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MASTER OF MILITARY STUDIES


**HUMAN FACTORS:
THE OPERATIONAL ARTIST AND THE EXCEPTIONAL MIND**

SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF MILITARY STUDIES

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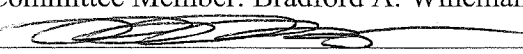
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Executive Summary

Title: Human Factors: The Operational Artist and the Exceptional Mind

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Thesis: Best application of the operational art requires a unique set of cognitive skills, attributes, and capabilities that are possessed by an *operational artist*. Commanders and staff must recognize that the operational artist exists and understand how to identify him or her so they may take a strengths-based approach to talent management, ultimately exploiting success in the operating environment.

Discussion: Operational art and operational design are complex concepts and methodologies that assist the military planner in understanding and preparing for the nature and character of war. Currently, defense institutions put much effort into defining the concept and process of operational art and design, but place little focus on the person behind the process, relegating the dialogue on military genius and strategic genius to that of a sidebar conversation in which only theorists and scholars partake. Without recognition of the existence of operational artists, and understanding of their distinguishing attributes from traditional staff planners, leaders become fixated on the process and the product development requirements of planning vice ensuring the right skills are applied in conducting it. This dangerous tunnel vision typically results in entropy of the very creative and critical thinking processes needed to conduct complex problem framing.

Theorists in military affairs and psychology have long admired and researched the qualities that may contribute to a leader's success as a manager of chaos and complexity. Clausewitz, Jomini, and Liddell Hart looked at the concept of military genius and the person-centered elements of its make-up. Major General (retired) Robert Scales, US Army, adapts this concept in the current epoch as strategic genius and too takes a person-centered perspective on various types of military success. Psychologist Dan Goleman may well have found great solace and inspiration in the pages of Clausewitz's *On War* when developing his theory on emotional intelligence. Collectively, these disparate disciplines and scholars provide foundations of a person-centered framework that may empower leaders to recognize that human factors are as central to a military's success as they are its failures, that the exceptional military mind should be sought out and positively exploited, and that operational artists come in many forms.

Conclusion: It is time to recognize that operational art and design may require a specialized skill set that arbitrary criteria such as time in service, rank, specialty, or even in some cases, experience alone may not provide. Indiscriminate responsibility assignments for staff officers must cease and a strengths-based approach to identifying and assigning exceptional military minds to duties must begin. Identification of the operational artist is not meant to be deterministic of an officer's career path, but instead, to empower commanders to better identify and exploit the strengths and potential of an individual. Operational artists do exist and may be exceptionally qualified to perform operational art and lead the force through the future warfighting environment.

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Preface

The conduct of research can be a journey into the unknown, a constant search for the answers to the questions we carry in life. It is the laboring over a five million piece puzzle to find when you are finished, that you have only constructed a fraction of a corner, and the picture is not what you believed it to be, only leading to more questions. If done right, it is hard work. But it is necessary for the continued progress of our respective fields and, when in respect to war, for mankind. We owe it to ourselves and to each other to continue the search for these answers and to exploit our findings to advance our craft, make better sense of the world, and to capitalize on the good in one another; the shared desire for understanding.

In the Marine Corps we refer to behavior that breaks individuals from the group as *human factors*. These *human factors* tend to be behavior that connotes detraction from performance. I always found it ironic that in a military, made up of humans, being human is only a factor. When in reality, war is a reflection of that same struggle of humanity and being uniquely human may be the only thing that can save us from it. With these thoughts I wonder, how? How do we find and positively exploit those uniquely human factors? In a sea of militant likeness, cadence, conformity, and competition, how do our top leaders both identify and come to accept the value of different? How do we effectively reconcile the science of military with the art of war? And behind the operational art, is there not an *operational artist*? This research is a journey in identifying him or her, so we can better apply the operational artists in our ranks.

I offer my gratitude to my research mentor, Dr. Paul Gelpi, for his guidance and tutelage during this process. And to the intelligent and inspirational women of the Leadership Communication Skills Center at Marine Corps University; Dr. Linda Di Desidero, PhD. Linguistics; Andrea Hamlen-Ridgely, MEd Adult Education; and Stase Wells, MS Global and International Education. Thank you for your continuing contributions to the intellectual and academic advancement of the Marine Corps. You embody the quiet professionals we so revere and you will forever be our *sine qua non*.

Most importantly, thank you to my tirelessly supportive wife, Major Melissa DePriest, for all that you do for us and for facilitating personal “stay-cations” to isolate me with my thoughts for the benefit of this research. All successes in life will forever be ours to share.

Finally, I am both humbled by and grateful for the challenges that lie before me. It is in this spirit that I offer my pebble to the pond.

Introduction

The operational art in one of its most simple definitions in the Joint Publication on Joint Operations is, "...the cognitive approach by commanders and staffs...to develop strategies, campaigns, and operations to organize and employ military forces... to achieve a desired end state."¹ The operational art is defined here as a process or an approach. In and of itself, and by itself, it is inert and therefore needs a qualified practitioner, or as other art requires, an artist, to create it. Poorly applied or omitted application of this creative cognitive process could easily render a strategy, campaign, or operation ineffective before it starts. This makes it vital that commanders and staff planners alike are empowered with the ability to identify service-members best endowed with the skills, attributes, aptitudes, and abilities to serve as *operational artists*.

Identifying operational artists to serve on operational planning teams enables capitalization of both individual and collective intellectual strengths in the services' or joint planning process. Unit leaders often rely upon rank and billet assignment and employ an "any-cog-any-hole" approach to the assignment of staff officers and assembly of planning teams in complex and dynamic operational environments. Without recognition of the existence of operational artists and their distinguishing attributes from traditional staff planners, principle and primary staff officers become fixated on the process and the product development requirements of planning instead of ensuring the appropriate planners are conducting it. This dangerous tunnel vision typically results in entropy of the very creative and critical thinking processes needed to conduct complex problem framing.

While the concept of operational art is taught in many professional military education forums, it may not be possible for all planners and staff to become operational

artists. The traditional military staff member may be able to understand and make contributions to the operational art, but an exceptional military mind could create it. Just as equally, when considering the visual arts it is widely accepted that all those that can draw cannot necessarily create fine art, and house painters are not of the same capability as Vincent van Gogh, Pablo Picasso, or Claude Monet. One would undoubtedly be reticent to refer to such a tradesman as an artist simply because of the similarity in tools and supplies required for both painting houses and creating fine art. In fine art communities, one understands that the tools, and “paint-by-number” approach, do not create fine art, but instead creativity mobilizes the tools through visualization, imagination, and intellect. In defense organizations this same understanding is not yet shared. The existence of operational art is widely accepted, but it is institutionally presumed that any commander or staff can follow the instructional process and apply the doctrinal tools to achieve the desired results. Best application of the operational art requires a unique set of cognitive skills, attributes, and capabilities that are possessed by the operational artist. Commanders and staff must recognize that the operational artist exists, and understand how to identify him or her so they may take a strengths-based approach to talent management, ultimately exploiting success in the operating environment.

