Candidates for the Office of Strategic Services learn how to set up radio antenna. (Photo courtesy of the National Archives and Records Administration)

Crowdsourcing
Changing How Nations Resist

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Never let a good crisis go to waste.
—Sir Winston Churchill

The Office of Strategic Services (OSS) was created in response to President Franklin D. Roosevelt's concerns as World War II heated up.[1] Roosevelt's call for smart self-starters who could

think on their feet to deal with crises like defending Pearl Harbor, the launching of D-Day, or dropping the atomic bomb would support Winston Churchill's efforts, aiding oppressed and occupied nations to establish a unified effort to deal with the Axis powers.[2] To fill its ranks, "Wild Bill" Donovan, the director of the OSS, wanted "Glorious Amateurs," which he described as PhDs who could win a bar fight.[3] The OSS attracted talent from influential circles, Ivy League schools, and blue-collar experts, creating a team of globally interwoven networks that our Nation could tap into, which proved critical. We see similarities today in harnessing talent to form a common interest among nations to deter threats in phases of competition and crisis. Crowdsourcing resistance can strengthen the resilience and resistance of nations, influencing adversaries in the twenty-first century.

What Is Crowdsource Resistance?

Central to this new environment of how nations interact is the concept of "crowdsource resistance." Crowdsource resistance takes its cue from crowdsourcing funding through social media platforms where money is raised for a given cause.[4] In this case, it is the sourcing of resistance via social media platforms. These forms manifest in several ways, from posting information (videos, pictures, memes) on a Facebook page, Instagram feed, or Twitter to coordinating actions in the physical world to cause an effect. While the use of information platforms in this way in Ukraine might be new, there is a history of using emerging technologies to resist and effect change.

With the advent of the printing press, Martin Luther published his 95 Theses in October 1517, which unleashed criticisms that rejected the pope's authority and fractured Christianity. This single action eventually, though unintentionally, led to a world of modern capitalism, polarizing politics, and more.[5] More recently, in December 2010, Tunisian fruit and vegetable vendor Mohamed Bouazizi set himself on fire as an act of resistance to the autocratic regime of Zine El Abidine Ben Ali. Bouazizi's actions sparked the Arab Spring—as his self-immolation was captured and widely disseminated via social media in 2011.[6] As seen with Luther and Bouazizi, individuals used technology as a catalyst for resistance and ultimately, change.

Compellingly, groups are leveraging similar playbooks at scale today to change the behaviors of nations. Widespread dissemination of information via social media platforms has had powerful, unintended, and unforeseen impacts across the military, alliance, and private sectors. One year ago, it was impossible to imagine that longtime neutral nations Sweden and Finland would ever consider joining NATO, yet both are poised to enter.[7] Germany is now providing lethal aid to Ukraine, reversing its longstanding policy of providing such assistance.[8] Further, Switzerland is no longer neutral, announcing that it would join the European Union in imposing sanctions on Russia over its invasion of Ukraine.[9] Additional examples reside in

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the private sector, where significant efforts are growing organically in the resistance movement aimed at nations. The cyber activist group Anonymous launched a cyberwar against Russia via their Twitter account. It claimed responsibility for "disabling prominent Russian government, news and corporate websites, and leaking data" from prominent Russian entities.[10] Poland-based hackers, who call themselves Squad303, developed a website focused on countering Russia's propaganda campaign. They obtained some twenty million cell phone numbers and nearly 140 million email addresses owned by Russian individuals and companies, randomly generating numbers and email addresses from those databases to message targeted Russians with the option of using a predrafted message in Russian.[11] Lastly, when degraded Ukrainian commercial cell phone towers were rendered useless by Russia, Elon Musk's Starlink service provided internet connectivity using a swarm of satellites, making a difference in the war.[12]

