

Wargaming

OIE practice reinforces OIE employment

by LtCol Dennis Katolin & Maj Benjamin George

The utility of wargaming is evident in the current Joint Strategic Planning System and the 38th Commandant's Planning Guidance. The Joint Staff is wargaming to facilitate the future global integration of operations.¹ The Marine Corps is wargaming to support force design and to drive concept and technology development.² The human aspects of wargames also provide value by identifying the motivations, calculations, and consequences of a participant's decision making.³ With the establishment of "information" as a warfighting function and the growing understanding of the consequences of the nature of the information environment, wargaming serves as a means for testing our application of operations in the information environment (OIE). Conceptually, OIE wargaming will provide a better understanding of how to exercise OIE functions to support operations across all domains.

Wargaming is part of a cycle of research that includes history, exercises, analysis, and current operations. Wargaming itself should not be confused with systems analysis or operations analysis; rather, it should serve as a method for identifying critical assumptions and related decisions and rationales.⁴ As our understanding of the IE continues to develop, OIE wargaming allows us to identify critical assumptions about integrating the information warfighting function as a means of force preservation, power projection, and influence. Just as we test other warfighting functions for planning vulnerabilities—such as logistics sustainment or fire support—so too must we test our OIE functional plans to validate assumptions and identify our own gaps and limitations within the IE.

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Challenges

There are a few challenges that make wargaming information difficult. The first is a lack of understanding of the IE. Information requires a new paradigm through which to conceptualize maneuver. Our information dependency exposes new potential vulnerabilities, while the nature of the IE extends our operational range and accelerates cause-and-effect relationships. There are several basic truths about the nature of information that can help us conceptualize the IE and identify how OIE can be wargamed.

Truth #1: Information is global, persistent, and immediate. The hyper-connected world allows information to cross the globe instantly, which makes the IE the most accelerated environment for military operations. The ability to project power and defend against the enemy's application of military power requires a global perspective with persistent presence and awareness.

Truth #2: Information requires convergence of maneuver across all domains. Traditional maneuver of forces through the air, land, and maritime domains has inherent informational impacts, while information itself can have significant effects in the air, on land, at sea, in space, and across cyberspace. Maximizing the utility of information requires

the convergence of these impacts for an overwhelming effect on the adversary.

Truth #3: Military power is a combination of combat power and information power. Information and combat are mutually supporting and mutually enhancing. The relationship between them is so entwined that either can shift from main effort to supporting effort throughout the course of a single operation. Combat power has inherent impacts in the IE. Conversely, information power can amplify combat power by informing target audiences, influencing decision makers, and deceiving adversaries.

Truth #4: Information compresses the levels of war. Information is vital to tactics, campaigns, and strategies; it can impact everything from tactical formations to national institutions and globally networked communities. The immediacy and reach of information mean that tactical formations have potentially strategic impacts in the IE.

Truth #5: The information environment is maneuver space. Maneuver warfare is a philosophy that seeks to use a

series of rapid, focused, and unexpected attacks designed to shatter the enemy's cohesion and create a situation with which he cannot cope.

There are avenues of approach in the IE through which we can project information and combat power to shatter the enemy's cohesion. The success of multi-domain maneuver is becoming more dependent on the execution of, and protection from, deliberate activities in the IE.

The second challenge to wargaming information is an incomplete understanding of the OIE functions and how they can be wargamed, which constrains our ability to effectively know *what* aspects of OIE should be stressed in wargaming. Similar to testing the functions of aviation or logistics, we must also stress our ability to perform OIE functions against a thinking adversary. (See Figure 1.)

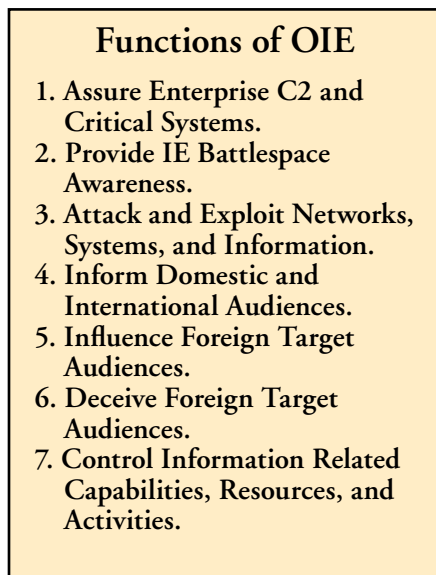


Figure 1.

