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GERMAN NAVIES FROM 1848 TO 2016

Their Development and Courses from Confrontation to Cooperation

Werner Rahn

Military history deals with the evolution and structure of armed forces and their position in state and society. In this sense, *naval history* is taken to mean that part of military history that concentrates its studies on the navy. However, when dealing with fields of research, one sphere provides the greatest challenge for military and naval historians: warfare in the widest sense.¹

In his book *The Face of Battle*, British historian John Keegan points out that many historians are shy about exploring the profundities and realities of war.² Generally speaking, we can expect naval or other military historians to have a certain affinity for the subject of their research. They should have a basic knowledge about the military, in the same way that we expect an economic historian to have a sound basic knowledge of economic theory. But Keegan is justified in demanding that the military historian spend as much time as possible among military personnel, “because the quite chance observation of trivial incidents may illuminate his . . . understanding of all sorts of problems from the past which will otherwise almost certainly remain obscured.”³ Like any historian, the naval historian bears a great responsibility in his striving after historical truth, if he wants to be taken seriously. The uncritical patriotic history that used to glorify naval actions should be a thing of the past.

Today, some historians tend to judge personalities, events, and structures according to today’s moral categories. They end up “putting the past on trial, and since the critical historian, armed with his generation’s self-confidence or with his progressive concept of the future, knows everything better, in this trial he will be prosecutor, judge, and legislator all in one.”⁴

In 1957, the German navy began to develop a new approach to studying its own history. That year, the first fleet commander in chief, Rear Admiral Rolf Johannesson (1900–89), organized the Historical-Tactical Conference. Since then it has been held every year, and is now a standard element of the naval officer's historical education. Johannesson's aim was to distance his service from subjective naval history about World War I.⁵ He hoped that a critical discussion of the past would teach his officers truth, loyalty, and moral courage, and that they would determine their own position more solidly by recourse to history and the federal constitution. Through 2016, fifty-six conferences have been held, covering a wide variety of subjects.⁶ Papers usually are presented by junior officers from the fleet, assisted by naval historians. The presentation of the papers and the candid discussion of subjects relevant to the business of the day usually provide testimony to the intellectual talents among the navy's officer corps. Many an admiral-to-be made a mark when as a lieutenant he presented some critical theory about history—provoking the older generation's opposition.

It is a perennial challenge to historians even to come close to historical truth. The commercial success of popular publications, as well as the large number of visitors attracted to museums, indicates how many people have historical interests. Such continuing interest is a stimulating challenge for professional historians. We should continue to try to present our findings about background information and structures from the past in such a way that the message gets across—meaning that historical knowledge and historical sensitivity become factors serving to help stabilize a liberal society.

THE BIRTH OF A GERMAN NAVY

The first German *navy* worthy to bear such designation was established in 1848, when a conflict over the duchy of Schleswig resulted in a war with Denmark.⁷ At that time, Germany could do nothing against the Danes' efficient blockade; ocean trade came to a standstill. This dilemma resulted in a rather emotional movement that advocated building up a fleet. The issue soon captivated the members of the national assembly that had convened at Frankfurt's Saint Paul's Cathedral only a short time before. On June 14, 1848, by an overwhelming majority, the first German parliament voted a large appropriation to build a fleet.⁸

Prince Adalbert of Prussia (1811–73), who had concerned himself with maritime problems rather early, played an important part in those first maritime plans. In May 1848, he published a memorandum on the buildup of a German fleet that became, so to speak, the Magna Carta of the German navy. By analyzing the maritime-strategic situation of Prussia and Germany and having taken into consideration already the imminent technical revolution, it formed the first theoretical basis for a German naval concept. The memorandum included three

models on which Germany might establish a navy: (1) providing mere coastal defense; (2) defending sea lines of communication (SLOCs); or (3) building up an independent sea power. Prince Adalbert, however, clearly emphasized that even steps leading toward the buildup of an independent sea power would involve many risks, and that once this option had been chosen there could be no stopping halfway.⁹

During the preparations for the buildup of a fleet, it soon became clear that almost all requirements—in personnel, matériel, and organization—could not be met. It was, therefore, only natural to ask for foreign assistance. Arnold Duckwitz (1802–81), the first German secretary of the navy, in October 1848 forwarded an official request to the American government for assistance in building up, with regard to personnel and matériel, a German fleet. In the United States, the German liberal revolution had been observed with interest and with an open mind. Thus, the German requests met with a positive response within both private and official circles. First contacts were established by the frigate USS *St. Lawrence*, commanded by Captain Hiram Paulding (1797–1878), which was visiting Bremerhaven in the fall of 1848. The ship and crew were received enthusiastically as envoys of a hoped-for ally. The U.S. Navy immediately began personnel-support activities by rendering assistance with training: the frigate took aboard four Prussian sea cadets for practical exposure. Captain Paulding, as an adviser, was for weeks the center of attention during all discussions on the fleet buildup, which were held in Berlin, Frankfurt, and Hannover. The matériel support concentrated on providing a modern frigate, which was equipped at the New York Naval Yard and transferred to Europe in the summer of 1849.¹⁰

Even though the duration and the scope of this first American military aid to Germany were limited, that assistance provided early evidence of an American policy of being ready and able to support, across the Atlantic, the principles of democracy and liberalism. On both sides of that ocean, common goals and mutual sympathy for the liberal-democratic forces resulted in the first steps toward cooperation. How close these idealistic ties actually were became evident after the Frankfurt National Assembly failed, when high emigration rates resulted from disappointed democrats finding their spiritual home in the United States. One example was Carl Schurz (1829–1906), who later became Secretary of the Interior. Such a “brain drain” strengthened the hand of conservative forces in Germany—the consequences of which are well known.

The German navy remained in existence even after the dream of a united *Reich* had long gone and the reality of particularism governed German politics. However, in 1853 the fleet was disbanded and its few ships were sold or scrapped.¹¹ Only Prussia, with its relatively longer coastline, still had available a limited number of naval forces, proudly named the Royal Prussian Navy.

Yet the idea of the navy as an instrument of national unification stayed alive even after 1848. After the foundation of the Reich in 1871, the navy's function as a symbol of German unity was stressed officially, in contrast to the army's organization by individual states. The very term *Imperial Navy* emphasized that this instrument of power was subject directly to the Reich. The personnel of the Imperial German Navy (IGN) came from all parts of Germany, and the fleet became, as Tirpitz (see below) once put it, a "melting pot of teutonicism."¹²

However, until 1897 the navy's development was overshadowed by that of the army. The navy's contributions to the wars against Denmark in 1864, Austria in 1866, and France in 1870–71 seemingly were of no importance. Strategically, the IGN concentrated on providing a forward coastal defense.¹³

STRATEGIC ROOTS OF BUILDING A GERMAN BATTLE FLEET

In 1894, spurred by the theories of Alfred Thayer Mahan (1840–1914), the German naval high command prepared a strategic concept for the buildup of a battle fleet.¹⁴ Captain Alfred von Tirpitz (1849–1930), then chief of staff of the naval high command, seems to have taken the initiative to formulate the famous *Dienstschritt* (Service Memorandum) No. IX, under the misleading title "General Lessons Learned from the Fleet Autumn Exercise."¹⁵

In this memorandum, Tirpitz resolutely pleads that strategic offensive actions should be considered "normal tasks of a fleet."¹⁶ Such actions should aim at bringing about "the earliest possible initiation of a battle," a battle that would reach the "main decision" of naval warfare. That decision could not be reached by a cruiser war, such as was prescribed under the tenets of the French *Jeune École* school of thought, but "only by permanent naval supremacy and lasting pressure on the enemy."¹⁷

Owing to Germany's position in the heart of Central Europe, its long coasts on the North and Baltic Seas, and its borders with eight neighboring nations, any strategy of the Reich that did not rely on strong alliance partners required it to decide whether a threat should be neutralized defensively or eliminated offensively. As long as Germany considered only France as a potential enemy (and later Russia as well), the offensive strategic concept for naval operations that Tirpitz laid down in Service Memorandum No. IX seemed appropriate.

In June 1897, Tirpitz was appointed state secretary in the *Reichsmarineamt* (Imperial Naval Office).¹⁸ Not least because of his influence, the politics of the Reich gradually expanded to consider the risks involved in confronting Britain. For Tirpitz, England was, from the beginning, "the most dangerous naval enemy," against which Germany "most urgently required a certain measure of naval force as a political power factor." Since Tirpitz considered cruiser warfare a lost cause,

owing to Germany's lack of naval bases, he asked for the buildup of a fleet that "can unfold its greatest military potential between Heligoland and the Thames."¹⁹

Elsewhere within the IGN there were well-founded doubts regarding this conceptualization. Captain Curt Freiherr von Maltzahn (1849–1930), who at that time taught tactics and naval history at the German naval academy, warned as early as 1898 that reaching "Seeherrschaft" (sea control) by means of a battle would not suffice by itself to impose peace on the opponent, for such sea control would have to be maintained and exploited. This would require a surplus of strength. As long as neither party achieved sea control, the weaker party would be confined to fighting against the achievement of sea control by its enemy, forgoing victory as the goal of its own combat actions. It would be important to maintain a national seaborne trade "corresponding in strength to the means deployed for defense."²⁰ Maltzahn considered a combination of squadron operations and cruiser war to be the most suitable naval strategy. "Squadron operations are indispensable in this type of warfare, but they are only a means and not an end, and they become only really valuable if the freedom of action thus gained is exploited."²¹

However, such a foresighted and realistic alternative, one that combined a balanced defensive fleet with strong cruiser elements, stood no chance in the IGN. Tirpitz repressed any further strategic discussions so as not to jeopardize the buildup of the fleet, which had received legislative backing and thereafter was scheduled to be accomplished over an extended period.²²

CHALLENGE AND RESPONSE: THE NAVAL ARMAMENT RACE

The objectives and planning principles of the German battle fleet construction can be summarized as follows: The basic prerequisite for gaining sea control was the destruction, or at least the decisive weakening, of the enemy battle fleet. Thus, planning focused on the fleet's capability to impose a decision in battle. The battle fleet also was considered a political means of power that could enable Germany to defend its overseas interests adequately. Britain, the most dangerous potential opponent, was to be deterred from a war with Germany by means of a strong fleet, or, should deterrence fail, was to be engaged successfully.

Among the liberal bourgeoisie, the naval policy met with strong support, which was increased even further by propaganda skillfully directed. However, while drawing up its ambitious armament program, Germany misjudged the dangers arising from its geographical situation in Central Europe. Any German approach that strove to establish an international maritime stature and adopt a counterpoint stance toward Britain was bound to be met with profound suspicion from Britain. After the German-British alliance talks in 1901 failed to produce any tangible results—the two sides were pursuing incompatible objectives—the

buildup of the German battle fleet became and remained a crucial disruptive factor, preventing any subsequent arrangement with Britain and resulting in an arms race.

From 1905 onward, that escalatory dynamic was characterized by an enormous increase in the combat power of battleships. With the construction of HMS *Dreadnought* in 1905–1906, the Royal Navy set a new standard. Tirpitz had to keep pace if the IGN was to remain equal, ship for ship, with its potential enemy. As a result, his long-term financial planning had been in vain, for the construction of capital ships involved ever-increasing costs.

