

U.S. Army paratroopers assigned to 2<sup>nd</sup> Battalion, 503<sup>rd</sup> Infantry Regiment, 173<sup>rd</sup> Airborne Brigade, emplace brazier charge during exercise Rock Shock 2, in Grafenwoehr Training Area, August 12–13, 2019 (U.S. Army/Ryan Lucas)



# Deconflicting Exercises and Experimentation Under Global Integration

By Francis J.H. Park

Since its introduction to the joint force in the 2016 National Military Strategy (NMS), global integration has led to sweeping changes not only in strategy but also in the processes and instruments that implement it. Initial explorations of global integra-

tion, expressed through the 2016 NMS and the 2017 Joint Strategic Campaign Plan, focused primarily on force employment in the years of execution of the Future Years Defense Program (FYDP). As it matured in subsequent strategic directions, including a major revision of the Joint Strategic Planning System in 2018 and the 2019 *Capstone Concept for Joint Operations*, global integration started to address aspects

of the future force that might appear in the “out years” of the FYDP.<sup>1</sup> Two instruments to realize global integration exist in exercises and experimentation. While they may look similar, they serve different purposes, and the distinctions between the two are often not apparent to those participating in these activities. However, the Department of Defense (DOD) literature that guides exercises and experimentation is not

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well known outside of the joint force development and joint capability development communities. A fuller understanding of those activities and their differences will better enable those responsible for visualizing tomorrow's force and the strategic choices that will shape the future U.S. military.

## Strategic Context

The 2018 National Defense Strategy (NDS) contains a charter to DOD "to out-think, out-maneuver, out-partner, and out-innovate revisionist powers, rogue regimes, terrorists, and other threat actors."<sup>2</sup> Implementing that charter to the Services and combatant commands (CCMDs) occurs through the 2018 NMS.

The 2018 NMS introduces a continuum of strategic direction comprising three strategy horizons to visualize the current and future strategic environment. The first, *force employment*, focuses on attainment of the NDS's near-term objectives, typically from the present to 3 years in the future. The second, *force development*, adapts the current joint force for greater capability, generally 2 to 7 years in the future. The innovation required to maintain competitive advantages over future adversaries is a function of the third, *force design*, which typically looks out 5 to 15 years.<sup>3</sup>

The reason for these overlapping time horizons is their interdependent relationship. Whereas force employment addresses immediate problems in the security environment, the lessons learned and readiness assessments in force employment inform the conduct of force development to address near-term capability gaps. Similarly, the evolutionary changes in force development also serve as a bridge to the more disruptive and revolutionary change that occurs in force design. Vetting activities across the continuum of strategic direction requires a clear eye as to which activities serve which horizons of the military strategy.

## Differentiating Exercises and Experiments

Exercises and experiments may look outwardly similar but differ materially in their purposes. In the absence of any

one authoritative source for definitions of these terms, the definitions that do exist are more descriptive than normative. Joint doctrine provides a starting point, but it is not sufficient to define this taxonomy.

**Exercises.** Consistent with its definition in doctrine, exercises build readiness against an established standard, which suggests training against an existing plan or mission-essential task.<sup>4</sup> Given their orientation on readiness, exercises primarily support force employment. Exercises may also identify capability gaps that can inform force development work.

**Experiments.** In the absence of a formal or normative definition, experimentation explores unknown relationships and outcomes that result from new technologies and concepts, new applications of existing capabilities, and emerging threats. Experiments drive further research and inform decisions on the future force.<sup>5</sup> Thus, defense experimentation is the appropriate process for matters relating to force design and its associated concepts and capability development.

Defense experimentation generally falls into three broad methods: workshops, wargames, and field experiments. All three share the exploration of unknown relationships and outcomes, but their conduct varies considerably. Workshops are forums for discussion of potential threats, technologies, and concepts, and they often form the basis for more detailed experimentation. Wargames are simulations that allow for evaluation of technology, concepts, and concepts of operation, a common example of which are tabletop exercises.<sup>6</sup> Field experiments involve the use of military personnel and equipment in the anticipated operational environment.<sup>7</sup> A clear distinction between exercises and experiments and the varieties of experimentation will create clarity and direction for their respective purposes, while helping stave off a conflation of the two. Allocating time and resources against force employment activities may not bear fruit if applied uncritically to force development and force design activities.

