



## **Reconsidering Offensive Mine Warfare**

Historical Perspectives from World War I, World War II, and the Vietnam War

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**Abstract:** This article examines the grand strategic influences on British and U.S. offensive mine warfare operations during World War I, World War II, and the Vietnam War. Current U.S. arguments in favor of employing offensive mine warfare in a future conflict with China ignore the political and economic complications that have historically challenged government decision makers. By examining British discussions concerning the North Sea, Norwegian territorial waters, and the Rhine River in Central Europe and U.S. discussions concerning Haiphong Harbor in North Vietnam, the article provides historical context to the current debate and identifies strategic challenges for strategists and policymakers to consider. Offensive mine warfare can be

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employed successfully under the right circumstances. Strategists and policymakers should anticipate likely complications and remember that battlefield choices can influence the grand strategic conduct of war.

**Keywords:** blockade, mine warfare, neutrality, neutral rights, territorial waters, World War I, World War II, Vietnam War

## **Introduction**

Writers in the United States have given naval mines renewed attention during the past decade. Searching for fresh options to counter China in the Taiwan Strait and South China Sea, some authors argue that mines are not only effective but also unprovocative or even de-escalatory.<sup>1</sup> Mark Howard writes that “mines do not promote the vertical escalation of hostilities and are inherently a weapon of deterrence. . . . It is the enemy who must be the aggressor; the one who deliberately chooses to sail into the mined area and therefore shares responsibility for the outcome.”<sup>2</sup> Michael W. Pietrucha suggests that mines “might offer an option for incremental escalation short of direct counterattack” against an enemy force.<sup>3</sup> Matthew Cancian likewise argues that “minelaying’s greatest advantage is that it does not cause immediate harm but threatens harm if the other side does not yield.”<sup>4</sup> In purely defensive scenarios such as the near-shore defense of Taiwan, these arguments are reasonable, but much of the current debate is about offensive mine warfare. Howard refers to transit denial and manipulation of an enemy fleet into a position where it can be more effectively engaged; Pietrucha mentions using mines to isolate an enemy garrison on an occupied island in the South China Sea; and Cancian proposes an offensive yet “limited

minelaying action against China to provide a crisis-response option more forceful than diplomacy but less risky than kinetic operations.”<sup>5</sup> Scott C. Truver noted in 2012 that offensive mining was “particularly attractive” to analysts studying the AirSea Battle concept introduced by the U.S. Department of Defense’s 2010 *Quadrennial Defense Review Report*, focusing on “areas close to hostile territory, near the approaches to ports and naval bases, and in choke points.”<sup>6</sup>

Given the emphasis on offensive mine warfare, it is surprising that writers ignore the political and grand strategic implications of this type of warfare. Cancian explains that his own argument focuses on “the military feasibility rather than the political wisdom of minelaying,” but other advocates either make assumptions about the simplicity of mine warfare or ignore the potential strategic problems.<sup>7</sup> The larger political, diplomatic, and economic aspects associated with offensive mine warfare deserve attention. Without them, strategists and policymakers risk wandering into their own metaphorical minefields.

This article provides grand strategic context to the current debate from a historical perspective by examining three periods of conflict involving offensive mine warfare: British mining in the North Sea and near Norwegian territorial waters during World War I (1914–18), the United Kingdom’s return to Norwegian waters and consideration of the Rhine River in Central Europe during World War II (1939–45), and the U.S. mining of Haiphong and other North Vietnamese ports during the Vietnam War (1955–75). In these examples, three different governments had to manage the tension between the advantages of offensive minelaying and wider strategic interests in each conflict. British and U.S. historical experiences indicate that plans for

offensive mine warfare in a future conflict will have to address neutral rights and economic disruption, the potential for conflict escalation, and the need to integrate mine warfare with political and economic measures. Offensive mine warfare has a potential role in future maritime conflicts, but strategists and policymakers should consider the political, diplomatic, and economic complications that are likely to temper military proposals to deny an adversary the use of key waters.

### **Neutral Rights, Blockade, and the Emergence of the Norwegian Problem: August 1914 and December 1916–September 1918**

The United Kingdom's plans to use minefields to enforce its naval blockade against Germany during World War I quickly touched on grand strategic considerations affecting the larger Allied war effort. Objections from neutral states limited the Royal Navy's ability to restrict imports traveling to the European continent, forcing the British government to search for alternative ways to wage economic warfare. Moreover, German exploitation of Norwegian territorial waters forced the United Kingdom to confront the possibility of military, economic, and political repercussions if the Royal Navy violated Norwegian neutrality to deny military and economic advantages to Germany. Debates within the British government throughout the war reveal a constant tension between the military expedient of sea denial through offensive mine warfare and the risk to British interests posed by crossing neutral states.

In August 1914, the British government grappled with the challenge of conducting effective economic warfare against Germany in the face of objections from neutral states seeking to continue legal maritime trade with

continental Europe. "The main difficulty," said Prime Minister Herbert H. Asquith, "arises from the fact that [Germany's] principal base of supply is the port of Rotterdam in neutral territory."<sup>8</sup> The United States and other neutral governments had complained earlier that month about the United Kingdom's confiscation of cargo bound for the Netherlands that could then have proceeded into Germany, prompting the United Kingdom to purchase the confiscated goods to assuage neutral frustration.<sup>9</sup>

To tighten the imperfect blockade, which initially relied only on interception and diversion of merchant vessels to British ports, and restrict the volume of foodstuffs reaching Germany, the Admiralty was preparing to sow minefields off Rotterdam to dissuade neutral ships from risking entry.<sup>10</sup> The British government informed the United States of its intentions on 11 August 1914 and claimed it as reprisal for Germany's own indiscriminate use of mines in the North Sea. The United States' response was unexpectedly sharp.<sup>11</sup> U.S. secretary of state William Jennings Bryan framed his objection in terms of neutral rights and told the British chargé d'affaires in Washington, DC, Colville Barclay, that German endangerment of neutral shipping did not justify the British plan to endanger it further.<sup>12</sup> Unwilling to antagonize the United States, Prime Minister Asquith's cabinet shelved the idea and relegated mining to "a last resort."<sup>13</sup>

Unable to find a naval solution for the Rotterdam problem, the British then considered diplomatic, economic, and legal options, to include an offer to provide British coal to the Netherlands in exchange for Dutch restrictions on the amount of food shipped to Germany; a proposal to purchase as many neutral merchant ships as possible to increase direct British control over commerce in the North Sea; and the search for legal justification that would

permit classifying foodstuffs as war contraband so that they could be more easily confiscated by the Royal Navy.<sup>14</sup> The cabinet was able to approve the use of mines later in the year, but only after silence from the United States on the increasing depredations of German mines and submarines.<sup>15</sup> In effect, the United States had declined to argue again for neutral rights, clearing the way for strengthened British measures.