Interestingly, common threads have emerged regarding how individuals and groups use crowdsourcing to resist. For instance, the established international norms shape interactions among nations, meaning nonstate actors such as Anonymous, Squad303, and Musk are neither beholden to the articles of the Geneva Conventions nor governing bureaucracies. Their actions, good or bad, elicit different responses for the opposing nation. The world's interconnectedness can facilitate the speed of delivery in terms of virtual and physical effects in given areas such as economics. Industries stopped supporting Russia; to name a few, Airbus halted delivery of airline parts, Ford suspended operations, JPMorgan wound down its operations, and Coca-Cola suspended business.[13] Technology shapes "the how" of resistance, aimed at degrading an opposing nation's internal critical systems or maintaining vital external support from other countries. A population's ability to act could be encouraged or discouraged based on seeing international support in the information domain. No matter how big the spark is, if meaningful physical support (funds, weapons, allies, units) does not follow, it could be short-lived. For the movement to survive, individuals or groups must believe that there is a realistic path to victory and that they are not alone.

Crowdsource lessons learned in Ukraine focused on narrative and technology. Narratives matter, and Ukraine's David versus Goliath story caused nations to change longstanding policies to aid them and compelled individuals to join their cause. A responder's challenge is to understand which narratives are false or real. Russia mastered the false Crimea narrative in 2014, using bots to push it, anticipating the world's response would be in their favor. However, Russia's playbook failed with Ukraine because Ukrainians learned how to pre-debunk Russian claims with counterclaims. Stories such as the "Ghost of Kyiv" and the martyrdom's stance at "Snake Island" resonated with people abroad—elements of truth were turned into powerful weapons.[14]

Technology can also be a force multiplier for or against a nation. Russia banned its soldiers from using smartphones because Ukrainians collected intelligence through its apps. However, when a Russian soldier took a Ukrainian citizen's earbuds, Ukraine elements were able to track them, showing the Russian soldier's location and his unit's movement.[15] Ukraine is in fact not exempt from data complications. Its cyber support comes from volunteers—talented youth—from the private sector, which mobilized a hundred-thousand-volunteer information technology (IT) army.[16] To Ukraine's credit, they protected essential websites. However, the IT army was not without controversy, like when they revealed Russian spies in Europe or attacked an electric charging station in Russia.[17] Lastly, Ukraine used facial recognition and artificial intelligence to identify dead Russian soldiers, which allowed it to counter the false narrative of how many people were dying.[18] Furthermore, it helped show that Russia violated its laws by having conscripts in the war. Either way, one could use narrative and technology positively or negatively in such an environment.

However, some implications can be dire for nations that open Pandora's box of crowdsourced resistance. For example, how would we respond if Anonymous launched a cyberwar against us instead of our adversaries? Or what if an adversary used artificial intelligence to search the dead, linking them to family members who could become targets? In addition, there could be unforeseen consequences when nations conduct their counterattacks, particularly with nuclear weapons that could impact the wrong person or nation because the attacker's actions were difficult to attribute to the right group. Regardless of such implications, practitioners and decision-makers need to consider the outcomes of inaction. Ukraine has demonstrated how valuable
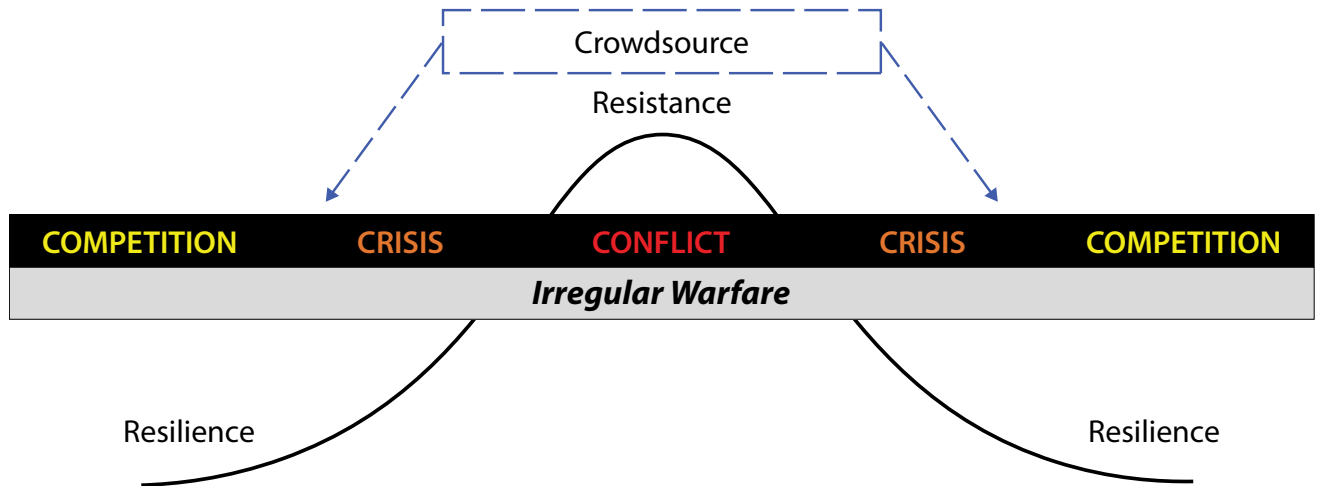
(Figure by Lt. Col. Sam Hayes, U.S. Army)