Britain could cope with the cost increases involved in the construction of capital ships, or at least it had to do so since its security was exclusively dependent

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on the superiority of the Royal Navy. In contrast, the defense of Germany was primarily an army responsibility, with the navy playing a secondary role. Britain's first lord of the Admiralty Winston Churchill

(1874–1965) explained this in a public speech in February 1912. The strategic situations of both countries, Churchill pointed out, made his own fleet a vital necessity to the British Empire, whereas “from some points of view, the German Navy is to them more in the nature of a luxury.”²³

Groaning under the burden of high naval expenditures, in 1912 both governments tried again to come to an agreement that they hoped would reduce the building rates of capital ships. In February 1912, the British cabinet sent Secretary of State for War Richard B. Haldane, 1st Viscount Haldane (1856–1928), to Berlin to try to reach a general settlement in these matters. However, Lord Haldane's talks with the German side never converted into real negotiations, and the effort failed after a few days. The British were unwilling “to commit themselves to neutrality,” and the German side—under pressure from Tirpitz—was unwilling to modify the country's planned building rate.²⁴ Tirpitz appreciated that for England “the Entente with France gives her the best security against a too powerful Germany,” he said. “I no longer believe that we can get out of this vicious circle.”²⁵ As Germany did not have enough resources to fulfill all the requirements of both the army and the navy, the IGN could not keep up in the unconstrained arms race that commenced thereafter, even though by 1914 it had become the world's second-strongest navy.

Before 1914, modern warships, such as capital ships, cruisers, and torpedo boats, were not only part of a nation's military potential but striking evidence

of its industrial and technological capability. Only highly industrialized nations could solve on their own the complex technological problems that the transition to modern capital ships involved. This was particularly true for the new technologies of engines and weapons, as well as for the improvement in ship survivability achieved through the use of high-quality steel armor.²⁶

The period between 1905 and 1914 was characterized by a technological revolution that made naval weapons obsolete rapidly. This applied to cruisers, torpedo boats, and submarines as well as larger units. During the first major naval battles of World War I, the decisive effects of superior speed and more powerful guns became apparent.

STRATEGY AND GEOGRAPHY

Tirpitz based his strategic concept on the assumption that the Royal Navy always would act offensively in a war against Germany; in particular, it would establish a close blockade of the German coast. Such a blockade near Heligoland “would provide abundant opportunities to equalize naval strength” or to “enter into a decisive battle.”²⁷ For the IGN, this hypothetical battle became an element of dogma—the focal point of its operational concept and fleet training. For this reason, knowledge of and experience with weapons technology, tactics, and shiphandling were more-decisive factors in the careers of naval officers than qualification in staff assignments—which had a long-term effect on the choice of personnel for command-and-control appointments. The work of the Admiralstab (naval staff), established in 1899, and the creation of a specialized corps of staff officers to man it, seemed secondary in importance. As a consequence, the naval officer corps remained unprepared for the complex strategic dimensions of a naval war against Britain.²⁸

Although all the preparations focused on the “decisive battle,” a great deal of confusion existed regarding the true purpose of the battle.²⁹ While those staffing the German naval command had adopted Mahan’s theory of sea power willingly, they paid only lip service to a central element of that theory: the importance of geographical position and the resultant strategic options. By throttling Germany’s seaborne trade, an opponent could decide a “war by severing an artery essential to the existence of Germany.”³⁰

An incorrect assessment of the effects of geography on British naval operations led the German naval leadership to a faulty assessment of British strategy. Britain had never attempted to eliminate an opponent’s navy at any price; it did so only when the British Isles and their SLOCs in the Atlantic were threatened. And these SLOCs remained outside the range of the German naval forces, except for a few cruisers and, later, submarines. To maintain a close blockade of the German

coast, the Royal Navy would have found it useful to eliminate the German fleet at an early date, but the Admiralty was well aware that such a strategic offensive would involve considerable losses. Especially cognizant of the threat that German torpedo boats, submarines, and mines represented, after 1911–12 the Royal Navy no longer considered deploying its Grand Fleet to the southern North Sea.³¹ In November 1912, the Admiralty issued a set of “General Instructions” to its war plans against Germany, summarizing Britain’s strategic approach as follows:

The general idea is to use our geographical advantage of position to cut off all German shipping from oceanic trade and to secure the British coasts from any serious military enterprise and incidentally but effectually to cover the transport across the Channel of an Expeditionary Force to France. . . . It is believed that the prolongation of a distant blockade will inflict injury upon German interests. . . . To relieve such a situation, Germany would be tempted to send into the North Sea a force sufficient . . . to offer a general action. Such an action or actions would take place far from the German coast and close to our own.³²

This plan implied a new wartime deployment for the Grand Fleet: basing it at Scapa Flow, in the Scottish Orkneys.

When in 1912 the German naval staff discovered the new orientation of its potential enemy, the chief of naval staff, Vice Admiral August von Heeringen (1855–1927), examined in a war game whether and how Germany’s High Seas Fleet could counter a distant blockade. The result was sobering. The Blue (i.e., German) war-gaming party had advanced its squadrons as far as the Firth of Forth, but there they encountered difficulties and suffered considerable losses while withdrawing. The admiral concluded: “If the British really restrict their activities to the remote blockade and consistently hold back their battle fleet, then the role of our beautiful High Seas Fleet could be a very sad one in wartime. The submarines will have to do the job.”³³

It must be left open what type of submarine employment Heeringen had in mind, but his estimate hit the central strategic problem for German naval warfare during World War I. Over the course of the nineteenth and early twentieth centuries, the role of the submarine as a naval weapon “had grown from base to coast defence and from this to an offensive task in enemy waters.”³⁴ Basically, the submarine was a mobile torpedo boat with long endurance. Submerged, a submarine made only slow progress—but it had the ability to vanish below the surface of the sea for several hours.

In comparison with other naval powers, the IGNaval came late to building submarines. The first one, *U-1* (282 tons), was commissioned in December 1906. Obviously, Tirpitz had waited until he was sure that submarines were an effective offensive weapon. After 1908, he ordered more than forty oceangoing submarines, of which twenty-eight had been completed before war broke out.³⁵

WORLD WAR I

When Britain joined the war on the side of France and Russia in August 1914, it became clear that the German High Seas Fleet could not perform its political function of deterrence. Britain, relying on its superior fleet and the strategic positions the country and its empire held worldwide to protect its vital SLOCs, considered the German fleet, which could operate only from the North Sea, to be an acceptable risk.³⁶

In August 1914, the IGN lay under the spell of great enemy superiority. The naval command placed all its hopes on reducing enemy forces through offensive submarine and minelaying operations. The assumption was that the opponent would seek battle, but Germany's fleet was to be employed in such a battle only "under favorable conditions."³⁷

Although the few German cruisers stationed overseas at the outbreak of war were quite successful in *guerre de course* (warfare against merchant vessels), the Royal Navy soon neutralized them. Germany's East Asiatic Squadron, under Vice Admiral Maximilian von Spee (1861–1914) moved across the Pacific Ocean and destroyed a British squadron off Chile, but its advance to the Falkland Islands in the South Atlantic on December 8, 1914, proved fatal.³⁸ The example demonstrates that the IGN neither recognized nor made use of the strategic advantages it might have derived from coordinating the operations of its naval forces overseas with those at home.

However, one small but powerful German squadron did influence the balance of forces and the overall course of World War I: the Mediterranean Division, comprising the battle cruiser *Goeben* and the light cruiser *Breslau*, under Rear Admiral Wilhelm A. Souchon (1864–1946). The breakthrough of the two units to Constantinople and their formal handover to Turkey in August 1914 influenced Turkey to join the war on the side of the Central powers in October 1914. The Turkish straits (the Dardanelles and the Bosphorus) became impassable for the Allies; all their attempts to penetrate them failed, with heavy losses.³⁹ Thus, the second important route to Russia, other than the Baltic Sea, remained blocked, contributing to Russia's loss as an ally of the Entente in 1917. After the war, Sir Julian S. Corbett commented as follows on this German strategic success:

When we consider that the Dardanelles was mined, that no permission to enter it had been ratified, and that everything depended on the German powers of cajolery at Constantinople, when we also recall the world wide results that ensued, it is not too much to say that few naval decisions more bold and well-judged were ever taken. So completely, indeed, did the risky venture turn a desperate situation into one of high moral and material advantage, that for the credit of German statesmanship it goes far to balance the cardinal blunder of attacking France through Belgium.⁴⁰

The various operations the High Seas Fleet conducted in the North and Baltic Seas, which culminated in the battle of Jutland in May 1916, cannot conceal the fact that primarily it performed the functions of a “fleet in being”: securing the German coast, blocking the Baltic approaches, and keeping clear the submarines’ sailing routes.⁴¹

In the first few months of the war, the submarine gave a striking demonstration of its power. On September 22, 1914, *U-9* (Lieutenant Otto Weddigen [1880–1915], commanding) sank three aged armored cruisers in an hour. At first, the Royal Navy could not believe the cruisers “had been attacked by a single submarine and attributed the disaster to a whole flotilla.”⁴² Over the next couple of weeks, the U-boats extended their patrols; by October 1914, *U-20* had penetrated the Channel to attack transports on their way to France, circumnavigated the British Isles, and returned to Germany, having cruised 2,200 miles in eighteen days.⁴³

Commerce Raiding by U-boats, 1915–18

The varied arguments concerning the degree of success German submarines achieved in their raiding against Britain’s maritime commerce are a classic example of the civil-military struggle of a nation at war. At the time, this struggle was influenced greatly by public opinion, for submarine warfare became a popular myth to which a large number of Germans subscribed; they believed the U-boat was some sort of infallible, magic weapon that would bring victory. Because of some successful surprise raids, not only the public but the naval command overestimated the efficiency of submarines.

Initial considerations within the IGN regarding the employment of submarines against British shipping had not yielded a clear picture by the time Tirpitz spoke publicly on the issue—which he did without consulting Chancellor Theobald von Bethmann-Hollweg (1856–1921) or chief of naval staff Admiral Hugo von Pohl (1855–1916). In response to the British threat to “strangulate the [German] economy with the help of a blockade,” as Churchill had put it in a speech on November 9, Tirpitz responded in an interview that Germany could “play the same game”—by torpedoing all British shipping.⁴⁴

This triggered a passionate public debate that had repercussions for the naval command. The young historian Gerhard Ritter (1888–1967) knew from his own experience during the war that

[i]t was Tirpitz’s interview that poured more oil [on the fire] when it was published in late December. Thenceforth the question of submarine warfare was no longer a naval problem for the experts to judge, but a political issue of the first order, with everyone having his say. A “U-boat movement” quickly came into being. . . . Again the academic superpatriots were in the forefront with plans and petitions to the Chancellor

and the navy on how to starve Britain into submission. Some of the most renowned names at the University of Berlin were among them.⁴⁵

The naval staff encouraged support for commerce warfare from the government; however, the method's prospects for success could not be assessed, because so few submarines were available. Of the twenty-two submarines in the North Sea in early 1915, only fourteen (those with diesel engines) could operate west of the British Isles. The chancellor came under both public and naval pressure while making his decision, and he relied too much on the navy staff's optimistic forecast. Early in February 1915, Bethmann-Hollweg gave his consent to submarine warfare—without either the government or the naval command having analyzed thoroughly the methodology of commerce raiding itself or the associated political risks and international complications.

The German proclamation of February 4, 1915, declared “the waters around Great Britain and Ireland, including the whole of the English Channel, to be a war zone in which every merchant ship encountered would be destroyed, without it always being possible to assure the safety of passengers and crew. Because of the British misuse of neutral flags, it might not always be possible to prevent attacks meant for hostile ships from falling on neutrals.”⁴⁶ By conducting commerce warfare in this way, Germany opened new issues in international law, because submarines could not adhere adequately to the classic prize rules. This was particularly so after the British began arming merchant vessels, and later created disguised British auxiliary cruisers (Q-ships), which were a great threat to U-boats.