However, closing the seas was not solely a naval matter. The United Kingdom needed to manage the political sensitivity of its blockade in a way that ensured its effectiveness while providing reasonable neutral accommodations, which required a coordinated government solution. The Admiralty declared a war zone in the North Sea on 2 November 1914 and used minefields and surface patrols to funnel merchant shipping through designated safe passage routes with the help of British pilots.<sup>16</sup> A government bureaucratic regime was developed under the aptly named Ministry of Blockade to facilitate the diversion of ships to British ports, where cargoes could be inspected, contraband seized, and compensation issued to neutral owners.<sup>17</sup> The blockade relied heavily on nonmilitary elements to manage the complex problem of neutral rights. As historian Isabel Hull explains, “Britain’s success was the product of many factors. The blockade was run by civilian experts in diplomacy, who worked with their counterparts in commerce and trade” in addition to the Royal Navy.<sup>18</sup>

As the war continued, a new issue emerged. Norway’s territorial waters provided neutral blockade runners and German commerce raiders with a legally protected route in and out of the North Sea. In December 1916, Royal Navy admiral David Beatty, commander in chief of the British Grand Fleet, advised the Board of the Admiralty that the Royal Navy “should exercise

control over Norwegian territorial waters, visiting and searching vessels, and preventing the practice whereby enemy vessels and neutral vessels carrying contraband have hitherto been permitted to pass up and down freely and without fear of molestation.”<sup>19</sup> Although the board conceded that Norway appeared to be “too weak or timid” to secure its own waters against German exploitation, it concluded that the damage to relations with neutrals nations, including the United States, that a violation of Norwegian neutrality was sure to cause was “a matter for grave consideration” and referred the problem to the cabinet.<sup>20</sup> The cabinet noted the risk of losing the nation’s supply of raw materials from both Norway and Sweden and the potential closure of the northern lines of communication with Russia if British action provoked the Scandinavian neutrals and decided in January 1917 that these larger strategic interests were too important to risk.<sup>21</sup>

By the summer of 1918, however, First Sea Lord admiral Rosslyn E. Wemyss had reached the conclusion that “the time has arrived when the subject of the neutrality of Norwegian waters should be reconsidered.”<sup>22</sup> The United States was by then an ally of the United Kingdom in the war, and since March the U.S. Navy had been cooperating with the Royal Navy in laying a mine barrage across the northern reaches of the North Sea between the Orkney Islands and the outer limit of Norwegian territorial waters. In July, Wemyss offered “ocular proof” from Royal Navy patrols that German submarines were exploiting Norwegian waters to slip around the barrage and reinforced the view of the British naval attaché in Norway, Captain Montagu W. Consett, from earlier that year that “Germany gets all the advantages from so called Scandinavian neutrality and we suffer from almost all the

disadvantages."<sup>23</sup> Wemyss proposed inviting the Norwegians to mine their own waters; if that failed, the Allies should do it for them.<sup>24</sup>

Despite the advantages of closing the barrage, there were complications to consider. Some Royal Navy officers argued that resorting to what would likely be an armed confrontation with a comparatively weak neutral nation could result in unnecessary casualties on both sides and end up being worse than Germany's breaches of international law.<sup>25</sup> Additionally, an Allied violation of Norwegian neutrality might provide Germany with an excuse to attack vulnerable merchant vessels bound for the United Kingdom in Norwegian territorial waters before they met their escorts for the trip across the North Sea.<sup>26</sup> The British cabinet also wanted U.S. approval for the plan and agreement to participate in the minelaying if the Norwegians refused.<sup>27</sup> A united Allied front would place additional pressure on the Norwegian government to mine its own waters, and the participation of a great power that had formerly been an outspoken advocate for neutral rights would also provide needed political cover.

But the United States was only willing to support the diplomatic request that Norway mine its own waters, and even then U.S. diplomats were instructed to operate separately from British and French efforts to force Norway into a decision.<sup>28</sup> First Lord of the Admiralty Eric Geddes informed the cabinet on 29 August that "the United States government do[es] not sympathize with any action calculated to infringe the Sovereignty of Norwegian Territorial Waters."<sup>29</sup> Fortunately, this rift in the alliance remained concealed from outside view. The British had transmitted their observations of German submarine operations to the Norwegians along with a request for closure of their territorial waters a few days before. After receiving no reply



from Germany when queried about the identity of the submarines spotted near the Norwegian coast, Norway agreed to mine its own waters on 30 September, just weeks before the end of the war.<sup>30</sup>

A major challenge for the British blockade throughout the war was navigating the inherent competition between belligerent and neutral rights while maintaining the utmost pressure on Germany's ability to sustain the war. In the opening months of the war, the United States, then the largest neutral nation, joined smaller states in protesting British plans that would have endangered neutral ships, crews, and cargoes. In the latter months of the war, a militarily sensible proposal to close an obvious gap in the blockade risked economic relationships with Norway and Sweden, the extension of German attacks into Norwegian waters, and—as sometimes happens in coalition warfare—a potential rift with the United Kingdom's ally, the United States.

### **The Return of the Norwegian Problem and a Plan for the Rhine River: September 1939–April 1940**

When World War II erupted in Europe in September 1939, the United Kingdom again had to reconcile Norwegian neutrality with the military advantages of denying Germany access to Norwegian territorial waters. British War Cabinet debates in late 1939 and early 1940 reveal the importance of grand strategic considerations, including the United Kingdom's relations with both large and small neutral states and the potential cost to its war economy as counterweights to a simple proposal to restrict the freedom of German naval and maritime traffic. They also reveal the political challenges facing the coordination of a joint Anglo-French plan to mine the Rhine River to bring the

war to German territory. The challenge for British prime minister Neville Chamberlain's government during this period was determining if the reward for such endeavors was greater than the overall risk to British interests while managing the desires of the French government and the danger of German and neutral reactions.

