

Clausewitz and Military Genius

Thomas H. Killion

No great commander was ever a man of limited intellect.

—Carl von Clausewitz

In the classic *On War*, Carl von Clausewitz presents a comprehensive war theory—the military genius concept.¹ In Clausewitz's view, commanders significantly influence the war's conduct through setting objectives, combat decision making and leadership during war's chaos and confusion. Military genius reflects the instinct great commanders display for assessing the situation and making the right choices on the battlefield. Additionally, a primary goal of Clausewitz's war theory was to capture the essence of such genius, since "what genius does is the best rule, and theory can do no better than show how and why this should be the case."²

Defining Military Genius

Clausewitz's starting point for defining military genius is his assessment of the commonly accepted meaning of genius: "A very highly developed mental aptitude for a particular occupation."³ He then identifies and discusses various characteristics that contribute to the overall military genius quality. These characteristics fall into two general categories: intellectual and personality (or temperament), as depicted in Figure 1.

On the intellectual side, Clausewitz identifies three basic components. First, a military genius must have a broad knowledge base, specifically focused on military-related information. Second, this knowledge must be so ingrained as to become innate, directly influencing the commander's perceptions and decisions. As Clausewitz states, "The commander's knowledge must be transformed into a genuine capability."⁴ This fosters an ability to perceive the situation's truth during uncertainty and chaos. This *coup d'oeil* (intuition) allows the commander to quickly recognize the truth ordinarily missed or only perceived after significant study and reflection.⁵

The ability to assess the situation rapidly and accurately gives a great commander the presence of mind to deal quickly and confidently with the unexpected and the ability to make rapid and accurate decisions in the presence of uncertainty.

Finally, the commander must possess a "sense of locality"—spatial awareness that allows him to visualize the battlefield and account for the terrain influence on operations.⁶ This capability is a component of what is now called the "commander's image."⁷ This image incorporates the commander's perceptions of unit positions, status of friendly and enemy forces and relevant terrain and battle objectives.

Clausewitz summarizes the importance of intellectual capabilities in warfare by stating, "The vital contribution of intelligence is clear throughout. No wonder then, that war, though it may appear to be uncomplicated, cannot be waged with distinction except by men of outstanding intellect."⁸

Concerning temperament or personality, Clausewitz identifies factors equally important to military genius intellectual capabilities. Primary among these factors is courage—personal courage in adversity and the courage of one's convictions concerning the consequences of decisions for the soldiers under one's

command. Factors such as determination, firmness or stability, endurance and strength of character are essential for effective leadership. This includes sticking to decisions and motivating troops to overcome war's wearing effects. Boldness, energy and vigor must be tempered by self-control and a calm nature.

Clearly, these intellectual and personality characteristics are interdependent. The firmness, self-confidence and decisiveness that military geniuses display are due in no small measure to the knowledge level they have achieved. Conversely, energy, determination and ambition directly contribute to the necessary pursuit of education, training and experience essential to developing this knowledge and capability.

Genius and Expert Concepts

In many ways, Clausewitz's military *genius* concept has much in common with today's *expert* concept. Various expertise studies have shown the importance of having a large, well-integrated knowledge base. This allows the expert to recognize many situations as representing certain classes of problems and to rapidly identify or adapt appropriate strategies for action. Such analogical problem solving and decision making are characteristic of experts.⁹

Characteristics of Military Genius

Intellectual	Personality
Sensitive and discriminating judgment	Courage
<i>Coup d'oeil</i> (intuition)	Determination
Presence of mind	Strength of character
Sense of locality (spatial awareness)	Self-control
Comprehensive knowledge	Boldness
Firmness of convictions	Energy and vigor
Understanding of human nature	Ambition (for honor or fame)
Understanding of friction	Firmness and stability
Experience in war	Endurance

Figure 1

Beyond such purely intellectual factors, James Shanteau has identified numerous expert decision-maker characteristics that correspond in many ways to the essence of military genius described by Clausewitz.¹⁰ The similarities between the two descriptions, shown in Figure 2, accentuate Clausewitz's insightfulness and the identified characteristics' continuing relevance. Figure 2 also has implications for the ability to learn or

acquire each factor.

