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<b>1. REPORT DATE</b> (DD-MM-YYYY) 05/20/2021	<b>2. REPORT TYPE</b> Master's Thesis	<b>3. DATES COVERED</b> (From - To) 20-07-2020 to 20-05-2021
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<b>4. TITLE AND SUBTITLE</b> Shaping What is Known: Opportunities for the Operational Artist	<b>5a. CONTRACT NUMBER</b>
	<b>5b. GRANT NUMBER</b>
	<b>5c. PROGRAM ELEMENT NUMBER</b>

<b>6. AUTHOR(S)</b> Robert H. Shaffer V. Civilian, U.S. Department of Defense	<b>5d. PROJECT NUMBER</b>
	<b>5e. TASK NUMBER</b>
	<b>5f. WORK UNIT NUMBER</b>

<b>7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)</b> Joint Forces Staff College-NDU Joint Advanced Warfighting School 7800 Hampton Blvd. Norfolk, VA 23511-1702	<b>8. PERFORMING ORGANIZATION REPORT NUMBER</b>
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<b>9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)</b>	<b>10. SPONSOR/MONITOR'S ACRONYM(S)</b>
	<b>11. SPONSOR/MONITOR'S REPORT NUMBER(S)</b>

**12. DISTRIBUTION/AVAILABILITY STATEMENT**  
Approved for public release, distribution is unlimited.

**13. SUPPLEMENTARY NOTES**  
Information as of 20 May 2021.

**14. ABSTRACT**  
What is known is the key strategic-operational question of the twenty-first century, driving the behaviors and actions of friendly and adversarial actors. The ability to influence what is known through the planning and execution of operations in the information environment is critical achieving of strategic objectives while deterring and countering adversaries or hostile actors. Influencing perceptions and attitudes in this operational space to drive a target audience's desired behaviors is likely to be the difference between success and failure in future operations. What is known becomes the decisive point in any operational design of the 21st century.

**15. SUBJECT TERMS**  
information environment; IE; influence; what is known; truth; operational design;

<b>16. SECURITY CLASSIFICATION OF:</b>			<b>17. LIMITATION OF ABSTRACT</b>	<b>18. NUMBER OF PAGES</b>	<b>19a. NAME OF RESPONSIBLE PERSON</b>
<b>a. REPORT</b>	<b>b. ABSTRACT</b>	<b>c. THIS PAGE</b>			<b>19b. TELEPHONE NUMBER</b> (Include area code)
UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED UNLIMITED	62	757-443-6252

**NATIONAL DEFENSE UNIVERSITY**  
**JOINT FORCES STAFF COLLEGE**  
**JOINT ADVANCED WARFIGHTING SCHOOL**



**Shaping What is Known:  
Opportunities for the Operational Artist**

By:

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GG-15, U.S. Department of Defense

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**Shaping What is Known:  
Opportunities for the Operational Artist**

**Robert H. Shaffer V.**

**GG-15, U.S. Department of Defense**

**A paper submitted to the Faculty of the Joint Advanced Warfighting School in partial satisfaction of the requirements of a Master of Science Degree in Joint Campaign Planning and Strategy. The contents of this paper reflect my own personal views and are not necessarily endorsed by the Joint Forces Staff College or the Department of Defense.**

**This paper is entirely my own work except as documented in footnotes (or appropriate statement per the Academic Integrity Policy).**

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## **Abstract**

What is known is the key strategic-operational question of the twenty-first century, driving the behaviors and actions of friendly and adversarial actors. The ability to influence what is known through the planning and execution of operations in the information environment is critical achieving of strategic objectives while deterring and countering adversaries or hostile actors. The information environment has become a contested global commons that affords fundamental access to all, but with no state or individual actor capable of gaining and maintaining total control. The key is to exert a degree of control over critical pathways and chokepoints when necessary to generate influence and behaviors toward achieving desired ends. Increasingly, joint force leaders have recognized the importance of information and the information environment and reorganized to address it. To date, concepts and strategies remain works in progress, with operations in the information environment only loosely defined, still open to interpretation, and not yet formally integrated into joint doctrine. Influencing perceptions and attitudes in this operational space to drive a target audience's desired behaviors is likely to be the difference between success and failure in future operations. What is known becomes the decisive point in any operational design of the 21<sup>st</sup> century.

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## **Acknowledgements**

My appreciation and gratitude to Dr. Keith D. Dickson, who served not only as thesis advisor, but guide, sounding board, font of knowledge, lending library, and mentor throughout the entire thesis drafting process. Shaping my raw initial construct to build on an idea he touched on a decade ago in an occasional paper for the Joint Forces Staff College offered me focus and perspective on how to draw the theory into an operational construct to take back and apply in future operational design and to bring those ideas to these pages.

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## Chapter 1: Understanding What is Known

What is known is the key strategic-operational question of the twenty-first century. What is known or perceived is different and personalized for every audience, subject to interpretation, perceptions, inherent bias, and social influence. What is known is not necessarily objectively true, and that no longer matters. Indeed, the postmodernist claim that fact and objective truth do not exist is becoming increasingly predominant. In 2016, the Oxford University Press declared post-truth as its word of the year, defined as ‘relating to or denoting circumstances in which objective facts are less influential in shaping public opinion than appeals to emotion and personal belief,’ and further demonstrating the pervasiveness of this concept and its influence in the operational environment.<sup>1</sup> In a 2018 report, RAND postulated a concept of "truth decay" in the United States, described as "an erosion of trust in and reliance on objective facts" combined with an increase in both misinformation and disinformation, which when extrapolated, compounds the challenges faced across the information environment.<sup>2</sup>

What is known is better understood as *what is believed by an audience to be true*. Truth is no longer considered to be "objective truth" or "truth for everyone" but more readily equates to "true for me."<sup>3</sup> This concept of "true for me" is fleeting and temporal, subject to influence, manipulation, and change by any range of actors seeking to drive a preferred narrative and generate specific actions. Illustrating the challenge of the

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<sup>1</sup> “Oxford Word of the Year 2016 | Oxford Languages,” accessed March 28, 2021, <https://languages.oup.com/word-of-the-year/2016/>.

<sup>2</sup> Jennifer Kavanagh and Michael D. Rich, *Truth Decay: An Initial Exploration of the Diminishing Role of Facts and Analysis in American Public Life* (Santa Monica, California: RAND, 2018), 1–2, [https://www.rand.org/pubs/research\\_reports/RR2314.html](https://www.rand.org/pubs/research_reports/RR2314.html).

<sup>3</sup> Kelly, Stewart E. and Dew Jr., James K., *Understanding Postmodernism: A Christian Perspective* (Downers Park, IL: Intervarsity Press, 2011), 45.

situation, former Chairman of the Joint Chiefs of Staff Martin Dempsey characterized facts as fragile and in competition with narratives that are easy to absorb, move quickly between individuals, and are more entertaining than truth.<sup>4</sup> What is known drives the behaviors and actions of relevant actors, both friendly and adversarial. The ability to influence what is known through operations in the information environment is critical to the pursuit and achievement of desired strategic ends as well as to deter and counter adversaries or hostile actors operating in the same space.

The images, ideas, facts, and half-truths transmitted to audiences through the information environment that become what is known are significantly shaped by culture, education, experience, and numerous other factors affecting the recipients' processing, internalization, and reaction to what is presented and absorbed.<sup>5</sup> Joint Publication 3-13, *Information Operations*, defines the information environment as "[t]he aggregate of individuals, organizations, and systems that collect, process, disseminate, or act on information" in the interrelated physical, informational, and cognitive domains.<sup>6</sup> The information environment encompasses informal interpersonal engagement, formal religious interaction, educational instruction, and all forms of media distributed and consumed. It provides opportunities to engage when an audience is identified and available. An actor can leverage the information environment to deliver a narrative that generates a desired action or behavior that supports the actor's purpose.

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<sup>4</sup> "Lessons in Leadership: A Conversation with General Martin E. Dempsey, USA (Ret.)," accessed November 10, 2020, <https://event.on24.com/wcc/r/2735453/FD8DD4305015BFC3C51D6CB8BF0E74A4>.

<sup>5</sup> Kelly, Stewart E. and Dew Jr., James K., *Understanding Postmodernism: A Christian Perspective*, 158.

<sup>6</sup> "Joint Publication 3-13 Information Operations" (Director, Joint Staff, November 27, 2012), ix-x, [https://www.jcs.mil/Portals/36/Documents/Doctrine/pubs/jp3\\_13.pdf](https://www.jcs.mil/Portals/36/Documents/Doctrine/pubs/jp3_13.pdf).

The information environment has changed significantly over the past fifty years with advances in technology increasing the complexity of planning, conducting, and assessing the effectiveness of operations in the information environment. In the 1970s, research to identify facts or truth occurred inside a library using a card catalog and a savvy librarian alongside a multivolume encyclopedia, published books, stacks of written documents, and a microfiche reader. Knowledge, opinion, and perspective were passed in social gatherings with individuals sharing a common base of information, usually from the television news and newspapers. The local newspaper provided reporting that arrived by wire or was researched and developed locally and published once, maybe twice, each day. Three major television networks transmitted nightly news programs with largely the same content over the air to the family television. The process and flow of information were relatively transparent, could frequently be traced back to its originators, and were manageable for most audiences to absorb.

