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Ruthless War: A Comparative Analysis of German and American
“Unrestricted” Submarine Warfare in the Second World War

by

Stephanie Cousineau

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Introduction:

Illegal Warfare, Necessary Strategy?

*War is a matter of vital importance to the State;
the province of life or death;
the road to survival or ruin.
It is mandatory that it be thoroughly studied.*

Sun Tzu, *The Art of War*

Besiegement is a strategy older than Western war. The ancient Chinese employed siege tactics, drawing the classic philosopher Sun Tzu to discuss it in his epic work *The Art of War*. Siege of static fortresses in ancient Chinese times bore few overt similarities to the sea blockades of the twentieth century, yet the concept was the same: prevent ingress and egress of goods and supplies from the besieged peoples, and their will to fight will die. It was not a fast-moving strategy in ancient or modern times, and as Sun Tzu wrote, “there has never been a protracted war from which a country has benefited.”¹ This was often true for the state being besieged, but not always—the system of twentieth century alliances added a new dimension to that conclusion. Neither Germany nor Japan could hold out indefinitely against the juggernaut of Allied powers in the Second World War (SWW), which was an outcome both states brought unto themselves.² The road to German and Japanese defeat was paved with economic measures, on the one side waged by and on the other side waged against the states in question. The former was unsuccessful, the latter a success; in both cases the strategy was “unrestricted” submarine warfare (USW) against seaborne lines of communication.

¹ Sun Tzu, Samuel B. Griffith trans., *The Art of War*, (Oxford: Oxford University Press, 1963), 73.

² This, of course, refers to the fact that Japan was steadily encroaching upon former British and European holdings in East Asia; the attack on the United States began its path to defeat. Similarly, Germany’s downfall was brought about in two ways: attacking the Soviet Union in June 1941 and declaring war on the United States after the Japanese attack at Pearl Harbor.

USW was a new take on an old technique; attacking trade at sea was a centuries-old practice made modern by the employment of submarines to choke the enemy's merchant traffic. The Second World War was by no means the first time that this "modern" way of economic war was used, either, for it had been essayed in the First World War by Germany to stunning conclusions. These were three-fold: first, the *Unterseeboote* (U-boats) had initially achieved an alarming degree of success against British commerce; second, a large degree of shock also developed from the fact that the U-boats had managed to do so by acting against established international laws—and by targeting civilians; and third, the surprising successes against British commerce were arrested by the simple practice of convoying. In spite of the "defeat of the U-boats" and the fact that the laws making USW illegal were re-codified in the interwar period, this strategy was still practiced, gamed, and planned for by Germany and the United States in the 1930s, which allowed two large-scale campaigns to take place in the SWW.³

What did it mean, that two states could violate international laws like that, with one strategy and have two outcomes? At the Nuremberg War Crimes Tribunal in 1945-1946, the man who conducted the German USW campaign to defeat, *Großadmiral* Karl Dönitz was tried on three counts: One: Conspiracy to Wage Aggressive War; Two, Waging Aggressive War (Crimes Against Peace), and Count Three: War Crimes. However, an interrogation of the American Admiral Chester W. Nimitz certainly bought Dönitz forgiveness for part of his crimes, for Nimitz stated that the United States had also waged such a war.⁴ "Victor's justice" was served at Nuremberg, but that cannot explain

³ Germany and the United States were not alone in this practice, for British, Italian and Japanese submarines also engaged in USW in the Second World War.

⁴ "Supplemental Document for the Defendant Doenitz. Interrogation from Fleet Admiral Chester Nimitz. May 11, 1946"; Record Group (hereafter RG) 238, Collection of World War II War Crimes Records;

how Dönitz could have commanded an illegal naval war without it reflecting in his sentence. Dönitz was found guilty on counts two and three, absolved only of planning for the war. His sentence, ten years and twenty days was disproportionate for the crimes committed, certainly reflecting Nimitz's influence. It begs the question: with one campaign ending in victory and the other in defeat, did these two states *really* do the same thing?

On the road to answering that, this study looks at how an arguably effective strategy collided with international laws in the mid-twentieth century. It was a messy encounter, raising further points of inquiry. Chapter One establishes the legal groundwork and looks to find the places where laws and strategies lost their ability to connect to each other, which is to say, where intent as expressed in legal treaties could no longer withstand the technological march forward. How could states fail to respond to the proven capabilities of the submarine in the interwar period and make a real effort to ensure that its allegedly scarring effects could never be felt again? Or, better still, how could statesmen have spent those two decades failing to reconcile modern technology with workable laws of war?

Chapters Two and Three look at the American and German roads to USW. In Germany, it has long since been understood that regardless of what treaties bound the state, it unabashedly prepared for USW in the future. What is less known is how international law played a role in these plans; ultimately, strategic necessity offered too many reasons to remain committed to the laws and many people—not only Dönitz—came to support USW. Putting thought into action came incrementally as the original,

more moderate war escalated in response to enemy actions. Conversely, it is generally unknown that several officers in the United States' Navy looked at the strategic realities of a future war with Japan and realised that USW could be an integral part of a war at sea between those two states. It was a strategic plan quietly made and downplayed for decades after the war, but the reality was that Japan *was* enormously vulnerable to an American unrestricted warfare campaign. Economic war had been a part of war plans against Japan since the first war plan ORANGE in 1906; USW was simply another tool to starve Japanese industry and people into military defeat.

The paths they followed to arrive at USW therefore began from different points and perspectives, ending with one state declaring out of hand a war without limits, and the other achieving that commitment gradually. Chapter Four looks at the earliest German and American patrols as they converged toward strategic unity, by measuring submarine doctrine in both Germany and the United States and how it prepared their fleets for war.

Chapters Five and Six use case studies to illustrate the German downfall and the crescendo to American victory in the Pacific. The words describing the two campaigns were often the same—"wolf pack," "coordinated," "USW," "concentrated," and so on—yet these likenesses existed predominately superficially. Germany's war began with great success and dwindled in the face of mounting anti-submarine warfare and un-changing strategy, while the Americans battled their own institutional issues as much as the enemy early on as they sought to choke Japan. Each refined doctrine and attack methods, sometimes progressively with the introduction of new technology, and sometimes reactively when the enemy had made a shift that needed to be dealt with. By 1944, it was

clear that the United States had won its war and Germany had lost; all that remained was to carry on until the formal declarations of surrender were made.

Chapter Seven mines the two campaigns for similarities and differences, drawing conclusions from the two cases to illustrate how very different doing the “same thing” can be. Furthermore, it shows how the events of the SWW tie to the future of economic warfare through the Nuremberg trials and ending up with the San Remo Manual on International Law Applicable to Armed Conflicts at Sea, 12 June 1994. At San Remo lawyers and statesmen met once again to determine the laws of war as they had numerous times in the interwar period, and even before the Great War. The outcome was the same. How, then, did twentieth century USW leave its mark on the laws and practices of naval warfare?

The literature examining the two states’ wars varies as much as their conducts. The German war has been the object of near-obsessive scrutiny since its end. The *Kriegsmarine*’s documentation was seized by the Allies at the end of the war, spending decades in British archives before its return to Germany in the 1960s. With a copy left in the American National Archives as well, foreign English-language scholars and interested parties have had ample opportunity to examine and re-examine original documents and churn out masses of literature for academic and public consumption.

A place of necessary departure for the German U-boat war is Clay Blair’s *Hitler’s U-boat War*, in two volumes.⁵ Blair’s work is highly narrative, in places extremely detailed, but in others not at all. It is the closest thing to a published reference of the entire U-boat war, but falls too short of that mark to take such billing. *Hitler’s U-boat War* is both a blessing and a curse in its imbalance, for there are instances when it offers

⁵ Clay Blair Jr., 2 vols, 1996, *Hitler’s U-boat War*, (New York: Modern Library, 2000).

massively researched background and anecdotal material, but at times references to events, people and battles are so cursory as to be reduced to a list. The absence of citations is also frequently frustrating. Nevertheless, whatever its shortcomings, no study of U-boat warfare can be undertaken without even just a preliminary look at Blair's books.

Work on U-boats can be divided into three schools beyond Clay Blair: academic, memoir, and popular. In the first category, and somewhat unusually, the German official history was undertaken relatively later than most states' official histories, produced by a committee out of the Military History Research Institute (*Militärgeschichtliches Forschungsamt*) now in Potsdam, which published nine volumes spanning the late seventies to the 2005. This is a very analysis-driven study in terms of the U-boat war in the Battle of the Atlantic and serves as a necessary source for serious study.⁶ Furthermore, the academic school of literature is laced with some exceptionally conceived and executed work;⁷ together with British, Canadian and American anti-submarine warfare books, academics are able to offer a clear picture of U-boat warfare in the Second World War.⁸ There does come a point when a book examining the details of

⁶ *Militärgeschichtliches Forschungsamt* eds., 9 vols., Ewald Osers trans, ed., *Germany and the Second World War*, (Oxford: Oxford Clarendon Press, 1979-2005).

⁷ The two that stand out most notably include Timothy Mulligan's *Neither Sharks Nor Wolves*, (Annapolis: Naval Institute Press, 1999) and Michael L. Hadley's *Count Not the Dead*, (Montreal and Kingston: McGill-Queen's Press, 1995).

⁸ Such as David Syrett's *The Battle of the Atlantic and Signals Intelligence: U-boat tracking papers, 1941-47*, (London: Ashgate, 2002); Michael Hadley's *U-boats Against Canada: German Submarines in Canadian Waters*, (Montreal and Kingston: McGill-Queen's University Press, 1985); Timothy Mulligan's *Lone Wolf: the Life and Death of U-boat Ace Werner Henke* (Westport: Praeger, 1993); or Jürgen Rohwer's *War at Sea, 1939-1945*, (Annapolis: Naval Institute Press, 1996). On the ASW side, Malcolm Llewellyn-Jones' *The Royal Navy and anti-Submarine Warfare, 1917-49* (London: Routledge, 2006); W.J.R. Gardner's *Decoding History: The Battle of the Atlantic and Ultra*, (Basingstoke, Macmillan, 1999); or Marc Milner's *North Atlantic Run*, (Toronto: University of Toronto Press, 1985). German-language works include most importantly Michael Salewski's *Die deutsche Seekriegsleitung 1935-1945*, (Frankfurt-a-M: Bernard & Graefe, 1970-75); most other key works such as the official history, Dönitz's memoirs and skippers' memoirs have been translated.

another convoy battle mirrors the greater conclusions of all those previously undertaken, for there is certainly no dearth of U-boat tactical histories available in libraries and bookstores. Academic works written by trained historians remain a minority within the breadth of U-boat literature, however.

Some academic works overlap with popular books, which in turn overlap with both the academic and memoir schools. Popular works represent the bulk of U-boat literature, written by non-professionally trained historians, but often professional historians just the same. This includes Jak P. Malmann Showell, Martin Middlebrook, John Terraine, V.E. Tarrant, and Peter Padfield to name a few.⁹ Often these books have archival research behind them, but lack footnotes for the academic to follow; on the other hand, this school is also home to one notable book by trained historians without footnotes and *with* fictitious dialogue, but is still generated from archival research.¹⁰ It is virtually certain that the reading public has learned most of its U-boat history from popular works.

The memoir school, meanwhile, is entertaining and sometimes educational—Dönitz's *Memoirs: Ten Years and Twenty Days* (1958) giving the grand admiral's perspective intertwined with some documentary-based evidence, offering the reader the challenge of figuring out where the man's agenda ends and the more "factual" evidence begins. Other works including *Iron Coffins: A Personal Account of the German U-boat*

⁹ Malmann Showell has been very prolific. A few of his most recent works include *German Naval Code Breakers*, (Annapolis: Naval Institute Press, 2003); *Hitler's U-boat Bases*, (Annapolis: Naval Institute Press, 2002); and *U-boat Warfare: the Evolution of the Wolf Pack*, (Annapolis: Naval Institute Press, 2002); Martin Middlebrook, *Convoy: the Battle for Convoys SC.122 and HX.229*, (New York: Morrow, 1977); John Terraine, *The U-boat Wars, 1916-1945*, (New York: Putnam, 1989); V.E. Tarrant, *The U-boat Offensive, 1914-1945*, (Annapolis: Naval Institute Press, 1989) and *The Last Year of the Kriegsmarine: May 1944-May 1945*, (Annapolis: Naval Institute Press, 1994); and Peter Padfield's *Dönitz, the Last Führer: Portrait of a Nazi War Leader*, (New York: Harper & Row, 1984) and *War Beneath the Sea: Submarine Conflict 1939-1945*, (London: John Murray, 1995).

¹⁰ With its fictionalised dialogue, David J. Bercuson's and Holger H. Herwig's *Deadly Seas: The Duel between the St Croix and the U305 in the Battle of the Atlantic*, (Toronto: Vintage Canada, 1997) comes to mind.

Battles of World War II (1969), *U-boat Commander* (1984), and *Teddy Suhren, Ace of Aces* (2006), have allowed the men conducting the war to record their own histories, and provide the colour and depth to fill out what the first two schools of literature have created.¹¹

One work does not fit into either the American or German bodies of literature uniquely, but deserves mention. Janet M. Manson's *Diplomatic Ramifications of Unrestricted Submarine Warfare, 1939-1941* (1990) prepared the ground for all subsequent studies of USW.¹² Manson's work is almost entirely restricted to states' diplomatic intercourse, and therefore operates in an almost un-military sphere alongside this dissertation's subject matter. Furthermore, her work is devoted roughly ninety percent to the German unrestricted war, with a very superficial treatment of the American war at the end. Manson's book is a beginning, but is in no way definitive.

Literature on the American submarine war is populated predominately by non-academic works, on the other hand. The academic works include the official history by Samuel E. Morison, which is relatively brief, keeping the silent service's history relatively silent as well. Morison deals mostly in the narrative with a few points of analysis, but these remain too brief for a serious student to engage.¹³ The submarine service yielded its own *United States Submarine Operations in World War II*, (1949) by

¹¹ Herbert A. Werner, *Iron Coffins: A Personal Account of the German U-boat Battles of World War II*, (Austin: Holt, Rinehart and Winston, 1969); Peter Cremer with Fritz Brustat-Naval, Lawrence Wilson trans., *U-boat Commander: A Periscope View of the Battle of the Atlantic*, (Annapolis: Naval Institute Press, 1984); Erich Topp, Eric C. Rust trans., *The odyssey of a U-boat commander: Recollections of Erich Topp*, (Westport: Praeger, 1992); Teddy Suhren and Fritz Brustat-Naval, Frank James trans., *Teddy Suhren: Ace of Aces, Memoirs of a U-boat Rebel*, (Annapolis: Naval Institute Press, 2006). Suhren's title, translated from the German *Nasses Eichenlaub*, loses the most in translation.

¹² Janet M. Manson, *Diplomatic Ramifications of Unrestricted Submarine Warfare, 1939-1941*, (New York: Greenwood Press, 1990).

¹³ Samuel E. Morison, 15 vols., *History of United States Naval Operations in World War II*, (Boston: Little, Brown and Co., 1988).

Theodore Roscoe, with the understanding that “this volume is not the official operational history. Strictly speaking, it is not a history, nor is it to be studied as such. Herein, in narrative form, the reader will find the inspiring saga of submarining.”¹⁴ Despite this rather troubling assertion, the student of submarine history has little choice but to refer to this tome at times. It serves as a complement to another Clay Blair monolith, this time entitled *Silent Victory: The U.S. Submarine War Against Japan*, (1975). Blair’s first foray into submarine history offers something that his second did not: source material that cannot be found elsewhere. Blair interviewed and corresponded with over 200 veterans, wives of veterans, and those related to the submarine service to fill in the drier documentary record with personal stories. There is more analysis in this than his German volumes, but it is again not sufficiently analytical nor enough of a reference to completely satisfy either criteria.¹⁵

Arguably the most notable contemporary historian of the American submarine war is Gary Weir, whose work is often of a technical variety.¹⁶ A series of articles also exists offering some of the best scholarship on the subject pre-war, including work by Ernest Andrade Jr., in 1974 and J.E. Talbott in 1984¹⁷. Beyond that, the mass of literature draws heavily on personal experience or popular narrative/biography. Included in the former are the works of the more famous skippers like Eugene Fluckey (*Thunder Below: the USS Barb Revolutionizes Submarine Warfare in World War II*), James F.

¹⁴ Theodore Roscoe, *United States Submarine Operations in World War II*, (Annapolis: Naval Institute Press, 1949), xiii.

¹⁵ Clay Blair Jr., *Silent Victory: The U.S. Submarine War Against Japan*, (New York: J.B. Lippincott & Co., 1975).

¹⁶ For example, Gary E. Weir’s *Building American Submarines 1914-1940*, (Washington D.C.: Naval Historical Center, U.S. Dept. of the Navy, 1990); “The Search for an American Submarine Strategy and Design, 1916-1936,” *Naval War College Review*, 44:1 (Winter 1991): 34-48;

¹⁷ Ernest Andrade Jr., “Submarine Policy in the United States Navy, 1919-1941,” *Military Affairs*, 35:2 (Apr. 1971): 50-56; J.E. Talbott, “Weapons Development, War Planning and Policy: The US Navy and the Submarine, 1917-1941,” *Naval War College Review*, 37:3 (May-June 1984): 23-71.

Calvert (*Silent Running: My Years on a World War II Attack Submarine*), I.J. Galantin (*Take Her Deep!: A Submarine Against Japan in World War II*), Slade D. Cutter, (*Reminisces of Captain Slade D. Cutter, USN (Ret)*), and Edward Beach (*Salt and Steel: Reflections of a Submariner*). The popular narratives and biographies include those written about submarine skippers, often the same ones that saw fit to pen their own memoirs. They include Carl LaVO's *Slade Cutter, Submarine Warrior* and *The Galloping Ghost: The Extraordinary Life of Submarine Legend Eugene Fluckey*, as well as James F. DeRose's deceptively titled *Unrestricted Warfare: How a New Breed of Officers led the Submarine Force to Victory in World War II*, which has everything to do with the officers and virtually nothing with USW.¹⁸

The final category of relevant literature is found in unpublished dissertations, and offers some of the best scholarship in the area. Allison Winthrop Saville's "The Development of the German U-boat Arm 1919-1935," (1963) is aged but retains its relevance.¹⁹ Saville's argument of U-boat building as the link between First and Second World War campaigns has not been challenged, though over forty years have passed since it was written. This is a testament to the excellent calibre of scholarship; U-boat historiography suffers from Saville's work never having been published. More recently, Sarandis Papadopoulos' "Feeding the Sharks: The Logistics of Undersea Warfare, 1935-

¹⁸ Eugene Fluckey, *Thunder Below: the USS Barb Revolutionizes Submarine Warfare in World War II*, (Urbana: University of Illinois Press, 1992); James F. Calvert, *Silent Running: My Years on a World War II Attack Submarine*, (New York: J. Wiley, 1995); I.J. Galantin, *Take Her Deep!: A Submarine Against Japan in World War II*, (Chapel Hill: Algonquin Books of Chapel Hill, 1987); Slade D. Cutter, *Reminisces of Captain Slade D. Cutter, USN (Ret.)*, 2 vols., (Annapolis: Naval Institute Press, 1985); Edward L. Beach, *Salt and Steel: Reflections of a Submariner*, (Annapolis: Naval Institute Press, 1999); Carl LaVO, *Slade Cutter, Submarine Warrior*, (Annapolis: Naval Institute Press, 2003); Carl LaVO, *The Galloping Ghost: the Extraordinary Life of Submarine Legend Eugene Fluckey*, (Annapolis: Naval Institute Press, 2007); James F. DeRose, *Unrestricted Warfare: How a New Breed of Officers Led the Submarine Force to Victory in World War II*, (New York: Wiley, 2000).

¹⁹ Allison Winthrop Saville, "The Development of the German U-Boat Arm, 1919-1935," (Ph.D. Dissertation, University of Washington, United States, 1963).

1945” (1999) is far broader than the title suggests. Papadopoulos covered construction, repair, crews and training, torpedo problems and, of course, logistics, in a very readable way considering the expanse of material covered.²⁰ In spite of the wide array of topics, there remains an interconnectedness that eases the transition between topics but also helps provide a strong basis for comparison. Joel I. Holwitt’s “‘Execute Against Japan’: Freedom-of-the-Seas, The U.S. Navy, Fleet Submarines, and the U.S. Decision to Conduct Unrestricted Warfare 1919-1941” (2005) deals with the American submarines pre-war, but draws important conclusions and plumbs documents rarely used before to illustrate how USW was ingrained in the United States Navy prior to the war.²¹

In spite of the volume of available works on the American submarine war, there are significant holes in the historiography. It is fitting that for two USW campaigns as different as the American and German, that the literature would mirror those differences; far more questions about the American service remain unanswered in comparison. One need only look to the internet to see how differently these two wars are treated, and the different levels of interest. There are two excellent U-boat sites including archival material, www.uboot.net and www.ubootwaffe.net, which act as reference sites online. No similar or equivalent exists for the American war. Equally, the ASW war against Germany has been amply studied, while the Japanese side is, certainly in English, essentially silent. There therefore remain many more questions left to be answered about the American Pacific submarine war than the German Atlantic U-boat war.

²⁰ Sarandis Papadopoulos, “Between Fleet Scouts and Commerce Raiders: Submarine Warfare Theories and Doctrines in the German and U.S. Navies, 1935-1945,” (Ph.D. dissertation, George Washington University, United States, 1999).

²¹ Joel I. Holwitt, “‘Execute Against Japan’: Freedom-of-the-Seas, the U.S. Navy, Fleet Submarines, and the U.S. Decision to Conduct Unrestricted Warfare, 1919-1941,” (Ph.D. Dissertation, Ohio State University, United States, 2005).

In the end, the German campaign is arguably the better known and understood; holding the American war up for a side-by-side comparison allows a greater appreciation for the USW as a strategy, as well as yielding conclusions that help illustrate what was unique to each theatre or characteristic of unlimited submarine war. It is to this that this dissertation speaks directly. This study argues that USW as a strategy is shaped by the course of the wider war; that this is not an independent strategy, but draws its power from the strength of the grand strategy it is tied to. It is not a war-winner, but one component of a victorious campaign. USW will only ever be employed in “clash of civilisation” style wars, which is unlikely to happen again. This unlikelihood, when paired with the strategy’s lack of independence, is why international laws remain the same in 2007 as they were in 1936 and 1909.

Chapter One:

International Laws and Submarine Warfare

Kriegsraison geht vor Kriegsmanier—
Necessity in war overrules the manner of warfare

German Proverb

“International Law,” wrote the jurist W.E. Hall in 1880, “has no alternative but to accept war, independently of the justice of its origin, as a relation which the parties to it may set up, if they choose, and to busy itself only in regulating the effects of the relation.”¹ These words were written before the violent cataclysms of twentieth century war, suggesting an optimism that the next seventy years of warfare would dispel. The wars at sea alone showed that “the effects of the relation” were nearly impossible to regulate, and the proposed limitations were frequently irreconcilable with the state of technology. Creating International Laws to limit the use of force followed an apparently humanitarian tradition begun by Tsar Nicholas II—but which belied a real practicality in his motives. There was speculation that Russia was struggling to keep up with the financial burden of armament developments, so that limiting warfare would have benefited its relative weakness.² This dance between humanitarianism, necessity, and pragmatism foreshadowed the paradox of submarine warfare, which was highlighted by the world wars of the twentieth century.

On the eve of that era, laws existed for naval warfare, sea borne trade, and the art of waging *la guerre de course*—economic warfare. All of these converged on the

¹ Quoted in J.L. Brierly, *The Law of Nations: An Introduction to the International Law of Peace*, 6th Edition, Sir Humphrey Waldock, editor, (London: Oxford Clarendon Press, 1963), 398.

² W.T. Mallison Jr., *Studies in the Law of Naval Warfare: Submarines in General and Limited Wars*, Naval War College International Law Studies, vol., 58, (Washington, D.C.: United States Government Printing Office, 1968), 31.

submarine. Fifteen treaties on laws of war had been forged prior to the Great War, four of which pertained to undersea warfare. At least five more were developed between the First and Second World Wars, with three of those directly addressing submarines.³ The reality was that submersible boats were far less expensive to build than capital ships and had become very effective tools of commerce warfare, though they achieved this through illegal methods.⁴

Thus, necessity and pragmatism collided in a way that violated increasingly pacifist sensibilities in the interwar period. Such “unrestricted” submarine warfare was unpalatable, but arguably effective. In spite of a surge of interest in limiting war’s effects on those embroiled in it, by the Second World War, no workable solution had been found to bring necessity, pragmatism and humanitarianism at sea into line. Examining the developments in International Law and submarine strategy in total war shows that legality and strategy cannot always be reconciled; International Laws that favoured ideals over realities positioned themselves to be challenged and broken in “total” war.

Part One: The Origins of Laws

Submarine laws during the Second World War developed from existing legislation dating back centuries, drawing from two sources of law: treaties and custom. These sources shared the ability to impose obligations only on the states that desired to be bound by them, though treaties are applicable especially to their signatories and custom to a community. Treaties and customs are especially important in developing laws of war.

³ The pre-war treaties were: Declaration of Paris (1856); Geneva Convention (1864); Declaration of St Petersburg (1868); The Hague Conventions (1899). This last was revised and superseded by The Hague Conventions (1907). Please see Lassa Oppenheim, *International Law: A Treatise*, H. Lauterpacht, editor, 5th Edition, 2 volumes, (London: Longmans, Green & Co., 1935), II:189-92. Hereafter, Oppenheim-Lauterpacht, 5th Ed., for a full list of treaties in this era. Interwar treaties include the Treaty of Washington (1922), the Treaty of London (1930), and the Protocol to the Treaty of London (1936).

⁴ “Illegal” is here a statement of fact—an act that is done in contravention of established International Laws—not a value judgment or moral condemnation.

And as laws live and breathe, they can become outdated, to be replaced by further customs or treaties. Some of the treaties that looked to establish new standards of behaviour in the international community include the Declaration of Paris (1856), The Hague Conventions (1907), and the London Naval Treaty, Part IV (1930); these agreements reflect states' cooperation, often signifying a change in accepted procedure, and have come to replace custom more and more often in modern International Law.

Determining whether one is dealing with treaty or custom is a necessary point of departure for studies of the pre-Great War era, and into the Second World War. Whereas treaties are contrived, custom is arrived at by consent, not signatures, and binds whole communities by "tacit agreement."⁵ Customary law is suggested by general practices accepted as law, which gives rise to potentially unending discussions about the subjectivity of what "accepted as law," or *opinio juris*, really means. As Jurist Peter Malanczuk writes, "how can something be accepted as law before it has actually developed into law?"⁶

Nevertheless, there is no hierarchy between these two methods of lawmaking, each having equal rank and status. They are governed by the same three general principles that regulate all legal orders deriving from the same source. These principles are that "a later law repeals an earlier one; a later law, general in character, does not derogate from an earlier one, which is special in character; [and] a special law prevails over a general law."⁷ Therefore, no state is bound by obligations it does not wish to be

⁵ Antonio Cassese, *International Law*, (Oxford: Oxford University Press, 2001), 117.

⁶ Peter Malanczuk, *Akehurst's Modern Introduction to International Law*, 7th Edition, (New York: Routledge, 1997), 39.

⁷ Cassese, *International Law*, 117.

bound by, which means that mutual agreements could undo a treaty or custom in favour of a new pact, when the previous laws are no longer to a state's advantage.

Following the Declaration of Paris (1856), the First and Second Hague Conventions (1899 and 1907), and the unratified Declaration of London (1909), the submarine's full potential had yet to be explored militarily, but in legal terms it was classified as a surface ship. This proved inadequate during the Great War, but no significant, workable change was effected post-war. Neither the League of Nations Covenant (1919), the Treaty Relating to the Use of Submarines and Noxious Gases in Warfare (1922), the Treaty of London (1930), nor the Protocol to the London Treaty (1936) fixed the seemingly irreconcilable differences between International Law and the submarine's operational ability. The Second World War proved that there were still no customs or laws to which states were truly willing to submit, and that the treaty laws of sea warfare had not yet reached the point of evolution where they could realistically limit economic warfare.

The submarine was first used in combat against British forces by American rebels during the American War of Independence, 1776 to 1783. However, the "*Turtle*" was a failure, as its design was not yet advanced enough for effective use in combat. In the American Civil War (1861-5), the Confederacy developed a series of *Dauids*, which did some damage to the Union fleet, but it was the CSS *Hunley* that made history. It sank the Union sloop *Housatonic*, the first and last warship to be sent to the bottom of the sea by a submarine in the nineteenth century. Undersea warfare was still more a foolhardy risk than art or science: crew after crew of *Dauids* perished, and the *Hunley* was lost on the same sail that it scored its coup. True submarine warfare came of age in the twentieth

century, beginning inauspiciously in the Russo-Japanese War (1904-5) and becoming newsworthy in the Great War (1914-8).

In the hundred and fifty years between the *Turtle*'s inaugural voyage and the U-boats of the First World War, the submarine did not come to confuse lawmakers any less. Was it a surface ship that had submersible qualities? Ought it be considered a war vessel, though it could not stand up in confrontation against a true warship, or even ramming by civilian craft? What was its place in International Law? At the base of these questions and all maritime legal considerations lies the principle of freedom of the seas. This freedom affords belligerents and neutrals alike the right of passage on ocean lanes, drawing a sharp distinction between military actions permitted at sea compared to land.

As the Dutch philosopher Hugo Grotius suggested in the seventeenth century, freedom of the seas was based on the physical inability of navies to control it, for "the extent of the ocean is in fact so great that it suffices for any possible use on the part of all peoples, for drawing water, for fishing, for sailing."⁸ This reflected the natural law position that everyone shares everything of boundless supply that can be used inoffensively by the community. Territory was considered exhaustible, but the sea was still a force of nature, uncontrollable and free. As Aristotle explains, liquids have no limits of their own: "water is not bounded by a boundary of its own substance."⁹ Water is not contained unless a foreign element contains it, and in the early twentieth century, no single state could. Therefore, applying these ideas to modern law of the sea, every ship afloat would fly its national flag, and would be under the sovereign power of its state of origin. This concept did not develop from idealism or supranational power, but from

⁸ Hugo Grotius, Francis W. Kelsey trans., James Brown Scott ed., *De Jure Belli Ac Pacis Libri Tres* [*Law of War and Peace*], (London: Wildy & Son, Ltd., 1964), book 2, 190-1.

⁹ Quoted in Grotius, *De Jure Belli Ac Pacis Libri Tres*, 191.

agreements among states that each would control its subjects at sea. As historian John Hattendorf has explained, “law at sea grew from treaty agreements, and practice, with their acceptance as custom.”¹⁰

Pre-First World War Conferences and Treaties

Keeping the basic freedom of the seas intact, the fundamental requirements for law of war at sea lie in two general principles: the right of neutrals to pursue their commerce and national interests (without violating rules of war), and humane treatment of belligerents, equally as far as rules of war require.¹¹ These rules of war developed out of practice in war, and sought to regulate belligerence and neutrality equally, especially from the latter half of the nineteenth century onward.

The Declaration of Paris (1856) was the first relevant treaty that both sought to uphold the rights of neutrals and belligerents to trade in times of war, and to develop a humane code of maritime law—which submarines would later challenge. This legislation was designed to regulate shipping and maintain freedom of the seas. It evolved from the Anglo-French *modus vivendi* of 1854, by which Britain and France chose to modify maritime commerce standpoints for the sake of their Crimean War alliance. Matters of capture by Britain and France in their adjoining waters clearly could have weakened their ties, necessitating the agreement.¹² Essentially, their alliance forced the two states to come to terms with conflicts in shipping, which became the compromise embodied by the principle “free ships free goods,” though without the corollary “enemy ships enemy

¹⁰ John B. Hattendorf, “Maritime Conflict” in *The Laws of War*, Michael Howard et al, editors, (New Haven: Yale University Press, 1994), 99.

¹¹ D.P. O’Connell, I.A. Shearer ed., *The International Law of the Sea*, Volume II, (Oxford: Oxford Clarendon Press, 1984), 1101.

¹² Julius Stone, *Legal Controls of International Conflict*, (New York: Rinehart & Company Inc., 1959), 458.

goods.”¹³ The four provisions of this declaration were: (1) privateering was to remain abolished; (2) the neutral flag was cover to protect non-contraband goods from capture; (3) non-contraband neutral goods under enemy flag were immune from capture; (4) and blockade must be effective in order to be legal—which meant that it must be maintained by enough force to prevent truly access to the coast by the enemy.¹⁴

Privateering, a tradition of belligerent governments issuing letters of marque to loyal citizens for authorized attack on enemy merchant shipping, was distinguished from piracy by this technicality, and in 1856 much of the international community was ready to ban it. The United States could not agree with the clause on privateering, however, which prevented it from signing the treaty—continuing the American tradition of staying out of European affairs.¹⁵ The Declaration of Paris was signed by Great Britain, France, Austria, Russia, Prussia, Sardinia, and Turkey, and accepted by many other powers—including the United States by 1898—even without formal agreement.¹⁶

Tsar Nicholas II was caught up in the increasing tendency towards humanizing warfare in the nineteenth century and some more practical financial concerns when he initiated the First Hague Conference in 1899, as mentioned above. The Red Cross had

¹³ Frederick Smith, *The Destruction of Merchant Ships under International Law*, (London: J.M. Dent & Sons Ltd., 1917), 55. The main criticism of the Declaration of Paris was that it allowed major maritime powers to protect their interests, but did not take into account neutral states' or lesser powers' interests.

¹⁴ Stone, 459, and Lassa Oppenheim, H. Lauterpacht, editor, *International Law: A Treatise*, 7th Edition, 2 volumes, (London: Longmans, Green & Co., 1952), II:362-3. Hereafter, Oppenheim-Lauterpacht, 7th Ed.

¹⁵ Hattendorf explains that according to article I, section 8, paragraph 11 of the US Constitution, Congress had the right to grant letters of marque. Therefore, the Americans could not sign this treaty without first amending the Constitution. See page 109, ff42. It is noteworthy, however, that in the American Civil War (1861-65), no letters of marque were issued, though Congress had explicitly granted the president the right to do so. See also A. Berriedale Keith, *Wheaton's International Law*, Volume 2—War, 7th Edition, (London: Stevens & Sons, Ltd, 1944), 265. Regarding the Paris Declaration, however, D.P. O'Connell further explains that the United States wanted a *guarantee* that private property would be immune from seizure at sea. This was half of the Monroe Doctrine's conditions—the other being that Europe stay out of American affairs—as well as signifying a position the United States would take frequently in the twentieth century, especially regarding the League of Nations.

¹⁶ Keith, 6, 266.

been formed at Geneva by Henri Dunant after the Battle of Solferino in 1864, when Dunant had observed casualties on the battlefield left out to die gradually and horribly of their wounds. Accordingly, Dunant's earliest vision for laws of war extended only as far as covering land warfare and its participants; in 1869, an extension to include war at sea was developed, though it went unratified. At The Hague in 1899, four conventions were adopted, three of which drew directly from the proposed treaty of 1869. First, so-called Hague I concerned the peaceful settlement of disputes; second, (Hague II) was to codify the laws and customs of war; third, (Hague III) was an adaptation to the sea of the treatment of wounded on land from the 1864 Geneva Convention; and Hague IV, prohibited the launching of projectiles from balloons. This was the first attempt, small though it was, to codify laws for war at sea, aside from the trade-related Prize Laws that were developed from commercial principles laid down centuries before, and the traditional rights of men-of-war to visit, search and seize merchantmen. In the Final Act of the conference, the intention to develop more legislation was accepted unanimously.¹⁷

The Conference adopted the following resolutions:

that the questions of the rights and duties of neutrals may be inserted in the program of a Conference in the near future... that the questions with regard to rifles and naval guns as considered by it, may be studied by the Governments with the object of coming to an agreement respecting the employment of new types and calibers... [that the Governments] examine the possibility of an agreement as to the limitation of armed forces by land and sea... that the proposal which contemplates the declaration of the inviolability of private property in naval warfare may be referred to a subsequent Conference for consideration... and the wish that the proposal to

¹⁷ See H.C. Rothery and E.S. Roscoe, *Prize Droits: being a report to His Majesty's Treasury on Droits of the Crown and of Admiralty in Time of War*, (London: His Majesty's Stationery Office, 1915) for a historical account of the development of prize laws. Laws of seizure date back to a code developed in the fourteenth century known as "*Consolato del Mare*", which the British upheld through the nineteenth century. See also H.A. Smith, "Le Développement Moderne des Lois de la Guerre Maritime", in *Recueil des Cours*, Académie de Droit International and the Carnegie Endowment for International Peace, 63: 1 (Paris: Recueil Sirey, 1938): 624.

settle the question of the bombardment of ports, towns, and villages by a naval force may be referred to a subsequent Conference for consideration.¹⁸

Although naval affairs were not given excessive attention at the First Hague Conference, it is clear from this Final Act that there were many questions about the use of maritime force the international community planned to address in the near future. As far as submarine warfare was concerned, the proposition to prohibit the use of “submarine torpedo boats,” or “plungers,” met with so much opposition that it was abandoned.¹⁹ Submarines were still such a novelty that no power was willing to commit to their abolition until they were better understood, though the question would arise repeatedly in the interwar period.