The military genius concept was critical to Clausewitz, given his emphasis on the senior commander's or commander in chief's (CINC's) central role in setting objectives, assessing the battle situation, making decisions and motivating troops. The CINC's understanding of the political purpose allows him to establish appropriate military objectives. The military genius' intuition provides

accurate battle perception during chaos and confusion, allowing the commander to select the proper course of action. The commander's energy and strength of character enable him to overcome the effects of friction on his troops. Throughout his work, Clausewitz places heavy emphasis on warfare's psychological aspects, which he refers to as the "moral factors" in war. One of his three principal moral elements is "the

Expert and Military Genius Concept Comparisons

Expert Decision Makers*	Military Genius**
A highly developed perceptual ability—experts can see what others cannot.	" <i>Coup d'oeil</i> : the quick recognition of a truth that the mind would ordinarily miss or would perceive only after long study and reflection." (102)
An awareness of the difference between relevant and irrelevant information—experts know how to concentrate on what is important.	"What this task requires in the way of higher intellectual gifts is a sense of unity and a power of judgment raised to a marvelous pitch of vision, which easily grasps and dismisses a thousand remote possibilities that an ordinary mind would labor to identify and wear itself out in doing so." (112)
An ability to simplify complexities—experts can make sense out of chaos.	"Circumstances vary so enormously in war, and are so indefinable, that a vast array of factors has to be appreciated. . . . The man responsible for evaluating the whole must bring to his task the quality of intuition that perceives the truth at every point. Otherwise a chaos of opinions and considerations would arise and fatally entangle judgment." (112)
A strong set of communication skills—experts know how to convince others of their expertise.	"As each man's strength gives out, as it no longer responds to his will, the inertia of the whole gradually comes to rest on the commander's will alone. The ardor of his spirit must rekindle the flame of purpose in all others; his inward fire must revive their hope. Only to the extent that he can do this will he retain his hold on his men and keep control." (105)
A knowledge of when to make exceptions—experts know when and when not to follow decision rules.	"It lay in the realm of genius, which rises above all rules." (136)
A strong sense of responsibility for their choices—experts are not afraid to stand behind their decisions.	"Determination [is] the courage to accept responsibility, courage in the face of a moral danger. Looked at in this way, the role of determination is to limit the agonies of doubt and the perils of hesitation when the motives for action are inadequate." (103)
A selectivity about which problems to solve—experts know which decisions to make and which not to [make].	"War is the realm of uncertainty; three quarters of the factors on which action in war are based are wrapped in a fog of greater or lesser uncertainty. A sensitive and discriminating judgment is called for; a skilled intelligence to sort out the truth." (101)
An outward confidence in their decisions—experts believe in themselves and their abilities.	"Often there is a gap between principles and actual events that cannot always be bridged by a succession of logical deductions. Then a measure of self-confidence is needed." (108)
An ability to adapt to changing task conditions—experts avoid rigidity in decision strategies.	"The commander continually finds that things are not as he expected. This is bound to influence his plans, or at least the assumptions underlying them. If this influence is sufficiently powerful to cause a change in his plans, he must usually work out new ones." (102)
A highly developed content knowledge about their area—experts know a lot and stay up with the latest developments.	"The knowledge needed by a senior commander is distinguished by the fact that it can only be attained by a special talent, through the medium of reflection, study and thought: an intellectual instinct which extracts the essence from the phenomena of life, as a bee sucks honey from a flower. In addition to study and reflection, life itself serves as a source." (146)
A greater automaticity of cognitive processes—experts can do readily what others can only do with difficulty.	"As with a man of the world, instinct becomes almost habit so that he always acts, speaks and moves appropriately, so only the experienced officer will make the right decision in major and minor matters—at every pulsebeat of war. Practice and experience dictate the answer. This is possible, that is not." (120)
An ability to tolerate stress—experts can work effectively under adverse conditions.	" <i>Strength of mind</i> : the ability to keep one's head at times of exceptional stress and violent emotions." (105)
A capability to be creative—experts are able to find novel solutions to problems.	"Bonaparte rightly said in this connection that many of the decisions faced by the commander in chief resemble mathematical problems worthy of the gifts of a Newton or a Euler." (112)
An inability to articulate their decision processes—experts make decisions [based] on experience.	"Knowledge must be so absorbed into the mind that it almost ceases to exist in a separate, objective way. . . . By total assimilation with his mind and life, the commander's knowledge must be transformed into a genuine capability." (147)