Figure 1. Bell Curve of Conflict: Resilience and Resistance across the Competition Continuum

crowdsourced resistance is in strengthening narrative and leveraging technology, changing the tide in a conflict. Next, we explore how to advance resistance.

How Could Crowdsourcing Enhance Resistance?

To harness crowdsourced resistance, we first must understand resistance. The 2020 Resistance Operating Concept (ROC) "encourages governments to foster pre-crisis resiliency through Total Defense (also known as Comprehensive Defense), a 'whole-of-government' and 'whole-of-society' approach, which include interoperability among its forces and those of its allies and partners."[19] The ROC is useful as it clearly articulates a "common operational understanding and lexicon for resistance planning and its potential execution in Total Defense, incorporated within National Defense Plans."[20]

The ROC defines two vital terms. *Resilience* is "the will and ability to withstand external pressure and influences and/or recover from the effects of those pressures or influences."[21] *Resistance* is "a nation's organized, whole-of-society effort, encompassing the full range of activities from nonviolent to violent, led by a legally established government (potentially exiled/displaced or shadow) to reestablish independence and autonomy within its sovereign territory that has been wholly or partially occupied by a foreign power."[22] The word "adversary" describes the aggressor state before the

conflict. In contrast, the term "enemy" is used after that "adversary becomes the foreign occupier and national resistance becomes necessary to restore national sovereignty."[23] Although ideas cover state-versus-state, there is room to explore nonstate-versus-state. In these terms is the notion of whole-of-society and the full range of activities that allows crowdsourcing to advance the practice of resistance. Exploring World War II, the critical events of Hong Kong's protest, and Ukraine's defense illustrates opportunities to enhance resistance efforts.