Norwegian territorial waters presented the United Kingdom with three problems. First, Germany recalled its merchant fleet in early September 1939 with instructions to evade British patrols between the Shetland Islands and Norway and to seek cover in Norwegian territorial waters while proceeding toward the Baltic Sea, initiating a slow stream of blockade runners steaming for German ports that could not be intercepted by the Royal Navy without violating Norwegian neutrality.<sup>31</sup> Second, the United Kingdom saw indications that German commerce raiders and submarines were using Norwegian waters as a refuge from which to strike at targets on the high seas. According to an unsigned statement provided to the British Foreign Office's legal counsel for comment in February 1940, Germany was "claiming the right for her warships to utilize long stretches of neutral waters as a protected means of access to or from the areas in which they carry out their depredations," which was beyond the legally accepted practice of innocent passage.<sup>32</sup> Third, the northern Norwegian port of Narvik sustained German industry with an important stream of Swedish iron ore. While ice blocked Swedish ports in the Baltic Sea during the winter, German merchant ships picked up ore at Narvik and transported it to Germany through Norwegian waters.<sup>33</sup>

First Lord of the Admiralty Winston Churchill advocated closing the Narvik route with a minefield in Norwegian territorial waters, which he argued was a German "communication trench."<sup>34</sup> Others were concerned about

larger strategic consequences. The Earl of Halifax (Edward Frederick Lindley Wood), the British secretary of state for foreign affairs, noted that a violation of Norwegian neutrality could damage diplomatic efforts to maintain productive relationships with the United States and Italy, both of which were neutral in early 1940, in addition to the smaller neutral nations of Northern Europe. Norway, Sweden, and the Baltic states were trading with both the United Kingdom and Germany, and a brash move against Norway risked cutting off British imports and scuttling a recently concluded agreement with Sweden to decrease the volume of iron ore shipments sent to Germany from ports on Sweden's Baltic coast.<sup>35</sup> The Anglo-French Allied Military Committee also cautioned that disruption of the Narvik ore shipments could provoke German military action against the Scandinavian neutrals, and the chief of the Imperial General Staff, British Army general Sir William Edmund Ironside, advised against aggravating Norway and Sweden because their consent was needed for a plan to reinforce Finland in the Winter War against the Soviet Union by landing an Allied force at Narvik and marching it across northern Sweden.<sup>36</sup>

Chamberlain absorbed all the arguments against Churchill's proposal. Although he believed that the United Kingdom would be justified in closing Norwegian waters, he expressed concerns about potential German reprisals against British imports from the Baltic states, the loss of the United Kingdom's iron ore supply from Narvik, the effect on public opinion in the United States, the risk to the shipping agreement that was being negotiated for British use of Norway's extensive tanker fleet, and the implications for the Finland expedition.<sup>37</sup> At the end of February 1940, Chamberlain placed Churchill's plan on hold but indicated that circumstances might change in the future.<sup>38</sup>

In March, the situation shifted in Churchill's favor. Finland agreed to Soviet terms to end the Winter War on March 12, removing one obstacle to more assertive action.<sup>39</sup> Then, the newly elected prime minister of France, Paul Reynaud, lobbied his British allies for stronger action against Germany to revive the enervated war effort before the Soviets could redirect their attention elsewhere in Europe.<sup>40</sup> The French government recommended seizing direct control of Norwegian territorial waters, which would require Allied occupation of Norwegian ports, and interdicting Soviet petroleum shipments on the Black and Caspian Seas that could fuel the war schemes of both Germany and the Soviet Union.<sup>41</sup> Chamberlain rejected both ideas as impractical, but, according to the cabinet minutes recorded on 27 March, he recognized the "psychological factor" in the "appetite of the public for spectacular operations."<sup>42</sup>

The British countered the French suggestions with new plans to mine Norwegian territorial waters and extensive portions of the Rhine River in Germany between Koblenz and Bingen and south of Karlsruhe.<sup>43</sup> Chamberlain placed greater emphasis on the latter plan, known as the "Royal Marine Operation," because it met his preference for action that was "directed against Germany" and "did no injury to innocent parties."<sup>44</sup> The effects would be contained within German and French waters thanks to mines that would deactivate prior to drifting to the Dutch border and would limit Germany's ability to move materiel internally.<sup>45</sup>

It was now the French government's turn to consider repercussions. Fearing German attacks on French factories in retaliation for closing the Rhine, Reynaud asked for a three-month postponement to allow for relocation of critical war industries.<sup>46</sup> The French request put Chamberlain in

a difficult position. The Royal Marine Operation had made the plan for a Norwegian minefield more palatable by promising to overshadow the violation of Norwegian neutrality in world opinion when the two operations were executed simultaneously.<sup>47</sup> He was convinced that some action had to be taken against Germany, but without French agreement on an immediate attack on the Rhine, he still had to reconcile potential neutral reactions with the advantages to be gained. By 5 April, the advantages appeared to outweigh the risks, and the War Cabinet approved the Royal Navy's Operation Wilfred for the mining of Norwegian waters while the Rhine operation was on hold.<sup>48</sup>

A consistent British concern since the beginning of the Narvik debate was the possibility of German retaliation against Norway if Britain disrupted the iron ore shipments. In case Germany tried to seize Norwegian territory and maintain the coastal shipping route by force, the British developed an extensive contingency plan within Operation Wilfred to preemptively capture four Norwegian ports if they detected German mobilization.<sup>49</sup> Germany invaded Norway on 8 April 1940, the same day that the Royal Navy began dropping mines off the Norwegian coast. In the ensuing confusion, British leaders misjudged the indications and warnings and failed to enact the contingency plan.

Despite their failure to seize the initiative ahead of the Germans, the British had judged the German mindset correctly. Although the German invasion plan was already in motion on 3 April, before the final British decision was made to close Norway's territorial waters, the German rationale was based on a fear of losing the advantage afforded by Norwegian neutrality. In December 1939, Admiral Erich Raeder, commander in chief of the *Kriegsmarine* (German Navy), informed *Führer* Adolf Hitler that British control

over Norwegian neutrality and the route through Norwegian waters “could be decisive for the outcome of the war” by closing German access to the Atlantic Ocean and the North Sea, placing pressure on Sweden to favor the Allies, and extending Allied reach into the Baltic Sea.<sup>50</sup> In February 1940, Raeder explained that “the best thing for maintaining” the ore shipments from Narvik was “the maintenance of Norwegian neutrality.”<sup>51</sup> If that was not possible, he argued, the next best circumstance would be occupation of Norway, even if it meant the temporary loss of the Narvik trade and the opening of an extended naval front along the Norwegian coast.<sup>52</sup> Finally, on 26 March, Raeder predicted that the United Kingdom would try to restrict German commerce through Norwegian waters and that “sooner or later Germany will be faced with the necessity” of occupying Norway.<sup>53</sup> Hitler agreed and approved the invasion for the next new moon in early April.<sup>54</sup>