While the continuum of strategic direction is a recent construct, it provides a lens to recontextualize previous exercise

and experimentation activities. In the absence of publicly available reporting from more recent exercises or experiments, three case studies illustrate the complementary relationships that exist across force employment, force development, and force design and, in one case, highlight the hazards of conflating the three.

## Exercises for Force Employment: III Corps Battle Command Training Program Exercise (1989)

During the Cold War, the U.S. Army's III Corps had a follow-on mission to deploy from its bases in the United States, draw prepositioned stocks, and reinforce the North Atlantic Treaty Organization (NATO) defense of northern Germany against a Warsaw Pact invasion.<sup>8</sup> In light of that mission and the Army's capstone doctrine of AirLand Battle, Lieutenant General Crosbie Saint, commanding III Corps, developed a vision of a mobile armored corps that could fight after deploying with its own or prepositioned equipment, be able to road-march over 100 miles, and then fight from the march. Expressed through a concept paper written in 1987 by Lieutenant Colonel L. Donald Holder, that vision became the focal point for training the corps and its subordinate units.<sup>9</sup>

The first collective training event that allowed III Corps to exercise its corps-level command functions for an attack from the march occurred at Fort Hood, Texas, in January 1989, during the first corps-level exercise conducted by the Army's Battle Command Training Program (BCTP). That exercise was predicated on Saint's vision, Holder's concept paper, and the exercise's own implementation through a series of training events. Evaluated tasks for the corps included movement control, a corps-level refuel on the move, coordination of close air support and air interdiction, and command and control of the corps while facing long-range artillery fires and special operations forces raids.<sup>10</sup>

The true validation for Saint's vision and Holder's concept occurred against an adversary far removed from the plains of



M-57 communication vehicles form one wall of command center at new location of 2<sup>nd</sup> Armored Cavalry Regiment during Operation *Desert Storm*, February 12, 1991 (U.S. Army/David Faas)

northern Germany. The theoretical and practical work that had come out of the III Corps BCTP exercise bore fruit when VII Corps and XVIII Airborne Corps conducted those approach marches not once, but twice during Operation *Desert Storm*. The first was to set the corps and all subordinate maneuver forces into the attack positions prior to the “left hook” of the main attack. That movement required XVIII Airborne Corps to pass through VII Corps, a challenging task made even more difficult by the need to screen the former’s movement prior to the attack. The second was the left hook itself, which included, among other activities, a corps-level refuel on the move (while in contact, in the case of VII Corps).<sup>11</sup> Both corps had augmentation from III Corps units that were deployed to the *Desert Storm* theater of operations. Holder, promoted to colonel in 1989, would eventually put his money where his mouth was: His 2<sup>nd</sup> Armored Cavalry Regiment was at the vanguard of the VII Corps attack in *Desert Storm*.

What had started as a vision and concept paper in 1987 had been fleshed out into procedural rigor 2 years later. The January 1989 BCTP was an exercise in the classical sense of the term—it was oriented on readiness for combat. The missions and requirements that III Corps faced in that exercise were known; the challenge remained to build readiness to execute those missions to standard. By 1991, that readiness had spread across enough of the force to the point where two other corps did exactly what Saint and Holder had originally envisioned.

### Exercises for Force Development: Nifty Nugget (1978) and Its Successors

The principal mission facing the U.S. military in Western Europe was reinforcement of NATO’s defense of the region. The first comprehensive examination of the readiness of the U.S. military for that wartime reinforcement mission was a Joint Chiefs

of Staff command post exercise called Nifty Nugget, which occurred October 10–31, 1978, and simulated a short-warning Warsaw Pact attack on NATO. It also coincided with a national exercise to drill interagency partners in conjunction with DOD.<sup>12</sup>

Nifty Nugget certainly did not produce the envisioned outcomes. Occurring a year after the Defense Transportation System had been declared ready for operations, Nifty Nugget saw the majority of the forces deploying to Europe arriving piecemeal, without their equipment, or far too late to be operationally relevant.<sup>13</sup> Units deploying from the United States coincided with a noncombatant evacuation operation of more than a million dependents from Europe, which generated a demand for airlift 10 times larger than the available mobility airlift force. In the meantime, in the words of an unnamed high-level Pentagon official, “The Army was simply attrited to death.”<sup>14</sup>