In effort to identify the human factors and traits uniquely clustered within the operational artist, this research will explore historical theories on military genius, assess the cognitive process within operational art, and attempt to identify the cognitive skill set, attributes, and capabilities of the *operational artist*.

Prominent Theories of Military Genius: A Precursor to the Operational Artist

Clausewitz and Emotional Intelligence

Theories on military genius date back hundreds of years. The desire to understand that which propels certain individuals into exceptionalism in military thought and action is not new. Fulfilling this desire necessitates consideration of the founding ideas on military genius. These concepts are likely to illuminate the requisite characteristics that could be found in the current day operational artist.

One of the most notable theorists on military genius is Carl von Clausewitz, who addresses the topic in his book, *On War*, which he conceptualized in the early-19th century. He begins by recognizing the difficulty in defining the term “genius” and offers a simple definition of, “...a very highly developed mental aptitude for a particular occupation,” to provide a common understanding.² Clausewitz warns, however, that to constitute the “...*essence of military genius*,” all of the combined gifts of the mind and temperament must be appropriately evaluated.³ This suggests there is not one particular element of genius, but that there is a cluster of traits that may exist both in personality and intellect that work in conjunction with one another. His ideas on two categories of soldier, the primitive and the civilized, specify that all soldiers do not possess military genius, nor is it required of them. This is also reflected today in America’s modern military, where arrays of ability varying from tradesmen to professional officers co-exist in the ranks. But within the professional officer corps which encompasses the majority of planners, there too is a disparity between the traditional and the exceptional staff officer. Clausewitz expounds on the complementary nature of the roles of his two categories of

soldiers and offers that civilized people "...lack the natural disposition for [the warrior spirit]," that is so common among a more primitive society.⁴ This alleged lack of natural warrior spirit in the more civilized is addressed and cultivated in current day military indoctrination programs such as enlisted boot camp and service specific officer candidate schools. These programs ignite the warrior ethos so needed to sustain a nation's wars.

In regards to military genius, however, Clausewitz argues that "...we will never find a savage who is a truly great commander, and very rarely one who would be considered a military genius, since this requires a degree of intellectual powers beyond anything that a primitive people can develop."⁵ Signs of primitive commanders, or those potentially bestowed responsibility above their leadership capability, may potentially be observed in today's climate of command reliefs due to "loss of confidence" often attributed to hostile command climates set or permitted by commanding officers. This may be a symptom of an absence of criteria to best identify those pre-disposed with the capability to motivate and move the masses in such a position. Some of these same intangible traits may be required for the operational artist and may also coalesce with some of the traits within military genius. Military genius, from Clausewitz's view, requires intellectual powers, a sensitive and discriminating judgement, and a skilled intelligence to identify truth, all traits in differing proportions, but with a, "...harmonious combination of elements, in which... none may be in conflict with the rest."⁶

For Clausewitz, military genius must adapt to chance and have the ability to navigate the realm of chance in war; an ability that today may be interpreted as a nuanced and intuitional approach to decision-making.⁷ But he affixes this ability to the possession of two particular indispensable qualities for the military genius, "*first, an intellect that, even in the darkest hour, retains some glimmerings of the inner light which leads to truth*

*[the French coup d'oeil]; and second, the courage to follow this faint light wherever it may lead [determination].*⁸ The first indispensable quality, the ability to see the light through the dark, or the *coup d'oeil* can be defined more objectively through a modernized definition. The modern meaning of *coup d'oeil* is, “a glance that takes in a comprehensive view,” or more literally the, “stroke of eye.”⁹ Coup d'oeil too could be akin to intuition, or arguably more closely related to the trait of vision. Malcolm Gladwell, a writer focusing on the areas of social psychology, cognitive psychology, and sociology, would avoid the term ‘intuition’ claiming its implications are emotional or allude to gut reactions without thinking, where rapid cognition is better applied as a concept to explain such phenomenon.¹⁰ Those with the gift of coup d'oeil can see more in a glance than those without. These are the conceptual “seers” of the greater context, which may be a sort of rapid calculating cognition.^{11 12}

This visionary-type ability may manifest in spatial reasoning demonstrated by an operational artist's skill to quickly see and understand how the operating environment fits in to the greater global security environment and how operations link to the strategic and policy objectives. Additionally, this coup d'oeil and visionary ability may manifest in a temporal manner demonstrated through an operational artist's capability to promptly see and understand how today's operations, activities, and threat environment will transform the future and/or are dictated by the past. The difference between these “seers” and those that see is the ability to rapidly recognize that which most military minds would require concerted study and reflection to see.¹³ The Clausewitzian military genius can instinctively *see* the same, in the matter of seconds.¹⁴ This seer possesses this skill of a visionary to see a conceptual psycho-socio-political-cultural environment and its causal chains and consequences.

The second indispensable quality, of determination, is paramount, but is not as simple as the word may suggest. Here Clausewitz delineates between what the United States Marine Corps refers to as a bias for action that may entail decisive action (often tactical) without reflection, and determination which holds inherently within it a decisive action *with* reflection.¹⁵ The ability to be rapidly reflective and exercise boldness in decisiveness all while integrating intellect and courage is the essence of Clausewitz's meaning of determination.¹⁶ This determination is a rapid and somewhat exacting boldness with the power of applied reflection. It is wise, it is self-confidence adhered to a commitment to truth, and it is deeply intrinsic. It may also be a fixation on the way ahead after exercising Boyd's Orient – Observe – Decide – Act (OODA) loop almost reflexively, but with a keen and express reflection. In current day vernacular these traits may also converge with the increased emphasis on the importance of moral courage. One can see a connection between the Clausewitzian explanation of determination, its importance, and the requirement of intelligence in its possession and how commanders and lead planners would exercise moral courage to create the same result.

Fortitude of mind and character, emotional balance, strength of character and will also all take part in Clausewitz's formula for military genius.¹⁷ Although much of his analysis is focused specifically on serving as a commander, this research has attempted to give greater attention to the portions of Clausewitz's assertions that could be most prevalent in a current day military planner with a special aptitude for the military occupation, serving as the right hand of the commander. These higher level thinkers may too possess the abilities to attain superior or strategic levels of command. However, some tactical experts, combat heroes, and successful company, battalion, or even regimental level commanders without possession of the same faculties, may not succeed at the

operational or strategic levels in superior positions of command.¹⁸ Tactical success and experience alone do not promise operational and strategic level success. Conversely, those predisposed for operational and strategic level thinking may possibly serve in the shadows tactically and still excel to great heights.