Theodore Roosevelt initiated the Second Hague Conference in 1907, which convened to continue the work begun eight years earlier. The Boer (1899-1902) and Russo-Japanese Wars had given statesmen more fodder for discussions about limiting new weaponry and humane treatment for combatants. While the Boer War had been primarily a limited land war, the Russo-Japanese War was revolutionary in several ways—not only did the tiny Japanese archipelago defeat the Russian Goliath, but the war at sea incorporated submarines, though shock provided the foremost advantage. On 13 April, 1904, two first-class Russian battleships struck Japanese mines; one ship sank and the other was extremely damaged. At first, the Russians did not realize this was due to mines, and battleship crews began panicking and firing wildly around their ships out of fear of submarine attacks.²⁰ Three years later at the Second Hague Conference in 1907,

¹⁸ *Final Act of the International Peace Conference*, 26 *Martens Nouveau Recueil* (ser. 2) 258 – *The Hague*, 29 July 1899. Please see <http://www1.umn.edu/humanrts/instree/1899a.htm>. Last accessed April 25, 2006.

¹⁹ William I. Hull, *The Two Hague Conferences and their Contributions to International Law*, (Boston: Ginn & Company, 1908), 451.

²⁰ Mallison, 34.

most states knew what had happened in the Russo-Japanese War, and most had submarines in their respective navies, so their abolition was no longer a tenable proposition.²¹ The Hague Conference granted “lawful combatant” status to surface torpedo boats, surface torpedo boat destroyers, and submarines out of necessity, for these ships had become important weapons in offensive maritime war and therefore required consideration. The most significant effect of this was that it earned submarine crews the rights afforded by the Geneva Convention for prisoners of war. However, no limitations were put on submarine use—yet—except that torpedoes were required to become harmless if they missed their mark.

The tenets of international maritime law remained in development and flux, in spite of the work done at these major conferences. For example, Convention XII established at the Second Hague Conference was designed to set up an International Prize Court to ensure that all states had the option of an unbiased final court of appeal.²² However, there was a great deal of uncertainty about the laws this court would administer, and in an effort to clarify this situation and create further laws for trade warfare, the London Naval Conference (1908) was initiated. There was also some political pressure behind Great Britain’s call for this conference, given that the naval arms race was at its peak, suggesting a looming naval war.

When the great powers met in London, they drew largely from the Declaration of Paris (1856), while reflecting changes in the world order and technological advances. The resulting Declaration of London (1909) went beyond prize law to focus on issues of blockade, contraband, and neutrality, all of which would soon become critical in the First

²¹ Mallison, 34.

²² Lord Devlin, *The House of Lords and the Naval Prize Bill, 1911*, (Cambridge: Cambridge University Press, 1968), 5.

World War. This brings the issue of treaties and customs back to the fore, because while the declaration went unsigned, it was agreed that this would be the standard followed by the great powers going into the war.²³ The United States, still neutral in 1914, was in favour of the care taken to preserve neutral rights, while Germany and Great Britain agreed that each would adhere to the laws set out only if the other did. As events quickly showed, however, the achievements made at London would have no enduring effect.

Prize Law, Non-Combatant Status, and Rights of Merchant Vessels

Even prior to the Declaration of Paris in 1856, law regarding war at sea was supremely concerned with commerce and trade. It was largely considered that a state's rights during war included trading for its own benefit and, within limits, preventing its enemy from doing the same. Therefore, the destruction of merchant ships, prize law, and Visit, Search and Seizure were of primary importance at Paris, as well as later regarding submarine warfare. "Prize" was defined as "a ship or goods captured *jure belli* [by the laws of war] by the maritime force of a belligerent at sea or seized in port."²⁴ A belligerent power had the right to visit any non-war vessel flying a non-enemy flag or emblem on the high seas or in marginal, non-neutral waters. This visit was intended to give the belligerent the opportunity to examine the ship's papers and credentials to decide whether it or its cargo should be searched.²⁵ If the warship considered it necessary to search the vessel, three outcomes were possible: first the ship could be found to be completely neutral, in character and cargo, and would then be released; second, it could

²³ See below for further discussion on prize, blockade, and the Declaration of London (1909).

²⁴ Viscount Tiverton, *The Principles and Practice of Prize Law*, (London: Butterworth & Co., 1914), 2.

²⁵ Joseph Lohengrin Frascónà, *Visit, Search, and Seizure on the High Seas: A Proposed Convention of International Law on the Regulation of this Belligerent Right*, (New York: Private publisher, 1938), 2. "High Seas" is defined as all that area of, and all that space above and below, the surface of all waters lying outside the marginal waters of any State; "waters" are that area of and all the space above and below the maritime surface, see page 3.

be a neutral vessel behaving non-neutrally, and therefore subject to seizure and condemnation; or third, the ship could be deemed “enemy” and subject to capture.²⁶ When seizure was called for, the visiting vessel would take possession of the cargo for Prize Court proceedings, putting a crew aboard to steer the ship to the visitor’s nearest land base. Belligerent war vessels alone had the right of visit, search, and seizure, though they were required to follow specific laws so as not to abuse the other vessel’s rights.²⁷

In times of conflict, the rights of vessels flying the enemy flag rested upon their character. Indeed, while the details and specifics of all points of law for trade war were not yet concrete by the outbreak of the Great War, it was certain that legitimate Visit, Search and Seizure required that the ship’s relationship to its state be taken into account. Naturally, all enemy vessels belonging to the state, such as warships or auxiliaries, could legally be attacked, captured, or destroyed at any time without prior notice, both on the high seas and in either belligerent’s territorial waters. This was standard naval warfare. Vessels belonging to the *subjects* of the enemy state, however, were not to be so summarily or drastically treated—provided they had not been commissioned for service in the war.²⁸ This point draws directly from the division between combatant and non-combatant, a focus for most of the laws of war considered here.

²⁶ Frasconà, 2. An example of non-neutral activities could include carrying contraband cargo or blockade running; being deemed “enemy” could arise from carrying a cargo that is at least 50 percent contraband, or, more obviously, belonging to an enemy state. See also A. Pearce Higgins, *Defensively-Armed Merchant Ships and Submarine Warfare*, (London: Stevens and Sons Ltd, 1917), 52.

²⁷ Belligerent war vessels have the right of Visit, Search and Seizure “alone” because belligerent merchant ships or non-war vessels do not—that would be an act of piracy (see below on armed merchant vessels). Furthermore, this is only permitted to warships on the high seas, or in the territorial waters of either of the belligerent states. In very rare circumstances seizure can be made by land forces, as in the case of *The Primula*, when the Lübeck port authorities seized the *Primula* on orders of the German Secretary of the Interior. See Charles H. Huberich and Richard King, *The Development of German Prize Law*, (New York: Baker, Voorhis & Company, 1918), 19.

²⁸ “Fleet Auxiliaries” were service or supply ships, neither clearly combatant nor non-combatant as they were part of the fleet, but unable to engage in hostile actions *per se*. This included ships owned or requisitioned or chartered by the government, including colliers, troop or munitions transport,

The advent of differentiation between a “combatant” and “non-combatant” in war marked the emergence of “civilised” warfare, especially following the particularly brutal Thirty Years’ War (1618-1648).²⁹ Part of the Peace of Westphalia sought to draw a greater distinction between those involved in combat and those on the periphery, or, combatants and non-combatants. Thus, the essential tenet of “civilised”, “limited”, or between “modern” war was born, making warfare allowable only against combatants, those charged by the state to wage war. The philosopher Grotius was quick to point out that such “civilised” warfare could only exist if there were good faith exhibited by both sides, however.³⁰ The laws of war discussed above began to improve the lot of combatants first, and moved towards protecting *all* people during times of war, combatant or otherwise. Regarding naval war, limitations were established on the bombardments of towns and villages, on laying contact mines, and most importantly for this study’s purposes, on the status of merchantmen.

minesweepers, or repair ships. See Stone, 575, ff20. In addition, in the Franco-Prussian War (1870-1) “volunteer” navies were established, whereby the state invited merchant ships of private ownership to be placed at the service of the state. They were armed and equipped for belligerent operations against the enemy, which, after the abolition of privateering in 1856, raised the point that this was simply a new name for an old practice. However, British jurists decided there was “substantial difference” between the two practices, and subsequently some leading powers entered foreign arrangements with major shipping companies, to subsidise their fastest ships to be placed in the government’s service in the event of war. These vessels were not against the treaty law of 1856, but posed a new problem regarding their status. Ultimately, they were deemed belligerent if taken into the service of the state, and operated by the laws and customs of war. See Keith, *Wheaton’s International Law*, 266-9 for details.

²⁹ The concept of “civilised” warfare requires quotation marks for in this period of so-called civility, very un-civilised combat still waged between members of different religions and “races”, and while an effort was made to shield the general population from these effects, it was still an extremely violent period in warfare. See Christon I. Archer, et al, *World History of Warfare*, (Lincoln, NE: University of Nebraska Press, 2002), 279, 322; Oppenheim-Lauterpacht, 7th Ed., II: 187-88. See also Geoffrey Parker ed., *The Thirty Years’ War*, (London: Routledge & Kegan Paul, 1984). Of course, the extremely polemic *Advance to Barbarism*, (London: Thomson & Smith Ltd., 1948) by “A Jurist” (actually, F.J.P. Veale) suggests that only the eighteenth century saw true “civilized” warfare. While the distinction between combatant and non-combatant had been established and advanced later than that, the World Wars of the twentieth century were a complete reversal of the earlier codes of civilized warfare (p. 61, 81).

³⁰ This is the subject of the final chapter of Grotius’ *De Jure Belli ac Pacis* (*The Law of War and Peace*).

All citizens of enemy states are legally allowed to be treated as enemies in war, though that does not suggest that all members are to be treated *alike*.³¹ Under The Hague Convention (1907), it was decided that crews of enemy merchantmen must be treated as non-combatants.³² They were therefore non-combatants who, it was largely agreed, had the right to arm their ships defensively, to resist enemy capture. This brought up a host of questions for jurists prior to the war: in the post-piracy age, did arming not make merchantmen warships, and therefore their crews combatants? At a round-table discussion at *L'Institut de Droit International* (Institute of International Law) in August 1913, German jurist Dr. Heinrich Triepel objected to the notion that a merchantman could be defensively armed, claiming that “a merchantman never has the right to defend itself, even if it is attacked illegally.”³³ Triepel’s opinion was shared by another German jurist, Dr. Georg Schramm, a notable point that both men had ties to the German Admiralty.³⁴ Their position was based on the assumption that an un-commissioned ship’s crew members must be taken as *franc-tireurs* (guerrilla warriors) if they were to defend their ship against seizure. Their opinions were only that, however, and were not widely shared. Shortly afterwards, renowned legal expert Lassa Oppenheim refuted their dissent

³¹ Keith, *Wheaton's International Law*, 169.

³² F. Smith, *The Destruction of Merchant Ships*, 15, 65-67; Keith, *Wheaton's International Law*, 289. See The Hague Convention (1907), No. IV, Articles 1, 2. Aside from merchantmen, coastal fisheries, public or private vessels engaged in scientific, religious, philanthropic, or humanitarian expeditions were fully immune from capture. Also absolved from search and seizure were cartel ships licensed to engage in the exchange of prisoners of war or other specifically agreed upon official services, and hospital ships, as long as they were exclusively devoted to caring for the sick and wounded. F. Smith also draws attention to The Hague Convention (1907), No. VII, especially Article 1, as being a corollary of the Declaration of Paris (1856) and its applications to privateering.

³³ Triepel, quoted in *Annuaire de L'Institut de Droit International: Session d'Oxford—Août 1913*, vol 26, (Paris: A. Pedone, 1913), 516.

³⁴ The frontispiece of Schramm’s *Das Prisenrecht in seiner neuesten Gestalt* (Berlin: E.S. Mittler & Sohn, 1913) describes the author as “Geheimer Admiralitätsrat und vortragender Rat im Rechts-Marine-Amt”, or “Confidential Legal Advisor to the German Admiralty”; Schramm echoes what Triepel argued at the Oxford meeting of the Institute of International Law, that any resistance by merchant vessels was illegal. See also Higgins, 10-11.

in the International Law journal *Zeitschrift für Völkerrecht* (Periodical of International Law), which was soon followed by a further rejection by the German jurist Dr. Hans Wehberg in his book *Von Tirpitz und das deutsche Seekriegsrecht* (von Tirpitz and German Law of War at Sea).³⁵ More importantly, this dissent was *not* borne out in the practice of states—not even by Germany—and therefore it can be judged as a simple misunderstanding of naval war and law.

Thus, defensive armament was customarily accepted without merchantmen losing their non-combatant status, though only if they adhered to certain guidelines. First, they could not carry guns greater than six inches in calibre; these had to be few in number, with a limited amount of available ammunition, and carried aft. Second, the vessel was required to be manned by the same crew and officers that manned it prior to the outbreak of hostilities. Third, vessels were permitted only to take on as much fuel and supplies as would be needed to continue to their intended destinations—based on the amounts they carried for the same voyages prior to hostilities. Fourth, the cargo of the vessel had to be benign, carrying nothing that a man-of-war would require to engage in combat was allowed.³⁶ Fifth, the vessel was required to carry passengers unfit to enter military or naval service of any belligerent, in particular women and children. Finally, if the ship steamed only at slow speed and followed all mentioned guidelines, it would be considered a non-combatant vessel, with all the rights and privileges its status afforded.³⁷ Thus, a merchant vessel was within its rights to bear arms defensively; as Barrister

³⁵ See Hans Wehberg, *Von Tirpitz und das deutsche Seekriegsrecht*, (Bonn: A. Marcus & E. Webers Verlag (Dr. jur. Albert Ahn), 1915), 22-37.

³⁶ This was the most difficult term to follow in the Great War, when lists the line between “conditional” and “absolute” contraband was blurred nearly to extinction. See below for further discussion.

³⁷ Higgins, 46-47.

Frederick Smith remarks, “to offer resistance to a warship may, in the case of an enemy merchantman, perhaps be contrary to prudence; it is not contrary to law.”³⁸

The right of enemy merchant vessels to carry weapons for its defence was clearly established prior to the outbreak of the Great War, but equally clear were the laws that prohibited a neutral merchantman to do the same. As American Professor Ellery C. Stowell argued in 1917, “it is a wild conceit, that wherever force is used it may be forcibly resisted; a lawful force cannot lawfully be resisted.”³⁹ Stowell was essentially suggesting that two states at war had the right to use force to defend themselves against the other, but two states at peace were never permitted by law to use force. This partly derived from the fact that when an enemy merchantman used force to prevent visit, search or capture, the ship would thereafter be liable to attack, because its crew traded its non-combatant status to become active members of the state’s fighting forces.⁴⁰ However, if a neutral ship “defended” itself against visit or capture, the crew could not be afforded the same change of status, and entered into a legal limbo. It could neither be qualified as combatant nor non-combatant, for those are by definition reserved for citizens of states at war.

Enemy merchantmen in one situation could legally be permitted to act offensively—though not with their weaponry. Vessels pursued by hostile submarines were allowed to charge submarines, forcing them onto the defensive by causing them to submerge; moreover, if a merchantman had the ability and opportunity, it was even acceptable for it to ram the submarine.⁴¹ Barrister Smith argued that this was justifiable if

³⁸ F. Smith, *The Destruction of Merchant Ships*, 19.

³⁹ Higgins, 38-9.

⁴⁰ F. Smith, *The Destruction of Merchant Ships*, 17.

⁴¹ F. Smith, *The Destruction of Merchant Ships*, 19.

the merchantman had legitimate grounds for fearing that the submarine would attack unlawfully, although he failed to qualify what “legitimate ground for fear” might have been.⁴² This, too, was forbidden for neutral ships. Thus, it appeared as though neutral vessels were at a serious disadvantage during times of war should submarines conduct themselves *hors la loi*; neutrals were prohibited from acting defensively or offensively, but this ought not to have been a problem according to prewar doctrine, juristic opinion and recent states’ practices regarding commerce warfare.

Turning to the man-of-war’s rights in trade war, after keeping to the laws outlined above, the warship that successfully captured a merchantman also had to contend with the laws surrounding that vessel’s destruction. Because destruction was a possible fate for a captured merchantman gave more legitimacy to the ship’s right to arm itself defensively. Of course, prize laws stipulated that captured private enemy vessels be transferred to the capturing state only *after* the Prize Court had ruled on the issues; after transfer and judgment, it became legal for the belligerent to destroy the craft and its cargo at its discretion.⁴³ The policy of destroying the vessels *prior* to the Prize Court ruling was more controversial yet still at times legal.⁴⁴ This practice was considered inhumane to some, but the fact remained that there were times when it was legal for a hostile vessel to destroy the prize. In circumstances of *force majeure*, under British law, the captor had the right to scuttle a ship if he was “threatened with pursuit by the enemy, unable to put a prize crew on board, engaged on an urgent mission, or [it was] necessary to conceal his

⁴² F. Smith, *The Destruction of Merchant Ships*, 19.

⁴³ Oppenheim-Lauterpacht, 7th Ed., II: 487.

⁴⁴ Keith, 315. Quoting Chancellor Kent, Keith states that “sometimes circumstances will not permit property captured at sea to be sent into port; and the captor in such cases may destroy it, or permit the original owner to ransom it.” In modern practice, however, destruction was far more likely than ransom.

position and course from his adversary's cruisers,"⁴⁵ as the cases of *The Acteon* (1815), *The Felicity* (1819), and *The Leucade* (1855) showed.⁴⁶

Traditionally, Americans had been even more pragmatic when dealing with destruction; for example, during the Civil War, Southern Confederate States' cruisers (most famously the CSS *Alabama*) destroyed all enemy prizes because there was no port open for them to bring prizes to.⁴⁷ Both the British and American practices and opinions show that one school of thought espoused that destruction was lawful only in cases of absolute *necessity*, but this was not the only position. Other states allowed for destruction of prize vessels in nearly every case of *convenience*.⁴⁸ For example, in the Russo-Japanese War, Russia destroyed twenty-one captured Japanese merchantmen. Russia thus made clear its position on the prize issue, for while a ship could only successfully capture a few prizes at a time while operating within protocol and requirements, by destroying vessels, a warship could continue the hunt and effectively diminish the enemy merchant fleet.⁴⁹ Regardless of its practicality, this remained an overly harsh and wantonly cruel treatment of the ships' crews; burning their ships and exposing them in open boats tended to have the singular effect of annoying the enemy, and often provoking retaliation.⁵⁰ Legality, good strategy and humanitarianism were in conflict on this point, showing that even prior to the controversial advent of the submarine as a major commerce raider, conflicts of thought and practice existed in standard trade war.

⁴⁵ Jurist L. Gessner, quoted in F. Smith, *The Destruction of Merchant Ships*, 28.

⁴⁶ Oppenheim-Lauterpacht, 7th Ed., II: 487, ff6.

⁴⁷ Keith, 315.

⁴⁸ Oppenheim-Lauterpacht, 7th Ed., II: 487.

⁴⁹ Oppenheim-Lauterpacht, 7th Ed., II: 487.

⁵⁰ Keith, 316.

Blockade and Contraband, Neutral Trading and the Declaration of London (1909)

Visit, Search and Seizure were not the only means of verifying, preventing shipment, or capturing trade; a legal blockade of an enemy's ports or coastline could equally allow a belligerent to control all passage of goods into his enemy's territory. Originally, this practice had begun roughly four hundred years earlier, when the Dutch declared the ports of the Spanish Netherlands blockaded in 1584 and 1630.⁵¹ The blockade concept was conceived of to "prevent ingress and egress of vessels [or their cargoes] of all nations to and from the coast of an enemy, or a part thereof."⁵² It was thought of as the extension of a land fortress in the early phases of its evolution, so legally it could not be applied to unfortified ports, let alone whole stretches of coast.⁵³ It was also once required to be comprised of a chain of men-of-war at anchor close to the shoreline. These imperatives were given up as technological advances made it necessary, so that by the First World War, writers of International Law agreed that a blockade *could* extend to an entire coastline, and that only the threat of *danger*, not a physical line of warships anchored close to shore, was sufficient to form a blockade.⁵⁴ The practice of blockading one's enemy went from being a very physical reality to a highly controversial strategy, promising difficulty in future conflicts.

By the eve of the Great War, the only hard and fast rule of blockade law was that a blockade had to be effective to be binding; beyond that, there were few conventional rules.⁵⁵ Blockading could be a legitimate naval operation for intercepting all states'

⁵¹ Oppenheim-Lauterpacht, 5th Ed., II:627.

⁵² Stone, 492.

⁵³ O'Connell, 1150.

⁵⁴ On the legal writers agreement regarding blockade of a coast line, see Alexander Holzoff, "Some Phases of the Law of Blockade", in *The American Journal of International Law*, 10 (1916), 53; on the transition from anchored warships to threat of danger, see Oppenheim-Lauterpacht, 5th Ed., II: 637.

⁵⁵ Oppenheim-Lauterpacht, 5th Ed., II: 627.

intercourse by sea, but that depended on its being a “close blockade,” erected with “impartial application; a certain range of proscription, directional or geographical; due authorization of its establishment, and a certain degree of physical effectiveness.”⁵⁶ In basic terms, “impartiality” could be interpreted as universality—that the blockading state would apply its restrictions against all allies and neutrals as well as its enemies.⁵⁷ The “range of proscription” suggested the blockade’s closeness, which had once been established at 300 metres from the shore in the era when coastal batteries were not able to shoot that far. However, the Dutch blockaded the entire Spanish Netherlands during the Thirty Years’ War and Grotius supported the practice, which transferred legality from locality to effectiveness; therefore, there was no exact measure from the coast required, but that the blockade must be close enough to be effective.⁵⁸ “Authorization of the blockade’s establishment” implied that its being would be declared and made known to the international community, for a vessel that attempted to run the blockade was only committing a criminal act if it had prior knowledge that a blockade was in place.⁵⁹ The final contingency, “physical effectiveness,” was not absolute, as mentioned above. According to the Declaration of Paris (1856), effectiveness was determined by maintaining “such a force as is sufficient really to prevent access to the coast.”⁶⁰ Thus, the key to enacting an efficient blockade was not that it be 100 per cent successful in

⁵⁶ Devlin, 3; Stone 493.

⁵⁷ On “impartiality”, Oppenheim and Stone disagree. The former considers that impartiality is universality, and therefore *all* states, even neutrals, equally must be kept out of the blockade zone. However, neutral men-of-war can apply for special licenses as exceptions. Stone, meanwhile, states that “impartial application” does not mean “universal application,” just that the blockading nation cannot discriminate seriously in favour of particular neutral or allied shipping. Please see Oppenheim-Lauterpacht, 5th Ed., II: 628 and Stone, 493.

⁵⁸ Please see the “First World War” section and the discussion of “long distance” blockade.

⁵⁹ Oppenheim-Lauterpacht, 5th Ed., II: 641.

⁶⁰ *Declaration of Paris* (1856), in *The Law of War: A Documentary History*, Leon Friedman editor, Volume I, (New York: Random House, 1972), 156-7.

keeping all ships out of the specified zone, but that there be sufficient degree of danger to make probable the capture of any vessel breaching the blockade.⁶¹ By fulfilling these characteristics, a belligerent state was allowed to prevent its enemy from trading with neutral states by blockading the enemy's ports and coasts, and stopping the traffic of *all* goods, contraband or not.⁶²

The concept of contraband in International Law derives from the Italian word "*contrabbando*," meaning "in defiance of an injunction". The contraband of war established this injunction against goods traded commercially between states, especially those transported on sea lanes. Items designated as contraband were forbidden by all belligerents to be carried to the enemy, given that these goods would almost certainly prolong the war by buttressing the enemy's strength.⁶³ Categorizations of contraband had existed as early as Grotius' era, and by and large these categories remained in force up to the First World War. These included: "absolute" contraband, or goods exclusively used for war; "free" goods, not susceptible to use in war; and "conditional" contraband, susceptible to use in war as well as for purposes of peace.⁶⁴ In Britain and the United States, designations of these three categories have tended to overlap. In the United States, this developed out of the Supreme Court's ruling on *The Peterhoff* case after the American Civil War. In the Russo-Japanese War, Japan also tended to follow the Anglo-

⁶¹ O'Connell, 1151; Holzoff, 55. Oppenheim-Lauterpacht suggests that two forms of blockade never considered effective were contact mines set up around the coast and stone-filled and scuttled ships, 639.

⁶² James W. Garner, "Some Questions of International Law in the European War" Part II, in the *American Journal of International Law*, 9:4 (Oct. 1915), 818-857.

⁶³ Oppenheim-Lauterpacht, 5th Ed., II: 657.

⁶⁴ Legal writer Hugh Bellot cites Grotius' characterization of these categories as "useful in war," "of no use in war," and "ambiguous." Bellot also establishes that custom dictates that nations define in treaties what their contraband lists are. Please see, "The Blockade of Germany," in *International Legal Notes*, vol. 3, (1918), 60. However, as Oppenheim points out, treaties existed from the sixteenth century to fix established lists of contraband, but they were contradictory. Therefore, in times of hostility, without clearly established treaty law to follow, it was left to each belligerent to determine its practice, thus paving the way for contraband problems in the First World War. See Oppenheim-Lauterpacht, 5th Ed., II: 657.

American practice, though Russia did not.⁶⁵ Germany kept to the terms set out in The Prize Code (1909), a revision of the Law of 3 May, 1884 on prize, though in the Great War its lists were amended to keep up with British developments.⁶⁶

While the categorizations of “absolute contraband,” “conditional contraband,” and “free goods” were straightforward enough, fixing lists within these categories was anything but clear cut. Ultimately, attempting to set up uniform treaty laws to fix contraband lists proved virtually impossible because, as Lassa Oppenheim points out, what served a state’s interests in peace would not necessarily be the same as what served its interests in war; indeed, their interests in the two circumstances were often irreconcilable.⁶⁷ Therefore, virtually any agreements made by neutral states would become unusable should those states go to war—and they did. The only effective custom regarding contraband lists prior to the Great War dictated that the lists must be published, a thoroughly imperfect system.⁶⁸ Given that there was still room for the transfer of goods from the “conditional” to “absolute” lists simply by declaration or notification, the lists were always in a contentious flux, interrupting the trading patterns of both belligerents and neutrals.

By law, neutrals have full rights to trade in absolute contraband items during times of war, and are also freely allowed to carry these goods to their destinations. The doctrine of continuous voyage as it developed between the American Civil War and First World War certainly affected these rights, however. The matter of goods’ destinations is an issue of contraband as well as blockade, having grown out of traders’ desires to limit

⁶⁵ Keith, 481-5.

⁶⁶ Huberich and King, 5-6.

⁶⁷ Oppenheim-Lauterpacht, 5th Ed., II: 658.

⁶⁸ Keith, 468.

the length of time their shipments were in danger on the seas.⁶⁹ A neutral power shipping contraband to a hostile port would, under normal circumstances, accept a high degree of danger to the shipment from the time the ship left neutral waters until it reached its port of destination. If the shipper broke up that voyage and sent it first to a non-hostile intermediate port, the period of jeopardy would then theoretically be reduced to the time the goods were shipped from the non-hostile port to their final destination. Continuous voyage rejects the legal basis of reducing the period of danger, and considers any point of transit from the beginning of the voyage to the ship's arrival at the final port as a legitimate point for capture.⁷⁰

This doctrine came to be considered “part of the law of nations,” upheld by Britain, France, Italy and Germany in the course of the Great War.⁷¹ When Britain fully rejected the Declaration of London in July 1916, it reverted to more traditional rights, applying continuous voyage to absolute *and* conditional contraband, as well as to blockade, and causing friction with neutral powers in the process. Britain's practice was to stop neutral vessels sailing to neutral ports when carrying what Britain considered conditional contraband, though in many cases the goods were not kept indefinitely, just long enough to cause problems of spoilage.⁷²

Beyond what the doctrine of continuous voyage allows, the Law of Nations grants belligerents other rights to proscribe and punish the traffic of contraband goods by neutrals—much of it falling under the jurisdiction of Municipal Law.⁷³ Accordingly, each belligerent is bound only by its own national laws, which could allow it the right to

⁶⁹ Stone, 486.

⁷⁰ Stone, 485-7.

⁷¹ Keith, 504.

⁷² Garner, “Some Questions” Part I, 377.

⁷³ Keith, 481; Oppenheim-Lauterpacht, 5th Ed., II: 669.

confiscate both goods and the neutral vessel carrying the goods. Thus, while International Law does not impede a neutral's right to trade, it empowers a belligerent state forcibly to prevent that trade, creating an imbalance in the tenuous relationship between neutral and warring states.

The prospects for neutral states' legal trade in the early twentieth century were certainly lessened by the state of International Law. To begin with, neutral vessels seriously suffered from blockade more often than they did Visit, Search and Seizure, because whereas their rights to trade were safe-guarded by laws of war, blockade suspended these rights. Breaching a blockade was a criminal act, and any state's merchant vessels that attempted ingress or egress when one was in place were subject to capture and adjudication by a Prize Court. Similarly, though neutrals were meant to be afforded full rights and privileges to trade freely in wartime, trading in contraband goods could nullify their neutrality, again subjecting their merchantmen to capture. Therefore, when the list of "conditional" contraband diminished in favour of goods being transferred to the "absolute" list, it encroached on neutral trade and rights. That stated, and while the laws described to this point certainly show the commercial ventures of non-warring states to be limited in times of war, this is not always a tale of neutral losses. Indeed, states were much more vocal in their objections to perceived losses or injustices regarding their trade, but rarely emphasized their disproportionate gains.⁷⁴

The gaps in the treaties and customs regulating trade and trade warfare were meant to be rectified by the London Naval Conference of 1908. The conference was initiated by Britain, with major maritime states including Japan and the United States in attendance, but the agreement was not unanimously ratified. The declaration was

⁷⁴ Bellot, 65.

comprised of 71 articles, especially focussing on blockade, contraband, prize, and the protection of neutral rights which, though unratified, “accurately represents the preexisting customary law” according to Justice Julius Stone.⁷⁵ Contraband was probably the most controversial section of the declaration, and indeed ultimately prevented Britain from ratifying its own declaration. This was partially due to a point concerning humanity, for the list of “free” goods was far more than simply goods not for use in making war; these also included items that, for the sake of civilised behaviour, were deemed exempt from treatment as contraband, even though they might have shared characteristics with the conditional section.⁷⁶ Article 29 of the Declaration of London formalized an established customary rule and considered articles for the aid of the sick and wounded, or for use by passengers and crew of the vessel concerned, to be free, and always exempt from inclusion as contraband. Article 28 listed other items that could *never* be considered contraband, such as raw cotton, rubber, resins, gums, raw hides, metallic ores, paper and paper-making materials, soap, and precious and semi-precious stones—this in spite of the fact that some of these items had been contraband in the American Civil War.⁷⁷ In spite of the declaration’s attention to humanity with respect to “free” goods, the list of conditional contraband still included foodstuffs.⁷⁸ Ironically, five years later, food and

⁷⁵ Stone, 493. Hattendorf suggests that it also represents today’s customary law, as well. See Hattendorf, 111. Keith shows that the Declaration underwent many modifications in the Great War, but that as it was written, it was binding because it reflected well-established states’ practice and customs, 293.

⁷⁶ Stone, 480-1.

⁷⁷ Stone, ff 480. See the *Declaration of London*, (1909) Article 28 for the remainder of the list, in Norman Bentwich’s *The Declaration of London*, (London: E. Wilson, 1911), Appendix A.

⁷⁸ *Declaration of London*, (1909) Article 24. Other conditional items included: forage and grain for feeding animals; clothing; fabrics for clothing and boots and shoes, suitable for use in war; gold and silver in coin or bullion as well as paper money; vehicles available for use in war and their component parts; vessels, crafts and floating docks and their component parts; railway material, fixed and rolling stock and material for telegraphs/phones; balloons and flying machines and their distinctive component parts; fuel and lubricants; powder and explosives not specially prepared for use in war; barbed wire and implement for fixing and cutting the same; horseshoes and shoeing material; harness and saddlery; field glasses,

nearly all other conditional items were placed on the belligerents' absolute lists, including coal, fuel, money, securities, precious metals, and raw cotton.⁷⁹ The Great War would soon illustrate the absolute clarity of Lassa Oppenheim's observation: what was in a state's interest to agree to in peace, would almost certainly not be in war.

Part Two: "Running Amuck" in the North Sea

The First World War

On 4 August, 1914, the Great War broke out in Europe, culminating from a decade-long naval arms race, a perilous system of alliances, German fear of encirclement, and the overly aggressive Austro-Hungarian response to the "shot heard around the world." Germany marched on neutral Belgium, by-passing the Netherlands, and into France, attempting a sweeping envelopment of Paris in a strategy known as the Schlieffen Plan. Within the first two months, the Western Front descended into a static stalemate, due to the combination of old tactics and new weaponry. This favoured the defensive and strengthened its superiority over the offence by a factor of three to one, forcing soldiers to burrow into the ground in a system of trenches in response. Similar situations had been seen on a smaller scale in the Boer and Russo-Japanese Wars, but the First World War trumped both those conflicts, quickly showing statesmen that the short war illusion was

telescopes, chronometers, and all kinds of nautical instruments. See also Tiverton, Appendix XI "Report of Naval Conference", 168-9.

⁷⁹ Raw Cotton was conditional contraband in the American Civil War because it was used for exchange in the southern states. By the Declaration of London it was to be free, but became absolute in 1914 because of its use in explosives. The precedent of considering food contraband had been established by Union forces in the American Civil War (see Bellot, 60), and the French-Chinese War. The French blockade of Formosa (Taiwan), in February 1885 developed from this practice, but the response of British representatives showed that it was still a highly controversial decision. While the French government sanctioned stopping the major rice shipments that would be materially important to the Chinese government, the Queen's minister at Peking (Beijing) could not sanction this practice. The American Minister at Berlin pithily, but hypocritically, pointed out that the major issue in the Anglo-French disagreement was that thereafter, *everything* the civilian population could want would be subject to a contraband declaration. This had humanitarian ramifications, but also did damage to certain elements in the Declaration of Paris (1856). See Keith, 483. Unfortunately, this practice was repeated by the Russians in the Russo-Japanese War, suggesting that pragmatic effects commonly outweighed humanitarian concerns.

exactly that. Attrition warfare pushed the major Entente (Britain, France and Russia) and Central Powers (Germany and Austria-Hungary) into mobilizing on the cusp of “total” war, with millions of shells being expended weekly, and massive reserves of men and money virtually drowning in the mud of Flanders.

The First World War was not a clash of societies to the same extent that the Second would be, hence the term “total war” is typically reserved for the latter war; nevertheless, mobilization and state controls were enacted on an unprecedented scale.⁸⁰ For all the developments and advances in technology and tactics, the First World War is still arguably the first “modern” war, a new kind of war. There are three parts of this “new kind of war” especially relevant to this study: first, Great Britain’s blockade of Germany; second, the German U-boat campaign and subsequent unrestricted warfare; and third (really an extension of the first two), the United States’ civilians and neutral shipping. The effects of this new naval warfare would reach beyond the war’s duration, and would reflect in the uses and interpretations of laws of war during and after the conflict.

