

Integrating Protection Into Modern-Day Wargaming

By Major Shawntria M. Mosley and Captain Justin N. Lassond

The U.S. Army has transitioned from 20 years of concentrating on counterinsurgency operations to focusing on large-scale combat. In an effort to “shake off the dust,” the Army has turned to wargaming as a method of making the rapid modernization changes needed for the United States to succeed in the future operational environment. This article describes what wargaming is and is not, the modernization of wargaming and why the Army chose the Operational Wargaming System (OWS) as its medium, and strengths and limitations of the OWS as it relates to the integration of protection into the game.

Wargaming

The Army is not new to wargaming. The first known use of wargaming in the Army was in 1867,¹ and the practice has been used in various capacities ever since. Wargaming is a tool that enables players the ability to experiment and then analyze the outcomes that transpire, while also revealing associated risks. Wargaming is not magic, nor does it serve as a crystal ball that holds all the answers; nevertheless, if used correctly, it can be powerful.

Three main components are integral to wargaming: the blue force, the red force, and the white cell. The blue force represents friendly forces, the red force represents the adversary and its supporters, and the white cell represents adjudication. The red and blue forces are molded to represent the capabilities of their formations and their placement in the operational environment. Analysts spend hours analyzing each assumed outcome and extracting conclusions to determine the most probable path to victory.

Possibly the greatest challenge of wargaming is understanding what it is and what it is not. A wargame is not a simulation. Rather, it is a tool meant to invite thoughts and discussion. Wargaming has evolved since its introduction but has remained true to its roots. It gives users a peek into what could happen so that decisions can then be made to mold the outcome.

Modernization of Wargaming

The Army is constantly modernizing and developing capabilities; therefore, wargaming must also undergo development. Modern-day wargaming has been developed through

a more scientific approach by adopting concepts of the scientific method. The scientific method refers to a procedure consisting of systematic observation, measurement, and experiment and the formulation, testing, and modification of hypotheses that support a scientific theory.² The supporting Army framework is called the Strategic Cycle or the Cafrey Loop (see Figure 1).³ Within this framework, history is moved into theory, theory into doctrine, doctrine into plan, and plan into execution. Wargaming is the execution tenet in this framework. The outputs from the execution or wargame are added to history, and the cycle is repeated. Ultimately, the supported hypotheses become educated guesses that enable the Army to play out future conflict without participating in an actual conflict.

As the Army transitions to multi-domain operations (MDO), the integration of electronic warfare and space operations contributes to armed forces fighting on a more transparent battlefield, where the adversary can track in real time. It is anticipated that by the year 2040, the battlefield will be fully transparent due to an increase in the number and availability of technological advancements worldwide. The addition of new domains in an ever-changing operational environment brings new challenges. MDO serves as the Army's operating concept for countering and defeating near-peer to peer adversaries; the need for unified effort among joint forces in overcoming MDO challenges is a common theme. For the past 2 decades, military operations have focused on counterinsurgency. Today, the transition to MDO is driven by global threats from modernized Russian and Chinese forces, which have studied and learned from observing U.S. conflicts in Afghanistan and Iraq. As a result, the United States is in drastic need of innovation to keep pace with its adversaries and remain a competitive superpower. The U.S. Army Futures Command is using wargames as one means of fulfilling its role in modernizing the Army to meet operational challenges. Wargaming enables Army senior leaders to make the best decisions for prioritizing modernization efforts that will impact both the investment and innovation trajectories and make U.S. forces competitive and successful in future conflicts. To meet the need for innovation while also addressing the need for optimal synchronization of the joint force, the Army Futures Command has