Clausewitz also acknowledges a solely intellectual requirement that he identifies as unrelated to the emotions and temperament of the mind. This is an individual's ability to understand "the relationship between warfare and terrain" and, as he states, how it drives "...the peculiar character of military action... in a definite space...*decisive in the highest degree...*"¹⁹ Clausewitz asserts that mastering this relationship requires a special talent. It is "*a sense of locality*" and an ability to "*quickly and accurately grasp the topography of any area*" without the possibility of reconnoitering the entire area.²⁰ This may also be interpreted as the ability to visualize a physical environment and its impacts and could be further related to coup d'oeil. Clausewitz posits this gift is rooted in the imagination and claims it is a combination of a physical seeing of the eye and the filling in of gaps, from experience, with the mind.²¹ It is commonly believed that imagination is a natural gift which, if true, may imply that this trait cannot be learned, but sense of locality, or sense of direction, is a trait that Clausewitz believes can be developed with time and practice.²² An operational artist may possess both traits, where the traditional staff officer participating in the process of the operational art, may only possess a sense of locality.

In addition to the aforementioned mental qualities outlined in detail, Clausewitz applies considerable attention to importance of temperament and emotion in military genius. Clausewitz's frequently applied descriptors such as emotion, courage, passion, self-control, self-confidence, human dignity, ambition, reflection, doubt, insight,

sensitivity, enthusiasm, uncertainty, will, and hope, whisper of the relevant modern research on emotional intelligence in the disciplines of psychology and sociology. Clausewitz artfully describes the intangible human factors for which there were few in-depth studies in the 19th century. Assertions like, "...a particular cast of mind," and "...a special kind of intelligence," may be leading the reader to an entity not yet identifiable or definable in the time.²³ As Clausewitz delineates a military genius's traits and abilities to train for a greater "*self-awareness to guard against oneself,*" "*self-control,*" the "*spirit of endeavor,*" the effects of enemy action "*felt by the junior war fighters and through them reacting on the commander,*" and the "*keeping of control over the troops through the ability to rekindle the flame of purpose in all others and revive their hope,*" the mirrored foundations of emotional intelligence can be found.²⁴

In 1995 in some of the earliest modeling of emotional intelligence, the American Psychologist Daniel Goleman branded five key elements of the concept: (1) Self-awareness, (2) Self-regulation, (3) Motivation, (4) Empathy, and (5) Social Skills.²⁵ These correlating theoretical attributes can be seen side-by-side in *Table 1* below.

	Clausewitz's Military Genius: Psychological Strength and Strength of Character	Dr. Daniel Goleman's 5 Elements of Emotional Intelligence (EI)
<u>Military Genius vs. Emotional Intelligence:</u> Correlating Theoretical Attributes and Abilities	<ul style="list-style-type: none"> ➤ Self-Awareness ➤ Self-Control ➤ Spirit of endeavor ➤ Feelings of subordinates reacting on the commander ➤ Rekindling of the purpose of others and revival of hope [inspirational leadership] 	<ul style="list-style-type: none"> ➤ Self-Awareness ➤ Self-Regulation ➤ Motivation ➤ Empathy ➤ Social Skills
<i>Table 1. Correlations of Clausewitz's intangible human factors and a current day model of EI</i>		

In Clausewitz's summary on military genius, he indicates that while mental ability, superior intellect, emotion, intuition, visualization, and imagination are all called upon as faculties for the most accomplished military leaders, he asserts a calm temperament, curious mind, and ability to apply a comprehensive approach are most desirable with which to trust the fate of life, honor, and country in war.²⁶ It is compelling that some of the intangible traits of the military genius, which Clausewitz struggled to articulate clearly in the early 19th century but made a point to emphasize as important distinguishing attributes, have been identified in the 20th and early 21st centuries as vital characteristics for success in organizational leadership. These are the traits of developed emotional intelligence.

Jomini and Military Genius

Another contributor to the foundation of modern military doctrine and theory is Antoine-Henri Baron de Jomini of the late 18th and early 19th centuries. Jomini made a careful and widely studied chronicle of his lessons from the Napoleonic Wars, but did not address the topic of military genius in as a direct and detailed fashion as Clausewitz. However, in his book, *The Art of War*, originally published in 1862, he wrote of the requirements to be qualified for general officership, general staff, and a primary adviser to the leaders of grand strategy.²⁷ Jomini illuminates his framework for military greatness by outlining the requisite qualities of personal character that a general must possess to command and control armies at the strategic level.²⁸ While he does not directly define the term "military genius" as Clausewitz did, he tacitly recognizes its existence through use of the term in his various written works and instead focuses on the essential qualities required for elite positions and generalship.

Jomini asserts that “The most essential qualities for a general will always be as follow: -- First, *A high moral courage, capable of great resolutions*; Secondly, *A physical courage which takes no account of danger.*”²⁹ Jomini maintains a clear focus on the value of courage. His post-qualifier of moral courage to be *capable of great resolutions* may too echo Clausewitz’s assertions on *determination*.³⁰ Jomini goes on to detail both important and unnecessary but assisting characteristics of the individual. This introduces the idea of a possible existence of both primary and secondary skill sets, attributes, traits, and characteristics that also may be inherent within the operational artist. Jomini posits that the military and scientific skills of a general are secondary to the two essential elements, moral and physical courage.³¹ Both of these elements of courage, the moral and the physical, also have an intrinsic nature to them and speak to the more intangible and internal human factors that mobilize an individual to commitment to truth and achievement of greatness.

Jomini stated that a general, which for his era implied a strategic leader and planner, must possess essential qualities of personal character to include, “...gallant, just, firm, upright, capable of esteeming merit in others instead of being jealous of it, and skillful in making this merit conduce to [the success of the whole]...”³² Jomini, as well, warned of the tendency of the mediocre mind to be jealous of capable officers around them and to surround themselves with less competent staff.³³ This is an important element of advising for current day commanders and chiefs of staff to heed when seeking the operational artist, or exceptional military mind, who may reside in unexpected rank or specialty, amongst their staff. The more naturally talented operational artist may be intentionally oppressed by a middle management spot-light performer in effort to usurp authority or accolades best bestowed on an intellectual competitor, or as Clausewitz

identifies, one inclined toward the dishonorable “*ehrgeiz*” (greed for honor) and “*ruhmsucht*” (glory hound).³⁴ In this warning one can also see the importance of the presence of emotional intelligence in leaders of staffs and formations. The presence of emotional intelligence to include the elements of self-awareness, self-regulation, motivation, empathy, and social skills would prevent the above from manifesting. Nonetheless, as Jomini aptly captures, “Unfortunately, the disposition to do justice to merit in others is not the most common quality...”³⁵