Despite these challenges, the commanding officers of German submarines, displaying a combination of caution and skill, achieved remarkable results with their deck guns while managing to comply with the prize regulations. Owing to a lack of space, submarines could not embark survivors, but in many cases they towed lifeboats to nearby coasts. However, the German naval staff criticized this practice: “The deterring effect of the submarine war will be lost if it is felt that passing the blockade zone is no longer a serious risk to the lives of the crews.”⁴⁷ Without providing its submarine commanding officers with clear instructions, the naval command obviously assumed that most ships would be sunk by torpedoes without warning, further deterring neutral shipping.

When the U.S. government raised concerns about the way the war was being waged and referred to the international principles of naval warfare, the chief of the general staff, General Erich von Falkenhayn (1861–1922), feared the United States might enter the war. He wanted a guarantee that submarine warfare would force England “to give in” within six weeks. When the kaiser inquired about the matter, Tirpitz and the new chief of naval staff, Vice Admiral Gustav Bachmann (1860–1943), confirmed this amazing forecast—without explaining what they

meant by England's "giving in." On February 12, Bachmann wrote to Admiral Pohl, then commander in chief of the High Seas Fleet: "It is in the military interest to make submarine warfare as effective as possible. Do not shy away from sinking enemy passenger liners. Their loss will cause the greatest impact."⁴⁸

The first serious instances of confrontation with the United States arose from German naval activities. On May 7, 1915, the submarine *U-20* sank the British passenger liner *Lusitania* (31,550 gross registered tons [GRT]), using only one torpedo. This attack was conducted without warning and claimed the lives of 1,198 civilians, including 126 Americans; however, it was established later that *Lusitania* had been carrying some war matériel in its forecandle.

This incident caused a severe diplomatic rift with the United States. President Woodrow Wilson (1856–1924) called on Germany to adhere to the accepted principles of naval warfare and to respect the safety of American citizens traveling in the war zone. Following a similar incident in August 1915, the German government yielded. In September, over the objection of the naval command, commerce raiding was ordered stopped west of the British Isles; only in the North and Mediterranean Seas was commerce raiding continued, and then in accordance with the prize regulations.

By early 1916, the number of operational U-boats had risen to fifty-one. Intensified submarine warfare, as demanded by the chief of general staff, resumed in February 1916. It aimed at sinking armed British merchant vessels, without warning, while sparing passenger liners. But the French Channel steamer *Sussex* was torpedoed on March 24, 1916, and another severe crisis between Germany and the United States ensued. On April 18, 1916, Washington threatened to sever diplomatic relations.⁴⁹

Chancellor Bethmann-Hollweg now saw his earlier pessimistic assessment of the situation confirmed. From the onset of the new stage of submarine warfare, he had doubted the need for such a hazardous venture, "which would claim as a stake our existence as a great power and the future of our nation in its entirety, while the chance of winning, that is, the prospect of bringing England down by fall, is a rather uncertain one."⁵⁰

So the chancellor provided assurance to Washington that merchant vessels "would not be sunk without warning or without saving people's lives."⁵¹ As a result, the frontline commanders of the IGN (i.e., of the High Seas Fleet and the German marine corps in Flanders), acting on their own initiative—later backed up by the naval command—moved their submarines out of the western operating areas because they felt that operating under prize regulations exposed their vessels to great danger. Commerce raiding under the prize regulations was continued only in the Mediterranean. In the North Sea, the submarines operated against military targets until September 1916, without achieving any significant results.

This extreme reaction—transferring submarines out of the operating areas entirely—was inconsistent with the actual situation. Of the thirty-five submarines that had been lost by June 1916, only four had been destroyed by Q-ships, and none had been destroyed by armed merchant vessels.

Submarines' promising capabilities for commerce raiding, even under the prize regulations, became more discernible in summer 1916.⁵² The resumption of submarine warfare under the prize regulations provoked no political risks while achieving considerable results: the monthly average of sinkings between October 1916 and January 1917 was 189 merchant vessels, of 324,742 GRT. This was not

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enough to force a decision in the war against Britain, but the war economy of the Allies was damaged heavily enough to produce a chance for a negotiated peace. Still, the naval command, in a rigid and dogmatic manner, repeat-

edly demanded “unrestricted submarine warfare.” The IGN was convinced that this would result in decisive victory, even presuming the expected break with the United States.

The naval staff decided to test the U.S. government by sending a submarine to the U.S. East Coast. On October 7, 1916, thirty-one-year-old Lieutenant Hans Rose (1885–1969), endowed with powers equivalent to those of an ancient Roman proconsul (his wording), headed his submarine, *U-53*, for Newport, Rhode Island, as a demonstration of the efficiency of German submarines—and as a warning to the U.S. Navy. After a three-hour visit to the Naval War College, Rose departed Newport—and sank five enemy merchant ships off the American coast, under prize rules. Sixteen U.S. destroyers observed this action at close range.⁵³

The atmosphere and attitude among German naval officers at that time were portrayed in a diary entry by Lieutenant Ernst von Weizsäcker (1882–1951) of September 27, 1916. “The naval officers are sitting around, drinking, talking politics, hatching plots, and into the bargain feel patriotic, trying, in a dishonest way, to force submarine warfare. Submarine warfare is designed to conceal the foolish things done in developing the fleet and employing the fleet in war. This inadmissible propaganda evidences their bad consciences.”⁵⁴

However, the propaganda Weizsäcker mentioned was effective. This was especially significant since the new general headquarters of all army forces, under Field Marshal Paul von Hindenburg (1847–1934) and General Erich Ludendorff (1865–1937), realized that the attrition campaign had failed and that, as things stood, victory in France was becoming less and less likely.

Unlike the military, Chancellor Bethmann-Hollweg intended to avoid U.S. entry into the war on the Allied side. He hoped that President Wilson would arrange a negotiated peace. However, when the British government in December 1916 harshly rejected a German peace offer, German leaders changed their opinion. Now the military leaders, especially Hindenburg and Ludendorff, categorically demanded “unrestricted submarine warfare,” claiming it was the last means of gaining victory. At a conference on January 9, 1917, after heated discussion, the chancellor supported their demand, and the German high command recommenced unrestricted submarine warfare on February 1, 1917.⁵⁵ A few weeks later, at a meeting of the Main Parliament Committee, Admiral Eduard von Capelle (1855–1931), Tirpitz’s successor, “went so far as to insist that the effect of American entry into war would be ‘zero!’ American troops would not even be able to cross the ocean for lack of transport.”⁵⁶

In response to unrestricted warfare, the United States broke relations with Germany, announcing “armed neutrality.” However, the Entente wanted the United States to enter the war, so the alliance could take utmost advantage of a fully mobilized American war economy. Thanks to maladroit German diplomacy, this goal soon was accomplished.

Seeking to keep the Americans militarily engaged on their continent and in the Pacific Ocean, Germany proposed an alliance with Japan and Mexico. The proposal was sent by cable to Mexico in the so-called Zimmermann telegram on January 16, 1917. With the aid of captured German codebooks, British naval intelligence managed to decrypt all the German diplomatic cables transmitted among Berlin, Washington, and Mexico City. To expedite the U.S. decision-making process, the British government transmitted the pertinent cables to Washington, and President Wilson had them released to the press on February 28.⁵⁷

Germany’s offer to Mexico of an alliance inflamed American public opinion against Germany. Early in April, the United States entered the war on the side of the Allies. Thus, unrestricted submarine warfare alone did not trigger the American declaration of war, but Germany’s naval stance contributed to it in a substantial way.

On February 1, 1917, Germany had 105 operational submarines available to conduct unrestricted submarine warfare. By June 1917, their number had been increased to only 129. Because of the increase in operations between February and July 1917, repair periods gradually were prolonged, leading to a decrease in the number of operationally ready submarines.⁵⁸

On the other hand, in April 1917 alone, 458 Allied ships totaling 840,000 GRT were sunk. This led to a severe crisis for the Allies, who momentarily doubted their ability to continue the war. However, Germany did not achieve its strategic objective—effective disruption of British shipping. The Allies introduced

GERMAN SUBMARINE LOSSES 1914–18

Cause	1914	1915	1916	1917	1918	Total
Ramming						
• By warships	2	1	—	8	3	14
• By merchant vessels			—	2	2	4
Artillery						
• By warships	—	2	3	—	3	8
• By merchant vessels	—	—	—	—	1	1
• By Q-ships	—	3	2	6	—	11
Searching gear with petard	—	1	1	—	1	3
Explosion of ammunition aboard a merchant vessel	—	—	—	1	—	1
Attack by aircraft	—	—	—	1	—	1
Depth charges	—	—	2	7	21	30
Torpedoing	—	4	1	7	6	18
Mines	2	2	6	21	23	54
Accidents						
• By German mines	—	2	1	6	1	10
• By German torpedoes	—	1	—	—	1	2
• By beaching	—	1	2	2	—	5
• During diving	—	—	—	1	—	1
• Collision with German submarine	—	—	—	1	—	1
Unknown	1	2	4	—	7	14
Total	5	19	22	63	69	178

Note: excludes accidents in home waters.

Sources: Robert M. Grant, *U-boats Destroyed: The Effect of Anti-submarine Warfare 1914–1918* (London: Putnam, 1964); Robert M. Grant, *U-boat Intelligence* (London: Putnam, 1969). Cf. Joachim Schröder, *Die U-Boote des Kaisers: Die Geschichte des deutschen U-Boot-Krieges gegen Großbritannien im Ersten Weltkrieg* (Bonn: Bernard & Graefe, 2003), and Rahn, "Die Kaiserliche Marine und der Erste Weltkrieg," p. 72.

convoying in the summer of 1917, and thereafter far fewer ships were sunk. Between February and June 1917, an average of 363 ships of 629,863 GRT were sunk per month, whereas during the last quarter of 1917 sinkings averaged 159 per month, totaling 365,489 GRT. In 1918, the numbers of ships sunk decreased even further. Because of this, the German naval staff was not able to keep the promise it had made: by the autumn of 1918, about 1.4 million American soldiers had made it to France. U.S. entry into the war proved to be the decisive factor in the defeat of Germany.⁵⁹

After the Allies introduced the convoy system, German submarines faced serious operational and tactical problems. The concentration of merchant ships in a convoy had to be countered with a concentration of submarines. Even before

that, reconnaissance was required—the convoys had to be detected. The few boats available west of the British Isles could not cover the entire operating area, allowing many convoys to reach Britain undetected. When a submarine sighted a convoy, it could conduct a submerged attack, with torpedoes. The gun armament, which until the institution of convoying had achieved most results, fell into disuse.