* From James Shanteau's "Psychological Characteristics of Expert Decision Makers," *Expert Judgment and Expert Systems* (see endnote 10).

** Carl von Clausewitz's *On War* source pages in parentheses (see endnote 1).

Figure 2

skill of the commander."¹¹ Military genius is a key in influencing war's outcome.

Lieutenant Colonel Patrick Thornton echoes this position by emphasizing the continuing importance of these military genius qualities in the command and control (C²) arena.¹² He identifies three primary areas where such factors are important: the situation assessment; the operational decision (the commander's intent); and the organization and C² process tailored to the commander's needs.

Thornton states, "Despite the progress of [C²] support systems, the nature of war remains the realm of danger, exertion and uncertainty. Because of these elements and the inherent friction involved with waging war, Clausewitz saw the need for genius in the military commander to successfully operate in such an environment. The requirement for genius remains today."¹³

Developing Military Genius

Given the options of "nature versus nurture" as military genius developmental factors, Clausewitz supports both. He believes both intellectual and temperament factors are important in such genius, saying, "Great things alone can make a great mind."¹⁴ In the intellectual domain, education, training and experience are needed to develop the great commander. The most critical factor in Clausewitz's mind is war experience, which cannot be sufficiently duplicated in drills or exercises, since this is what prepares the commander to deal with the effects of friction.

Clausewitz states, "No activity of the human mind is possible without a certain stock of ideas; for the most part, these are not innate but acquired and constitute a man's knowledge. . . . Clearly, most of these are not qualities that can be acquired through book learning. If they can be taught at all, a general will have to receive his instruction from sources other than the printed word. . . . We have identified danger, physical exertion, intelligence and friction as the elements that coalesce to form the atmosphere of war and turn it into a medium that impedes activity. In their restrictive effects, they can be grouped into a single concept of general friction. Is there any lubricant that will reduce this abrasion? Only one, and a com-

mander and his army will not always have it readily available: combat experience."¹⁵

Clausewitz considers education and experience essential to developing military genius' intellectual aspects. He views personality factors such as boldness, courage and decisiveness as innate or untrainable. At best, one can expect them to be shaped or focused by training and experience. This is similar to Shanteau's position that such personality factors are more a matter of selection than experience.¹⁶

Genius and Expert Similarities

What implications can be drawn from the similarities between Clausewitz's military genius concept and current expert concept? First, there is the continuing importance of effective leadership. Clausewitz attributed military success, in large part, to the commander's capabilities. Key factors include the ability to accurately perceive the situation, make effective decisions and motivate troops. As Thornton argues, such factors are important on today's battlefield.¹⁷ In the information age, with its accelerated planning and decision-making pace and increasing dependence on dispersed operations, the criticality of such capabilities is magnified.¹⁸

Second, training plays a critical role in developing military expertise. Although Clausewitz felt that only combat could provide the necessary experience, this is an area where training and warfare technology advances have made it easier to provide the appropriate experience outside of combat. Today, most senior commanders interact with the battlefield through synthetic environments cre-

ated by command, control, communications and intelligence (C³I) systems. This makes it feasible to create live, virtual and constructive environments using modeling and distributed interactive simulation that are realistic and challenging. Thus, training and exercises can approach combat's realism, at least as far as the commander's interfaces are concerned.