Resistance is at the apex of the conflict bell curve, bookended by resilience that can bolster a nation's will (see figure 1). Although there is a duality to resistance, we focus on enhancing resistance within the population against an opposing nation. Resistance typically occurs during the pre- and postconflict of the competition continuum through irregular warfare. During World War II, for example, resistance occurred among nations often through underground groups, newspapers, and radios, which limited their sphere of influence to receive aid or maximize effects.[24] Imagine how crowdsourcing could have helped the Allies, specifically as the war reached the apex of conflict; through the lens of the narrative and technology we could have seen more precise resistance opportunities. Particularly as the threshold of instability increases in each nation, windows of opportunity exist across the physical and cognitive domains that can aid with whole-of-society's will
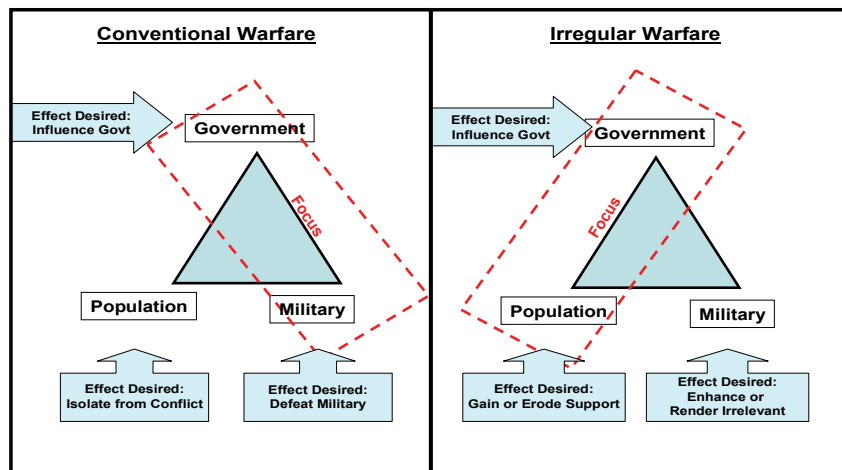
(Figure from *Irregular Warfare [IW] Joint Operating Concept*, Version 1.0, 11 September 2007)

Figure 2. Contrasting Conventional and Irregular Warfare

to resist. Such will is paramount to their ability to resist and resides with the population. Specifically, nations can use irregular warfare to influence populations and their relationship to the government more than they can conventional warfare, which is focused on the military, as seen in figure 2.[25] In World War II, organized groups resisted the occupying adversary by sabotaging communications, destroying critical infrastructure, and hiding Jews, illustrating how a small group can cause problems for an opposed government.[26]

In addition, we see an emerging relationship between resilience and resistance across the competition continuum depicted in figure 1. As resilience is increased within a nation, at some point when the nation's sovereignty is questioned, it transitions to resisting the opposing nation. This can happen quickly. In the spring of 1940, the transition happened in six weeks; as the world watched, France went from a resilient nation to a nation resisting a German occupying force.[27] Overlying crowdsource opportunities would typically take place during the competition and crisis phases of a conflict as illustrated with blue dash line in figure 1. In 1940, Britain received supplies from the United States to fight the war via the creation of the Lend-Lease.[28] Imagine if Britain could have crowdsourced supplies from other nations or had the technology to crowdsource the locations of Nazi concentration camps, how many lives could have been saved or war years reduced. Such opportunity focuses on building the nation's resilience, which transitions

to strengthening a nation's ability to resist amidst conflict against an opposing nation. Interestingly, in this context, crowdsourcing can increase the speed of strengthening resilience and resistance in today's complex environments.

In 2019, Hong Kong was in crisis and needed to increase its resilience. A massive wave of protests decried a Chinese-endorsed legislative proposal to allow extraditions to mainland China. The protests lasted for months including an estimated two million persons gathering, which was the largest in Hong Kong history.[29] The democratization, pace, and convergence of technology increased the ability of individuals to impact the environment. Data enhanced the protesters' ability to shape the narrative against the Chinese-supported Hong Kong government officials. The protestors adopted martial arts star Bruce Lee's mantra of "Be Water" narrative. They began flash protests, which favored fluid, quick, and diverse demonstrations throughout different parts of the city.[30] Protesters organized via the encrypted Telegram, Apple's Air Drop, or Hong Kong's Reddit-equivalent LIHKG, eventually transitioning to Pokémon Go and Tinder because of police repression.[31] Without technology, mobilization efforts would have been greatly reduced. The Chinese government also utilized technology to degrade protestors' mobilization efforts. In response to the protestors' use of Telegram during the most significant public gatherings, the messaging application received a distributed denial of service attack (DDoS) with origins from mainland China.[32] In addition to DDoS attacks, protesters were concerned that Hong Kong police could utilize facial recognition software to identify individuals for later prosecution. Protesters turned to masks, umbrellas, and the destruction of smart infrastructure as counterdata measures.[33] As Hong Kong protestors' resilience grew, their cause became more visible internationally and they eventually won locally, forcing the Chinese government to withdraw its legislative proposals.