A third challenge to wargaming information is the difficulty in translating qualitative data from human-focused functions into tangible results that impact game pieces on a map. Informational effects can be either quantitative or qualitative. Physics-based models have incorporated operations in the electromagnetic spectrum, cyberspace, and space into traditional wargaming methods because their immediate impacts are quantitative in nature. OIE functions with tangible effects on systems, signals, or access points can be abstracted to tokens and counters with quantitative data—number values and

percentages—that can be employed and adjudicated within the parameters of the wargame. However, the effects of human-focused OIE functions that seek to inform, influence, or deceive audiences are based on human psychology, social dynamics, and cultural nuance—making them difficult to quantify and adjudicate. Percentages and number values do not easily translate to the human factors of war—*atmospherics* such as sympathy or distrust—and, as a result, they are omitted from the wargaming process.

Our tendency to focus on quantifiable data is purposeful; it is easier to assess, process, and predict results of quantifiable data, which ultimately supports capability and technological development. However, we must ensure that qualitative information effects are not overlooked. As *MCDP 1* states,

any doctrine which attempts to reduce warfare to ratios of forces, weapons, and equipment neglects the impact of the human will on the conduct of war and is therefore inherently flawed.⁵

There is much to be gained from wargaming human-focused OIE functions. While we should strive to eliminate as much uncertainty as possible, Marines must become comfortable with the uncertainty of qualitative effects. Identifying assumptions and decision-making criteria for when and how to employ these OIE functions can support integration of the information warfighting function and develop proficiency and understanding for how to conduct OIE.

A New Model

The following techniques provide approaches for wargaming qualitative effects of OIE functions:

Function #5: Influence foreign target audiences. This function is critical to building and maintaining regional and global popular support. Units such as civil affairs and communications strategy companies can increase the Marine Corps' ability to gain access to critical host-nation infrastructure for sustainment, transportation, intelligence, and C2. Competitors and adversaries will compete for that influence, which will impact our op-

erations. Previous wargames operated under the invalid assumptions that we were successful in out cycling our adversaries to gain needed influence. The following technique is a recommendation for challenging those assumptions to reinforce that we must compete for that influence.

Wargaming technique:

- Each side will identify objectives that they can achieve through influence; this can be access to bases, ports, airfields, or inclusion of military capabilities and forces. Both sides will focus influence in two areas:

- The first area will be local populations and governments (which impacts access to infrastructure, resources, etc.).
- The second area is global populations and governments (which impacts economic sanctions, inclusion of coalition forces, etc.). The process would work as follows:

- Step 1: Influence objective. Identify influence objectives and intended operational/tactical results (e.g., influence provincial leadership to gain port and base access to build combat power and deploy ships).

- Step 2: Influence maneuver. Roll dice to adjudicate competition between blue and red players for regional influence. Advantage is given to the player who employs more influence forces (military information support operation teams, civil affairs, etc.). Each time a player wins an influence engagement, they receive an influence token. Influence tokens represent the "build up" of influence that, when aggregated, will reach a decision threshold for political leadership to react to, which will impact operational actions.

- 2 X influence tokens = a regional gain.

- 4 X influence tokens = a global gain.

- Step 3: Influence impacts. The aggregate effect of winning an influence engagement must

result in decisions that impact operational or tactical maneuver elements (e.g., enough regional influence means denial of enemy access to infrastructure; enough global influence and we compel enemy's political leadership or an enemy's ally to restrict maneuver of their ground forces – similar to how political leadership called off Marines during the assault through Fallujah in April 2004). A regional/global gain can be played to either gain friendly access or deny enemy access.

