The Nature of Information

Information is instantaneous
by LtCol Dennis W. Katolin

O nce someone understands what information is, they must understand its nature. This is critical to the application of information as a function in war. This article will give Marines a better understanding of the nature of information in the Information Age, how we are vulnerable to it, and how we can leverage it in both conflict and competition.

Information Age and Environment

The information age has allowed billions of people to access, generate, transmit, and consume information at a scope, scale, and speed that continues to accelerate exponentially beyond any other time in history.

Given the rapid expansion of information's generation, transmission, and access, there is a tremendous opportunity for actors to effect other people and systems on a global scale. Consequently, an information environment (IE) has emerged, and we must understand how it has changed our operating environment.

The IE is the aggregate of individuals, organizations, and systems that collect, process, disseminate, or act on information.[1] While it is not a warfighting domain (though it includes the warfighting domains of both space and cyberspace), it is a space that facilitates maneuver.

Global Reach and Perspective

Information is global. As the world becomes more and more connected, people will have the ability to disseminate information on multiple platforms throughout the entire world. The geographic boundaries we have grown ac-

Figure 1. Traditional view of battlespace in the Industrial Age.

customed to are instantly overcome or bypassed by information. Marines must think beyond the physical boundaries of their single battle construct, or even the geographic combatant command they are in. (See Figure 1.) Information has a global reach with potential global implications.

When we conduct operations, we must do so knowing that our ability to project information now has become global. Before our physical forces depart the continental United States, we can leverage information power to have effects on the enemy and influence with a global audience.

The global nature of information also means that we can receive information

from global influencers. The previous paradigm of assessing adversaries' capabilities using "range rings" for indirect fires assets is no longer sufficient. We must understand that engaging a state actor in a certain location cannot narrow our awareness to just that specific adversary. Just as we think through the capabilities of the enemy on the battlefield in front of us, we must also consider the adversaries in the IE that are all around us. (See Figure 2 on next page.)
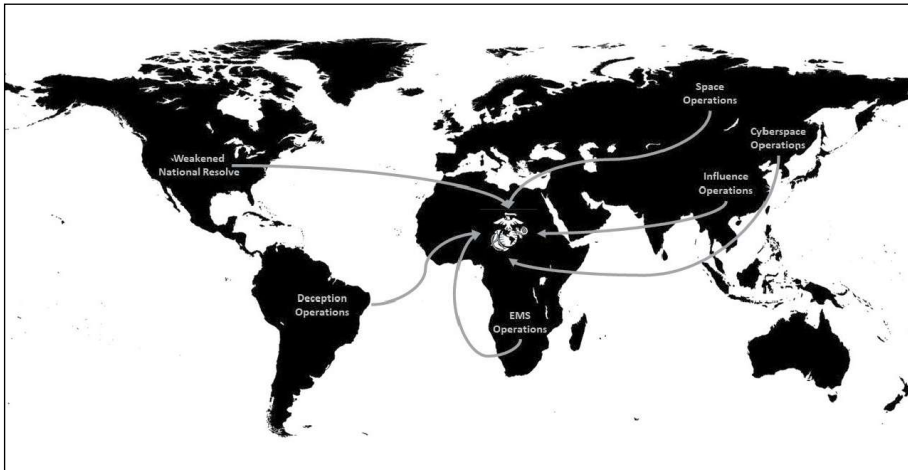
Information and Time

Information is instantaneous. The proliferation of personalized information systems allows thoughts, images, and products to bypass typical hierarchical organizational structure. The moment something happens or is created, it is instantly distributable. The IE is a "flat organization" that bypasses traditional supervisory or controlled distribution mediums. Regardless of the information's accuracy or lack of context, its immediate transmission can have global impacts on individuals or groups within social, military, and governmental organizations. This requires detailed anticipation and rapid responsiveness.

Our understanding of information, as it relates to time, is focused on the rate of transmission, the duration of its projection, and the delay of its effects. We must always ask ourselves: "How long will it take to send this information? How long will it be available? How long until it has the desired impact?"

Persistence

Information is persistent. Because of the global and instantaneous nature of

Figure 2. Redefined view of battlespace in the Information Age.

information, the Marine Corps must not culminate or take an operational pause in the IE.

The persistent nature of information challenges two existing paradigms we have about the beginning and ending of training and operations. The first paradigm to be challenged is the distinction between training and operating. The second paradigm to be challenged is the perception of when training and operating begins and ends.

