount of uncertainty within warfare, but it can also aid in creating surprise. *Joint Publication 5-0, Joint Planning*, warns that anticipation is not without risks and could potentially result in the adversary's successful deception attempts.[57] In the book, *Fundamental Surprises*, Lanir posits that "[s]urprises are inevitable; they come from the limits of people's knowledge and understanding of their environment and themselves."[58] An overconfidence from one's capabilities and the misguided preconceptions of an adversary also contribute to surprise. Author Vera Tobin called this "illusions of knowledge," where "circumstances that make us overconfident in our judgments and predictions or that result in intrusions of false information into our memories. . . . Overconfidence effects can also produce illusions of knowledge by giving people the impression that they know with certainty that some mere inference or prediction they have made is actually a definite fact."[59] Another contributor to surprise is cognitive bias. Roberta Wohlstetter's seminal work, *Pearl Harbor*, presented that cognitive blindness and intelligence failure led to surprise. She identified that surprise was a result of an incorrect comprehension of information versus the lack of information, a phrase she

---

[55] US Department of the Army, *Field Manual (FM) 2-0, Intelligence Operations* (Washington, DC: Government Printing Office, 2014), 2-5.

[56] James J. Wirtz, *Understanding Intelligence Failure: Warning, Response, and Deterrence* (New York: Routledge, 2017), 19-20. James J. Wirtz stated that "if strong parties began to view conflict from the weaker party's perspective, while weak actors kept war's dialectic in mind, then surprise would become less likely.

[57] US Department of Defense, Joint Staff, *Joint Publication (JP) 5-0, Joint Planning* (Washington, DC: Government Printing Office, 2017), IV-34.

[58] Lanir, *Fundamental Surprises*, 1.

[59] Vera Tobin, *Elements of Surprise: Our Mental Limits and the Satisfactions of Plot* (Cambridge, MA: Harvard University Press, 2018), 16, Kindle.

called "signals" and "noises."[60] Richard Betts, *Surprise Attack*, concluded that "[s]urprise is unimportant . . . [w]hat is important is the impact of a surprise that invalidates premises of defense planning, preventing effective application of the victim's capabilities and plans."[61] Ephraim Kam, *Surprise Attack*, concluded surprise can only occur when an opponent's expectations are ill founded and misguided so that with little or no warning, the adversary is caught unprepared and is inadequate to respond.[62] The mental sphere is the genesis of surprise because it is where preconceptions are born.

Clausewitz argued that surprise on a grand scale proved difficult because it depended on accurate and timely intelligence. For this reason, Clausewitz did not emphasize surprise as the key to victory; accurate intelligence is difficult to obtain. Intelligence alone does not produce surprise, it simply provides the practitioner with an understanding of self, the environment, and the enemy; enabling him or her to cunningly set conditions that will ultimately cause surprise, shock, and bring success upon the battlefield. For this reason, deception becomes critical to the practitioner in achieving surprise.

Winston Churchill once remarked that "[i]n war-time, truth is so precious that she should always be attended by a bodyguard of lies."[63] If intelligence generates understanding, then the aim of deception is to distort reality or create a perception that generates uncertainty, or a mismatch once acted upon. The aim of deception is to create and shape an adversary's preconceptions. Deception's "main role is to create a state of mind which distracts the opponent's attention from both his own operational sensitivities and the efforts conducted by the adversary to

---

[60] Roberta Wohlstetter, *Pearl Harbor: Warning and Decision* (Stanford, CA: Stanford University Press, 1962), 3.

[61] Richard K. Betts, *Surprise Attack* (Washington, DC: The Brookings Institution, 1982), 10.

[62] Ephraim Kam, *Surprise Attack: The Victim's Perspective* (Cambridge, MA: Harvard University Press, 1988), 7.

[63] Winston Churchill, "Discussion of Operation Overlord with Joseph Stalin at the Teheran Conference, November 30, 1943," Winston Churchill, *The Second World War, Volume V: Closing the Ring* (New York: Rosetta Books, 2013), Chapter 21 (Teheran: The Crux), Kindle.

take advantage of them, namely to create surprise."[64] Classical military thought regarded surprise with the utmost importance but tended to stress deception and stratagem. Deception is the active component of surprise where either through misinformation, disinformation, or propaganda targeting an adversary is deliberately misled, with the intent of causing adversaries to take specific actions or inactions.[65] Michael I. Handel, *Masters of War*, concludes that "[d]eception and surprise are closely related, as deception provides one of the most effective ways to achieve surprise."[66] Deception sets the stage for surprise to occur; as Sun Tzu posited, "all warfare is based on deception."[67] In *The History of the Peloponnesian War*, Thucydides argued that "the most successful soldier will always be the man who . . . carefully consulting his own means makes his attack not so much by open and regular approaches as by seizing the opportunity of the moment, and these stratagems, which do the greatest service to our friends by most completely deceiving our enemies, have the most brilliant name in war."[68] In the physical sphere, Army doctrine prescribes feints and demonstrations for deception to divert an enemy's attention from the decisive operation.[69] Frederick the Great emphasized the ruses of war in the conduct of his operations. Information and an understanding of the enemy was essential in conducting surprise in war. Frederick the Great's writings were significant with regards to surprise in warfare because he argued that surprise required the exploitation of an enemy's biases and beliefs, a fundamental element of deception.

---

[64] Naveh, *In Pursuit of Military Excellence*, 19.

[65] US Department of Defense, Joint Staff, *Joint Publication (JP) 3-0, Joint Operations* (Washington, DC: Government Printing Office, 2017), III-21.

[66] Michael I. Handel, *Masters of War: Classical Strategic Thought* (Portland, OR: Frank Cass Publishers, 2001), 215.

[67] Sun Tzu, *The Art of War*, 66.

[68] Thucydides, *The Landmark Thucydides: A Comprehensive Guide to the Peloponnesian War,* ed. Robert B. Strassler and trans. Richard Crawley (New York: Free Press, 2008), 306-307.

[69] US Department of the Army, *Field Manual (FM) 3-0, Operations* (Washington, DC: Government Printing Office, 2017), 2-41.

The adage goes, "loose lips sinks ships." if deception is meant to create and shape an adversary's preconceptions, then secrecy is necessary to protect one's true disposition so that an opponent's intelligence cannot explain reality to negate uncertainty. Clausewitz stated that secrecy is one of the two factors that create surprise, although he did not prescribe any methods for employing secrecy.[70] Erfurth's treatise is one of the first modern pieces that began to prescribe methods for secrecy; he highlighted that concealment and camouflage elements of secrecy that remain today in US Army doctrine. In the physical sphere, US Army *Field Manual 3-0* posits that secrecy includes attacking or counterattacking in bad weather or over unpassable terrain, along with using camouflage and concealment.[71] Within the mental sphere, Army doctrine stresses operational security, a fundamental task that General Erfuth concluded that the "enemy is easily deceived if he does not expect a particular decision. Yet, if the existence of a decision is in the air, if everybody talks and knows about it, the enemy is seldom deluded."[72] Erfuth linked this observation with the essence of speed in operations to maintain the integrity of secrecy.

Fuller believed that time was an "all-embracing condition" that was the greatest challenge to the military general, he stated that "[t]o understand the time limitations of one's own side and of the enemy's is to work from the surest of foundations, and if our organization will enable us to move more rapidly than the enemy, then from the start we possess an immense advantage over him."[73] Building upon Wohlstetter's work that warning is necessary, Richard K. Betts argued that surprise is impossible to foresee, and "without response, warning is useless."[74] Time, in terms of

[70] Clausewitz, *On War*, 198. Kindle.