Jomini also addressed whether or not there is an importance of tactical expertise for the strategic commander and operational planner. He observed that, “it is beyond question that war is a distinct science of itself, and that it is quite possible to be able to combine operations skillfully without ever having led a regiment against an enemy. Peter the Great, Conde’, Frederick, and Napoleon are instances of it.”³⁶ Jomini argues that it is not because an officer has spent a long time in military service that they become great commanders and military planners, “... but because [s/he] has a natural genius for war and possesses the requisite characteristics.”³⁷ This recurring point fortifies the theme of an existence of natural ability amongst successful strategic military leaders. Jomini does not believe that there is a definite answer as to a specific set of experiences or specialty background that serves as a prerequisite to military genius and strategic success. He does offer that certain backgrounds, nevertheless, may be better predisposed for strategic level success than others, particularly artillery, engineering, and general staff.³⁸ He continues to stress the importance of perfect “harmony between the general and [the] chief of staff.”³⁹ This emphasis, and the implications surrounding it, returns the research to the importance of emotional intelligence, namely the elements of self-regulation, empathy, and social

skills and implies that leaders with higher levels of emotional intelligence may be better poised to produce high functioning staffs.

The Jominian qualities of strong character, high moral courage and resolve, physical courage disregarding of danger allowing the creation of boldness in a military plan, natural genius in war, the ability to empower and esteem merit in others on the planning team, and the social skill to create and maintain harmony with key members of the general staff may also be found in an operational artist.⁴⁰ Many of these characteristics, in addition to Jomini's personal qualities of gallantry, justice, firmness, and uprightness, are intangible human factors and cluster traits that are independent of military background and experience, are not attached to a specific level of warfare and the experiences within, and are mostly internally derived in the psychology of the individual.⁴¹

Liddell Hart on Military Genius

In 1959, Basil Henry Liddell Hart questioned the definition of military genius while recognizing the tendency for the term to be loosely applied due to post-war sensationalism. Over a century after Clausewitz, Liddell Hart contends that attempts at defining military genius have "...produced innumerable definitions and led to endless controversy," and therefore the best course to identify genius in the military sphere is to examine the credentials of the Great Captains.⁴² Liddell Hart aptly recognizes that "...in war time, people tend to crave for a hero-leader..." and then dub tactical heroics as military genius, but this seldom lasts as disenchantment sets in, making genius best judged in hindsight.⁴³ Liddell Hart asserts that history implies that a characteristic of a military genius is enduring fame, but he is resolute that *enduring success* is not a pre-

requisite as Hannibal, Napoleon, Robert E. Lee, and many others have demonstrated.⁴⁴ He almost warns to the distraction of the fallacy of success, asserting that victory in itself does not necessarily equate military genius. To attain enduring fame, “It is more important for a general to win victories than to gain the victory. As with an artist, [his/her] ultimate standing depends not on whether or not success crowned [his/her] career, but on the masterpieces [s/he] produced in practicing [his/her] art.”⁴⁵

Liddell Hart attempts to examine the qualities of the Great Captains of the past to identify common denominators to their outstanding performance.⁴⁶ Ultimately, he asserts that there are two forms of military genius, the executive and the conceptive – or the destructive or the constructive (of destructiveness), which are distinct but not separate.⁴⁷ And an individual leader is not confined to one or the other. He claims that, “Broadly speaking, this is the difference between a commander who is predominantly a strategist versus a commander who is predominantly a tactician.”⁴⁸

While Liddell Hart acknowledges the importance of *coup d’oeil* in the role of the battlefield commander, he restricts its definition to a narrow interpretation of “...the combination of acute observation with swift-sure intuition,” used on a smaller battlefield vice in a theater of war writ large, suggesting that *coup d’oeil* itself is not enough for military genius.⁴⁹ Applying the modern definition of *coup d’oeil* as “a glance that takes in a comprehensive view”⁵⁰ one removes the restriction of the battlefield limits and returns to the idea of the conceptual seer of the overall operational or warfighting environment. Liddell Hart argues that more than just *coup d’oeil* is required and that *penetrating insight* and a command of the opposing commander’s psychology, as well as human psychology in general, is essential to military genius.⁵¹

Liddell Hart distills two camps of qualities essential for the identification of military genius: positive qualities and guarding qualities.⁵² The positive qualities include penetrating insight and a command of psychology, accompanied by acute time-sensing and the ability to generate the highest degree of mobility, and creative imagination. The guarding qualities include calm temperament or as Voltaire described, "... calm courage in the midst of tumult..." and a French attribute of "...*le sens du praticable*: the sense of what is possible and what is not possible," together making the power of cool calculation.⁵³

In short, Liddell Hart declares that military genius is not synonymous with success and therefore, prior success in an individual should not be confused as military genius. But rather, looking to the inward qualities of the individual may better allow for the identification of the operational artist who may possess Liddell Hart's executive conceptive and/or constructive destructiveness military genius of penetrating insight, command of psychology, the power of cool calculation, and creative imagination.⁵⁴ Here the discipline of psychology re-emerges as a patterned element of military genius. The emotional intelligence elements of self-regulation and empathy are also reflected in the attributes identified.⁵⁵ Shrewd strategy, natural genius for war, originality, inventiveness, and intellectual curiosity, may also be present as secondary traits, but Liddell Hart concludes, "Creative imagination is the essential characteristic of genius, in the military as well as in other spheres. When coupled with dynamic energy, it produces an executive genius. When balanced by cool calculation, it makes a Great Captain."⁵⁶

Scales and the Strategic Genius

Major General (retired) Robert Scales, US Army, is one of the few military leaders and scholars carrying the discussion on military genius today, which he covers under analysis of strategic genius.⁵⁷ While research is prevalent on strategic military leaders, modern dialogue on the concept of military genius, or cognition of the person behind the process, is in shorter supply. Most recently, in 2016, Scales outlined four types of, what he calls, “genius in war.”⁵⁸ The various types of Scales’s proposed modern epoch military genius should be considered when identifying attributes of the operational artist. Here he focuses on strategic military genius and the requisite attributes to become a strategic leader. As established, while not one and the same, many of the qualities necessary in a strategic military leader are likely to be resident in an operational artist. Scales argues that strategically inclined minds should be identified and further cultivated in the US Army earlier and more intensively than current programs allow.⁵⁹ This would allow for the proper preparation and selection of future strategic military leaders.