In 2022, a resilient Ukraine found itself in a conflict that exposed Russia as an unprepared great power.

Ukraine's resistance is attributed to many things; however, the untold story involves the investment of nations during the phases of competition and crisis. Immediately following Russia's annexation of Crimea, the last eight postconflict years have been filled with militaries working together as teammates forging generational relationships, specifically with U.S. Army special operations forces (SOF). As partners across the global SOF community—twelve allied nations came together—they contributed to the Ukrainian national resilience, grew their SOF capability, and strengthened their civil-military cooperation and their ability to conduct crisis response. In 2021, Ukraine embraced NATO's "Total Defense" concept as described in the ROC, enacting it into law, which codified resistance into the Ukrainian national defense lexicon. While the Russian invasion preempted last minute investments in the Ukrainian forces and resistance infrastructure, the laws positioned Ukrainian SOF as the cadre for the whole-of-nation resistance. Moreover, Ukraine has received funding from many nations. After donating more than $7.3 billion, the U.S. Department of State partnered with GoFundMe, changing how nations fund wars.[34] Today, the U.S. pledge has totaled $40 billion while all other countries pledged a combined $25.3 billion.[35] The impact that partnered nations, militaries, and resources are making is a testament to the value of continued investments in Ukraine since 2014. Ultimately, these combined actions underscore that resistance cannot be developed quickly; it takes time and critical investment of irregular warfare forces designed to influence populations.

Resistance efforts across Hong Kong and Ukraine highlight technology's increasing role in crowdsourcing resistance. We are witnessing the birth of modern irregular warfare, demonstrating the challenges of operating across five domains of land, sea, air, space, and cyber within an information environment. The ability to shape the narrative and empower mobilization through technology could be the difference between withstanding external pressure or surrendering. Beyond what occurred with the nations involved in Hong Kong and Ukraine, the question becomes whether crowdsourcing could have helped their cause. Although no one has a crystal ball, suggestions follow based on current trends. Developing a narrative ecosystem is critical for messaging internally and externally to the nation and

for gaining resources to the point that crowdsourcing accelerates additional support for their cause. Creating ways to export data through atypical communications strategies is vital to the ability to resist; crowdsourcing could help with tech support to facilitate alternatives when communication is degraded. Investing with other nations buys down strategic risk and aids policy makers in tackling multiple issues with limited resources to which crowdsourcing could lower the risk by adding nonstate actors to the equation. Regardless of the level of effort given by nations, crowdsourcing expands the ability of the whole-of-society to contribute and expands the possibilities of how governments engage. To that end, resistance is less about occupying terrain or destroying the enemy; rather, the population is the battle ground, and the fight is for influence. Building resistance networks takes time, but early investment has a high return. Next, to illustrate this, we explore lessons learned from the recent past.

What Should We Learn?

There is an essential history lesson in warfare regarding resistance and resiliency that needs to be discussed: the importance of a "will to fight." Some view the will to fight—the disposition and decision to fight, act, or persevere—as the most crucial factor in war.[36] Historically, practitioners, students of war, and policy makers have tried to understand the ingredients of successes and failures. A 2018 RAND Corporation study highlighted two categories of will. First, military unit and organizational will to fight are added to the above definition—as needed. Second, "the national will to fight is the determination of a national government to conduct sustained military and other operations for an objective even when the expectation of success decreases or the need for significant political, economic, and military sacrifices increases."[37] This lesson is noteworthy as we understand our historical thoughts and look forward to capitalizing on success for our nations.