[71] US Army, *FM 3-0* (2017), 2-41.

[72] Erfurth, *Surprise*, 39.

[73] Fuller, *The Foundations of the Science of War*, 179-180.

[74] Betts, *Surprise Attack*, 22.

response, then becomes elemental in surprise. Fuller's concept of military time did not consist of hours, but of minutes.

Robert Leonhard's expanded Fuller's idea and argued that unreadiness is the most pervasive condition and within a military force, thus, "if the student wishes to become the master of surprise, he must come to routinely envision the enemy in a natural state of unpreparedness."[75] Surprise then occurs when an adversary is in a state of unreadiness or caught unawares. Leonhard argued that "surprise is a condition in which a military force is contacted while in a relative state of unreadiness . . . a temporal phenomenon. It results (either accidentally or by design) from a failed time-distance calculation on the part of the surprised force."[76] Erfuth contended that speed is essential in planning, stating that "[i]f a military decision is executed with the utmost speed, the chances are that the enemy will be surprised."[77] Clausewitz emphasized that surprise was difficult to achieve and varied depending on the nature and circumstance of the operation. The difficulty was the time to conduct operations which diminished the ability to hide one's own plans.[78] He argued that "[b]asically surprise is a tactical device, simply because in tactics time and space are limited in scale. Therefore, in strategy surprise becomes more feasible the closer it occurs to the tactical realm, and more difficult, the more it approaches the higher levels of policy."[79] All other elements of surprise aim to achieve an advantage of time over the enemy.

Within the physical sphere, practitioners can achieve surprise by controlling time through maneuver and speed. US Army doctrine highlights that through schemes of maneuver, commanders can achieve surprise and shock. Fuller stated that "strategically, time is the

---

[75] Robert R. Leonhard, *Fighting by Minutes: Time and the Art of War* (Westport, CT: Praeger Publishers, 1994), 136, Kindle.

[76] Ibid., 140, Kindle.

[77] Erfurth, *Surprise*, 39.

[78] Clausewitz, *On War*, 198, Kindle.

[79] Ibid.

measurement of military movement; tactically, of muscular and mechanical endurance."[80] At the operational level, maneuver controls time through duration, frequency, sequence, and opportunity. The aim of surprise is to then combine these elements in a fashion that produces a degree of intensity in the form of shock.

Effects of Surprise

Not all instances of surprise are the same. The Israeli academic Lanir, *Fundamental Surprise*, proposed two types of surprises, situational and fundamental (or astonishment), separating them by degrees of intensity. Lanir stated that "[o]ne difference between surprise and astonishment is the different level of intensity associated with the two: astonishment is more powerful and extensive than surprise."[81] A situational surprise is the most common occurrence in war and usually occurs within the traditional doctrinal understanding of surprise: an action in time, space, or variation. Fuller regarded this type of surprise as material surprise, occurring in the mental and physical spheres. Material surprise, which is the least intense of the two, occurs even if the adversary has intelligence that it will occur. Time and maneuver are the elements which allow for material surprise to occur.

Despite the effectiveness of situational surprise; fundamental surprise is the aim of the practitioner in war. Fundamental surprise penetrates the moral sphere. Fuller coined this moral surprise and it is more intense; it entails that the enemy has no knowledge of the action. More importantly, fundamental surprise requires cunning to orchestrate the elements of surprise. Lanir concluded that fundamental surprise is not only something the environment causes, but it forces an adversary to question the essence of self. For this reason, surprise becomes the key to victory. It becomes the soul of operational art by structuring the intent of operations in time, space, and

[80] Fuller, *The Foundations of the Science of War*, 180.

[81] Lanir, *Fundamental Surprises*, 25.

variation because of the potential effect it has on an adversary: shock.[82] The US Army *Field Manual 3-0* states that "surprise delays enemy reactions, overloads and confuses enemy command and control systems, induces psychological shock in the enemy and reduces the coherence of the enemy combined arms team."[83] In *Battle Studies*, the French practitioner Ardant du Picq, focused his effort on studying the mental and moral sphere of man, arguing that surprise occurs less within the ranks of a well-trained unit. He concluded that a "man surprised, needs an instant to collect his thoughts and defend himself; during this instant he is killed if he does not run away."[84] Achieving a fundamental surprise is no easy task and cannot be accomplished within the current mental framework of doctrine if it is considered an afterthought to material capabilities.

Forms of Surprise

Academics and military theorists contend that surprise occurs within four areas: strategic, tactical, technological, and doctrinal. The forms of surprise are not necessarily a measurement of the level of intensity, but merely a way to categorize the explanations of surprise on the battlefield. Strategic surprise, also known as surprise attack, is the result of an unexpected or unforeseen attack. Richard Betts defined surprise attack as "an attack launched against an opponent who is insufficiently prepared in relation to his potential (mobilization) resources."[85] Strategic attack normally occurs when there is a misperception of the enemy through indicators and warnings. Most countries prepare for strategic attack by building military capacity through organizational structure, training and readiness, material capability, and strategic positioning. Strategic surprise manifests itself in the mental sphere, usually through the effective employment of deception or secrecy. It also results from one's own preconceptions or misperceptions as result

[82] Fuller, *The Foundations of the Science of War*, 192. J. F. C. Fuller concluded that "surprise should be regarded as the soul of every operation. It is the secret of victory and the key to success."

[83] US Army, *FM 3-0* (2017), 2-41.

[84] Du Picq, *Battle Studies*, Introduction, Kindle.

[85] Betts, *Surprise Attack*, 1.

of cognitive bias or blindness. The most classical examples of strategic surprise are the Japanese attack on Pearl Harbor in 1941 and the Egyptian crossing of the Suez Canal in 1973.

Tactical surprise is the classical doctrinal definition of an attack at an unexpected time, unexpected place, and in an unexpected manner; according to Barton Whaley, it only becomes strategic surprise when the action impacts strategic factors such as mobilization, deployments or grand strategy.[86] Tactical surprise can then occur from deliberate planning, such as an attack or ambush, or by opportunity. The effects of tactical surprise are usually temporary and mitigated with training.

Technological surprise is the employment of a new weapon system. According to Mark Cancian, *Coping with Surprise in Great Power Conflicts*, technological surprise occurs when an adversary uses or possesses without foreknowledge or intelligence by the victim.[87] The use of drones equipped with explosive warheads is an example of technological surprise that presents significant challenges. Another example was the Egyptian's use of anti-tank guided missiles in the 1973 Yom Kippur war. Israeli intelligence failed to recognize that these weapons would be used against the Israeli's armored tanks, thus, creating surprise that stalled Israeli operations until a solution was found.

Finally, there is doctrinal surprise. Erfuth's work provided thoughts on doctrinal surprise. He not only emphasized speed and secrecy, but he dedicated a significant amount to cunning; declaring that an attack should not only occur at an unexpected time, but emphasized the level of violence, new tactics, techniques, and technology.[88] Doctrinal surprise possesses the greatest potential to achieve surprise with the greatest amount of intensity. The reason is that it lies within the realm of creativity, leveraging technology with organization or techniques to produce a

---

[86] Whaley, *Stratagem*, 83.

[87] Mark Cancian, *Coping with Surprise in Great Power Conflicts* (Washington, DC: Center for Strategic and International Studies, 2018), x, accessed September 5, 2018, https://www.csis.org/analysis/coping-surprise-great-power-conflicts.