British, French, and German leaders struggled with how to exercise control over strategic waters during the period from September 1939 to April 1940, and their debates provide important lessons about the political and strategic complexities of sea denial. For the British, the question was whether the immediate advantage of denying a key route to Germany was worth the potential risk to larger strategic interests. Violating Norwegian neutrality by mining territorial waters risked political relationships with large and small neutrals that could have affected other diplomatic, military, and economic efforts. Even when the United Kingdom had settled on a politically safer option to mine the Rhine River, France interjected concerns about exposure to German reprisals in another example of the complications accompanying coalition warfare. Finally, from the German perspective, the danger of losing access to vital raw materials and an outlet into the wider Atlantic Ocean was

severe enough to risk a significant escalation in the war and the potential exposure of the smaller *Kriegsmarine* to Allied attack.

### **Leaving Vietnam and the Risk to Cold War Superpower Relations: April–October 1972**

The political risks of offensive mine warfare emerged again during the high-stakes period of superpower rivalry between the United States and the Soviet Union near the end of U.S. involvement in the Vietnam War. Although there were military reasons for closing North Vietnamese ports and restricting imports of Soviet supplies to North Vietnam, concerns raised by officials in the U.S. Department of Defense (DOD), the Central Intelligence Agency (CIA), and the administration of President Richard M. Nixon ranged from potential Soviet and Chinese military responses, the diversion of air support from battles in South Vietnam, the risk to neutral shipping, the effect on U.S. domestic opinion, and the risk to U.S.-Soviet strategic arms control initiatives.

The mining of North Vietnamese rivers and inland waterways to slow the movement of Communist war supplies was part of Operation Rolling Thunder (March 1965–November 1968), but the notoriously resilient North Vietnamese supply lines adapted to new routes with no significant impact on the war. Senior U.S. military officers including U.S. Navy admiral U. S. Grant Sharp Jr., commander in chief of the U.S. Pacific Fleet, and U.S. Army general Earle G. Wheeler, chairman of the Joint Chiefs of Staff, lobbied President Lydon B. Johnson's administration to expand the mining campaign to Haiphong and other North Vietnamese ports to block the arrival of Soviet ships. Johnson rejected the idea in part because of the risk of provoking Soviet

or Chinese intervention, and Nixon, his successor, continued this policy until the strategic circumstances changed.<sup>55</sup>

By 1972, deteriorating relations between China and the Soviet Union and improving U.S. relations with both Communist states during a period of détente coincided with the Nixon administration's decision to resume air attacks against North Vietnam under Operation Linebacker I (May–September 1972) to counter North Vietnam's Easter Offensive against South Vietnam. Nixon was then trying to extricate the United States from the Vietnam War by reducing the number of U.S. combat forces committed to the conflict and turning the war over to the South Vietnamese government. Negotiations to end U.S. involvement had been ongoing since 1968 but had failed to produce an agreement. Sticking points included the United States' demand for the simultaneous withdrawal of U.S. and North Vietnamese forces from South Vietnam and North Vietnam's requirement that South Vietnamese president Nguyễn Văn Thiệu be deposed before agreeing to a ceasefire.<sup>56</sup> The United States could not topple Thiệu's government and then leave South Vietnam to its fate.<sup>57</sup> If U.S. forces were to withdraw completely, they had to do so under conditions that would afford South Vietnam's armed forces a chance to defend the country.<sup>58</sup> If North Vietnam was eventually victorious, the defeat of South Vietnam would be separated from the U.S. withdrawal by a period of time, disassociating the loss from U.S. policy decisions.<sup>59</sup> Nixon was also convinced that a sudden collapse of South Vietnam would undermine broader U.S. foreign policy objectives by damaging American credibility.<sup>60</sup> When North Vietnam launched the Easter Offensive in early 1972, Nixon and his national security advisor, Henry A. Kissinger, realized that it presented an opportunity to set the conditions for



the U.S. withdrawal and leave the South Vietnamese government on stronger footing by inflicting a psychological blow against the North Vietnamese and disrupting their supply stockpiles and distribution networks.<sup>61</sup>

There were clearly important issues at stake and a compelling military reason to close North Vietnamese ports, but the idea had long been taboo. In 1967, the CIA assessed that the Soviet Union and China could respond to a U.S. decision to mine the ports or expand the scope of air interdiction targets with a range of options, including mining portions of the South China Sea, the Gulf of Tonkin, and the regional maritime routes to South Vietnam to “harass our naval forces and increase our ship requirements.”<sup>62</sup> Regarding China specifically, the CIA cautioned that although Chinese military capabilities were somewhat limited, “even the appearance of an intent to exercise a capability may be sufficient to create a diversion requiring the deployment of more men and materiel from the [United States].”<sup>63</sup> Expansion of the war was undesirable and politically unsustainable. When Nixon had considered a bombing campaign that included mining North Vietnamese ports to break a previous diplomatic impasse in 1969, domestic polling and the scheduled approach of large antiwar protests in the United States dissuaded him and pushed him toward an attempt at covert signaling to the Soviet Union through an elevation in the U.S. nuclear posture.<sup>64</sup>

With the Easter Offensive underway in April 1972, consensus on mining Haiphong still eluded the Nixon administration, and the president opted to proceed at first with attacks only on ground targets.<sup>65</sup> U.S. secretary of defense Melvin R. Laird Jr. and U.S. Army general Creighton W. Abrams Jr., commander of U.S. Military Assistance Command, Vietnam (USMACV), wanted U.S. attack aircraft to concentrate on repelling the invading forces in

South Vietnam and judged that Linebacker I could not have a decisive effect as long as the Soviets and Chinese remained committed to supplying their North Vietnamese clients.<sup>66</sup> The DOD and CIA agreed that mining would not solve the immediate tactical problem of stopping the southward advance of the North Vietnamese, and U.S. undersecretary of state for political affairs U. Alexis Johnson pointed out that neutral ships would be endangered, likely resulting in international anger.<sup>67</sup> U.S. director of central intelligence Richard M. Helms stated that ground-based supply lines would compensate for the loss of Haiphong, and White House chief of staff Harry R. Haldeman pointed out that the mining could hurt Nixon in that year's presidential election.<sup>68</sup> Some advisors also feared that the recently improved relationship with China would be damaged.<sup>69</sup> A few days after Nixon ordered the mining of Haiphong in May, Laird expressed his concern to Kissinger that the Soviets would attempt to send ships with humanitarian aid into Haiphong under naval escort, thereby forcing a confrontation with the U.S. Navy, a thought that had likely occurred to DOD staff at the Pentagon before the mines entered the water.<sup>70</sup>