U.S. Marines assigned to Fleet Anti-Terrorism Security Team Central Command conduct close-quarters battle training during exercise Neon Defender 21, in Ras al Qarain, Bahrain, April 4, 2021 (U.S. Marine Corps/Victor A. Mancilla)

In the wake of Nifty Nugget, the Joint Chiefs of Staff established the Joint Deployment Agency (JDA), a combat support agency to coordinate deployment procedures among the Services. Unfortunately, the JDA had no authority to direct the Services or CCMDs to address identified deficiencies. To add insult to injury, the Services fought successfully to keep their logistics and transportation planning systems separate from the JDA.<sup>15</sup>

In 1980, a successor exercise named Proud Spirit involved a much less ambitious NATO reinforcement scenario, with equally dismal results. Proud Spirit exposed critical gaps in the defense industrial base and DOD command and control systems at the national level.<sup>16</sup> Improvements to those systems and some associated processes led to better results in 1982 in the Proud Saber exercise, which involved a global crisis response scenario.<sup>17</sup>

The issues raised by Nifty Nugget and its successor exercises, as well as the

shortfalls of the JDA, became a touchpoint for discussions within DOD and in Congress. The first substantive step to filling the capability gaps appeared with the establishment in April 1987 of the U.S. Transportation Command, whose efforts were pivotal to deploying and sustaining the joint force during Operations *Desert Shield* and *Desert Storm* and their spectacular tactical and operational successes.<sup>18</sup> That success would have been impossible without the force development work to address the problems in the DOD logistics enterprise first identified in exercises.

### A Demonstration Packaged as an “Experiment”: Millennium Challenge (2002)

The onetime U.S. Joint Forces Command (USJFCOM) was unique among CCMDs. Rather than focusing on employment of the force, it was responsible for preparing forces as a

joint trainer, providing tailored packages as a joint provider, and developing concepts and interoperability standards as a joint integrator so that other CCMDs could employ those capabilities worldwide. Those authorities also uniquely complemented USJFCOM’s role as the DOD executive agent for joint experimentation.<sup>19</sup>

The 1999 *Defense Planning Guidance* directed USJFCOM to develop a new joint operations concept, called rapid decisive operations (RDO), that would tie together effects-based operations and network-centric operations as part of DOD transformation efforts.<sup>20</sup> To vet the RDO concept, USJFCOM planned to integrate Service-level transformation experiments in a series of field experiments called Millennium Challenge, the first of which occurred in 2000.<sup>21</sup>

Two years later, Millennium Challenge 2002 (MC02) would be the largest joint military experiment ever

conducted. It involved 13,500 personnel from all Services; 8 live land, sea, and air ranges; and 17 simulation sites—and it integrated those live and virtual activities into a single exercise.<sup>22</sup> The integration of live activities required some training value for the tactical forces involved that resulted in limited availability of certain essential platforms.<sup>23</sup> That confluence of training and experimentation created artificialities in the experiment, which included an opposing force (OPFOR) that would be allowed to operate freely, within the constraints of the scenario.<sup>24</sup>

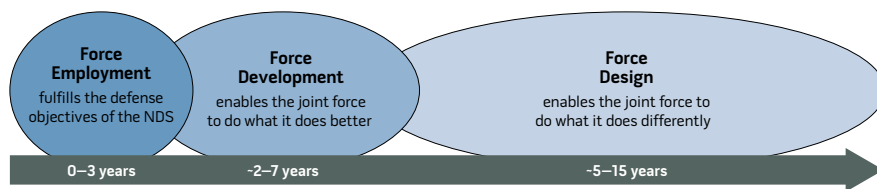
Unexpectedly, the OPFOR destroyed most of the blue force maritime surface combatants minutes after commencement of experiment play. The maritime component was resurrected with a change in the rules of engagement to prevent the OPFOR from initiating contact. Furthermore, the experiment had been designed so that the first 15 days of force flow were already complete. Doing so avoided real-world interference with the Defense Transportation System but eliminated any antiaccess/area-denial play that might have undermined the RDO concept.<sup>25</sup>

Rather than an experiment, MC02 was really a demonstration: highly scripted and orchestrated activities that minimize the likelihood that a solution will fail.<sup>26</sup> That admission is buried in the middle of the USJFCOM official report: “As the exercise progressed, the OPFOR free-play was eventually constrained to the point where the endstate was scripted. This scripting ensured a Blue operational victory and established conditions in the exercise for transition operations.”<sup>27</sup> The desire to retain some value for MC02’s live participants, who were conducting exercises for training, came at the expense of the experiment’s stated main objective to vet an unproven concept.