Understanding the essential factors in expertise development can help us provide the appropriate training environment to foster military genius. Advances in cognitive task analysis techniques and training methods can contribute to effective training regime development. However, as suggested by both Clausewitz and Shanteau, we must also recognize that personnel selection plays a role in identifying potential leaders who have the essential characteristics that cannot be achieved through training. Factors such as decision-making speed, information synthesis from multiple sources and battlefield visualization will become increasingly important for the next generation's leaders. Ongoing research at the US Army Research Institute on leader skill assessment and developmental technologies, battle command and battlefield visualization will provide insights into this issue's selection and training aspects.¹⁹

Finally, consideration of the characteristics and information needs of military commanders who represent the expertise spectrum must inform the design of the C³I systems that support the commanders. For example, the Army Research Laboratory (ARL) is investigating the capabilities essential for an integrated battlefield intelligence system and has identified these essential features:

- Commander's intent
- Operations battlefield area (such as terrain and weather)
- Current situation
- Battle analysis tools and the mission-critical support data

ARL is using a rapid prototyping tool—Commander (and staff) Visualization Research Tool (CoVRT)—to investigate content and format issues supporting integrated battlespace visualization. The information content and format must be responsive to the varying levels of experience and expertise of the commanders using CoVRT. This requires some

Dr. Thomas H. Killian is the US Army Research Laboratory liaison to the deputy assistant secretary of the Army (Research and Technology). He received a Ph.D. from the University of Oregon. Previous positions include executive assistant to the director, US Army Research Laboratory; advanced technology team leader for the Unmanned Aerial Vehicles Joint Project; and principal scientist in electronic combat training for the Operations Training Division, US Air Force (USAF) Human Resources Laboratory (now the Aircrew Training Division, USAF Armstrong Laboratory). He co-authored "Battle Command and Digitization: A MANPRINT Perspective," March-April 1995 Military Review.

adaptability in the resulting displays.

In a related vein, recent work by Gary A. Klein and his associates on naturalistic decision making has led to some specific recommendations for new approaches to decision aiding.²⁰ Through studies of *real world* decision makers, including tactical commanders, Klein and associates developed the Recognition-Primed Decision (RPD) model. Simply put, the RPD model asserts that decision makers draw upon their experience to identify a situation as representative of or analogous to a particular class of problem. This recognition process then leads to the generation of an appropriate course of action—either directly when prior cases are sufficiently similar, or through adaptation of previous approaches, if necessary—which the decision maker evaluates through a *mental simulation* process. This approach to the decision-making process differs markedly from earlier analytical models that focused on generation and option comparisons based on weighted features.

The RPD model has led to the design of decidedly different decision support systems that focus on accurate situation assessment and case-based reasoning as opposed to feature-based option comparisons. Studies of decision making in natural settings prove that decision makers employ RPD and analytical strategies at different times, depending on the problem situation, their experience level and other factors.²¹ Display format and decision aid designs must take such alternative strategies into account to support optimal performance.

Clausewitz's military genius view is surprisingly modern in terms of the elements it shares with current expert concepts. Involving both intellectual and personality factors, it influences the extent to which we can expect such genius to be developed as opposed to being an innate individual quality. Concern for the nature of such expertise should inform our processes of personnel selection, training and system design. By doing so, we can improve command quality and ensure our leaders are prepared