[88] Erfurth, *Surprise*, 13.

novelty that adversaries have no way to explain. Conversely, doctrinal surprise can also occur when a force experiences an unexpected failure of doctrinal concepts in war. A well-known example of doctrinal surprise, in both regards, would be the German's demonstration of *blitzkrieg* maneuver tactics against the French's Maginot line. Doctrinal surprise requires cunning, the intellectual capacity to combine tactical, technological, and doctrinal concepts to achieve the greatest effect of shock in an adversary. This is the focus of section II of this monograph.

Surprise and Cunning: The Essence of Operational Art

> If military genius possesses the power of producing original combinations from the forces of war, genius must consequently be the mainspring of strategy, which is largely the science of forces. Inwardly its work is founded on originality; outwardly it manifests in surprise.
>
> —J.F.C. Fuller, *The Foundations of the Science of War*

The intensity of surprise rests in the ability of the military practitioner to arrange all elements of surprise in time and space; a concept understood and practiced well by Soviet theorists. The idea of operational shock comes from the Soviet doctrine of deep battle. Naveh posited that the "notion of operational shock delineates in practical terms a consequential state of fighting system which can no longer accomplish its aims."[89] An adversary that suffers this type of paralysis can no longer react and it provides an opportunity to seize the initiative. For Soviet theorists, surprise was the cornerstone to operational art. Naveh's called the Soviet reverence of surprise "illuminating," stating:

> [t]he principal role of *maskirovka* (operational deception), is to amplify the effects of *udar* (operational shock), by means of manipulating surprise . . . they employ three terms, when referring to surprise. Firstly, there is the term *siurpriz*, representing the abstract idea of surprise, in the universal or rather civilian context. Secondly, there is the term *neozhidannost* (tactical surprise), pointing towards the occurrence of an unexpected tactical act, like an attack from an unpredicted direction. Then there is the term *vnezapnost* (operational surprise),

[89] Naveh, *In Pursuit of Military Excellence*, 16, Kindle.

> implying the materialization of some occurrence, lying beyond the mental threshold of the rival command.[90]

The Soviet's viewed surprise as the cornerstone of their military thought. The military theorist, Edward N. Luttwak, concluded that "[s]urprise in war can now be recognized for what it is: not merely one advantage among many, such as material superiority or a better initial position, but rather the suspension, if only brief, if only partial, of the entire predicament of strategy."[91] Like surprise, conceptually, operational art is inherent in time, space, and purpose. Shock not only provides the surprise with the ability to suspend the dialectic of war, but it also requires a degree of variation to achieve an intensity that denies an adversary the ability to respond.

Barton Whaley concluded that surprise consisted of two separate psychological dimensions, variety (extent) and intensity (depth).[92] According to the Soviet theory, shock requires both psychological and physical factors, with maneuver as the driving element. These factors include exploiting the weaknesses of a structure or system through division and fragmentation. Here, maneuver is the lead element. Second, simultaneity provides multiple dilemmas for a rival as it requires being engaged at the same time with combined movement in time and space.[93] Third, creating shock requires depth, physical and cognitive. Last, the concept of identifying and exploiting a center of gravity is one way to bring about operational shock. Composed of three elements, the center of gravity consists of elements within the physical and mental sphere including resources, formations, terrain, and a cognitive operational vulnerability.[94] The cognitive aspect of the center of gravity centers on deception and surprise and is of great relevance to operational shock. The degree of surprise rests in the ability for the practitioner to

---

[90] Ibid., 27, Kindle.

[91] Luttwak, *Strategy*, 4.

[92] Whaley, *Stratagem*, 111.

[93] The purpose of simultaneity is to present the enemy with multiple problems so that it overwhelms an adversary's cognitive and physical ability to deal with the problem. US Army, *ADRP 3-0* (2016), 3-3.

[94] Naveh, *In Pursuit of Military Excellence,* 19, Kindle.

harness the elements of surprise to create an ignorance of weakness in the rival or that the rival is oblivious to the operation. Naveh pointed out that the "magnitude of surprise is reflected in either the success of the manoeuvre or in the ability of the beaten side to respond effectively to the strike."[95] Efficient and effective intelligence, the use of deception and secrecy to create a space between perception and reality in the rival, and creative vision are all required to invite the delivery of a strike, which is delivered through maneuver. According to Barton Whaley, the components of preconception, deception, response time, and secrecy must act in concert to achieve surprise and ultimately shock.[96]

Carl von Clausewitz said, "[p]ity the soldier who is supposed to crawl among these scraps of rules, not good enough for genius, which genius can ignore, or laugh at."[97] For the practitioner, the orchestration of these elements requires cunning, which is why Naveh concluded that cunning is the essence of operational art. The historian, John Keegan, argued that "one of the purposes behind the principles has been to make new and strange circumstances comprehensible, to draw a thread from one war to another, to force events into a mold, and to make conflicts obey the dramatic unities. . . . A point is reached in the development of weapon systems beyond which one cannot compare the present and the past."[98] As Homer demonstrated in the story of the Trojan Horse, several things materialized for surprise to occur within the Trojan camp. The first was the understanding of the environment. Warfare during this period was linear and direct; Odysseus realized that after the stalemate his approach was no longer valid. Given the paradigm of warfare, and the limits of the physical environment, Odysseus used cunning wit to create novelty, a doctrinal and technological creation that fundamentally surprised the Trojans through

---

[95] Naveh, *In Pursuit of Military Excellence,* 19, Kindle.

[96] Whaley, *Stratagem*, 87.

[97] Clausewitz, *On War*, 136, Kindle.

[98] John Keegan, "On the Principles of War," *Military Review*, no. 41 (December 1961): 68. accessed January 12, 2019, https://www.scribd.com/document/174393924/Military-Review-December-1961.

non-linearity. If surprise is the key to victory, then it follows Clausewitz' logic that the destruction of the enemy must "be put in such a condition that they can no longer carry on the fight."[99] If deception and surprise are the essence of operational shock, then "the concept of the centre of gravity must involve cunning, which is the essence of operational art, at its best."[100] The essence of cunning is for commanders to then balance audacity and imagination with risk and uncertainty to strike an adversary when they are unexpected with a variation and intensity that causes operational shock.[101] The Greek idea of métis and the theory of maneuver embody the concept of surprise and cunning as a holistic approach.

Métis in the Greek language constitutes a "practical efficiency," or as the French philosopher, François Julien posited, it is "characterized in particular by the fact that, through some more or less fundamental maneuver and by making the most out of circumstances, it is possible to win out over brute strength."[102] For the Greeks, Odysseus embodied métis throughout the epic tale of *The Odyssey* by displaying cunning wit to achieve victory. It was a shift in thinking by Homer, contrasting his previous work, *The Iliad*, that championed the age of heroes, or those who demonstrated audacity through brute strength, which was now beginning to fade to those who possessed metis, or cunning wit. Métis, or cunning, is the "adroit operations of generals."[103] The concept of cunning is the:

> Agility and flexibility of mind, then, became a product of one's experience, one's art: Experience stands in an ineluctable opposition to knowledge and to the kind of instruction that follows from general theoretical or technical knowledge. . . .

---

[99] Clausewitz, *On War*, 90, Kindle.

[100] Naveh, *In Pursuit of Military Excellence,* 19, Kindle.

[101] US Army, *ADRP 3-0* (2016), 2-10.

[102] François Julien, *A Treatise in Efficacy: Between Western and Chinese Thinking*, trans. Janet Lloyd (Honolulu, HI: University of Hawai'I Press, 2004), 8.

[103] Sextus Julius Frontinus, *The Strategemata*, trans. Charles E. Bennet (Seattle, WA: Praetorian Press, 2012), Book I, Kindle.