The biggest concern, however, was that the Soviet Union would cancel a major diplomatic summit in Moscow scheduled for late May that was part of the Strategic Arms Limitation Talks (SALT) and a major policy priority for Nixon. Kissinger believed that the Soviets would have to respond to the mining somehow and judged cancellation of the summit to be most likely because it "would look dramatic."<sup>71</sup> He warned Nixon in the days before the mining operation that "there is a limit where things will get dicey. . . . If we turn the screw too far and [the Soviets] decide that all is lost they will jump

us. [General Secretary of the Communist Party of the Soviet Union Leonid] Brezhnev is no softie.”<sup>72</sup>

By 8 May, Nixon was convinced that he needed to use stronger measures in Vietnam despite the pending SALT summit and approved the start of Linebacker I, including the mining of Haiphong. Attack aircraft from the aircraft carrier USS *Coral Sea* (CVA 43) dropped the first mines in Haiphong Harbor on 9 May. Alone, this single day’s effort is significant because it is one of the few examples of contested aerial minelaying under advanced threat conditions. Three U.S. cruisers provided air defense and shot down one of three North Vietnamese fighters that attempted to intercept the U.S. aircraft. Four U.S. destroyers attacked enemy antiaircraft positions, and aircraft from USS *Kitty Hawk* (CVA 63) struck other targets to draw enemy attention.<sup>73</sup> The United States mined other North Vietnamese ports in the following days and periodically reseeded them through October.

Once Nixon made the decision to mine Haiphong, the political sensitivity remained. The president carefully timed a televised announcement of the air campaign with the near-real time notification from *Coral Sea* that the Haiphong strike was complete. He included a message for Soviet leaders. With deliberate emphasis on larger Cold War stakes and hope for continued dialogue, he said:

I particularly direct my comments tonight to the Soviet Union. We respect the Soviet Union as a great power. We recognize the right of the Soviet Union to defend its interests when they are threatened. The Soviet Union in turn must recognize our right to defend our interests. No Soviet soldiers are threatened in Vietnam. Sixty thousand Americans are threatened. We expect

you to help your allies, and you cannot expect us to do other than to continue to help our allies. But let us, and let all great powers, help our allies only for the purpose of their defense, not for the purpose of launching invasions against their neighbors. Otherwise, the cause of peace, the cause in which we both have so great a stake, will be seriously jeopardized. Our two nations have made significant progress in our negotiations in recent months. We are near major agreements on nuclear arms limitation, on trade, on a host of other issues. Let us not slide back toward the dark shadows of a previous age.<sup>74</sup>

The Moscow summit went ahead as planned. Kissinger later said that the Nixon administration had “underestimated how badly [the Soviets] want the summit,” but Brezhnev was closer to canceling the meeting than the Americans realized, and it was only saved by coincidental events in West Germany that were unrelated to Vietnam.<sup>75</sup> Brezhnev took time to consider how to respond, first calling a small meeting with a close circle of advisors on the morning of 10 May and then expanding the discussion to the Soviet Politburo in the afternoon, considering the hardline positions communicated by regional Communist party officials who favored canceling the summit and punishing Nixon politically before the 1972 U.S. presidential election.<sup>76</sup> The debate within the Soviet government culminated on 19 May, when the issue was brought before a meeting of the Central Committee of the Communist Party of the Soviet Union because Brezhnev, as he explained to advisor Georgy Arbatov, did “not want to take all the blame” for the decision.<sup>77</sup>

According to Arbatov, Central Committee members were swayed to proceed with the summit because they did not want to risk reversing a recent diplomatic victory involving West Germany.<sup>78</sup> The Soviets had made the implementation of a four-power agreement between themselves, the United Kingdom, France, and the United States regarding the status of Berlin and other East German affairs contingent on West German ratification of two friendship treaties with Poland and the Soviet Union.<sup>79</sup> The treaties were narrowly ratified by West Germany after a long delay while the Central Committee was debating the summit question. "If things had gone the other way in Bonn," said Arbatov, "Brezhnev and the Central Committee would have decided to cancel the summit."<sup>80</sup> The summit resulted in the Anti-Ballistic Missile Treaty and the Interim Agreement between the United States of America and the Union of Soviet Socialist Republics on Certain Measures with Respect to the Limitation of Strategic Offensive Arms, but those breakthroughs had been temporarily jeopardized by the U.S. decision on North Vietnam.<sup>81</sup>

For all the commotion surrounding the U.S. decision to mine Haiphong, it may have had negligible impact on the North Vietnamese decision to return to negotiations with the United States. North Vietnamese leaders made strategic decisions based on long-term interests and were not as susceptible to pressure as some in the Nixon administration assumed. The incentive for reaching an agreement on U.S. withdrawal was the need to remove the U.S. military from the battlefield so that North Vietnamese forces could defeat South Vietnam's army, which North Vietnamese officials were confident they could do once South Vietnam was isolated. North Vietnamese leaders recognized that the U.S. air campaign was designed to influence the peace

negotiations and would likely intensify as South Vietnamese forces suffered setbacks, but they concluded that the risk was acceptable.<sup>82</sup> They also realized that the larger interests of the Soviet Union and China now lay in sustaining their improved relations with the United States.<sup>83</sup> Détente between the United States and the two Communist powers was not going away, but the United States would eventually leave South Vietnam. The sooner U.S. forces left, the sooner the final North Vietnamese offensive could begin.

In hindsight, the Nixon administration came close to losing the Moscow summit without gaining much strategic advantage in Vietnam. The conclusion of SALT I, Nixon's victory over U.S. senator George S. McGovern (D-SD) in the 1972 presidential election, and the eventual conclusion of a peace agreement between the United States and North Vietnam enabling the withdrawal of U.S. forces from Vietnam overshadowed the internal debates about mining Haiphong and leave a persistent impression that Nixon succeeded in battering the North Vietnamese into submission while escaping any retribution from the Soviet Union. Any of those successes could have turned out differently, including the high-priority Moscow summit that hinged on a vote in West Germany.