Scales’ four types of military genius are combat, political, institutional, and anticipatory. The combat genius is the military professional that can “...fight beyond the plan and innovate as they fight, staying well ahead of the enemy in imaginative application of combat power...exhibiting exceptional combat excellence... [derived from] exemplary immersion in the art of war both in practice and vicariously through the study of military history.”⁶⁰ A political genius is a leader who possesses the knowledge to “...wield and meld the elements of military power with allies, coalition partners, and politicians,” and who is a “master of civil-military discourse.”⁶¹ Scales identifies that “Their key trait is the ability to offer meaningful and prophetic advice to civilian leaders while remaining respectful and true to their professional military values.”⁶² He goes on to

define an institutional genius as “...an individual whose brilliance is in the ability to manage very large institutions and represent their equities in tune with the needs of the nation,” while presenting their service in imaginative and resourceful new ways.⁶³ This includes the ability to “...restructure and shape budgets and legislation to meet future needs of the service.”⁶⁴ Scales attributes this capability to a complex career path that includes combat service and immersion into the internal staff mechanisms so critical to a functional staff.⁶⁵ Most importantly, Scales captures anticipatory genius as those who:

...possesses the unique ability to think in time and imagine conceptually where the nature and character of war is headed. Anticipatory genius is capable of piercing the fog of war and seeing into the future. Anticipatory thinkers are more intuitive than logical and linear. But those possessing anticipatory genius must be gifted enough to shape the institution to meet the future a generation ahead. The “seers” are not well-known nor are they appreciated during their time of service. Their knack for future-gazing seems to be inherited rather than learned. They study war, but view it through a different lens.⁶⁶

The anticipatory military genius is most aligned and consistent with the shared attributes and characteristics of military genius present in the writings of Clausewitz, Jomini, and Liddell Hart. Scales asserts anticipatory genius is the most rare and precious of all four attributes and the one least likely to be developed through any predictable pattern.⁶⁷

The concept of *anticipatory genius* shares many correlations with Clausewitz’s concepts of military genius and reflects the Clausewitzian conceptual coup d’oeil, visionary abilities, intuition, and an understanding of the character of war.⁶⁸ Additionally, *anticipatory genius* encapsulates Jomini’s theme of an individual’s intrinsic natural abilities and recognition of natural military genius; along with Liddell Hart’s assertions on the military genius’ attributes of penetrating insight, intuition, and creative imagination.⁶⁹ Scales’ description of the anticipatory genius’ ability to pierce the fog of

war and see into the future may also coalesce with Clausewitz's assertions on temperament and imagination.⁷⁰

It is possible the operational artist may embody the unique convergence of the qualities of the *anticipatory genius* to include coup d'oeil, the ability to anticipate, visualize, and fill in through imagination and experience what may come next before it happens. This ability significantly shapes the planning process. It is an ability to see a comprehensive view of the greater context, or the operational environment, in the flash of a look or the stroke of an eye.

The Cognitive Process of Operational Art

The cognitive process of the operational art is identified in various militaries' planning doctrines, but appears most authoritatively for the US military in JP 3-0, *Joint Operations*, updated in January 2017 and JP 5 – 0, *Joint Planning*, updated June 2017. In JP 3-0, operational art is defined as:

The cognitive approach by commanders and staffs—supported by their skill, knowledge, experience, creativity, and judgment—to develop strategies, campaigns, and operations to organize and employ military forces by integrating ends, ways, and means. The foundation of operational art encompasses broad vision; the ability to anticipate; and the skill to plan, prepare, execute, and assess. It helps commanders and their staffs organize their thoughts and envision the conditions necessary to accomplish the mission and reach the desired military end state in support of national objectives.⁷¹

Here, operational art is defined as a process, or *cognitive approach*. The definition provides recognition of few requisite Clausewitzian military genius skills, such as *anticipation, knowledge, creativity, judgement, and broad vision* which leans toward coup d'oeil, but focuses primarily on the implementation of operational art rather than the implementer or the *operational artist*. The joint definition keeps attention on the “how”

but does not fully acknowledge the criticality of the “who” that serves as a driver behind and practitioner of this vital cognitive process. An approach, in and of itself, is moot without the appropriate means of mobilization and effective application. If operational art is a *cognitive process* it surely requires a capable mind apply it. And with the stakes and consequences of its result so high, the ability to identify the most capable or exceptional of minds becomes paramount. The implication of this definition reads like directions in a cook book. If a planner (commander or staff) were to apply the ingredients of the “foundation of operational art” then theoretically, the same results could be repeated by any practitioner able to gather and apply the foundational parts. This idea is problematic when such intangible qualities are required to conceptualize and comprehend the most difficult and complex of systems and to visualize and anticipate second, third, and fourth order effects in consequence-based decision-making.

While joint doctrine specifies operational art as a cognitive approach used by “commanders and staff” it falls short of identifying the requisite individual skills and attributes required to most effectively apply a rather abstract, creative, and critical thinking process. This deliberate omission also implies all commanders and staff may be equally equipped to cognitively “organize and employ military forces by integrating ends, ways, and means,” as though their “skill, knowledge, and experiences,” are also equal to one another. Reality is such that the commanders and staff working at the operational level typically range from ten to thirty years of military experience and come from diverse professional backgrounds across combat arms and combat support specialties.

Diverse educational backgrounds and personal backgrounds too serve as shaping and influencing factors on the performance of the operational planner. Some officers may have graduate level education or degrees connoting a higher level of study and capacity

for critical and creative thought and analysis better preparing them to perform as big-picture thinkers and operational generalists. Conversely, some planners may have completed minimal requirements of professional military education programs to continue in their career paths preparing them to work more effectively in their specialties with a broadened understanding of the larger context in which they work. In most scenarios, but not all, factors such as higher level education and past experience in operational level planning, which shall not be conflated with rank and age, will predicate greater success at applying the operational art. However, even these factors easily identified in an officer's record are not currently used for manpower slating and assignments leaving operational level commanders to utilize the staff they are indiscriminately provided in the rank constrained positions for which they are assigned.

Also in JP 3-0, the definition for operational design, the methodology for the cognitive approach that is deemed continuous and recursive throughout the planning process, is provided for the potential practitioner as:

...the conception and construction of the framework that underpins a campaign or major operation plan and its subsequent execution. Operational design supports operational art with a methodology designed to enhance understanding the situation and the problem. Elements of operational design—such as objective, center of gravity (COG), line of operation (LOO), line of effort (LOE), and termination—are tools that help the JFC and the staff visualize and describe the broad operational approach to achieve objectives and accomplish the mission.⁷²

Operational design is defined as the methodology that can be applied to the more abstract concept of exercising operational art. In the concept of operational design, planners are provided concrete and defined elements and tools to facilitate the identification and nesting of operational and strategic objectives in a spatiotemporal manner for the achievement of an ultimate desired end. This definition and methodology too ignores the

question of the qualified practitioner and how to identify him or her. These implications may be best visualized and paralleled to the idea that any medical doctor, provided a scalpel, instructions, and requisite medical equipment is capable of performing surgery. While it is obvious that all doctors are not in fact surgeons, nor would one have confidence and comfort in a proctologist performing open heart surgery while streaming YouTube instructions, it is not equally obvious, or officially recognized in the assignment process, that all field grade officers are not equally equipped to develop the nation's operational war plans to achieve strategic ends.