### Placing Exercises and Experimentation Within Global Integration

While global integration has entailed major changes to the joint force’s functions and processes to account for strategic challenges that outstrip the ability of a single CCMD to address,

**Figure 1. Continuum of Strategic Direction**



the nature of the underlying relationships between exercises and experiments (and especially their subcategories of wargames and field experiments) remains unchanged. The challenges in scheduling events among multiple CCMDs that span the entire continuum of strategic direction leave little room for wasted effort when developing exercises and experiments. It is possible for them to intersect, but it cannot be done haphazardly, as both will suffer.

### Global Integration for Today: Exercises for Force Employment

In force employment, the 2018 NMS introduces the notion of *joint combined arms*, defined as “the conduct of operational art through the integration of joint capabilities in all domains.” The basis of joint combined arms is premised on competitors and adversaries operating across multiple CCMD areas of responsibility and domains to offset or erode traditional joint force advantages.<sup>28</sup> Readiness to meet those challenges starts with the adaptations that have been made to the joint planning processes to address campaign and contingency planning requirements that span more than one CCMD.

For day-to-day activities, global campaign plans (GCPs) guide the development of combatant command campaign plans (CCPs), which are the instruments for implementing the direction in the GCPs. For contingency planning, global integration frameworks (GIFs, formerly known as globally integrated base plans) unify the direction of multiple war plans directed in the Contingency Planning Guidance and the Joint Strategic Campaign Plan. Both GCPs and GIFs provide a common view to requirements, resource allocation,

risk, and decisionmaking across multiple CCMDs.<sup>29</sup>

For decades, combatant commanders have conducted exercises to train their joint mission-essential task lists, exercise CCMD contingency plans, and maintain trained and ready forces. It is entirely possible for those exercises to address the transition from a CCP to a contingency plan, but given limited time for training, it is more likely that an exercise will focus on actually fighting the CCMD with its assigned and attached forces in combat operations.

Since 2018, the Joint Staff has conducted globally integrated exercises (GIEs) to assess readiness across the joint force for contingencies and validate operational plans and mature joint concepts. GIEs involve multiple CCMDs in operations against strategic challenges. Akin to the role that contingency plans play for combatant commanders, a GIF is the logical input into exercising execution across multiple CCMDs in a GIE.

### Global Integration for the Future: Experiments for Force Development and Force Design

The 2011 disestablishment of USJFCOM eliminated the DOD executive agent for joint experimentation, and the responsibility for joint experimentation that accreted back to the Joint Staff was in turn eliminated in 2013. A subsequent revision of Chairman of the Joint Chiefs of Staff Instruction 3010.02, *Guidance for Developing and Implementing Joint Concepts*, in 2016 removed almost all language related to *experimentation*, replacing that umbrella term with references to tabletop exercises and wargames.<sup>30</sup> Implementing global integration through force development and force design has led to

a resurgence of interest in experimentation; the 2018 NMS explicitly tasked the Joint Staff with reinvigorating experimentation to identify and refine emerging capabilities, concepts, doctrine, and lessons learned. The basis for that work is the force development and investment priorities in the NDS.

The first tangible step toward that revitalization occurred in 2019 with the Joint Staff's inaugural globally integrated wargame (GIWG), which was intended to establish baseline areas for exploration in future exercises, experiments, and analysis. Building on the 2019 *Capstone Concept for Joint Operations* and the GIWG, work is now under way on a joint warfighting concept that will provide a basis for further experimentation across multiple CCMDs.<sup>31</sup> In turn, experimentation results provide a deep look at new capabilities to be validated through the Joint Requirements Oversight Council for inclusion into the FYDP.