Today, all this manually available information and more from complementary and competing sources is digitized and available via smartphone, tablet, or home computer near-instantaneously in addition to the more traditional methods and social interactions. Satellite news networks broadcast twenty-four hours a day, and viewers can choose their preferred language, content, and political perspective by changing to another channel or selecting an alternate source that comports with their preferred perspective. The rapid expansion of the internet as a medium for information and knowledge transfer, enhanced by mobile computing and now 5G mobile technology, delivers real-time information into the palm of an individual's hand or directly to a computer screen. The barriers to entry into the information environment have been lowered to such a level that the majority of

the population now has some level of access to the internet and thoughts, perspectives, and opinions outside of traditional social channels. Social media establishment and growth in the early 21<sup>st</sup> century created new platforms for opinion with expansive reach and influence on what is known. In 2014, Joseph Nye highlighted that rapid technological advances had led to exponential "declines in the cost of creating, processing, transmitting, and searching for information," leading to a virtually infinite amount of information that can be transmitted.<sup>7</sup> Information in overwhelming amounts is ubiquitous, unvalidated, and widely disseminated to large audiences, frequently making it difficult to ascertain its original source, veracity, intent, or meaning.<sup>8</sup>

The information environment has become a global commons that affords fundamental access to all. However, it also is a contested domain for all who seek to use it, with no state or individual actor capable of gaining and maintaining total dominance. The key is to exert a degree of control over critical pathways and chokepoints when necessary to disseminate information toward achieving desired ends; this is what military strategist Sir Julian Corbett would characterize as "local and temporary control."<sup>9</sup> The inability to operate quickly and effectively in this operational-strategic environment significantly hampers the ability of the United States to achieve its strategic and operational objectives. To be successful in this environment, military planners must understand the intended audience, the audience's access to and interaction with the information environment, a desired strategic effect, and derive a reasonable assessment of

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<sup>7</sup> Joseph S. Nye Jr., "The Information Revolution and Power," *Current History* 113, no. 759 (January 1, 2014): 19, <https://doi.org/10.1525/curh.2014.113.759.19>.

<sup>8</sup> David Talbot, "Fighting ISIS Online," *MIT Technology Review* 118, no. 6 (December 11, 2015): 75.

<sup>9</sup> Julian Stafford Corbett, *Some Principles of Maritime Strategy* (Gloucestershire, United Kingdom: Dodo Press, 2011), 232.

the desired dominant narrative in conjunction with the operational design. Operational planners must identify what they desire an audience to know so that the narrative can be appropriately crafted and transmitted. Effective operations in the information environment must create an operationally suitable effect for a desired period of time to gain advantage over an adversary or competitor by shaping what is known.

## **Chapter 2: Information as an Element of U.S. National Power**

Information has progressed as an instrument of national power beyond its historical role as an enabler to hard power. In the post-Cold War era, operations in the information environment are capable of independently delivering effects against targeted adversaries. Beginning in the 1990s, the concept of network-centric warfare moved from a primarily platform, domain, and service-based focus to eliminate the fog of war and give commanders complete knowledge of the enemy. Today, it is a network of real-time command and control connections, integrated communications, and precision-guided munitions. This has brought unprecedented speed to warfighting and requires decisionmaking rapid and accurate enough to gain advantage over an adversary while simultaneously retarding the adversary's ability to gain an accurate operational picture and react accordingly.

In Operation DESERT SHIELD/DESERT STORM, media outlets uploaded live satellite feeds from the front lines, bringing the media outlet's interpretation of the conflict directly to audiences around the world. Disseminating the combined operations picture via the media significantly shaped the information environment during this period. This process represented a significant change: independent sources of information and the ubiquity of satellite-delivered media marked an entirely new evolution in the complexity of the information environment and the constrained decision space to react. It was clear to the casual observer that something was occurring on their television screens, but few grasped more than the flashes from missile batteries or the streaks of light over the Baghdad sky. These more powerful visual images and descriptions easily succeeded in drowning out the Iraqi counternarratives, giving

coalition forces and the international media real information advantage, which proved to be decisive in establishing what was known. Nevertheless, the technology showcased in the first Gulf War made for spectacular images that created distinct and lasting impressions in audiences – some were intended, others not. To the population in the Middle East and potential adversaries, these media narratives and images demonstrated the overwhelming conventional capabilities the United States had developed, which appeared to overmatch any potential adversary. The United States was able to capitalize on this wave of perception as an indomitable military power through the turn of the century.

The shock of the terrorist attacks of September 11, 2001, coincided with significant expansions in access to information, network communications, the internet, and social media for both nation-states and disparate small actors. Affordable access to equipment, vehicles, appliances, and personal accessories allowed both legitimate and malign operators in the information environment to track, monitor, and tailor interactions with target audiences through dominant narratives, propaganda, misinformation, disinformation, and the collection of metadata to derive trends and patterns in information access and transfer. Information could now deliver strategic effects without requiring military force or other violent action. Al Qaeda and the Islamic State leveraged high volume interactive content and the growing reach of the information environment with online propaganda and recruitment, luring 25,000-30,000 foreign fighters to Syria and Iraq with a level of social media virality that opposing narratives were unable to appreciate or counter effectively.<sup>1</sup> Terrorist organizations' cellular structures,

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<sup>1</sup> Talbot, “Fighting ISIS Online,” 72–74; Emerson T. Brooking and P. W. Singer, “War Goes Viral: How Social Media Is Being Weaponized,” *Atlantic* 318, no. 4 (November 2016): 72.

decentralized processes, and saturation of the information environment have challenged governments' ability to halt or counter the jihadist narrative's continued spread.<sup>2</sup> A 2018 RAND analysis identified a trend that highlighted the "increasing relative volume, and resulting influence, of opinion and personal experience over fact, disseminated by traditional and social media," shaping what is known or perceived by an audience and the behaviors that result.

Increasingly, joint force leaders have recognized the importance of information and the information environment and reorganized to address it. From an operational-strategic perspective, the U.S. military recognizes that access to and some degree of control of the information environment is critical to current and future strategy and operations. In the early 2000s, the United States Navy formed the Information Dominance Corps, and over the past dozen years, this has evolved into the Information Warfare Community (IWC), combining intelligence, cryptologic warfare, network operations, and meteorological specialties, along with elements of information operations. The Navy concurrently created new command and leadership opportunities for IWC members and a more equal role in operational execution alongside traditional surface, subsurface, and air communities. In 2010, the Department of Defense consolidated functions that manage, monitor, and operate on the information environment's physical network layer with the establishment of the United States Cyber Command. In the Air Force, similar consolidations of the intelligence, surveillance, and reconnaissance community with cyber and network warfare capabilities were made, including the establishment of a numbered air force (Sixteenth Air Force) to focus on

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<sup>2</sup> Talbot, "Fighting ISIS Online," 75; Brooking and Singer, "War Goes Viral: How Social Media Is Being Weaponized," 72.

information warfare, in part to enable the U.S. to compete more effectively in the information environment in pursuit of advantage. These combined efforts demonstrate a growing recognition of the criticality of leveraging the information environment at the strategic and operational levels.

In June 2016, the Department of Defense released the *Strategy for Operations in the Information Environment*, drafted in response to a Congressional requirement for the Department to develop an information operations strategy and to describe the Department's approach to achieving information advantage, according to then Secretary of Defense Ashton Carter.<sup>3</sup> In 2017, information was formally established as a joint function in Joint Publication 1, *Doctrine for the Armed Forces of the United States* during an out-of-cycle change, in recognition of the need for deliberate integration of information and its related capabilities across the other joint functions to leverage information and the informational aspects of military activities to achieve strategic objectives.<sup>4</sup> In July 2018, the *Joint Concept for Operations in the Information Environment* was published to propose opportunities to begin the process of more deeply integrating the idea of military operations in the information environment and more discretely describing the informational aspects of all military operations before their formal introduction into doctrine and education through the Joint Strategic Planning System.<sup>5</sup> To date, the concept is still a work in progress, with operations in the

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<sup>3</sup> "Department of Defense Strategy for Operations in the Information Environment," June 2016, <https://dod.defense.gov/Portals/1/Documents/pubs/DoD-Strategy-for-Operations-in-the-IE-Signed-20160613.pdf>.

<sup>4</sup> Martin Dempsey, "Joint Publication 1, Doctrine for the Armed Forces of the United States" (Joint Chiefs of Staff, July 12, 2017), I-19, [https://www.jcs.mil/Portals/36/Documents/Doctrine/pubs/jp1\\_ch1.pdf](https://www.jcs.mil/Portals/36/Documents/Doctrine/pubs/jp1_ch1.pdf).

<sup>5</sup> "Joint Concept for Operating in the Information Environment" (Vice Chairman, Joint Chiefs of Staff, July 25, 2018), iii,

information environment only loosely defined and still open to interpretation, and not yet formally integrated into joint doctrine.

While the joint force has made progress over the past decade in recognizing the importance of information as an essential operational concept, it has so far not appreciated information as an operational construct, and more importantly, a doctrinal operational construct for operations in the information environment is lacking. The infosphere must be understood as the new strategic-operational high ground. In 2018, the Joint Staff Deputy Director for Global Operations, Brigadier General Alexis G. Grynkeiwich, USAF, said that information could be considered "the preeminent commodity and decisive factor in military operations."<sup>6</sup> It is essential to understand the potential of the information environment, but more importantly, to understand how individuals and groups are influenced and affected in the avalanche of images, words, and discourse that flows past them almost minute by minute. What is known becomes the decisive point in any operational design of the 21<sup>st</sup> century.

Competition below the level of armed conflict in the information environment is persistent, whether described as information warfare, hybrid warfare, or grey zone activity, and is actively practiced by nation-states, proxy elements, multinational organizations, violent extremist organizations, and individual malign actors. Operational planners must consider the information environment in operational design and throughout the planning process. Maintaining capability and presence in the information environment is necessary in lieu of, or to support, U.S. hard power in the pursuit of

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[https://www.jcs.mil/Portals/36/Documents/Doctrine/concepts/joint\\_concepts\\_jcoie.pdf?ver=2018-08-01-142119-830](https://www.jcs.mil/Portals/36/Documents/Doctrine/concepts/joint_concepts_jcoie.pdf?ver=2018-08-01-142119-830).

<sup>6</sup> Alexis Grynkeiwich, "Introducing Information as a Joint Function," *Joint Force Quarterly* 89, no. 2nd Quarter 2018 (n.d.): 7.

strategic and operational objectives. Influencing perceptions and attitudes in this operational space to drive a target audience's desired behaviors is likely to be the difference between success and failure in future operations.<sup>7</sup> In the current environment, the contest for control of the information environment is akin to the 19<sup>th</sup> and early 20<sup>th</sup>-century fight for control of the sea.

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<sup>7</sup> "Joint Concept for Operating in the Information Environment," ix.