When war broke out in 1914, the neutral United States urged the warring parties to adhere to the terms of the Declaration of London (1909), even though they were not bound to them as to treaty law. This was not such a tall order to fill, for, as Justice Stone states, the Treaty by and large formalized existing customary laws and by all accounts, was an acceptable suggestion at the outset. Germany immediately declared that it would keep to the Prize Code (*Prisenordnung*) of 1909 and the Prize Courts Ordinance

⁸⁰ Archer et al, 497. In *Great War, Total War*, (Cambridge: Cambridge University Press, 2000), editors Roger Chickering and Stig Förster explain that not even the contributors to that text—experts in their fields—could agree on a singular definition of “total” war; that ultimately, they did agree that the First World War *approached* “total” war, though it was not itself “total.”

(*Prisengerichtsordnung*) of 1911, which essentially overlapped with many of the terms of the Declaration of London (1909).⁸¹ In Britain, an Order in Council was issued first on 20 August, 1914, adopting the provisions of the declaration with “the exclusion of the lists of contraband and non-contraband,” and sundry other modifications.⁸² The United States had gotten what it asked for—for the most part. Of course, from a legal perspective this equates to only a show of good faith, as Article 65 of the Declaration stated that “The provisions of the present Declaration must be treated as a whole, and cannot be separated”; Britain was attempting to do exactly what the declaration had sought to forbid.⁸³ However, at that point, Britain had not fought a naval war in over one hundred years and had no general staff to revise what Winston Churchill called its “traditional war policy,” consisting of “establishing immediately on the outbreak of war a close blockade of the enemy’s ports and naval bases by means of flotillas of strong small craft supported by cruisers with superior battle fleets in reserve.”⁸⁴ Soon it became clear that the same factors that forced the land war into static trenches also drastically reduced the feasibility

⁸¹ Huberich and King, 5-6, 8.

⁸² George Grafton Wilson, “The Withdrawal of the Declaration of London Orders-in-Council,” in *The American Journal of International Law*, vol. 10 (1916), 843. The modifications included alterations to the articles relating to destination, and the onus of the proof regarding the innocent destination. The “innocent destination” issue hinges on the “continuous voyage” theory in search and seizure. This theory suggests that if neutral vessel A is laden with contraband goods for neutral port B as well as non-contraband goods for a belligerent C, the entire cargo can be seized as contraband. The notion is that while vessel A is making more than one stop, and will not be carrying the contraband goods by the time it reaches the belligerent port, the port calls it makes occur on one “continuous voyage,” and if the goods are subject to seizure at any of the stops, it renders the ship prize-worthy *in toto*. Furthermore, if cargo left at a neutral port was continuing over land to a final destination, this was also considered part of a “continuous voyage,” rendering it illegal. Essentially, Britain was eschewing continuous voyage theory when it refused to sign the Declaration. Please see Holzoff, 61.

⁸³ See James W. Garner, “Some Questions of International Law in the European War” Part I, 9:2 (April 1915), 373-74 for further discussion. It is ironic that the nature of absolute and conditional contraband that had been so important for Britain to uphold as a neutral were exactly what it bent to its will once it became a belligerent.

⁸⁴ Winston Churchill, *The World Crisis*, volume I, (London: Thornton Butterworth, 1923), 142.

of the close blockade.⁸⁵ Still, Article 1 of the Declaration of London clearly stated that a blockade was required to be close, restricted to “the ports and coasts belonging to or occupied by the enemy,” and Britain had agreed to uphold this policy.⁸⁶

Developments in defensive maritime measures like mines, submarines, and aircraft made the practice of a close blockade far more challenging than it had been in wars prior to the twentieth century.⁸⁷ Germany and Britain had agreed on certain restrictions regarding the use of contact mines, yet as early as 23 August 1914, the British Admiralty accused the Germans of laying mines in the North Sea “indiscriminately” along regularly travelled trade routes.⁸⁸ It appeared to serve no clear military design, but aimed instead to sink British ships by dumb luck. Neutral shipping was also sunk by these mines, and as Germany had broken the Eighth Hague Convention regarding legal mine-laying by making no formal declarations about the mines’ locations or safeguarding neutral ships, Britain retaliated and laid its own minefield.⁸⁹ On 2 October 1914, the Admiralty announced this act of self-defence that Britain’s Foreign Minister Sir Edward

⁸⁵ Even in the surface war, technological advance had outstripped the tried-and-true tactics of yesterday, and forced a stalemate, as the Battle of Jutland (1916) made all too clear. Nevertheless, while close blockades were far less feasible, they were not impossible. Between 1914 and 1918, close blockades were enacted against German East Africa, the Cameroons, parts of Asia Minor, and Kiaochow (Jiaoxian), in China, as well as some coasts that lacked any modern defences. However, there were no close blockades effected against major maritime powers. In *The Great War at Sea, 1914-18*, (Oxford: Oxford University Press, 1983), Richard Hough suggests that the close blockade was abandoned as early as 1912, but clearly, this was not so against secondary and lesser naval powers. See page 317.

⁸⁶ *Declaration of London*, (1909) Article 1.

⁸⁷ The issue of contact and submarine mines is so complex as to be worth a dissertation itself; for the purpose of this study, it is sufficient to note that contact mines did not themselves create an effective blockade, that mine-laying was almost wholly without restrictions prior to the Great War, and that they were laid by Germany, Britain, and Russia in the Great War. Russia laid its mines in the Baltic, and Germany and Britain laid theirs in retaliation of each other’s mining around the Channel and North Sea areas. This escalated, and when the US joined the war in 1917, it began assisting Britain by laying mines between Norway and the Orkneys. British courts upheld British and American mine-laying as acceptable retaliatory measures for the “indiscriminate” German actions, and all mines were successfully swept at the close of hostilities. See Keith, 340-344 for details. Aircraft is also beyond this study, but suffice to say that it changed the face of naval war by providing new and faster intelligence, critical in trade war.

⁸⁸ Keith, 343.

⁸⁹ Devlin, 16.

Grey declared was wholly legal, for “each belligerent is entitled to insist on being allowed to meet his enemy on terms of equal liberty of action.”⁹⁰ The retaliation did not meet the intended end, however, and exactly one month later, the Admiralty again protested Germany’s unlawful mining of the North Sea.

The British response the second time was more dramatic, as it declared the entire North Sea a “military area,” putting all ships in danger, regardless of character and nationality.⁹¹ The creation of war zones was virtually unheard of as a method of warfare until the Great War, and set a significant precedence for belligerents in the Second World War. In 1914, however, the war at sea degenerated into a series of retaliatory measures, as Germany increased its mining and submarine patrols in response to the British declaration, and Britain transcended legality to threaten even neutral shipping beyond sanction.⁹²

To be sure, German retaliation followed, but for the first six months of the war, German U-boats *did* follow the rules of commerce raiding. Merchantmen including the *Glitra*, the *Bowes Castle* and *Indian Princess* were dispatched according to pre-war codes, proving that the German war at sea was a legal one, as well.⁹³ Nevertheless, on 4 February, 1915, Germany *also* declared the North Sea a military area (*Kriegsgebiet*) in retaliation for Britain’s failure to uphold completely the Declaration of London.⁹⁴ In both cases, neutral shipping suffered an unreasonable degree of inconvenience and difficulty;

⁹⁰ Quoted in Bellot, 62-3.

⁹¹ Keith, 344-45, 551-52; Oppenheim-Lauterpacht, 5th Ed., II: 548-49.

⁹² Oppenheim-Lauterpacht, 7th Ed., II: 681; Stone, 572.

⁹³ Huberich and King, 42-54.

⁹⁴ Oppenheim-Lauterpacht, 5th Ed., II: 549. By February 1915, the British had changed their contraband lists at least four times, drifting further away from the terms of the Treaty of London. See below for further discussion. Moreover, this was not a proportionate response to the British war zone, because the latter was a self-defensive measure against mines and submarines, whereas Germany aimed to sink vessels on sight, regardless of nationality or character. See Bellot, 62.

Britain considered the *Kriegsgebiet* essentially to be a blockade that reaped the benefits of the strategy, but without the responsibilities involved.⁹⁵ German submarine warfare against merchant shipping was conducted within the war zone before Germany fully abandoned all rules and restrictions on its U-boats' hunting.⁹⁶ The London *Times* remarked that the declaration of a German war zone was "really an announcement that on and after the 18th of March Germany will run amuck in the North Sea."⁹⁷ Germany rejected Britain's censure with the claim that neutral shipping was not being targeted in its "war zone," as it would have been by a proper blockade,⁹⁸ though neutrals undoubtedly still suffered from the practice. In fact, Lassa Oppenheim deemed the establishment of war zones between belligerents to be a lawful practice, but that regarding the neutrals whose trade was restricted, "no warrant can be found for the legality of the declaration of a war zone exclusively controlled by a belligerent, and entered by neutral ships only at their peril, as a specific means of warfare." He concluded "that the declaration of a war zone can only be justified as a reprisal for a breach of law by the *enemy*."⁹⁹ The waters around Europe effectively moved towards closure from a series of illegal blockades, quasi-blockades, and war zones, yet this was still arguably the more benign phase of the economic war at sea.

At the same time, Britain's adherence to the Declaration of London underwent further modifications in its classification of contraband items. After the initial

⁹⁵ Keith, 552. Garner, "Some Questions" Part II, 819. Of course, it was not an effective blockade as described above. Therefore, if there had been an actual declaration, Germany would have been in the wrong.

⁹⁶ Subs and U-boats also acted against warships, and in fact began the war by attacking surface men-of-war. They achieved small successes that did not compare to their later operations against merchant ships.

⁹⁷ Quoted in Garner, "Some Questions" Part II, ff819.

⁹⁸ Keith, 552, 556. The German policy was that all enemy vessels would be destroyed within the war zone, but neutral shipping would only be "endangered."

⁹⁹ Oppenheim-Lauterpacht, 5th Ed., II: 551, emphasis added.

reservations stated on 20 August, 1914, Britain revised its lists on 29 October, 1914, and again on 30 March, 1916 before it was decided fully to discard the Declaration's terms in the Maritime Rights Order in Council of 7 July, 1916.¹⁰⁰ The final British "absolute" list of 2 July, 1917 was made up of 169 items.¹⁰¹ Germany, meanwhile, amended its Prize Code of 1909 on 18 October, 23 November, and 14 December, 1914, all changes regarding contraband lists. Subsequently, in 1915, 1916, 1917 and 1918, additional changes were made to the contraband lists to keep Germany's in line with Britain's.¹⁰² As international legal expert George Grafton Wilson comments, "the Declaration of London... did not stand the strain imposed by the test of rapidly changing conditions and tendencies which could not have been foreseen."¹⁰³ Indeed, the additions Britain made to its absolute contraband list pushed the First World War towards the definition of "total" war. Perhaps most critically, foodstuffs were moved from "conditional" to "absolute" in an order that was never rescinded. This started a virtual starvation policy against Germany and the other Central Powers, the so-called "hunger blockade," which was arguably a major factor in bringing the war to a close in 1918 rather than later. It appears, at first glance, that Britain's actions were justified since the German state had taken control of food distribution—though that does not make the effects any less devastating for the millions of starving Central Powers' civilians.¹⁰⁴ Indeed, as one legal writer

¹⁰⁰ Justice Stone calls the rules of London "inapt for twentieth century war," 518-19. Please see also Tiverton, 6; Oppenheim-Lauterpacht, 7th Ed., II: 483; and Garner, "Some Questions" Part I, 372-401, for a lengthier treatment of British contraband lists and legality. Garner gives different dates for Britain's list of amendments.

¹⁰¹ Stone, 482.

¹⁰² Huberich, 6. On 18 April, 1915, "sweeping" changes of absolute and conditional lists were made. Specifically, articles 33, 35 and 40 assimilated German to British law. Final changes were made on 31 May, 1916, 25 June, 1917, and 18 January, 1918.

¹⁰³ Wilson, "The withdrawal of the Declaration of London...", 844.

¹⁰⁴ On Germany's move to control food distribution, please see Bellot, 65; and T. Baty, "Naval Warfare: Law and License," in *The American Journal of International Law*, vol. 10 (1916), 49. For one account of

observed, “it cannot be inferred that because food is to be under the control of a government department, therefore it is necessarily destined for naval or military use. That the Declaration of London asserts that it can be so inferred, only demonstrates the fatuity of that instrument.”¹⁰⁵ Overall, Britain’s development of contraband lists through the war was utterly inconsistent, but it was not the only nation to behave in that manner.¹⁰⁶ Nevertheless, Britain’s changes to the contraband list had the same effect as Germany’s unlawful mining at the beginning of the war: it served to aggravate and antagonize, and escalate the economic war at sea.

One final series of retaliatory measures between Britain and Germany pushed the conflict at sea past the realm of pre-war thought and legal considerations: the “long-distance” blockade and “ruthless” submarine warfare.¹⁰⁷ Britain objected to the German declaration of a “war zone” around the British Isles, considering it to be fundamentally an ineffective blockade without the formality of a declaration. Germany disagreed with this classification, most probably with the knowledge that, legally, a blockade by submarines and mines was not effective, and therefore there was no choice about declaring a true blockade for the area. Mines were not able to discriminate between belligerent and neutral shipping, and often, submarines could not do so safely either; Germany’s claim to the qualification of its war zone as a restricted area and not a blockade had hinged on the

how seriously the “hunger blockade” affected citizens, please also see Keith Allen’s “Sharing Scarcity: Bread Rationing in the First World War, 1914-1923”, in *Journal of Social History*, (Winter 1998): 371-393, or Holger H. Herwig’s *The First World War: Germany and Austria-Hungary, 1914-18*, (London: Arnold, 1997), 271-96.

¹⁰⁵ Baty, 49.

¹⁰⁶ Garner, “Some Questions” Part I, 375.

¹⁰⁷ In the Carnegie Endowment for International Peace publication *Official German Documents Relating to the World War*, vol. I, (New York: Oxford University Press, 1923), a German delegate at the Reichstag inquiry, Dr. Sinzheimer, notes the differentiation between “ruthless” submarine war and submarine war, wherein the former is “unrestricted” submarine warfare and the latter follows the rules and laws intended for submarines at war. See p. 221.

fact that it was not unduly curtailing neutral shipping as a blockade would have. Submarines were acting legally for the most part throughout this disagreement, but that did not pacify British forces.

Britain's response to the war zone was to originate the "so-called long distance blockade," as Oppenheim characterizes it.¹⁰⁸ Britain's blockade was intended to stop vessels not from approaching a port or a coastline, but from approaching a whole state. Lord Devlin points out, concurring with Oppenheim, that "to call this a blockade was for an international lawyer a misuse of the term."¹⁰⁹ Britain was then able to intercept traffic going to and from neutral ports contiguous to Germany, which was one method of ensuring that no cases of contraband goods shipped in neutral bottoms to Rotterdam, and then by land to Germany by continuous voyage, could occur.¹¹⁰ The practice was problematic from the first: it was neither an effective nor an impartial blockade. Neutral shipping was prevented from reaching Germany from the Atlantic, but Britain was at a loss to stop traffic within the cordoned area. Therefore, vessels from Norway, Sweden, and the Baltic ports were allowed to cross unfettered to German territory—so that in no way were vessels prevented from approaching the whole state.¹¹¹ Even by Britain's own definition of what it was seeking to do, the "long-distance" blockade was unlawful.¹¹²

¹⁰⁸ Oppenheim-Lauterpacht, 7th Ed., II: 791.

¹⁰⁹ Devlin, 3.

¹¹⁰ Garner, 381. The threat of contraband goods reaching Germany through neutral ports was certainly an issue in the Great War. As Holger H. Herwig has argued in "Germany and the 'Short-War' Illusion: Toward a New Interpretation?" in *Journal of Military History*, vol. 66 (July 2002), 689, the Schlieffen Plan had been modified by General Helmuth von Moltke (the Younger) to respect neutral Holland's sovereignty and territorial integrity, which would give Germany a neutral port, a "wind pipe", through which to receive goods. This would have been a violation of continuous voyage, and if Germany had ever received goods through Rotterdam in this manner, Britain could have justifiably claimed that its "long-distance blockade" was retaliatory. It never was, and therefore, in no way was the British blockade legal.

¹¹¹ Stone, 500.

¹¹² This was so both by the terms of the Declaration of Paris (1856) and the British avowal to uphold the blockade terms of the Declaration of London (1909). See Oppenheim-Lauterpacht, 7th Ed., II: 779.

Britain's naval war crossed the line in more than just the use of blockade; armed merchantmen also became a contentious issue, due to British practice. The policy of defensively arming merchant vessels went awry in three ways. First, there was the order made public on 2 March, 1916, for armed merchantmen to shoot submarines on sight—clearly an offensive act far beyond what was allowed (ramming), that drew into question during the interwar period the legitimacy of legally arming merchantmen.¹¹³ Second, Britain began employing “Q-ships” against U-boats, outfitting merchant vessels with guns and armaments (and often modifying their silhouettes), essentially disguising merchantmen as warships.¹¹⁴ Q-ships actively would lure U-boats in for close combat, and then unmask their weapons to attack, taking part in the hunt. The Germans complained bitterly about this, but with little leverage, though the British ostensibly knew they were flirting with illegal warfare, as they warned Q-ship crews that if they were captured in action wearing civilian dress, they were liable to be shot as *franc-tireurs*.¹¹⁵ Later, however, the legal expert H.A. Smith argued that the Q-ship was as legal as the

¹¹³ Karl E. Birnbaum, *Peace Moves and U-Boat Warfare: A Study of Imperial Germany's Policy Towards the United States April 18, 1916-January 9, 1917*, (Hamden, CT: Archon Books, 1970), 54; Hyman G. Rickover, “International Law and the Submarine”, in *United States Naval Institute Proceedings*, 61: 9 (September 1935), 1222.

¹¹⁴ There is a dearth of scholarly on Q-ships in the First World War. For example, Tony Bridgland's *Sea Killers in Disguise: The story of Q-ships and Decoy ships in the First World War*, (Annapolis, MD: Naval Institute Press, 1999), states that “this book is not intended to be read so much as a work of reference but more as a good (I hope) historically true ‘yarn’”, in his introduction (p. xi). Nevertheless, it lists primary sources in the bibliography (if not cited directly within), and it provides a predominantly decent, if very pro-British overview of the Q-ship situation and campaign. A staple in Q-ship literature is E. Keble Chatterton's *Q-Ships and Their Story*, (London: Sidgwick and Jackson, Ltd., 1922), but one that is more notable for capturing the spirit of the times than historical accuracy. Nevertheless, all later books use Chatterton for their analyses.

¹¹⁵ Bridgland, 14. However, on page 29, when describing the unmasking of the Q-ship *Baralong* he writes, “in less than half a minute the harmless American tramp had become a British man o’war. And it was all perfectly legal.” Therefore, Bridgland is correct in recognizing that a soldier or sailor not in uniform was a guerilla warrior, according to the Hague Convention, though his estimation of Q-ships is in line with H.A. Smith.

ships hunting it, according to article 23-F of The Hague Convention (1907).¹¹⁶ International Law permitted ruses in sea warfare, and Germany had certainly taken advantage of this when the cruiser SMS *Emden* camouflaged itself as it approached Penang, even mocking up a fourth funnel to change the ship's silhouette, and only hoisting the colours as it opened fire.¹¹⁷ Third, the already tenuous Q-ships flew false flags, a legal ruse in some cases, which Germany claimed that Britain used to excess, almost surely condemning the U-boat to destruction.¹¹⁸ It led to the German Admiralty Staff deciding in 1916 that U-boats had to be allowed to attack armed merchantmen without warning, because they had been attacking submarines,¹¹⁹ and ultimately served to further antagonize the enemy and invite more retaliation.

Retaliation became the theme in naval warfare early on in the Great War, and perhaps peaked with Britain's "long-distance" blockade—it was certainly effective in choking a large proportion of Germany's trade, yet still against the law. Uncertainty about the clause permitting a "small leakage" in effective blockade, and the need to retaliate against illegal German naval warfare muddled the waters of customary law, turning international law upside down.¹²⁰ However, one fact complicated the series of

¹¹⁶ H.A. Smith, "Le Développement Moderne", 668-71. In 1938, Smith argued that the use of Q-ships was in the process of being made illegal, but in 1948, he published *The Law and Custom of the Sea*, London Institute of World Affairs, (London: Stevens & Sons, 1948), in which he argued that "it is equally permissible for a warship to disguise her outward appearance in other ways and even to pose as a merchant ship, provided that she hoists the naval ensign before opening fire. Merchant vessels themselves are at also liberty to deceive enemy cruisers in this way." p. 84. He also writes that "today [1948] the rule would seem to be an anachronism, one of those survivals which in law so often outlive their proper function." (p. 85)

¹¹⁷ H.A. Smith, *The Law and Custom*, 84.

¹¹⁸ Janet M. Manson, *Diplomatic Ramifications of Unrestricted Submarine Warfare, 1939-1941*, (New York: Greenwood Press, 1990), 28. The three cases for a man-of-war legally flying a neutral or enemy flag are: (1) when chasing an enemy vessel; (2) when trying to escape; (3) for the purpose of drawing an enemy vessel into action. See Oppenheim-Lauterpacht, 7th ed., II: 509-10. Pre-war, British practice condoned the ruse, while the United States Naval War Code expressly forbade it. However, in the Spanish-American War (1898-1902), American practice showed otherwise.

¹¹⁹ Birnbaum, 215, 363-4.

¹²⁰ O'Connell, 1153.

“reprisal” escalations: legally, reprisal could only take place after a letter had been dispatched to the offending state, asking for redress and a cessation of the offensive activity.¹²¹ There were no such notes exchanged between Britain and Germany—they both sought to take matters into their own hands. Furthermore, as far as Germany was concerned, Britain had already broken International Laws by removing the differentiation between absolute and conditional contraband, so an aggressive switch to *la guerre de course* was justified.¹²² These factors in conjunction with the nature of the land war and an increasingly desperate need for Germany to end the war created a perfect climate for the introduction of “ruthless” submarine war.

The RMS *Lusitania* was probably the most famous merchant vessel sunk in the Great War—though not the first to be sunk by a U-boat—as it did double duty as a passenger liner just over two months after the German war zone was declared. On 7 May 1915, the U-20 torpedoed it off the coast of Ireland and it sunk with a loss of 1,198 lives, including 124 American citizens. The *Lusitania* was an unarmed enemy merchant ship, carrying a cargo that included some absolute contraband, but also over one thousand non-combatants, many of whom were citizens of neutral states.¹²³ The sinking was controversial, but not wholly unexpected in the German war zone around the British Isles. Putting aside the legality of the war zone, the sinking was repulsive to the international community for the significant loss of non-combatant lives. As one legal

¹²¹ Oppenheim-Lauterpacht, 5th Ed., II: 114-23. Reprisals are not to be confused with retorsion—the former occurs when a state performs an otherwise illegal and injurious act against another, for the sake of compelling the other state to settle a difference created by its own illegal act. Retorsion is retaliation for discourteous or unfair (but still legal) acts. Further, any reprisal must be proportionate to the original injurious act. Reprisals between belligerents are retaliations to compel an enemy guilty of breaking the laws of war to modify its behaviour. When there has been discussion of “retaliation” thus far in this study, it has implied reprisal, not retorsion.

¹²² Richard Hough, *The Great War at Sea, 1914-18*, (Oxford: Oxford University Press, 1983), 172-73.

¹²³ E.D.D. “The *Lusitania*—Destruction of Enemy Merchant Ships Without Warning,” in *Michigan Law Review*, vol. 17, (1918-19) 168.

writer commented, “the cause of the sinking of the *Lusitania* was the illegal act of the Imperial German government, acting through its instrument, the submarine commander, and violating a cherished and humane rule observed, until this war, by even the bitterest antagonist.”¹²⁴

This emotionally charged rhetoric is true enough—but still the fact remains that it does not take into account that there were certain things the *Lusitania* did or did not do that contributed to its demise.¹²⁵ Ultimately, the act was considered appalling enough to illicit the first *Lusitania* note by American President Woodrow Wilson through his Secretary of State William Jennings Bryan. The Americans appealed to German morality, threatening to sever diplomatic ties, and reminded Germans that “Expressions of regret and offers of reparation in case of the destruction of neutral ships sunk by mistake, while they may satisfy international obligations, if no loss of life results, cannot justify or excuse a practice, the natural and necessary effect of which is to subject neutral nations and neutral persons to new and immeasurable risks.”¹²⁶ The offending practice had not yet been adopted entirely in 1915, and when in August the passenger ship *Arabic* was also sunk, Germany issued the *Arabic* pledge, giving any ship thirty minutes’ warning before being torpedoed. For the next eight months, it honoured that pledge and avoided further conflict with the most important and powerful neutral state: the United States.

The development of unrestricted submarine strategy grew in fits and starts based on diplomacy and neutral threats, and sometimes in response to the perception of military

¹²⁴ E.D.D., 169.

¹²⁵ Some passengers were warned of the German war zone, and therefore the risks involved in sailing to England, though it was thought by many to be just an idle threat. Furthermore, the *Lusitania*’s captain had disregarded many of the Admiralty’s instructions—it did not zig-zag or sail up the middle of the Irish Channel, to name but two. Still, the cost of civilian lives and torpedoing without warning was reprehensible.

¹²⁶ In *Foreign Relations of the United States*, Supplement, (Washington, D.C.: Government Printing Office, 1915), 393.

necessity.¹²⁷ When Erich von Falkenhayn, Germany's Chief of the General Staff, devoted the year 1916 to the Western Front, he had one major offensive in mind: an all-out battle of attrition on the French fortresses at Verdun. Falkenhayn believed as did many German commanders that Britain was the true enemy in this war, and that France was merely its best sword. To knock Britain out of the war involved first knocking the sword out of its hands ("bleeding the French white" on land at Verdun) while also strangling "perfidious Albion"—by taking the war at sea to a new level.¹²⁸ Thus, in February 1916, U-boats abandoned their pledge for lawful action and again began to hunt ruthlessly around the British Isles. When a German U-boat mistook the French passenger ship *Sussex* for a minelayer and sank it on 24 March 1916, Woodrow Wilson again vehemently protested the American loss of life. His threat to sever diplomatic ties again had the desired result, and on 24 April 1916, the Germans made the *Sussex* pledge, abandoning "unrestricted" submarine warfare (USW) and again avoiding conflict with the United States.

In January 1917, German High Command moved beyond Chancellor Theobald von Bethmann-Hollweg's vote against an unrestricted submarine warfare campaign, and began to value ending the war decisively above placating the United States. The chancellor had been the lone voice of reason against USW, but when the moderate Admiral Henning von Holtzendorff passed on a memorandum recommending that USW begin on 1 February, 1917, and argued effectively that Britain would be defeated within six months of adopting the strategy, it weakened Bethmann-Hollweg's resolve, and he withdrew his previous objections because of the promise of success.¹²⁹ This strategy essentially extended the war zone from around Great Britain to the high seas. Anything

¹²⁷ Hough, 181.

¹²⁸ Herwig, *The First World War*, 179-181

¹²⁹ See Manson, 8-13, for a more detailed chronology.

and everything became fair game for attack. The initial successes were quite remarkable considering the small number of boats available at any given time; in fact, the 879,000 tons sunk in April 1917 was more than in any single month of the Second World War.¹³⁰ However, when the Associated Powers introduced convoy in May 1917, it proved to be the U-boats' Achilles' heel.¹³¹ For Scandinavian shipping alone, convoy dropped losses from twenty-five per cent to 0.24 per cent—though still far more tonnage was being sunk in the era of convoy *and* USW than before USW.¹³² Still, as the advent of “ruthless” submarine war brought the United States into the conflict on the Allies' side, the balance tipped almost entirely in their favour.¹³³ “Ruthless” war had been a dangerous gamble, and it had come up broke. It was controversial, illegal, and in the end, it did not win the war for Germany.

Part Three: The Reckoning

The Interwar Period

The wanton destruction of merchant vessels by German submarines was one war crime among many in the Great War, but when the Central Powers signed the armistice and the war ended, submarine warfare was a key target for legal reconsideration.¹³⁴ German minefields and the U-boat danger had made it impossible to return to the pre-

¹³⁰ Herwig, *The First World War*, 318.

¹³¹ See Hough, 306-11, for details on convoy. Bentwich explains that according to the Declaration of London (1909), convoy was an accepted protective practice for neutral merchantmen afraid for their safety when shipping in times of war. The warship convoying the merchantman assumed responsibility for the nature of the ship's cargo, and the ship itself became free from the obligation to stop for belligerent visitation. By these terms, convoy was an accepted practice. There was a debate regarding the use of convoy by belligerent powers. On one hand, it was argued that if belligerents convoyed, enemy men-of-war could still keep to commerce raiding law by first sinking the escorts, and then visiting the convoyed ships. Conversely, it was also argued that as soon as merchantmen were convoyed, the *entire* convoy was subject to sinking on sight. This paradox was not yet resolved by the beginning of the Great War, and in fact, neither was it in the interwar. See pages 116-19.

¹³² Hough, 314.

¹³³ Mallison, 35.

¹³⁴ See John N. Horne and Alan Kramer, *German Atrocities, 1914: A History of Denial*, (New Haven CT: Yale University Press, 2001) for further examples and details on war crimes in the Great War.

1912 close blockade, for states could not ignore the reality of submarine warfare. As historian Richard Hough states, “the U-boat was respected but no longer feared, all that had been unknown in 1914 was now known.”¹³⁵

Indeed, there was no return to lost innocence; many of the interwar laws and restrictions on submarines can be seen as fruitless attempts. Clearly, naval warfare had simply gone too far, and while lip service had been paid to protecting mankind in warfare before the war, the cost of twelve million tons of shipping sunk, and losses of life numbering 20,000 non-combatant men, women and children highlighted that the crudeness of modern naval warfare had not been changed by The Hague Conventions.¹³⁶ The victorious powers’ attitudes reflected their experiences in the war, as they sought mostly to force all Central Powers to abolish submarines, signing the Pact of Paris stating that “the construction or acquisition of any submarine, even for commercial purposes, shall be forbidden in -----,” to which Germany, Austria, Hungary, Bulgaria or Turkey was to enter its name.¹³⁷ The former Allied and Associated Powers’ answer in the interwar for preventing a recurrence of illegal warfare was short-sightedly to ban the weapon instead of forming new laws to shape future practices.

In spite of all the energy devoted to codifying and humanizing warfare prior to the Great War’s outbreak, successive reprisals between the two key belligerent powers reduced the laws of war at sea to words on paper. One legal writer comments that

the history of war law is a record of unsuccessful protests against the use of new and unusual instruments of destruction. Can the international society, as at present constituted, hope to outlaw submarine warfare any more effectually than it has outlawed the cross-bow, the machine gun, the high explosive shell,

¹³⁵ Hough, 317.

¹³⁶ Mallison, 36.

¹³⁷ Mallison, 36.

war in the air, or a hundred other devices for the more efficient and economical extermination of mankind?¹³⁸

This insight accurately reflected the paradox of military efficacy and laws of war, and raises an especially difficult question in the shadow of the last war: how can humanitarian limits and laws be applied to effective weaponry in warfare? This issue was at the crux of interwar conferences and treaties, drawing in statesmen, soldiers and jurists to grapple with it—unsuccessfully, as the Second World War would show.

The interwar attitude towards submarines was characterized by a tug-of-war between those wanting to abolish them, and those wanting to recast the laws governing their use. Military efficacy did not have a supreme effect on this debate. Convoy had nullified the U-boats' overwhelming successes—while tonnage was certainly still sunk after convoy was introduced, unrestricted submarine warfare had not proven effective. It had not strangled “perfidious Albion”. It had not knocked Britain out of the war. And it *had* antagonized the most important and powerful neutral into joining the war on the Allies' side.

From a military perspective, of the 375 German submarines employed in the Great War, 182 were sunk.¹³⁹ This represented a loss rate of almost half the boats deployed, and yet with Pandora's Box opened, it was hard to imagine that commerce raiding and all that went with it, from blockade to unrestricted submarine warfare, would *not* be repeated in the next war. Even if Edwardian innocence died on the battlefields of northwest Europe, one would be hard-pressed to call the efforts of statecraft in the

¹³⁸ E.D.D., 169.

¹³⁹ The figure 175 is oft published as the number of boats sunk; however, based on the archivally developed database at <http://uboat.net>, which has been updated with recent discoveries and new data, the figure is actually 182 of 375. At a 48.5 per cent loss rate, submarine warfare was both more effective and less costly in the First World War as compared to the Second. See Appendix A and B for further statistical details.

interwar “pragmatic realism”. In the interwar period, the international community attached its hopes to limiting or even abolishing *war* and war-making ability, so that in the future, questions resolving the paradox of efficacy, humanity, and submarine warfare would be irrelevant.

The theme for international law conferences in the interwar years was disarmament, beginning with the ex-Central Powers’ punishments that developed from the Paris Peace Conference, 1919. Logically, reducing the aggressors’ abilities to wage war was the best place to start, and each of the peace treaties included terms of drastic compulsory disarmament.¹⁴⁰ The American and British representatives, Woodrow Wilson and David Lloyd George, led the charge for abolishing submarines outright, but were stymied by the French refusal to acquiesce.¹⁴¹ The former Allied and Associated Powers next moved towards limitation in the Covenant of the League of Nations, which looked to secure humanity and better society, but quite famously went unratified.¹⁴² It still set the tone for future treaties and conferences, calling for a limitation of state’s arms “to the lowest point consistent with national safety and the enforcement by common action of international obligations.”¹⁴³

The Washington Naval Conference of 1921-2 shared that sentiment. This was the former Allied and Associated Powers’ first disarmament conference in the wake of the Covenant, and took aim at submarine warfare. There, Britain’s representative, First Lord

¹⁴⁰ Specifically, the treaties of Germany, Austria, Hungary and Bulgaria included disarmament terms. Turkey’s terms were overturned after it successfully took up arms again to force changes to the Sèvres Peace Treaty, resulting in the very different Treaty of Lausanne (1923).

¹⁴¹ Richard Dean Burns, “Regulating Submarine Warfare, 1921-41: A Case Study in Arms Control and Limited War”, in *Military Affairs*, 35:2 (April 1971), 57.

¹⁴² Article 23, a and c, *The Covenant of the League of Nations* (Including Amendments adopted to December, 1924). The United States Senate refused to ratify the Covenant, which killed its hopes of effectiveness in the interwar years.

¹⁴³ Article 8, *The Covenant of the League of Nations* (Including Amendments adopted to December, 1924).

of the Admiralty Lord Lee, expressed a desire to abolish the submarine, “a weapon of murder and piracy,”¹⁴⁴ though he was alone in that position, the United States having had a change of heart. Lee made a show of Britain’s commitment to ridding the world of the submarine scourge, for while his country possessed the most efficient submarine navy in the world (100 vessels of 80,000 tons), he suggested that it was willing to scrap the entire fleet—provided the other powers do the same. Lord Lee professed that this offer was a “greater contribution to the cause of humanity than even the limitation of capital ships,” for submarines had not the ability to “even rescue women and children.”¹⁴⁵ Great Britain’s commitment to humane warfare was laudable, especially given that it was guilty of numerous illegal acts in the Great War, but its position was weakened by American aloofness and abject opposition by the French, Italians and Japanese.¹⁴⁶

Those in favour of keeping the submarine as a defensive weapon were entirely prepared to accept limitations on its use, regardless of the fact that this had been utterly useless in the last war. Ultimately, the latter position prevailed; submarines were not to be scrapped. Former American Secretary of State Elihu Root introduced a series of resolutions to bring submarine warfare into line with the same rules of Visit, Search and Seizure that surface vessels were subject to—reminiscent of the pre-war period—but critically added Article 3, which would make future submarines acting as commerce raiders almost certainly guilty of war crimes, and considered pirates.¹⁴⁷

Signed on 6 February, 1922 by the United States, Britain, France, and Italy the Treaty Relating to the Use of Submarines and Noxious Gases in Warfare (1922) was

¹⁴⁴ Mallison, 37.

¹⁴⁵ Mallison, 37-8.

¹⁴⁶ Burns, 57.