In, 2017, the Department of Defense finally recognized the importance of the “cognitive dimension” when it acknowledged information as the seventh warfighting function.⁷³ Joint Publication 3 – 13, Information Operations, identifies the cognitive dimension as one of the three dimensions (the physical dimension, informational dimension, and cognitive dimension) that make up the information environment. The cognitive dimension is defined as:

The minds of those who transmit, receive, and respond to or act on information. It refers to individuals' or groups' information processing, perception, judgment, and decision making. These elements are influenced by many factors, to include individual and cultural beliefs, norms, vulnerabilities, motivations, emotions, experiences, morals, education, mental health, identities, and ideologies. Defining these influencing factors in a given environment is critical for understanding how to best influence the mind of the decision maker and create the desired effects. As such, this dimension constitutes the most important component of the information environment.⁷⁴

Here the cognitive dimension, which focuses on the person behind the process, is identified as the most important component of the information environment. These dimensions are applicable to both the friendly and adversary forces and are widely accepted in the context of information operations. However, the Department of Defense

stopped short of relating the importance of the cognitive dimension to the key planners it selects to create its most sophisticated operational plans. The perception, judgment, and decision making ability of the planner or the planning team is also heavily influenced by the individual and cultural beliefs, norms, vulnerabilities, motivations, emotions, experiences, morals, education, mental health, identities, and ideologies of the members that make it up, or the *collective* cognitive dimension of the OPT, regardless of the type of operation that is being planned.⁷⁵

Huba Wass de Czega, a retired US Army brigadier general and an avid scholar of the operational art, provides another modern viewpoint of the use of operational art. He posits that the process of applying ends – ways – means – risks as operational art is antiquated and inadequate as it serves as too logical and linear.⁷⁶ He further argues the application of the operational art needs to be adapted to allow planners and commanders to, “...learn more rapidly and effectively both at the conceptual and practical levels, and thus adapt strategies and tactics (including their ends, ways, and means) more swiftly, and campaigns would shorten and the losses... would lessen.”⁷⁷ These provocative points are worth considering but Wass de Czega’s theories, like US joint doctrine, remain focused on the “how” instead of assessing the “who” behind implementing the process.

Wass de Czega declares that the rigidity of this linear cognitive process does not allow for adaptation to today’s complex and dynamic operating environment and fails to challenge the collective mental constructs learned from past experience, education, and doctrine exposure.⁷⁸ Military planning doctrine, to the converse, asserts, and in some aspects implies, that experience and doctrine combined provide planners and commanders the ability to follow the linear instructions of the operational art to create a winning operation. Both continue to omit recognition of the qualities and attributes

required for the practitioner of operational art and disregard the existence and role of the operational artist. While the operational art may be seen, the artist, the human behind the creative process, remains invisible.

An operational artist employed as a leader of the operational planning team, in a position to inform the commander's decision-making and guidance, or as a contributor to the operational or strategic plan, may be the key driver of change needed to apply the more intrinsic visionary qualities to break the cycle of inadequate implementation of the operational art as defined in JP 3-0. A change in practitioner vice a change in process, or a change in cognition vice a change in cognitive approach, may be what is needed to reach Wass de Czege's vision of a more flexible adaptation to the operating environment. However, in addition to the planning process and practitioners behind it, the bureaucracy must too adapt to allow for a less arbitrary and more strengths-based approach to selection and assignment as an operational planner and for the discriminant identification and selection of the operational artist. After all, operational art and design are together a continual process of learning and adapting to the operational environment throughout the implementation of a campaign plan. The bureaucratic system must equally adapt to the personnel requirements dictated by that same operational environment and empower commanders to employ humans, not just processes, through their operational artists.

Cognitive Skill Set, Attributes, and Characteristics of the *Operational Artist*

The cognitive skill set, attributes, and characteristics of the operational artist share a foundation in theories on military genius found in the writings of military theorists and strategic military leaders throughout history. While the service-culture tendency may be to exercise bias toward what Major General Scales refers to as the "Combat Genius,"⁷⁹

and what Clausewitz refers to as a more primitive or savage war fighter, it is becoming more evident that defense organizations must be able to identify and exploit the exceptionally adept brains over brawn and a newly found value must be cultivated for the operational artist.⁸⁰ As the global security and operating environments become more complex, increase in dimensions and domains, and change the character of war, the exceptional mind and critical thinker becomes ever more vital to successful campaigns.

While military geniuses and operational artists are not to be conflated, it is important to look at the relationship between the two and to recognize the trending cluster traits that military theorists have identified as attributes of the exceptional military mind throughout history. These foundational theories can continue to be built upon as the evolving knowledge, historical lessons, and sciences, such as emotional intelligence, are applied. Clausewitz, Jomini, Lidell Hart, and Scales have carried a dialogue over a few hundred years that has been treated as a side-bar conversation in today's defense practices and doctrine. Dan Goleman introduced new elements to this conversation with the concept of emotional intelligence at the turn of the 21st century. When the collective conversation is considered and balanced with the current operational art and design methodology new lessons on the importance of human factors that predicate the exceptional military mind may be learned.

Scales advocates for early identification of strategically inclined minds for the purpose of advanced professional cultivation of the rare and precious gifts.⁸¹ But beyond individual development for future organizational gain, military services too must improve methods of identifying and employing uniquely endowed military minds as operational artists. Doing so requires a framework to assist in the identification of officers that possess the human factors reflective of an operational artist.

Military Theorists and Strategic Leaders				
Identified Human Factors of the Exceptional Military Mind	Clausewitz 1832	Jomini 1862	Lidell Hart 1959	Scales 2016
		<ul style="list-style-type: none"> -Coup d'oeil (seer/visionary) -Determination -Highly developed mental aptitude -Temperament -Civilization -Intellectual powers -Sensitive and discriminating judgement -Skilled intelligence to identify truth -Adaptability to chance 	<ul style="list-style-type: none"> -Character above all other requisites -High moral courage; with great resolution -Physical courage disregarding of danger -Natural genius for war -Gallant -Just -Firm -Upright -Esteeming of merit in others 	<ul style="list-style-type: none"> -Penetrating insight with coup d'oeil -Command of psychology -Acute time-sensing -Creative imagination -Calm temperament -le sens du practicable -power of cool calculation

Table 2. A Parallel view of historically identified traits of the exceptional military mind

The Operational Artist: A Definition

Based on military theorists, psychology, and doctrine, an operational artist may be defined or identified as a person that demonstrates the possession of and skills to apply creative and critical thinking, advanced emotional intelligence; to include self-awareness, self-regulation, motivation, empathy, and social skills; penetrating vision and insight with rapid calculating cognition, determination and resolve; and command of psychology, in a spatiotemporal manner. The artist demonstrates and possesses anticipatory and intuitional-sensing ability and balances intellect with future consequence-based decision-making within the complex warfighting environment. S/he embodies judgement, openness, curiosity, communication, moral courage, civility, and security with one's self and exhibits an advanced aptitude for security and defense affairs.