### **Conclusion and Implications for the Modern Era**

The United Kingdom's experiences in World Wars I and II and the United States' experience in Vietnam reveal the complex relationships between offensive mine warfare and grand strategic interests beyond the immediate theaters of conflict. The United Kingdom had to navigate the neutral rights of both large and small nations in addition to disagreements with its allies despite the clear advantages that it could gain by mining the North Sea, the

Rhine River, and Norwegian territorial waters. Germany, acting on assessments of British intent, opted to invade Norway in 1940 when faced with loss of access to the Atlantic Ocean. During the Vietnam War, the risk of Cold War escalation prevented minelaying until changes in U.S. foreign relations with the Soviet Union and China coincided with North Vietnam's Easter Offensive. Even then, the political stakes were great enough to jeopardize important arms control discussions with the Soviet Union.

These conclusions do not mean that the United States should not employ offensive mine warfare under the right circumstances. Rather, strategists and policymakers should work to identify and anticipate potential complications and remember that battlefield choices can influence the grand strategic conduct of war, especially when those choices affect neutral or otherwise nonbelligerent states.

In the modern debate about mine warfare in the western Pacific, planners should consider three subjects. First, neutral rights and disruption of the large volume of East Asian maritime commerce will be factors in a future conflict. At a press conference on 19 June 2023, U.S. secretary of state Antony J. Blinken noted that "about 50% of the global commercial container traffic . . . goes through the Taiwan Strait every day," and "about 70% of high-end semiconductors . . . are produced on Taiwan. If either of those things were taken offline as a result of a crisis, it would have devastating consequences for the global economy."<sup>84</sup> In addition, the China Power Project at the Center for Strategic and International Studies estimates that one-third of world maritime commerce transits through the South China Sea and identifies 10 Chinese ports as among "the world's most connected" to "global maritime shipping networks."<sup>85</sup> Offensive minelaying in East Asian waters—

even under the auspices of preparatory or preventative measures—will affect global commerce and freedom of navigation, which will quickly draw the attention of neutrals and international economic interests. Even without direct obstruction of ports or shipping routes, maritime insurance rates will rise as they did in 2008, when increasingly frequent acts of piracy threatened shipping lanes through the Gulf of Aden.<sup>86</sup> Strategists should also remember that multiple states have competing claims to geographic features in the East and South China Seas. The belligerent status, interests, and vulnerabilities of each state will influence the situation and could limit the circumstances in which politically sensitive weapons such as mines can be employed.

Second, escalation is a danger if China perceives a threat to its economic interests or naval freedom of action, and the risk of miscalculation is greater given China's use of paramilitary and civilian vessels employed in nontraditional roles that complicate their identification as legitimate military targets. According to the Center for Naval Analyses, Chinese naval planners have identified military roles including minelaying, minesweeping, intelligence collection, search and rescue, and helicopter support as missions for civilian vessels such as freighters, tankers, and fishing ships.<sup>87</sup> In addition, a 2021 report from the U.S. Office of the Secretary of Defense notes that China's maritime militia consisting of mobilized civilian vessels and mariners has "played a major role in coercive activities to achieve [China's] political goals below the threshold of armed conflict, part of broader [Chinese] military theory that sees confrontational operations short of war as an effective means of accomplishing political objectives."<sup>88</sup> Even with improvements in target discrimination capabilities, U.S. forces could miss opportunities to engage civilian-type vessels that are acting as belligerents or could mistakenly



engage civilian vessels after incorrectly assessing that they are legitimate military targets. The task of identifying legitimate targets in such an environment may be difficult enough without the added political risk that could accompany an offensive mining campaign.

Third, the United States should integrate any use of force, mines or otherwise, with political and economic power. British attempts to balance naval measures with diplomatic efforts and economic incentives to enact effective blockades in both world wars are examples of the interplay between different forms of power at the grand strategic level of war. The British experience is a reminder of the effort and coordination required to navigate neutral concerns while exerting effective pressure on an adversary.

The historical challenges associated with offensive mine warfare deserve attention. Neutral rights, political risk, economic impacts, escalation, and the unique strategic circumstances of each conflict will emerge again in the future. Mines—along with other weapons of sea denial—exist and operate in a complex strategic environment, and the historical record provides a starting point for understanding where they fit and how they could influence a future war. If planners determine that offensive mine warfare can provide military advantages, then strategists and policymakers should prepare early to manage the likely complications.

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<sup>1</sup> Matthew Cancian, "An Offensive Minelaying Campaign against China," *Naval War College Review* 75, no. 1 (Winter 2022): 65–66.

<sup>2</sup> Mark Howard, "Expeditionary Advanced Base Operations and Mine Warfare in Littoral Control," Center for International Maritime Security, 11 June 2020.

<sup>3</sup> Col Michael W. Pietrucha, USAFR, "Twenty-First-Century Aerial Mining," *Air & Space Power Journal* (March–April 2015): 145.

<sup>4</sup> Cancian, "An Offensive Minelaying Campaign against China," 66.

<sup>5</sup> Howard, "Expeditionary Advanced Base Operations and Mine Warfare in Littoral Control"; Pietrucha, "Twenty-First-Century Aerial Mining," 145; and Cancian, "An Offensive Minelaying Campaign against China," 65.