### Chapter 3: The Information Environment as a Global Commons

Operational planners must understand the information environment as a global commons, an area beyond the sovereignty of any state that is shared across the international community and "to which no single decisionmaking unit holds exclusive title."<sup>1</sup> Global commons from an operational-strategic standpoint are "domains to which all nations have legal access" and are, by their nature and character, "difficult to exclude others from using."<sup>2</sup> The information environment, viewed holistically across the physical, informational, and cognitive aspects, aligns with this description, similar to the atmosphere, outer space, or the deep sea. No actor in the world today can function without access to the information environment at some level.<sup>3</sup> Operational planners must leverage information as the resource that flows through and across the physical infrastructure within the information environment in which actors seek to influence what is known in the cognitive layer to create advantage and drive behaviors to achieve desired effects.

In principle, some of the resources in the global commons can be managed by individual nation-states or corporate entities, subject to custom, norms, international agreements, or regulations.<sup>4</sup> Addressing activities in the global commons, there are common law, formalized international agreements (e.g., United Nations Convention on the Law of the Sea), treaties (e.g., Treaty on Principles Governing the Activities of States

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<sup>1</sup> Magnus Wijkman, "Managing the Global Commons," *International Organization* (00208183) 36, no. 3 (1982): 512.

<sup>2</sup> Susan J. Buck, *The Global Commons: An Introduction* (Washington, D.C.: Island Press, 1998), 5–6, <https://nduezproxy.idm.oclc.org/login?url=http://search.ebscohost.com/login.aspx?direct=true&AuthType=ip,url,uid&db=e000xna&AN=117812&site=eds-live&scope=site>.

<sup>3</sup> Nico Schrijver, "Managing the Global Commons: Common Good or Common Sink?," *Third World Quarterly* 37, no. 7 (July 2016): 1252–67.

<sup>4</sup> Schrijver, 1253.

in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies), and nonpartisan oversight (e.g., the International Telecommunications Union to manage communications), that establish norms for conduct in these global commons.<sup>5</sup> These agreements, laws, and regulations set the principles by which the global commons are accessed and transited. There are nation-states, organizations, and companies that manage the operation of the physical layer in the information environment, but the information and cognitive layers are more difficult to control.

With the dynamic growth and innovation in the information environment, it is not possible to exert total control or completely restrict access, even though some believe this to be the ideal desired end state. While a state or actor may be able to control elements of the physical layer of the information environment, no state or actor can fully control the complex information or cognitive layers of the information environment. British naval theorist Sir Julian Corbett, when describing the sea as a global commons, posited that the object "must always be directly or indirectly to secure the command of the sea or to prevent the enemy from securing it."<sup>6</sup> Corbett went on to argue that "command of the sea" was about the control of maritime communications, securing it for one's own use, while denying the same to the adversary.<sup>7</sup> Using the sea as analogous to the information environment, the object of operations in the information environment is to control or secure for use in order to influence the adversary's behavior and the adversary's population to achieve one's desired strategic objectives while constraining the adversary's ability to achieve their own objectives in the same way.

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<sup>5</sup> Susan J. Buck, *The Global Commons: An Introduction*.

<sup>6</sup> Corbett, *Some Principles of Maritime Strategy*, 54.

<sup>7</sup> Corbett, 55–57.

The contemporary information environment can be characterized by its unprecedented breadth, depth, and complexity and its ubiquity, hyperconnectivity, and exponential growth.<sup>8</sup> However, characterizing the information environment as a global commons offers both opportunities and limitations and, as an operational space, shapes and affects what is known in ways that support actions across the joint functions enabling actors to structure and bound the information environment and the activities conducted therein. Liberal democratic societies leverage the openness of the information environment to promote the exchange of information, ideas, and knowledge.

In the 21<sup>st</sup> century information environment, social media has created new platforms for the global masses to access and interact in real-time across the information layer to inform the cognitive layer of the information environment and drive behaviors. A lack of constraints in the information environment is manifested in the exposure to, and pervasiveness of, disinformation and misinformation, as well as the risk presented by a lack of government control and the potential for information to spread virally and influence what is known, whether to support or oppose government action or to act to the benefit of the actor who initiated the operations. The best achievable outcome for any actor in the information environment is to seek to exert influence on decisive points, key delivery vectors, at the most opportune times in order to generate desired behaviors to achieve operational and strategic effects or adversary's attempt to influence what is known.

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<sup>8</sup> Scott K Thomson and Christopher E Paul, "Paradigm Change: Operational Art and the Information Joint Function," *Joint Force Quarterly*, no. 89 (2018): 9.

## Chapter 4: The Importance of the Information Environment in Modern Operations

*"I think the United States is being strategically defeated in the information environment. We're not even holding our own. We're being defeated. We're being outmaneuvered, we're being outflanked, we're being out persuaded."* - LTG Michael Nagata, former Director of the National Counterterrorism Center<sup>1</sup>

The December 2017 National Security Strategy is particularly direct in admonishing that "U.S. efforts to counter the exploitation of information by rivals have been tepid and fragmented. U.S. efforts have lacked a sustained focus and have been hampered by the lack of properly trained professionals."<sup>2</sup> Across domains, every action "has informational aspects that communicate a message or intent" that must be considered, coordinated, and integrated across all joint functions to leverage its potential in achieving desired objectives.<sup>3</sup> To meet this requirement, operational artists must incorporate the information function into strategies and plans continuously in the joint planning process in order to influence the actions of adversaries and their populations.

The June 2016 Department of Defense Strategy for Operations in the Information Environment defines the end state operational artists should consider: "Through operations, actions, and activities in the [information environment], DoD has the ability to *affect the decisionmaking and behavior of adversaries and designated others* [emphasis added] to gain advantage across the range of military operations."<sup>4</sup> The Joint

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<sup>1</sup> Mark Pomerleau, "SecDef Nominee Pledges to Evaluate Information Operations," Defense News, January 20, 2021, <https://www.c4isrnet.com/information-warfare/2021/01/20/secdef-nominee-pledges-to-evaluate-information-operations/>.

<sup>2</sup> Thomson and Paul, "Paradigm Change: Operational Art and the Information Joint Function," 9.

<sup>3</sup> Radabaugh, Gregory, "The Practical Implications of Information as a Joint Function," *Joint Force Quarterly* 89, no. 2nd Quarter 2018 (n.d.): 16.

<sup>4</sup> "Department of Defense Strategy for Operations in the Information Environment."

Concept for Operations in the Information Environment (JCOIE) directs the joint force to incorporate information into operational art and operational design to plan and conduct operations "that deliberately leverage information and informational aspects of military activities."<sup>5</sup> The JCOIE further notes that advances in information technology "have increased the speed and range of information, diffused power over information, and shifted socio-cultural norms. The interplay between these three impacts provides our competitors and adversaries additional opportunities to offset the diminishing physical overmatch of the world's preeminent warfighting force."<sup>6</sup> Among great power competitors, Russia has expanded its media activities abroad through RT (formerly Russia Today), its state-controlled international television network, and Sputnik, its state-controlled news agency, while also intensifying its social media presence.<sup>7</sup> By democratizing the spread of information and erasing the boundaries of time and distance, social media has expanded the means, transforming war to an extent not seen since the advent of the telegraph.<sup>8</sup>

The JCOIE directs that commanders leverage information into the design of all operations to maximize military power by applying informational power with the same acumen and skill with which they leverage physical power.<sup>9</sup> Absent assured physical overmatch, operational planners must seek an advantage by other means. Information-related capabilities are less expensive than physical combat power capabilities, can often be employed in a more timely fashion, and with a unity of effort can yield tangible results

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<sup>5</sup> "Joint Concept for Operating in the Information Environment," vii.

<sup>6</sup> "Joint Concept for Operating in the Information Environment," vii.

<sup>7</sup> Alexander Lanoszka, "Disinformation in International Politics," *European Journal of International Security* 4, no. 2 (2019): 227, <https://doi.org/10.1017/eis.2019.6>.

<sup>8</sup> Brooking and Singer, "War Goes Viral: How Social Media Is Being Weaponized," 72.

<sup>9</sup> "Joint Concept for Operating in the Information Environment," 16.

that reduce or refocus the use of physical combat power to create an advantage. In his January 2021 confirmation hearing, Secretary of Defense Lloyd Austin stated that when these types of capabilities are executed correctly, the Department "can achieve its mission more effectively, more affordably, and with reduced risk to our operating forces."

Effects in the physical and informational dimensions of the information environment ultimately register an impact in the human cognitive dimension, making it the central object of operations in the information environment and in the generation of adversary and relevant actor behaviors necessary to generate desired effects.<sup>10</sup>

The ubiquitous nature of the modern information environment creates challenges to discerning the signal from within the noise. The capability to provide or deny what is known may be considered the pinnacle of military or strategic power in information warfare.<sup>11</sup> The modern information environment presents an overwhelming amount of data – information overload – that can yield decision paralysis while a decisionmaker continues to wait for more or higher fidelity analysis of the available data.<sup>12</sup> Information overload can be leveraged to impair adversary or relevant actor decisionmaking by continuing to present more, newer, or more discrete information that leads the actor to delay decisions and behaviors in search of additional information or hinders the ability to discern the signal from the noise in order to make decisions effectively. The *Joint Concept for Human Aspects of Military Operations* highlights that while the current technological environment presents challenges, it also generates opportunities to develop

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<sup>10</sup> Thomson and Paul, "Paradigm Change: Operational Art and the Information Joint Function," 8.

<sup>11</sup> Captain George A Crawford, "Information Warfare: New Roles for Information Systems in Military Operations," n.d., 15.