Along with introducing the convoy system, the Allies enhanced antisubmarine defense by developing more efficient depth charges and the first underwater locating devices. But above all, it was the intensive mining of the shipping lanes in the North Sea and the English Channel that caused most U-boat casualties. Of the 132 German submarines lost in 1917–18, at least fifty sank after hitting mines.⁶⁰

At the end of September 1918, the army's supreme command admitted military defeat and demanded an immediate armistice. The United States made termination of unrestricted submarine warfare a precondition for reestablishing diplomatic contact. Yet the German naval command—to justify its existence—prepared to send the fleet out for one final battle. The ships' companies discerned that the naval command was acting arbitrarily and refused to obey. Within a few days, this mutiny developed into a revolt that led to the collapse and end of the IGK, which accelerated a general uprising in Germany.⁶¹

The Lessons of the Great War

In spite of outstanding achievements and successes against a superior opponent in various war theaters, the outcome of German naval operations was negative at the end of World War I. Not only did the IGK's strategic concepts for fleet employment and for commerce warfare using submarines fail, but those failures were the starting point for a revolt that triggered the political overthrow of the government. Nevertheless, the High Seas Fleet effectively operated as a fleet in being. Its presence pinned down the British Grand Fleet in the North Sea, including lighter naval forces, which consequently were not available for convoy-escort duty in the Atlantic. The fleet protected the German coast, blocked the Baltic against Allied resupply shipments to Russia, and, to a certain extent, backed up submarine warfare by keeping the departure and return routes clear. Contrary to the current view of historians who entirely deny the fleet's strategic importance, the fleet was an asset for the German war effort; but a realistic cost-benefit analysis shows that, in the end, the fleet did not achieve what it was expected to.

One of the fundamental lessons learned during World War I was that, over the long run, an effective blockade could so weaken the German war potential and economy, which were greatly dependent on the importation of raw materials, that not even defensive operations could be conducted. The German naval command

had not realized that sea power, i.e., the ability to control and successfully use the sea, essentially is the product of both fleet strength and geographical position. If either factor were deficient, the entire result suffered. This was one of the essential reasons the High Seas Fleet did not bring about a decision in the overall conduct of the war. It failed to develop a concept in which the two components of naval warfare—surface forces and submarines—were integrated to enable timely and effective deployment against the two key strategic weak points in the enemy alliance: Allied merchant shipping in the Atlantic and the Russian coastline in the Baltic.

During the submarine war against Allied merchant shipping, the naval command rigidly relied on a one-sided and, in the end, inadequate naval concept that ignored the possibility and reality of U.S. entry into the war, thereby contributing to Germany's defeat. During the operations against Russia, Germany hardly ever exploited its naval superiority. However, Germany's blocking of access to the Baltic, in parallel with its ally's control of the Turkish straits, diminished Russia's war potential considerably. This success in the economic war, which Germany had not foreseen, relieved the country of the necessity to prosecute the war on two fronts by the spring of 1918; but that was too late to bring about success for the overall war effort.

The result Germany experienced in World War I was due not only to insufficient concepts and means but to the naval command's strategic incompetence. The leadership seemed to be incapable of recognizing the natural limits that existed—limits that would have to be imposed on any German naval strategy within the overall strategic concept.

THE INTERWAR PERIOD, 1919–39

The Treaty of Versailles reduced Germany to the status of a third-rate naval power.⁶² Submarines and military aircraft were forbidden to it altogether. As a result, the navy lacked the weapons that modern naval warfare required. However, French opposition thwarted the British attempt to abolish the submarine entirely; Paris became the champion of minor naval powers by emphasizing the importance of the submarine as a naval weapon for weaker nations.⁶³ During the preparation of the peace treaty, Admiral William S. Benson (1855–1932), the American Chief of Naval Operations (CNO), advocated only moderate cuts in the strength of the future German navy so as to maintain a counterbalance to the British fleet in the North Sea.⁶⁴ The British never considered taking over the German ships for their own fleet—too costly; they simply wanted to sink them. However, France and Italy dismissed this idea. The problem was solved when the Germans themselves sank the major part of their fleet at Scapa Flow on June 21, 1919.⁶⁵ The German naval command regarded this accomplishment primarily

as a moral success. The consequences of the scuttling were severe: the Allies demanded full compensation, and claimed 80 percent of all German port equipment; and the navy had to surrender its last five modern light cruisers.

German naval forces came to seem superfluous, given the total military defeat of 1918, the domestic unrest of 1919, and the ongoing border conflicts with Poland. However, for the navy to continue in existence and preserve its independence from the army, the service required a plausible long-run mission. When, during the peace negotiations in the spring of 1919, the German government offered to renounce its force of six old battleships so as to achieve concessions in other areas, the victorious powers refused, pointing out that Germany should retain some limited naval forces for its own protection. They projected a small German fleet as a stabilizing factor in the Baltic area. Thus, Germany's former enemies contributed considerably to the continued existence—modest as it was—of the German navy.⁶⁶

The naval command argued that a navy was necessary because of the territorial changes in eastern Europe, referring primarily to the alterations to Poland's borders and the resultant isolation of East Prussia. In 1919–21, a Polish-Russian border dispute led to war, and future border conflicts could not be ruled out.⁶⁷ If Germany had no naval forces at all, it would be impossible to defend East Prussia; the Poles would be able to cut the sea route across the Baltic—the only reliable line of supply for the German enclave.

The navy's deliberations, unlike those of the army, soon expanded to consider other possible conflicts. As early as 1922 they took into account Poland's ties with France. Once again, German naval strategy focused its attention on the North Sea. Given the German economy's great dependence on seaborne supplies, the prerequisites for conducting defensive operations could be achieved only if German shipping in the North and Baltic Seas continued unhindered.

The navy considered itself to be an instrument of territorial defense against France and Poland, while hoping, in better times to come, for an end to armament restrictions. When it became apparent that the limitations on their own arms that the victorious powers had announced at Versailles were not going to materialize, the German government consistently aspired to equal rights and national sovereignty in the military sphere, such that it could develop the country's armed forces into an effective instrument of national defense.

In terms of matériel, a new start gradually was made, by constructing some torpedo boats and light cruisers. However, the challenge of developing a ten-thousand-ton armored vessel (permitted by the peace treaty) that had sufficient combat power to survive an engagement with French capital ships was a tough nut to crack. Given the displacement limitation, it was not possible to meet normal requirements for armament and armor plating. When the changes in the

armament limitations for which the naval command had hoped failed to materialize, the navy was forced to concentrate on designing a ship that was more like a cruiser than a battleship.

The decisive elements that influenced this change in planning lay on two levels, the tactical-operational and the political-military. In the tactical-operational sphere, exercises showed that heavy naval forces needed more speed. In the political-military sphere, the naval command thought it imperative

Over the course of the twentieth century, Germany twice tried to force a strategic decision, in direct confrontation with the Anglo-Saxon naval powers, by cutting the Atlantic shipping routes. Both attempts ended in failure.

that every German ship constructed be superior in at least one respect to the warship categories defined in the Washington Naval Agreement (encompassing multiple treaties) of 1922. For battleships,

it sought speed; for cruisers, heavy guns. To replace the old battleships while remaining under the terms of the peace treaty, the naval command planned a ship carrying six twenty-eight-centimeter (cm) guns and capable of twenty-eight knots.

To understand the German line of reasoning, it is necessary to look at the status of international naval armaments at the end of the 1920s. The countries that had signed the Washington Naval Treaty (Britain, France, Italy, Japan, and the United States) had navies dominated by capital ships having eight to twelve heavy guns (with calibers between 30.5 and 40.6 cm) and speeds of twenty to twenty-three knots. Only Britain and Japan had battle cruisers equipped with six to eight heavy guns. These had a top speed between twenty-seven and thirty-one knots. Until 1930, the Washington Naval Treaty limited the total tonnage and construction of battleships and aircraft carriers. For cruisers, the treaty established ceilings only for the displacement and armament of individual vessels. Thus, cruisers with a standard displacement of ten thousand tons and light armor were built. Their main armament comprised six to ten 20.3 cm guns; they had a top speed of thirty-three knots. Although they could evade the slower capital ships, they had to avoid contact with battle cruisers, which were capable of similar speed yet far superior in armament.

Since the core of the French fleet consisted of nine slow capital ships and five fast heavy cruisers, the German naval command deliberately endowed its ten-thousand-ton vessel with the characteristics of a “small battle-cruiser”: it was superior to cruisers in armament and to capital ships in speed. With six 28 cm guns in two triple turrets and a speed of twenty-six to twenty-eight knots, the *Panzerschiff* (armored ship, also known as a “pocket battleship”) came very close to the concept of the battle cruiser. Moreover, diesel engines would give the ship a

maximum range of twenty thousand miles, vastly exceeding that of any cruiser or capital ship. Owing to its combat effectiveness and endurance, the pocket battleship was suitable for both warfare in the North Sea and offensive operations in the Atlantic.

The construction of the ship immediately attracted the attention of foreign naval experts. In April 1929, the British ambassador in Berlin, Sir Horace Rumbold (1869–1941), reported to his government as follows:

From a naval technical point of view, the building of this vessel is to be welcomed, as its design promises to include a number of new features in warship construction. The principal of these are reported to be a comparatively heavy armament of six 11-inch guns, eight 5.8-inch and twenty antiaircraft guns, six torpedo tubes, adequate armour protection, special Diesel engines giving a cruising speed of 26 knots, the extensive employment of light metals and electric welding in place of riveting, and the highest degree of unsinkability.⁶⁸

However, Germany's naval command regarded the construction of pocket battleships not just as a military necessity but as a political-military lever with which to upset the entire system of international naval armament controls that had been established—without German participation—at Washington in 1922. The naval command hoped this step would give Germany the chance to be readmitted to the community of major naval powers.⁶⁹ Of course, if Germany had been included in the Washington Naval Agreement, this would have been tantamount to a wholesale abrogation of the naval arms limitations laid down in the Treaty of Versailles.

Change of Strategy and Operational Planning

The naval command was cognizant that Germany was highly dependent on seaborne imports. It tried to impress this overall strategic reality on the army so the latter would take that factor into account when drawing up its operational plans. From 1928 onward, the new minister of the Reichswehr (German Imperial Defense), Lieutenant General Wilhelm Groener (Ret.) (1867–1939), set new standards for all operational planning by the army and navy. He stressed that the idea of a large-scale war had to be ruled out from the start. Military operations against foreign powers should be limited to two possible types of conflict: (1) repelling raids from neighboring states onto German territory; (2) maintaining armed neutrality during a conflict between foreign powers.

Groener demanded that the Reichswehr be combat ready to oppose immediately any sudden Polish invasion. For the navy, this new concept meant it had to be able, on seventy-two hours' notice, to begin operations to destroy the Polish navy and neutralize the port of Gdynia as a naval base.⁷⁰ Such a demonstrative strike clearly was intended to be part of a strategy of deterrence. Under this

concept of calculated escalation, the German government could react quickly to a possible invasion, then refer the conflict to the League of Nations without delay. Thus, the government gave the navy, for the first time, a role as an effective instrument of crisis management.

In the spring of 1929, Groener requested that the naval command review whether Germany, to conduct its maritime defense, would need any surface units that went beyond the ceiling of the peace treaty. By so inquiring, Groener got at the heart of the self-perception of the navy's leadership, which saw its service not merely as an instrument of national defense but, in the long run, as an indispensable prerequisite for a future German maritime position of power. Under no circumstances would a return to brown-water-navy status be acceptable; the German navy instead intended to build oceangoing units, in accordance with the traditional concept of naval prestige, and thereby to express hope for a better future. Naturally, it was not possible, nor was it intended, to explain this to a minister who, although he had pushed the Panzerschiff through the Reichstag (national legislature), otherwise had expressed often his critical attitude toward the buildup of the German High Seas Fleet before 1914.