> Rather, the experienced person proves to be, on the contrary, someone who is radically undogmatic; who, because of the many experiences he has had and the knowledge he has drawn from them, is particularly well equipped to have new experiences and to learn from them. The dialectic of experience has its proper fulfillment not in definitive knowledge but in the openness to experience that is made possible by experience itself.[104]

Métis is a holistic way of thinking that can provide the military practitioner with a cognitive framework to optimize the degree of surprise and shock by maneuvering both in the mental sphere and the physical sphere. One model that deserves attention is the theory of maneuver. It provides the practitioner with a holistic theory of action that not only uses the physical maneuver of forces in time and space, but places cunning, surprise, and shock at a premium.

The Soviet's developed Deep Battle after a long, intensive study revealed that there was a need for a new way of thinking to meet the demands of modern warfare.[105] The future operational environment will be complex, and the character of warfare now requires another look at how to meet the cognitive and physical demands of modern warfare. According to the Joint Operational Environment 2035, "[o]ur forces face the very real possibility of arriving in a future combat theater and finding themselves facing an arsenal of advanced, disruptive technologies that could turn our previous technological advantage on its head."[106] Gaining surprise cannot simply rely on implementing technology within a dogmatic doctrinal framework. The reason is that the environment may not permit it, and more importantly, the enemy always gets a vote. Julien emphasized that "[w]arfare is not a matter of willpower 'applied to inert matter' . . . .it 'lives and reacts,' and the vivacity of reaction will necessarily foil any preconceived plan."[107] The practitioner will need to think in terms of surprise, and not that which is simply material in being,

---

[104] Hans-Georg Gadamer, *Truth and Method*, trans. Joel Weinsheimer and Donald G. Marshall, 2nd rev. (London: Continuum Publishing Group, 1989), 46, quoted in G. Stephen Lauer, "The Tao Of Doctrine: Contesting an Art of Operations," *Joint Force Quarterly* 82 (3rd Quarter 2016): 120, accessed July 16, 2018, https://lumen.cgsccarl.com/login?url=https://search-proquest-com.lumen.cgsccarl.com /docview/1809936789?accountid=28992.

[105] Naveh, *In Pursuit of Military Excellence,* 10, Kindle.

[106] Joint Staff, *JOE 2035* 2016, 15.

[107] Julien, *A Treatise in Efficacy*, 13.

but more importantly, to use cunning and technology to create novelty leading to a fundamental surprise in the adversary's mental and moral sphere. To break the molds of previous warfare, cunning will be the required skill set to leverage technology in achieving surprise and shock.

Paul Johnston wrote that "an army's behavior in battle will almost certainly be more a reflection of its character or culture than of the contents of its doctrine manuals. And if that culture—or mindset, if you will—is formed more by experience than by books, then those who would attempt to modify an army's behavior need to think beyond doctrine manuals."[108] Herein lies the challenge for the military practitioner operating under a way of war which for the longest time, fought a materially inferior enemy where precision technology could achieve a desired effect. Today's practitioner needs a cognitive reframing of theory that allows him or her to conduct a "shift," which according to philosopher Francois Julien, is:

> a term away from our normal thinking habits, a move from one framework to another . . . which will undermine our representations and get our thoughts moving . . . also a shift in the sense of the impediment that is preventing us form perceiving what we have always blocked out of our thinking. . . . In order to operate this shift, we need to recast our language and its theoretical assumptions.[109]

Julien posited the notion that to think operationally about warfare is to "think about the extent to which it is bound to betray the ideal concept of it."[110] David Gray, *Liminal Thinking*, defined Julien's point as *liminal thinking*, or "the art of creating change by understanding, shaping, and reframing beliefs."[111] To Gray's point, cunning is the ability to "strike a new direction," where the practitioner must understand the environment well enough to know when change is required, or even more so, what is required to change the environment that keeps the adversary in a state of

---

[108] Paul Johnston, "Doctrine Is Not Enough: The Effect of Doctrine on the Behavior of Armies," *Parameters* (Autumn 2000): 30-39, accessed January 12, 2019, https://ssi.armywarcollege.edu /pubs/parameters/articles/00autumn/johnston.htm.

[109] Julien, *A Treatise in Efficacy*, viii.

[110] Ibid., 11.

[111] David Gray, *Liminal Thinking: Creating the Change You Want by Changing the Way You Think* (Brooklyn, NY: Two Waves Books, 2016), xiii, Kindle.

chaos and uncertainty.[112] Cunning is the ability to create cognitive and physical depth; "[b]oundaries give life structure, which makes us comfortable. But they can also be shifted, rethought, reframed, and reorganized."[113] However, it is this ability to be less predictable that leads to optimal conditions in achieving surprise.

Simpkin eloquently wrote that "[p]lans based on attrition theory are deliberate and predictable . . . they rarely achieve surprise . . . the opposition is left with little too guess about except the timing."[114] In attrition warfare, Leonhard argued that maneuver is not an inherently valuable component, that its purpose is to facilitate fighting; whereas in maneuver warfare, maneuver is the "linchpin between the physics of war and the psychology of war."[115] It is a theory that provides the most optimal results for the military practitioner to utilize surprise as the soul of the operation because surprise encompasses all three spheres, it is physical and psychological to achieve a moral effect. Maneuver theory seeks to defeat an adversary by means other than the sole destruction of an opponent's material forces. It stresses the importance of surprise by placing a premium on uncertainty and speed. The axioms of maneuver theory include: (1) accept confusion and disorder but also create it; (2) all patterns, recipes and formulas are to be avoided. If one's tactics are predictable, then the enemy can outmaneuver you; and (3) decentralized control is necessary to execute maneuver warfare.[116] The general principles of maneuver warfare eschew predictability. There can be no fixed schemes; every scheme, every pattern is wrong; and no two situations are identical.[117] It embodies the essence of cunning and surprise, requiring the practitioner to be creative in generating plans and operations.

---

[112] Dietrich Dörner, *The Logic of Failure* (New York: Henry Holt and Company, 1989), 45.

[113] Gray, *Liminal Thinking*, xxi, Kindle.

[114] Simpkin, *Race to the Swift*, 181.

[115] Robert R. Leonhard, *The Art of Maneuver: Maneuver-Warfare Theory and AirLand Battle* (New York: Ballantine Books, 1991), 87, Kindle.

[116] William S. Lind, *Maneuver Warfare Handbook* (New York: Routledge, 2018), 6-7, Kindle.

[117] Ibid., 7, Kindle.

Surprise on the future battlefield cannot be viewed solely through the lens of material or technological capabilities, but also by presenting adversaries with "ambiguous, deceptive or novel situations."[118] Central to this argument was that the "notion of paralysis should be the aim in war and that the mental and moral dimensions should be the prime target of a military operation."[119] John Boyd's concept of maneuver theory was to gain a decisive advantage over the enemy by observing, orienting, deciding, and acting faster than the opponent proved to be the essence of maneuver theory late in the twentieth-century. Essential to his theory is the concept of dislocation in both the physical sphere and mental sphere. He argued for "nonlinear tactics, avoiding and bypassing enemy positions . . . [t]he prize was not territory but time, surprise and shock."[120] Boyd's theory highlighted the essence that if one side can implement a plan faster than the other side, then success is achievable. The essence of métis and maneuver theory became the foundation for the Israeli school of thought, Systemic Operational Design.