With the emergence of the IE and the global, persistent nature of information, this distinction between training and operating has become blurred. Training events that access cyberspace, space, or spectrum are accessing contested space for information. Real-world adversaries will attempt to have real-world consequences for us as we train.

The persistent nature of information also means that there is no clearly defined beginning and end to our operations. There is no operational pause in the IE. Information's persistent nature requires a persistent presence and vigilance.

Information and the Levels of War

Part of our theory of war is that it consists of strategic, operational, and tactical levels. While the distinction of where one level begins and another begins is rarely binary, there often is an understanding of what levels of war one is operating at. This usually defines the scope and scale of what can impact us as well as how far the effects of our actions will reach.

Given the global, instantaneous, and persistent nature of information, we see an unprecedented compression of the strategic, operational, and tactical levels of war. While the relation of these levels have often shifted throughout conflicts, they have never been more closely linked than when we leverage information. (See Figure 3.)

Though Marines are often trained to think "two levels up" from their own units, we must now consider strategic context across geographic boundaries and consider how information generated from the tactical level in one side of the world.

Critical Thinking and OODA Loop Integrity

Credibility and accuracy are fundamental to ensuring that our actions are optimized to achieve our desired state. Misinformation can be used to cause us to orient on the wrong factors and will diminish our ability to focus combat power at the right place and time. As Sun Tzu says, "It is owing to his information, again, that we can cause the doomed spy to carry false tidings to the enemy."[2]

Critical thinking and reflection are necessary elements to determine what information we need and assessing if the information we have is credible. All information we consume must be scrutinized for its quality (credibility and accuracy).
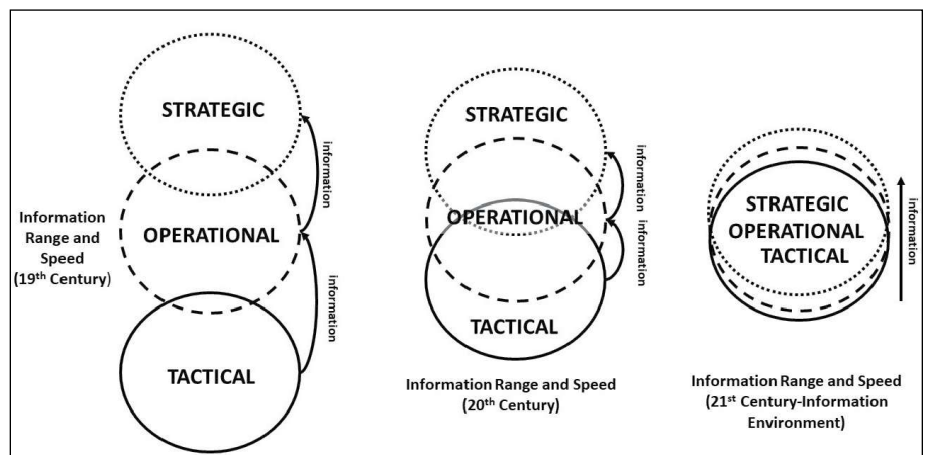
This can be difficult in war as uncertainty is an inherent part of war's nature. Consequently, people will have a tendency to gravitate toward information in a desperate attempt to mitigate uncertainty.

The habitual practice of being reasonable, logical, and critical in thought helps us overcome the risk of emotional decision making. Critical thinking helps us to avoid cognitive shortfalls that compromise the quality of our decisions.

Information and the Trinity

In light of information's global and instantaneous reach, we must reflect on the inherent strategic implications of its reach. *MCDP 1-1, Strategy*, addresses Clausewitz's trinity consisting of the military, the government, and the national will of the people.[3]

These three pillars are vital to a nation's continuous ability to wage war.

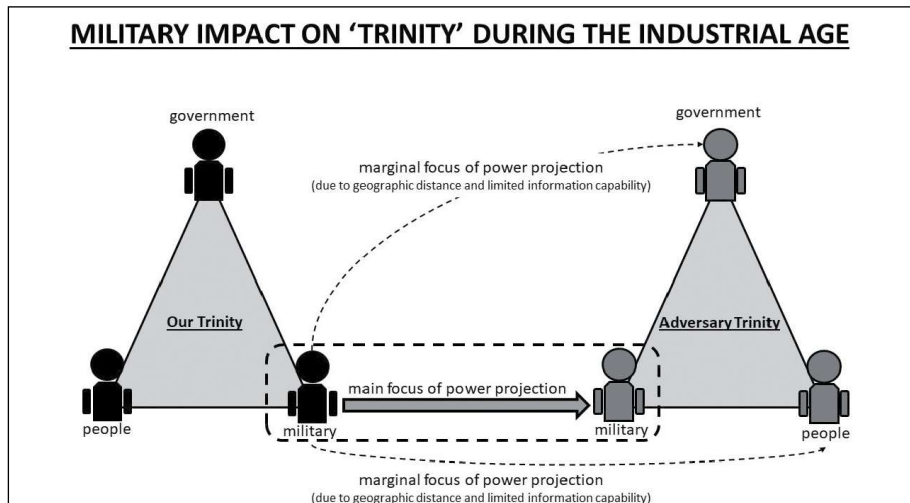**Figure 3. Information's compression of the levels of war.**