<sup>12</sup> Peter Gordon Roetzel, "Information Overload in the Information Age: A Review of the Literature from Business Administration, Business Psychology, and Related Disciplines with a Bibliometric Approach and Framework Development," *Business Research* 12, no. 2 (2019): 482, <https://doi.org/10.1007/s40685-018-0069-z>.

compelling narratives and shape the perceptions of relevant actors if operational artists can discern the time and place to interject to influence what is known.<sup>13</sup>

With the information environment functioning as an operational space, identifying decisive points in time and space and delivering themes, narratives, and messages via these decisive points to targeted audiences will be critical to influencing what is known. Even more significant, operational planners will need to identify what it is that needs to be known by the targeted audience to influence behaviors. Information frequently serves as a line of effort within operational design, but it is unlikely that this line of effort alone will be sufficient to support achievement of objectives. Inadequate coordination and inconsistent investment for operations in the information environment and bureaucratic discrepancies between organizations, departments, and branches currently hinder U.S. effectiveness in the information environment. Further compounding the challenge, liberal democratic societies often struggle to seize and control a narrative because, by the very nature of the societies and their governance, there are free-flowing competing views in the information environment. However, authoritarian governments have leveraged the information environment to sow confusion, create time and space, and influence what is known in the international community.

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<sup>13</sup> “Joint Concept for Human Aspects of Military Operations” (Vice Chairman, Joint Chiefs of Staff, October 19, 2016), 10, <https://nsiteam.com/social/wp-content/uploads/2017/01/20161019-Joint-Concept-for-Human-Aspects-of-Military-Operations-Signed-by-VCJCS.pdf>.

## **Chapter 5: Use of the Information Environment to Influence What is Known**

Over the past decade, several cases illustrate the use of the information environment to shape multiple audiences' cognitive understanding and reinforce author narratives toward establishing what is known. Drawing upon the common processes followed in these operations to influence what is known offers a way to plan future operations, activities, and investments to achieve similar outcomes. Evaluating the Russian invasion of Crimea in 2014 and Chinese militarization activities in the South China Sea from 2014, will identify processes, integration with other activities, and results of shaping what is known to serve as a guide for operational planners to shape the information environment at the proper time and sequence to increase the effectiveness of other operational activities. In both cases, the actor began well ahead of the actual events of concern to the United States and international community with operations in the information environment that initially shaped what is known, then created a narrative of denial, followed by actions and information intended to draw attention away from the primary area of concern, until such time that the physical operations being supported achieved the actor's strategic objective. Capturing these processes, operational planners can seek to leverage them throughout the planning process to influence the information environment in support of strategic objectives while remaining within U.S. policy and operational constraints. The desired end state is to establish what is known in time and space and support the creation of the decisive effects intended in the operational design.

## 2014 Russian Invasion of Ukraine and Annexation of Crimea

Ukraine holds a special place in Russia's near abroad, with deep historical, economic, and natural resource connections.<sup>1</sup> Access to Ukraine's ports, sea lines of communication into the Black Sea, and the Crimean peninsula deep water port at Sevastopol, the traditional home of the Russian Black Sea fleet, represent vital interests for Russia, evidenced by long-term basing agreements signed between Russia and Ukraine using coercive economic pressure and providing Russia continued access to ports, airfields, and military bases following the collapse of the Soviet Union.<sup>2</sup> While the relationship between the two nations has vacillated in the post-Soviet era, Ukrainian efforts to shift economic allegiance toward the West created significant concern in the Kremlin. Likely owing to Russian President Vladimir Putin's direct coercive engagement, in late 2013, Ukrainian President Viktor Yanukovich backtracked on signing a trade agreement with the European Union. In November 2013, protestors frustrated with Ukrainian government corruption, pressure from Russia, and desiring more significant linkages to the West initiated the Euromaidan protests in Kyiv, Ukraine.<sup>3</sup>

Russia began laying the groundwork to disrupt the budding Ukrainian relationship with the European Union in early 2013 when Putin "approved and launched a comprehensive program of covert influence operations to draw Ukraine away from its path toward European integration and back into the Russian orbit."<sup>4</sup> Russia leveraged a

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<sup>1</sup> Lilia Shevtsova, "Russia's Ukraine Obsession," *Journal of Democracy* 31, no. 1 (January 13, 2020): 139, <https://doi.org/10.1353/jod.2020.0011>.

<sup>2</sup> Elias Götz, "Neorealism and Russia's Ukraine Policy, 1991-Present," *Contemporary Politics* 22, no. 3 (September 2016): 308.

<sup>3</sup> Elizabeth A. Wood et al., *Roots of Russia's War in Ukraine* (Washington, D.C.: New York: Woodrow Wilson Center Press; Columbia University Press, 2016), 109–10.

<sup>4</sup> Sanshiro Hosaka, "The Kremlin's Active Measures Failed in 2013: That's When Russia Remembered Its Last Resort—Crimea," *Demokratizatsiya: The Journal of Post-Soviet Democratization* 26, no. 3 (July 25, 2018): 323.

form of political warfare that exploited its access to the global commons with what has been described as "fake news, social media, and forged missives to influence public opinion in target countries."<sup>5</sup> Russian efforts countering the Euromaidan protests as early as November 2013 by broadcasting anti-Western programs to influence Russian-speaking populations in eastern Ukraine and Crimea while also drawing upon historical narratives of the Western threat to ethnic Russian culture.<sup>6</sup> Russian state-backed media implicitly compared the United States-European Union (EU)-North Atlantic Treaty Organization (NATO) supported Maidan protestors to the Nazis, framing the United States as a promoter of what the Kremlin characterized as fascism and drawing upon historic nationalism and cultural ideals from World War II that still resonated with the population.<sup>7</sup> The narratives further asserted a Western threat to, and persecution of, minority populations in Ukraine and set a baseline to shape what was known, that ethnic Russians in Ukraine and Crimea were being actively threatened by the West, and driving the population's behaviors to seek increased support from Russia based on historic relationships. Russia was later able to build upon this narrative to support Russian strategic objectives to reduce Western influence in Ukraine and Crimea and reassert Russian authority over portions of these territories to Russia's military advantage.

Russia likely had a broad contingency plan in place should its Black Sea fleet or Crimea be threatened. The political vacuum left in the wake of Ukrainian President Viktor Yanukovich's February 22 flight from Ukraine under pressure from the

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<sup>5</sup> Lanoszka, "Disinformation in International Politics," 227.

<sup>6</sup> Wood et al., *Roots of Russia's War in Ukraine*, 13.

<sup>7</sup> Miranda Lupion, "The Gray War of Our Time: Information Warfare and the Kremlin's Weaponization of Russian-Language Digital News," *The Journal of Slavic Military Studies* 31, no. 3 (July 3, 2018): 350, <https://doi.org/10.1080/13518046.2018.1487208>.

Euromaidan protests provided Moscow opportunity to execute the plan while questioning the legitimacy of any post-Yanukovich government.<sup>8</sup> On February 24, 2014, Putin and Russian Defense Minister Sergey Shoygu announced snap military exercises in Russia's western and central military districts, scheduled to begin on February 26.<sup>9</sup> While the world focused on the announced snap exercises, on February 27, Russian forces wearing uniforms without identifying insignia moved from Russia's southern military district into Crimea. Uniformed personnel in Crimea were deliberately shown in the global media, but it was unclear who they were, who controlled their actions, or what their purpose or goals were. Russia's intermediate objective was to create confusion, provide Russia with deniability, and cause decision paralysis in Ukraine and the West. These Russian forces isolated the Crimean Parliament and other government buildings and allowed pro-Moscow activists to take nominal control under the guise of a legitimate nationalist independence movement and installed a pro-Kremlin government.<sup>10</sup> The covert nature of the operations enabled Moscow to set the narrative, publicly deny their involvement in the removal of the Crimean government while laying the foundation for the annexation of Crimea. This denial called into question what was known to outside observers, and when combined with the confusion and distraction created by the snap exercises, created operational time and space for Russia and pro-Moscow groups to act and claim legitimacy before a response could be prepared. Facts were missing and no one could provide a clear enough picture for any outside state or actor to react.

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<sup>8</sup> Wood et al., *Roots of Russia's War in Ukraine*, 98–99.

<sup>9</sup> Wood et al., xiii.

<sup>10</sup> Wood et al., xiii, 15.

Maintaining the denial of Russian-backed forces involved in the occupation of the Crimean Parliament, or of Russian military involvement in general, Russian President Putin publicly denied knowledge of the origin of the troops in Crimea in an interview, saying, "Why don't you take a look at the post-Soviet states? There are many uniforms that are similar. You can go to a store and buy any kind of uniform."<sup>11</sup> These denials and plausible alternative explanations clouded the public and international community's understanding of the ongoing activities in Crimea and hindered the West's ability to coordinate and develop a successful counternarrative. Putin's statements, outright denials alongside extraneous and distracting information, created an illusion of a Crimean militia acting independently, expanded the operational space, and created time by delaying international understanding and assessment of the situation on the ground in Crimea.

Other narratives framed Russian intervention in Ukraine as a legitimate reactionary measure and sought to convey Crimea and Russia's shared historical past to the target audience, which in the process aided Kremlin efforts to justify its actions in Crimea and in Ukraine.<sup>12</sup> Initial international reaction was limited to rhetoric, it could do nothing else – Russia had succeeded in gaining temporary control of the global information commons only long enough to accomplish its objective, leaving the targets (U.S.-EU-NATO) largely helpless – a fait accompli of stunning strategic-operational sophistication. Furthermore, the “absence of even token Western mobilization sent a powerful strategic message: though the West possess[ed] overwhelming military power, it lack[ed] the unity and will to even threaten to use it” challenging Western deterrence.<sup>13</sup> In an effort to

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<sup>11</sup> Wood et al., 114.

<sup>12</sup> Wood et al., 348–51.

<sup>13</sup> Thomas Kent, *Striking Back: Overt and Covert Options to Combat Russian Disinformation* (Washington, D.C.: The Jamestown Foundation, 2020), 4.

dominate the narrative, Moscow successfully blocked numerous digitally-oriented foreign outlets, including Voice of America, from operating in Russia. Simultaneously, state-backed media outlet RT expanded its online foreign-language broadcasts so that German, Spanish, Arabic, and English speakers could access the Russian government's coverage of the annexation.<sup>14</sup> Here, Russia sought to sow confusion internally by restricting access to the information environment from the West and Western media outlets, while concurrently expanding the Russian narrative to the international information environment, declaring the Ukrainian government illegitimate and communicating a Russian obligation to protect the ethnic Russian population in Ukraine, coopting the Western concept of "right to protect." These activities generated additional time and space for continued Russia-supported operations in both Crimea and Eastern Ukraine.