¹⁴⁷ Burns, 57.

largely a failure. No proper limitations on submarines' use were enacted, and no consensus was reached on how to prevent similar criminal warfare from being possible in the future. The outcome was only a reiteration of so many pre-war treaties and customs, stating that "Belligerent submarines are not under any circumstances exempt from the universal rules above stated; and if a submarine cannot capture a merchant vessel in conformity with these rules the existing laws of nations requires it to desist from attack and from seizure."¹⁴⁸ The submarine warfare paradox was approached by wishing it away, without dealing with the major issues at hand. This unremarkable treaty went unratified, unsurprisingly, which meant that the status of submarine crews was unchanged, and undiminished if the crew used its boat for unlawful means. Caution reigned, for while many states were upset by German submarine warfare in the 1914-18 war, they were not prepared legally to call the U-boats' crews pirates.¹⁴⁹

Into the 1930s, there was still no development in treaty or customary law to deal with the reality of modern commerce warfare. During the first year of that decade the London Naval Conference took place, yet again dealing with the same submarine issue that international committees had been considering since the Second Hague Conference in 1907. Should submarines be abolished? The British First Lord of the Admiralty, Lord Lee, again argued affirmatively, claiming that this served the general interest of humanity. Submarines were primarily offensive vessels, so in order to make a significant contribution to peace and disarmament, they could not be kept as *defensive* weapons, and had to go.¹⁵⁰ American Secretary of State Henry L. Stimson agreed, stating that the

¹⁴⁸ Treaty Relating to the Use of Submarines and Noxious Gases in Warfare, Article 1, section 2.

¹⁴⁹ Stone, 582.

¹⁵⁰ Mallison, 45.

problem was that “the submarine is a weapon particularly susceptible to abuse.”¹⁵¹ The Americans had flip-flopped on their abolition position again, and were again ready to see submarines outlawed.¹⁵² There was a current of dissent against Lord Lee’s proposal, and in a repeat of the 1919 and 1922 discussions on abolition, the loudest voice against it was from the French, who objected to the notion that a weapon ought to be outlawed simply because it had been misused in the past. And again repeating 1919 and 1922, no decision was taken to abolish submarines, nor was there even fixed a limitation in tonnage—the discussion returned to a reconsideration of submarine rules of war.¹⁵³

In the final draft, by Article 22 of the Treaty for the Limitation and Reduction of Naval Armament, submarines were required to conform to international law pertaining to merchant ships, and the right to sink merchant vessels was removed, unless the safety of the passengers, crew and ships’ papers were assured.¹⁵⁴ This was a softening of the “piracy” penalty from the Treaty of 1922, and once again found a way for submarines to pursue commerce warfare by returning more closely to the pre-Great War codes.¹⁵⁵

The final interwar submarine agreement, made at the London Naval Conference of 1936, largely reiterated the expired London Naval Treaty (1930). Submarines would go into the Second War as legal weapons with the same restrictions on them as before the

¹⁵¹ Mallison, 45.

¹⁵² Burns, 58. Burns cites the overwhelming numbers of submarines built or building between 1922 and 1929 by Japan, France, Italy and even Britain as compared to the United States, as one of the more compelling reasons for the American change of heart.

¹⁵³ Burns, 58.

¹⁵⁴ Article 22, Treaty for the Limitation and Reduction of Naval Armaments, (Part IV, Art. 22, relating to submarine warfare), 112 League of Nations Treaty Series 65, entered into force December 31, 1930.

¹⁵⁵ Burns, 58; Oppenheim-Lauterpacht, 7th Ed., II: 490-1. Lauterpacht writes that this part of the treaty (Part IV) actually already represented International Law, and while this pact was due to expire in 1936, Part IV on laws governing attacks on merchant ships would endure without limit.

First World War, save that tonnage limitations were established.¹⁵⁶ The 1936 treaty was enormously significant in one sense, however, as Germany agreed to the terms of the *procès-verbal* in connection with the Anglo-German Naval Agreement of 1935, as did 47 other states.¹⁵⁷ The long and the short of interwar discussions regarding the uses and misuses of the submarine in commerce warfare was essentially to return to the idealism of the Edwardian era of International Laws. This virtually promised that states would act in total defiance of their treaties and agreements in the next war, given how utterly ineffective these laws had already proven in the past.

Finding a way to explain the failure of interwar laws to adapt in matters of submarine warfare is difficult. Historian Janet M. Manson has attributed it to pervasive ambivalence.¹⁵⁸ Conversely, contemporary Jurist H.A. Smith points out an oft-repeated interwar belief, that after the First World War the public lost faith in international laws, and believed that in the next war, law would be eliminated, limits would evaporate, and no person would be safe from harm, regardless of sex or age.¹⁵⁹ If this were true, then perhaps laws stagnated because of the seeming futility of working towards a new standard. However, Smith does not subscribe to this view, rejecting it as unduly pessimistic and misunderstanding the human spirit.¹⁶⁰ His was a lone voice pointing out the necessity of adapting new laws when the old ones proved outdated.¹⁶¹ The Great War scarred its participants, and when statesmen again went to negotiating tables and

¹⁵⁶ Future submarines were not permitted to exceed 2,000 tons standard displacement, or carry a gun over 5.1 inches in calibre. Mallison, 47.

¹⁵⁷ Stone, 582. There is a discrepancy in the figure, however, as Burns cites the *League of Nations Treaty Series* as having “more than 30 nations” agreeing to abide by the terms of the *process-verbal*, 59.

¹⁵⁸ Manson, 33.

¹⁵⁹ H.A. Smith, “Le Développement Moderne”, 611. Smith’s words are that “On nous répète sans cesse que dans la prochaine guerre le droit lui-même sera anéanti”, where “anéanti” is taken to mean “eliminated”, or “annihilated.”

¹⁶⁰ H.A. Smith, “Le Développement Moderne”, 611.

¹⁶¹ H.A. Smith, “Le Développement Moderne”, 617.

conferences to work out new treaties, those scars were still fresh and deep. Perhaps the experience was still too close for law makers to have been properly objective and pragmatic. The flaw in this logic is that H.A. Smith managed to look at the new weapons of war and think objectively, categorically refusing the idea that “new weapons make new laws” in favour of finding ways to fit new weapons into the standards of old laws.¹⁶²

Germany’s rejection of existing laws governing submarine warfare did not make new customary laws out of its illegal practices—a fact reinforced by the London Protocol (1936), with over 50 signatories, including France, Germany, Britain and the United States. Of course, the trend of simply restating the old laws and hoping they would be binding in future wars was naïve. Interwar conferences and treaties were coloured by compromises that created stagnation in law-making. New practice and tactics were *needed*, and Smith offered them. He suggested that two of the new weapons of war be married into a more humane practice of economic warfare. Submarines had shown themselves to be at a disadvantage if they approached surface vessels, but submarines approaching in conjunction with an air escort would even the balance. *Any* warship seeking to visit a merchantman could operate in conjunction with air support, which would, Smith argued, reduce the possibility for the excesses that commonly led to the unnecessary destruction of merchant ships. No prize crew would be required, nor would the ship lose valuable “hunting” opportunities, as the aircraft could bring the captured vessels into port.¹⁶³ Whether this was a workable solution is moot; Smith’s suggestions remained simply academic. What this does show is that it *was* possible for contemporary

¹⁶² H.A. Smith, “Le Développement Moderne”, 687.

¹⁶³ H.A. Smith, “Le Développement Moderne”, 679.

legal scholars to reconsider stale laws and methods of warfare, though it does not better explain why no one else could.

One of the most basic laws of the sea, existent for centuries, is that he who controls the sea controls the traffic on the sea. It is considered a fundamental violation for a non-controlling state threatening the sea—which was the core of the German U-boat campaign in the Great War. The problem for future conflict was that even if “unrestricted” warfare did not win the war for Germany or obtain command of the seas, it disrupted Britain’s supply and naval mastery without an equally proportionate German cost. Two eminent jurists point out that following The Hague Convention (1907), “a major change [had] matured in the functions of naval power, establishing ‘the annihilation of the (*sic*) enemy commerce’ as ‘one of the great aims of naval warfare.’”¹⁶⁴

Ruthless submarine warfare was able to eat away at the traditional law of the sea *and* give a new goal for belligerent powers: total destruction of the enemy’s trade. This was only beneficial to weaker naval powers. As Julius Stone argues, if “annihilation” was a legitimate goal, then states were entitled to pursue the new objective with the means at their disposal; if they had no surface fleets, then submarines, aircraft, or torpedo boats became the legitimate weapons for the task.¹⁶⁵ Paradoxically, alongside the efficacy/humanity concern emerges a purely academic perspective. Future “unrestricted” submarine warfare was both doomed to be repeated because of inadequate interwar law-making, and encouraged because of this naked objective for naval war—annihilation of trade.

¹⁶⁴ Quoted in Stone, 604.

¹⁶⁵ Stone, 604.

No one was ready to contemplate this in the interwar period, however. In 1997, Jurist Peter Malanczuk pin-pointed the issue still dogging International Law six decades after the last of the interwar treaties was signed. He wrote, “the Hague Conventions of 1899 and 1907 are still technically in force, but the fact that many of their provisions are manifestly inappropriate to modern conditions has often tempted states to break them.”¹⁶⁶ The same words rang equally true for any year between 1919 and 1939. The scourge of the seas in the Great War would surely be revisited in future conflict because of a refusal to address either of the paradoxes in submarine warfare, choosing instead to embrace the idealistic notion encapsulated in the Kellogg-Briand Pact (1928): there can be no future wars, and therefore, no need for laws of war, if war itself becomes illegal.

Conclusion

The laws of war concerning submarine warfare were forged by the same idealism that brought codes of humanitarian concerns to bear on the use of force. Land warfare was regulated first, and extensions to those Geneva and Hague Conferences were made to cover war at sea, as well. Many of these laws on the use of force for economic warfare simply restated laws that had been in existence for centuries. Freedom of the seas allowed ships from all states to sail under their own nations’ Municipal Laws—but in times of hostility, codes existed for surface vessels to legally practice *la guerre de course*, or commerce warfare. They were governed by the laws of Visit, Search, and Seizure and Prize law. These dictated that in times of war, belligerent men-of-war had the right to visit and search merchant vessels to determine their characters and cargoes. Enemy merchantmen were always subject to seizure, while neutral vessels were subject to seizure only if they were behaving non-neutrally. All merchant vessels’ crews were to be

¹⁶⁶ Malanczuk, 345.

taken as non-combatants unless they acted in a way to nullify this distinction, and therefore they were not to be made prisoners of war if captured. The Declaration of Paris (1856) stipulated this, as well as the fact that after capture, vessels became prize and were to be brought into port for adjudication by a Prize Court. This was the protocol for engaging in commerce warfare during war, and the major maritime states accepted and practiced this as law.

The advent of the submarine posed a problem for law-makers prior to the Great War, as they were not yet clear on the boat's full potential and abilities. They permitted subs' crews to be considered lawful combatants, and subjected commerce-raiding boats to the same rules of law as surface vessels. The problem was that this failed to take into consideration the differences in these vessels' technological capabilities; submarines possessed a potentially fatal weakness if they approached a merchantman, for they were slower and could not run from ramming if a ship were to charge. Moreover, they could not defend themselves against gunfire from a merchant ship resisting capture—which fell within an enemy vessel's rights of self-defence (though stripping them of their non-combatant status). However, this was no excuse to abandon all the rules. Visit, Search and Seizure remained the code of law, affirmed by the unratified Declaration of London (1909), which also addressed other matters of trade war at sea. Issues of blockade and contraband were also discussed, all of which would be grossly abused in the course of the First World War.

In the wider context of commerce war at sea, contraband, blockade, and submarine warfare are intertwined. States were permitted to trade in times of war, but they were also permitted to prevent their enemy from doing the same—but within limits.

That was what contraband, blockade, and submarines played a part in. Contraband put restrictions on what trade was trafficked, dividing goods into three categories: “absolute,” or only for use in warfare; “conditional,” or possibly for use in warfare, depending on circumstances; and “free,” or never for use in warfare. Neutral vessels could trade in goods from any of the lists, though absolute and conditional goods were subject to seizure by belligerent men-of-war. This was meant to prevent supplies that would extend the conflict from reaching the enemy, but would still allow the exchange of luxury or non-war items.

Combatants and war-making ability were supposed to feel the effects of contraband lists—not the civilian population. Blockade was an even harsher way to interrupt trade. Neutral vessels could trade in non-contraband goods freely as long as they permitted Visit and Search when necessary, but in a blockade, all ships from all states were forbidden to access the coast of the blockaded state. Legal limits on blockade included that it could not be affected by contact mines or submarines, but had to be performed by a series of warships able to capture any ship that attempted ingress or egress, thereby making the blockade effective. These were customs long accepted by the international community, and quickly broken when the Great War broke out.

The Declaration of London had not been ratified by all the major maritime powers by 1914. Britain had rejected it because of the conditions of contraband—though at the United States’ urging, Britain and Germany agreed to uphold its terms in the conflict. Germany’s indiscriminate mining of the North Sea provoked Britain to declare a war zone around the British Isles, which led to an escalation in German mining and U-boat hunting in that zone. While Germany was first to act illegally, it was Britain that nullified

the Declaration of London completely by transferring more and more conditional contraband goods to the absolute list—including foodstuffs, to civilian detriment—until there was no difference between the two categories. The series of reprisals between the two states led to Germany using its submarine force to enact an informal blockade around Britain, and drive Britain to create the very illegal, very ineffective “long-distance” blockade of Germany. Submarine warfare against merchant shipping increased incrementally in the Great War, finding favour because it harassed the ruler of the waves at a reasonable cost. Ultimately, submarine warfare found its place in early twentieth century warfare due to escalation of international delicts, rising to a crescendo in “ruthless” submarine warfare—a war without limits.

Given the course charted by Britain and Germany in pushing blockade and contraband to illegal and questionably moral levels in the Great War, unsurprisingly submarines went the same way. They had been subjected to a code of law that did not properly take into account their technological or strategic capabilities, and had broken out of those bonds completely in January 1917, when the decision for Germany’s “ruthless,” or “unrestricted” submarine warfare campaign was made. Successes were staggering at the beginning, as Germany sank hundreds of thousands of tons, sending them to the bottom of the sea instead of into Britain’s waiting ports. Initially, this strategy gave the Associated Powers a start—Germany did not rule the waves, yet was doing a disproportionate degree of damage to British sea-borne supply. Convoy slowed the haemorrhage to a minor bleed, however, and the gamble of this pernicious and illegal warfare proved bankrupt.

The First World War had been a catastrophe on many levels, not least of which was this explosion in naval illegality. This helped to foster an interwar feeling of regression and refusal to deal with the paradoxes shown in submarine warfare. States looked to disarm, and prevent similar conflicts from happening again. From this logic came a series of international laws: the Washington Treaty (1922), the Treaty of London (1930) and the Protocol to the Treaty of London (1936), which effectively returned laws governing submarine warfare back to the pre-war era. The problem was, as Richard Hough points out, that which had been unknown about submarines was known after 1918; yet the interwar codes of conduct did not accommodate this new reality, thus paving the way for future naval conflicts. Over fifty states agreed not to conduct themselves as Germany had in the Great War, but from a practical perspective, that conduct had shown what was possible for economic warfare and almost promised that peacetime idealism would be shattered by wartime criminality.

This was the state of submarine laws on the eve of the Second World War. Idealism in international laws had virtually ensured that limits would be pushed and even eradicated in any future conflicts, even though strategically, the U-boat puzzle had been cracked by the convoy, and U-boat warfare was shown to be unsuccessful at winning wars. There was still no legal impediment for submarines sliding into barbarism in the next war. All states agreed that even wars had limits, and “ruthless” war surpassed them; custom and treaties always hinged upon a state’s agreement to uphold certain behaviours. Not even Germany’s tradition of excusing war practices by necessity—*Kriegsraison geht vor Kriegsmanier*—was a reason to break the law. This proverb quoted at the beginning of this analysis comes from a time when warfare was not regulated by laws of war, but

only by usages (*Manier*, or *Brauch*). Since warfare in the twentieth century was regulated to a greater extent by laws, necessity no longer trumped all—unless the laws in question were framed in a way that did not apply to a specific case of necessity for self-defence, or self-preservation. Article 22 of The Hague Convention expressly states that a belligerent does not have the right to injure the enemy with unlimited means; thus, in the case of military necessity, the usages of war can be ignored, though never the laws of war.¹⁶⁷ Therefore, while *Kriegsraison geht vor Kriegsmanier*, as Lassa Oppenheim so eloquently points out, *aber nicht vor Kriegsrecht!*—it does not overrule the laws of war.¹⁶⁸

These laws thus reflected an idealism and hope that statesmen bearing the scars of a recent war carried. For those away from the diplomatic world engaged with military means, idealism was not the currency of trade. International laws played a role in German and American plans for future hostility, but never did these states heed the laws as fully as they were intended. USW would be in naval officers' minds in the interwar period—the only variable was to what extent they acted upon it.

¹⁶⁷ Oppenheim-Lauterpacht, 5th Ed., II: 194.

¹⁶⁸ Oppenheim-Lauterpacht, 5th Ed., II: 194.

Chapter Two:

Anticipating a “Total” War:
Plans, Reasons, and Escalation

*Unsere Kriegsmarine kann nur noch durch das Uboot entscheidend an
der siegreichen Beendigung dieses Krieges mitwirken—*

Our navy can only achieve victory
in this war with the use of the U-boat.

Karl Dönitz, December 1941

There has been absolutely no doubt since 1958 that Germany planned to wage “unrestricted” submarine warfare (USW) in the Second World War (SWW). That year, the U-boat fleet’s commander-in-chief, *Großadmiral* Karl Dönitz, published his memoirs, just two years after his release from his Nuremberg Tribunal-imposed jail sentence of ten years and twenty days. Pithily, he titled his book the same way: *Zehn Jahre und Zwanzig Tage: Erinnerungen 1935-1945* (1958)—or, *Memoirs, Ten Years and Twenty Days* (1959). Dönitz was characteristically unapologetic in his memoirs as he was for everything he did publicly from his release in 1956 until his death in 1981; there was no question that Germany stood behind its USW campaign.¹

Dönitz explained that he had no compunction about openly explaining what he and the *Kriegsmarine* (German SWW Navy) had planned during the interwar period, because to his mind, Britain had already borne the weight of the first offence. Winston Churchill and the British Admiralty made it clear in the late 1930s that in a future war the merchant marine would steam in escorted convoys, which was considered a defensive act

¹ Both the eminent naval historian Jürgen Rohwer and John Toland, in the introduction and foreword to the 1997 edition of *Memoirs*, attest to this trait. Toland begins by painting Dönitz in a sympathetic light, stating that as he had never been a National Socialist party member (he was, later) he was shocked to be named Hitler’s successor, and that he was tortured to find out after the war about the existence of the death camps. This same persona is the one that felt guilty for losing the war—but later in his life, as Toland relates, that gave way to cold acceptance. See Karl Dönitz, fwd. by John Toland, Intro. and aftw. by Jürgen Rohwer, Trans. by R.H. Stevens with David Woodward, 1958, *Memoirs: Ten Years and Twenty Days*, (Cambridge, MA: Da Capo Press, 1997), xiii-xxiii.

by the laws of war.² Thus, ideal war was already impossible, for in such a situation the rules of Visit, Search and Seizure would have been adhered to, and convoy would have been made unnecessary. U-boats would not have engaged in USW because they would not have had to, for surface vessels would have stopped when hailed by a U-boat and allowed themselves to be searched, all completely non-violently and according to the laws.³ Merchantmen would not have needed to arm, defensively or otherwise, because there was no risk that the crew would lose its lives—only its cargo. But, as discussed previously, this idyllic vision was based on technological impossibility.

This indicates just how much Dönitz believed that Germany had been *justified* in conducting USW, because of Britain's 1938 declaration of intent to convoy in future war. From a strictly legal perspective, that alone was not reason for USW without a prior request for redress, regardless of Dönitz's mindset. One of the key perpetrators thus having argued so heavily in favour of Germany's pre-war anticipation of waging an "unrestricted" campaign come wartime, and with so much obvious evidence supporting the idea, it is foolish to question if it were really so.

It is ironic that *Reichskanzler* Adolf Hitler was the limiting factor for the U-boat war, then, for in military affairs he was most often the propulsion system and not the brakes. He was even less inclined to engage in an all-out war than the Commander-in-Chief of the *Kriegsmarine*, Erich Raeder, who wanted a lightning-fast campaign against vulnerable British sea-borne trade routes.⁴ Hitler was in favour of a short war against France, but was of a different strategic mind when it came to Britain, and the insistence

² On convoy as a non-neutral measures, see Julius Stone, *Legal Controls of International Conflict*, (New York: Rinehard & Co., Inc., Publishers, 1959), 515 ff.

³ See Chapter One for details on the rules and laws.

⁴ Werner Rahn, *Militärgeschichtliches Forschungsamt* eds., Ewald Osers trans. ed., 7 vols., *Germany and the Second World War*, (Oxford: Oxford Clarendon Press, 1994), VI: 301.

on Prize Laws instead of USW at the outset of the naval war proves it. This fact illustrates two points, one of which influences the other: first, other strategies took primacy over USW when war began, in spite of the planning and gaming that had gone on in interwar period preparation;⁵ second, this suggests how much USW transcends military strategy to include a series of factors, which combined to make USW *more* than a military issue. It was also a geopolitical, economic, mythological, legal, and political issue.

This study looks at each of these points to understand how a strategy that had contributed significantly to Germany's loss in the Great War was resurrected in the interwar period, discussed and debated and shaped to become the most important naval strategy of the SWW. True, as mentioned, it was not *the* strategy from the moment that hostilities opened. It was not instantaneously declared at the beginning of the war, but instead a matter of Clausewitzian escalation.⁶ Ultimately, by the end of the first months of war, laws and politics were unimportant, for mythology, geopolitics and economics joined in a way of warfare that simply was: Germany would wage USW to victory or defeat.

This study does not seek to show that Germany planned an illegal war⁷—that much is already certain—but instead it will demonstrate that USW was a choice

⁵ These included Hitler's desire for *rapprochement* with Britain while he waged a short war in Europe—which would have been threatened by a strategy of intense economic warfare. Meanwhile, the other limiting factor acting against an all-out U-boat war from the beginning was that the Z-Plan had not built enough numbers of U-boats for this to be a possibility. Raeder's surface fleet had taken precedence. For details on naval building see James H. Belote, "The Development of German Naval Policy, 1933-1939," (Unpublished Dissertation, University of California, 1954), 65-74; see also Michael Salewski, *Die deutsche Seekriegsleitung 1935-1945*, (Frankfurt/Main: Bernard & Graefe, 1970).

⁶ See Chapter Four for the progression from "limits" to "unrestricted" Germany submarine warfare.

⁷ The author rejects Dönitz's claim that Britain's intent to convoy merchantmen earns the right to wage USW legally, for as established in Chapter One, the rules of retorsion demand that a request for redress be made. For Germany to have been legally justified, this would have implied requesting that Britain recant

developed gradually and calculatedly, but also popularly, which meant that in spite of Dönitz's free confessional, it was not done entirely by Dönitz's will alone.

Part One: Geography and Geopolitics

The Enemy is an Island

In *Geopolitics: Geography and Strategy* (1999), Geoffrey Sloan and Colin S. Gray describe geopolitics as “an attempt to draw attention to the importance of certain geographical patterns in political history. It is a theory of spatial relationships and historical causation.”⁸ Gray later suggests that geography is mental and physical, for “there is the geography of space, distance, time, terrain and weather—and there is the geography of imagination.”⁹ Or, more concretely, geography is comprised of three factors: the physical environment (terrain); the impetus behind technology for tactics, logistics and organisation; and the relationship of space and time that touch off opposing theories of geopolitics.¹⁰ Both geography and geopolitics made USW an apt strategy for a future German naval war—and the enemy in mind was Great Britain.

Great Britain is an island. Looking only to geographic points, that was the single most important part of the physical environment affecting German strategy toward Britain, with two possible scenarios in mind. In the first, if Germany was to attempt an invasion of such terrain, all technology would have to be focused on the problem of breaching the Channel before even considering an actual invasion. Conversely, if the German strategy was to neutralise the British will to fight, then technology needed to be focused on having the ability to cut off lines of communication—also known as trade and

the statement of intent and being denied. Then, a proportional response would be legal, but it would be to a court to decide retroactively whether or not USW had been “proportional.”

⁸ Colin S. Gray and Geoffrey Sloan, “Why Geopolitics?,” in *Geopolitics: Geography and Strategy*, Colin S. Gray and Geoffrey Sloan, eds., (London: Frank Cass, 1999), 1-2.

⁹ Colin S. Gray, “Inescapable Geography,” in *Ibid.*, 162.

¹⁰ *Ibid.*

traffic at sea. The relationship of space and time to these two possibilities had infinite possibilities, but they were moot if the technological issue could not be sorted out first.¹¹

Many serious strategists would have eschewed Mahanianism after the First World War.¹² Indeed, the maxims of the naval-captain-cum-strategist Alfred Thayer Mahan had certainly taken a beating in the Battle of Jutland (1916)—for after navalism and a bank-breaking dreadnought race had seen fleets of some of the most awe-inspiring surface vessels put to sea, they had failed to realise their destiny of deciding Great Power status. Thus, the essence of Mahanianism—that a great power has colonies for trade, to and from which goods and resources are moved on the seas in safety, for the great power's supreme surface fleet controls the seas and interdicts others' trade abilities¹³—had come up broke. If looking to use Mahan's dicta as a formular step-by-step instruction manual on achieving great power status, then it was certainly outdated as of 1 June 1916. Taking a broader approach shows that there is still value to some Mahanian principles.¹⁴

It is hard to deny that a state with healthy trade lines is often a healthier state economically. In times of war, when this health is threatened, it jeopardises the entire war effort and can lead to a militarily superior force folding before its enemy. An independent state like Britain or Japan, standing apart from the continents, would rely on trade in

¹¹ Ultimately a combination of logistics and a lack in technology drove Germany to pursue the second option—choking, not invasion. Operation *Seelöwe* (Sea lion) was scheduled for summer 1940, after the Norwegian campaign had already savaged the surface ships of the *Kriegsmarine*. Arguably, Germany would have struggled to establish a beachhead, and therefore opting to apply existing technology (U-boats) against trade was a better choice between the two. For more on Sea lion, see Egbert Kieser, Helmut Böglér, trans., *Hitler on the Doorstep: Operation Sea Lion: the German Plan to invade Britain, 1940*, (Annapolis: Naval Institute Press, 1997).

¹² See Philip A. Crowl, "Alfred Thayer Mahan: The Naval Historian," in *Makers of Modern Strategy: from Machiavelli to the Nuclear Age*, Peter Paret, ed., (Princeton: Princeton University Press, 1986), 444-477, for a generous account of Mahan, his decline, and his rising popularity after the Second World War.

¹³ See Alfred Thayer Mahan, *The Influence of Sea Power Upon History, 1660-1783*, (Boston: Little, Brown & Co., 1890).

¹⁴ Jon Sumida quotes Harold and Martha Sprout stating that Mahan, with Harold Mackinder, was one of the main proponents of geopolitics, though without a clearly espoused theory. In "Alfred Thayer Mahan, Geopolitician," in *Geopolitics: Geography and Strategy*, 42.

peacetime and in war, though with especial urgency in the latter. Thus, the geographic reality of being an island nation, even an island nation with a strong navy as both Britain and Japan were, made the two susceptible to the geopolitical reality of economic warfare at sea. It was no longer a matter of retaining great power status that these states needed to trade, and keep their lines of communication at sea open, but for the sake of their existence as autonomous nations. Mahanianism dictated, then, that the best strategy to apply against Britain was neutralising its ability to fight on: cutting the lines of communication was the answer to ending Britain's war.

Returning to Gray's explanation of geopolitics as a theory of spatial relationships and historical causation, one could look at Britain and Germany as less obvious antagonists—France had historically been Britain's continental opponent—but in the twentieth century, this role was transferred to Germany. The spatial relationship was one where Britain was in an advantageous position in times of peace, for it is situated in the way of Germany's access to the world's continuous oceans and seas. This was a very Mahanian problem, which could put the two into opposition, as Britain had far too much influence in cutting off Germany's ability to access world markets and trade. The then-recent world war had illustrated as much; thus space and history also pointed Germany directly to its best geopolitical strategy: economic strangulation. In short, in virtually every way, geopolitics and geography demanded USW if an epic battle between the Britain and Germany broke out.¹⁵

Adolf Hitler had encountered geopolitics through the geographer Karl Haushofer, a man whose academic expertise contributed to the *Lebensraum* theory and ensuing Nazi policies. In spite of this long-standing contact, however, it is unlikely that Hitler would

¹⁵ Geopolitics and geography do not account for whatever alliances develop afterwards.

have used the word “geopolitics” in terms of his strategic choices. Certainly, he would not have concerning the impending naval war; regardless, geopolitics still figured cautiously in Hitler’s naval strategic vision. An all-out economic war with Britain hindered his short-war vision, but it remained a key part of any German choice for war at sea. Evidence of this is found in the Führer’s words, for even in Hitler’s first naval directive on the eve of war he stated, “the navy will operate against merchant shipping, with England as the focal point.”¹⁶

Germany could not escape geography and sound geopolitical strategy when planning for a war at sea. Recent history in the 1914-18 war had suggested what Britain would do with its geographically advantageous position, controlling Germany’s access to the high seas and whatever trade and security opportunities lay beyond it. The most strategically sound German response to such a British strategy *also* took geography and geopolitics into account, and planned for ways to choke the islands from their supply lines far-flung across the oceans. Thus, the soundest war plans would have been to encompass a naval strategy to bring economic warfare to bear on Britain; USW was a natural consideration.

Part Two: Economics

Sinking the Island

Economic warfare against Britain was hardly a radical plan to consider when shaping a future strategy; instead, it was simply a matter of good geopolitics, as argued above. Interwar period analyses in Germany had assessed “Britain’s Economic Situation” with the idea of finding concrete figures supporting the geopolitically favoured strategy (though without using that word), which produced a report that yielded a significant

¹⁶ Quoted in Werner Rahn, *Germany and the Second World War*, VI: 301.

indication that economics both could and could not be a point of vulnerability. The challenge with evaluating such a peacetime examination was that it would necessarily *estimate* wartime realities, without the ability to anticipate all the enemy state's ways and means for coping during hostilities. The direction of the findings rather than their specific numerical values tends to be more indicative of how an attempted economic strangulation would unwind.

Germany undertook an analysis of "Britain's Economic Situation" and began by focusing on peacetime imports to the British Isles—which could also have been subtitled "where Britain would feel USW the most." The study looked first to an examination of agricultural imports in peacetime, as well as industrial imports, and mineral oil for the year 1937. Findings suggested that these were three of the largest areas in which national production was insufficient to meet domestic needs,¹⁷ translating into 23.9 million tons of agricultural materials, mainly fodder and feed for animals, 35.2 million tons of predominantly raw materials, and 11.2 million tons of refined petroleum imported in 1937. Respectively, that was 75 percent, 73 percent and 96 percent of Britain's consumption of each product, indicating that even at peacetime levels of production, the United Kingdom could not sustain its own needs in vital materials.¹⁸

Raw materials shared a billing with food as the two main categories of British import dependency. The situation for the latter was grave, but still less seriously deficient than for the former. In foodstuffs, Germany's report identified that Britain imported 90 to 100 percent of "fats, tea, coffee, cocoa, tropical fruits etc."; grains, sugar, cheese and fruit, and meat rounded out the import list in descending order from 80 to 90 percent for

¹⁷ "Wirtschaftslage England," RM 7/820, BA/MA, Freiburg-i.Br., Germany, 41.

¹⁸ Ibid.

grains down to 50 to 60 percent on meats. This boded better for Britain in wartime than it did for Germany's strategy, as it appeared that the area of largest import dependency was non-essential goods. Going without would not do great things for morale, but unfortunately for Germany, no country had ever conceded defeat over a lack of Darjeeling. However, to Germany's benefit, quickly following the deprivation of the daily "cuppa" were foodstuffs more necessary for sustaining life, the grains, cheese, fruit, and, further down the list, meat, showing that Britain's ability to wage a long-term war would be threatened on the home front by USW—especially if Admiral Andreas Michelsen had been correct when arguing that the "hunger blockade" is what defeated Germany in the First World War.

Where would Britain get the 70 percent of "bacon," 42 percent of "butter," and 70 percent "*Eier*" it imported from the Northern and Baltic states if blockaded?¹⁹ What about the 22 percent of iron ore? There was also the 65 percent of wood for construction, 90 percent of pulp, and 55 percent of paper and cardboard it imported from these regions—including Russia. If these neutrals could not continue to provide Britain the goods it required, it would be a boon to the German economic war. The problem was that whatever hardships were created by this situation would be offset by the fact that the United States (and to a lesser degree, Canada) were in a position to provide up to 90 percent of British war import needs.²⁰

This vulnerability in foodstuffs was certainly a cause for British concern in future war, but to a lesser degree when compared with the fact that raw materials were also

¹⁹ Ibid., 46. It was in an intentional attempt at cosmopolitanism in evaluating Britain's economic position that the report then used the English word "bacon" instead of the German *Speck*. The "northern" states are Scandinavia.

²⁰ Ibid. (46)

sorely lacking. Thus, the war effort, and not just those charged with perpetuating it, would be severely hindered by curtailing imports. Rubber, cotton, silk, jute, potash, bauxite, nickel, antimony, quicksilver “etc.” were all factored to be 100 percent reliant on imports, followed very closely by copper, manganese and chromium at 99 to 100 percent. Sulphur, tungsten, flax, zinc, wood, petroleum, tin and lead were also in the 90 percent range, wool and hides at 71 percent, and iron ore at “only” 42 percent. Britain’s ability to self-sustain in coal and nitrogen seemed banal after such a laundry list of its have-nots.²¹ It would have obviously been strategically foolish for any enemy of Britain not to wage an economic war, given this situation.

This was evidently in the forefront of German minds, as the report then turned toward focusing on how the above-mentioned peacetime calculations of import dependency would change in times of war. It pointed out that by choking civilian needs and decreasing the imports of agricultural materials by 7.7 percent, and industrial goods by 16.3 percent, this would force a sharp rise in the need for petroleum imports (13 percent) by the second year of war.²² The report also illustrated that this restriction policy could be compounded if, along with imports, exports were also choked. Britain would lose more still to import deprivation. Should Britain have been held to only half its industrial exports, by the second year of war that would be a reduction of 46.3 percent, which increased to 49.8 if Britain’s exports were stopped wholesale. As stated previously, these numbers are meaningless inasmuch as they would have demanded an omniscient quality by the German navy somehow to recognise and understand how many imports and exports Britain was being deprived of. What *would* “half its industrial

²¹ Ibid., 41-2.

²² Ibid., 42.

exports” look like afloat on the high seas? How could Germany have known if it was stopping half of Britain’s industrial exports, or if it was stopping 35 percent? Or seventy percent?

Obviously, having more or less than the targeted amount stopped would have seriously affected the strategy’s effectiveness, and it would be impossible to determine with any precision how much traffic was stopped. Estimations of tonnages sunk were only ever guesses, and thus calculations for an economic campaign against British shipping proved to be an inexact science that existed more on paper than in any possible reality. The more important point to take from this assessment would be that the restriction of imports and exports would target both civilians and industry; if geopolitics did not suggest so already, economics showed that Britain would be vulnerable to an economic campaign at sea.

The report also examined tonnage usages—a critical consideration when looking to stop imports and exports; British cargo tonnage for dried goods in particular consisted of 12.8 million tons in 1939, which was sufficient for the transport of peacetime import needs. In war, naturally there would be factors reducing this capacity, which included bottling up tonnage in harbours to leave it lying dormant, lengthening journeys to add time to round-trip voyages, and increasing the number of accidents at sea by convoying to name a few.²³ These factors could be off-set by “performance-enhancing measures” including organising under central management, concentrating tonnage along the shortest, most direct sea routes, fully loading tonnage capacity, and the loss of transit harbours.²⁴ Beyond figures for dried goods tonnage, there was also the matter of tanker

²³ Ibid., 43.