Systemic Operational Design is a cognitive concept and framework that melds the application of systems theory with operational art. It focuses on the relationships of structures within a system. It consists of seven structured sets of discourse that are then grouped within two major components. The structure of Systemic Operational Design through each discourse provides a holistic framework that is not bound by a linear, mechanistic process; instead, it provides a discourse that is iterative, flexible, and reflective; thus, providing the practitioner with a cognitive framework that emphasizes cunning, which proved effective in achieving surprise and shock during Operation Defensive Shield in 2002.

---

[118] John Boyd, quoted in Frans P. B. Osinga, *Science, Strategy, and War: The Strategic Theory of John Boyd* (New York: Routledge, 2007), 212, Kindle.

[119] Frans P. B. Osinga, *Science, Strategy, and War: The Strategic Theory of John Boyd* (New York: Routledge, 2007), 32, Kindle.

[120] Osinga, *Science, Strategy and War*, 45, Kindle.

Operation Defensive Shield

> This space that you look at, this room that you look at, is nothing but your interpretation of it . . . the enemy interprets space in a traditional, classical manner, and I do not want to obey this interpretation and fall into his traps, I want to surprise him. This is the essence of war. I need to win. I need to emerge from an unexpected place.
>
> —Aviv Kochavi, *Hollow Land*

The Second Intifada, or Al-Aqsa Intifada, was the result of a failed Oslo-Peace Process in the summer of 2000.[121] Within six months, the Palestinian violence devolved into guerrilla warfare. During this time, the Israeli government and the IDF conducted a dual diplomatic-military approach to the conflict, while continuing political negotiations with the Palestinian Authority (PA). The Second Intifada that occurred in Gaza from 2000 to 2005 severely tested the IDF's military paradigm. On March 29, 2002, the IDF would initiate an operation in to the Gaza strip known as "Operation Defensive Shield." It was a military response to Israel's existential crisis defined by suicide attacks inside of Israel by Palestinian terrorists. Operation Defensive Shield sought to break the Palestinian rationale for terror by creating new security conditions for a new situation.[122] Author Eyal Weizman commented that the operations of Operation Defensive Shield were "a rare and astonishing manifestation of the relation between military theory and practice."[123]

The environment consisted of a dense urban environment entrenched with staunch guerrilla-terrorist fighters of Hamas. It was a complex and densely populated battleground. Sergio Cantignani concluded that calling this conflict an *intifada* was a misnomer. He argued that the violence used by the Palestinians changed considerably from the first Intifada, citing that the Al-

---

[121] Sergio Cantignani, *Israeli Counter-Insurgency and the Intifadas: Dilemmas of a Conventional Army* (New York: Routledge, 2008), 102.

[122] Gal Hirsch, *Defensive Shield: An Israeli Special Forces Commander on the Front Line of Counterterrorism*, trans. Reuven Ben-Shalom (Jerusalem: Gene Publishing House, 2016), 169.

[123] Weizman, *Hollow Land*, 197, Kindle.

Aqsa militants "used blatantly different tactics and weaponry, transforming a civil uprising into an urban guerrilla war and terror campaign."[124] The militants of the Al-Aqsa conflict demonstrated the ability to change, which would require the IDF to do the same if they wanted to retain the initiative. The threat Israel faced during the Second Intifada was that of terrorism mixed with guerrilla warfare inside of the territories.

In the mid-1990s, Israel began a transformation from conventional warfare to low-intensity conflict. This shift was a response to the operational environment and the threats that Israel faced, requiring a new way of thinking to meet the demands of modern warfare. Additionally, the formation of the Operational Theory Research Institute, led by IDF Brigadier General Shimon Naveh, laid the foundation of strategic and operational thought that would prove effective in the complex, dense urban environment of Gaza and the Palestinian territories. In an interview with Steve Rodan, Israeli Lieutenant General Shaul Mofaz stated that the IDF "prepared the military for this conflict. [They] trained and bought equipment for low-intensity conflict."[125] In the book, *Israeli Counter-Insurgency and the Intifadas*, Cantignani's interview with Capt. (Res.) Noam Wiener captures the doctrinal dilemma of the IDF leading up to the Second Intifada. Capt. Wiener stated:

> I could say militarily-wise and doctrinally-wise, I think the army was in denial, at least until 1996. By denial I mean that I remember specifically sitting in officer school and we talked about different types of battle–offence, defence and ambushes, retreat, pursuit of the enemy–we tried to think what arrests in the West Bank are, and they didn't really fit [into a particular category]. They're no offence, because you don't attack to withhold territory, they're not a raid, because it's not somewhere you go, attack and then retreat and try to make a maximum effect. I thought that it didn't match any of the regular military schemes, because it's not a military job, it's police work. On one level it was obvious that this was the army doing police work, but on a doctrinal level it was

[124] Cantignani, *Israeli Counter-Insurgency and the Intifadas*, 104.

[125] Lieutenant General Shaul Mofaz, in Steve Roda "Interview: Lt. Gen. Shaul Mofaz," *Jane's Defence Weekly* 36, no. 1 (October 17, 2001): 32, quoted in Cantignani, *Israeli Counter-Insurgency and the Intifadas*, 105.

> developed into anything at least until 1996. Until then, I think that the army tried mainly to fill the gaps.[126]

The retired IDF Special Forces commander, Gal Hirsch, who was a student of Naveh, commented that "[t]here is a constant tension accompanying the quest for creativity and agility (speed + flexibility) when it clashes with the pillars of the military: order and standardization."[127] It is what the French philosopher, Francois Julien, described as the "law," the most rigorous form of logic that rules the world of action and is "inapplicable to the conduct of warfare because of the changeable and variable nature of the phenomena involved."[128] Israel's shift broke the paradigm of linear thought that eventually led them fundamentally surprising Hamas during Operation Defensive Shield.

It would require the IDF to enter into arguably one of the most dense urban areas in the world, a hornet's nest, "[t]he Israeli security establishment has always tended to see the refugee camps as both the locus of and the urban condition for the 'breeding' of resistance"[129] The military objectives during Operation Defensive Shield required operations in some of the earth's most dense urban environments: Ramallah, Nablus, Bethlehem, and the refugee camps of Jenin, Balata, and Tulkram.[130] The timing of the operations contributed to the secrecy of Israel's tactics and transformation. Israel completed the initial phase of the operation within a week, thus, the rival was not able to adapt to the changes they were witnessing fast enough.

The adversary was smart and agile. For years the IDF and Hamas anticipated, learned, and adapted methods and tactics from one another; a form of co-evolution.[131] As Naveh stated, "[a]lthough so much is invested in intelligence, fighting in the city is still incalculable and messy.

---

[126] Noam Wiener, quoted in Cantignani, *Israeli Counter-Insurgency and the Intifadas*, 110.

[127] Hirsch, *Defensive Shield*, 135.

[128] Julien, *A Treatise in Efficacy*, 11-12.

[129] Weizman, *Hollow Land*, 192, Kindle.

[130] Ibid., 188, Kindle.

[131] Ibid., 189, Kindle.

Violence makes events unpredictable and prone to chance. Battles cannot be scripted. Command cannot have an overview. Decisions to act must be based on chance, probability, contingency and opportunity, and these must be taken only on the ground and in real time."[132] Intelligence became the cornerstone of Israel's effectiveness. The IDF Chief of Staff, Moshe Yalon, stated that "creating intelligence dominance is a critical factor for managing and dominating the LIC [low-intensity conflict] environment. The qualitative intelligence provides the ability to realize military power properly and precisely."[133] Intelligence enabled the IDF to achieve surprise by providing commanders the real-time ability to anticipate and react on the battlefield.