In his reply to Groener's question, "Does Germany need large warships?," the chief of naval command, Admiral Erich Raeder (1876–1960), championed the earlier naval concept, which focused on a potential conflict with France and Poland.⁷¹ He argued that the attitude of the navy must not be determined by wishful thinking to reestablish itself as a major naval power. Its most important task in war was to prevent—at all costs—enemy forces from interdicting German SLOCs. World War I had proved the connection between German resistance at the home front and naval blockade: "Cutting off our sea lanes is the simplest and safest way, without any bloodshed, of defeating us. Our enemies know this as well. England has the most powerful fleet world-wide and its geographical position is disastrous for Germany. Therefore, any armed conflict has to be avoided that would turn England into one of our enemies. We would be doomed to failure right from the start."⁷²

Raeder's memorandum concluded that the navy—without even considering the limits the peace treaty set—could fight the fleet only of a second-class sea power, such as France.

Naval Rearmament under Hitler, 1933–37

A few days after seizing power in January 1933, Adolf Hitler (1889–1945) made it clear to naval and other military commanders that he intended to develop the armed forces into an instrument of his power politics. As far as the translation of this objective into armament was concerned, Hitler was initially cautious. As he explained in a speech on February 3, 1933: "The most dangerous period is that

of rearmament. Then we shall see whether France has statesmen. If she does, she will not grant us time but will jump on us (presumably with eastern satellites).”⁷³

The Reichsmarine (German Navy) had to make do with compromises regarding the displacement and armament of its future capital ships. However, in view of the anticipated long-term buildup of the fleet, these compromises seemed acceptable. The last of three Panzerschiffe was launched in June 1934. The next two units were upgraded to battle cruisers (31,000 tons, thirty-one knots, nine 28 cm guns) in answer to the French battle cruisers *Dunkerque* and *Strasbourg*.⁷⁴

The Anglo-German Naval Agreement of June 18, 1935, allowed Germany to have a surface fleet with a tonnage up to 35 percent of that of the British Empire. German naval leaders now believed they had attained their goal of “equal” rights. The 35 percent ceiling applied not just to total tonnage but to individual categories of warships. In the case of U-boats, Germany was allowed to achieve 45 percent at first, later 100 percent, of British submarine strength. In this context, Germany gave assurances that its navy would adhere to what were known as the “cruiser rules” regarding submarine warfare conducted against merchant shipping.⁷⁵

The navy’s planning thus was based wholly on the structure of that of the other naval powers. Its motto was: What the other navies, with their rich traditions, consider proper, and what Germany now is permitted within the 35 percent ceiling, is what Germany will build. The navy started to build a so-called normal fleet: fast capital ships, heavy and light cruisers, aircraft carriers, destroyers, and—for the first time after seventeen years—submarines. One week after the Anglo-German Naval Agreement was announced, the navy commissioned its first, small (250-ton) U-boat—thereby revealing its long-term secret preparatory activity in this area.⁷⁶

Even if the U-boat had not been improved in basic ways since 1918, it had developed considerably in every direction (e.g., in its improved torpedoes, its minelaying ability, and its capacity to transmit and receive signals both while surfaced and while submerged). Nevertheless, opinion was widespread in all navies that the U-boat had lost the eminence it had achieved in World War I as one of the most effective naval weapons. The British Admiralty was convinced that asdic (a submarine location device named after its progenitor, the Anti-Submarine Detection Investigation Committee) had reduced the submarine threat almost to extinction. In contrast to this opinion, the small German U-boat staff, centered on Captain Karl Dönitz (1891–1980), was convinced that antisubmarine warfare (ASW) weapons were greatly overrated and had not made decisive progress since 1918.⁷⁷

From 1928 onward, Admiral Raeder determined the navy’s thinking. In studying Germany’s World War I cruiser campaign, he had come to the conclusion

that during the autumn of 1914 there had been a strategic correlation between the North Sea campaign and the operations of the cruiser squadrons in the Pacific and South Atlantic. Raeder realized that all naval theaters of war formed an interconnected whole, so any operation had to be viewed in relation to those in other areas. Accordingly, he made overseas cruiser warfare and battle-fleet operations in home waters integral components of a single naval strategy that sought to exploit diversionary effects, thereby exhausting the enemy's forces and disrupting his supplies.⁷⁸

Raeder formulated his strategic thinking most clearly in a briefing to Hitler on February 3, 1937. Analyzing Germany's Great War experiences, he pointed out the correlation between strategy and a country's military-geographical situation. Raeder was aware of the likely "totality" of a future war—that it would be a struggle not just between forces but of "nation versus nation." He emphasized the negative consequences for Germany if it were unable to procure continually the raw materials it lacked. In so doing, Raeder pointed out the glaring weaknesses in Germany's war potential—but was unable to influence Hitler's policy of confrontation.⁷⁹

Buildup of the Navy against Britain, 1938–39

A fundamental change in strategic planning by the Kriegsmarine (as the German navy was known after 1935) commenced in spring 1938. As it became apparent that the Western powers opposed German expansion, Hitler issued a directive that all German war preparations should consider not only France and Russia but also Britain as potential enemies. A second confrontation with Britain now influenced all further planning for the next naval war. Raeder followed Hitler's hazardous course of confrontation willingly, or at least without protest, in contravention of his strong statement on this matter to Groener in 1929. Raeder assumed—erroneously—that the navy would have several years of peace to continue its buildup.

In the summer of 1938, the naval staff produced a strategic study that concluded that, given a geographical starting position similar to that of 1914, only oceanic cruiser warfare, employing improved Panzerschiffe and U-boats, held any prospect of success.⁸⁰ Despite this realization, a planning committee of senior officers busied itself with the question of what tasks battleships could perform in a cruiser war in the Atlantic. The result was paradoxical and revealing: "The chief of staff of the naval staff concluded at the end of the discussion that all participants agreed that battleships were necessary, but that no consensus regarding their use could be achieved for the time being."⁸¹

Traditionalists considered the most important arm of naval power to be capital ships. Focusing on them meant that the concept of sea control pushed

the concept of sea denial into the background. Unlike the big-ship traditionalist Tirpitz, the naval staff during the 1930s had proposed a sea-denial strategy repeatedly. In contrast, the suggestion to develop a German strategy of sea control constituted a new, alternative approach to sea and world power in the twentieth century. In September 1938, the commander in chief of the fleet, Admiral Rolf Carls (1885–1945), noted as follows: “If, in accordance with the will of the Führer, Germany is to achieve a firm world-power position, it will need, in addition to

The allied forces—especially . . . Admiral Arleigh Burke . . . —supported . . . creation [of the Federal German Navy]. . . . [A] close cooperation and friendship developed between Admiral Burke and Vice Admiral Friedrich Ruge . . . , the first head of the [FGN]. Burke created a basis of confidence with his firm conviction that allied forces could fulfill their common tasks only if their cooperation were based on openness and mutual trust. Vice Admiral Ruge succeeded in establishing this basis of confidence, which today is accepted as a matter of course.

sufficient colonies, secure sea routes and access to the high seas. . . . A war against Britain means a war against the Empire, against France, probably also against Russia and a number of countries overseas, in other words against one-half or two-thirds of the whole world.”⁸²

Nevertheless, Raeder was more inclined toward a sea-denial strategy via an oceanic cruiser campaign with Panzerschiffe, and he intended to

give this strategy priority in the future armament program. However, by November 1938 he had been unable to gain Hitler’s support for his program. Hitler did not accept the cruiser warfare strategy, insisting instead that the navy step up the pace of its battleship construction so that as soon as possible he would have at his disposal an instrument of power he could employ globally.

The navy had to accept this decisive change. It formulated a new concept, the so-called Z-Plan, which centered on the construction of six capital ships by 1944. Additionally, battle cruisers, Panzerschiffe, aircraft carriers, fast light cruisers, and 247 U-boats were to form the backbone of German naval forces for the future Battle of the Atlantic. On January 27, 1939, when Hitler ordered that the buildup of the navy was to take precedence over all other tasks, including the rearmament of the army and the Luftwaffe (air force), he heralded a gigantic buildup of naval forces. Within a few months, the planning of a series of six new-design, diesel-driven battleships was complete; the construction of two units began in the summer of 1939. In the meantime, on April 27, 1939, Hitler denounced the Anglo-German Naval Agreement of 1935.⁸³

The experiences of World War I acted as the starting point for developing the so-called pack tactics that German U-boats employed against enemy sea routes

during World War II.⁸⁴ Dönitz recognized that the concentration of merchant shipping in convoys would require a similar concentration of U-boats to counter. And before the U-boats could attack a convoy, they needed to locate it—in other words, the problem of reconnaissance would have to be solved. In 1917–18, a number of U-boats had attacked successfully on the surface, under cover of darkness. During the evaluation of wartime experiences, former U-boat commanders recommended adoption and further development of this method of attack. Dönitz also had drawn attention to the advantages of night attacks in his book *Die U-Bootswaffe*, published in 1939. Nonetheless, later in World War II, this type of attack took British ASW defenses by surprise—they had relied too much on the supposed superiority of asdic. The escort forces were unable to cope with the German tactic, particularly as asdic had an effective range of no more than about 1,400 meters, which left it ineffective against U-boats operating on the surface.⁸⁵

WORLD WAR II

Disillusionment came on September 3, 1939. Totally unexpectedly, Hitler ordered the navy to launch a naval war against Britain.⁸⁶ The German navy was in no way prepared. Raeder's initial estimate of the situation was very pessimistic, and he resigned himself to the realization that neither the few U-boats nor the surface forces would have any decisive effect on the outcome of the war: "They can do no more than show that they know how to die gallantly and thus are willing to create the foundations for later reconstruction."⁸⁷

However, the progress of the war soon demanded a new estimate of the situation. Nine months on, Poland, Denmark, Norway, Belgium, Luxembourg, and the Netherlands had been occupied; by June 22, 1940, France had suffered a total defeat. German naval control extended from Norway to the Pyrenees. Therefore, the German naval staff switched to an offensive concept of naval warfare, aimed solely at destroying Britain's maritime transport capacity. The Kriegsmarine's surface forces were insufficient for such a task; to supplement them, the navy concentrated on constructing and employing the means of naval warfare that had proved its worth during World War I—the U-boat.

The naval staff knew from its experience during the previous war that employment of the U-boat against the enemy's merchant marine could be successful only if U-boats were deployed continuously along the enemy's SLOCs, employing as many vessels as possible. The navy calculated that the number of U-boats permanently at sea should range from 100 to 150 boats. Taking into consideration time for maintenance and resupply, this meant the navy needed approximately three hundred operational boats at its disposal.⁸⁸ In the quest to achieve this, time was an important factor:

1. In an economic war waged against a country that depended on supplies by sea, success could only be achieved in the long run. It was therefore a question of continuously weakening the enemy's maritime transport capacity to an extent that exceeded the rate at which the enemy could construct new merchantmen.
2. From the summer of 1940 onward, it became apparent that the British war effort increasingly was being supported by the resources of the United States. This made the naval staff intent on "putting Britain out of action soon, before the effects of even greater American aid made themselves felt."⁸⁹
3. Since it took around two years to construct a U-boat and bring it to operational status, amassing the numbers the navy envisaged so as to achieve the necessary concentration of forces required plans to be made at a very early stage.⁹⁰

While a numerically increasing U-boat fleet held out the prospect of German success, the naval staff had to take into account that the enemy, in view of the looming threat, would do everything he could to strengthen his ASW effort.