²⁴ Ibid.

tonnage, of which Britain had 2.9 million in 1939. This exceeded peacetime needs by a factor of nearly two—however, the restriction of import goods in wartime as explained above would have led to a drastic increase in petroleum requirements, corresponding to a sharp increase in required tanker tonnage—roughly 2.6 million tons, climbing to 2.9 million tons in the second year.²⁵

Fluctuation between British positives and negatives coloured the report—from ways Britain could offset factors reducing capacity to the dramatic rise in needed petroleum and petroleum shipping. The final point stated that it should still have been assumed that Britain would seize tonnage for military goals in a time of war to add further to available tonnage, while likely benefiting from the support of its allies, possibly including France. Ultimately, Britain *had* to be in possession of reserve tonnage waiting to be called up for war-time use; these factors combined to make it difficult if not impossible for Germany to estimate British needs and availability.

It was hard to say certainly how much of the neutrals' emergency reserves would be put at Britain's disposal in wartime, but Germany surmised that "the tanker fleet of the USA with 2.8 million tons, as well as the merchant marine of the northern states and Greece together with 12.3 million tons, of which 2.1 million was Norwegian tankers" came close to 15 million tons; British requirements in tanker tonnage were clearly poised to be easily met.²⁶ That was important because the 3.1 million tons flying flags of the Dominions and British colonies would be occupied in their own trade. Of course, whatever could be made available to help the "Motherland" would be, but Germany surmised that it could not have been counted on as a major source of extra tonnage.

²⁵ Ibid.

²⁶ Ibid., 45.

American and British production capacities were poised to put another kink into the German economic war plan: they would be able to put up to 6 million tons afloat in new tonnage, though the German report considered that at best this figure could be reached only by the third year of the war. It was forecasted that England alone would put 1.5 million tons to sea in the first year of the war, climbing to 2 million in the second. However, these figures were almost arbitrary, for the air war could also be in a position to reduce that output. As above, when it was found that stopping half of British exports would correspondingly stop 46.3 percent of imports, these numbers were simply theoretical.

If Germany could not definitively prove the amounts that would be stopped, both import and export, or calculate the exact tonnage that would need to be despatched to win the war, it could make other very certain qualitative cases. The bounties of Scandinavia, the Baltic States and Russia, as discussed above, made waters north and east of the British Isles a fertile hunting ground; but that was only half the story.

The other side of this dependency was that North America could fill the void if Britain was deprived of trade with these states. From the western side of the Atlantic could flow feed and fodder for livestock (provided there were no bad harvests), iron and steel, copper, zinc, nickel, lead, and titanium. Canada could supply the entire required quantity of wood, and provided the British people could do without Egyptian cotton, so too could the United States provide the requirement for cotton—especially since one half of the year's 12 million necessary bales were already lying in warehouses.²⁷ The United States could also protect British oil reserves, making it clear that North America would be the biggest obstacle in Germany's potential economic warfare plans.

²⁷ Ibid., 47.

There remained goods that North America would be utterly unhelpful with, including wool, flax, hemp, jute, manganese, rubber, potash, tin, and bauxite. These, the report found, could not be delivered. Furthermore, there was not enough quicksilver, chromium, antimony, or wolfram for export, so there were things that a blockade of North American goods flowing to Britain would not prevent reaching its shores. That only meant that North America was not the only answer to Britain's import needs. Nevertheless, the North American land of plenty was poised to cover so many of them that one thing became clear: the vital side of the Isles to blockade was the west, for North American supply could derail the entire geopolitical strategy.

Part Three: Mythological Ideas:

From Stigma of Defeat to Symbol of Strength

Future war with Britain would naturally include economic war at sea—the same kind of war that German U-boats had waged in the First World War. However, the U-boats lost that war, and failed to achieve their goal of strangling British trade. How, then, did Germany make the leap from the geopolitically obvious strategy of economic warfare to overcoming the U-boats' stigma of defeat? Indeed, this stigma belongs to present-day history, but was not popular in the interwar period. A campaign of re-writing history and thereby inadvertently mythologizing U-boats had been going on since before the war had even ended. The outcome of this school of literature was a world in which the U-boat was king, its history shaped around different (and self-serving) interpretations and ideas of the campaign; the mythology developed as part of this revised history more than from consciously created myths. Various parties revised the events in postwar narratives to serve different ends, and the result was a body of thought that was based more on agenda than actuality. Therein lay the “myths.”

Part of this derived from who was writing about the U-boat war after it was over. Those in the military looked to continue the image of the submarine as the singularly heroic arm of military service, poised to redeem Germany's shame of 1918.²⁸ For example, in 1918 Captain Karl Boy-Ed wrote a book entitled *The United States of America and the U-boat War*, which the American Naval Forces Commander in Europe found important enough to translate and bring to the attention of the Secretary of the Navy, Josephus Daniels.²⁹ The European Commander wrote in his cover letter that "Captain Boy-Ed's pamphlet has been very widely circulated throughout Germany and in the adjacent neutral countries, and has been frequently quoted as being the most authoritative publication in German on American naval contribution to the war."³⁰ Boy-Ed's book provided a forum for re-examining a war that was not even over yet, and allowed him to make what turned out to be ludicrous statements about the effect of the United States' contribution to the war against German U-boats.

Captain Boy-Ed's book was published in May 1918, half a year before the German war was lost, two months after the last valiant attempt to win the war on land,³¹ but *one year* since convoy had nullified the effects of German USW. Boy-Ed's aim was to establish how much the American entry to war had affected or would affect the Associated Powers' available tonnage by answering three questions: first, "what has been

²⁸ Michael L. Hadley discusses the myths of the U-boats portrayed through their images in popular work in *Count Not the Dead: The Popular Image of the German Submarine*, (Montreal and Kingston: McGill-Queen's University Press, 1995). See especially the role of this mythology in the interwar period, 47-78.

²⁹ Karl Boy-Ed, *Die Vereinigten Staaten von Amerika und der U-Boot-Krieg*, (Berlin: Verlag von Karl Sigismund Königl. Sächs. Hofbuchhändler, 1918), with a translation found in Box 925; Subject File 1911-27; RG 45 Records Collection of the Office of Naval Records and Library; NARA I, Washington D.C.

³⁰ From Force Commander to Secretary of the Navy (Office of Naval Intelligence), Subject: Forwarding of Translations—German Articles, 18 September 1918; Box 925; Subject File 1911-27; RG 45 Records Collection of the Office of Naval Records and Library; NARA I, Washington D.C.

³¹ This refers to the Spring Offensives' "MICHAEL" campaign, in which the Germans galloped across parts of France to seize large tracts of land in March 1918. These gains were purely tactical, not strategic, and could not stop the German descent to defeat.

the Allies immediate gain in tonnage through the entry of the United States into the war?"; second, "What has been the effect of the United States' entry into the war on new ship-building?"; and third, "Has the activity of our U-boats been cramped in any decisive manner through the participation of the United States?"³² Nowhere did Boy-Ed ever mention the effect of the American navy on the U-boat war in terms of *convoy*, however, and that arguably had the most important and direct effect on the U-boat war.

Tonnage was examined in all contexts of ship types, from cruisers to torpedo-boats to destroyers, yielding propagandistic conclusions and highlighting the value of highly questionable statistics. Boy-Ed drew a cause-and-effect relationship between the German U-boat war and the amount of material and personnel combating the U-boats spent by the Associated Powers, as one example. At the beginning of 1918 (again, six months after USW had been foiled by convoy), the German navy was mustered 100,000 men. The Royal Navy, meanwhile, had been increased to 450,000, the American to 250,000, and the French to 170,000 men.³³ These statistics were meant to show concretely that for every one German sailor, eight enemy sailors were employed in defeating him. Naturally, no questions were raised about proportions or what these sailors in foreign navies were engaged with, be it convoy duty, shore duty, coastal defence, etc.; it was assumed that the only thing that these navies would be concerning themselves with was the German U-boat war. This was undoubtedly a focus of a great deal of British and American attention, but Boy-Ed's failure to provide context makes these figures suspect and elicits more questions for modern readers than answers. In terms of contemporary myth-building, however, it was undoubtedly highly compelling stuff.

³² Boy-Ed, *Die Vereinigten Staaten von Amerika und der U-Boot-Krieg*, 1-2.

³³ *Ibid.*, 39.

Boy-Ed's conclusions suggested an inevitable U-boat victory, and therefore could not have stood alone in U-boat myth-building given the ultimate defeat. However, another wave of writers emerged to bridge the gap between defeat and the essential strength of the U-boat arm. One in particular looked to shift the blame for U-boat shortcomings away from the military and onto the politicians. Vice-Admiral Andreas Michelsen wrote in 1926 with the clear motive of freeing Germany from the bonds of the Versailles "dictate" to once again recapture its greatness;³⁴ his examination of the U-boat war 1914-18 shows that he had played a role in the civil-military disconnect that had driven Germany into impotent political leadership and a quasi-military dictatorship by 1917.³⁵ The admiral was scathing in his criticism of German politicians, for clearly, he wrote, the German government had not understood that the British blockade enacted in 1914 meant certain starvation for the German people. The politicians behaved "deplorably" based on this misunderstanding, and it was the Foreign Office's inability to grasp the naval staff's plans that led directly to the failure of German USW in the Great War.³⁶

The German Naval Staff's aim with USW was to impose its will on *all* neutrals (and enemies) by force—not on a selection of neutrals. Michelsen was speaking directly to the politicians' decision not to permit USW in 1916 because of American pressure, something that he felt they should have been rejected out of hand. A full and aggressive

³⁴ Andreas Michelsen's *Der U-Bootskrieg 1914-1918*, (Leipzig: Verlag von K.F. Koehler, 1925) is also found translated as a Monthly Information Bulletin from the Office of Naval Intelligence. The translation is entitled *The Submarine Warfare, 1914-1918*, (Washington: Government Printing Office, 1926), with the author's name misspelled as Michelson. In Box 925; Subject File 1911-27; Record Group (hereafter RG) 45 Records Collection of the Office of Naval Records and Library; National Archives and Records Administration I (hereafter NARA I), Washington D.C.

³⁵ See Holger H. Herwig's "Strategic uncertainties of a nation-state: Prussia-Germany, 1871-1918," in *The Making of Strategy: Rulers, States, and War*, Williamson Murray et al eds. (Cambridge: Cambridge University Press, 1994), 242-275.

³⁶ Michelsen, *The Submarine Warfare, 1914-1918*, 8-13.

USW campaign at that juncture of the war would not have yielded the same results as it did, he argued, for it would have been done when Germany was at a greater strength, and before German-American relations had taken a turn for the worse. Their “friendship” was not yet weakened in 1916, as it would be through the loans and munitions supplies that antagonised Germany, but created a *rapprochement* between Britain and the United States.³⁷ Whose fault was this? The Chancellor’s fault, for Theobald von Bethmann Hollweg was frightened by the prospect of angering the United States, putting into motion a demand that the navy promise victory in six weeks, which was an impossibility; with that, “the backbone of the submarine commerce warfare was broken from the start.”³⁸ Policy and strategy were hopelessly divorced.

This divorce had far-reaching effects, for Michelsen stated that the United States would *not* have declared war on Germany in 1916, regardless. In spite of the “suspicious” motives and war-like intentions of the President, Woodrow Wilson, and the fact that the United States was secretly preparing for the war, Michelsen found it impossible to imagine that Congress would be ready to allow this tragedy to occur.³⁹ Thus, it was the Chancellor’s fear of the United States and his preference for a “policy of friendship for England” (!) that led the head of the German political office to oppose the demands of “military necessity.” The Empire was lost because of Bethmann Hollweg.⁴⁰

Emphasising the rift between the military and political spheres infused the former with credibility, as whispers of “stab-in-the-back” ideology began wafting around

³⁷ Ibid., 13-14.

³⁸ Ibid., 13-14; 22.

³⁹ Ibid., 23.

⁴⁰ Ibid.

Michelsen's words.⁴¹ Indeed, Michelsen would later explicitly state that Germany had not lost the war, which confirmed the admiral's bias and suggests that his work would have struck a chord among those ascribing to the same system of beliefs.⁴² Those who read Michelsen's work would have also read about how the U-boat, "our only effective weapon, was knocked from our hand" in the November Revolution (1918-19), a time when the revolutionaries at home and "foreign groups" of communists all edged down the same course. Michelsen thus drew a line connecting the chaos and difficulties of the post-Versailles era in Germany to internationalism, a cause championed by Britain and the United States to speed up Germany's downfall.⁴³ All of this existed and was exacerbated by the failure to employ properly the U-boat in the Great War; Michelsen would have his readers believe that the Naval Staff's calculations on which the U-boat war was based were essentially correct, though they implied risk.⁴⁴ This risk was acceptable only when carried out to its proper end, which had never been possible because of the political leadership. The U-boat itself was untarnished.

The U-boat war had thus been legal (only the British "hunger blockade" was not), and it would have been effective if not for the political fumbling that killed its chances. Was it cruel and inhumane, as non-Germans were arguing? To answer this, Michelsen invoked the strategic genius of Carl von Clausewitz and quoted that "War is an act of

⁴¹ The "stab-in-the-back" (*Dolchstoß*) legend was begun in a speech made by General Erich Ludendorff in 1917, picked up and popularised by his partner Field Marshal Paul von Hindenburg, who repeated it at the Reichstag inquiry into Germany's defeat in the Great War. It suggested that Germany had never been militarily defeated, but rather "stabbed in the back" by Jewish and Bolshevik elements (i.e., in the political realm).

⁴² It was not only the military that believed that Germany had not been defeated, for Kaiser Wilhelm II repeated the "stab-in-the-back" in his memoirs, and the Social Democrat (and later German president) Friedrich Ebert greeted the troops marching home with "No enemy has overcome you!" See Richard J. Evans, *The Coming of the Third Reich*, (New York: Penguin Books, 2003), 61.

⁴³ Michelsen, *The Submarine Warfare, 1914-1918*, 146-149.

⁴⁴ *Ibid.*, 147.

violence, in the application of which there are no limits,' and 'mistakes which result from kindness are the worst'.⁴⁵ Thus, by name and Clausewitzian definition, "unrestricted" submarine warfare was simply a form of war, and ought not to be subject to judgment or censure. Furthermore, as a strategy it had not been considered against a kind, honest enemy, either. "Perfidious Albion's" "hunger blockade" was pure treachery; even the former First Lord of the Admiralty, John "Jackie" Fisher, had underscored the inherent vicious quality of warfare in his memoirs, stating that "The essence of war is violence. Moderation in war is imbecility. Hit first, hit hard, and hit anywhere."⁴⁶ This was something Germany had not done with its U-boats, in spite of the fact that the enemy all but sanctioned it; in fact, as Michelsen expressed,

Our stupid humanitarians will have to concede that when one is opposed by an enemy who has been taught such lessons there is no possibility of using moderation or a policy of conciliation. Yes, they must realize, if they are not to [*sic*] blinded by internationalism, that we lost the war because we did not observe this lesson.⁴⁷

The U-boat war was not cruel, nor inhumane, nor illegal, but in fact it had been under-applied, which led to the German downfall.

This was the rhetoric that would serve the build-up of forces in the next decade. The Nazi Party's aim of throwing off the shame of the Versailles "*Diktat*" would be well served by incorporating this weapon of heroes, especially as a vice-admiral of the Navy argued that the U-boat had not been defeated, but only misused. There were many benefits from the psychological to the militarily real that demanded a new German U-boat arm.

⁴⁵ Ibid., 137.

⁴⁶ Quoted in Arthur J. Marder, *The Anatomy of British Sea Power: A History of British Naval Policy in the pre-Dreadnought Era, 1880-1905*, (New York: Octagon Books, 1976), 347.

⁴⁷ Michelsen, *The Submarine Warfare, 1914-1918*, 137.

. Captain Boy-Ed, like Vice Admiral Michelsen, was able to operate from a position of perceived authority and draw conclusions that could have been (and likely were) very influential. Boy-Ed's pamphlet can be partly excused, even for its conclusion that "the United States cannot arrest our victory; thanks to the shipping question and to the U-boat war America is, in this war, no land of unlimited possibilities,"⁴⁸ because its message fit into the German propaganda and disinformation campaign, aggressively conducted by military censors for four years.⁴⁹ The German home front was never allowed to know the military state of affairs, which is how it was so shocked by the announcement that Germany had lost the war. This, of course, fed into the "stab-in-the-back" theory, used by Michelsen to apply the momentum of that theory's follower to his own argument. Michelsen did not have the same excuse as Boy-Ed for his perversions of reality-based information; in both cases accuracy was sacrificed for the sake of patriotism, and U-boats remained tied to positions of strength.

The U-boat was therefore able to transcend the loss it suffered in the Great War by evading its own history. During the war and afterwards, works were written by naval officers to provide reasons why the U-boat was still a supreme weapon for the German navy, emphasising its strengths and ignoring weaknesses (and its defeat) out of hand. In this instance, U-boat mythology drew its weight by re-writing history, and continuing to feature the U-boat as an answer to Germany's problems, never the cause.

Bridging the Gap: From Pre-War Concept to Wartime Issue

The U-boat was thus a powerful tool of mythology by the eve of the Second World War. The First World War's U-boat campaign had been rewritten and

⁴⁸ Ibid., 48.

⁴⁹ See Holger H. Herwig, "Clio Deceived: Patriotic Self-Censorship in Germany After the Great War," *International Security* (1987): 5-44.

reinterpreted along lines that attested to the fact that the strategy was sound and historically supported, and it remained, as ever, endorsed by geographical reality and geopolitical strategy. These factors fell short when it came to considering alliances, but that was no reason to derail this strategy, and allowed it to move forward quite easily—in certain spheres.⁵⁰

The connection from the First World War to the Second World War is even stronger and more physically real than mythology, strategy, and economic theories suggest. When the German U-boats returned to the water in 1935, in the words of Allison W. Saville, it “represented the final link in the long chain of German experience that stretched from the construction of the first U-Boat in 1906. That chain had never been broken.”⁵¹ The men who trained the new U-boat arm had had direct contact and personal experience with the original U-boats; Dönitz was but one of many in that context. When the Associated Powers left behind the records and design plans that documented Germany’s first U-boat fleet after seizing everything, as per the Versailles Treaty, this left the tools required for this service’s rebirth in the hands of those with the knowledge and experience to enact the plan. This they did through the dummy Dutch design firm they called I.v.S. (Ingenieurskantoor voor Scheepsbouw), which began producing prototypes shortly after its move from Kiel to The Hague in 1925.⁵² The I.v.S. scheme also offered a training programme for young officers; in both training and technology, then, there was never an instance in the interwar period when a future U-boat war was not being planned.

⁵⁰ Raeder was a proponent of economic war, but shaped around the surface fleet. Hitler, meanwhile, had really no understanding of naval strategy, as stated above, and limited USW for political reasons.

⁵¹ Allison Winthrop Saville, “The Development of the German U-Boat Arm, 1919-1935,” (Ph.D. Dissertation, University of Washington, United States, 1963), 621.

⁵² *Ibid.*, 625.

The intangibles discussed here helped shape the future war as an unrestricted war. With boats, training and personnel available, Dönitz took his tactical plans to the next level with an eye on fulfilling the best strategic possibilities above. To do that, he had to examine the greatest tactical threat to his fleet's effectiveness: convoy. Convoy had nullified the effect of USW in the Great War, so Dönitz went about establishing ways to nullify it in return.⁵³ Churchill's statement of intent to convoy in future wars simply offered Dönitz the way to take his proverbial gloves off, and prepare more openly;⁵⁴ no pretence at International Laws would need to be followed—but that was not to suggest that German military leaders would follow Dönitz's suit.

Part Four: International Laws, Propaganda and Politics

Laws and Meanings

It is sometimes assumed with Dönitz's blatant statement in *Memoirs*, that USW had been planned in the interwar period with a clean conscience, that Germany gave no thought to international laws and rights. Even preliminary research offers three clear points proving otherwise: first, soldiers and sailors were educated on international laws; second, the International Law, Politics and Propaganda section of the navy kept its own *Kriegstagebücher* (KTBs—war diaries) detailing all that pertained to these factors on a daily basis; and finally, the *Auswärtiges Amt* (Foreign Office) acted as an intermediary between German interests and all others', consulting the international lawyers on staff and upholding the rule of law in warfare, until momentum took over. It is unexpected and contrary to the natural assumption, but international laws were heavily considered at the

⁵³ See Chapter 4 for details of U-boat doctrine and the military side of how the war began and reached its crescendo after a gradual escalation from Prize Laws to USW.

⁵⁴ Saville shows that the former Associated Powers were abundantly aware of I.v.S. and the German scheme to remain invested in U-boat development and building, but that they were "careless about enforcing it," (see "The Development of the German U-Boat Arm 1919-1935", 623). Clearly, hiding U-boats and plans was not a serious priority in Germany.

beginning of the German naval war, with the treatment of the merchantman obviously depicting the slide to USW as well as the decreasing importance of laws to the U-boat war.

German forces were therefore not ignorant of international laws, but educated about the codes of conduct they were subject to by international law. A collection of interstate agreements on troop behaviour were assembled clearly to set out the codes of law beginning from a most basic level. “International law regulates contact between states,” the document explained. “The component of international law that is concerned with war is the Laws of War [*Kriegsrecht*], knowledge of which is necessary for officers.”⁵⁵ The meaning of the rules of international laws “serve to shape a decent and chivalrous war,” it continued, and the consequence of breaking these laws included enemy reprisals and propaganda based on legal grounds.

It was further established in no uncertain terms that for troop conduct, *all* agreements on laws of war were important, even those with practical meanings but without the binds of formal legal ties. This is to say that the Declaration of London (1909) about prize, contraband and booty was relevant for German troop conduct, even though no obligations to uphold it were in place.⁵⁶ It was to be considered next to The Hague Convention (1907) on the laws and usages of land war, The Hague Convention on the Rights and Duties of Neutral Powers and Persons in Case of War on Land (1907), the Treaty relating to the Use of Submarines and Noxious Gases in Warfare (1922, cited as 1925), the Geneva Convention on the Amelioration of the Condition of Sick and

⁵⁵ “Kriegsvölkerrecht. Teil II.” RM 7/1103 “Oberkommando der Kriegsmarine, Seekriegsleitung, Abt, Ic 6-1, Geistige Vorbereitung des Krieges (Propaganda), 4.2.1937-7.6.1939 + 6-2, Geistige Vorbereitung des Krieges (Propaganda), 15.3.1937”); BA/MA, Freiburg-i-B., Germany, 5.

⁵⁶ *Ibid.*, 5-6.

Wounded Soldiers in the field (1929), the Geneva Convention on the Treatment of Prisoners, and so on. Thus, in theory, the guidelines of the London Declaration (1909) that continued to uphold the notion of submarines practicing Visit, Search and Seizure was thought to be as relevant for troop conduct as the most basic laws of war. Unfortunately, so little was left to the individual sailor at sea that educating him about that particular law served only to show what the boundaries of a legal war at sea encompassed, *not* that these individual sailors were being counselled on the kind of war they ought to fight.⁵⁷

This list also included two treaties of utmost importance: the London Treaty (1930) and the subsequent Protocol (1936), which upheld the laws that forbade USW.⁵⁸ Including the London Protocol (the first of the interwar treaties relating to submarines that Germany was allowed to sign) with weightier laws, such as The Hague Conventions, was indicative of the fact that this was *accepted* as law, recognised as law, and practiced as law—except when the law was nullified in German eyes by enemy violations.

In spite of Dönitz's contrary plans, Adolf Hitler's war with Britain began with a moderate sea strategy following the treaty laws listed above. It was even more moderate than is usually thought, for the day that Britain declared war on Germany, the Chief of Operations of the Navy, Captain Kurt Fricke, telephoned the Foreign Office to inform the State Secretary, Ernst von Weizsäcker, of the situation. Weizsäcker noted that "Fricke telephoned me today; the Führer has already been briefed on the matter."⁵⁹ Weizsäcker noted further that, "With it, however, he has given the impression that the political

⁵⁷ Ibid., 6-7.

⁵⁸ Ibid., 7.

⁵⁹ From Albrecht to State Secretary, 3 September 1939; R 30001; Seekrieg 1; Politisches Archiv des Auswärtigen Amts (hereafter, AA), Berlin, Germany.

implications have deepened and the Führer must be briefed again. Fricke has already sent to Commander Neubauer in the Foreign Office to discuss the matter further.”⁶⁰ The Foreign Office, home to the International Law department, was therefore in contact with those around Hitler as he made his choices about the war at sea—but already Hitler perceived an escalation, which he was going to address. Thus, the International Law section of the Foreign Office was involved in discussions about the war’s direction, and aware of the Führer’s intentions; however, Hitler was Hitler, and in the end he made his decisions on his own.

The first of his decisions remained to wage a cautious naval war, as German forces were ordered to follow Prize Laws, and given a copy for their information on 28 August 1939. Attention was thus being paid to international laws all the way to the top of the command chain in Germany as the naval war with Britain broke out, and disseminated down to the bottom of the command chain with a published pamphlet, the *Reichsgesetzblatt*, which offered up-to-date information on the laws in force at any time.⁶¹ Drafts of the codes of Prize Laws and Prize Courts were published in full in the *Reichsgesetzblatt* for dissemination to German forces, signed by the Führer and Chancellor, Adolf Hitler, Commander of the Oberkommando der Wehrmacht, General Wilhelm Keitel, Foreign Minister Joachim von Ribbentrop, and Reichsminister of Justice, Dr. Franz Gürtner. Articles 1 through 31 explained the mechanics of practicing prize laws, while Article 32, “Convoy,” indicated the defensive nature of such organisation: “vessels under escort of enemy warships in convoy are exposed to all the

⁶⁰ Ibid.

⁶¹ “Reichsgesetzblatt Teil I, Nr. 161”, 3 September 1939; R 30001 Seekrieg I; AA, Berlin, 1589.

dangers of war.”⁶² The “dangers of war” was still far from Dönitz’s extreme view that convoying absolved the enemy of its obligations to engage in a legal war, as Article 34 made it clear that convoyed vessels were subject to being captured and commandeered—not that the entire convoy was to be fired upon on sight.⁶³

The exact terms of these laws were bundled with the official decrees of 3 September to wage war according to Prize Laws; after the last terms of the code of Prize Courts it was issued that, “In accordance to Article 3 of the Prize Laws of 28 August 1939 the following is decreed: The beginning of the term, within which the prize laws are to be practiced, has been fixed for 3 September 1939 at 12:00 noon.”⁶⁴ The order was not given with Hitler’s signature, however, but instead the fourth name belonged to Raeder, Commander in Chief of the Navy. Hitler may not have endorsed it with his own pen, but there is no doubt that a limited war followed his orders. His vision was for the war at sea to be economically-oriented, as per his directive of 31 August 1939. This stated that “the navy will operate against merchant shipping, with England as the focal point,”⁶⁵ but it was the orders disseminated to Dönitz as *Befehlshaber der Unterseeboote* (BdU—Commander in Chief, Submarines)⁶⁶ and the laws as they appeared in this pamphlet that showed how conservatively this was to be done.

This did not exist solely at the governmental level, of course, for the decisions made and circulated in the *Reichsgesetzblatt* were mirrored in the navy’s *Völkerrecht, Politik und Propaganda* (International Law, Politics and Propaganda, or VPP) section.

⁶² Ibid., 1589. The *Reichsgesetzblatt* pamphlets are sequential, hence the pagination for such a short pamphlet.

⁶³ Ibid.

⁶⁴ Ibid., 1600.

⁶⁵ Quoted in Werner Rahn, *Militärgeschichtliches Forschungsamt* eds., Ewald Osers trans. ed., 7 vols., *Germany and the Second World War*, (Oxford: Oxford Clarendon Press, 1994), VI: 301.

⁶⁶ See Chapter Four for the military campaigns and orders given.

The VPP's war diary recorded the meeting in Paris of 2 September between Britain and France to decide how to proceed against Germany. With the primary motivation being to spare civilians in the war, the two states were known to be adamant about upholding the Protocol to the Treaty of London (1936).⁶⁷ The next day, with formal declarations of war made, Germany reverted to a war by Prize Laws and abided by the London Protocol (1936), as recorded in the VPP diary as well as in the Foreign Office's *Reichsgesetzblatt*. The VPP section did not blindly follow the idealistic idea that these laws would be upheld indefinitely, for it included in the rules and laws of 3 September the following sidebar: "a special order was prepared for the intensification of the trade war."⁶⁸ Escalation was, apparently, inevitable.

In the midst of these concerns about waging proper Prize Law came the infamous *Athenia* incident. A U-boat captain caught up in the thrill of the first moments of the war mistook a passenger ship for an armed cruiser, and torpedoed it without warning.⁶⁹ The *Athenia* incident is only partly relevant to the path of escalation described here, for with it came repeated calls by the *Oberkommando des Marine* (OKM, the Navy High Command) to heed the laws of war already issued; taking no precautions, renewed orders *not* to target passenger ships were issued in the aftermath of the incident.⁷⁰ The Führer responded with a tightened grip on the laws of war as well, making a special appeal for U-boat captains to report to him immediately all contraventions of the Geneva Convention done by the enemy, with witness names and supporting documents.⁷¹ But

⁶⁷ 2 September 1939; "Völkerrecht, Propaganda und Politik, August 1939-Dezember 1939"; Reichsmarine (hereafter RM) 7/198; I Skl Teil C VIII, BA/MA.

⁶⁸ Ibid., 3 September 1939.

⁶⁹ See Chapter Four for details.

⁷⁰ Ibid., 4 September 1939.

⁷¹ Ibid., 5 September 1939.

Hitler's desire to proceed cautiously against Britain was not mirrored across the Channel, for the same day that he demanded to be kept abreast of any violations of international law, the British delivered a new and harsher list of contraband to the German embassy at The Hague, using full measures of propaganda to capitalise on the *Athenia*.⁷²

The Foreign Office immediately set to work dealing with this new development, but the laws at sea remained the same in the interim. The VPP recorded on 9 September that the rules of Prize Law as published on 28 August in the *Reichsgesetzblatt* were still in force.⁷³ This was a short-lived reminder, however, for as much as Hitler was not willing to aggravate the British with the naval war, he could not stop the British from aggravating the situation in general—the contraband list defied laws and humanitarian concerns.

Germany responded to the latest British contraband list in a new *Reichsgesetzblatt* on 14 September. The escalation at sea was codified in Germany's "Laws on the Amendment of Prize Law" of 12 August, stating that,

The government had as its aim in German Prize Laws of 28 August 1939 to spare peaceful maritime trade as far as possible, excepting those items that are certainly destined for enemy areas or military forces and are declared unconditional contraband. After that, however, the British government issued its list of unconditional contraband exceeding this cadre, so the Reich government was forced to broaden its own parameters of unconditional contraband.⁷⁴

The amendment that followed exceeded what was permitted in the Declaration of London (1909), for now Germany included goods vital for sustaining life as conditional

⁷² Ibid.

⁷³ Ibid., 9 September 1939

⁷⁴ "Reichsgesetzblatt Teil I, Nr. 176", 14 September 1939; R 30001 Seekrieg I; AA, Berlin.

contraband.⁷⁵ Even the moderate naval strategy thus transgressed international laws within a fortnight of the outbreak of war, for this expansion was illegal, strictly speaking. When the Reich government convened over the matter, however, it determined that the increments matched British and French contraband declarations from 4 September 1939; therefore, Germany had been forced into this position and was simply retaliating in kind to a like infraction. These violations had not been willingly made.⁷⁶

The war at sea thus became a war of legal one-upmanship virtually from the beginning. The 12 September 1939 amendments had Germany re-levelling the playing field. This was temporary, of course, for each step in escalation on one side fairly demanded an equal one on the other. Over a course of weeks, the tediously slow-moving and repetitive discourse between Britain and Germany melted Hitler's caution. On 21 September the VPP repeated the orders of 14 September, reiterating the limitations on contraband. Still, inch by inch the trade war intensified.

The incremental advance made further progress on 4 October 1939 at 1800, when an order was given from OKM to the front-line boats: they now had the freedom to attack any armed merchantmen without warning. "In as far as the circumstances permit," the order stipulated, "after all possibility of danger to the U-boat has been eliminated, measures to rescue the crew can be taken." Passenger ships not serving as troop transports remained safe from this treatment, even if they were armed.⁷⁷ If the expanded contraband lists of 12 September had broken the laws of the Declaration of London (1909), the order of 4 October obliterated the Submarine Protocol of 1936. The 1936

⁷⁵ Herbert Sohler, *U-Bootkrieg und Völkerrecht: eine Studie über die Entwicklung des deutschen U-Bootkrieges 1939-1945 im Lichte des Völkerrechts*, (Frankfurt/Main: E.S. Mittler & Sohn, 1956), 15.

⁷⁶ Ibid.

⁷⁷ 4 October 1939; "Völkerrecht, Propaganda und Politik, August 1939-Dezember 1939"; Reichsmarine (hereafter RM) 7/198; I Skl Teil C VIII, BA/MA.

treaty had dealt with the treatment of merchantmen in a submarine war—but never had the question been asked, is a merchantman still a merchantman when armed? Germany looked beyond the law to answer the question in the negative. An armed merchantman was not a merchantman, but a target.

If there was relevance still in the Submarine Protocol after the order to attack armed merchantmen, it evaporated on 17 October 1939. That day, a new order was given: “U-boats are cleared to use force against all enemy merchant ships recognised as enemy, since attempts to ram or other hostile resistance is to be anticipated in all cases.”⁷⁸ It has been established here that ramming was a legal defence against U-boats. If a U-boat had as its advantage stealth and arms, then an unarmed merchantman could still defend with its bow and higher speeds if threatened. The German government was of a different mind, however, and in its eyes no defence was permissible. An armed merchantman was not a merchantman as per the beginning of October; by mid-month, a merchantman was not a merchantman if it dared to defend itself. Germany claimed this was further retaliation for the 1 October 1939 Admiralty order that *advised* British merchantmen to take such action, when possible.⁷⁹ It was further escalation at the expense of international laws. By the second month of the naval war, some of the most important codes of conduct had been destroyed through claims of retaliation. The system of laws and agreements between states was a major casualty of the trade war.

One last bastion of decency remained even when the canon of international laws did not. The issue of attacking passenger ships was a good-will carry-over from the mistaken torpedoing of the *Athenia* on the first day of the war. As with neutral ships,

⁷⁸ Quoted in Sohler, *U-Bootkrieg und Völkerrecht*, 27.

⁷⁹ *Ibid.*, 28.

what a passenger ship carried determined its character; contraband made neutrals non-neutral, and carrying troops made a passenger ship a legal target. There was such a fine line between good-will and good target that a U-boat commander had to rake great caution when identifying ships in his binoculars. It thus marked the ultimate moment of escalation, then, when not even two weeks after the order to attack armed merchantmen was given, that the order to attack *all passenger ships* traveling in convoy followed.⁸⁰

The end-point of this back-and-forth escalation was obvious. On 14 October the State Secretary Weizsäcker wrote to Foreign Minister von Ribbentrop, that “with my information, it is imminent that USW against Britain will be started. This decision is a political as well as a war matter.” Weizsäcker’s wise words warned that “USW will draw new enemies to us.”⁸¹ However, his first instinct was correct. USW *was* imminent, regardless of its consequences. Indeed, by 13 November 1939, the voice of naval moderation, Hitler, explained to U.S. Ambassador Walther Hewel in a military discussion that it was “intentional” that in the foreseeable future, the U-boat war would intensify.⁸² Hitler’s decisions, as with the initial Prize Law strategy, were the military reality.

Conclusions

International Laws had served a purpose for Germany’s naval war. One hundred days after the war had begun, that purpose had been replaced by petty warfare driven by the propaganda value of states’ actions. This tragically began with a case of mistaken

⁸⁰ 29 October 1939; “Völkerrecht, Propaganda und Politik, August 1939-Dezember 1939”; Reichsmarine (hereafter RM) 7/198; I Skl Teil C VIII, BA/MA. Emphasis added

⁸¹ From Weizsäcker to Ribbentrop, 14 October 1939; R 30001; Seekrieg 1; AA; Berlin. This was more relevant in the First World War than in the Second, for Germany simply invaded the neutrals that had caused problems in USW (Denmark, Norway), and declared war on the United States itself. It is counterfactual to state whether the United States would have declared war on Germany for USW, but compelling evidence suggests that Franklin D. Roosevelt could not have convinced Congress to declare war without provocation—on the scale of Pearl Harbor. See also Ernst Weizsäcker, *Die Weizsäcker-Papiere*, (Berlin: Propyläen, 1974-1982).