David Adamsky captured the essence of Israeli military culture in, *The Culture of Military Innovation*, where he stated that the "Israeli military tradition glorified the ability of its officers to quickly orientate, rely on personal judgment, think on their feet when confronting uncertainty, seize the initiative, and give on-the-spot solutions . . . the downside to this approach was amateurishness."[134] In April 2002, the IDF conducted operations in Nablus, a city in the West Bank, with maneuvers that the commander, Brigadier Aviv Kochavi, described as "inverse geometry."[135] The IDF's operations during the Second Intifada was the realization of a creative vision dominated by operational maneuver that reorganized the urban syntax with small, micro-tactical actions. Similar to Simpkin's vision in *Race to the Swift* where the future battlefield would no longer be defined by mass armies in heavy equipment, but rather conducted with intellect and technology where quick, rapier-like maneuvers dominated the element of

---

[132] Shimon Naveh, quoted in Weizman, *Hollow Land*, 188, Kindle.

[133] Moshe Yalon, "Briefing by the IDF Chief of the General Staff" (International Conference on Low-intensity Conflict, IDF Spokesperson's Office, March 23, 2004), accessed April 18, 2019, www.idf.il/newsite/English/032304-4.stm, quoted in Cantignani, *Israeli Counter-Insurgency and the Intifadas*, 113.

[134] Dima Adamsky, *The Culture of Military Innovation: The Impact of Cultural Factors on the Revolution in Military Affairs in Russia, the US, and Israel* (Stanford, CA: Stanford University Press, 2010), 117.

[135] Weizman, *Hollow Land*, 185, Kindle.

maneuver.[136] Not only did Israel fight in a non-linear pattern, but they also leveraged speed and depth. The patterns of their movement, small-units, allowed them to weave in and out of the urban landscape quickly. Additionally, they created depth by also harnessing technology with real-time aerial surveillance and combined arms firepower from aircraft.

The IDF achieved shock by exploiting the structural and system weakness of Hamas by fighting a network with a network. In a complex, urban environment, a traditional "belief in a logically structured and single-track battle plan is lost in the face of the complexity and ambiguity of the urban mayhem."[137] The IDF used swarming maneuvers, an idea championed by John Arquilla and David Ronfeldt, *Swarming & The Future of Conflict*, who described it as "seemingly amorphous, but it is deliberately structured, coordinated, strategic way to strike from all directions, by means of a sustainable pulsing of force and/or fire, close-in as well as from stand-off positions . . . engaging an adversary from all directions simultaneously, either with fire or in force."[138] Weizman illuminated that it was not the physical space that dictated the patterns of movement, but conversely, the movement that produced the space around it; the "tactics of 'walking through walls' involved a conception of the city as not just the site, but as the very *medium* of warfare – a flexible, almost liquid matter that is forever contingent and in flux."[139]

Hamas was ignorant of its own weaknesses. Anticipating the attack, Palestinian militants set up a formidable defense that conformed with the natural flow of the urban landscape. They had a preconception of how the IDF operated. They barricaded all entryways into the refugee camps, piling up obstacles in the main avenues of approach, mining streets, alleyways, corridors,

---

[136] Simpkin, *Race to the Swift*, 180.

[137] Weizman, *Hollow Land*, 188, Kindle.

[138] John Arquilla and David Ronfeldt, *Swarming & The Future of Conflict* (Santa Monica, CA: RAND Corporation, 2000), vii, accessed February 9, 2019, https://www.rand.org/content/dam/rand/pubs/documented_briefings/2005/RAND_DB311.pdf.

[139] Weizman, *Hollow Land*, 185, Kindle.

stairwells, doorways with explosives and booby-traps.[140] The militants had the preconceived notion that Israel would enter the urban areas under their former doctrine of conventional tactics. Israel conducted operations in a different form than Hamas anticipated. Kochavi demonstrated cunning, stating that the "Palestinians have set the stage for a fighting spectacle in which they expect us, when attacking the enclave, to obey the logic that they have determined . . . to come in old-style mechanized formations, in cohesive lines and massed columns conforming to the geometrical order of the street network."[141] They were confident that they could find refuge in the dense urban architecture.

The IDF understood Hamas' vulnerabilities and exploited them by shifting and reframing the urban geometry. The paratroop commander Kochavi reinterpreted the landscape by viewing traditional avenues of approach (alleys, streets, corridors, etc.) as forbidden. He stated that for this reason, they "opted for the method of walking through walls . . . [l]ike a worm that eats its way forward . . . [w]e were thus moving from the interior of homes to their exterior in unexpected ways and in places we were not anticipated, arriving from behind and hitting the enemy that awaited us behind a corner."[142] The IDF's operations demonstrates cunning to create a novelty which led to a fundamental, doctrinal surprise within the rival of Hamas; ultimately, creating shock.

Israel understood well that the Hamas terrorists and insurgents relied upon deception, specifically disinformation, to generate a political outcome. The deception efforts by the IDF targeted several audiences. Through information operations, the IDF focused their operations on

[140] Weizman, *Hollow Land*, 193, Kindle.

[141] Aviv Kochavi, quoted in Weizman, *Hollow Land*, 193, Kindle.

[142] Weizman, *Hollow Land*, 198, Kindle.

delegitimizing the enemy with the neutral audience and causing division and fragmentation with the adversary.[143]

Israel's operations during Operation Defensive Shield provide an example of a holistic approach to warfare can create a fundamental surprise and shock in an adversary. Israel demonstrated that understanding oneself, the adversary, and the environment is critical in eliminating any biases or preconceptions, identifying enemy critical vulnerabilities, and creating novel ways to reframe or shape the boundaries of the environment. During Operation Defensive Shield, Israel eloquently orchestrated all the elements of surprise, combined with cunning, achieved success at the operational and tactical level.

Conclusion

Clausewitz believed that "every age had its own kind of war, its own limiting conditions, and its own peculiar preconceptions."[144] Those who fail to understand the shifting nature of war will end up fighting the last war. Homer's epics illuminated a shift in ages, where cunning triumphed over physical strength. The technological era is shifting the character of war once again. The US military can no longer apply its traditional paradigm to future conflict. The cunning practitioner sees and understands that the principles of war are not immutable; on the contrary, they mutate and conform to the context of the environment and technology available. Israel conclusively demonstrated this during Operation Defensive Shield in 2002. Israel not only transformed its operational paradigm, but the commanders and staff used cunning in a way to create depth through maneuver and by also reshaping the boundaries of physical space. These combinations stifled Hamas' preconceptions of the IDF, thus, creating a fundamental surprise during Operation Defensive Shield.

---

[143] Ron Schleifer, *Psychological Warfare in the Arab-Israeli Conflict* (New York: Palgrave Macmillan, 2014), 130, Kindle.

[144] Clausewitz, *On War*, 593, Kindle.

As technology develops, tomorrow's operational environment will be one filled with new surprises. The technology designed to remove the frictions of war are also contributing to the complexity of war, thus, increasing the possibilities of surprise. Simply put, a surprise occurs when perception does not match reality; the harder it is to explain, the more fundamental it becomes. The less time there is to justify the surprise, the more difficult it becomes to respond or adapt to the situation. Predictability negates surprise. America's predictability the last three decades provided a window of opportunities for opponents to anticipate, learn, and adapt to the American way of war. Adversaries who understand the American way of war will transform themselves, using technology to subvert or exploit America's doctrinal or technological vulnerabilities.