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- <sup>6</sup> Scott C. Truver, "Taking Mines Seriously: Mine Warfare in China's Near Seas," *Naval War College Review* 65, no. 2 (Spring 2012): 58. See also *Quadrennial Defense Review Report* (Washington, DC: Department of Defense, 2010).
- <sup>7</sup> Cancian, "An Offensive Minelaying Campaign," 70.
- <sup>8</sup> Nicholas A. Lambert, *Planning Armageddon: British Economic Warfare and the First World War* (Cambridge, MA: Harvard University Press, 2012), 221.
- <sup>9</sup> Lambert, *Planning Armageddon*, 214.
- <sup>10</sup> Lambert, *Planning Armageddon*, 220–21.
- <sup>11</sup> "The British Chargé d'Affaires (Barclay) to the Secretary of State, 11 August 1914," in *Papers Relating to the Foreign Relations of the United States, 1914*, sup., *The World War*, ed. Joseph V. Fuller and Tyler Dennett (Washington, DC: Office of the Historian, Department of State, 1928).
- <sup>12</sup> "The Secretary of State to the British Chargé d'Affaires (Barclay), 13 August 1914," in *Papers Relating to the Foreign Relations of the United States, 1914*, sup., *The World War*.
- <sup>13</sup> Isabel V. Hull, *A Scrap of Paper: Breaking and Making International Law during the Great War* (Ithaca, NY: Cornell University Press, 2014), 157.
- <sup>14</sup> Lambert, *Planning Armageddon*, 221–22, 225–26.
- <sup>15</sup> Hull, *A Scrap of Paper*, 157.
- <sup>16</sup> Hull, *A Scrap of Paper*, 184.
- <sup>17</sup> Hew Strachan, *The First World War* (New York: Penguin, 2005), 217; and Hull, *A Scrap of Paper*, 178, 180.
- <sup>18</sup> Hull, *A Scrap of Paper*, 178.
- <sup>19</sup> The National Archives of the United Kingdom (hereafter TNA): CAB 23/1, "War Cabinet 23," 30 December 1916, 5.
- <sup>20</sup> TNA: CAB 23/1, "War Cabinet 23," 6.
- <sup>21</sup> TNA: CAB 23/1, "War Cabinet 23," 3–4; and TNA: CAB 23/1, "War Cabinet 47," 29 January 1917, 4.
- <sup>22</sup> TNA: CAB 24/59/80, Adm Rosslyn E. Wemyss, RN, "Infringement by the Enemy of the Territorial Waters of Norway."
- <sup>23</sup> TNA: CAB 24/59/80; and TNA: FO 371/3438, Capt Montagu W. W. P. Consett, RN, "Norway. N. A. Report 1/18," 14 January 1918, 6.
- <sup>24</sup> TNA: CAB 24/59/80.
- <sup>25</sup> Henry Newbolt, *Naval Operations*, vol. 5, *History of the Great War based on Official Documents* (London: Longmans, Green, 1931), 349.
- <sup>26</sup> Paul G. Halpern, *A Naval History of World War I* (Annapolis, MD: Naval Institute Press, 1994), 439–40.
- <sup>27</sup> TNA: CAB 23/7, "War Cabinet 462," 21 August 1918, 4.
- <sup>28</sup> TNA: CAB 24/62/48, Eric Geddes, "Infringement by the Enemy of the Territorial Waters of Norway," 29 August 1918, 2.
- <sup>29</sup> TNA: CAB 24/62/48.
- <sup>30</sup> "Memorandum of the Third Assistant Secretary of State (Long), 30 September 1918," in *Papers Relating to the Foreign Relations of the United States, 1918*, sup. 1, *The World War*, vol. II, ed. Joseph V. Fuller and Tyler Dennett (Washington, DC: Office of the Historian, Department of State, 1933).
- <sup>31</sup> *War Diary of German Naval Staff (Operations Division)*, pt. A, vol. 1, *15 August to 30 September 1939* (Washington, DC: Office of Naval Intelligence, 1948), 30. The British minister for economic warfare informed the war cabinet that "at least 18 inward-bound ships evaded the Northern patrols" in January 1940 by entering "along the northern part of the Norwegian Expeditions with MCUP

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coast" and transiting through territorial waters. See TNA: CAB 65/5, "War Cabinet 50 (40)," 23 February 1940, 401.

<sup>32</sup> This statement appears as an attachment to a memorandum written by William Malkin, the British Foreign Office legal advisor. See TNA: FO 1093/156, William Malkin, "The Legal Aspect of the Proposal to Lay a Minefield in Norwegian Territorial Waters," 21 February 1940.

<sup>33</sup> Corelli Barnett, *Engage the Enemy More Closely: The Royal Navy in the Second World War* (New York: W. W. Norton, 1991), 97.

<sup>34</sup> TNA: CAB 65/5, "War Cabinet 55 (40)," 29 February 1940, 439.

<sup>35</sup> TNA: CAB 65/5, "War Cabinet 50 (40)," 398.

<sup>36</sup> TNA: FO 1093/156, "Possible German Action in the Spring of 1940," 22 January 1940, 6; and Graham Rhys-Jones, "Churchill and the Norwegian Campaign," *RUSI Journal* 155, no. 4 (2010): 77, <https://doi.org/10.1080/03071847.2010.514108>.

<sup>37</sup> TNA: CAB 65/5, "War Cabinet 50 (40)," 401; and TNA: CAB 65/5, "War Cabinet 55 (40)," 437-38.

<sup>38</sup> TNA: CAB 65/5, "War Cabinet 55 (40)," 437.

<sup>39</sup> Rhys-Jones, "Churchill and the Norwegian Campaign," 77.

<sup>40</sup> Rhys-Jones, "Churchill and the Norwegian Campaign," 78; and TNA: CAB 66/6, "French Government's Views on the Future Conduct of the War," 26 March 1940, 1-2.

<sup>41</sup> TNA: CAB 66/6, "French Government's Views on the Future Conduct of the War," 3.

<sup>42</sup> TNA: CAB 65/6, "War Cabinet 76 (40)," 27 March 1940, 169.

<sup>43</sup> TNA: CAB 66/6, Winston Churchill, "Royal Marine Operation," 4 March 1940, 1.

<sup>44</sup> TNA: CAB 65/6, "War Cabinet 76 (40)," 169.

<sup>45</sup> TNA: CAB 66/6, Churchill, "Royal Marine Operation," 1-2.

<sup>46</sup> TNA: CAB 65/6, "War Cabinet 78 (40)," 1 April 1940, 194.

<sup>47</sup> TNA: CAB 65/6, "War Cabinet 82 (40)," 5 April 1940, 231.

<sup>48</sup> TNA: CAB 65/6, "War Cabinet 82 (40)," 232.

<sup>49</sup> Capt S. W. Roskill, RN, *The War at Sea 1939-1945*, vol. 1, *The Defensive* (London: Her Majesty's Stationery Office, 1954), 156-57.

<sup>50</sup> "Report of the Commander in Chief, Navy to the Fuehrer on 12 December 1939 at 1200," in *Fuehrer Conferences on Matters Dealing with the German Navy: 1939* (Washington, DC: Office of Naval Intelligence, 1947), 54.

<sup>51</sup> "Report of the Commander in Chief, Navy to the Fuehrer on 23 February 1940 at 1030," in *Fuehrer Conferences on Matters Dealing with the German Navy: 1940*, vol. 1 (Washington, DC: Office of Naval Intelligence, 1947), 14.

<sup>52</sup> "Report of the Commander in Chief, Navy to the Fuehrer on 23 February 1940 at 1030," 14.