At United Nations Security Council meetings on 1 and 3 March 2014, the United States insisted that there was no evidence to support Russian allegations of actions against or threats to ethnic Russian or other minority groups in Ukraine, or more specifically to ethnic Russians or the Russian Federation.<sup>15</sup> U.S. allegations and demands for proof failed to dislodge the already resonating Russian narrative. After the annexation effort began, nearly every article disseminated by Russia-backed media elements at least referenced the legality of Crimea's reunification with or entrance into the Russian Federation.<sup>16</sup> Contrasting the 'illegal' or 'illegitimate' Ukrainian government

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<sup>14</sup> Lupion, "The Gray War of Our Time: Information Warfare and the Kremlin's Weaponization of Russian-Language Digital News," 334.

<sup>15</sup> Roy Allison, "Russian 'Deniable' Intervention in Ukraine: How and Why Russia Broke the Rules.," *International Affairs* 90, no. 6 (November 2014): 1262.

<sup>16</sup> Lupion, "The Gray War of Our Time: Information Warfare and the Kremlin's Weaponization of Russian-Language Digital News," 345.

and the 'legal' or 'legitimate' referendum in Crimea, Kremlin-backed media sealed the military action with a new line of operations using legal language to encourage support for Crimea's annexation.<sup>17</sup>

After orchestrating a referendum in Crimea while Russian troops were actively engaged on the peninsula, on March 17 Putin formally recognized Crimea as a "sovereign and independent state."<sup>18</sup> On March 18, Putin signed an accession treaty that made Crimea and Sevastopol official parts of Russia, with Russian troops taking control of the Ukrainian naval fleet at Sevastopol on March 19.<sup>19</sup> Near the time of Crimea's annexation, the Kremlin-controlled media projected narratives of protests as 'chaos and disorder,' using legalistic jargon about the status of ethnic Russians and federalization, only to abandon this tactic by the end of April 2014 when it was no longer useful.<sup>20</sup> After weeks of denying Russian involvement, once the annexation had been completed, Putin stated in an interview that in Crimea, "Russia created conditions—with the help of special armed groups and the Armed Forces...for the expression of the will of the people living in Crimea and Sevastopol."<sup>21</sup> Only after signing the accession treaty did Russia finally admit that the troops in Crimea were indeed Russian; with the annexation complete, there was no longer any need to deny the truth – the truth was irrelevant anyway.<sup>22</sup> Russia's operations in the information environment throughout 2013 and 2014 created both the time and space needed in the operational environment for Russia-backed

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<sup>17</sup> Lupion, 345.

<sup>18</sup> Wood et al., *Roots of Russia's War in Ukraine*, xiv, 85.

<sup>19</sup> Wood et al., xiv, 85.

<sup>20</sup> Tomila Lankina and Kohei Watanabe, "'Russian Spring' or 'Spring Betrayal'? The Media as a Mirror of Putin's Evolving Strategy in Ukraine," *Europe-Asia Studies* 69, no. 10 (December 2017): 1527.

<sup>21</sup> Allison, "Russian 'Deniable' Intervention in Ukraine: How and Why Russia Broke the Rules.," 1257.

<sup>22</sup> Wood et al., *Roots of Russia's War in Ukraine*, 113.

actors to conclude actions decisively establishing Russian control in Crimea and complete this phase of Russian operations.

## Analysis

In the Crimea scenario, Russia leveraged the information environment early to "create a new internal and external reality for its citizens, its diaspora abroad, and liberal international media outlets."<sup>23</sup> Russian information operations had the agility to be first due to insightful planning and clearly defined strategic ends, which allowed information planners to create and own the first impression for the critical period necessary, as Corbett indicates.<sup>24</sup> Russia publicly disseminated disinformation to shape the information environment, enabling initial deniability of its activities in Crimea. Further, Russia capitalized not on the value or validating of their information, but on how good it looked, the emotional appeal, and the promotion of conspiracy theories and grievances.<sup>25</sup> In 2016, a RAND *Perspective* referred to the Russian "firehose of falsehood" characterized by two distinctive features: high numbers of channels and messages and a ruthless willingness to disseminate partial truths or outright fictions that sowed confusion.<sup>26</sup> There was no objective truth to target, the information environment existed then and now devoid of any objective truth, only dominant repetitive images, words, and ideas continuously flowing to create what was known.

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<sup>23</sup> Thomas, Timothy L., "Kremlin Kontrol: Russia's Political-Military Reality" (Foreign Military Studies Office (FMSO), 2017), 51.

<sup>24</sup> Christopher Paul and Miriam Matthews, *The Russian "Firehose of Falsehood" Propaganda Model: Why It Might Work and Options to Counter It* (RAND Corporation, 2016), 4, <https://doi.org/10.7249/PE198>.

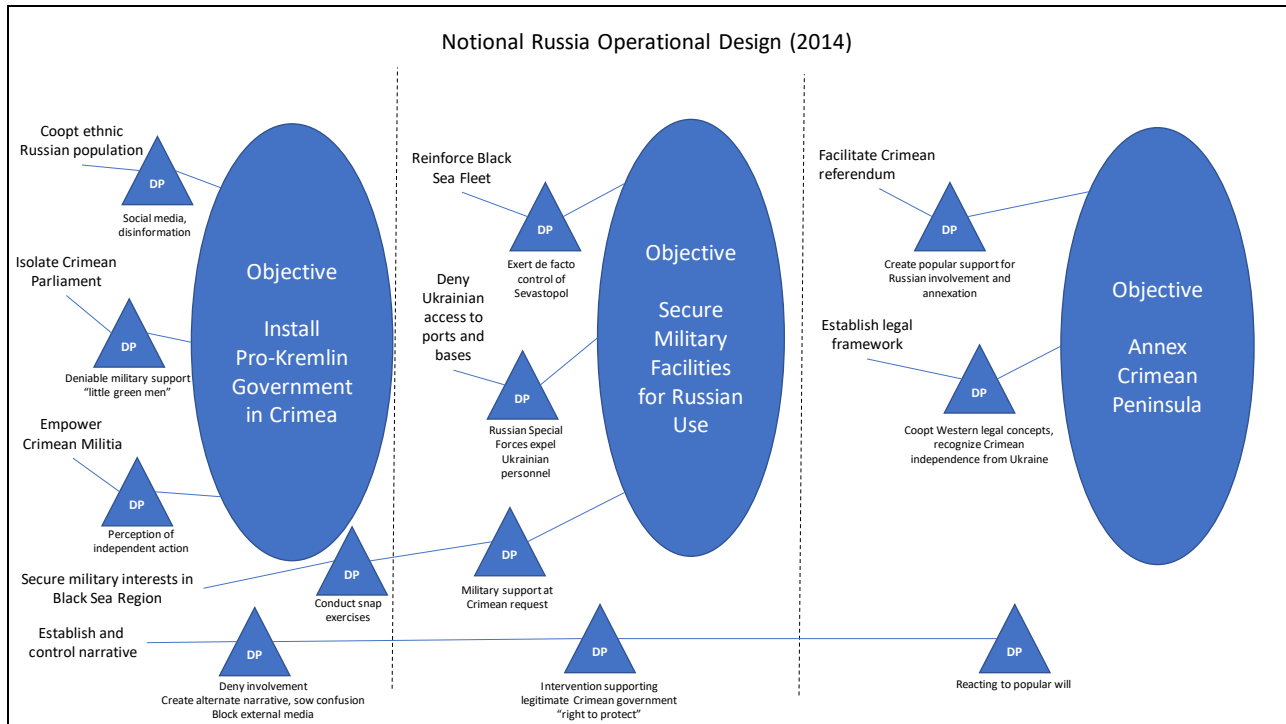
<sup>25</sup> Kent, *Striking Back*, 8.

<sup>26</sup> Paul and Matthews, *The Russian "Firehose of Falsehood" Propaganda Model: Why It Might Work and Options to Counter It*, 1.

Once initial gains in Crimea were solidified behind a dominant Russia-established narrative, President Putin continued to deny Russian involvement despite attributable indicators. Describing Russian activities in Crimea, the Chief of Strategic Communications at Supreme Headquarters Allied Powers Europe (SHAPE) said: "If you look at what they [Russia] did when they annexed Crimea and invaded eastern Ukraine, the information line of effort was fundamental, not just to give them a strategic narrative to try to justify what [Russia] did, but [also] to use information to deceive, delay and disrupt," akin to Corbett's theory of local control of the sea.<sup>27</sup> These efforts enabled Russia to continue operations toward its desired strategic objective of the annexation of Crimea without resorting to significant military operations, shifting focus and developing new decision points and new lines of effort.

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<sup>27</sup> Giles, Keir, "Handbook of Russian Information Warfare" (NATO Defense College, November 2016), 46, <https://www.ndc.nato.int/news/news.php?icode=995>.



*Figure 1: Russian Operational Construct (2014).*

Janis Berzinš, a Latvian scholar on Russian military strategy, argues that Russia's concept of modern warfare focuses on the mind as the center of gravity.<sup>28</sup> Modern-day competition and conflict are dominated by information and psychological warfare seeking to achieve superiority in troops, weaponry, and arms control. These operations morally and psychologically depress the adversary's armed forces personnel and civilian population, enhancing the effectiveness of kinetic fires.<sup>29</sup> Once Russia established the initial dominant narrative that it was not involved in Crimea, the implications of illuminating responsible actors' actions on the international stage were minimal, with Putin offering plausible alternative explanations until Russia achieved its desired end and

<sup>28</sup> Lanoszka, "Disinformation in International Politics," 241.

<sup>29</sup> Lanoszka, 241.

annexed the Crimean peninsula. By this point, only six weeks later, the annexation was a fait accompli with Russia in functional possession of the physical territory. Despite international sanctions, it has yielded a limited discernible impact on Russian standing in the international community.

In this case, what is known is not as important as simply flooding the information environment with disinformation and ambiguous images as a method of temporarily controlling the information environment. What is known became the second phase within a lawfare approach to create legal justification for actions already accomplished – legitimizing what is known.