⁸² Memorandum 13 October 1939; R 30001 Seekrieg 1; AA, Berlin.

identity when *Athenia* was confused for an armed cruiser; however, the echoes of Great War escalation and tactical responses is so great that one can easily make the counterfactual statement that without the *Athenia* incident of 1 September 1939, the character of the naval war between Germany and Britain would have very likely stayed the same. *Athenia* was propaganda more than anything.

The German war at sea was thus a case of many hands involved in its direction. As at Nuremberg, when Dönitz was found not guilty for Count One: Conspiracy to Wage Aggressive War, it must be recognised that even as BdU, he was too junior to single-handedly bring Germany to an unrestricted war. Other powerful factors lay behind the German U-boat war: interwar period U-boat building combined with the U-boat myth of strength to ensure that a future conflict would necessarily involve German submarines. When the future enemy came to be identified as Britain, geopolitics and economics deemed that USW would be *the* strategy employed. However, politics intervened to make Hitler toe a moderate naval line when war between Germany and Britain broke out, but as international laws lost their meaning through Clausewitzian escalation, the path to an unrestricted German war became clear.

When the Secretary of State correctly declared USW “inevitable,” all other factors being equal, it essentially took responsibility for the decision to wage illegal war out of Dönitz’s hands. The Nuremberg decision was correct in absolving him of “conspiracy” to wage aggressive war, but once the wheels were set in motion, Dönitz was in every way the conductor: he provided the plans, the tactics and the operational guidance. He did not initiate an unrestricted war himself, but he absorbed all that came before him to virtually

personify the war. As much as any man could control the U-boats' destiny, so did Karl Dönitz.

Chapter Three:

From Abolition to “Execute against Japan”: the American Story, 1919-1941

Lawlessness is always infectious.

H.A. Smith, 1948

The United States began the interwar period with an agenda—the submarine had brought that most powerful neutral state into the First World War, and now it was time for a reckoning.¹ Accordingly, some of the first conferences of the postwar period focused on abolishing the submarines of the ex-Central Powers, setting a tone that would carry through the interwar period. Statesmen and law-makers attending these conferences failed to differentiate between the legality of a weapon, and the need to enforce limitations on an otherwise lawful tool of war.² Virtually any weapon could be put to unlawful use—the challenge was to determine what weapons were so heinous as to deserve to be made categorically illegal, and what weapons ought to be permitted *in spite* of their potential for misuse. There were no instances where political or military figures rose to this challenge, however, and submarines faced their potential extinction at no fewer than two of the major interwar conferences—the Washington Conference (1922) and the London Conference (1930).³

¹ The United States was calling itself “non-belligerent”, or “qualified neutral” by the time of Pearl Harbor; “neutral” in its traditional sense was rejected, but is used here because the Axis powers considered the United States neutral—even if the United States did not. This was the subject of much discussion between the Chief of Naval Operations’ War Plans division and the Judge’s Advocate General office, as they tried to establish the United States’ exact legal position before entering the war—were they “non-belligerent”? “neutral”? See the transcript of their conversation for further details, in: “Proposed Amendment to the Rules of Maritime Warfare”, 30 April, 1941; Box 133; Subject File: 425, General Board Files; Record Group 80 [hereafter, RG], General Records of the Department of the Navy; National Archives and Records Administration [hereafter NARA] I, Washington, D.C.

² Robert W. Tucker, *The Law of War and Neutrality at Sea*, International Law Studies of the Naval War College Volume XLX, (Washington, D.C.: United States Government Printing Office, 1957), 50-5. Tucker goes into depth examining the case of poison gas, arguably falling under the heading of “categorically illegal” after the 1925 Geneva Protocol outlawing asphyxiating and poison gases and other materials, except that the United States and Japan never ratified it—making it customary law and not treaty law.

³ See Chapter One for these conferences’ effects on International Law.

Abolition was not the choice of most. Instead, by the eve of the Second World War, the submarine was to keep to the same rules of Visit, Search and Seizure as before the Great War. In the United States, this was the official line; the Navy exercised and planned for the next war by using submarines as scouts, in conjunction with the fleet, and as defensive craft.⁴ Politically, “unrestricted” submarine warfare (USW) continued to be condemned as the worst kind of evil—the Elihu Root Resolutions of the Washington Conference regarded those who practiced USW as pirates. However, behind the scenes, high-ranking members of the Navy were coming to the conclusion that, while unpalatable, USW did have a clear role in future American warfare. When Japan attacked on 7 December 1941, the navy’s commitment to a USW campaign was a foregone conclusion both for naval high command, and indoctrinated into the existing war plans.

The body of literature produced by United States’ naval officers cycling through the Naval War College (NWC) in the interwar period provided some of the most important works on American attitudes about submarines and submarine warfare. These papers, presentations and lectures prove especially helpful in gauging the currents of thought on and changing perceptions about the submarine during this time. The NWC was a key part of select officers’ training, giving them a place to learn and reflect on the established, fundamental principles of warfare⁵—and as the Second World War loomed, also a place to look beyond the established and accepted. The influence of the NWC on decision-making waned after the Second World War, but for the period under

⁴ Letter of 27 July 1938 from Commander Submarine Force to the Chief of Naval Operations; Subject: Submarines—Employment of in Pacific War. Box 112; General Board Files 1900-1947; Subject file 420-15; RG 80, General Records of the Department of the Navy, NARA I, Washington, D.C.

⁵ John Hattendorf, B. Mitchell Simpson, III, and John R. Wadleigh, *Sailors and Scholars: The Centennial History of the U.S. Naval War College*, (Newport, R.I.: Naval War College Press, 1984), 134.

consideration here, it played a critical role in shaping potential policies and plans.⁶ The officers at the NWC were joined by the Navy's General Board, an advisory committee of flag officers, to generate an intellectual body of thought that the navy drew from to form policies and strategies on economic warfare, and more importantly, economic warfare against Japan.⁷

The navy developed a new appreciation for just how useful the submarine could be in commerce warfare; a select group of high-ranking officers soon took up this cause and were in the position to make this notion of submarines-as-trade-warriors a strategic reality. These officers—Chief of Naval Operations Admiral Harold R. Stark, Director of War Plans Division Rear Admiral R. Kelly Turner, and Commander-in-Chief of the Asiatic Fleet Rear Admiral Thomas C. Hart—knew this was a path upon which to tread lightly. Submarine warfare had been repeatedly re-codified in a series of unrealistic international laws during the interwar period, mirroring the impossible rules that had so quickly and easily been broken in the First World War. To avoid being enmeshed in this legal morass, Hart, Stark, and Turner veiled their intentions thinly through the language they used. A close reading of strategic documents and NWC works from the late 1930s easily gives up their conclusions. The joint Army-Navy war plans RAINBOW 3 (WPL-44) and RAINBOW 5 (WPL-46), for example, clearly show that the United States planned its unrestricted submarine warfare against Japan well before the attack on Pearl Harbor brought the United States into the Second World War.

⁶ Following the Second World War, the NWC's relevance was threatened by the existence of joint service colleges, which drew off some of the most talented young officers who previously would certainly have worked through the NWC's curriculum. Hattendorf et al., 180.

⁷ Indeed, Chapter 6 of *Sailors and Scholars* shows that the NWC gamed every possibility except *Kamikazes* during the interwar period. The results of their games and operational problems are often found in the files of the Navy's General Board at NARA I, proving that their conclusions were certainly made known to advisory boards and decision-makers—though these conclusions were not always embraced.

The United States had held an aggressively anti-submarine position in the First World War, given the harsh effects of German submarine warfare on American interests, but early in the interwar period, strong currents developed *against* submarine abolition. The focus for many in naval circles centred on the fact that submarines could never act according to international laws so long as merchant vessels were permitted to arm defensively. Thus, the interwar period would be one of thinking and re-thinking about how the submarine was best suited to warfare, and how increasingly this led to thoughts of economic war.

Part One: On Submarines, Myths, and Lessons

The Navy's Submarine Course

As American politicians and statesmen went out into the international community to help forge new laws and, they thought, to prevent a recurrence of conflicts such as the Great War, the United States Navy (USN) looked at the war and drew its own lessons. These two schools of thought often ran in opposite directions. This is best seen in the scores of documents, lectures, and thought-pieces written by naval officers during the interwar years, in some ways starting and ending on the same note. One of their first major deviations from the political line was initiated following the Washington Conference of 1921-22. The Navy's General Board responded to the outcome with a derisive document titled "An Attempt to Interpret the Treaty entered into to make more effective the Rules adopted by Civilized Nations for the Protection of the Lives of Neutrals and Noncombatants at Sea in time of war." In this series of imagined questions and answers, the Board made clear its feelings on the usefulness of the Washington Treaty. "Do the Articles of the Treaty make the purpose of the Treaty more effective?" it

posed in question three. “It is doubtful,” came the response.⁸ The General Board took aim at the Root piracy clause—a clause it considered made international laws more contradictory and controversial, and therefore invited *more* conflict between belligerents in future wars. The General Board could plainly see that the shape of new international laws was making the future of submarine warfare more likely to include illegal war, not less likely.

In the next few years, then-naval Captain Thomas C. Hart also took part in critiquing the Root Resolution as he lectured at the Army War, Army General Staff, and Naval War colleges between 1919 and 1924 before taking up his pivotal and instrumental role in bringing USW to the USN in the 1930s. His earliest lectures captured his harshest assessment on the Germans and U-boat war: “I should say that I shall pass over the inhumane features of the German submarine warfare with brief comment because their ways were characteristic of the race and, as best known to you, not confined to their submarines [*sic*] personnel...”⁹ The war was still too fresh for dispassionate analysis in 1919-20, but soon Hart moved to take a more editorial perspective, speaking on the trajectory that interwar submarine laws were taking—especially following the Root Resolution in 1921-22.¹⁰

⁸ “An Attempt to Interpret the Treaty entered into to make more effective the Rules adopted by Civilized Nations for the Protection of the Lives of Neutrals and Noncombatants at Sea in time of War,” 13 February 1922; Box 168, General Board Files, Subject File: 438; RG 80 General Records of the Department of the Navy; NARA I, Washington, D.C., 1.

⁹ “Submarines”, Lecture by T.C. Hart at the Naval War College, Newport, R.I., 20 December 1920; File name: “War College Lecture”; Box 4; Papers of T.C. Hart; OA, Naval Historical Center, Washington, D.C., 1. Four years later, in his lecture by the same name at the Army War College, Hart’s assessment of the Germans had them committing “mad-dog tricks”—but in light of the degree of their effectiveness, this was not at all inhumane. See “Submarines”, Lecture given to Army War College, 7 November 1924, 2.

¹⁰ See below for further discussion of the Planning Committee’s rebuttal to Memorandum No. 68 as well as Hart’s other lectures; see Chapter One for an introduction to the regulations made at the Washington Conference.

In 1924, Hart reversed his earlier position on German “inhumanity,” exhibiting the first vestiges of the pervasive illogic that was so ingrained in American USW. He lectured on a popular and, he thought, mistaken American perspective when he explained to Army General Staff College officers: “one nearly universal misconception is that the ‘unrestricted’ submarine operations was extremely inhumane [*sic*]. A tangible result is the ‘Submarine Treaty’ which was negotiated here in the Limitation of Armaments Conference.” Hart was referring to the so-called piracy clause that Elihu Root had supported, but without giving it his categorical support; instead, he concluded that the treaty “is only a tentative step; either other things will be brought into alignment [*sic*], the entire civilized world concurring, or the natural trend of events will be backward.”¹¹ And thereafter, with the Root Resolution meeting no favour, laws of submarine warfare regressed in the London Treaty and *procès-verbal* of 1930 and 1936, confirming Hart’s words: the natural trend of events went backwards—back to pre-1914 codes.

Beyond the misconceptions Hart was willing and able to identify to his audiences, he inadvertently found another that he did not disprove, but instead agreed with his analysis. He mistakenly assumed that the shipping losses of the Great War were so great that they had made a very real dent in the world’s resources.¹² As a result, it was merely a

¹¹ “Submarines” Lecture given to Army War College, 7 November 1924; Box 4; Papers of T.C. Hart; OA, Naval Historical Center; Washington, D.C., 1.

¹² What makes Hart’s ignorance on this point noteworthy is that three years earlier, the General Board had compiled a document titled “Extracts From Reports of the General Board Bearing Upon Naval Policy,” Enclosure “A” (accompanying a letter of 12 September, 1921; Box 167; Subject File: 438—Limitation on Armament Study; RG 80 General Records of the Department of the Navy; NARA I, Washington, D.C.). In this file, the General Board stated that, “it appears from British returns that the first eight months of this submarine warfare against British commerce resulted in the loss of 183 merchant vessels and 175 trawlers. The total British merchant tonnage lost was not greatly in excess of one half a million; the total lost under all flags was 650,000 tons. In the same time, the total arrivals and departures in British ports averaged from 1350 to 1400 per week, or nearly 50,000 in all. Allied commerce is continuing under a loss in no way vital. The submarine is a most useful auxiliary, whose importance will no doubt increase, but at present there is no evidence that it will become supreme.” p. 3. The General Board had access to information suggesting that the merchant losses were not significant, and it is hard to imagine that Hart could have been completely

matter of time until the international community decided that any ship that could not be captured and brought into port as prize must be set free.¹³ In reality, with the United States placing itself on a footing and able to generate so many natural and manufactured goods for the Associated Powers, the tonnage sent to the bottom of the sea in the Great War represented only the smallest fraction of the world's resources.¹⁴ Hart's confusion gave USW an aura of effectiveness and success that was not necessarily shown in practice; it was also only one of several significant misjudgements about submarine warfare that gained popularity in the interwar era.

The Problem with Armed Merchant Vessels

The "myth of the armed merchant vessel" was commonly accepted in American interwar thought regarding the nature of submarine warfare. This was the notion that the greatest danger to a submarine, and therefore the greatest impediment to submarines following the laws of cruiser warfare, was the armed merchant ship. The "myth" grew out of a very real issue that developed when Britain issued its "sink-on-sight" order, and its merchantmen were encouraged to use their armament offensively. This illegal action created a host of problems for what had previously been a generous law in the post-piracy era. Britain abused the practice to a point where a postwar reconsideration was certainly valid. However, not all of the suggestions, proposals and ideas for redefining the status of

in the dark about such information. For whatever reason, however, he took a more propaganda- and less reality-based perspective.

¹³ "Submarines." Lecture given to Army War College, 7 November, 1924, 1.

¹⁴ C. Paul Vincent, *The Politics of Hunger*, (Athens, OH: Ohio University Press, 1985), 91-2. Vincent explains that when the Allies were working out post-war issues regarding food shipments to Germany and the seizure of that state's merchant marine, it uncovered a common misperception about a world-wide shipping shortage. In July 1914, the world's merchant marines was equivalent to 49 million gross tons. By 31 October 1918, the losses were over 15 million tons (9 million of which were British), but 12 million tons of new construction meant that 80% of losses had been made up. Arno Spindler, in *Der Handelskrieg mit U-Booten* (Berlin: E.S. Mittler & Sohn, 1932) 5:348, argued that 13,233,672 tons were lost in the war, such that 90 per cent of losses had been rebuilt before the war's end. In either case, the losses were nowhere near the critical level popularly espoused.

armed merchant vessels were appropriate, feasible or even worthwhile, and the issue almost certainly did not warrant the degree of worry it caused American officers, academics, or policy makers in the interwar period or since.

The wartime Secretary of State Robert Lansing planted the seeds of American discontent when he wrote a letter to President Woodrow Wilson in January 1916 about the problem of armed merchantmen. He complained of

the impossibility of a submarine communicating with an armed merchant ship without exposing itself to the gravest danger of being sunk by gunfire because of its weakness defensively, (and) the unreasonableness of requiring a submarine to run the danger of being almost certainly destroyed by giving warning to a vessel carrying an armament.¹⁵

This letter overstated the offensive capabilities of armed merchantmen (as will be discussed below), and was written polemically from a politician's perspective. One must not forget that while the United States remained neutral, the effects of naval warfare had a bearing on American trade and civilian safety, and therefore anything that threatened neutral navigation was a problem for national interests and politicians seeking re-election. However, in the aftermath of this letter, naval officers took up the thread and argued it into the interwar period, and thus the myth was born.

Late in 1918 a group of naval officers in the London Planning Section adopted the Lansing view and applied it to "Memorandum Number 68," which dealt with submarine warfare. In that eleven-page document, they took issue with the "International Naval Situation at Present," looking to examine the submarine question in the latter part of the last war, with the intention of helping the United States develop "the attitude" required to

¹⁵ "The Submarine in Trade Warfare"; Staff Presentation at the Naval War College, Newport, R.I., 4 August 1941; Box 34; RG 38 Strategic and War Plans Division Records 1912-1946, NARA II, College Park, MD, 8-9.

suit its national and international interests.¹⁶ The memorandum was organized along the lines of looking at “legitimate” and “illegitimate” uses of submarines, with comments for each section. Section 5 dealt with the issue of the capture or destruction of neutral merchant vessels, beginning with the erroneous statement that destruction after capture was always illegal in international law.¹⁷ The memorandum continued,

the right of neutral vessels to arm for self-defence dates from the days of piracy, and it cannot be denied that the same right still exists to take measures for self-preservation against a belligerent who chooses to operate in defiance of International Law against friend and foe alike. If we admit the right of neutral merchant ships to arm for self-defence, the same set of conditions arise that makes it impossible for the submarine to efficiently wage war on commerce within the bounds of international law.¹⁸

Therefore, to the Planning Section, as long as it was lawful for merchant vessels to arm, legal submarine warfare was “impossible”. As a result, the Planning Section recommended “that an international agreement be concluded to abolish submarine warfare.”¹⁹

When the Commander of U.S. Naval Forces Operating in European Waters, then-Vice Admiral William S. Sims, forwarded the memorandum to the Secretary of the Navy, Josephus Daniels, Sims dismissed the paper’s arguments as illogical and withheld his endorsement.²⁰ Shortly thereafter, the Office of Naval Operations assigned a Planning Committee to review the memorandum, and it too blasted the conclusions—abolition was not the answer. Three U.S. Navy captains made up this planning committee, one was

¹⁶ “Planning Section Memorandum No. 68”, Subject: Submarine Warfare. Box 108; General Board Files 1900-1947; Subject File 420-15; RG 80 General Records of the Department of the Navy; NARA I, Washington D.C.

¹⁷ Ibid., 4. See Chapter One for cases when it is legitimate to destroy prize before adjudication.

¹⁸ Ibid.

¹⁹ Ibid., 11.

²⁰ Letter of 9 December 1918, from Force Commander to the Secretary of the Navy; Subject: Submarine Warfare—Planning Section Memorandum concerning; Box 108; General Board Files, 1900-1947; Subject File: 420-15; RG 80 General Records of the Department of the Navy; NARA I, Washington, D.C..

Thomas C. Hart, submarine lecturer of the interwar period and later head of the Asiatic Fleet upon the war's outbreak twenty-one years afterwards.²¹ These men rejected the notion that the submarine was an illegitimate weapon of war just because it had been misused in the past, and focused on ways that the submarine's use in war could be considered especially critical for the United States. They began cautiously enough, pointing out that the submarine "has possibilities for scouting that may be of great value to the United States in a future war," but then quickly moved to identify the likely nature of the next war and how vital submarines would be.²²

The Planning Committee pointed out that when theorizing about the next war, it was necessary to assume that the United States would stand alone, and that operations would be in the Atlantic, the Pacific, or perhaps both.²³ Therefore, a large number of submarines were going to be needed for mainland coastal defence. Furthermore, defence of the Philippine archipelago would also require submarines in "adequate" numbers. Thus, even for solely defensive purposes, the planning committee considered submarines a vital part of the U.S. Fleet.

The Planning Committee further concluded that "(f) the United States being a self contained nation, as far as food and war material are concerned, the destruction of our sea commerce will not compel us to make peace." And in point (g), "on the other hand, sea commerce is vitally necessary to most European countries and to Japan." Finally, point

²¹ The other two were W. Evans and H.E Yarnell. Ironically, Yarnell would precede Hart as Commander-in-Chief of the Asiatic Fleet.

²² Letter of "about" 18 January 1919, from Planning Committee to the Chief of Naval Operations; Subject: Abolition of Submarines; Reference: London Planning Section Memorandum No. 68 entitled "Submarine Warfare."; Box 108; General Board Files, 1900-1947; Subject File 420-15; RG 80 General Records of the Department of the Navy; NARA I, Washington, D.C., 1.

²³ War without allies was actually the common and fundamental guiding principle at the base of all naval war plans Americans designed in the interwar period. See Edward S. Miller, *War Plan ORANGE: The U.S. Strategy to Defeat Japan, 1897-1945*, (Annapolis, MD: Naval Institute Press, 1991).

(h): “it is dangerous to evade the fact that Japan is our most probable enemy at the present time.”²⁴ It was logical that a future war would likely be conducted against Japan—a state vulnerable to economic strangulation, while the United States was nearly impervious. Thus, American naval officers poised for high command and influential positions followed a Machiavellian route; regardless of what the politicians would deal in at disarmament conferences of the next decade, the officers agreed that submarine abolition *would not* be in the United States’ best interest militarily. If push came to shove, as point (i) stated, “the submarine will be an extremely valuable weapon for (1) defense of the Philippines, (2) operations against Japanese commerce. There is no quicker or more effective method of defeating Japan than the cutting of her sea communication.”²⁵ Submarine warfare was a reality, and poised to benefit the United States; therefore, anything that threatened its success was emphatically against American interests, thus bringing the issue of armed merchantmen back to the fore.

The Naval War College’s legal advisor, George Grafton Wilson, also took aim at “Memorandum Number 68” in the Planning Committee’s rebuttal brief. Professor Wilson was a Harvard Law professor and assistant professor of International Law at the Naval War College. In his appraisal of “Submarine Warfare,” Grafton Wilson began by immediately taking issue with the fact that the memorandum “admits right to arm merchant vessels as practiced during the war of 1914-1919, which is open to question from a legal point of view and otherwise.”²⁶ As far as “otherwise” was concerned, he was referring to Secretary of State Lansing’s letter of protest of 18 January 1916.

²⁴ Ibid., 2.

²⁵ Ibid. There was some rhetorical flourish here, as economic measures were not popularly considered to be “quick.”

²⁶ Ibid., 3.

As far as there being legal questions concerning the practice of arming merchantmen, it was understood that as long as merchantmen followed certain protocol, they were within their rights to arm defensively. Moreover, on 2 September 1939 the United States Department of State held a conference for the members of the Navy, War, Justice, Treasury, and Communications Departments, at which they discussed issues of American neutrality and trade given the outbreak of the European War. Their definition of a ship armed only for defence overrode Grafton Wilson's rejection of the legality of armed merchantmen.²⁷

The spirit of Professor Wilson's "questions" was aimed more at a desire to change the existing laws that allowed this practice—indeed, he later pointed out that the memorandum was incorrect in not discriminating between attacks on armed or unarmed merchant ships, "which [was] often the real issue" in determining whether submarine attacks were "legitimate".²⁸ Clearly, he felt that if an enemy merchantman was armed with defensive weaponry, it was a legitimate target for an attack without warning. In his final point, Grafton Wilson wrote that the memorandum

implies that prohibition of the use of submarine may be more expedient than the regulation of the use of submarines, which seems to be a conclusion contrary to general belief based upon recent experience. Many are of the opinion that a regulation prohibiting the armament of merchant vessels might be accompanied by a regulation requiring submarines to observe the ordinary rules of war.²⁹

It was reasonable to call for a revision of armed merchantmen given the illegal practices of some of Britain's merchant fleet in the last war. Armed merchantmen had shown their

²⁷ "Summary of the Proceedings of a Conference held by the Secretary of State in the State Department at 10:30 a.m., on Saturday, 2 September 1939;" 5 September 1939; Box 93, Series V: A16-3 to ND-15-F; A17 Legal Matters and Legislation; Strategic and War Plans Division Files, 1912-1946; RG 38, NARA II, College Park, MD, 2.

²⁸ Ibid.

²⁹ Ibid., 4.

susceptibility to abuse in the Great War (not unlike submarines and commerce warfare), so Wilson had a valid point that perhaps the laws and usages of armed merchant vessels *as well as* submarines needed to be re-addressed.

In the end, the legal advisor decided against submarine abolition, as had the Planning Committee, because he found it a specious conclusion. All that was necessary in his opinion was to prohibit armed merchant vessels, making it possible, legally and practically, to keep submarines to the laws of Visit, Search and Seizure that also governed surface vessels without putting submarines in an unnecessary degree of danger.

On 29 March 1919 the senior member of the General Board of the Navy, Admiral Charles J. Badger, sent a letter to Secretary of the Navy Daniels, in reply to the latter's request that the General Board re-examine neutral rights and visit and search, in particular regarding the "Rights of neutral merchant vessels in the light of developments during this war".³⁰ In his letter, Badger pointed out that "under modern conditions the rule permitting a defensive armament is wholly incongruous." Therefore, unlike George Grafton Wilson, the Senior Member of the General Board recognized that merchantmen *had been* legally allowed to arm defensively—but he felt that this rule should be changed. The letter further remarked that allowing merchant vessels to arm defensively "is obscure to the military mind imbued with the idea that the offensive use of an armament is often the best defense." In essence, Badger's argument suggested that because it was impossible for his military mind to understand the nature of the law, it must have been flawed. He took issue with this rule because "it places in the hands of the captain of a

³⁰ Letter of 24 December 1918, from Josephus Daniels to the General Board; Subject: Rights of neutral merchant vessels; Box 168; General Board Files, 1900-1947, Subject file 438; RG 80 General Records of the Department of the Navy; NARA I, Washington D.C..

merchant vessel the power either to claim the immunity of an innocent merchant ship or to sink an adversary if he catches him unprepared.”³¹

However, it is clear that the merchantman was a non-combatant unless it used its arms to avoid capture (or, as in illegal practices, to attack on sight) at which point the crew became combatant. Given that armed merchant vessels were not military ships (and not even auxiliaries), their captains were not “imbued of the same military mind” that caused Admiral Badger to see “defense” in an offensive light—the captains were more than likely civilian. Ultimately, it was the civilian merchant mariner’s right to be considered non-combatant unless his actions changed his status.

Badger’s letter added fuel to the myth of the armed merchantmen because his conclusions were to prohibit merchant vessels from arming unless they were considered auxiliary craft, and therefore men-of-war, and for submarines to be governed by the same rules of visit and search as they had been governed by prior to the First World War.³² Thus the belief was that USW would not happen in future conflicts if armed merchantmen were able to be shot at on sight—and that somehow submarines would be able to tell the difference between armed enemy auxiliary merchantmen and neutral, non-combatant merchantmen without approaching to within dangerous range.

Nor was this viewpoint limited to the immediate post-war period. Fifteen years after the First World War ended, following the arms limitations treaties and attempts at submarine abolition that had come to nothing, the rules of law for submarine warfare still required that submarines follow the laws governing surface ships. The Planning

³¹ Letter of 27 March 1919 from the Senior Member Present (Charles J. Badger) to the Secretary of the Navy; Subject: Rights of neutral merchant vessels in the light of developments during this war; Box 168; General Board Files, 1900-1947, Subject file 438; RG 80 General Records of the Department of the Navy; NARA I, Washington D.C., 5.

³² *Ibid.*, 6.

Committee, Professor Wilson, and Admiral Badger felt changes were necessary, and the NWC remained of the same mind a decade and a half later. As the Naval War College International Law Book of 1934 stated,

the rules as embodied in Article 22 of the London Naval Treaty, 1930, practically restricts the use of the submarine to that of a surface cruiser as regards vessels of commerce, while leaving the submarine unrestricted as regards vessels of war, making it once more essential that vessels of war and vessels of commerce be clearly distinguished and distinguishable. It cannot be presumed that armed merchant vessels could be tolerated while submarines be require to conform to Article 22.³³

Thus, for many naval officers, the issue was unchanged in spite of the statesmen's deals and agreements; submarine warfare would remain unworkable until armed merchantmen were also re-evaluated.

The problem with these conclusions regarding legal future submarine warfare was that they were based on the exact same idealism that lay at the root of the fruitless interwar submarine legislation. Professor Wilson was undoubtedly an expert in his field, and Admiral Badger an experienced naval officer, but neither proved immune to the flawed optimism of their era. The plain fact of the matter was that only if there was no future "total" war would forbidding merchant vessels to arm have been effective in preventing USW. If and when a clash of civilisations like the Second World War arose, it was foolish to think that states possessing submarines would not use them to their fullest extent.³⁴ As the great military theorist Carl von Clausewitz wrote in his timeless theoretical epic, *On War*, "the fighting forces must be *destroyed*; that is, they must be *put*

³³ Quoted in "Submarine in Trade Warfare"; Staff Presentation at the Naval War College, Newport, R.I., 4 August 1941.Box 34; Strategic and War Plans Division Records 1912-1946, Series II; RG 38; NARA II, College Park, MD, 18.

³⁴ See H.A. Smith's *The Law and Custom of the Sea*, (London: Stevens & Sons, Ltd., 1948), 70-1, for Smith's discussion of "Great Wars and Small." Smith postulates that there is a distinction between general wars involving the majority of the world's states, and limited wars between two or three nations. While Smith considers that this distinction became clearer *during* the Second War, with the benefit of hindsight one can see signs of this developing prior to 1939, especially with regards to submarine warfare.

in such a condition that they can no longer carry on the fight."³⁵ Indeed, the road to eliminating the enemy's ability to fight was far more likely to be accelerated whenever possible—even American naval officers at the time acknowledged that it was unlikely that a weapon such as the submarine would *not* be used for unrestricted warfare in times of war.

This same idea was elaborated under the heading "the Nature of Naval Warfare" in a staff presentation at the Naval War College six months before the American Pacific war began. In looking at the policy-strategy match of national interest and naval war, the presentation offered that,

Those who are responsible for conducting the war to a successful conclusion, that is, the military and naval leaders, must know and understand the objective.... They must know whether the cause of the war is considered important enough to cause the nation to bend every effort and strain every resource to insure ultimate victory, or whether only a portion of the national strength and resources is to be risked.³⁶

Applying a weapon to its maximum potential is certainly one way of "bending every effort"—and if the political purpose of the war being waged was enough to warrant "every effort," it was just "the nature of naval war" for unrestricted submarine warfare to be the strategy of choice. This was the reality of war at sea.

Beyond these suggestions for abolishing armed merchantmen, there remained another school of thought that advised changing their legal status to that of warships, making the crew members combatants and giving both submarines and merchantmen the right to "shoot on sight" with impunity. This was first suggested by President Woodrow

³⁵ Carl von Clausewitz, *On War*, Michael Howard and Peter Paret, eds, (Princeton: Princeton University Press, 1976), book 1, chapter 2, 90. Italics in the original.

³⁶ "The Nature of Naval Warfare", Staff Presentation at the Naval War College, 7 July 1941; Box 30, Strategic and War Plans Division Records, Series IIB: Naval War College Presentations, Studies, Etc.; RG 38 Records of the Chief of Naval Operations, NARA II, College Park, MD, 6.

Wilson to the Central Powers during the Great War—at the same time as he suggested to the British that they not arm their merchantmen and that Germany ought not to attack merchantmen without following the rule of law.³⁷ Obviously, based on the conduct of the rest of the war, his suggestions were not totally embraced. On 10 February 1916 Germany announced that it would treat all armed merchantmen as warships—a qualification that Britain wholly rejected.³⁸

Germany's new policy had no real bearing on diplomacy or law during the war or afterwards, though it was briefly echoed by Italy and France at the many disarmament conferences. Keeping merchantmen non-combatant was crucial for neutral rights in future warfare; a submarine would still have had to approach a merchantman to determine whether it was armed, and therefore a warship, before attacking. If not (and all neutral vessels would be unarmed), then it would be both illegal and a violation of neutral rights if the submarine attacked.

Ultimately, the only way to circumvent this was to consider *all* merchantmen men-of-war, which was not proposed at the time. Barring that, a submarine would still have had to be close enough to determine the nationality of the ship before attacking. Failure to do so would have the submarine at risk of sinking a neutral vessel—still an invalid target, save under a few very special circumstances. One such situation existed in the First World War in the British and German war zones (*Kriegsgebiete*); when the belligerents set up these areas, they made it clear that all vessels—regardless of

³⁷ Samuel Flagg Bemis, *A Diplomatic History of the United States*, 4th edition, (New York: Holt, Rinehart and Winston, 1955), 606. See also Patrick Devlin, *Too Proud to Fight: Woodrow Wilson's Neutrality*, (London: Oxford University Press, 1974), 418.

³⁸ Bemis, *A Diplomatic History*, 606.

nationality and nature—would be targeted if they sailed into these areas.³⁹ From a purely legal perspective, if similar zones were set up in the future and USW practiced solely within them, then considering merchantmen warships *could* have been the solution to preventing illegal war from happening again. However, this assumed that technology would not have changed from First World War-era capabilities until the next occurrence of USW.

Even the most preliminary look at the Battle of the Atlantic in the Second World War shows that wartime conditions between 1939 and 1945 made danger zones out of the Great War's "military areas". Air capabilities had increased so much in the interwar period that the waters around the British Isles were easily accessible to land-based aircraft, making them far too dangerous for U-boats to operate in freely as they had in the Great War. The old "hunting grounds" would have to have been pushed farther from land for the submarines to stand a chance. Indeed, equally (and fortunately for German submarines), U-boat cruising radii and habitability had also been increased enough to allow for longer Atlantic voyages, pushing potential war zones out into the open ocean, and even into Caribbean and North American waters.⁴⁰ Therefore, the potential outcomes of codifying merchantmen as men-of-war proved that this was not a viable option for solving the armed merchantman problem. On one hand, it would have put submarines at the same risk they faced against armed merchantmen in the Great War; and on the other, technology had deprived belligerent states of the ability to resurrect First World War-type war zones for free and unfettered unrestricted warfare.

³⁹ See Chapter One for discussion of First World War war zones, which remained controversial and questionably legal in the interwar period.

⁴⁰ See Chapter Five for analysis of that campaign.

In 1935, then-Lieutenant Hyman G. Rickover wrote an award-winning essay for the Naval Institute *Proceedings* that also highlighted the need to revise the laws governing armed merchant vessels. He pointed out that submarines were “practically defenseless on the surface,” requiring a guarantee that merchantmen were unarmed to be able to conduct Visit, Search and Seizure without danger.⁴¹ He also drew attention to the established laws that allowed merchantmen to arm defensively and resist visit and search by force, and to fly false flags (*ruse de guerre*). Under these conditions, Rickover wrote, “the submarine is no longer assured of being able to exercise its right of visit and search without incurring grave danger of being attacked and sunk while it is on the surface attempting to ascertain the character of a merchant vessel.”⁴²

There are several points one could make to refute Rickover’s position. When in war is any belligerent force given freedom from “incurring grave danger” from any action involving the enemy? Why should submarines have been permitted this special treatment? It is true that in the First World War armed merchantmen were issued orders to behave illegally, thereby threatening the laws of war at sea, but it is specious to suggest that it was their defensive armament that was the singular crux of the issue, and not the armament’s *usage*. Rickover’s point demanded that civilians be stripped of their ability to defend themselves in the face of excesses, which submarines were all too able to commit. Depriving merchantmen of the right to arm defensively put them in the same position as Rickover envisioned for the submarine attempting to conduct visit and search: they could incur grave danger of being attacked and sunk by an over-zealous U-boat commander.

⁴¹ H.G. Rickover, “International Law and the Submarine,” *United States Naval Institute Proceedings*, 61:9 (September 1935), 1219.

⁴² *Ibid.*

Fundamentally, it was unreasonable to think that on the heels of an unrestricted warfare campaign merchant vessels would be willing to arm themselves *less*.