### **Some Propositions for Exercises and Experimentation in Global Integration**

Global integration offers an opportunity to unify exercises and experimentation in a way that will contribute to a unified view of readiness and future investments across all CCMDs and Services. Future work toward that end suggests a number of propositions to ensure that future exercises and experiments complement rather than impede one another.

*A Globally Integrated Base Plan and Its War Plans Must Be Reconciled Before a GIE.* A critical prerequisite for a GIE is a close relationship between its evaluated GIF and its complementary CCMD plans because execution of a GIF occurs through distributed execution by multiple CCMDs. In the absence of that close relationship, there is no basis to integrate CCMD exercises into a GIE. Additionally, a GIE and its complementary efforts at the CCMD level correspond to the same conceptual activity in the global campaign.

There are two dichotomies in exercise design that should be addressed for a GIE. The first is reconciling activities

between the Joint Staff and the CCMDs. The risk exists that CCMD-internal exercise requirements may not correspond to or even conflict with the GIE training objectives. If not resolved, neither the Joint Staff nor the CCMD will gain training benefit from the GIE.

The second dichotomy is in the relationship between a GIF and its CCMD plans. The distributed execution of a GIF through subordinate plans may result in different focuses of effort. Global integration generally focuses on strategic choices and decisionmaking at the national level, while CCMDs exercise the consequences of those national decisions and execution of their concepts of operations in a region or domain. The risk exists that many of the tasks to be exercised in a GIF may not correspond to the tasks in a contingency plan that a CCMD would exercise. If not reconciled, exercising global integration can become difficult, if not impossible.

*Concepts Must Reach Maturity Before Inclusion in an Exercise.* The complexity and scope of a CCMD exercise are already challenging. That complexity increases significantly for a GIE that integrates the activities of multiple CCMDs. That scope and the demands of coordinating exercises with senior leaders' schedules make GIEs necessarily uncommon. Consequently, the size and audience for a GIE may also lead to the temptation to exercise concepts that have not matured. In many cases, those concepts will not have been written into the execution of GIFs or CCMD plans and may have to be "shoehorned" into an existing plan. Doing so may confuse or misrepresent combat capability that actually detracts from the readiness that should come out of an exercise.

Maturing concepts require experimentation to vet them for capability development or further exploration. More likely than not, those transformational concepts, while benchmarked against the force development and investment priorities of the NDS, will be set against the strategic environment described in the joint operating environment and other futures documents. Another reason to distinguish exercises from experimentation is to ensure that

the concept reflects the assumed future strategic environment before it might be considered mature. Only after the concept matures should it be incorporated into an operational plan and subsequently assessed in an exercise.

*The Full Scope of Joint Experimentation Will Require a True Joint Force Trainer and Joint Force Provider.* The disestablishment of USJFCOM led to a substantial weakening of its former joint force trainer, provider, and integrator roles. The diminution of those roles saw little fanfare; the Services reoccupied the training space where joint priorities were trained only by consensus, while the Joint Staff assumed oversight of force management and interoperability work. After USJFCOM's disestablishment, the demand and functions for joint experimentation disappeared entirely. Command post exercises, workshops, or wargames are now focused at the CCMD level or conducted internal to the Joint Staff. While the Services have conducted some field experiments, there have been no joint field experiments since MC02.

There is one other implication to global integration from joint experimentation that actually stems from recent changes in global force management. The introduction of dynamic force employment in the 2018 NDS suggests an emergent need for a combined joint force trainer and provider given the competing demands among CCMDs in the security environment. Should DOD embark on joint field experimentation, such a relationship would empower the task organization and training of experimentation forces while minimizing disruption to their wartime readiness. Additionally, field experimentation provides a mechanism to directly balance the allocation of forces across employment, development, and design, rather than leaving that decision up to the mercy of internal Service priorities.

While exercises and experimentation have long been a part of joint force activities, the challenges of global integration across the continuum of strategic direction emphasize the need to maximize the

effectiveness of both. Ensuring that the two complement each other is a necessary first step, in spite of the temptation to combine some of their aspects. A joint force trainer and provider with authorities to train and source across the entire joint force would assist in balancing resources for experimentation for force development and force design with those allocated to force employment. Mixing exercises and experiments requires an informed perspective to opportunities and risks in order to preserve readiness for combat, while ensuring that the joint force can best prepare for the future security environment. JFQ

## Notes

<sup>1</sup> Consistent with its use in the 2018 Joint Strategic Planning System and the 2018 National Military Strategy, the term *joint force* collectively refers to the Joint Staff, military Services, unified combatant commands, and their assigned forces. While the joint force interacts with them, it does not include the Office of the Secretary of Defense, Defense and combat support agencies, or interagency partners. The out years are the 4 years following the 2 “years of execution” in the Future Years Defense Program.