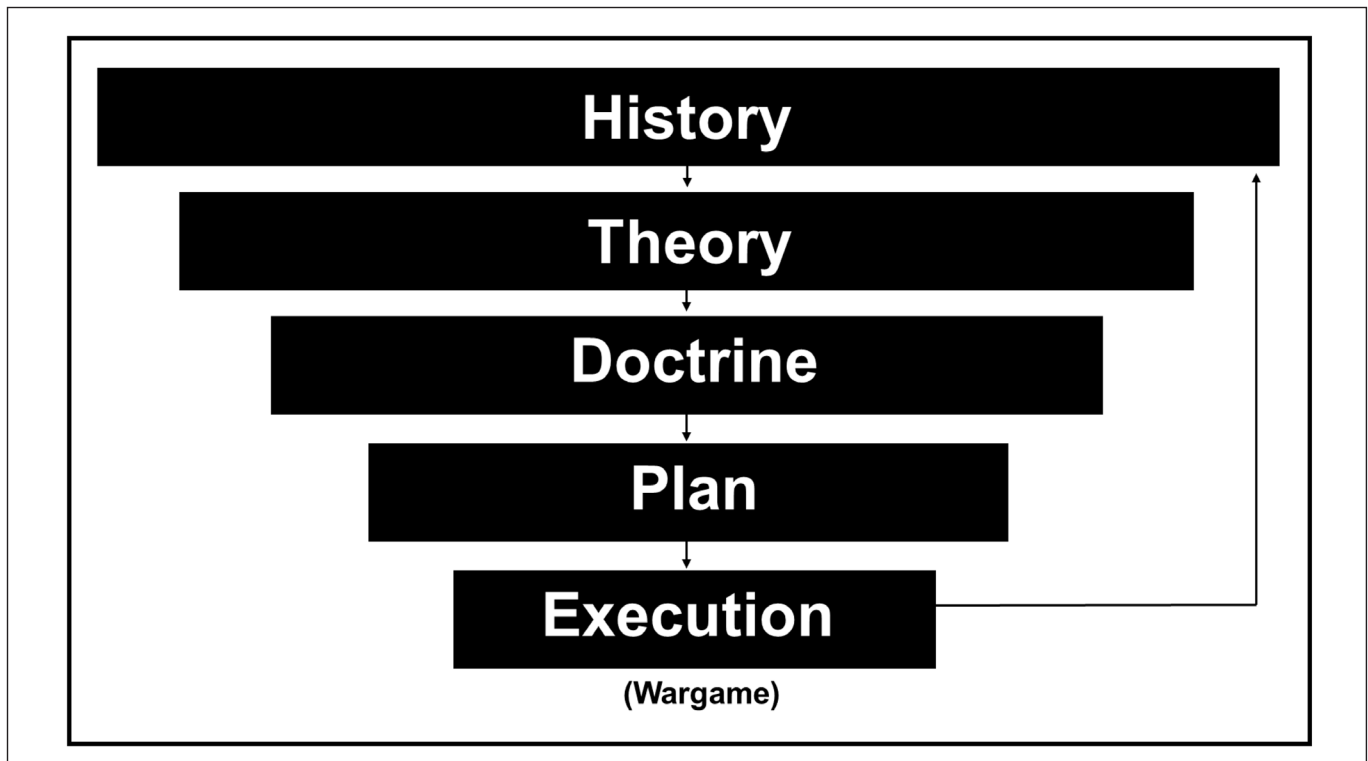


Figure 1. The Caffrey Loop

adopted the use of OWS. OWS is a turn-based strategy game that includes red- and blue-force and white-cell structure, transitioning a traditional tabletop experiment into a computerized flexible and adaptable digital simulation environment.

OWS Strengths and Limitations

An effective wargame design must accomplish two things: It must capture meaningful analysis, and it must minimize overencumbered game design details. One of the strengths of OWS is that it allows for the integration of joint forces across all domains; it is not maneuver-centric, as it rewards convergence of all warfighting functions. One of the limitations of OWS is that it does not naturally allow for the fidelity of unit capabilities at lower echelons. OWS encompasses brigade and higher-level inner workings in a given operational environment and focuses on divisions as the unit of action. With significant Army capabilities embedded at lower echelons, the wargaming community faces a significant challenge when designing a system to account for modernization at every echelon. The Concepts Division, Maneuver Support-Capabilities Development and Integration Directorate, Fort Leonard Wood, Missouri, in coordination with the Futures and Concepts Center, U.S. Army Futures Command, Austin, Texas, determines maneuver support protection requirements and creates ways to integrate the corresponding capabilities into OWS.