Interwar belief in the mythical, giant-killing powers of the armed merchantman could be forgiven for it having been too soon for proper historical analysis, and also too soon to have forgotten the effects of propaganda on the psychological perception of submarine warfare. One case that stands out in particular is the so-called “*Baralong* incident”. There is speculation that the British Q-ship *Baralong*’s captain was seeking retribution for the *Lusitania* and *Arabic* sinkings (which had left more than one thousand civilians dead) when he drove his crew to use excessive force on the submariners aboard U27 on 19 August 1915.⁴³ U27 was in the process of shelling the merchant vessel *Nicosian*, the crew of which was disembarking as the U-boat captain had ordered, when *Baralong* approached flying a false (American) flag. Ostensibly, the *Baralong* signalled that it was on a life-saving mission, and as it passed out of the U-boat’s sight momentarily, it hauled up the White Ensign, unmasked its guns and opened fire.

Before long, U27 was so damaged that it began to sink, and its crew climbed out and began swimming for the abandoned, damaged, but not-yet-sinking *Nicosian*. The crew was then shot at, in spite of being unarmed and in obvious distress. Twelve German sailors drowned, but six others made it to the *Nicosian* and boarded. In his report to the Admiralty, the *Baralong*’s captain reported that he feared those six Germans boarding the *Nicosian* might take control of the vessel and its cargo of mules, which *necessitated* the degree of force his men used to quell the threat. The *Baralong* report also claimed that the crew found those six German sailors dead on board, seemingly having died

⁴³ Tony Bridgland, *Sea Killers in Disguise: The story of the Q-Ships and Decoy Ships in The First World War*, (Annapolis: Naval Institute Press, 1999), 20-29.

simultaneously of their wounds from the initial shelling U27 took when the *Baralong* sunk their boat.

This was clearly a fatuous statement—the *Baralong*'s captain had *ordered* and his crew had carried out an atrocity against U27 in killing its crew. This was bad enough on its own merits; what quickly made it worse was that the crew of the *Nicosian* had sat by watching events unfold, and among them were several (neutral) Americans. Some of them wrote home about what they had seen, so when Britain then attempted to prevent leaks of the *Baralong*'s activities from reaching the United States, it was already too late. Thereafter, the propaganda war began.⁴⁴

This war took place in a public forum, first with the American version told on the pages of the *New York World* and *Chicago American* magazine, and then as the British and German governments stated their cases and desires on the pages of the *London Times*, the *Reuters* papers, and the *Kölnische Volkszeitung*, to name a few.⁴⁵ The American people were still neutral and increasingly scandalized by the goings-on of the war at sea, and no doubt the *Baralong* incident touched a nerve. Officially, the United States channelled a German demand to Britain for the *Baralong*'s captain to be court-martialled; Britain refused, and countered by citing three recent German atrocities, recommending instead that all four events go to neutral arbitration.⁴⁶ The offer was refused, and the matter was dropped in the United States with what historian Patrick Devlin calls “cold correctitude,” given that no American lives had been lost.⁴⁷

⁴⁴ Bridgland, 27-32; Devlin, *Too Proud to Fight: Woodrow Wilson's Neutrality*, 413-4.

⁴⁵ Bridgland, 32-39.

⁴⁶ Devlin, 414.

⁴⁷ *Ibid.*

It is difficult to establish exactly *how* scarred the American psyche was from the propaganda battle, but what is certain is that hundreds of merchant vessels were armed and Q-ships converted during the Great War. Armed merchantmen remained occupied in trade, but simply sailed with working guns. Q-ships, meanwhile, were auxiliary cruisers given a “Q” hull designation. They were warships renovated to hide their armaments so as to appear to be merchantmen from their silhouettes. Hundreds of these existed, making the *Baralong*’s excesses the exception, and not the rule. The hunt conducted by armed merchant vessels *was* illegal, but the *Baralong* was a Q-ship, a warship taking full advantage of permitted *ruses de guerre*. Furthermore, while the *Baralong* incident was without doubt an atrocity, this was the story of just *one* U-boat out of 182 sunk.

In an unpublished dissertation, Joel Holwitt has recently taken up the cause of the armed merchant vessel as the reason why USW was doomed to be repeated in the Second World War. Holwitt points to “the few cases that armed merchant ships succeeded in actually sinking a U-boat were psychologically scarring” as the critical reason why armed merchant vessels required new legislation in the interwar period. “Such cases” he continues, “were enough to convince any submarine commander to not risk a surface confrontation with a clearly armed or potentially armed merchant ship”.⁴⁸ Holwitt gives no evidence that psychological trauma was suffered by submariners.⁴⁹ The fact that U-boats continued to hunt and shell their targets for the next three years of the war following the *Baralong* incident in August 1915, raises the question of just how

⁴⁸ Joel I. Holwitt, “‘Execute Against Japan’: Freedom-of-the-Seas, the U.S. Navy, Fleet Submarines, and the U.S. Decision to Conduct Unrestricted Warfare, 1919-1941”, (Ph.D. Dissertation, Ohio State University, United States, 2005), 29.

⁴⁹ It is sometimes argued that the mere *possibility* that a merchantman could be armed is what then drove Germany into unrestricted submarine warfare. This position moves responsibility for conducting illegal war off the shoulders of the offending state and onto Britain’s. While Britain had its own legal transgressions in war at sea as well, it is an overstatement to suggest that British Q-ships *caused* USW to be waged.

convinced submarine commanders could have been *not* to attack merchantmen on the surface.

Holwitt repeatedly returns to the myth of the armed merchant vessel throughout his work, concluding that, “Although it is arguable whether the United States or Germany would have *not* conducted unrestricted warfare, the interwar treaties set themselves up for failure by not prohibiting armed merchant ships.”⁵⁰ Again, while the problem of armed merchant ships *was* a legitimate issue prior to the Second World War because of Britain’s illegal First World War orders to “shoot on sight,” from Rickover to Holwitt, the issue has been pushed into the realm of the fantastic. Holwitt’s sources for this include the Planning Section Memorandum, Rickover’s “International Law and the Submarine,” Bemis’ *A Diplomatic History of the United States*, and Patrick Devlin’s *Too Proud to Fight: Woodrow Wilson’s Neutrality* (1974).

Devlin’s book is innocent in drawing a definitive line between armed merchantmen and culpability for USW. He points out instead that U-boats in the Great War were often driven off by armed merchant vessels, citing unknown “statistics” showing the armed merchant vessel to have the advantage over the unarmed. While the former were attacked in almost equal numbers (310 armed attacked versus 302 unarmed, between 1 January 1916 and 31 January 1917), 236 armed vessels escaped compared to only 67 unarmed.⁵¹ Devlin does not provide a source for these statistics, however. His point remains that between armed merchant vessels and the increasing degree and lethality of U-boat weaponry, there was no way for legal Visit, Search and Seizure to occur with the *status quo*. No proscription followed; these figures simply served to

⁵⁰ Holwitt, 307.

⁵¹ Devlin, 417.

illustrate the point that arming merchantmen deflected the likelihood that such ships would be sunk, their cargoes lost. One would be hard-pressed to draw a definite connection between USW and armed merchant ships.

In effect, none of these sources provides a thoroughly substantiated argument for why the armed merchantman should be singled out as the true cause of unrestricted submarine warfare in the Second World War—at least not sufficiently to overcome the cold, hard reality of statistics. Holwitt points out in a footnote that “Notably, of the 175 German submarines sunk by the British, merchant ships sank only 5.”⁵² There are several things wrong in this statement: first, with the most recent data culled from dives to wrecks and re-analysis, it has been determined that 182 boats were sunk; second, eight U-boats were sunk by their own mines, in German minefields, or by accidents involving other Germans submarines, and an additional three U-boats were sunk by French efforts, in depth-charging, submarine torpedoes, or gunfire from armed trawlers. Britain certainly killed the lion’s share of the rest of the submarines sunk, but it is incorrect to assume that it alone fought the U-boat “menace”.⁵³ Furthermore, *five* boats were not sunk by British merchant ships, but in fact *eleven* U-boats out of 182 casualties, or a percentage of 6.0. Two more submarines suffered damage that led to sinking at the hands of armed merchantmen; one was scuttled after receiving gunfire damage, and the other was disabled and then sunk. All told, and taking the greatest benefit of the doubt to attribute properly alleged sinkings to the armed merchant ships (therefore, *including* those only damaged/disabled), 7.1 per cent of sunken U-boats were killed by armed merchantmen/Q-ships.

⁵² Holwitt, 30. This figure is taken from Devlin, 416.

⁵³ This statement of British prowess also derives from Devlin, 416.

The most important point in interpreting these figures is that all eleven of the U-boats sunk were sunk by *Q-ships*, which were legal combatants, and also not restricted to the same calibres of guns that merchant vessels were. They could legally mount guns beyond the six inches that merchantmen were held to.⁵⁴ At the root of the matter, Q-ships were essentially auxiliary craft masquerading as merchant vessels, which was fully within their legal rights.⁵⁵ The *Baralong* incident was not criminal *until* the crew fired upon the survivors swimming towards the damaged *Nicosian*. In fact, Q-ships and *not* armed merchantmen were responsible for every confirmed U-boat sinking by armed merchantmen/Q-ships; only the two submarines attacked and disabled *but not instantly sunk* had been fired upon by armed trawlers. Still, 6.0 per cent is a dramatic difference from the 24.7 per cent of German U-boats killed by mines, with another 8.2 per cent presumed killed by mines. It is also less than the 11.5 per cent depth charged (0.6 per cent possibly depth charged), 10.4 per cent killed by ramming (another 0.6 per cent presumed rammed), or the 9.9 per cent killed by enemy subs (another 0.6 per cent presumed killed). Of those rammed, seven were rammed by trawlers or merchant vessels (one in conjunction with a warship), although no data is available to suggest whether these vessels were armed. The 6.0 per cent killed by Q-ships also represents a fraction of the 26.4 per cent of “other” kills, including accidents and U-boats gone missing. Thus, armed merchantmen/Q-ships were responsible for the *smallest* percentage of U-boat kills attributed to any single cause of casualty; the currents of thought carried from the interwar forward into recent historiography are based on a reasonable call for

⁵⁴ Frederick Smith, *The Destruction of Merchant Ships under International Law*, (London: J.M. Dent & Sons Ltd., 1917), 19.

⁵⁵ H.A. Smith, “Le Développement Moderne des Lois de la Guerre Maritime”, in *Recueil des Cours*, Académie de Droit International and the Carnegie Endowment for International Peace, Vol 63 No 1 (Paris: Recueil Sirey, 1938), 668-71.

reconsideration of misused armament, but have been blown out of context to mythical proportions.⁵⁶

The Influence of German USW on American Submarine Perceptions

Beyond the world of myths and misguided assumptions, the staff of the Naval War College looked for a solid basis from which to expand and refine their understanding of the submarine's potential in the interwar period. They quickly turned to the words and experiences of those who had waged USW in the past—and lost. Members of the German Kaiser's naval high command had penned autobiographies and thought-pieces following their country's defeat, and their words were taken to heart in Newport. It is thanks to them and a few mistaken British writers that some American officers believed incorrectly that the U-boat campaign had brought Britain to the brink of defeat: "The exploits of the German submarines against Allied trade during World War I are generally known," a report on trade warfare and submarines explained. "Through the destruction of shipping employed in carrying goods to the Allies, the submarine was almost successful in bringing England to her knees."⁵⁷

In fact, the United Kingdom was never brought to the edge quite so decisively; Britain did not even begin formal rationing until 1918, and no Britons starved as Germans and Austro-Hungarians had done.⁵⁸ However, this assumption gave USW

⁵⁶ For the calculation and chart explaining the origins of the figures in this section, see Appendices A and B. All data taken from <http://uboat.net> (last accessed, September 12, 2006). Though the U-boats are referred to as "German" in this section, this includes the boats constructed by Germany but transferred for use by the Austro-Hungarian Navy.

⁵⁷ "The Submarine in Trade Warfare"; Staff Presentation at the Naval War College, Newport, R.I., 4 August, 1941; Box 34; RG 38 Strategic and War Plans Division Records 1912-1946, NARA II, College Park, MD, 3.

⁵⁸ L. Margaret Barnett's *British Food Policy During the First World War*, (Boston: George Allen & Unwin, 1985) shows how British food control systems had the effect of improving the overall diet of many working-class people, which carried into the more punishing years of the Great Depression. Indeed, while rationing began in 1918 it also ended for the most part that same year, while Germany remained behind the "starvation blockade" until July 1919.

propaganda value as a sort of trump card. The report continued citing venerable sources including Admiral Alfred von Tirpitz, Secretary of the Navy Office, who was quoted as saying that “Had the submarine campaign been conducted in accordance with the gravity of the situation, Germany would not have been defeated.”⁵⁹ This assessment is self-serving, though, because at no time did the *Kaiserliche Marine* (Imperial German Navy) possess the U-boats needed for Tirpitz’s vision of certain victory.⁶⁰ Just as the *Dolchstoss* (stab-in-the-back) theory swept the German army, so too did it touch the navy. The submarine service avoided the stigma of defeat and shame that the mutiny brought upon the surface fleet, opening the door for U-boat apologists and blame-shifting by those who had been in charge of waging the war. And theirs were the opinions and thoughts being absorbed by the American naval officers in the interwar period.

It was therefore with a strong belief in USW’s potential for success that members of the American navy reconsidered their position on submarine warfare in the interwar era. Officers were also spurred on to decisions favouring their own future submarine cruiser war campaigns thanks to their conviction, albeit based more in feeling than fact, that it was not the *submarine* that had led to so many legal and operational problems in the Great War, but rather the armed merchant vessel. While politicians and statesmen enacted laws focused on limiting what submarines could do in warfare, certain naval officers followed their own paths and looked at what could be done to ensure victory.

⁵⁹ “The Submarine in Trade Warfare”; Staff Presentation at the Naval War College, Newport, R.I., 4 August, 1941, 3. In actuality, Tirpitz was known to flip-flop regarding whether Germany should enforce a surface war or a U-boat war. Only with hindsight was he able to be so absolute—see Holger Herwig, *The First World War: Germany and Austria-Hungary 1914-1918*, (London: Arnold, 1997), 312.

⁶⁰ Indeed, this same report later reveals that Germany had only 23 boats available in 1915 when it began hunting, which meant that only nine would be on station at any one time. *Ibid.*, 9.

Part Two: A Decision Reached

The Submarine as the Means, Cruiser Warfare as the Method

Ideas on submarines and submarine capabilities were examined and re-examined between 1919 and 1941, with the first notions derived from American observations on the German U-boat campaign of the First World War. The future Asiatic Fleet commander, Thomas C. Hart, followed up his official analysis of submarine warfare in the Planning Committee in 1919 with a series of lectures to the Army General Staff and Naval War Colleges, as well as the later lecture at the Army War College. Hart's talks were laced with his own evaluation of the nature of cruiser warfare, assessing its strengths, weaknesses, and what finally brought the Associated Powers to victory. Armed merchantmen, decoy ships, mines, depth charges, gunfire, ramming and air attack were among the means the victorious states had used against the U-boats, and ultimately, "no one of our several methods beat German submarines. It was a case of every little helps [*sic*]." ⁶¹ The tone of Hart's lecture was upbeat for the future of submarine war—to him, the Germans had simply done it wrong. Hart considered that "submarines can effect commerce destruction and at the same time follow the former rules and customs that governed war at sea; only, they can't do so much of it." ⁶² Thus, the lecture ended on a note of optimism for cruiser warfare—but also with further vestiges of the illogic that surrounded USW. In one breath, commerce war could be legally and well-conducted by submarines—and in the other, only under the greatest limitations.

The notion of limiting submarines (but not abolishing them) was popular in the immediate aftermath of the Great War, thanks to the value placed on their defensive

⁶¹ "Submarines", Lecture Delivered by Captain T.C. Hart, USN at the Naval War College, Newport, R.I., 20 December 1920; Box 4; Papers of T.C. Hart, OA, Naval Historical Center, Washington, D.C., 11.

⁶² *Ibid.*, 15.

properties. In 1919 the Planning Committee's rebuttal to "Memorandum Number 68" had sung the praises of the submarine as a coastal defender and scout. However, while the intellectual climate moved toward accepting USW primarily in the 1930s, as early as 1926 the "Tentative Submarine Tactical Instructions" suggested that in planning patrol operations, offensive attack should be the primary mission of submarines.⁶³ Not scouting or reconnaissance, but *offensive* attack. When the staff at the Naval War College returned to the subject of the German submarine war in a 1937 presentation called simply "Submarine Warfare," they followed the same line. Hart's initial lectures on submarines in 1920 condemned the German practice as inhumane, but by 1937, the tone of his "Submarine Warfare" talk indicated that the perception of U-boat warfare had taken an obvious shift in American naval thoughts.

Gone was the harshly critical language condemning USW as a pernicious practice unique to Germany; now, the officers at the NWC rode on the coattails of Hart's more laudatory conclusions. They evaluated the submarine as being "especially fitted for warfare on commerce." It had failed against Britain only because of "internal and external political pressure restricting the use of this weapon".⁶⁴ The paradox was that these conclusions were reached in an era when laws were being codified and re-codified in order to *restrict* the submarine's use in warfare, while the officers devised ways of *expanding* its use. Where the law-makers' focus remained perpetually on using submarines at less than their fullest potential in commerce war, active naval officers at

⁶³ "Tentative Submarine Tactical Instructions, 1926"; BOX 4; Papers of T.C. Hart; OA, Naval Historical Center, Washington, D.C., 73.

⁶⁴ Synopsis of Staff Presentation on "Submarine Warfare", 30 September 1937; Box 34; RG 38 Strategic Plans Division Records; NARA II, College Park, MD, 1.

the NWC were supporting the position that USW could be successful *only if* used at the maximum lethality.

Operational officers began taking a harder line with regards to submarine warfare at around the same time that the NWC suggested they do so. Rear Admiral Charles S. Freeman, the Commander of the Submarine Force, wrote “as a matter of record” in a letter about “Submarines—Employment of in a Pacific War” that “the primary purpose of the submarine is conceived to be to operate offensively in distant waters generally controlled by the enemy and consequently denied to all other types of naval vessels or aircraft.”⁶⁵ Supporting the admiral’s thoughts, a NWC presentation stated that “The submarine is a vessel suited above all others for operations in sea areas not under command altho [*sic*] it cannot of course make such areas safe for its own surface ships.”⁶⁶ Submarines were regarded as a panacea in enemy controlled waters, but it was fully anticipated they would exact disproportionate damage there, due to what the German Admiral Hermann Bauer, wartime commander of the German submarine flotillas, called the submarine’s “all-pervasiveness”. This lent them an efficacy that existed in myth as well as in practice, for, as Admiral Bauer explained, “the mere fact that [submarines] *may* be present will cause enemy ships to steam at high speed, zig zag and take devious routes with the resultant excessive use of fuel and strain on personnel and material.”⁶⁷

Yet again it was concluded that the submarine was best at more covert operations in uncontrolled waters, and not, as thought at the beginning of the interwar period, best

⁶⁵ Letter of 27 July 1938 from Commander Submarine Force to the Chief of Naval Operations, Subject: Submarine—Employment of in Pacific War”, 1.

⁶⁶ “Employment of Submarines”, 4 November 1938, Staff Presentation at the Naval War College, Newport, R.I.; Box 28; Series IIB; Strategic and War Plans Division Records, 1912-1946; RG 38, NARA II, College Park, MD, 5.

⁶⁷ *Ibid.*, 6.

for scouting and defence.⁶⁸ Rear Admiral Freeman similarly stated that “defensively, the submarine is of limited use only... though submarines may be used defensively for moral effect,” which was to say that while they might bolster the sailors, submarines’ tactical and strategic defensive capabilities were now considered few.⁶⁹ These documents illustrate that a watershed had been reached; offensive operations in enemy-held waters (a euphemism for hunting merchantmen) had become the submarine’s “primary” purpose, while its defensive capabilities were distinctly downgraded compared to earlier post-war days.

Once offensive submarine operations had been embraced by naval officers, the Naval War College Staff moved towards examining the motive of these operations: waging commerce war. This it defined as being comprised of blockade and cruiser warfare. In both cases, it saw submarines poised to play a significant role in future conflict. It was thought that submarine blockade “may be initiated in the future if such a blockade is considered to be an essential factor in the conduct of the war, and is carried on despite the protest of neutrals.”⁷⁰ That was audacious given American sensitivity to neutral rights in the last war, and even more so since the practice of blockade had been repeatedly abused between 1914 and 1918. For its part, cruiser warfare would be conducted by cruisers, auxiliary cruisers and submarines, “the submarines being used mostly for observation off neutral and enemy ports, at focal points and along the trade routes. If the London Naval Treaty is observed the employment of submarines for visit

⁶⁸ Ibid., 9. The reason stipulated was because they would constantly be forced down by aircraft when scouting—and therefore inefficient as scouts.

⁶⁹ Letter of 27 July 1938 from Commander Submarine Force to the Chief of Naval Operations, Subject: Submarine—Employment of in Pacific War, 1.

⁷⁰ “Employment of Submarines”, 4 November 1938, 4.

and search or for attack will be limited.”⁷¹ It was four years before the attack on Pearl Harbor and two years before Germany began hostilities against Poland, yet American naval officers were already questioning “if” the treaty prohibiting submarines from attack without visit and search would be upheld!

This same presentation had more to say on the subject of submarine warfare and international laws, and seemed clearly to indicate the small degree of importance certain USN officers seemed to attribute to these laws. Specifically, the NWC staff focused on submarine warfare in the light of the London Naval Treaty and *procès-verbal* of 1930 and 1936, two treaties that had affirmed visit and search as the submarine *modus operandi* when engaged in cruiser warfare. The American chair at the London conference in 1930 had pointed to the susceptibility of submarines for misuse as a reason to once more consider their abolition, though this went unheeded because France repeated its refusal even to think about the suggestion.

By 1938, the NWC officers again illustrated how different their views were from American statesmen when, rather than continuing to be scandalized by the excessive abuses committed by submarines in the Great War, they instead quoted Professor Edwin M. Borchard in their presentation. Borchard had remarked that he doubted if the London Treaty “ever constituted International Law,” and likened the treaty to the Kellogg-Briand Pact of 1928, which abolished wars of conquest; he claimed that when laws did not represent “manners and customs,” they were doomed to obsolescence—and for the NWC officers, clearly the manner and custom of submarine war was aggressive cruiser war, not visit and search. In the next paragraph, Admiral Bauer argued that,

⁷¹ Ibid.

in spite of all difficulties, the submarine will continue to be used against commerce in future wars. The reason for this is that the sea routes and the commerce which passes over them are the major objectives of naval war. A weapon which is capable of disputing control of the seas without previously engaging in combat with the—at least locally—superior enemy fleet will, without doubt be so used, the more so since no other weapon will be able to take the place of the submarine for this task.⁷²

It is obvious that a very clear degree of tolerance for “necessary” warfare appeared to be developing. It suggested that increasingly pragmatic realism dominated American naval command circles, and a cautious willingness to entertain their own future use of submarines in USW was becoming more evident in presentations, correspondence, and official documentation.

It must be pointed out that the evidence showing these officers’ inclinations to disregard established international laws represented trends of thought, but nothing more concrete than that. Officially, the interwar treaties would still guide the war effort if and when conflict broke out.⁷³ Submarine commanders’ training was more in line with treaty law, though the commanders would require more regulation and operational guidance in the event of hot war than simply being advised to “follow the letter of treaty laws”. Until early 1941 commanders were also ordered to abide by the *Tentative Instructions for the Navy of the United States Governing Maritime Warfare*—published in 1917!⁷⁴ These “Instructions” underwent a long-awaited and much-discussed modernisation prior to the outbreak of the Second World War, and were re-issued tentatively in May 1941. The guide’s fundamental submarine tenets remained as they had been in 1917: visit and

⁷² Ibid., 17.

⁷³ By 1941, however, a sea change would have occurred—especially in war plans. See below.

⁷⁴ “Employment of Submarines”, 4 November 1938, 17.

search was the rule for submarines.⁷⁵ So it was that as the United States went to war, the submarine service's tactical doctrine and readiness made its submarine commanders sufficiently *able* to adapt to the kind of war that they were called upon to fight, though they remained fundamentally untried and unprepared for doing it properly.

Assessing the Foe, Assessing the Means: Japan in the Pacific Ocean Area, Economic War, and the Submarine

The United States' strategic planners had Japan, code-named ORANGE in American war plans, in their sights from the earliest days of the twentieth century. It was only natural for the United States to plan for war with its most likely Pacific enemy after America's sphere of interest impinged onto the border of Japan's sphere in the latter half of the nineteenth century. Thanks to geopolitical realities, the United States' ORANGE war plans presumed that, as Edward S. Miller writes, "in spite of historically friendly relations, a war would erupt someday between the United States and Japan, a war in which neither could rely on the help of allies."⁷⁶ This view indeed dominated BLUE-ORANGE (United States-Japan) plans; from 1906 onwards, American planners envisioned an unlimited economic war in the pre-First World War tradition of legal, gentlemanly blockades.⁷⁷ Through the 1920s and 1930s, strong naval and land-based operations were also factored into the planning, but blockade remained the opening strategy of choice against Japan, in spite of blockade's reputation having been sullied by dubious Great War campaigns.⁷⁸

⁷⁵ Please see paragraph 50, Section VI, "Visit and Search" of *Tentative Instructions for the Navy of the United States Governing Maritime and Aerial Warfare, May 1941*, (Washington, D.C.: United States Government Printing Office, 1941 [1944]), 14. This states that, "50. (1) 'In their action with regards to merchant ships, submarines must conform to the rules of International Law to which surface vessels are subject.'"

⁷⁶ Miller, *War Plan ORANGE*, 3.

⁷⁷ *Ibid.*, 28.

⁷⁸ *Ibid.*, 150-163.

A 1938 war college assessment of economics pithily noted, “War, thus, can not be a problem of the armed services alone. It is an economic problem as well.”⁷⁹ This aptly captures the context in which war with Japan was viewed throughout the entire interwar period. Study after study attempted to refine and expand on the best way to apply this maxim. One such study, compiled by Commander E.G. Small, synthesised the College’s ORANGE Economic Committee analysis in a 1933 report. The committee worked from the premise that modern war was conducted in four ways: diplomatic pressure, military pressure, propaganda, and economic pressure. It was believed that these mutually dependent factors could only be effective if used equally and simultaneously.

Plan ORANGE focused on military and economic pressure. The committee examined the notion that the goal of naval pressure was to control the enemy’s sea communications, as a precursor to applying full military and economic pressure. Naval raids would weaken Japan before naval battle was engaged. The committee also argued that modern, industrial nations at war would have to adopt a strong economic policy to limit the enemy’s impact on at least seven areas: the supply of food, clothing, surpluses, deficiencies, shipping, the shipping industry and communications. The first step in defeating the enemy would be to take control of the lines of communication, then apply naval strategies against the remaining areas to slowly bring about an economic collapse.⁸⁰

The Economic Committee also found that Japan was *not* as susceptible to starvation as Germany had been because of the nature of Japanese food intake. The

⁷⁹ “Economics”, 5 January 1937; Department of Naval Intelligence, Naval War College, Newport, R.I.; Box 28; Strategic and War Plans Division Records, 1912-1946; Series IIB Naval War College Presentations; RG 38; NARA II, College Park, MD, 26.

⁸⁰ “The Utilization of Economic Pressure in the Strategy of War ORANGE”, Summation of ORANGE Economic Committee prepared by Commander Ernest G. Small, U.S.N. for the Department of Intelligence at the Naval War College, Newport, R.I., May 1933; Box 34; Strategic and War Plans Division Records 1912-1946; RG 38; NARA II, College Park, MD, 1-4.

assessments were based primarily on secondary source material as the committee lacked direct information, but facts were indisputable. Rice made up more than 50 per cent of the Japanese diet, and plant foods an additional 40 per cent. Not being reliant on meat and animal fats meant the Japanese were nearly self-sufficient in food. They cultivated enough rice to meet their national requirements, and their ability to secure the rest of their vital nutritional needs from the Japan-Formosa-China-Manchuria quadrilateral made the chances of civilian starvation in the event of a Pacific Ocean blockade less likely—as long as there remained labour to tend the farms and paddies.⁸¹

However, while Japan could feed itself, the same could not be said of its ability to clothe itself—lacking cotton, wool, fur and hides, a prolonged war would cause serious hardships in basic civilian material and military comfort and needs.⁸² The military would also have to face shortages of rubber, drugs, chemicals, gums, resins, shellacs, tanning materials, scrap iron, manganese, tin, zinc, lead, nickel, aluminium, antimony, mercury, manganese, bismuth, gold, iron ore, coking coal, and, most significantly, the petroleum that they were not able to produce in sufficient quantities in the home islands.⁸³

As for goods imported from the United States, in the event of war, Japan would immediately lose 40 per cent of its cotton, 85 per cent of its crude and fuel oil, 12 per cent of its zinc, 38 per cent of its lead, 22 per cent of its aluminium, and nearly 5 per cent of its pig iron.⁸⁴ While this would have weakened ORANGE financially from the outset, this simple assessment left out the effects of closing down *trade* on the Japanese economy. Commander Small noted that,

⁸¹ Ibid., 7.

⁸² Ibid., 10.

⁸³ Ibid., 22.

⁸⁴ Ibid., 51.

if in war, economic pressure is applied by an enemy to restrict the outward flow of this trade, partially or wholly, corresponding distress will result in that section of the population dependent on it... the balance of the nation is disturbed.⁸⁵

This sentiment was echoed by Captain Milton S. Davis just five months later, when he noted that:

it is desired to point out, that the conception of economic pressure outlined above comprises something much greater than mere blockade, as it aims at squeezing the economic life of a nation, breaking up its industries, and commercial undertakings, destroying its foreign trade, and starving the people.⁸⁶

If the United States established a blockade around the Japanese home islands, it could, in time, cause a total collapse of Japan's financial and trade system, and deny the population its basic needs in the process. This would result in a total victory for the United States, and the annihilation of the Japanese way of life. This was, however, not the ultimate goal.

A key concern when considering a blockading strategy against Japan was how it moved its trade. Commander Small's report ranked Japanese shipping third in the world in gross tons in 1933, behind Britain and the United States, respectively. They were fourth in the percentage of the world's total, and sixth in numbers of ships. More importantly, in terms of Japanese export of surplus goods, Japan relied primarily on British and American bottoms, but also Dutch, French, German, and Norwegian.⁸⁷ The assumption was that if a BLUE-ORANGE war broke out, the other nations would end up

⁸⁵ Ibid., 23.

⁸⁶ "The Economic Vulnerability of the Principal Maritime Powers—Introduction—Some Underlying Considerations with Economics and Naval Strategy", October 1933, by Captain Milton S. Davis, Department of Intelligence, Naval War College, Newport, R.I.; Box 28, Series IIB: Naval War College Presentations; Strategic and War Plans Division Records, 1912-1946; RG 38, NARA II, College Park, MD, 12.

⁸⁷ Ibid., 30-36. By 1939, the Navy Department was undertaking studies to determine the volume of shipping going in and out of home waters. See letter from R.S. Holmes (by order of the CNO) to Commander-in-chief, received July 1939, subject: Location of Japanese Merchant Vessels; Box 4498, General Files 1941-44, EF37 Japan; Records of the Naval Operations Force, CinCPACFLT Secret and Top Secret; RG 313, NARA II, College Park, MD.

carrying a larger share of Japanese trade, therefore blockade and cruiser warfare that threatened neutral rights would *absolutely* have an effect on Japan's economy and available wealth. Small's Economic Committee stated that "the mere declaration of war with BLUE would immediately increase the difficulty of financing the imports ORANGE now receives from Europe," because foreign shipping would decrease in direct relation to the number of ships BLUE captured and destroyed.⁸⁸

The one advantage that Japan had in its favour was that as financial attrition took its toll, it would have to fall back towards home waters, increasing in strength the further it retreated while the U.S. became progressively weaker by operating further from its bases. This evaluation could not take into account the effects of hunger on Japan's fighting capability, because the Economic Committee found it impossible in 1933 to predict if and when Japan would marshal all its strength to attempt to break the blockade. The Americans believed that because of the psychological state of the Japanese people, their past history and the relatively low standard of living, the blow would come later, rather than sooner. Blockade seemed poised to be an effective weapon against Japan, damaging its ability to trade, encouraging strategic material deficiencies, and destroying its economy—not necessarily speeding up the slow starvation of the Japanese people.

Japan and economic warfare were re-examined in the United States on the eve of war, but this time by a non-military government office—the Office of the Administrator of Export Control. The "Coordinated Plan of Economic Action in Relation to Japan" was forwarded to the Chief of Naval Operations (Harold R. Stark) by his Director of War

⁸⁸ Ibid., 50. See also "Basic Studies of Nations: Summary of the Characteristics of Japan and the Japanese, Resulting Dynamic National Forces and National Policies", Summarized from Studies by Orange Committee of the Advanced Class, 1934, Naval War College, Newport, R.I.; Box 28, Series IIB: Naval War College Presentations; Strategic and War Plans Division Records, 1912-1946; RG 38, NARA II, College Park, MD, for a similar assessment with a broader focus.

Plans (R. Kelly Turner) in May 1941, just half a year before the Pacific War with Japan broke out. This plan offered three variations of economic actions that could be employed to Japan's detriment. Japan was as susceptible to economic measures in 1941 as it had been in 1933. Nevertheless, an air of decisiveness and foreshadowing of the American Pacific War effort was present; the report was committed to turning the economic screws on Japan, however it was entirely unaware of past decisions and plans already formulated by naval high command, or the NWC's economic forecasts.⁸⁹ The United States was, the report found, in the uniquely powerful position to be able to deal a major blow against Japanese trade. Done in conjunction with Britain and the Dutch East Indies government, however, the U.S. would be "very much more effective".⁹⁰

The report had drawn its data from a variety of government offices, which yielded results similar to, but separate from, the existing navy war plans and the "naval perspective" of the NWC. In that situation, some of the plan's suggestions were made rather after the fact. For example, two months before the Administrator of Export Control issued its report, Britain and the United States had held staff conversations (ABC-1) emphasizing "the fact that the application of economic pressure is one of the principal offensive policies of the Associated Powers."⁹¹ Those talks shaped and defined RAINBOW 5 (WPL-46), the war plan put into play immediately after Pearl Harbor was attacked. It is apparent that the navy's plans were thoroughly in line with thoughts and

⁸⁹ Please see below and the formulations of WPL-44 and WPL-46, RAINBOWs 3 and 5.

⁹⁰ Synopsis of "Coordinated Plan of Economic Action in Relation to Japan", letter from Director of War Plans Division to the Chief of Naval Operations, 19 May, 1941; Subject: Coordinated Plan of Economic Action in Relation to Japan by the Office of the Administrator of Export Control; Box 89, Series V—A1 to A10; A2-A3 Executive Action, Management and Organization; Strategic and War Plans Division Records, 1912-1946; RG 38, NARA II, College Park, MD, 3.

⁹¹ "Report of United States-British Staff Conversations", 27 March, 1941, Washington, D.C., Approved 2 June 1941; Box 147G Army-Navy Basic War Plan RAINBOW 5; Strategic and War Plans Division Records, RG 38, NARA II, College Park, MD, 4.

ideas circulating in other entirely separate government offices and departments, and this created a most supportive climate for the navy's plans—regardless of the fact that the plans were in contravention of existing treaty laws.

Ultimately, Captain Davis had the last word on economic war and naval strategy, as he made the fundamental connection between trade war, naval war, and winning the war:

since economic pressure tends to produce political reactions, it appears that the next step in this reasoning is to point out that the purposes of economic pressure can be accomplished by naval force in war. But with economic pressure, operating in conjunction with the destruction of the enemy forces, economic stress is soon translated into political action and surrender is certain to follow.⁹²

Everything pointed towards eventual conflict with Japan in the interwar period, as a result a variety of government offices devised ways and means to defeat Japan. Their plans and theories would maximize American economic strengths while taking advantage of Japanese weaknesses. The Japanese archipelago was vulnerable to economic blockade because, while they might theoretically sustain their food needs, they were deficient in minerals, resources, cloth, chemicals and the some of the most significant military requirements. At its most basic level, war with the United States would cost Japan imports, exports, and the ships to move them. It is therefore no surprise that the Americans identified trade and economics as the Japanese Achilles' heel early on, against which they could potentially deliver a decisive blow—with their submarine fleet.