for information age warfare. *MR*

NOTES

1. Carl von Clausewitz, *On War*, edited and translated by Michael Howard and Peter Paret (Princeton, NJ: Princeton University Press, 1976).
2. *Ibid.*, 136.
3. *Ibid.*, 100.
4. *Ibid.*, 147.
5. *Ibid.*, 106.
6. *Ibid.*, 109.
7. James Kahan, D. Robert Worley and Cathleen Stasz, "Understanding Commanders' Information Needs," RAND Report R-3761-A (Santa Monica, CA: The RAND Corporation, 1989).
8. Clausewitz, 110.
9. Gary A. Klein, *Naturalistic Decision Making: Implications for Design* (Wright-Patterson Air Force Base, OH: Crew System Ergonomics Information Analysis Center, 1993).
10. James Shanteau, "Psychological Characteristics of Expert Decision Makers," *Expert Judgment and Expert Systems*, edited by J. Mumpower, L. D. Phillips, O. Renn and V. R. R. Uppuluri (Berlin, Germany: Springer-Verlag, 1987), 289-304.
11. Clausewitz, 186.
12. LTC Patrick Thornton, US Army War College studies program paper, "Genius Revisited: Human Aspects of Command and Control" (Carlisle Barracks, PA: US Army War College, 1991).
13. *Ibid.*, 45-46.
14. Clausewitz, 145.
15. *Ibid.*, 145, 262 and 122.
16. Shanteau.
17. Thornton.
18. Alvin and Heidi Toffler, *War and Anti-War: Survival at the Dawn of the Twenty-First Century* (New York: Little, Brown & Co., 1993).
19. US Army Research Institute (ARI) corporate authors, *Fiscal Year 1994 Science and Technology Program* (Alexandria, VA: ARI for the Behavioral and Social Sciences, 1993).
20. Klein.
21. Klein, "Strategies of Decision Making," *Military Review* (May 1989).

Doctrine Update

This update was prepared by the Concepts and Doctrine Directorate (CDD), US Army Command and General Staff College, Fort Leavenworth, Kansas. Future joint doctrine updates will appear periodically in Military Review.—Editor

Joint doctrine is being rapidly developed. The summary below lists current and proposed joint publications with accompanying current (C) or predicted (P) publication dates as of 22 February 1995. Sources used to compile the summary are the 22 February 1995, Headquarters, Department of the Army (HQDA), Concepts, Doctrine and Force Policy Division (DAMO-FDQ) letter, and the 4 May 1995 Joint Staff J-7/Joint Doctrine Division Joint Publications Milestones message.

Units with immediate or recurring joint publication needs should subscribe to the automated Joint Electronic Library (JEL). JEL provides

on-line access to all approved joint publications and numerous US Air Force, Navy, Marine Corps and Army manuals, along with joint publications milestone messages that include updated publication status. New publications usually appear on JEL within a few weeks of final approval. With JEL, users can eliminate the time-consuming ordering process, meet time-sensitive operational requirements and download publications for local reproduction. All that is needed to access JEL is a personal computer, modem, communications software and an approved JEL subscription.

To open a JEL account, contact Gary Bounds, HQDA point of contact, at DSN 227-6949 or (703) 697-6949. Written queries should be sent to: Headquarters, Department of the Army; ODSCSOPS (Attn: DAMO-FDQ/Mr. Bounds); 400 Army Pentagon; Washington, DC 20310-0460.

Another joint publication source

for units and organizations is the CD-ROM (compact disk, read only memory) JEL. The \$16 CD-ROMs may be ordered from the Superintendent of Documents, Government Printing Office, PO Box 371954, Pittsburgh, PA 15250-7954 (telephone number [202] 512-1800). All joint manuals are on a single disk that will fit the battle dress uniform breast pocket.

Joint Publications Update

- 0-2, *Unified Action Armed Forces (UNAAF)*, (P) 01/18/02, (C) 08/11/94
- 1, *Joint Warfare for the U.S. Armed Forces*, (P) 12/04/01, (C) 11/11/91
- 1-0, *Doctrine for Personnel and Administrative Support to Joint Operations*, (P) 07/01/96
- 1-01 (CH1), *Joint Pub [Publication] System, Joint Tactics, Techniques and Procedures Development Program*, (P) 11/14/95, (C) 09/14/93
- 1-01.1, *Compendium of Joint Doctrine Publications*, (P) 05/09/95, (C) 07/14/93
- 1-01.2, *Joint Electronic Library Users Guide*, (P) 10/17/00, (C) 10/30/93