Commanders and staff can use this definition of the operational artist to better inform staffing decisions and to empower commanders to identify those with potential and traits of operational artists amongst their ranks. Commanders and staff should also be aware of pitfalls that may obstruct identification of operational artists. Personal cognitive bias can cause decision makers to select personnel as planners solely based on the candidate's experience, rank, and professional path. While experience certainly bolsters and develops decision-making and judgement, it is not a trait of an operational artist. This is not to say "no experience required" since it has been established that experience assists in developing instinct, however, a commander may be remiss in dismissing a more junior or fringe specialty officer with a special aptitude for the nature and character of war simply due to absence of arbitrary service culture conditions.⁸² The commander would be equally remiss in conflating staff experience in a combat zone with experience in combat: or conflating either experience sets with the ability to conceptualize an operation or campaign plan.

Additionally, commanders should exercise a healthy skepticism of the trait of charisma found in "unit politicians" which may masquerade at times as social skill but instead may be motivated by the manifestation of Jomini's warnings of the jealous and mediocre mind.⁸³ If less competent unit politicians are permitted to hide behind the guise of socially skilled and hold positions of authority, highly competent junior officers may be identified as a threat and forcibly relegated to 'out-groups' creating an 'us vs. them' dynamic in the unit. When senior officers fail to challenge their own assumptions of the qualities of a capable staff officer the unit may be rendered dysfunctional. Charisma in military culture often times acts as a shroud for Clausewitz's warning of the german

ehrgeiz and *ruhmsucht*.⁸⁴ Commanders be warned that holding fondness for a particular subordinate does not make them an operational artist.

Conclusion

Almost a decade after the advent of operational design some commanders still struggle with its proper application by their planning teams.⁸⁵ It is time to recognize that operational art and design may require a specialized skill set that arbitrary criteria such as time in service, rank, specialty, billet assignment, or even in some cases, experience alone may not provide. Design may not be a methodology that any individual military planner can follow to understand a complex warfighting environment or set of problems in the same manner and ease with which one follows a recipe and, theoretically, achieves the same results.

While a definition and explanation of operational art is provided in doctrine and formal military education, every practitioner of operational art is not and will not achieve the status and capability of an operational artist. It is vital for the traditional military staff officer to understand the operational art and be prepared to contribute to the process, but it is equally essential that the appropriate military planner, possessing of an exceptional mind and capability, is identified to lead as an operational artist.

Best application of the operational art requires a commander and/or staff planners that possess the unique set of cognitive skills, attributes, and capabilities resident within the operational artist. Current US military doctrine and service cultures do not provide or contain a definition of the operational artist, fail to recognize the existence of the operational artist, and therefore omit guidance to facilitate identification of the

operational artist. This is a loss to the fighting force and a detriment to talent management efforts. The oversight of the role of the dynamic human factors possessed by a uniquely qualified individual may be organizational negligence and can be remedied for the future force. Indiscriminate responsibility assignments for staff officers must cease and a strengths-based approach to identifying and assigning exceptional military minds to duties must begin.

The military establishment must start by recognizing the existence of the operational artist and providing a shared definition of an operational artist in joint doctrine as is provided for operational art and operational design. This change would serve as the foundation for identifying the operational artists amongst the officer corps. Identification of the operational artist is not meant to be deterministic of an officer's career path, but instead, to empower commanders to better recognize and exploit the strengths and potential of an individual, decreasing reliance on a process and concept that is largely misunderstood.

Currently there is no formal process for identifying operational artists within the US military establishment. While some senior commanders experience success in instinctually identifying and enabling operational artists, this method alone is inadequate. The responsibility of identification should not rest solely with senior military leaders and must reside at multiple levels of leadership and management to include each services manpower management departments. The closest semblance of a formal identification process of the operational artist may be the application, testing, and interview processes applied at each services' elite professional military education programs. These include the US Army's School of Advanced Military Studies (SAMS), The US Air Force's School of Advanced Air and Space Studies (SAASS), the US Navy's Maritime Advanced

Warfighting School (MAWS), and the US Marine Corps' School of Advanced Warfighting (SAW). While each program has similar goals, their application and entrance criterion and procedures vary and are not driven by a shared definition of an operational artist.

Identification of the operational artist should be a recursive process that begins early and continues throughout an officer's career. The identification process can include additional testing at service entry, identification markers on the officer's performance evaluation, and internal officer screening by executive officers and chiefs of staff at the unit level.

Service entry testing can be improved by adding an evaluation of emotional and social intelligence. This may assist in early identification of those officers that may quickly develop the skill set of the operational artist once inculcated in the context of military study, training, and experience. High emotional intelligence scores may indicate an individual's propensity to become an operational artist. The scores may be tracked by manpower management departments and may be indicated in an officer's record. Unit leadership may also be notified of the individual's aptitudes which may prove beneficial in slating of officer assignments at the unit level and empower unit leadership to continue further evaluation of operational artist traits and trait clusters.

Additionally, officer evaluations such as the Army's Officer Evaluation Record (OER), the Air Force's Officer Performance Report (OPR), and the Navy and Marine Corps' officer Fitness Reports (FITREP) may include a non-scoring, non-evaluative, or administrative selection box meant to assist in identification of operational artist tendencies. A selection of this box or failure to select this box would have no bearing on the officer's performance evaluation and therefore would have no scoring or punitive or

rewarding consequences attached. However, trending selection of this criterion over time may assist manpower management departments in identifying operational artists and facilitating talent management.

Finally, at the unit level commanders, chiefs of staff, and executive officers should be deliberately trained and educated to conduct screenings of their officers to better identify both operational artists and other strengths, aptitudes, and skill sets of value to the unit to assist them in taking a strengths-based approach to assigning officers to responsibilities. Executive officers and chiefs of staff should be permitted to abandon draconian billet assignment practices that limit assignment of personnel to positions solely aligned with rank and/or specialty when uniquely qualified individuals may serve better in the position.

These changes together will allow commanders and staff to recognize that the operational artist exists and responsibly survey their staff officers to identify him or her so they may take a strengths-based approach to talent management ultimately exploiting success in the operating environment.