<sup>2</sup> *Summary of the 2018 National Defense Strategy of the United States of America: Sharpening the American Military’s Competitive Edge* (Washington, DC: Department of Defense, 2018), 5.

<sup>3</sup> The term *force development* differs from the Chairman’s statutory function of joint force development in Title 10, U.S. Code, Section 153. See Chairman of the Joint Chiefs of Staff (CJCS), *Description of the 2018 National Military Strategy of the United States of America* (Washington, DC: Joint Chiefs of Staff, 2019), 1–3, available at <[https://www.jcs.mil/Portals/36/Documents/Publications/UNCLASS\\_2018\\_National\\_Military\\_Strategy\\_Description.pdf](https://www.jcs.mil/Portals/36/Documents/Publications/UNCLASS_2018_National_Military_Strategy_Description.pdf)>.

<sup>4</sup> The term *exercise* is defined in Joint Publication (JP) 3-0 as “a military maneuver or simulated wartime operation involving planning, preparation, and execution carried out for the purpose of training and evaluation.” JP 3-0, *Joint Operations* (Washington, DC: The Joint Staff, January 17, 2017, Incorporating Change 1, October 22, 2018), GL-9.

<sup>5</sup> Office of the Under Secretary of Defense for Research and Engineering, *Department of Defense Experimentation Guidebook* (Washington, DC: Department of Defense, 2019), 4–6.

<sup>6</sup> *Ibid.*, 9.

<sup>7</sup> *Ibid.*, 10–11.

<sup>8</sup> Thomas D. Morgan, “BCTP: Preparing for War,” *Military Review* 69, no. 11 (November 1989), 6–7.

<sup>9</sup> General Crosbie E. Saint, senior officer oral history program interview by Robert Wilson, General Crosbie E. Saint papers, vol. II (Carlisle, PA: Army Heritage and Education Center, 1994), 137–138; Lieutenant General Leonard D. Holder, USA (Ret.), interview by author, December 23, 2011.

<sup>10</sup> In an armored unit refuel on the move, subordinate elements may stop long enough to refuel and rearm, but the larger organization never stops moving. See Priscilla Offenhauer and David L. Osborne, *History of the U.S. Army Battle Command Training Program, 1986–2003* (Washington, DC: Headquarters Department of the Army and Library of Congress, Federal Research Division, 2007), 79–80.

<sup>11</sup> Colonel Richard Hart Sinnreich, USA (Ret.), interview by author, January 9, 2012, transcript in author’s possession. In 1986, Colonel Sinnreich was director of the School of Advanced Military Studies and was responsible for promulgating the AirLand Battle doctrine published in the 1986 edition of Field Manual 100-5, *Operations*. Holder replaced Sinnreich as director of the school in summer 1987.

<sup>12</sup> “Countdown to 75: US Army Europe and REFORGER,” *Army.mil*, March 22, 2017, available at <[https://www.army.mil/article/184698/countdown\\_to\\_75\\_us\\_army\\_europe\\_and\\_reforgers](https://www.army.mil/article/184698/countdown_to_75_us_army_europe_and_reforgers)>; William K. Brehm and Ernst Volgeneau, *Evaluation Plan: Exercise Nifty Nugget 78* (Washington, DC: Logistics Management Institute, October 23, 1978), 2–3, available at <<https://apps.dtic.mil/sti/pdfs/ADA061772.pdf>>.

<sup>13</sup> John G. O’Hara, “Strategic Mobility: We Have a Long Way to Go!” *Defense Transportation Journal* 37, no. 4 (1981), 27–30; Gail E. Yoshitani, “The Power of Simulation” (master’s thesis, Duke University, 2001), 1–5. Yoshitani’s master’s thesis remains the single best overview of the factors leading up to Nifty Nugget and the aftermath.