In October 1939, the naval command presented a U-boat buildup plan that set a monthly rate of twenty-nine boats. Hitler approved the plan; however, he refused to sanction priority, since he was at that time more concerned with the demands of the imminent land campaign against France.⁹¹ One year later, in November 1940, the navy had to realize that U-boat construction was being held up by shortages, and that the current building rate barely covered the current loss rate. The naval staff foresaw that there would be limits to the Reich's material resources and production capacities. In December 1940, it viewed America's growing support of Britain as a dangerous development "towards a marked prolongation of the war." To the naval staff, this portended a "very negative effect on the overall German war strategy."⁹² This statement expressed the simple, obvious fact that Germany could not win a prolonged war of attrition against the two Atlantic naval powers.

For this reason, in December 1940, Grand Admiral Raeder requested that Hitler "recognize that the greatest task of the hour is concentration of all our power against Britain." To Raeder, this meant focusing air and naval forces against British supplies. The admiral was firmly convinced that U-boats were the decisive weapon to be used against Britain. Although Hitler did not reject Raeder's view, he referred to the allegedly new political situation: the necessity "to eliminate at all cost the last enemy remaining [i.e., Soviet Russia] on the continent, before he can collaborate with Britain. . . . After that, everything can be concentrated on the

needs of the Air Force and the Navy.”⁹³ In Hitler’s eyes, Britain was not the enemy on which all weapons had to be concentrated, but a potential partner who might be made to “see reason” if an appropriate amount of military pressure were applied. Hitler also knew that a forced economic war could not lead to any marked success in one year. Furthermore, this kind of effort could increase the danger of the United States entering the war, something he sought to avoid at that point.⁹⁴

In July 1941, after the first successes in the war against Russia, the naval staff tried to convince both the Wehrmacht (Armed Forces) Command and Hitler of the immediate strategic necessity to concentrate on fighting the Anglo-Saxon naval powers. Analyzing the threat to which Germany was exposed, the naval staff portrayed the dilemma of a European continental state that lacked the vital elements of a naval power but was forced to fight against the greatest naval powers: “While in World War I we had the second strongest battle fleet in the world but no appropriate operational base, we now dispose of a strategically favorable operational base, however, we do not have the required battle fleet to operate within the Atlantic.”⁹⁵

The naval staff predicted that the two Allied naval powers would continue to fight, even if the Soviet Union collapsed, so they could reach their “final goal”: destroying Germany on the continent. The naval staff came to the conclusion that “the enemies’ prospect for the battle in the Atlantic for the year 1942 must be assessed as favorable.” For this reason, the naval staff advocated that Germany bring about a decision in the Atlantic by taking advantage of both political assets (the cooperation of Vichy-France and Japan) and military assets (the concentrated employment of all available forces, in particular the U-boats and air forces).⁹⁶

From 1940 onward, Germany possessed a good geographical position for naval warfare in the Atlantic, but this basis could not be exploited fully, owing to insufficient weaponry. The U-boat provided an effective weapon in the fight against enemy shipping up to 1942, but thereafter wider war demands, especially the critical situations in the Mediterranean and on the eastern front, forced the naval command to employ its last remaining offensive capability like an “operational fire brigade.”⁹⁷ This led to enormous attrition, which was counterproductive to the strategic concept of mass concentration in the Atlantic. As the Allies developed better ASW weapons, the concept of a “U-boat war” failed in 1943 because the submarine had lost its ability to escape from enemy surveillance.

In fact, the concept of attrition warfare began to fail by the fall of 1942 in the face of the mobilization of Allied resources and industrial capacities, especially those of the United States. The German naval staff analysis at that time of the accelerating buildup of Allied maritime transport capacity already revealed that the U-boats could not increase the monthly rate of sinkings to a level necessary

to win the “tonnage race.” The naval staff delivered a pessimistic prognosis: “If, . . . considering the enemy’s rising production output, Germany wishes to diminish the enemy’s tonnage from the end of 1942 onwards to the same extent as is currently being achieved, ship sinkings per month will have to be increased to approximately 1,300,000 GRT. Given the current situation, it is doubtful whether such a high rate of ship sinkings will be feasible for a sustained period of time.”⁹⁸ Recalling the historical argument that “no war in history . . . has yet been won by the use of one method of warfare,” the naval staff came around to an understanding that reflected actual conditions.⁹⁹ By the end of 1942, German U-boats, as a realistic threat, had succumbed to the immense industrial capacity of the United States.

From 1943 onward, the navy had an officer at the helm, Grand Admiral Dönitz, who both was a charismatic leader and had close links to Hitler and Nazi ideology. Not until after Hitler’s death did he change “from the almost-blind tool of a criminal to the responsible soldier of the traditional Prussian school.”¹⁰⁰ At that point he did everything in his power to end the already-lost war in a proper fashion and, at the same time, to evacuate as many people as possible across the Baltic to the West. The latter effort—the navy’s last wartime act—brought the service much positive postwar public recognition.¹⁰¹

Over the course of the twentieth century, Germany twice tried to force a strategic decision, in direct confrontation with the Anglo-Saxon naval powers, by cutting the Atlantic shipping routes. Both attempts ended in failure. The second defeat brought with it the end of the German Reich and the dissolution of all German armed forces.

BUILDING A NEW NAVY AFTER 1955

The Western orientation of the Federal Republic of Germany (FRG) led to close integration of the new German armed forces into the Atlantic Alliance.¹⁰² Ten years after the surrender of Germany’s World War II forces, a new German naval force came into existence. The allied forces—especially the U.S. Navy, including its CNO, Admiral Arleigh Burke (1901–96)—supported its creation. During the first years of the buildup, a close cooperation and friendship developed between Admiral Burke and Vice Admiral Friedrich Ruge (1894–1985), the first head of the Federal German Navy (FGN).¹⁰³

Burke created a basis of confidence with his firm conviction that allied forces could fulfill their common tasks only if their cooperation were based on openness and mutual trust. Vice Admiral Ruge succeeded in establishing this basis of confidence, which today is accepted as a matter of course.

This meant for the FGN, the smallest of the armed services within the FRG armed forces, that, for the first time in its history, the naval service was obliged

merely to perform that function “which a German Navy can actually perform,” in close cooperation with the great maritime powers.¹⁰⁴

At the same time the FRG joined NATO in May 1955, the German Democratic Republic (GDR) was integrated into the Warsaw Pact. The formation of light naval forces ensued, out of the Volkspolizei See (i.e., the national sea police force of the GDR) that had been in existence since 1950. In 1960, the GDR’s newly established forces were termed Volksmarine (People’s Navy), in commemoration of the 1918 revolutionary tradition. This navy, which was strictly integrated within the ideological leadership claimed by the Communist Party, demonstrated little continuity with former German naval forces, whether in formation, structure, or mandate. Within the Warsaw Pact it evolved into an *offensive* naval force for use in confined and littoral waters.

The two German naval forces exhibited great disparity until 1990. Each navy regarded the other as a potential military adversary in the context of the system of alliances. However, both were spared the necessity to prove their combat strength. With the reunification of the German republics in the fall of 1990, parts of each were incorporated into the German navy.¹⁰⁵

Today, the German navy has not only a lively interest in its history but a special relationship to it. A clear link can be seen between the historical self-understanding of its officers and the history of their service. In the past, this link often served only as an attempt to legitimize and secure the service’s position. The navy, which came into being in the mid-nineteenth century, often had to fight for recognition and even for its existence during a relatively short history. However, when historical interest is limited only to the navy and naval warfare, there is a danger that too little attention will be paid to the overlapping political correlations.

Nowadays the situation is different. Germany is one of the leading export nations in the world, and therefore extremely dependent on trade and the unhampered use of the high seas. This situation requires an understanding and an acceptance of the maritime domain as a vital Achilles’ heel for the prosperity of the German economy and society. This situation underlines the necessity for a well-balanced navy that is able to conduct demonstrations and to protect German maritime interests, in cooperation with alliances and partners. The situation for the German navy is much more comfortable at present than in previous eras, reinforcing its self-confidence; but a wider understanding of its roles is needed, now more than ever.

NOTES

1. The first part of this article is based on my essay "Germany," in *Ubi Sumus? The State of Naval and Maritime History*, Historical Monograph 11, ed. John B. Hattendorf (Newport, RI: Naval War College Press, 1994), pp. 137–57.
2. John Keegan, *The Face of Battle: A Study of Agincourt, Waterloo, and the Somme* (London: Jonathan Cape, 1976), p. 29.
3. *Ibid.*, p. 32.
4. Thomas Nipperdey, "Wozu Geschichte gut Ist," *Militär-geschichtliche Mitteilungen* 41, no. 1 (1987), p. 9.
5. Statement of Rolf Johannesson [Rear Adm., FGN (Ret.)] to the audience, in *Der Marineoffizier als Führer im Gefecht*, ed. Deutsches Marine Institut (Herford, F.R.G.: E. S. Mittler, 1984), p. 242.
6. See Jens Graul and Dieter Hartwig, eds., *Von den Historikern für die Flotte* (Bochum, Ger.: Winkler, 2011), esp. annex, pp. 141–200.
7. The following material is based on my article "140 Years of German Navies: Their Defeat and Rebirth—from Confrontation to Cooperation," in *The Influence of History on Mahan*, Historical Monograph 9, ed. John B. Hattendorf (Newport, RI: Naval War College Press, 1991), pp. 81–84, and my entry "Navies, Great Powers: Germany, 1848–1945," in *Oxford Encyclopedia of Maritime History*, ed. John B. Hattendorf (Oxford, U.K.: Oxford Univ. Press, 2007), vol. 2, pp. 705–11. See also Werner Rahn, ed., *Deutsche Marinen im Wandel: Vom Symbol nationaler Einheit zum Instrument internationaler Sicherheit* (Munich, Ger.: Oldenbourg, 2005).
8. For details, see Günter Moltmann, "Die deutsche Flotte von 1848/49 im historisch-politischen Kontext," in Rahn, *Deutsche Marinen im Wandel*, pp. 64–80.
9. Adalbert [Prinz von Preußen], *Denkschrift über die Bildung einer deutschen Kriegsflotte* (Potsdam, Ger.: 1848); reproduced in Jörg Duppler, *Prinz Adalbert von Preußen: Gründer der deutschen Marine* (Herford, F.R.G.: E. S. Mittler, 1986), pp. 79–115.
10. For details, see Günter Moltmann, *Atlantische Blockpolitik im 19. Jahrhundert: Die Vereinigten Staaten und der deutsche Liberalismus von 1848/49* (Düsseldorf, F.R.G.: Droste, 1973), pp. 150–56.
11. See Duppler, *Prinz Adalbert von Preußen*, p. 50.
12. Alfred von Tirpitz, *Erinnerungen* (Leipzig, Ger.: Koehler, 1920), p. 127.
13. Tirpitz was ennobled in January 1900. Latest biographies of him include Patrick J. Kelly, *Tirpitz and the Imperial German Navy* (Bloomington: Indiana Univ. Press, 2011), and Michael Epkenhans, *Tirpitz: Architect of the German High Seas Fleet* (Washington, DC: Potomac Books, 2008).
14. Cf. Holger H. Herwig, "The Influence of A. T. Mahan upon German Sea Power," in Hattendorf, *The Influence of History on Mahan*, pp. 67–80.
15. Alfred von Tirpitz, "Taktische und strategische Dienstschriften des Oberkommandos der Marine, Nr. IX: Allgemeine Erfahrungen aus den Manövern der Herbstübungs-Flotte," June 16, 1894 [hereafter Dienstschrift No. IX], app. doc. no. 2, RM 4/176, Bundesarchiv-Militärarchiv, Freiburg, Ger. Cf. in this context Volker R. Berghahn, *Der Tirpitz-Plan: Genesis und Verfall einer innenpolitischen Krisenstrategie unter Wilhelm II* (Düsseldorf, F.R.G.: Droste, 1971), pp. 45–89; Ivo Nikolai Lambi, *The Navy and German Power Politics 1862–1914* (Boston: Allen and Unwin, 1984), pp. 68–86; and Rolf Hobson, *Imperialism at Sea: Naval Strategic Thought, the Ideology of Sea Power, and the Tirpitz Plan, 1875–1914* (Boston: Brill, 2002).
16. Dienstschrift No. IX, pp. 2, 5.
17. The Jeune École dominated French naval thought in the 1880s. It made commerce raiding a strategic priority and placed great reliance on new technologies, primarily the torpedo. Rahn, "Navies, Great Powers: Germany, 1848–1945," p. 703.
18. For further details on his appointment, see Berghahn, *Der Tirpitz-Plan*, passim.
19. "Allgemeine Gesichtspunkte bei der Feststellung unserer Flotte nach Schiffsklassen und Schiffstypen" ["General Considerations on the Constitution of Our Fleet according to Ship Classes and Designs"], June 1897. The German version of the complete document