There is no crystal ball to predict what the future operational environment will bring. However, the current trends in technological advancements coupled with the rise of great power competitors demonstrate that it will look fundamentally different. Success in battle can no longer rely on material superiority. Conflicts today already show the agility and adaptation of humans in war. If doctrine reflects an institution's current understanding and nature of warfare, then how it presents the principle of surprise needs to change. The doctrinal concept of surprise is too limited and provides no theoretical context. The principles of war should be flexible to guide the practitioner with whatever he or she encounters within the environment. Historically, surprise was always the cornerstone for planning and conducting operations. It is not mutually exclusive from the other eleven principles; it shapes and defines them. For the past three decades the principle of surprise was not central to military planning because it did not have to be; America's material dominance could achieve victory. Tomorrow's battlefield will not be that way, especially with an unidentifiable adversary or a new technology. Just as Odysseus' produced surprise with cunning, so too must the practitioner today understand the changing environment and use surprise and cunning to achieve success.

The future will require intellect and understanding over the material. To shift from the current paradigm will first require that doctrine presents the principle of surprise as an amorphous, theoretical based principle that effectively conveys the concept and elements that does not imprison the mind of the practitioner. When planning operations, the practitioner cannot think of surprise as a biproduct of an action or operation; vice versa, he or she needs to consider surprise as the lynchpin of the operation. The critical point being doctrine should present the practitioner with the importance of surprise and how the cunning orchestration of its elements leads to a fundamental surprise. It is a time-tested principle that provides forces with the ability to overcome a position of relative disadvantage to secure victory or success.

The essence of cunning is not about merely arranging actions in time and space but also doing so in a way that breaks the physical form and function of the physical environment to produce novelty: a doctrinal surprise. The future environment will require novelty versus agile and adaptive adversaries. The theory of Deep Battle, maneuver theory, and Systemic Operational Design provide flexible mental models for the future operational environment. These theories are not bound by material but shift and conform to the nature of the environment. Within these cognitive frameworks, the practitioner exercises cunning by understanding, shaping, and reframing beliefs of oneself, the adversary or the physical environment.[145] While the current doctrine juxtaposed technological superiority allows the practitioner to know a great deal, the future operational environment requires the practitioner to know well; and this is the essence of cunning.

[145] Gray, *Liminal Thinking*, xxiii.

Bibliography

Adamsky, Dima. *The Culture of Military Innovation: The Impact of Cultural Factors on the Revolution in Military Affairs in Russia, the US, and Israel*. Stanford, CA: Stanford University Press, 2010.

Andreoupoulis, George J., and Harold E. Selesky. *The Aftermath of Defeat: Societies, Armed Forces, and the Challenge of Recovery*. New Haven, CT: Yale University Press, 1994.

Arquilla, John, and David Ronfeldt. *Swarming & The Future of Conflict*. Santa Monica, CA: RAND Corporation, 2000. Accessed February 9, 2019. https://www.rand.org/content/dam/rand/pubs/documented_briefings/2005/RAND_DB311.pdf

Betts, Richard K. *Surprise Attack*. Washington, DC: The Brookings Institution, 1982.

Builder, C. H. *The Masks of War: American Military Styles in Strategy and Analysis*. Baltimore, MD: Johns Hopkins University Press, 1989.

Cancian, Mark. *Coping with Surprise in Great Power Conflicts*. Washington DC: Center for Strategic and International Studies, 2018. Accessed September 5, 2018. https://www.csis.org/analysis/coping-surprise-great-power-conflicts.

Cantignani, Sergio. *Israeli Counter-Insurgency and the Intifadas: Dilemmas of a Conventional Army*. New York: Routledge, 2008.

Cebrowski, Vice Admiral Arthur K. "Forward." In *Rethinking the Principles of War*, edited by Anthony D. McIvor, x-xiii. Annapolis, MD: Naval Institute Press, 2005. Kindle.

Churchill, Winston. *The Second World War, Volume V: Closing the Ring*. New York: Rosetta Books, 2013. Kindle.

Clausewitz, Carl von. *On War*. Edited and translated by Michael Howard and Peter Paret. New York: Princeton University Press, 1984. Kindle.

De Jomini, Antoine-Henri, and Charles Messenger. *The Art of War*. London: Greenhill Books, 2006.

Dekker, Sidney. *Drift into Failure: From Hunting Broken Components to Understanding Complex Systems*. Boca Raton, FL: CRC Press, 2011.

Dörner, Dietrich. *The Logic of Failure*. New York: Henry Holt and Company, 1989.

Du Picq, Charles Jean Jacques Joseph. *Battle Studies*. Translated by Colonel John N. Greely and Major Robert C. Cotton. Public Domain Book, 1921. Kindle.

Dupuy, COL (Ret.) Trevor N. *Understanding Defeat: How to Recover from Loss in Battle to Gain Victory in War*. New York: Paragon House, 1990.

Erfurth, General Waldemar. *Surprise*. Translated by Stefan T. Possony and Daniel Vilfroy. Harrisburg, PA: Military Service Publishing Company, 1943.

Foster, Meadhbh I., and Mark T. Keane. "Why Some Surprises are More Surprising than Others: Surprise as a Metacognitive Sense of Explanatory Difficulty." *Cognitive Psychology* 81 (2015): 74-116. Accessed December 2, 2018. http://hdl.handle.net/10197/8532.

Frederick the Great. *Frederick the Great: Instructions for His Generals*. Translated by Brigadier General Thomas R. Phillips. Mineola, NY: Dover Publications, 2005. Kindle.

Friedman, B. A. *On Tactics: A Theory of Victory in Battle*. Annapolis, MD: Naval Institute Press, 2017. Kindle.

Frontinus, Sextus Julius. *The Strategemata*. Translated by Charles E. Bennet. Seattle, WA: Praetorian Press, 2012. Kindle.

Fuller, J. F. C. *The Foundations of the Science of War*. London: Hutchinson and Company, 1926. Accessed July 28, 2018. http://cgsc.contentdm.oclc.org/cdm/ref/collection /p16040coll3/id/173.

Ghrajedaghi, Jamshid. *Systems Thinking: Managing Chaos and Complexity*. Burlington, MA: Elsevier, 2011. Kindle.

Gray, Colin S. *The Strategy Bridge*. Oxford: Oxford University Press, 2010.

Gray, David. *Liminal Thinking: Creating the Change You Want by Changing the Way You Think*. Brooklyn, NY: Two Waves Books, 2016. Kindle.

Gross, Matthias. *Ignorance and Surprise: Science, Society, and Ecological Design*. Cambridge, MA: Massachusetts Institute of Technology Press, 2010. Kindle.

Handel, Michael I. *Masters of War: Classical Strategic Thought*. Portland, OR: Frank Cass Publishers, 2001.

Hirsch, Gal. *Defensive Shield: An Israeli Special Forces Commander on the Front Line of Counterterrorism*. Translated by Reuven Ben-Shalom. Jerusalem, Israel: Gefen Publishing House, 2016.

Homer. *The Odyssey*. Translated by Robert Fagles and Bernard Knox. New York: Penguin Books, 1997.

Hybel, Alex Roberto. *The Logic of Surprise in International Conflict*. Lexington, MA: DC Heath and Company, 1986.

Jervis, Robert. *System Effects: Complexity in Political and Social Life*. Princeton, NJ: Princeton University Press, 1997.

Johnston, Paul. "Doctrine Is Not Enough: The Effect of Doctrine on the Behavior of Armies." *Parameters* (Autumn 2000): 30-39. Accessed January 12, 2019. https://ssi.armywarcollege.edu/pubs/parameters/articles/00autumn/johnston.htm.

Julien, François. *A Treatise in Efficacy: Between Western and Chinese Thinking*. Translated by Janet Lloyd. Honolulu, HI: University of Hawai'I Press, 2004.