<sup>14</sup> James W. Canan, “Up from Nifty Nugget,” *Air Force Magazine* 66, no. 9 (1983), available at <<https://www.airforcemag.com/article/0983nifty/>>; Sam Nunn, “Nifty Nugget Mobilization Exercise,” *Congressional Record* 125, pt. 24, November 7, 1979, 31284.

<sup>15</sup> James K. Matthews and Cora J. Holt, *So Many, So Much, So Far, So Fast: United States Transportation Command and Strategic Deployment for Operation Desert Shield/Desert Storm* (Washington, DC: Research Center, United States Transportation Command and Joint History Office, 1996), 1–2; Andrew E. Gibson and William M. Calhoun, “Barely in Time: The Successful Struggle to Create the Transportation Command,” *Naval War College Review* 43, no. 4 (1990), 74.

<sup>16</sup> John J. Fialka, “The Pentagon’s Exercise ‘Proud Spirit’: Little Cause for Pride,” *Parameters* 11, no. 1 (1981), 39–41.

<sup>17</sup> Canan, “Up from Nifty Nugget.”

<sup>18</sup> Matthews and Holt, *So Many, So Much, So Far, So Fast*, 2, 237–241.

<sup>19</sup> Edward J. Drea et al., *History of the Unified Command Plan 1946–2012* (Washington, DC: Joint History Office, 2013), 77.

<sup>20</sup> J92 Concepts Division, *A Concept Framework for Rapid Decisive Operations, Version 0.5* (Norfolk, VA: U.S. Joint Forces Command, 1999), 4–5, 15.

<sup>21</sup> Office of the Command Historian, *Command History: September 2000 Through October 2002* (Norfolk, VA: U.S. Joint Forces Command, n.d.), 26.

<sup>22</sup> *Millennium Challenge 2002: Executive Report: Thinking Differently* (Norfolk, VA: U.S. Joint Forces Command, 2003), 4–5.

<sup>23</sup> “Gen. Kernan and Maj. Gen. Cash Discuss Millennium Challenge’s Lessons Learned,” *Global Security*, February 17, 2002, available at <<https://www.globalsecurity.org/military/library/news/2002/09/mil-020917-dod01b.htm>>.

<sup>24</sup> *U.S. Joint Forces Command Millennium Challenge 2002: Experiment Report* (Norfolk, VA: U.S. Joint Forces Command, n.d.), 48, available at <[https://www.esd.whs.mil/Portals/54/Documents/FOID/Reading%20Room/Joint\\_Staff/12-F-0344-Millennium-Challenge-2002-Experiment-Report.pdf](https://www.esd.whs.mil/Portals/54/Documents/FOID/Reading%20Room/Joint_Staff/12-F-0344-Millennium-Challenge-2002-Experiment-Report.pdf)>.

<sup>25</sup> Thom Shanker, “Iran Encounter Grimly Echoes ’02 War Game,” *New York Times*, January 12, 2008; *U.S. Joint Forces Command Millennium Challenge 2002*, F-10.

<sup>26</sup> Office of the Under Secretary of Defense for Research and Engineering, *Department of Defense Experimentation Guidebook*, 7–8.

<sup>27</sup> *U.S. Joint Forces Command Millennium Challenge 2002*, F-11.

<sup>28</sup> CJCS, *Description of the 2018 National Military Strategy*, 2.

<sup>29</sup> The term *global integration framework* replaced *globally integrated base plan* after a meeting of the joint force operations deputies in the Pentagon in September 2020. A more detailed discussion of global campaign plans and the former globally integrated base plans appears in CJCS Instruction 3141.01F, *Management and Review of Campaign and Contingency Plans* (Washington, DC: The Joint Staff, January 31, 2019), A-4–A-6.

<sup>30</sup> Robert G. Angevine, “Time to Revive Joint Concept Development and Experimentation,” *War on the Rocks*, January 23, 2020, available at <<https://warontherocks.com/2020/01/time-to-revive-joint-concept-development-and-experimentation>>.

<sup>31</sup> CJCS Instruction 3030.01, *Implementing Joint Force Development and Design* (Washington, DC: The Joint Staff, December 3, 2019); Angevine, “Time to Revive Joint Concept Development and Experimentation.”