Integrating protection; engineer; military police; and chemical, biological, radiological, nuclear capabilities into

OWS is not an easy endeavor since each branch has unique requirements. However, it is imperative that the wargame be designed as accurately as possible in order to refine analyses of future capability sets. As an example, one effect that engineers play with within OWS is terrain-shaping obstacles (TSO). TSO are best represented as close, mid, and deep (see Figure 2, page 18). For close TSO, as the game progresses, a “fortification bonus” is added to decrease the likelihood of successful attacks by the red force, thereby providing increased protection/survivability of the blue force. It is assumed that the future means of delivery (rocket, air, or tube) of antitank mines used for TSO will be highly accurate; therefore, mid/deep TSO will not be limited by the accuracy of placement of the munition—but rather, by the number of munitions available or the magazine depth. Once a mid/deep TSO is placed on the physical game board, there is a 50 percent chance of its success; and if successful, enemy movement will be reduced by 50 percent.

Rules of war and international policies agreed to by the United States apply in OWS. TSO activities require overwatch, and overwatch requires resources. Therefore, additional overwatch resources must be considered and necessary resources must be applied. However, because the Army has only so much overwatch capability, the use of a TSO could result in the constraint of important resources that are necessary for other mission requirements. This illustrates the need for the Department of Defense to synchronize and execute joint operations. The traditional Army method of self-reliance creates potential vulnerabilities that can be