#### Chinese Land Reclamation and Militarization in the Spratly Islands

China links its territorial claims in the South China Sea to historic imperial records, or more recently, to the post-World War II era when China asserted that the region was returned to Chinese control following its wartime annexation by the Japanese. This foundational claim is taught in both Chinese primary schools and Communist Party academies.<sup>1</sup> Vietnam, Malaysia, the Philippines, and Japan also have traditional and historical claims to portions of the South China Sea. Valuable natural resource deposits have made this area strategically important and exclusive Chinese control results in a zero-sum outcome for all other states in the region, and indeed, any global commercial state.

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<sup>1</sup> Clarke, Michael, “China’s Application of the ‘Three Warfares’ in the South China Sea and Xinjiang,” *ORBIS*, no. Spring 2019 (January 2019): 198; Murray Hiebert, Phuong Nguyen, and Gregory B. Poling, eds., *Examining the South China Sea Disputes: Papers from the Fifth Annual CSIS South China Sea Conference: A Report of the CSIS Sumitro Chair for Southeast Asia Studies* (South China Sea Conference, Lanham Boulder New York: Rowman & Littlefield, 2015), 46–47.

Over the past decade, while leveraging the information environment through public statements and media to reinforce its claims over disputed territories in the South China Sea, China has conducted extensive dredging and reclamation effort that dramatically increased China's military footprint in the region.<sup>2</sup> China's island reclamation efforts seek to secure its long-claimed nine-dash line position while neutralizing other claimants through soft power intimidation combined with demonstrations of hard power.<sup>3</sup> China has also aggressively defended its efforts to assert sovereignty in the South China Sea across the information environment.<sup>4</sup>

China established its information line of operations for South China Sea reclamation and militarization as early as 2014, highlighting peaceful intentions, the lack of an identified threat in the South China Sea, and argued against any need to defend or justify its activities in territory China claimed as its own. Responding to allegations of China's intent to establish an Air Defense Identification Zone in the South China Sea, the Chinese Foreign Ministry spokesman in February 2014 claimed that China did not perceive a threat in the South China Sea region that it needed to counter, delivering an initial narrative to shape what was known in the international community and media while Chinese engineering activities continued.<sup>5</sup> In early April 2015, a Chinese Foreign Ministry spokesperson stated in a press conference that land reclamation efforts were to enable China's international responsibilities for maritime search and rescue, disaster

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<sup>2</sup> Grossman, Derek, "Military Build-Up in the South China Sea," in *The South China Sea: From a Regional Maritime Dispute to a Geostategic Competition*, 1st Edition (London & New York: Routledge Taylor & Francis Group, 2019), 1–3, [https://www.rand.org/pubs/external\\_publications/EP68058.html](https://www.rand.org/pubs/external_publications/EP68058.html).

<sup>3</sup> Hiebert, Nguyen, and Poling, *Examining the South China Sea Disputes*, 27.

<sup>4</sup> Clover, Charles, "China Defends Island-Building in Disputed Waters," *Financial Times*, May 31, 2015, <https://www-ft-com.nduezproxy.idm.oclc.org/content/c5e1443a-0773-11e5-a58f-00144feabdc0>.

<sup>5</sup> Hiebert, Nguyen, and Poling, *Examining the South China Sea Disputes*, 38.

relief, marine science, meteorology, among other areas.<sup>6</sup> In response to international political and media concern over the reclamation work, China's Foreign Minister said, "[t]his construction does not target or affect anyone. . .we do not accept criticism from others when we are merely building facilities in our own yard. We have every right to do things that are lawful and justified" but failed to elaborate on what justification China was using for the construction.<sup>7</sup> In May 2015, a Chinese Admiral indicated that several construction elements were for "the purpose of providing international public good" while also meeting "necessary defense needs," without specifying which defense needs China was seeking to address.<sup>8</sup> In June 2015, publicly released satellite imagery highlighted the extent of Chinese dredging and land reclamation efforts on the disputed islands, where China was adding approximately eight acres of land per day to extend and widen the existing reef features in the disputed South China Sea islands.<sup>9</sup> These expansive efforts created additional land, which the Chinese then used to build new military infrastructure. China pursued their information line of effort, reinforcing the Chinese preferred narrative, supplemented with incremental physical construction, that influenced international behaviors against any significant intervention. By creating a plausible alternate narrative, that China was constructing facilities on its own territory to enable commerce and support international maritime responsibilities, China was able to create confusion as to the true intent of its activities. In turn, this confusion influenced

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<sup>6</sup> Hiebert, Nguyen, and Poling, 32.

<sup>7</sup> Broderick, Kelsey, "Chinese Activities in the South China Sea: Implications for the American Pivot to Asia" (Project 2049 Institute, May 12, 2015), 4, <https://project2049.net/2015/05/12/chinese-activities-in-the-south-china-sea-implications-for-the-american-pivot-to-asia/>.

<sup>8</sup> Hiebert, Nguyen, and Poling, *Examining the South China Sea Disputes*, 32.

<sup>9</sup> Lee, Victor Robert, "South China Sea: Satellite Images Show Pace of China's Subi Reef Reclamation," *The Diplomat*, June 19, 2015, <https://thediplomat.com/2015/06/south-china-sea-satellite-images-show-pace-of-chinas-subi-reef-reclamation/>.

uncoordinated action, inconsistent rhetoric, and an overall lack of action from the international community in response to Chinese activities, enabling progress toward achieving the overall goal of fortifying South China Sea territory.

At the November 2015 East Asia Summit, China's Deputy Foreign Minister reiterated that Chinese military facilities in the South China Sea did not equate to a militarization of the area.<sup>10</sup> Then six months later, following a May 2016 U.S. freedom of navigation operation in the vicinity of the Spratly Islands, China's Defense Ministry responded by accusing the U.S. of militarization, calling the U.S. the greatest threat to the region, and vowing to increase China's own military presence in response. By holding to its enduring narrative and shifting blame for the activities on perceived foreign aggression, China continued to build a case to justify its land reclamation and militarization efforts. China's operational design anticipated rejection from the international community and countered it by attempting to establish what was known: that China was acting with legitimacy and peaceful intentions. By late 2016, Chinese President Xi Jinping contradicted a September 2015 joint statement with U.S. President Barack Obama where Xi said China did not intend to militarize the islands.<sup>11</sup> China's furtherance of their alternative narrative and denial of observed activity created doubt in the international information environment, creating time and space for China to achieve its desired objectives to solidify its military capabilities in the South China Sea. China ignored reality and claimed innocence while temporarily negating access to and saturating the information environment despite failing

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<sup>10</sup> Panda, Ankit, "Military Facilities Aren't Militarization in the South China Sea: Chinese Deputy Foreign Minister," *The Diplomat*, November 23, 2015, <https://thediplomat.com/2015/11/military-facilities-arent-militarization-in-the-south-china-sea-chinese-deputy-foreign-minister/>.

<sup>11</sup> Panda, Ankit, "It's Official: Xi Jinping Breaks His Non-Militarization Pledge in the Spratlys," *The Diplomat*, December 16, 2016, <https://thediplomat.com/2016/12/its-official-xi-jinping-breaks-his-non-militarization-pledge-in-the-spratlys/>.

to be carried by outside media. When the information environment reopened, China was prepared to counter any other claims of fact by clearly demonstrating its position of advantage in the newly developed facilities in the South China Sea.

### **Analysis**

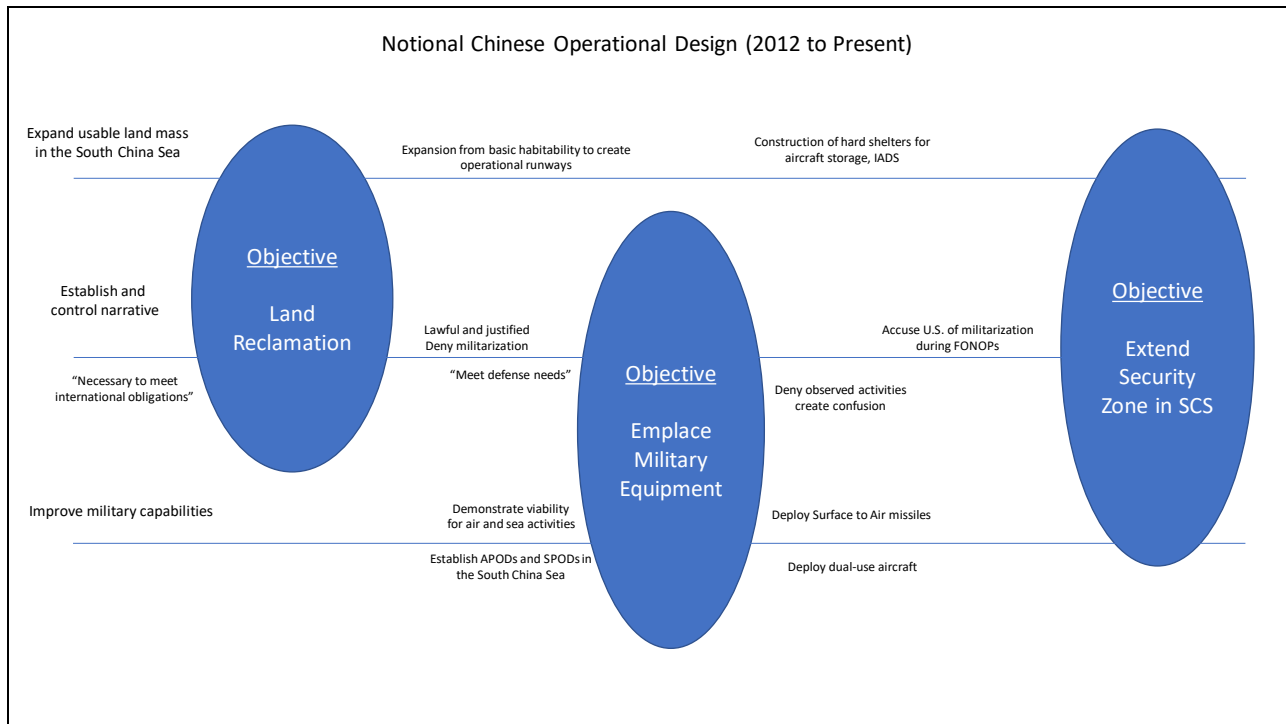
China began early and persistently delivered its narrative in the international media and international diplomatic engagements while conducting contradictory physical operations on the ground without any substantial consequence. China's operational construct leveraged its information line of effort to shift blame to others, deny some activities, and use external actions to justify Chinese development activities. This created a plausible alternative narrative that China's domestic, some regional, and some international populations were willing to accept, that China developments were for "the purpose of providing international public good."<sup>12</sup> Counternarrative development by the United States and the international community was ineffective, lacked coordination between the U.S. and potential like-minded nations, failed to target decisive points in China's operational design, and demonstrated an overall weakness in the international response. China exploited the uncoordinated response by reinforcing its initial base narrative of reclamation and development for international benefit, while effectively controlling the contested areas until it was able to demonstrate de facto control of the territories.<sup>13</sup> China successfully leveraged the information environment to influence what was known of their activities while they were underway and created a credible narrative justification until physical conditions on the ground were developed to meet China's objectives, establishing a *fait accompli* while creating a narrative of peaceful

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<sup>12</sup> Hiebert, Nguyen, and Poling, *Examining the South China Sea Disputes*, 32.