- and a translation appear in Jonathan Steinberg, *Yesterday's Deterrent: Tirpitz and the Birth of the German Battle Fleet* (London: Macdonald, 1965), p. 209.
20. Curt Freiherr von Maltzahn, *Der Kampf gegen die Seeherrschaft* (Kiel, Ger.: C. Schaidt, 1898). Ca. 1971–72 I drew on a private copy of the original while consulting the papers of Admiral Behncke in the German Military Archive; some years later the original seems to be missing. Cf. John B. Hattendorf, “The Caird Lecture, 2000: The Anglo-French Naval Wars (1689–1815) in Twentieth-Century Naval Thought,” in *Talking about Naval History: A Collection of Essays*, Historical Monograph 19 (Newport, RI: Naval War College Press, 2011), pp. 83–103.
 21. Maltzahn, *Der Kampf gegen die Seeherrschaft*, p. 15.
 22. Cf. Wilhelm Deist, *Flottenpolitik und Flottenpropaganda: Das Nachrichtenbureau des Reichsmarineamtes 1897–1914* (Stuttgart, F.R.G.: Deutsche Verlags-Anstalt, 1976).
 23. Quoted in Arthur J. Marder, *From the Dreadnought to Scapa Flow: The Royal Navy in the Fisher Era, 1904–1919*, vol. 1, *The Road to War 1904–1914* (London: Oxford Univ. Press, 1961), p. 277. Cf. in this context Holger H. Herwig, “Luxury” Fleet: *The Imperial German Navy 1888–1918* (London: George Allen and Unwin, 1980), pp. 76–77.
 24. Marder, *The Road to War 1904–1914*, p. 286.
 25. Admiral Tirpitz to Admiral Müller [Chief of the Naval Cabinet], February 26, 1912, in *ibid.* For Müller, see also *ibid.*, p. 78 note 11 and pp. 223–24. In 1904, the United Kingdom and France formed the Entente Cordiale; in 1907 the United Kingdom and Russia formed their own entente; collectively this resulted in the so-called Triple Entente.
 26. Cf. in this context Michael Epkenhans, “Technology, Shipbuilding and Future Combat in Germany, 1880–1914,” in *Technology and Naval Combat in the Twentieth Century and Beyond*, ed. Phillips Payson O’Brien (London: Routledge, 2001), pp. 53–68.
 27. Marder, *The Road to War 1904–1914*, p. 373.
 28. Cf. Wulf Diercks, “Der Einfluss der Personalsteuerung auf die deutsche Seekriegführung 1914–1918,” in Rahn, *Deutsche Marinen im Wandel*, pp. 235–67. Cf. also Kurt Assmann, *Deutsche Seestrategie in zwei Weltkriegen* (Heidelberg, F.R.G.: Vowinkel, 1957), pp. 32–35, and Marder, *The Road to War 1904–1914*, pp. 412–13. Vice Admiral Assmann was head of the German naval archives, 1933–43.
 29. Cf. Paul Kennedy, “Maritime Strategieprobleme der deutsch-englischen Flottenrivalität,” in *Marine und Marinepolitik im kaiserlichen Deutschland 1871–1914*, ed. Herbert Schottelius and Wilhelm Deist, 2nd ed. (Düsseldorf, F.R.G.: Droste, 1981), pp. 178–210. See also Edward Wegener, “Die tirpitzsche Seestrategie,” in *ibid.*, pp. 236–62.
 30. Marder, *The Road to War 1904–1914*, p. 379.
 31. Cf. Kennedy, “Maritime Strategieprobleme,” pp. 197–98.
 32. Quoted in Marder, *The Road to War 1904–1914*, p. 382.
 33. Quoted in German by William Michaelis, “Tirpitz’ strategisches Wirken vor und während des Weltkrieges,” in Rahn, *Deutsche Marinen im Wandel*, pp. 397–425; also quoted (with a slightly different text) by Assmann, *Deutsche Seestrategie*, p. 30.
 34. Arthur Hezlet, *The Submarine & Sea Power* (London: Peter Davies, 1967), p. 23.
 35. For details, see Arno Spindler, *Der Handelskrieg mit U-Booten*, vol. 1, *Vorgeschichte* (Berlin: E. S. Mittler, 1932), pp. 148–76.
 36. This section is based on my article “German Naval Power in the First and Second World Wars,” in *Naval Power in the Twentieth Century*, ed. N. A. M. Rodger (Basingstoke, U.K.: Macmillan, 1996), pp. 88–100.
 37. “Operations Order for North Sea Theatre, 30 July 1914,” quoted by Otto Groos, *Der Krieg in der Nordsee*, vol. 1, *Kriegsbeginn bis Anfang September 1914*, 2nd ed., *Krieg zur See, 1914–1918* (Berlin: Marine-Archiv, 1922), p. 54. Cf. Paul G. Halpern, *A Naval History of World War I* (Annapolis, MD: Naval Institute Press, 1994), p. 23.
 38. Cf. Erich Raeder [Vizeadmiral], *Der Kreuzerkrieg in den ausländischen Gewässern*, vol. 1, *Das Kreuzergeschwader* (Berlin: Zweite, 1927), pp. 244–54.
 39. Cf. Halpern, *A Naval History*, pp. 109–24.

40. Julian S. Corbett, *History of the Great War: Naval Operations*, vol. 1, *To the Battle of the Falklands, December 1914* (London: Longman, 1920), p. 70ff.
41. James M. Morris and Patricia M. Kearns, eds., *Historical Dictionary of the U.S. Navy* (London: Scarecrow, 1998), s.v. “fleet in being”: “a naval force that acts as a deterrent to hostile action in an area because of its ability to inflict appropriate damage on an enemy.” Cf. Raeder, *Das Kreuzergeschwader*, p. 81.
42. Hezlet, *The Submarine & Seapower*, p. 28. Cf. Halpern, *A Naval History*, p. 33.
43. Cf. Groos, *Der Krieg in der Nordsee*, vol. 2, *Von Anfang September bis November 1914, Krieg zur See, 1914–1918* (Berlin: E. S. Mittler, 1925), pp. 184–85.
44. Cf. Gerhard Ritter, *The Sword and the Scepter: The Problem of Militarism in Germany*, vol. 3, *The Tragedy of Statesmanship: Bethmann Hollweg as War Chancellor (1914–1917)* (Coral Gables, FL: Univ. of Miami Press, 1971), pp. 288–318.
45. *Ibid.*, pp. 124–25.
46. Spindler, *Vorgeschichte*, p. 87. For translation, see Halpern, *A Naval History*, p. 293.
47. Naval Staff to High Seas Fleet, March 28, 1915, quoted in Hans J. Koerver, *War of Numbers 1914–1916: The Kaiser’s Navy Gone Rogue* (Steinbach, Aus.: LIS Rheinisch, 2016), p. 84 note 171.
48. Quoted in Koerver, *War of Numbers*, p. 78.
49. Cf. Spindler, *Der Handelskrieg mit U-Booten*, vol. 3, *Oktober 1915–Januar 1916* (Berlin: E. S. Mittler, 1934), esp. pp. 85–153.
50. See “Denkschrift des Reichskanzlers von Bethmann-Hollweg,” February 29, 1916, quoted in Spindler, *Oktober 1915–Januar 1916*, p. 98. See also Ritter, *The Tragedy of Statesmanship*, p. 164ff.
51. German note to U.S. government, May 5, 1916, in Spindler, *Oktober 1915–Januar 1916*, pp. 145–49, quotation at p. 148.
52. For details, see Spindler, *Oktober 1915–Januar 1916*, pp. 154–245.
53. Three of the ships were from Britain, one from Norway, and one from the Netherlands. For details of this visit, including pictures, see Wellington Long, “The Cruise of the U-53,” U.S. Naval Institute *Proceedings* 92/10/764 (October 1966), pp. 86–95; Jan Heitmann, *Unter Wasser in die Neue Welt: Handelsunterseeboote und kaiserliche Unterseekreuzer im Spannungsfeld von Politik und Kriegführung* (Berlin: Berlin-Verl. Spitz, 1999), pp. 227–250; Hans Rose, “U 53 fährt nach Amerika,” in Werner von Langsdorff, *U-Boote am Feind: 45 deutsche U-Boot-Fahrer erzählen* (Gütersloh, Ger.: Bertelsmann, 1937), pp. 158–85; and David Kohnen, with Nicholas Jellicoe and Nathaniel Sims, “The U.S. Navy Won the Battle of Jutland,” *Naval War College Review* 69, no. 4 (Autumn 2016), pp. 136–37.
54. Ernst von Weizsäcker, diary entry, September 27, 1916, quoted in *Die Weizsäcker-Papiere 1900–1932*, ed. Leonidas E. Hill (Berlin, F.R.G.: Propyläen-Verlag, 1982), p. 215. Cf. Holger H. Herwig, *The German Naval Officer Corps: A Social and Political History, 1890–1918* (Oxford, U.K.: Oxford Univ. Press, 1973), p. 188.
55. Cf. Ritter, *The Tragedy of Statesmanship*, pp. 288–318.
56. *Ibid.*, p. 334.
57. Cf. Barbara Tuchman, *The Zimmermann Telegram* (Edinburgh, Scot.: Constable, 1959), and Patrick Beesly, *Room 40: British Naval Intelligence 1914–18* (London: Hamilton, 1982), pp. 204–24.
58. For details, see Spindler, *Der Handelskrieg mit U-Booten*, vol. 4, *February until December 1917* (Berlin: E. S. Mittler, 1941; repr. London: Putnam, 1964).
59. Cf. Spindler, *Der Handelskrieg mit U-Booten*, vol. 5, *Januar bis November 1918* (Frankfurt, F.R.G.: E. S. Mittler, 1966), esp. attachments at pp. 343–98.
60. Cf. Werner Rahn, “Die Kaiserliche Marine und der Erste Weltkrieg,” in *Ringelnetz als Mariner im Krieg 1914–1918*, ed. Stephan Huck (Bochum, Ger.: Taschenbuch, 2003), pp. 39–89, esp. table p. 72.
61. For details, see Gerhard P. Groß, ed., with the assistance of Werner Rahn, *Der Krieg zur See 1914–1918: Der Krieg in der Nordsee*, vol. 7, *Vom Sommer 1917 bis zum Kriegsende* (Hamburg, Ger.: 2006), see esp. documents as attachments, pp. 423–64.
62. This section is based mainly on Jost Dülffer, *Weimar, Hitler und die Marine: Reichspolitik*