Reviewing assessments on the past wars illuminates the path to reflection. Evaluating will is difficult as seen in World War II, when the Germans thought they would destroy the Red Army during Operation Barbarossa but instead faced defeat.[38] In recent wars such as those in Iraq and Afghanistan, history repeats itself. In 2015, the U.S. secretary of defense stated, "Iraqi forces just showed no will to fight," meaning

they lacked the will to fight.[39] In 2021, the U.S. president remarked, "Afghan forces are not willing to fight for themselves."[40] In recent Senate testimony, top U.S. officials admitted that they underestimated the Ukrainians' will to fight—a mirror image of the misjudgment in Afghanistan.[41] As some highlight the lack of will for Iraq and Afghanistan, others think Ukraine—and likely Taiwan—will demonstrate more will to fight because they risk losing something they have already had rather than gaining something they never had. This is an extension of the "loss aversion" principle, which suggests that politically, one will tend to risk far more to keep the freedoms they already enjoy than to win new ones they never experienced.[42]

Interestingly, the United States is not the only one who miscalculated; Russia underestimated Ukraine's resolve.[43] Some argue that Ukraine's "will" received a boost after Crimea, its 9/11 moment, that forged a more significant national identity. With a better understanding of Ukraine's resolve, the United States is now leading a new coalition of "nations of goodwill" to support Ukraine and weaken Russia.[44] Outside the United States, more nations contribute their support, NATO has condemned Russia and stands with the people of Ukraine, and Kyiv has been granted European Union membership candidacy in a symbolic win amid war.[45] Such an evaluation of national will and who supports which nation is essential because these are the questions we should be asking as decision-makers pivot their attention toward Taiwan.

We should be asking whether Taiwan has the will to fight China and how we can help strengthen it. With a quick Google search, one can see the narrative war heating up: "China vows to 'fight to the end' to prevent Taiwan's independence"; "A fight over Taiwan could go Nuclear"; and "After Ukraine, more Taiwanese willing to fight for the island, survey finds."[46] Moreover, over 70 percent of Taiwanese are willing to fight for their island.[47] Such titles and insights highlight the beginnings of narrative positioning similar to the David versus Goliath narrative emerging in favor of Ukraine. However, in this case, it is too early to tell which narrative is winning.

To aid with answering the question of supporting Taiwan, we offer the following thoughts. One could use a three-pronged approach—the first is focused internally on resilience, the second is focused externally on

(Figure by Staff Sgt. Brandon Thomas)

Figure 3. Building Taiwan's Internal Resilience through Narrative and Technology

support, and the third is focused on deterrence transregionally through irregular warfare. These prongs merge narrative and technology considerations synchronized and coordinated in time and space, especially in the information realm, amplified with crowdsourced resistance that could change China's national calculus for Taiwan.

In prong one, we could focus on building internal resilience through narrative enabled by technology, as seen in figure 3. The population of Taiwan has real challenges. The country is divided between the older generation having ties to mainland China and the younger generation identifying as Taiwanese. Therefore, building resilience could prove to be complex. Unlike Ukraine, Taiwan does not have its 9/11 moment. However, a potential answer lies in building a bridge between the generations, pointing them toward Taiwan's future. Voices of the Taiwanese are heard through civic participation, which they amplify through a "digital ecosystem" that advances democratic principles for digital democracy.[48] As for technology, they could create the infrastructure for cyber volunteers to defend, similar to Ukraine's IT army.[49] Additionally, Taiwan needs to retool its civic platforms for resilience that would enable a groundswell of support internally and provide a window of external support to meet its goals and objectives.

Our second prong focuses on external support as illustrated in figure 4 (on page 8). As seen with

(Figure by Staff Sgt. Brandon Thomas)

Figure 4. Implementing Successful Nations' Playbooks to Increase Taiwan's External Support

Ukraine, its narrative was powerful enough to gain support from beyond its borders. Taiwan needs a cross-cultural narrative that can resonate internationally with a mature narrative ecosystem to leverage outside actors on its behalf in the event of Chinese aggression. As Ukraine did with Russia, Taiwan could leverage China's dark history against itself. Taiwan should leverage current systems to crowdsource laws that enable national resistance and partnership with the global SOF community, as well as create platforms to gain economic support. Taiwan should seek to emulate the Hong Kong protestors for creatively utilizing simple applications and devices for tech-enabled mobilization, and Ukraine for using government apps for identifying adversary actions and activities. Taiwan should seek to turn every citizen into a crowdsourced sensor to enable a whole-of-society resistance. Such efforts can provide the depth and shared resiliency that will support Taiwan's legitimate claims internationally.