<sup>13</sup> Hiebert, Nguyen, and Poling, 54.

development that did not alarm the international community enough to generate a significant response. Having created facts on the ground, the physical reality of Chinese presence was a far more effective demonstration of Chinese sovereignty than relying on the nine-dash line's spurious legal validity.<sup>14</sup>



*Figure 2: China Operational Construct*

Depending upon which equipment China deploys on these islands, China could have the ability to persistently monitor most of the South China Sea, exert levels of control over the resources and free transit, and extend military control of the maritime and air domains across the region.<sup>15</sup> These facilities could host a small number of surface to air missiles and fighter aircraft that could provide force projection and increased

<sup>14</sup> Hiebert, Nguyen, and Poling, 51.

<sup>15</sup> Hiebert, Nguyen, and Poling, 36.

monitoring capabilities during competition. While such systems could play a role in peacetime operations and gray zone conflicts involving the non-lethal use of military force, they are unlikely to be a significant factor in high-intensity military operations against U.S. forces beyond the first hours of a conflict but give pause to potential adversaries' actions in the South China Sea.<sup>16</sup> However, even the fact of the infrastructure development in the South China Sea region supported China's information line of effort as the international community sought to understand what China claimed to be doing and square it against what the islands may actually be used for by China. While imagery later confirmed the extent of China's activities and the introduction of new military capabilities, China had leveraged time to its advantage, with its operations in the information environment successfully supporting its strategic objective to create new military capabilities in the South China Sea.

In August 2018, the U.S. Navy published via Twitter that "we will sail, fly and operate wherever international law allows" in response to a CNN news article that highlighted Chinese attempts to deter U.S. activities in the South China Sea, maintaining the U.S. narrative on its right of innocent passage through the region.<sup>17</sup> While the U.S. has remained undeterred by persistent Chinese posturing and warnings, the U.S. has also been unsuccessful in preparing or executing operations in the information environment nor freedom of navigation operations in the physical environment to alter China's behavior in the disputed areas of the South China Sea. Limited U.S. action, or inaction, and an unwillingness to introduce kinetic force to the physical environment, allowed

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<sup>16</sup> Eric Heginbotham, *The U.S.-China Military Scorecard: Forces, Geography, and the Evolving Balance of Power, 1996-2017* (Santa Monica, CA: RAND, 2015), 89.

<sup>17</sup> Grossman, Derek, "Military Build-Up in the South China Sea," 13.

China the time and space it needed to manipulate the physical environment in pursuit of its desired end state. China's use of the information environment to shape what was known, combined with a lack of international response, facilitated the time and space necessary to achieve their strategic objectives.

## **Chapter 6: Operational Constructs to Influence What is Known**

Russia and China's conduct of operations in the information environment provide common techniques that operational planners should consider to shape what is known in operational design. First, operations in the information environment must be integrated into operational design from the beginning of plan initiation. Adversaries commonly use denial of the true nature of activities to influence what is known, but outright denial can prove difficult for a liberal democracy, considering the expectation of transparency and truthfulness in official communications. Saturation of the information environment with a preferred narrative can seek to drown out an objective narrative, while competing or alternative narratives can sow confusion in what is known for the target audience. Finally, a level of official confirmation of its true intent and actions in the case of Russia, and continued diversionary narratives by China, followed the achievement of strategic objectives after their operations in the information environment created the time and space necessary for success.

In both scenarios, Russia and China initiated efforts to shape what was known in the information environment well ahead of physical activities beginning. These activities were presumably facilitated by the generation of strategic objectives early, retaking the Crimean Peninsula and strengthening military capabilities in the South China Sea, respectively, creating additional time and space that enabled the delivery of operations in the information environment to support these objectives. In the case of Russian actions in Ukraine, the availability of email communications leaked by Ukrainian hackers in 2016 correlated with timelines and known information has helped confirm Russian

intentions in Ukraine and Crimea beginning in early 2013.<sup>1</sup> Applying these activities early in the operational planning process can favorably shape the operational environment for operations, activities, and investments (OAI). OAIs have inherent informational aspects that can be shaped and leveraged to influence what is known and developed and targeted in the joint planning process to achieve operational outcomes that assure, induce, deter, or compel relevant actors of interest and their behaviors.<sup>2</sup>

Denial of activities is a common technique used by adversaries to create skepticism and blur what is known. Both Russia and China spent significant time issuing official denials of activities claimed by adversaries and the international community to significant effect, generating time and space for continued operations. In Ukraine, Russia leveraged disinformation, deliberately false information that contributed to confusion in what was known about Russian support for military activities in Crimea and eastern Ukraine. Disinformation can be deliberate falsehood but can also blur the line between opinion and fact, proliferating false information that creates uncertainty about what is accurate and what is not.<sup>3</sup> These official statements are also rebroadcast in social media by supporting actors, extending the penetration of the information and accelerating its internalization by target populations as what is known.

One European Union official characterized Russia's activities in the information environment by saying, "the aim is not to make you love Putin. The aim is to make you disbelieve anything. A disbelieving, fragile, unconscious audience is much easier to

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<sup>1</sup> Hosaka, "The Kremlin's Active Measures Failed in 2013: That's When Russia Remembered Its Last Resort—Crimea," 322.

<sup>2</sup> Sandeep Mulgund and Mark Kelly, "Command and Control of Operations in the Information Environment: Leading with Information in Operational Planning, Execution, and Assessment," *Air and Space Power Journal* 34, no. 4 (n.d.): 23.

<sup>3</sup> Kavanagh and Rich, *Truth Decay*, 122.

manipulate."<sup>4</sup> The reality of this skeptical audience is a key characteristic of the information environment, where opinion can be portrayed as fact, and misinformation and disinformation coexist alongside scientifically or statistically supported information. All actors now begin with this type of audience who chooses to believe what best comports to their own personal beliefs and experience, what narrative is delivered earliest and most passionately, and what can be manipulated to play on an audience's fears. This concept must permeate future operational design to shape the target audience's natural tendencies to be manipulated and leverage it to achieve desired behaviors and effects. While the United States seeks to influence potential adversaries and their populations' behaviors, these are the type of tactics the United States and its Allies will face.

The U.S. must develop its own construct for operations in the information environment, a framework for operational design to ensure information is considered and incorporated into every phase of planning and operations. Following elements of the process of operational design, tailored for operations in the information environment, would start by identifying a desired strategic outcome or end state – what does the joint force want the target audience to know? Next, identification of intermediate objectives offer waypoints to the strategic objective, narrative elements to target and generate desired effects – what the joint force needs an audience to know and internalize and when. Desired effects, linked to the targeted objectives, focus the joint force's efforts to generate behaviors against that support the joint force's objectives. Finally, arrangement of operations in the information environment in time, space, and effect, exerting control over information flow as necessary and appropriate to progress toward achievement of its

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<sup>4</sup> Brooking and Singer, "War Goes Viral: How Social Media Is Being Weaponized," 78.

strategic objectives.<sup>5</sup> This process should be continuous, adjusting to partner and adversary activities to capitalize at the most opportune times and locations to generate maximum advantage for the joint force.