<sup>53</sup> "Report of the Commander in Chief, Navy to the Fuehrer in the Afternoon of 26 March 1940," in *Fuehrer Conferences on Matters Dealing with the German Navy: 1940*, vol. 1, 22.

<sup>54</sup> "Report of the Commander in Chief, Navy to the Fuehrer in the Afternoon of 26 March 1940," 23.

<sup>55</sup> "Memorandum from the Joint Chiefs of Staff to Secretary of Defense McNamara, January 8, 1966," in *Foreign Relations of the United States, 1964-1968*, vol. 4, *Vietnam, 1966*, ed. David C. Humphrey and David S. Patterson (Washington, DC: Office of the Historian, Department of State, 1998); and John Darrell Sherwood, *Nixon's Trident: Naval Power in Southeast Asia, 1968-1972*, U.S. Navy and the Vietnam War Series (Washington, DC: Naval History and Heritage Command, 2009), 45-46.

<sup>56</sup> Ang Cheng Guan, *Ending the Vietnam War: The Vietnamese Communists' Perspective* (London: Routledge, 2003), 87; Tad Szulc, "How Kissinger Did It: Behind the Vietnam Cease-Fire Expeditions with MCUP

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Agreement," *Foreign Policy* 15 (Summer 1974): 23, <https://doi.org/10.2307/1147928>; and Frank A. Burdick, "The Christmas Bombing of North Vietnam: The Limitations of Force," *Journal of Political & Military Sociology* 12, no. 2 (Fall 1984): 215–16.

<sup>57</sup> Geoffrey Warner, "Review: Leaving Vietnam: Nixon, Kissinger and Ford, 1969–1975: Part One: January 1969–January 1972," *International Affairs* 87, no. 6 (November 2011): 1504, <https://doi.org/10.1111/j.1468-2346.2011.01047.x>; and Burdick, "The Christmas Bombing of North Vietnam," 216–18.

<sup>58</sup> Warner, "Review: Leaving Vietnam," 1488, 1501.

<sup>59</sup> Jeffrey P. Kimball, "Richard Nixon and the Vietnam War: The Paradox of Disengagement with Escalation," in *The Columbia History of the Vietnam War*, ed. David Anderson (New York: Columbia University Press, 2010), 237.

<sup>60</sup> David F. Schmitz, *Richard Nixon and the Vietnam War: The End of the American Century* (New York: Rowman & Littlefield, 2014), 138.

<sup>61</sup> Kimball, "Richard Nixon and the Vietnam War," 232.

<sup>62</sup> Richard Collins, "Memorandum for the Director: Subject: Soviet and Chicom Military Actions," Central Intelligence Agency, Office of National Estimates, 3 May 1967, 3.

<sup>63</sup> Collins, "Memorandum for the Director," 7.

<sup>64</sup> Kimball, "Richard Nixon and the Vietnam War," 225–26.

<sup>65</sup> Jeffrey Kimball, *Nixon's Vietnam War* (Lawrence, KS: University Press of Kansas, 1998), 305.

<sup>66</sup> Kimball, *Nixon's Vietnam War*, 303.

<sup>67</sup> Walter Isaacson, *Kissinger: A Biography* (New York: Simon & Schuster, 1992), 419–20.

<sup>68</sup> Henry Kissinger, *Ending the Vietnam War: A History of America's Involvement in and Extermination from the Vietnam War* (New York: Simon & Schuster, 2003), 275; and Stephen E. Ambrose, "Bombing Hanoi, Mining Haiphong, and the Moscow Summit," in *Light at the End of the Tunnel: A Vietnam War Anthology*, ed. Andrew Rotter (Lanham, MD: Rowman & Littlefield, 2010), 126–37.

<sup>69</sup> Gary L. Geipel, *The Nixon Administration and Vietnam: A Case Study in Negotiation and War Termination* (Washington, DC: School of Foreign Service Institute for the Study of Diplomacy, Georgetown University, 1988), 26.

<sup>70</sup> Henry A. Kissinger, "Concerns about Press Assertions on Mining of Haiphong Harbor and Soviet Humanitarian Aid to North Vietnam," memorandum of telephone conversation, 14 May 1972.

<sup>71</sup> Henry A. Kissinger, "U.S.-Soviet Summit Meeting; Vietnam War," memorandum of telephone conversation, 14 May 1972.

<sup>72</sup> Henry A. Kissinger, "Henry Kissinger's Last Meeting with Leonid Brezhnev," cable, 24 April 1972.

<sup>73</sup> Sherwood, *Nixon's Trident*, 48–49.

<sup>74</sup> "Editorial Note," in *Foreign Relations of the United States, 1969–1976*, vol. 14, *Soviet Union, October 1971–May 1972*, ed. David C. Geyer et al. (Washington, DC: Office of the Historian, Department of State, 2006).

<sup>75</sup> Richard M. Nixon and Henry A. Kissinger, teleconference transcript, 14 May 1972.

<sup>76</sup> Isaacson, *Kissinger*, 422.

<sup>77</sup> Isaacson, *Kissinger*, 422.

<sup>78</sup> Isaacson, *Kissinger*, 423.

<sup>79</sup> "West Germany's Treaties with Soviet and Poland Win Bundestag Approval," *New York Times*, 18 May 1972.

<sup>80</sup> Isaacson, *Kissinger*, 423.

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<sup>81</sup> Lawrence Freedman and Jeffrey Michaels, *The Evolution of Nuclear Strategy*, 4th ed. (London: Palgrave Macmillan, 2019), 435.

<sup>82</sup> Guan, *Ending the Vietnam War*, 96–97.

<sup>83</sup> Guan, *Ending the Vietnam War*, 101.

<sup>84</sup> Ally Schweitzer, “‘Profound Differences’ Remain between U.S. and China, Secretary Blinken Tells NPR,” NPR, 19 June 2023.

<sup>85</sup> “How Much Trade Transits the South China Sea?,” ChinaPower, last modified 25 January 2021; and “How Is China Influencing Global Maritime Connectivity?,” ChinaPower, last modified 12 May 2021.

<sup>86</sup> “Fact Box: The Dangerous Gulf of Aden,” Reuters, 3 November 2008.

<sup>87</sup> Brian Waidelich et al., *Chinese Views of Civilian Ship Mobilization* (Arlington, VA: Center for Naval Analysis, 2021).

<sup>88</sup> *Military and Security Developments Involving the People’s Republic of China: Annual Report to Congress* (Washington, DC: Office of the Secretary of Defense, 2021), 76.