- und *Flottenbau 1920–1939* (Düsseldorf, F.R.G.: Droste, 1973); Werner Rahn, *Reichsmarine und Landesverteidigung 1919–1928: Konzeption und Führung der Marine in der Weimarer Republik* (Munich, F.R.G.: Bernard & Graefe, 1976); and “German Naval Strategy and Armament, 1919–39,” in O’Brien, *Technology and Naval Combat*. Cf. Wilhelm Deist et al., eds., “The Rearmament of the Wehrmacht,” pt. 3 in *Germany and the Second World War*, vol. 1, *The Build-Up of German Aggression* (Oxford, U.K.: Oxford Univ. Press, 1990), pp. 372–540.
63. Cf. Marder, *From the Dreadnought to Scapa Flow*, vol. 5, *Victory and Aftermath* (London: Oxford Univ. Press, 1970), p. 258, and Stephen W. Roskill, *Naval Policy between the Wars*, vol. 1, *The Period of Anglo-American Antagonism 1919–1929* (London: Collins, 1968), p. 92.
64. Cf. Roskill, *The Period of Anglo-American Antagonism 1919–1929*, p. 100.
65. Cf. Andreas Krause, *Scapa Flow: Die Selbstversenkung der wilhelminischen Flotte* (Berlin: Ullstein, 1999).
66. For details, see Rahn, *Reichsmarine und Landesverteidigung 1919–1928*, pp. 13–50.
67. Cf. *ibid.*, pp. 35–42.
68. “Annual Report on Germany for the Year 1928,” March 25, 1929, p. 33, FO 311/1364, National Archives, Kew, U.K.
69. Cf. Rahn, *Reichsmarine und Landesverteidigung 1919–1928*, p. 245ff.
70. See *ibid.*, pp. 144–46.
71. The May 1929 document “Does Germany Need Large Warships?” is included in Rahn, *Reichsmarine und Landesverteidigung 1919–1928*, pp. 281–86.
72. Translation is from Rahn, *Reichsmarine und Landesverteidigung 1919–1928*, p. 283ff.
73. Quoted by Andreas Hillgruber, *Germany and the Two World Wars*, trans. William C. Kirby (Cambridge, MA: Harvard Univ. Press, 1982), p. 57.
74. For details, see Siegfried Breyer, *Schlachtschiffe und Schlachtkreuzer 1905–1970: Eine geschichtliche Entwicklung des Großkampfschiffes* (Erlangen, Ger.: Karl Müller, 1993).
75. See Dülffer, *Weimar, Hitler und die Marine*, pp. 204–334.
76. Cf. Allison W. Saville, “The Development of the German U-boat Arm, 1919–1935” (PhD dissertation, Univ. of Washington, 1963).
77. Dönitz joined the IGN in 1910. During World War I he commanded *UB-68*, which was sunk in 1918; he became a prisoner of war. From 1934 to 1935 he commanded the cruiser *Emden*. He served as Chief, U-boat Command from 1935 until January 1943. Dönitz was promoted to captain in 1935, rear admiral in October 1939, and grand admiral in February 1943. From 1943 to 1945 he was commander in chief of the navy. In October 1946 he was sentenced at Nuremberg to imprisonment for ten years, and in October 1956 was released from prison. Dönitz died on December 24, 1980. Cf. Clay Blair, *Hitler’s U-boat War: The Hunters, 1939–1942* (New York: Random House, 1996), pp. 35–49; Peter Padfield, *Dönitz: The Last Führer; Portrait of a Nazi War Leader* (New York: Harper and Row, 1984); and Dieter Hartwig, *Großadmiral Karl Dönitz: Legende und Wirklichkeit* (Munich, Ger.: Schöningh, 2010).
78. For details, see Rahn, *Reichsmarine und Landesverteidigung 1919–1928*, p. 127.
79. Cf. in this context Michael Salewski, *Die deutsche Seekriegsleitung 1935–1945*, vol. 1, *1935–1941* (Frankfurt, F.R.G.: Bernard & Graefe, 1970), pp. 32–33; Dülffer, *Weimar, Hitler und die Marine*, pp. 435–36; and Carl-Axel Gemzell, *Raeder, Hitler und Skandinavien: Der Kampf für einen maritimen Operationsplan* (Lund, Swed.: C. W. K. Gleerup, 1965), pp. 49–51.
80. Cf. Salewski, *Die deutsche Seekriegsleitung 1935–1945*, vol. 3, *Denkschriften und Lagebetrachtungen* (Frankfurt, F.R.G.: Bernard & Graefe, 1973), esp. pp. 27–63. Note document no. 1, “Seekriegführung gegen England.”
81. Deist et al., “The Rearmament of the Wehrmacht,” p. 474.
82. *Ibid.*, p. 475.
83. For details, see Dülffer, *Weimar, Hitler und die Marine*, and Salewski, *1935–1941*.
84. Cf. Hubert Jeschke, *U-Boottaktik: Zur deutschen U-Boottaktik 1900–1945* (Freiburg, F.R.G.: Rombach, 1972), pp. 63–65.

85. Stephen W. Roskill, *The War at Sea 1939–1945*, vol. 1, *The Defensive* (London: Her Majesty's Stationery Office, 1954), pp. 35–36; Karl Dönitz, *Zehn Jahre und zwanzig Tage: Erinnerungen 1935–1945* (Koblenz, F.R.G.: Bernard & Graefe, 1985), p. 26; cf. the translation, Karl Dönitz, *Memoirs: Ten Years and Twenty Days*, trans. R. H. Stevens (Annapolis, MD: Naval Institute Press, 1990).
86. This section is based mainly on my contribution, "The War at Sea in the Atlantic and the Arctic Ocean," in *Germany and the Second World War* ed. Horst Boog et al., vol. 6, *The Global War* (Oxford, U.K.: Clarendon, 2001), pp. 301–466. Cf. my articles "The Atlantic in the Strategic Perspective of Hitler and Roosevelt, 1940–1941," in *To Die Gallantly: The Battle of the Atlantic*, ed. Timothy J. Runyan and Jan M. Copes (Boulder, CO: Westview, 1994), pp. 3–21; "The German U-boat Campaign in World War II," in *Commerce Raiding: Historical Case Studies, 1755–2009*, Newport Paper 40, ed. Bruce A. Elleman and S. C. M. Paine (Newport, RI: Naval War College Press, 2013), pp. 187–207; and "The Atlantic in the Strategic Perspective of Hitler and His Admirals, 1939–1944," in *Strategy and the Sea: Essays in Honour of John B. Hattendorf*, ed. N. A. M. Rodger et al. (Woodbridge, U.K.: Boydell, 2016), pp. 159–68.
87. "Reflections of the C.-in-C. Navy, on the Outbreak of War, September 3, 1939," *Brassey's Naval Annual 1948*, reproduced in *Fuehrer Conferences on Naval Affairs 1939–1945* (London: Greenhill, 2006), pp. 37–38. For another translation, see the U.S. Navy's seven-volume typewritten edition: *Fuehrer Conferences in Matters Dealing with the German Navy* (Washington, DC: Secretary of the Navy, 1947). Cf. also Werner Rahn and Gerhard Schreiber, eds., *Kriegstagebuch der Seekriegsleitung 1939–1945, Teil A* [War Diary of the Naval Staff, 1939–1945, pt. A], vol. 1, *August/September 1939* (Herford, Ger.: E. S. Mittler, 1990), pp. 7-E–17-E. For details on this edition, see the review: John B. Hattendorf, "The War Diary of the German Naval Staff, 1939–1945," *Documentary Editing* 18, no. 3 (September 1996), pp. 58–62.
88. Cf. Salewski, *Denkschriften und Lagebetrachtungen*, pp. 64–69. Note document no. 2, "Gedanken über den Aufbau der U-Bootschwaffe."
89. Rahn and Schreiber, eds., *Kriegstagebuch der Seekriegsleitung 1939–1945, Teil A*, vol. 16, *Dezember 1940* (Herford, Ger.: E. S. Mittler, 1990), p. 238.
90. See Kurt Assmann [Vice Adm.], "Why U-boat Warfare Failed," *Foreign Affairs* 28, no. 4 (July 1950), pp. 659–70, esp. pp. 665–66.
91. Cf. Salewski, *1935–1941*, pp. 131–32.
92. Rahn and Schreiber, *Dezember 1940*, pp. 233, 238.
93. Cf. *Fuehrer Conferences*, pp. 160–63. See also Andreas Hillgruber, *Hitlers Strategie: Politik und Kriegführung 1940–1941* (Frankfurt, F.R.G.: Bernard & Graefe, 1965), pp. 352–77, and Bernd Wegner, "The Road to Defeat: The German Campaigns in Russia 1941–43," in *Decisive Campaigns of the Second World War*, ed. John Gooch (London: Frank Cass, 1990), pp. 105–27, esp. pp. 106–107.
94. See Hillgruber, *Hitlers Strategie*, pp. 144–78; and Michael Salewski, "The Submarine War: A Historical Essay," in *The U-boat War*, ed. Lothar-Günther Buchheim (New York: Knopf, 1978), n.p.
95. "Denkschrift zum gegenwärtigen Stand der Seekriegführung gegen England Juli 1941," July 21, 1941, quoted in Salewski, *1935–1941*, pp. 195–96.
96. *Ibid.*, p. 196.
97. Rahn, "The War at Sea in the Atlantic and the Arctic Ocean," p. 405.
98. Cf. *ibid.*, p. 331.
99. "Stand und Aussichten des U-Bootkrieges," Naval War Staff memorandum, October 20, 1942, annex 1, quoted in Salewski, *Denkschriften und Lagebetrachtungen*, p. 303. Cf. Rahn, "The War at Sea in the Atlantic and the Arctic Ocean," p. 337.
100. Salewski, *Die deutsche Seekriegsleitung 1935–1945*, vol. 2, *1942–1945* (Frankfurt, F.R.G.: Bernard & Graefe, 1975), p. 552.
101. Cf. Rahn, "140 Years of German Navies," p. 83.
102. Cf. Johannes Bertold Sander-Nagashima et al., *Die Bundesmarine 1950 bis 1972: Konzeption und Aufbau* (Munich, Ger.: Oldenbourg, 2006).
103. For details, see Arleigh Burke, "Fred Ruge, My Friend," in *Seemacht und Geschichte*:

Festschrift zum 80. Geburtstag von Friedrich Ruge, ed. Deutsches Marine Institut (Bonn, F.R.G.: MOV, 1975), pp. 29–38.

104. Dieter Hartwig, comment in Günter Fromm et al., *Die deutsche Flotte im Spannungsfeld der Politik 1848–1985*, ed. Deutsches Marine Institut and Militärgeschichtliches Forschungsamt (Herford, F.R.G.: E. S. Mittler, 1985), p. 197.

105. Cf. three essays published in Rahn, *Deutsche Marinen im Wandel*: Knut Eckstein, “Die Volksmarine im Kalten Krieg,” pp. 615–31; Hans Ehlert, “Vom Matrosen zum Admiral: Theodor Hoffmann und die Volksmarine der DDR,” pp. 633–56; and Dirk Horten, “Erfahrungen im deutschen Einigungsprozeß: Die Auflösung der Volksmarine 1990/91,” pp. 657–72.



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