Functions #1 and #3: Assure friendly C2 and attack enemy networks. Aspects of these functions exist in current wargaming, but the scope and scale can be expanded. There are now dedicated maneuver elements that engage each other constantly in the IE in execution of these OIE functions. The results have impacts across all war-fighting functions. The global reach of cyberspace must compel commanders to think globally to determine areas of influence and interest and to identify potential targets within the IE. The following technique offers a construct to do so:

Wargaming technique:

- Step 1. C2 targeting. Each side must identify critical C2 nodes for both military organizations and national-level civilian infrastructure, similar to how we identify air fields on a map. Anything identified outside of the geographic combatant commander area of responsibility should be labeled on a piece of paper and attached to the map (e.g., servers for military logistics services for an enemy force located in a different continent).
- Step 2. C2 maneuver. Identify maneuver elements that can either strike or defend C2 systems. Dedicated tokens for offensive and defensive cyber organizations should be placed on the map to help identify capacity and likelihood of successful maneuver in the IE.
- Step 3. Adjudication. Each engagement will have a dice roll with numerical or statistical advantage granted to the player with more

dedicated training or higher capability sets. This technique should include actions in spectrum, cyber, and space.

Function #7: Deceive Adversary Audiences. Deception has always been critical to military success. It becomes more important in great power competition and conflict. Deception in previous wargames generally focused on concealing friendly forces but should be expanded to assess more effective means of deception through OIE capability areas. OIE can be employed to delay or degrade the enemy's effective employment of forces and to feint the maneuver of friendly forces. The following technique offers a model to expand deception in wargaming.

Wargaming Technique:

- Step 1. Deception capability. Each player receives three cards to allow the placement of unit tokens on or off the board depending on the desired deception effect.
 - Card 1: Feint forces.
 - Card 2: Overload.
 - Card 3: Conceal.
- Step 2. Deception implementation. Before each turn, each player must roll the dice in front of the white cell/adjudicator, but not in front of the opponent. The dice roll will determine the chance of a successful deception. An intended deception must be rolled prior to each turn that requires the enemy to be deceived (e.g., faking Patton's Army for an assault on Pas-de-Calais would require a roll on every turn until Germany redeployed forces there and the assault on northern France was conducted). Thus, the larger the deception, the less likely it will be successful. Once the white cell/adjudicator determines a successful roll for deception, the team may place unit tokens for their cards in the following manner:
 - Card 1: Successful feint—use a unit token to show the force that the enemy must address.
 - Card 2: Successful overload—tokens for simulated units (but are not identified as simulated units) will be placed on the board.
 - Card 3: Successful conceal—

token(s) removed from the board to deny the enemy's ability to orient his combat power on the opponent.

The techniques listed above are not meant to be a direct representation of executing their applicable OIE functions, but a starting point to consistently integrate OIE into wargames, which serves multiple ends. First, instead of simply "doing cyber" or assuming access to critical logistical nodes for operational sustainment, these techniques introduce a framework through which commanders and staffs apply a deliberate approach to the planning and execution of OIE functions with tangible results in a wargame. Further, when considering how critical wargames are to force design and concept development, we can no longer afford to press the proverbial "I believe button" for OIE capability areas when conducting wargames. Commanders need to know how vulnerable they really are to information and precisely how much power they have to project information. Thus, it is imperative that OIE become a deliberate and focused aspect of all wargames.

Notes

1. Gen Joseph F. Dunford, Jr., (USMC)Ret, "Department of Defense Press Briefing," (brief, Department of Defense, Arlington, VA: August 2019).
2. Gen David H. Berger, *Commandant's Planning Guidance, 38th Commandant's Planning Guidance*, (Washington, DC: July 2019).
3. Ed McGrady, "Getting the Story Right About Wargaming," *War on the Rocks*, (November 2019), available at <https://warontherocks.com>.
4. Peter Perla, *Peter Perla's The Art of Wargaming: A Guide for Professionals and Hobbyists*, (Annapolis, MD: United States Naval Institute, 2011).
5. Headquarters Marine Corps, *MCDP 1, Warfighting*, (Washington, DC: 1997).