MILITARY IMPACT ON 'TRINITY' DURING THE INDUSTRIAL AGE

Figure 4. The Trinity in the Industrial Age.

While defending against the reach of the enemy's information, our own leaders must seek to exploit the reach of our information on the enemy. The ability to reduce, or bypass all together, the enemy's military to achieve political ends is the application of maneuver warfare at the strategic level. Bypassing the nation's strategic "surface," (their military) and exploiting their strategic "gaps" (government and people) allows us to focus power with minimal expenditure of resources.

Conclusion

Information is a critical component to success on the battlefield and impacts our ability to understand the enemy, environment, and ourselves. Information enables our maneuver and ability to conduct combined arms faster and more effectively than our enemies. Marines must understand the nature of informa-

Should one of these three pillars falter, a nation's ability to fight is compromised. At the strategic level of a war, a nation may focus the instruments of national power against any or all these three pillars.

In the Industrial Age of war, belligerents traditionally focused on defeating the nation's military pillar of war. Once the enemy's military capability was negated, that country's government and people were left vulnerable and were compelled to meet the terms of their adversary. (See Figure 4.)

Compelling a political decision is the objective of war. The defeat of the enemy's military is a means to that end.

In the Information Age, however, belligerents have the ability to directly target the government and people of an opposing nation to influence their decision. This can be done through conspicuous messaging and attacking

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information infrastructure used in everyday life. It can also be done through subtle and more indirect methods that impact people's cognition subliminally. (See Figure 5.)

tion and its relationship to people, time, and space in order to better understand how to access it, how it impacts us, and it can be projected to help us be successful.
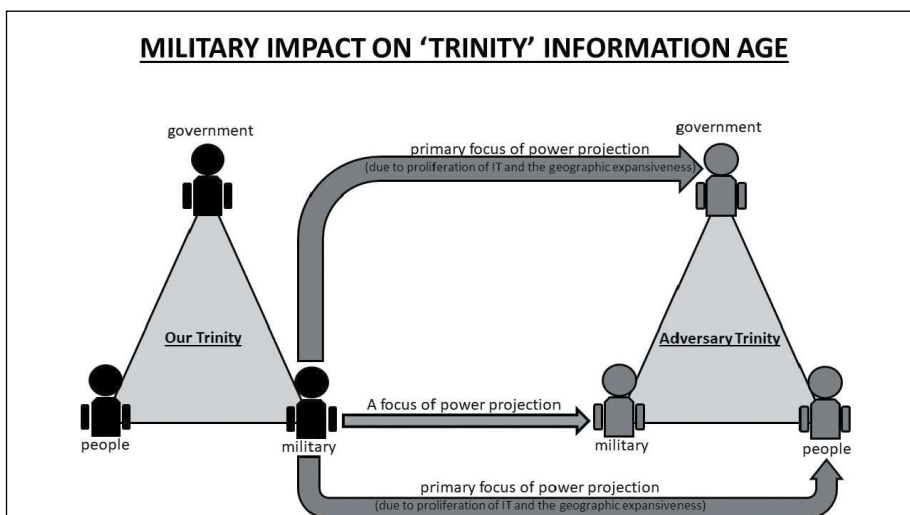
Notes

1. Joint Staff, *Joint Publication 1-02 (JP 1-02), The Department of Defense Dictionary of Military and Associated Terms,* (Washington, DC: 2010).

2. Tzu, Sun, *The Art of War and Other Classics of Eastern Philosophy*, (San Diego, CA: Canterbury Classics, 2016).

3. Headquarters Marine Corps *MCDP 1-1, Strategy*, (Washington, DC: 1997).

MILITARY IMPACT ON 'TRINITY' INFORMATION AGE

Figure 5. The Trinity in the Information Age.