As prong three serves to synchronize, we aim for deterrence —transregionally through building irregular warfare capacity to aid with imposing costs shared among nations, as visualized in figure 5. As seen with Ukraine's resiliency, a deliberate investment made among nations proved vital and, especially across multiple domains, expanded the SOF team's influence. Interestingly, our Nation's success started by acting as

a critical part of the team, bolstering the global SOF community's ability to influence common adversaries through multiple dilemmas transregionally. Such actions can extend the community beyond SOF, aligning with vital partnerships focused on local to global challenges and solutions in this crowdsource space in locations such as Africa, South America, Europe, or mainland China. Furthermore, such actions can allow for exploring new concepts (SOF-Space-Cyber Influence Triad) across nations to aid with deterrence, allowing Taiwan decision space.[50] Taiwan should continue to strengthen ties militarily with Japan, Australia, and other partners within NATO who have strategic interests in the Pacific. As nations peer over the horizon, asking how to prevent adversaries from implementing Russia's playbook, the answer could be as simple as crowdsourcing resistance. Taking advantage of the benefits of crowdsource resistance, we could accelerate accomplishing national objectives and buying down strategic risk, which were some of the considerations of national leaders during World War II.

Consequently, nations have the power to layer these three prongs as they see fit. Whether they are sequential or simultaneous, the end state is the same—to deter China in changing its calculus toward Taiwan. Specifically, as we considered some of our lessons, the following rose to the top: the power of the narrative; investing in SOF early; building the allied team exponentially to expand our influence; and that technology

(Figure by Staff Sgt. Brandon Thomas)

Figure 5. Pursing Integrated Deterrence against China through Transregional Irregular Warfare

expedites the speed and shapes "the how" of crowd-source resistance. However, nations must determine whether investments are needed because, as some have stated, time is not on our side. Taiwanese Ministry of Defense officials speculate that the Chinese might attempt some action against Taiwan during the window between 2025 and 2027.[51] Although no nation has a crystal ball to predict the future, one thing is certain—school is in session. Nations are studying what is happening between Russia and Ukraine and how that translates to China and Taiwan. Regardless of one's position on China and Taiwan, nations want to put their best foot forward when such action occurs. We must first determine if this is a good investment and then act before we find ourselves watching a crisis between Taiwan and China.

Conclusion

A nation's ability to resist often requires a call to action. Captured in Churchill's quote, "God bless you all, this is your victory!" the crowd roared back, "No—it is yours!"[52] This anecdote highlights the whole-of-nation sentiment summarized as a team of teams. During the time of Winston Churchill and Franklin D. Roosevelt, both stared in the face of such a challenge, and Britain and the United States responded in their unique ways. Churchill's words at the beginning of the article inspire us to look for a silver lining during a crisis and to seek opportunities where they might not have been before, which have been provided to us by Ukraine and Russia.

Crowdsourced resistance offers a way for us all to contribute from our respective foxholes. Whether it is critically challenging the status quo, anticipating future requirements, implementing required changes, or imagining systems and processes that should exist to help our "league of nations" influence adversaries, this is a noble cause, and today's generation is attracted to such causes. Just as "Wild Bill" Donovan wanted "Glorious Amateurs," for the OSS, let's give this generation a cause that attracts talent to contribute to Team Resistance Taiwan. ■

Notes

Epigraph. Although unconfirmed, this quote is commonly attributed to Winston Churchill. For example, see John Mutter, "Opportunity from Crisis: Who Really Benefits from Post-Disaster Rebuilding Efforts," *Foreign Affairs* (website), 18 April 2016, accessed 24 October 2022, https://www.foreignaffairs.com/world/opportunity-crisis.

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