Kahneman, Daniel. *Thinking Fast and Slow*. New York: Farrar, Straus, and Giroux, 2011.

Kam, Ephraim. *Surprise Attack: The Victim's Perspective*. Cambridge, MA: Harvard University Press, 1988.

Keegan, John. *Intelligence in War: The Value – and Limitations – of What the Military Can Learn About the Enemy.* New York: Vintage Books, 2004.

———. "On the Principles of War." *Military Review*, no. 41 (December 1961): 61-72. Accessed January 12, 2019. https://www.scribd.com/document/174393924/Military-Review-December-1961.

Kellett, Anthony Kellett. "Combat Motivation." In *Contemporary Studies in Combat Psychiatry*, edited by Gregory Belenky, 205-232. Westport, CT: Greenwood Press, 1987.

Lanir, Zvi. *Fundamental Surprises*. Tel Aviv, Israel: Center for Strategic Studies, 1983.

Lauer, G. Stephen. "The Tao of Doctrine: Contesting an Art of Operations." *Joint Force Quarterly* 82 (3rd Quarter 2016): 118-24. Accessed July 16, 2018. https://search-proquest-com.lumen.cgsccarl.com/docview/1809936789?accountid=28992.

Leonhard, Robert R. *Fighting by Minutes: Time and the Art of War*. Westport, CT: Praeger Publishers, 1994. Kindle.

———. *Principles of War for the Information Age*. New York: Ballantine Books, 1998. Kindle.

———. *The Art of Maneuver: Maneuver-Warfare Theory and AirLand Battle*. New York: Ballantine Books, 1991. Kindle.

Lind, William S. *Maneuver Warfare Handbook*. New York: Routledge, 2018. Kindle.

Lorini, Emiliano, and Cristiano Castelfranchi. "The Cognitive Structure of Surprise: Looking for Basic Principles." *Topoi* 26, no. 1 (May 2007): 1-30. Accessed December 2, 2018. https://www.researchgate.net/publication/225757775_The_cognitive_structure_of_surprise_Looking_for_basic_principles.

Luttwak, Edward N. *Strategy: The Logic of War and Peace*. Cambridge, MA: The Belknap Press of Harvard University Press, 2001.

Mellers, Barbara A., Katrina M Fincher, Caitlin Drummond, and Michelle Bigony. "Surprise: A Belief or an Emotion?" *Progress in Brain Research* 202 (2013): 3-19. Accessed December 2, 2018. https://pdfs.semanticscholar.org/b3e7/bf1739a31ecb0be5b5d537e25864cba6e397.pdf.

Merriam-Webster Online. s.v. "Surprise." Accessed August 9, 2018. https://www.merriam-webster.com/dictionary/surprise.

Murray, Williamson. *Military Adaptation in War: With Fear of Change*. New York: Cambridge University Press, 2011.

———. *War, Strategy, and Military Effectiveness*. New York: Cambridge University Press, 2011.

Murray, Williamson, and MacGregor Knox. “Conclusion: The Future Behind Us.” In *The Dynamics of Military Revolution: 1300-2050*, edited by Macgregor Knox and Williamson Murray, 175-194. New York: Cambridge University Press, 2001.

Naveh, Shimon. *In Pursuit of Military Excellence: The Evolution of Military Theory*. London: Frank Cass, 2004. Kindle.

Osinga, Frans P .B. *Science, Strategy, and War: The Strategic Theory of John Boyd*. New York: Routledge, 2007.

Scales, Major General (Ret.) Robert H. *Scales on War*. Annapolis, MD: Naval Institute Press, 2016. Kindle.

———. “The Second Learning Revolution.” In *Rethinking the Principles of War*, edited by Anthony D. McIvor, 41-57. Annapolis, MD: Naval Institute Press, 2005. Kindle.

Schleifer, Ron. *Psychological Warfare in the Arab-Israeli Conflict*. New York: Palgrave Macmillan, 2014. Kindle.

Simpkin, Richard. *Race to the Swift: Thoughts on the Twenty-First Century Warfare*. McLean, VA: Pergamom-Brassey’s International Defense Publishers, 1985.

Smith, General Rupert. *The Utility of Force: The Art of War in the Modern World*. New York: Alfred A. Knopf, 2007. Kindle.

Storr, Jim. *The Human Face of War*. New York: Continuum Books, 2009.

Sun Tzu. *The Art of War*. Edited and translated by Samuel B. Griffith. Oxford: Oxford University Press, 1971.

Svechin, Aleksandr A. *Strategy*. Edited by Kent D. Lee. Minneapolis, MN: East View Information Services, 1991. Kindle.

Thucydides. *The Landmark Thucydides: A Comprehensive Guide to the Peloponnesian War*. Edited by Robert B. Strassler and translated by Richard Crawley. New York: Free Press, 2008.

Tobin, Vera. *Elements of Surprise: Our Mental Limits and the Satisfactions of Plot*. Cambridge, MA: Harvard University Press, 2018. Kindle.

US Department of the Army. *Army Doctrine Publication (ADP) 1-01, Doctrine Primer*. Washington, DC: Government Printing Office, 2014.

———. *Army Doctrine Reference Publication (ADRP) 3-0, Operations*. Washington, DC: Government Printing Office, 2016.

———. *Field Manual (FM) 2-0, Intelligence Operations*. Washington, DC: Government Printing Office, 2014.

———. *Field Manual (FM) 3-0, Operations*. Washington, DC: Government Printing Office, 2017.

———. *Field Manual (FM) 100-5, Operations.* Washington, DC: Government Printing Office, 1982.

———. *Field Manual (FM) 100-5, Operations.* Washington, DC: Government Printing Office, 1986.

———. *Field Manual (FM) 100-5, Operations.* Washington, DC: Government Printing Office, 1993.

US Department of Defense. *Joint Operational Environment (JOE) 2035: The Joint Force in a Contested and Disordered World*. Washington, DC: Government Printing Office, 2016.

———. Joint Staff. *Joint Publication (JP) 3-0, Joint Operations*. Washington, DC: Government Printing Office, 2017.

———. Joint Staff. *Joint Publication (JP) 5-0, Joint Planning.* Washington, DC: Government Printing Office, 2017.

———. *Summary of the 2018 National Defense Strategy of the United States of America.* Washington, DC: Government Printing Office, 2018.

US Department of the Navy, Headquarters Marine Corps. *Marine Corps Doctrinal Publication (MCDP) 1, Warfighting*. Washington, DC: Government Printing Office, 2018.

von Moltke, Helmuth. *Moltke on the Art of War*. Edited by Daniel J. Hughes and translated by Daniel J. Hughes and Harry Bell. New York: Presidio Press, 1995. Kindle.

Wass de Czege, Huba. "Systemic Operational Design: Learning and Adapting in Complex Missions." *Military Review* (January-February 2009): 2-12. Accessed October 23, 2018. https://usacac.army.mil/CAC2/MilitaryReview/Archives/English/MilitaryReview_20090228_art004.pdf.

Weizman, Eyal. *Hollow Land: Israel's Architecture of Occupation*. New York: Verso, 2017. Kindle.

Whaley, Barton. *Stratagem: Deception and Surprise in War*. Boston, MA: Artech House, 2007.

Wirtz, James J. *Understanding Intelligence Failure: Warning, Response, and Deterrence*. New York: Routledge, 2017.

Wohlstetter, Roberta. *Pearl Harbor: Warning and Decision*. Stanford, CA: Stanford University Press, 1962.