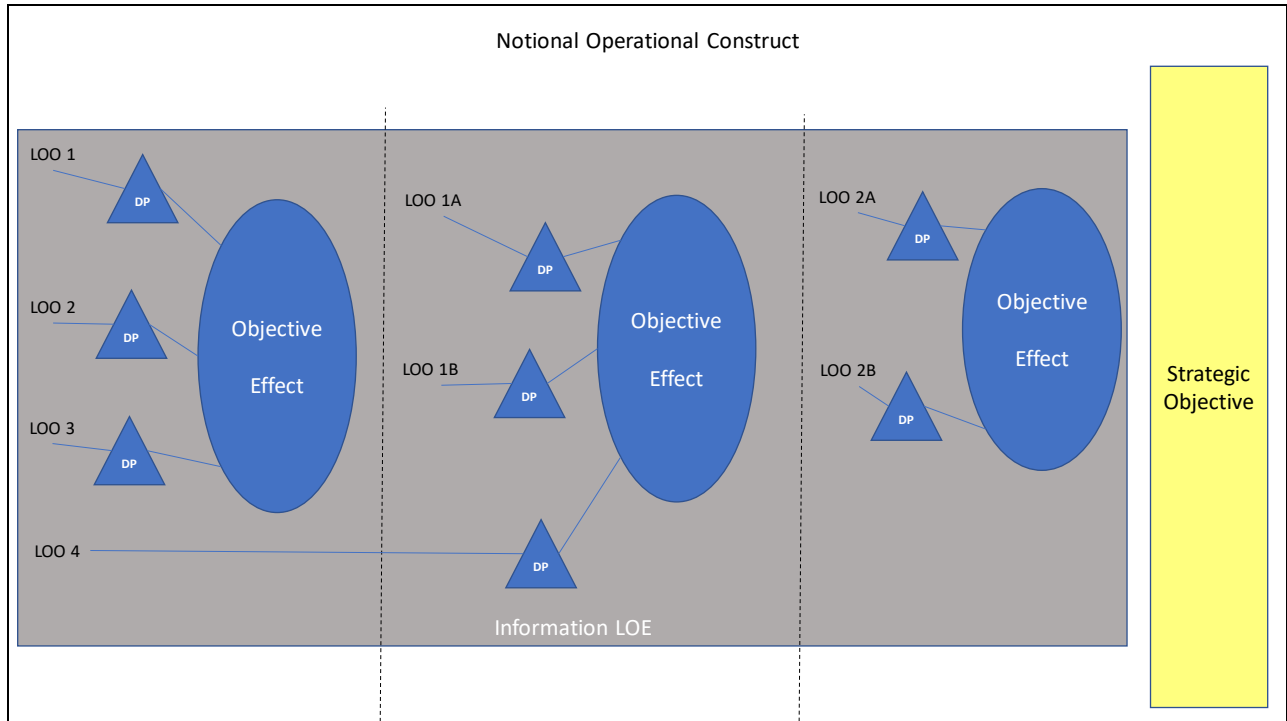


Figure 3: Notional Operational Construct

<sup>5</sup> Dickson, Keith D., "Operational Design: A Methodology for Planners" (Joint Forces Staff College Paper, Norfolk, VA, November 30, 2016).

## Chapter 7: Opportunities, Risks, and Recommendations

Influencing what is known is critical to successfully accomplishing strategic and operational objectives in the 21<sup>st</sup> century. Activities are already underway in the joint force to increase the integration of information as an element of power into the operational art with the DoD Strategy for Operations in the Information Environment and the Joint Concept of Operations in the Information Environment (JCOIE). These efforts must progress further and faster, increasing exposure to and understanding of the information environment among operational planners, operators, and decisionmakers to make operations in the information environment less a specialty expertise and more a core element of modern operational art. Operations in the information environment to shape what is known can drive behaviors to achieve desired objectives in support of, or in lieu of, physical operations.

The first narrative made available to an audience generally resonates and is difficult to overcome or alter, making primacy imperative for operations in the information environment. An audience is predisposed to accept first reports on an event or issue, then anchor to this additional information in the form of images, words, or music, judging future information against the first received and making the development of counternarratives more difficult.<sup>1</sup> To establish processes, methods, and capabilities to secure temporary control in the information environment, there must be continued investment in understanding how to operate in the complex and interconnected information environment. Rather than react to adversary activity in the information environment the U.S. must endeavor to inject operations into the information

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<sup>1</sup> Paul and Matthews, *The Russian "Firehose of Falsehood" Propaganda Model: Why It Might Work and Options to Counter It*, 4.

environment, while simultaneously illuminating attributable adversary activities or creating counter narratives that resonate. The U.S. must identify and leverage narratives and images that resonate with the target audience, universal images manipulated in support of friendly objectives. Promulgating images of Russian military parades, public films of Russian soldiers in Chechnya or Georgia, and overlaying them with images of initially unattributed military operations in Crimea to draw parallels is one example. Another universal image is that of the Chinese citizen blocking the tank column in Tiananmen Square in China in June 1989 to generate negative behaviors toward China and the Chinese government through a target audience.

This is not a singular battle for control, but continued engagements seeking to secure control and influence at the most advantageous time. The U.S. must anticipate requirements by improving coordination between intelligence, information operations, strategic communications, and public affairs throughout the operations planning and execution process and continually seek an appreciation of the target audience as far as culture, receptivity, and compelling messaging techniques. Use of the information environment in operational planning should complement the elements of national power to influence a target audience's behavior.<sup>2</sup> The JCOIE posits that the joint force must shift from “relying primarily on physical power to disrupt or destroy and integrate physical power with informational power to achieve strategic effects.”<sup>3</sup> However, these concepts remain to be fully implemented in doctrine and training through the Joint Strategic Planning System. This must occur not only for operational plans but in combatant command campaign plans, nested in theater strategy, and persistent in daily

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<sup>2</sup> Lanoszka, “Disinformation in International Politics,” 233.

<sup>3</sup> “Joint Concept for Operating in the Information Environment,” ix.

campaigning to shape the foundational understanding of what is known in the operating environment.

The joint force is currently restricted by policies, conventions, cultural mindsets, and approaches to information and has not yet solidified processes and procedures for synchronized activities in and through a pervasive information environment into doctrine that would enable the joint force to more deliberately influence what is known in competition and conflict.<sup>4</sup> Much conceptual effort has been conducted to establish concepts for operations in the information environment and the human aspects of military operations but without the weight of being formalized in doctrine, and without offering an operational construct for planning and execution. Every effort must be made to interweave these concepts deeply into joint publications through operational design, or they risk growing stale before the concepts can mature into mainstream doctrine and professional military education curriculum.

Lack of access to, or poor understanding of, the adversary information environment must be overcome to generate operations that achieve strategic effects. Operational planners must dedicate time in the planning process to gain a detailed understanding of the adversary information environment to focus the operation design and identify potential decisive points to target in operations. The foundation for understanding the information environment must begin with the Joint Intelligence Preparation of the Operational Environment (JIPOE) process, with the necessary investment in identifying, supporting, and understanding operations in the information environment through additional professional education and operational experience.

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<sup>4</sup> “Joint Concept for Operating in the Information Environment,” 6.

Operational planners must leverage the JIPOE to characterize the nature of the information environment and assist in identifying decisive points to seek control of or influence over. It is not necessary, nor really possible, to exert complete control in the information environment; the ideal state is to maintain freedom of movement in and persistent access to the physical layer of the information environment in order to reach the target audience in the information and cognitive layers. An opportunity rests in the capability to deliver and control a narrative for a sufficient period to adequately influence a target population, achieve the desired cognitive effect, and drive behavior to the state's desired end. This comes at a cost, and will require continuous investment so that the information environment can be leveraged in periods of competition, conflict, or war. Former Chairman of the Joint Chiefs of Staff General Martin Dempsey said, "the cost of control is unsustainable, [the joint force] must leverage Allies and partners to increase knowledge and share resources." In the information environment control of decisive points in time and space, by the joint force, combined with Allies and partners that can readily provide valuable cultural context, can advance the joint force's progress toward achieving strategic objectives.<sup>5</sup>

There are numerous challenges to operating in the information environment, the first of which is successful timing. If the first narrative to reach an intended audience claims primacy, the joint force must improve the timeliness of operations in the information environment, and early in the planning process so that they can be delivered when they have the greatest potential to influence target audience behaviors. Operations in the information environment can be difficult to identify – an intangible capability that

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<sup>5</sup> "Lessons in Leadership: A Conversation with General Martin E. Dempsey, USA (Ret)."

lacks temporal and geographic constraints requires operational artists to think outside the traditional military and intelligence tool kits to identify opportunities.<sup>6</sup> This ambiguity is pervasive, requiring critical thinking and structured operational design processes to frame and address the vagaries of operations in the information environment. The effects of successful operations in the information environment can be extraordinarily challenging to isolate within the complexity of the information environment and potentially lead to difficulty assessing effectiveness.<sup>7</sup> However, the difficulties must not be a justification for operational planners and decisionmakers to avoid planning or action, or to centralize or restrict approval of such activities, and must be recognized as a capability investment that can generate valuable effects.

Competitors and adversaries are unencumbered by restrictive policies or the need for truth and transparency. Further, great power competitors understand the impact of information and have demonstrated the capability to integrate physical and informational power to achieve operational and strategic ends – the joint force must move quickly to gain advantage when necessary, evaluating and determining intermediate objectives in each phase of an operation.<sup>8</sup> In the modern operational environment, it is difficult for an audience to evaluate the legitimacy of information disseminated via social media platforms and through internet searches, and, as a result, an audience’s odds of accepting false information could rise.<sup>9</sup> The information environment is also subject to manipulation by adversaries, including the proliferation of technology and the capability

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<sup>6</sup> Lupion, “The Gray War of Our Time: Information Warfare and the Kremlin’s Weaponization of Russian-Language Digital News,” 352.

<sup>7</sup> Lanoszka, “Disinformation in International Politics,” 233.

<sup>8</sup> “Joint Concept for Operating in the Information Environment,” 7.

<sup>9</sup> Kavanagh and Rich, *Truth Decay*, 112.

to generate "deep fakes." The joint force must plan for and seek to illuminate these and other adversary false narratives and name offenders when possible without risking operational security. Willingness to identify, define, and take acceptable risks to conduct operations in this environment is necessary to support the achievement of joint force objectives.

There are risks in the information environment that operational planners must identify and develop mitigation strategies to counter. Joseph Nye highlighted that great powers try to use culture and narrative to employ soft power that promotes their advantage but must recognize the risk when the idealized narratives, economic wealth, and values that great powers profess fail to square with domestic realities.<sup>10</sup> When perceptions of a nation's domestic environment are inconsistent with the message promulgated in the information environment, the validity and viability of the narrative to influence what is known may be compromised, and strategic objectives left unsupported. These risks are heightened when a skeptical and unquestioning audience is manipulated by false information from adversaries.

What is known is the key strategic-operational question in the 21<sup>st</sup> century. In many cases, U.S. operations in the information environment will not deliver immediate results. However, exporting U.S. values remains a critical element of U.S. grand strategy, and leveraging operations in the information environment can incrementally influence other populations to internalize our values and seek to match them. Overall it will be difficult to clearly assess the impact of operations and influence efforts in the information environment . . . the joint force must develop a means to measure the

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<sup>10</sup> Nye, "The Information Revolution and Power," 21.

effectiveness of its activities in the information environment. To create information advantage, the United States must invest in processes, personnel, and systems required to gain access to and operate in the information environment. Command of the information environment will be essential to shaping what is known and delivering the behaviors necessary to support our objectives at the decisive points of our choosing

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