Notes

- ¹ U. S. Office of the Chairman of the Joint Chiefs of Staff, *Joint Operations*, Joint Publication (JP) 3-0 (Washington, DC: Office of the CJCS, January 17, 2017), xii.
- ² Carl von Clausewitz, *On War*, eds. Michael Howard and Peter Paret (New Jersey: Princeton University Press, 1976), 100.
- ³ Ibid.
- ⁴ Ibid.
- ⁵ Ibid.
- ⁶ Ibid., 100 - 101.
- ⁷ Ibid. 102.
- ⁸ Ibid.
- ⁹ *English Oxford Dictionary Online*, n. "coup d'oeil," accessed January 15, 2018, http://en.oxforddictionaries.com/definition/coup_d%27oeil
- ¹⁰ Malcolm Gladwell, afterward and reading group guide to *Blink: The Power of Thinking Without Thinking*, (NY: Back Bay Books, 2007), 2.
- ¹¹ Robert H. Scales, "Are You a Strategic Genius?: Not Likely, Given Army's System for Selecting, Educating Leaders." *Army* 66, no. 11 (2016): 26-27.
- ¹² Gladwell, afterward and reading group guide to *Blink*, 2.
- ¹³ Clausewitz, *On War*, 102.
- ¹⁴ Ibid.
- ¹⁵ Carl von Clausewitz, *On War*, 103.
- ¹⁶ Ibid., 103.
- ¹⁷ Clausewitz, *On War*, 105 – 106.
- ¹⁸ Scales, "Are You a Strategic Genius?: Not Likely, Given Army's System for Selecting, Educating Leaders," 26-27.
- ¹⁹ Clausewitz, 109.
- ²⁰ Ibid.
- ²¹ Ibid.
- ²² Ibid., 110.
- ²³ Ibid., 103
- ²⁴ Ibid., 102 – 112.
- ²⁵ Richard E. Boyatzis, Daniel Goleman, and Kenneth Rhee, "Clustering Competence in Emotional Intelligence: Insights from the Emotional Competence Inventory (ECI)," *Handbook of Emotional Intelligence* 99.6 (2000): 343-362.
- ²⁶ Clausewitz, *On War*, 112.
- ²⁷ Antoine-Henri de Baron Jomini, *The Art of War*, trans. G. H. Mendell and W. P. Craighill (Philadelphia, PA: J. B. Lippincott & Co., 1862), 13 – 71, Citations refer to Second Greenwood Reprinting, 1975.
- ²⁸ Jomini, *The Art of War*, 52 – 56.
- ²⁹ Ibid., 55.
- ³⁰ Clausewitz, *On War*, 102; Jomini, *The Art of War*, 55.
- ³¹ Jomini, *The Art of War*, 55.
- ³² Ibid., 56.
- ³³ Ibid.
- ³⁴ Clausewitz, *On War*, 105.
- ³⁵ Jomini, *The Art of War*, 56.

- ³⁶ Ibid.
- ³⁷ Ibid.
- ³⁸ Ibid., 56 – 57.
- ³⁹ Ibid., 57 – 59.
- ⁴⁰ Ibid., 52 – 59.
- ⁴¹ Ibid.
- ⁴² B. H. Liddell Hart, "What is Military Genius?" *Marine Corps Gazette (Pre-1994)* 43, no. 6 (June 1959): 19.
- ⁴³ Ibid., 18 - 19.
- ⁴⁴ Ibid.
- ⁴⁵ Ibid., 19.
- ⁴⁶ Ibid., 20.
- ⁴⁷ Ibid., 21.
- ⁴⁸ Ibid.
- ⁴⁹ Ibid.
- ⁵⁰ *English Oxford Dictionary Online*, n. "coup d'oeil," accessed January 15, 2018, http://en.oxforddictionaries.com/definition/coup_d%27oeil
- ⁵¹ Liddell Hart, "What is Military Genius?" 21.
- ⁵² Ibid.
- ⁵³ Ibid.
- ⁵⁴ Ibid.
- ⁵⁵ Boyatzis, Goleman, and Rhee, "Clustering Competence in Emotional Intelligence," 343 – 345.
- ⁵⁶ Liddell Hart, "What is Military Genius?" 21.
- ⁵⁷ Bob Scales, *Scales on War: The Future of America's Military at Risk* (Annapolis: Naval Institute Press, 2016), 187 – 198.
- ⁵⁸ Robert H. Scales, "Are You a Strategic Genius?: Not Likely, Given Army's System for Selecting, Educating Leaders." *Army* 66, no. 11 (2016): 26-27.
- ⁵⁹ Ibid.
- ⁶⁰ Ibid., 26.
- ⁶¹ Ibid.
- ⁶² Ibid.
- ⁶³ Ibid., 27.
- ⁶⁴ Ibid.
- ⁶⁵ Ibid.
- ⁶⁶ Ibid.
- ⁶⁷ Ibid.
- ⁶⁸ Clausewitz, *On War*, 103 – 112.
- ⁶⁹ Jomini, *The Art of War*, 52 – 56; Liddell Hart, "What is Military Genius?" 21.
- ⁷⁰ Clausewitz, *On War*, 103 – 112; Scales, "Are You a Strategic Genius?" 26 – 28.
- ⁷¹ U. S. Office of the Chairman of the Joint Chiefs of Staff, *Joint Operations*, JP 3-0 (Washington, DC: Office of the CJCS, January 17, 2017). xii, II-3
- ⁷² Ibid., xii, II-4.
- ⁷³ U. S. Office of the Chairman of the Joint Chiefs of Staff, *Doctrine for the Armed Forces of the United States*, JP 1, 25 March 2013, Incorporating Change 1 (Washington, DC: Office of the CJCS, July 12, 2017), iii.

⁷⁴ U. S. Office of the Chairman of the Joint Chiefs of Staff, *Information Operation*, JP 3-13, 27 November 2012, Incorporating Change 1 (Washington, DC: Office of the CJCS, November 20, 2014), I-3.

⁷⁵ Ibid.

⁷⁶ Huba Wass de Czega, "Operational Art: Continually Making Two Kinds of Choices in Harmony While Learning and Adapting," *Army* (Sept 2011) 61, 9; Proquest Military Collection, 46 – 56.

⁷⁷ Ibid., 47.

⁷⁸ Ibid., 48.

⁷⁹ Scales, "Are You a Strategic Genius?: Not Likely, Given Army's System for Selecting, Educating Leaders," 26-27.

⁸⁰ Clausewitz, *On War*, 102.

⁸¹ Bob Scales, *Scales on War: The Future of America's Military at Risk*, 187 – 198.

⁸² Scales, "Are You a Strategic Genius?: Not Likely, Given Army's System for Selecting, Educating Leaders," 26-27.

⁸³ Jomini, *The Art of War*, 55.

⁸⁴ Clausewitz, *On War*, 105.

⁸⁵ MAGTF Staff Training Program Staff, "The Marine Corps Design Methodology." *Marine Corps Gazette* 101, no. 10 (2016): 73.

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