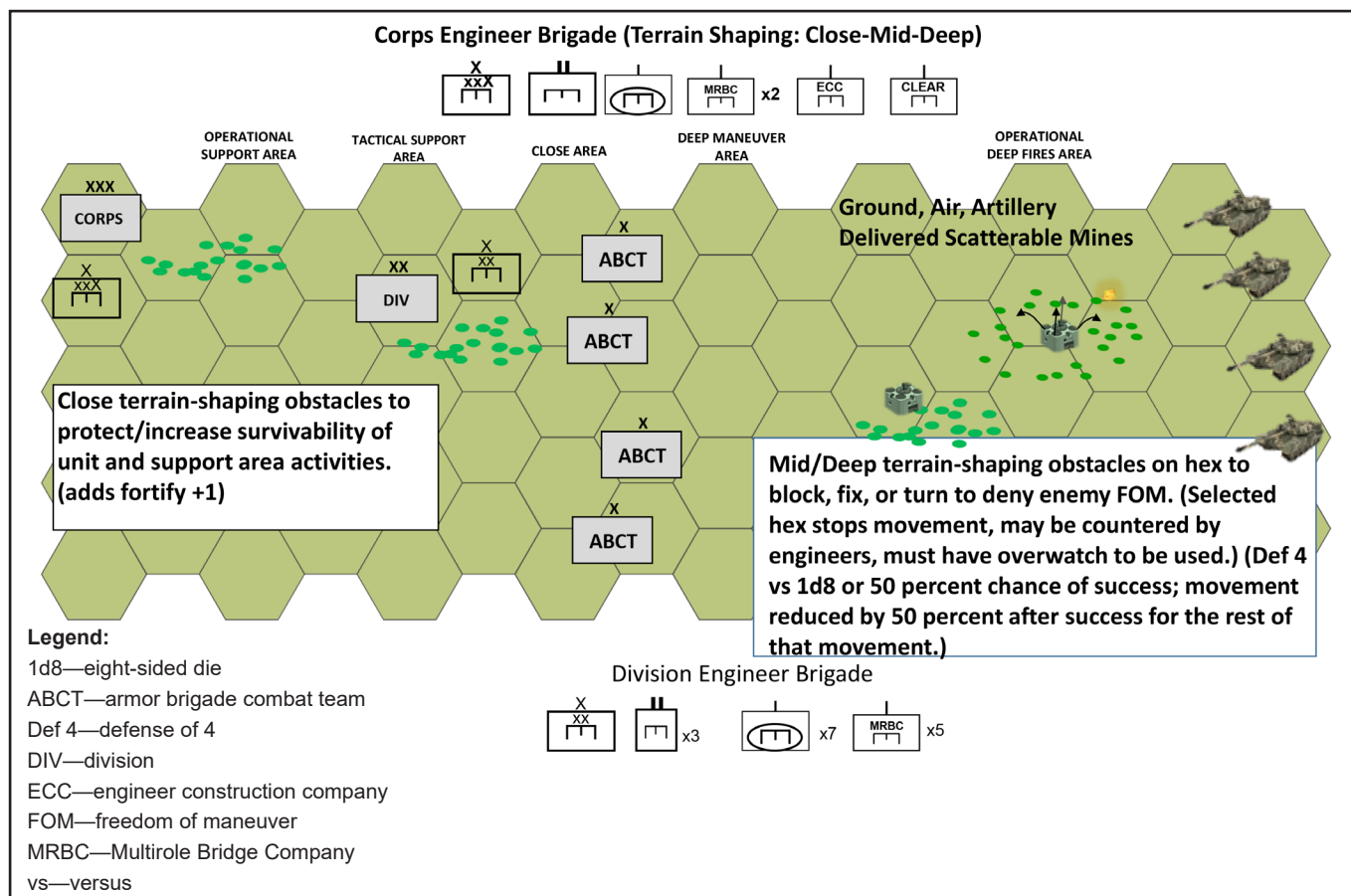


Figure 2. Close, Mid, and Deep TSO

exploited by the enemy. The probability of success in the future operational environment hinges on the synchronization of resources and capabilities, with a more collective joint approach.

Once concepts are played out in a wargame, additional analysis is completed in order to refine capability thresholds as concepts move toward requirements. It is important to view OWS as an ever-evolving, malleable gaming system in which thoughts and processes are refined. If used correctly, OWS—or any wargaming system, for that matter—offers significant returns at low cost. As new concepts are created, new testing baselines are established and the Caffrey Loop begins again. The key to wargaming is not to produce a better analysis; rather, it is to transform a given analysis into information that cannot be ignored. Time, money, resources, and lives can all be saved as we journey through the uncertainty of the future.

Conclusion

As the Army commits to force innovation, wargaming is one tool that can be used to make the best-educated investments for change in the future. The adoption of OWS allows for the Army to experiment with a joint force perspective that is imperative for success in the future operational environment. Protection is key in order for the United States to succeed in conflicts against its peers. Maneuver Support—Capabilities Development and Integration Directorate and OWS communities are committed to ensuring future success by integrating all domains of protection into the Army innovation initiative.



Endnotes:

¹Farrand Sayre, *Map Maneuvers and Tactical Rides*, Springfield, Massachusetts, 1911, p. 22.

²“Scientific Method,” *Lexico*, <https://www.lexico.com/en/definition/scientific_method>, accessed on 12 August 2022.

³Matthew B. Caffrey, “On Wargaming: How Wargames Have Shaped History and How They May Shape the Future,” *Naval War College Newport Papers*, 2019, p. 6.

Major Mosley is the chief of the Chemical, Biological, Radiological, and Nuclear Branch; Concepts Division; Capabilities Development and Integration Directorate; U.S. Army Futures Command; Maneuver Support Center of Excellence; Fort Leonard Wood. She holds a bachelor’s degree in biology from the University of Maryland Eastern Shore, Princess Anne; a master’s degree in information systems from the Naval Postgraduate School, Monterey, California; and a doctor of chiropractic degree from Sherman College of Chiropractic, Boiling Springs, South Carolina.

Captain Lassond serves as projects officer for the Chemical, Biological, Radiological, and Nuclear Branch; Concepts Division; Capabilities Development and Integration Directorate; U.S. Army Futures Command; Maneuver Support Center of Excellence. He holds a bachelor’s degree in financial economics from Brigham Young University–Idaho, Rexburg.