The Language of "Unrestricted" Submarine Warfare

Throughout the interwar period, there were many phrases used to express what "unrestricted" submarine warfare meant. Just months after the end of the First World

⁹² "The Economic Vulnerability of the Principal Maritime Powers—Introduction—Some Underlying Considerations with Economics and Naval Strategy", October 1933, 12.

War, three American naval captains reduced submarine warfare to the most basic terms when they explained, “Naval warfare *being a war against communications*, the German submarine campaign is a striking example of the efficiency of this weapon in such a warfare [*sic*].”⁹³

One of those captains was Thomas C. Hart, later the commander of the Asiatic Fleet ordered to conduct USW in 1941. In lectures in 1919 and 1920, Hart spoke of the “inhumanity” of the German U-boat war. However, he also spoke of the efficiency of that campaign—illustrating a paradoxical fascination with USW, another sign of the American illogic in submarine warfare.⁹⁴ However, Hart’s paradoxical perspective was explained when he pointed out that, “for the effect that the German submarine had on the war, they did not—as compared with their other operations—kill many people.”⁹⁵ Hart (erroneously) believed that USW had been effective, making the 12,800 souls he counted as lost to USW a paltry number compared to the massive bloodletting of First World War battlefields.⁹⁶ His rationale suggests he actually found USW to be quite *humane*. Hart’s view was that the ends justified the means—a lesser human toll justified German gains and validated USW as a strategy.⁹⁷

Hart had reasoned away the humanity/inhumanity question of the USW paradox, though given that USW had ostensibly brought the United States into the war in 1917, it is still likely that submarine cruiser warfare was popularly seen as inhumane in terms of

⁹³ Letter of “about” 18 January 1919 from the Planning Committee to the Chief of Naval Operations, Subject: Abolition of Submarines; Reference: London Planning Section Memorandum No. 68 entitled “Submarine Warfare”, 2. Emphasis added.

⁹⁴ See page 4 for the exact quotation.

⁹⁵ “Submarines”, Lecture by T.C. Hart at the Naval War College, Newport, R.I., 20 December 1920.

⁹⁶ Ibid.

⁹⁷ Ironically, this was the same philosophy that the United States attributed to the Japanese in its interwar “race” profiling. See John Dower, *War Without Mercy, War Without Mercy: Race and Power in the Pacific War*, (New York: Pantheon Books, 1986).

morality, and not a justifiable course of action. Hart's lip-service to the "inhumanity" of USW was thus a wise choice in order to appeal to his audience. Ultimately, neither plaudits nor censure dominated the interwar dialogue on USW between naval officers. Pragmatism ruled and increasingly submarine cruiser warfare was defined in operational and tactical terminology. USW was still taboo and illegal, but it also yielded strategic results. Therefore, a coded language was developed as a screen behind which the navy could weigh the options this strategy presented.

Cracking the code is not difficult if one searches back through navy documentation in the interwar period. Assuming Hart was right in calling naval war a war on communications, then one only needs to define "lines of communication" to be able to read the patterns of USW in American war plans. The Naval War College qualified the army's lines of communication as including "the network of railways, waterways, and roads which lead into the combat zone from the supply and evacuation establishments located in the communications zone and the zone of the interior."⁹⁸ Extrapolating the naval application from this framework, the lines of communications are the lines of supply—therefore, that includes the merchant marine that transports goods to naval bases. Even when ships are re-supplied at sea, these lines still cross water, and attacks on lines of communication are still just attacks on supply trains. The most conclusive evidence of this definition is found in the words of the Chief of Naval Operations, Admiral Harold R. Stark, who wrote in February, 1941 that "the term 'sea

⁹⁸ "Strategic Employment of Military Forces", Staff Presentation at the Naval War College, Newport, R.I., 21 October 1937; Box 32, NWC Presentations and Studies, etc.; Strategic and War Plans Division Records; RG 38, NARA II, College Park, MD, 2.

communications' includes all naval as well as merchant shipping."⁹⁹ Attacks on communication therefore form the essence of cruiser war; cruiser war, when done *without* restricting attacking vessels to the rules of visit and search, is the essence of "unrestricted" submarine warfare.

On War Plans and Actors

R. Kelly Turner was a hard-nosed sailor, a formidable man with a predilection for hard work and the bottle—though it is said that he never performed his duties intoxicated.¹⁰⁰ As Director of the navy's War Plans Division, he was instrumental in laying the groundwork for USW. Prior to his tenure in War Plans, Captain Turner had served on the staff of the Naval War College and was considered "one of the most effective lecturers on strategy".¹⁰¹ There, he presented his "Background of Naval Strategy" in 1938 in which he explained that, "few nations can prolong a war indefinitely when unable to obtain war materials and food from foreign sources. Shutting off this flow of supplies, whether moving over land or by water, is a useful method of reducing the ability of an enemy to continue the fight."¹⁰²

This was not a startling revelation; the same ideas had been put forward in a variety of other lectures in the 1930s. Turner further argued that, if a warring state was not in possession of the lanes of sea traffic, it was the point of all naval warfare

⁹⁹ Letter from CNO to CinCAF, 7 February 1941; Subject: Instructions concerning the preparations of the U.S. Asiatic Fleet for war under "RAINBOW No. 3"; Box 147J; Series IX: Plans, Strategic Studies and Communications; Strategic and War Plans Division Records; RG 38, NARA II, College Park, MD, 4.

¹⁰⁰ Admiral George Dyer's biography of Turner, *The Amphibians Came to Conquer*, (Washington D.C.: Government Printing Office, 1972), is highly complimentary, and avoids mention of any scandalous behaviour. Beyond that, however, analyses of Turner are utterly contradictory; some loved him, (like Stark, rather importantly), and plenty of others hated him—giving him his nickname "Terrible Turner."

¹⁰¹ Hattendorf et al., *Sailors and Scholars*, 158.

¹⁰² "Backgrounds of Naval Strategy", Lecture at the Naval War College, 27 May 1938; Speeches 1938-1944; Box 11; Papers of R. Kelly Turner; Operational Archives Branch (hereafter, OA), Naval Historical Center, Washington, D.C., 1.

operations to take command of the sea. In cases when the seas remained under enemy command, Turner explained, operations would still be pursued—under the heading of “raids, trade warfare, attack upon naval communications or amphibious warfare.”¹⁰³

It is difficult to pinpoint exactly where Turner thought submarine warfare fit in, for he explained that “Maritime trade and vessels transporting the supplies and reinforcements required by overseas naval and military forces usually move along well-defined lines. *War on trade is much like war on communications.*”¹⁰⁴ This was an understatement. In pre-Second World War U.S. Navy nomenclature, the two were virtually interchangeable. He all but acknowledged it later when he lumped the two together, stating that “trade and communications are attacked either by detachments strong enough to destroy the local protective forces, or by single surface or submarine raiders which are able to evade them.”¹⁰⁵ Turner’s hand would undoubtedly be felt in bringing American submarine warfare to bear on Japanese shipping as he took charge of the War Plans Division and rejected all hemispheric plans, focusing instead on foreign war.¹⁰⁶

Admirals Thomas C. Hart, CinCAF, and Harold R. Stark, CNO, were extremely important in defining interwar submarine plans and concepts. Hart’s ruminations and notions regarding submarine war in the Pacific were certainly critical, but it was Stark’s writing that set forth the building blocks for the navy’s USW war plans. From 1903 until 1942, United States war planning was in the hands of the Joint Army Navy Board, or “Joint Board”. The generals and admirals making up this board produced the military’s

¹⁰³ Ibid., 23.

¹⁰⁴ Ibid., 24. Emphasis added

¹⁰⁵ Ibid., 26.

¹⁰⁶ Miller, *War Plan ORANGE*, 231. Not long after taking the helm of the War Plans Division, Turner made rear admiral.

“colour plans,” so-called because each potential enemy was assigned a colour code. Plan ORANGE, the plan for war against Japan, was, in Stark’s words:

in a nutshell... our Fleet’s proceeding westward through the Marshalls and the Carolines, consolidating as it goes, and then on to the recapture of the Philippines. Once there, the Orange Plan contemplates the eventual economic starvation of Japan, and, finally, the complete destruction of her external military power. Its accomplishment would require several years, and the absorption of the full military, naval and economic energy of the American people.¹⁰⁷

This was the traditional war plan against Japan, one lone state versus another, though it underwent more than its usual periodic revision following a memorandum Stark penned for the Secretary of the Navy, Frank Knox, on 12 November 1940.¹⁰⁸ Franklin Delano Roosevelt had just been re-elected for an unprecedented third term thanks in large part to his insistence that the United States would not be sending its sons to die in a foreign war; Stark could not ignore the reality of the geopolitical climate. The memorandum outlined four strategic options for the United States in light of the nature of the European war and the startlingly fast collapse of France, the Low Countries, and Norway earlier that year. These options included: a) isolationism; b) a Pacific offensive; c) offensives in the Atlantic and Pacific; and d) offensive operations against Germany in the Atlantic and a strategic defense against Japan in the Pacific. Stark strongly supported the fourth option, the so-called “Plan Dog,” which formed the basis of RAINBOWs 3 and 5.¹⁰⁹

¹⁰⁷ “Plan Dog” quoted in Steven T. Ross, editor, *U.S. War Plans 1938-1945*, (Boulder, CO: Lynne Rienner Publishers, 2002), 58-9.

¹⁰⁸ The “usual revisions” were more to reflect the decreasing strength of the USN more than strategic realities—until “Plan Dog” put the Pacific as a secondary goal in a multi-state war.

¹⁰⁹ See Chapter 4 of Ross’ *U.S. War Plans 1938-1945* for a reprint of Stark’s memorandum, and further details for Stark’s decision to back Plan Dog. In *War Plan Orange*, Miller calls Stark’s memorandum, “the most important strategic assessment of the era”, 220. The RAINBOW war plans were an extension of the “colour” plans, but made “rainbow” to reflect that the United States would likely not be alone in the next war, nor would they likely be facing just one enemy. There were to be five RAINBOWs for different eventualities—hemispheric defence to two-front war—though in the end, RAINBOW 4 was never

In December 1940 Turner seized upon “Plan Dog” and shaped RAINBOW 3 (WPL-44) from it—incorporating the strategic reality that not *all* American forces would be free to be sent east to the Pacific in the event of war. This plan was a non-starter, however, and was quickly superseded by RAINBOW 5. During its short life, it was reviewed by Rear Admiral Husband E. Kimmel, the Commander-in-Chief of the United States and Pacific Fleets until his relief on 17 December 1941. When Kimmel obtained his advance copy of WPL-44, he wrote to the CNO commenting on Paragraph 3111 (a), remarking that “This is the vitally important task for the U.S. Pacific Fleet. Under the economic strangulation concept, the success of the United States’ effort in the Pacific depends on its successful accomplishment.”¹¹⁰ The concept of economic strangulation was carried forward into WPL-46, which began to be developed as early as January 1941. Meanwhile, a series of meetings took place between American, British and Canadian authorities in Washington, based on directives in “Plan Dog”. These secret “staff conversations” took place between 29 January and 27 March 1941—the so-called ABC-1 discussions, confirming an Associated Power “Germany first” strategy with defensive operations in the Pacific.¹¹¹ This was the kernel of RAINBOW 5, or WPL-46, developed in the image of “Plan Dog”.

The details of WPL-46 relevant to USW reveal the natural conclusion of interwar thinking on submarines and their war capabilities, as well as the focus on an economic blockade of Japan. More specifically, under Part III, Chapter II, Section I, the U.S.

completed, and RAINBOW 3 was superseded by RAINBOW 5, a “Germany first, Pacific defensive” strategy.

¹¹⁰ Letter from CinCUS to CNO, 28 January 1941; Subject: WPL-44 Advance Copy; Box 147J; Series IX: Plans, Strategic Studies, Correspondence; Strategic and War Plans Division Records; RG 38, NARA II, College Park, MD, 2.

¹¹¹ “Plan Dog”, in Ross, 65-6.

Pacific Fleet's tasks were outlined to include helping the associate powers in theatre keep the Japanese away from the Malay Barrier¹¹² by denying them the Marshall Islands, and "raiding" their sea communications and positions.¹¹³ Paragraph 3212 continued, with task (c) calling on naval forces to "destroy axis sea communications by capturing or destroying vessels trading directly or indirectly with the enemy."¹¹⁴ Paragraph 3312 outlined the Asiatic Fleet's tasks, mirroring the Pacific Fleet's and focusing again on raiding and destroying axis communications.¹¹⁵ Quixotically, in all cases the fleet was to govern its conduct of the war by the *Tentative Instructions for the Navy of the United States governing Maritime and Aerial Warfare, May 1941*—remembering the *Instructions* reaffirmed the American commitment to cruiser warfare by the old rules of Visit, Search and Seizure.¹¹⁶ This convoluted logic was carried on in Paragraph 3744, which after ordering the U.S. Fleet to follow "Instructions..." turned around and gave the commanders-in-chief of the Atlantic and Pacific Fleets the authority

to declare such "strategical areas" as in their opinion are vital. They must give wide publicity to the exact boundaries of the areas involved and, at the earliest opportunity, notify the Chief of Naval Operations of these actions. A "Strategical Area," as here used, means an area from which it is necessary to exclude merchant ships and merchant aircraft to prevent damage to such ships or aircraft, or to prevent such ships or aircraft from obtaining information, which if transmitted to the enemy, would be detrimental to our own forces.¹¹⁷

¹¹² The all-important Malay Barrier was defined as the wall of islands between continental Asia and Australia. This included "the Malay Peninsula, Sumatra, Java, and the islands extending to the eastward to northern Australia", (roughly the islands of Borneo, Celebes, Timor, Ceram and New Guinea). Quoted in a letter from CNO to CinCAF, 7 February 1941, Subject: Instructions concerning the preparations of the U.S. Asiatic Fleet for War Under "RAINBOW No. 3"; Series IX: Plans, Strategic Studies, Correspondence; Box 147J, RG 38 Strategic and War Plans Division Records; NARA II, College Park, MD, 3.

¹¹³ "Navy Basic War Plan Rainbow No. 5, U.S. Navy (WPL-46)", May 1941; Box 34, Navy Basic War Plans WPL-46; Strategic and War Plans Division Records; RG 38, NARA II, College Park, MD., 27. One can see vestiges of Plan ORANGE, as summarised by Stark above, in these tasks.

¹¹⁴ Ibid.

¹¹⁵ Ibid., 39.

¹¹⁶ Ibid., 58.

¹¹⁷ Ibid.

In simple terms, then, “strategical” areas meant zones of unrestricted submarine warfare.

The crux of the navy’s USW plans was in RAINBOW 5’s paragraph 3744, where the Atlantic and Pacific Fleets were tasked with establishing “strategical” areas. To understand just how critical these are to this study, one must turn to correspondence between Admirals Hart and Stark from 1941. These exchanges spoke of their long-standing friendship dating back to their days at the War College, as well as their like-mindedness with respect to the impending war. Their correspondence actually sets out the clearest path for understanding how far pre-Pearl Harbor planning anticipated the illegal submarine war in the Pacific, and also highlights the degree of involvement Hart, Stark and Turner had in formulating those plans.

In their letters, Hart and Stark expanded upon the idea of “strategical” areas, which were essentially a revival of First World War war zones. In their latest incarnation, these zones were areas in which the United States and its associated states gave themselves a free hand to deal with *all* shipping, neutral and enemy, as they saw fit. The CNO envisioned these areas operating in such a way that the local commander (Atlantic, Pacific, Asiatic, etc.,) would proclaim that a zone existed, thereby warning all friendly, enemy and neutral merchant vessels and aircraft that within the zone, no succour would be provided. In fact, unless the vessels abided by one condition, they would be attacked out of hand; the condition that earned safe passage in the “strategical” areas occurred if a ship sailed *only* in fixed lanes passing through American naval control stations. Beyond that, all shipping was fair game, regardless of its nature or nationality. Most remarkably, the terms of these “strategical” areas were *not* set out during the ABC-1 “Staff Conversations” between Britain and the United States between January and March 1941,

nor were they first printed in the war plan RAINBOW 5 in May of the same year. In fact, “strategical” areas were actually “identical” to the ideas expressed in paragraph 3454 of WPL-44, or RAINBOW 3, devised by Rear Admiral Turned at the end of 1940.¹¹⁸

Correspondence between Hart and Stark confirms the timeline by which “strategical” areas were imbedded into naval war plans, and, more significantly, also the admirals’ full commitment to USW. Hart stated as early as March 1941 that his intent was to fix “strategical” areas in his Far Eastern jurisdiction when war broke out, though WPL-46 had only tasked it for the Atlantic and Pacific.¹¹⁹ Moreover, as soon as the area was declared, Hart was told to send his submarine fleet against ships going in and out of Japanese bases—action that Stark felt “certainly would be justified under existing instructions.”¹²⁰ Evidence of these officers’ predilection for aggressive submarine warfare is the fact that earlier in 1941 Hart had designed “instructions under which the submarines could be made decidedly effective in a war on communications, which instructions would adequately cover up the submarine captains [!] in any extreme measures which they might take.”¹²¹ Hart devised his instructions based on a letter written by Rear Admiral Turner and Stark or at least with Stark’s input. But just as Hart prepared to issue these instructions to the Asiatic Fleet, the Navy Department’s *Tentative Instructions for the United States Navy governing Maritime and Aerial Warfare, May 1941* was issued, in effect making Hart’s intended guidelines look as illegal as they were.

¹¹⁸ Ibid. WPL-46 superseded WPL-44, but the latter was only inactivated and not formally cancelled until 30 April, 1942, according to a memorandum for Admiral Turner; 20 November 1945, Box 147J, Series IX: Plans, Strategic Studies, Correspondence; Strategic and War Plans Division Records, RG 38, NARA II, College Park, MD.

¹¹⁹ Letter from Thomas C. Hart to Harold R. Stark, 27 March 1941; Box 4; Papers of T.C. Hart; OA, Naval Historical Center, Washington, D.C., 2

¹²⁰ Letter from Stark to Hart, 9 May 1941, 2.

¹²¹ Hart to Stark, 27 March 1941.

The Navy Department's new instructions toed the pre-Great War precedents for Visit, Search and Seizure, and blockade, emphasising how far beyond official lines Hart's instructions really were. It was true that Germany *was*, by this time, waging its own USW campaign in the Atlantic, showing how outdated the interwar submarine legislation had been, but the laws were nevertheless still in effect for the United States.

The government offices that collaborated on the "Instructions" had had full knowledge of Germany's Atlantic war, but still—the laws were the laws, the "Instructions" reflected this, and Admiral Hart was left in the position of needing to censor himself. The Navy Department's guide was issued to submariners, Hart acknowledged, "under an authority which is higher than mine!"¹²² He was savvy enough to recognise that the Navy Department likely had had little choice in the matter of issuing law-abiding (though antiquated) instructions, underlining the divide between pragmatism and idealism that existed as much in international laws governing submarine warfare as in American tactical guidelines. This gulf between "realism" and the letter of the law posed a problem for the CNO with war looming, and Stark strove to find a middle ground "in spite of our having to decidedly act under wraps".¹²³

Hart clearly shared Stark's desire to keep such matters as "strategical" areas hidden. When Hart considered his options and decided national interest would be best served by declaring a "strategic sea area," he explained to Stark that this would be "giving something of a warning to the whole world that any merchant ships in that area are likely to become involved in hostilities, and so forth."¹²⁴ The vagueness of his language offered a fairly nebulous way of suggesting the type of war Hart intended to

¹²² Letter from Thomas C. Hart to Harold R. Stark, 27 March, 1941.

¹²³ Ibid.

¹²⁴ Ibid.

wage, but without committing the damning words to paper. He then asked Stark if the CNO could think of any way to make the Asiatic submarines “more effective”. This was a euphemism for asking how his submarines could avoid having to follow traditional rules of visit and search against vessels flying neutral flags—which Hart paradoxically saw himself bound to adhere to, in spite of planning to declare a “strategic sea area”.¹²⁵ The CNO could do little more than assure Hart that his strategic area was consonant with what Stark and the British had had in mind in the Staff Discussions, and that, no, he could do no more than follow the Navy Department’s “Instructions” until such time that war broke out and the enemy’s actions permitted more.¹²⁶ The incongruousness of permitting “strategical” areas while insisting on visit and search serves as another example of the pervasive illogic in ideas of American submarine warfare.

Admiral Hart’s position was unenviable. He clearly saw how the naval war would *actually* shape up when hostilities began—and from his vantage point in the Philippines, he was in the closest of the American Pacific positions to the potential enemy. It was highly likely that he would be on the receiving end of the first strike when it came, and in fact, the last of the Plans ORANGE had anticipated that the Philippines would, at first, have to be ceded.¹²⁷ He had good reasons for wanting to free his submariners from ineffective rules of law and outdated tactics, but the irrefutable fact that these tactics were issued after the State Department, Judge’s Advocate General, Navy’s General Board and Naval War College (to name a few) had deliberated long and hard on them, had left Hart

¹²⁵ Ibid.

¹²⁶ Letter from Harold R. Stark to Thomas C. Hart, 9 May 1941; Box 4; Papers of T.C. Hart; OA, Naval Historical Center, Washington, D.C., 2. See Ross’ *U.S. War Plans 1938-1945*, p. 67-101, for the United States-British Staff Conversation Report, ABC-1, March 27, 1941.

¹²⁷ In Edward S. Miller’s words in *War Plan ORANGE*, “schemes for immediate naval offensives to save the Philippines, are deemed ‘failed strategies’” (p. 2), suggesting how much the base at Manila was really an outpost.

no choice. The weight behind them was unquestionably significant. Therefore, the “cloak and dagger” approach Admiral Hart revealed in his letters to Stark was warranted. In the end, the way the Pacific War played out had the effect of absolving American naval command of questions of culpability regarding the way they conducted (and planned for) their submarine war—but that could not have been known before the attack on Pearl Harbor on 7 December 1941. Limiting the paper trail behind the plans for illegal war was simply an exercise in self-preservation.

Finally, another taboo dealt with in the Hart-Stark correspondence was the issue of the traditional American policy on attacking merchantmen, and how it might change if hostilities erupted. The *status quo* position in the interwar period was that attack was permitted neither on armed nor unarmed merchant ships—but as the government reconsidered its position on arming its own merchantmen, the navy began to ask if this new position on attacking enemy vessels would also be reconsidered.¹²⁸ In mid-1941 Stark supposed, in a letter to Hart, that, “In the war area on your station, a large proportion of the shipping will no doubt be Japanese vessels which are directly under Navy control and, in many cases, manned by Navy crews. Some of these vessels will be armed.”¹²⁹ However, historians have yet to uncover specific evidence of Japanese plans to arm their merchant vessels.

Members of the naval command structure therefore came full circle on submarine issues during the interwar period. Ideas about submarine use underwent a change from their traditional defensive value to their being “suited for commerce war”. More and more officers came to see the practicality of submarines acting against merchantmen, and

¹²⁸ This also reflected another step taken in the Americans’ “undeclared” war waging in the Atlantic against German U-boats.

¹²⁹ Miller, *War Plan ORANGE*, 2.

they concluded that this could best be done beyond the bounds of international treaty laws. These ideas came to be embedded in American war plans against Japan, which were in many ways a natural extension of the fact that ORANGE war, from its earliest incarnation, was *always* considered in economic terms. Economic studies reinforced the idea that blockade *would* starve Japan—provided that the United States was able to wait out the Japanese. Such war was at once humane and inhumane, and euphemistically remained “attack on communications,” a nebulous phrase that encompassed the truest intentions of American submarine war plans. The intersection of economic strategy, geopolitical reality, and submarine capability was conveniently achieved in the pages of the RAINBOW war plans, the child of Admiral Stark’s “Plan Dog”. As early as December 1940, members of the United States Navy had committed the submarine service to waging illegal war when hostilities broke out; none of this would have been possible, however, without the Chief of Naval Operations, the Commander-in-Chief of the Asiatic Fleet, and the Director of War Plans Division urging it into being.

Part Three: The Dénouement

1 September 1939: War in Europe and the American Descent into Hostility

It is a very Westernized perspective that turns a blind eye to Japan’s occupation of Manchuria in 1931 and subsequent invasion of China, and regards the start of the Second World War to be Germany’s attack on Poland. However, this view predominated at even the highest levels of the American government. In *Eagle Against the Sun*, Ronald H. Spector quotes an exchange between William C. Bullitt, ambassador to France, and President Franklin D. Roosevelt, when Bullitt phoned to report German planes bombing

Warsaw.¹³⁰ After a pause, Roosevelt remarked: “Well, Bill, it has come at last, God help us.”¹³¹ The U.S. Commander-in-Chief did not wait until 7 December 1941 to come to that conclusion.

When the war broke out in Europe, France, Britain and the British Commonwealth stood up for Polish rights in the face of German aggression. It was a high point for the Allies regarding established treaty laws; to show their good faith, Britain and France issued a statement affirming their commitment to the London Naval Protocol of 1936. This came encompassed in the text of the “French-British Declaration on Policy regarding Aircraft,” in which they wrote that “with respect to the use of naval forces, including submarines, the two Governments will adhere strictly to the rules formulated by the Protocol of 1936 concerning submarines and accepted by almost all civilized nations.”¹³² This positive statement was accompanied by endorsements of the rules limiting air attacks on commerce ships, aerial bombardment, the use of noxious gases and bacteriological weapons, and bombardment by air, sea, or land. It was only natural, however, that these idealistic statements were wrapped in a statement of military realism—one that governed virtually all the Allies’ naval wars.

It goes without saying that if the adversary does not observe certain limitations to which the Governments of France and Britain have submitted

¹³⁰ In *A War to be Won*, (Cambridge, MA: Belknap Press of Harvard University, 2000) Allan Millet and Williamson Murray suggest that there was no bombing, but instead only the tanks rolled into Poland—it was a sort of comedy of operational errors that had prevented German bombers from attacking when they were meant to, 243.

¹³¹ Ronald H. Spector, *Eagle Against the Sun*, (New York: The Free Press, 1985), 60.

¹³² Of course, on Britain’s part that was partly indicative of its inability to do much more with the very small numbers of submarines in the Royal Navy. David Henry’s chapter, “British Submarine Policy, 1918-1939,” in Bryan Ranft, ed, *Technical Change and British Naval Policy, 1860-1939*, (London: Hodder and Stoughton, 1977), states that “this shortage was to be critical,” (105) but that the desire for disarmament pervasive in Britain in the interwar meant that they were short of *all* major warships when war broke out. See pages 80-107.

the operations of the Armed Forces, these Governments reserve the right of recourse to any action which they considered appropriate.¹³³

When Germany violated the Protocol with its U-boat war at sea, the Allies decided they were morally and legally free to respond in kind.

The clearest indication of the American likeness of mind regarding this issue is that the text of WPL-46, first issued in May 1941, outlined the same tasks for Atlantic and Mediterranean forces operating against Germany and Italy as those issued to the Pacific Fleet against Japan. That is to say, raiding and destruction of enemy shipping, and “strategical” areas were tasked against all the Axis states equally. However, the paper trail is much clearer on the American intentions against Germany for exactly the reason stated above: it was a response deemed acceptable given Germany’s own infractions.¹³⁴

By the summer of 1941, the war’s realities had played out in a predictable way for anyone who had pondered the paradox of submarine warfare and international laws—what had been fixed in legal terms was operationally unworkable, and thus the laws were discarded. The Battle of the Atlantic was not the only theatre of war causing the Allies problems, however. While the U-boats deployed against Allied shipping, the Germans invaded the Soviet Union, and the Far Eastern situation became increasingly tenuous for the beleaguered Allies, especially Britain. In an effort to secure assurances for Pacific area solidarity, the British Joint Staff Mission in Washington sent a letter to a member of its counterpart organisation, the American Secretary for Collaboration, Commander L.R. McDowell. British representatives established their position cautiously, explaining that,

the policy of the U.K. Government has always been and remains opposed to unrestricted submarine warfare. In this war, however, the U.K. Government

¹³³ Copy of text found in Box 39, Subject File: 1936-41, A1-A10; Strategic and War Plans Division Records; RG 38, NARA II, College Park, MD.

¹³⁴ See Chapter Two for further explanation of the German path to “unrestricted” warfare.

has been driven to take retaliatory action of sinking at sight in certain areas where it could be ensured that the attack would be confined to enemy merchant shipping. These areas have generally been declared to be “zones dangerous to navigation”. The U.K. Government wish to follow a similar policy vis-à-vis Japan, but consider that danger zones should not be declared until they are satisfied that Japan is not abiding by the rules of submarine or air warfare.¹³⁵

The crux of the issue for the British was, would the United States agree with that statement?

The ABC-1 Staff Discussions between January and March 1941 had given the United Kingdom reason to believe that the United States would also be establishing special zones, and this led the British Mission to ask for American support of larger Pacific zones—beyond those the United States had had in mind and planned for in WPL-46. Moreover, the British were looking for American endorsement of their plans to make similar “danger zones” in the Indian Ocean and the waters around New Zealand and Australia.¹³⁶ The Director of War Plans, Rear Admiral Turner, responded curtly that such commitments by the United States were best left until “after the United States and Japan are at war, rather than at the present time,” illustrating once again how tenuous a position it was to plan *openly* for illegal, but functional, war.¹³⁷

Turner’s memorandum also referred to a letter supposedly written by the American Secretary of State, which advocated a far more aggressive position than had

¹³⁵ Letter from British Joint Staff Mission in Washington to U.S. Secretary for Collaboration, 21 August 1941; Subject: Action by Submarines against Merchant Ships. Box 147J Series IX: Plans, Strategic Studies, and Correspondence; Strategic and War Plans Division Records; RG 38, NARA II, College Park, MD, 1.

¹³⁶ Ibid., 1-2.

¹³⁷ Memorandum by the Director of War Plans for WPL-46 folder, 29 September 1941; Box 147J, Series IX: Plans, Strategic Studies, and Correspondence; Strategic and War Plans Division Records; RG 38, NARA II, College Park, MD. This sentiment was echoed in the response sent to the British Joint Staff Mission on 20 October 1941, which clarified the American nomenclature for their “danger zones” as “strategical areas”, and stood fast to the delineation of these zones as appeared in their existing war plans. Box 147J, Series IX: Plans, Strategic Studies, and Correspondence; Strategic and War Plans Division Records; RG 38, NARA II, College Park, MD, 1-3.

been taken in other official documents. This letter actually called for an even more aggressive position than the British had taken until then—and they were at war! This swept aside all the euphemisms the navy had used to cloak its plans for an illegal submarine war. “The Secretary of the Navy is of the opinion,” Cordell Hull is alleged to have written,

that if the United States and its associates are to be enabled to check Japanese aggression against their territory in the Far East Area, two of the principal methods would be the *unrestricted attack by submarines* and by aircraft on merchant vessels in that area, engaged in the supply and support of Japanese armed forces, and in the transport of strategic war materials from the continent of Asia to Japan. Owing to the great preponderance of Japanese naval strength over that which would be available to the Associated Powers, it would be entirely impracticable for the aircraft and submarines of these Powers to attempt the exercise of visit and search, for the purpose of determining whether or not any particular merchant vessel were subject to capture. The Secretary of the navy considers that the initiation of attacks of this nature *should not be predicated upon retaliatory action against Japan for similar attacks, but that they should be initiated immediately upon the outbreak of war, as a right which the Associated Powers are free to exercise as essential to the defense of their territory.*¹³⁸

Some historians have ascribed this letter to Hull, such as Historian Janet M. Manson in *Diplomatic Ramifications of Unrestricted Submarine Warfare* (1990). It is more likely that neither the Secretary of State, nor the Secretary of the Navy, Frank Knox, had ever seen it, much less issued the statements argued within.¹³⁹ It is most probable that this letter was ghost-written in the Navy Department, signifying a naval wish-list but not the fact of the matter. What is most telling about this document is just how far individuals at the highest levels of the United States’ Navy Department were willing to go outside the

¹³⁸ Unsigned letter allegedly by the Secretary of State to “Sir”; Serial 0109812; Box 147J, Series IX: Plans, Strategic Studies, and Correspondence; Strategic and War Plans Division Records; RG 38, NARA II, College Park, MD, 2-3. Emphasis added. The logic for taking this hard line was provided later in the letter, as the author purported to make Japan, as a member of the Axis Powers, complicit in the guilt Germany and Italy shared for their unrestricted submarine and aerial warfare campaigns.

¹³⁹ Janet M. Manson, *Diplomatic Ramifications of Unrestricted Submarine Warfare*, (New York: Greenwood Press, 1990), 154-55; Joel Holwitt argues that neither Hull nor Knox ever saw the letter, 209.

law *before* the United States was even at war, and before the attack at Pearl Harbor lent an air of justification for the conduct of war.¹⁴⁰

1941 was a year of terse diplomacy, military manoeuvring and intelligence missteps in the Far East. By November, the writing was on the wall and Cordell Hull knew it. The United States had levelled economic embargoes against Japan's imports of oil and scrap iron, but this was not bringing Japanese sabre-rattling to a close decisively enough for the Americans' liking. On Wednesday, 26 November 1941, Hull sent his final strongly-worded missive offering a relaxation of the oil embargo on the basis of the Japanese meeting ten conditions, which had already been rejected by the Japanese. Japan was not willing to yield China and Indochina for free oil imports.¹⁴¹ War was imminent. Chief of Naval Operations Harold Stark sent a dispatch to Admiral Hart in Manila the same day stating,

if formal war eventuates between US and Japan "Instructions for the Navy of the United States Governing Maritime and Aerial Warfare May 1941" will be placed in effect but will be supplemented by additional instructions including authority to CinCAF *to conduct unrestricted sub and aerial warfare against Axis shipping* within that part of the Far East Area lying South and West of a line joining latitude 30 N longitude 122 E and latitude 7 N and 140 E which you will declare a strategical area. ... In case hostilities ensue without a formal declaration of war the situation will be far more complex but it seems probable that approximately the same procedure will be followed although this must be done only upon further advice from CNO.¹⁴²

¹⁴⁰ It must be noted, however, that it was not just naval officers thinking about pushing the bounds of legality. Before the United States entered the war, lawyers and academics argued extensively about the American status as a "non-belligerent" (not to be confused with "neutral"), which allowed the U.S. to favour one warring side over the other (it was thought) without breaking neutrality laws. More importantly, Franklin Delano Roosevelt was also involved in similar law-bending, if not law-breaking. On 4 November 1939, he signed a proclamation outlining "combat areas", zones that had been made unsafe for American navigation, marking the end of the era in which American ships could visit British, French, or German ports on any continent. "Combat Areas" both reminded of First World War "war zones" and presaged the American practice of fixing "strategical areas." Therefore, while it has been shown at length how involved the navy was in readying itself for a realistic (though illegal) war, the officers involved were actually of a strikingly similar mind as their commander-in-chief—the President of the United States.

¹⁴¹ John Costello, *The Pacific War*, (New York: Rawson, Wade Publishers, Inc., 1981), 119-20.

¹⁴² Dispatch of 26 November 1941 from CNO to CinCAF; Box 122; Strategic and War Plans Division Records, 1912-1946; RG 38, NARA II, College Park, MD. Emphasis Added.

The next day, Hull told the Secretary of War, Henry L. Stimson, that matters were then “in the hands of you and Knox—the Army and the Navy”; ten days later, the first strike was made at Hawaii, and the United States was at war.¹⁴³

The terms of RAINBOW 5 had to have been well enough understood even before Stark’s late-November cable, for on 7 December, 1941, Hart’s handwritten orders were simply: “Asiatic Fleet Priority—Japan started hostilities, govern yourselves accordingly”.¹⁴⁴ The fateful dispatch from the Secretary of the Navy to “ALNAV”—all naval forces—read only “Execute WPL Forty Six against Japan”.¹⁴⁵ But CinCPAC, CinCAF and the Naval Coastal Frontiers received “Execute Unrestricted Air and Submarine Warfare against Japan. Inform Army. CinCAF inform British and Dutch.”¹⁴⁶ Across the board, naval units were ordered into action—to wage the planned “unrestricted” submarine warfare for the defeat of the Japanese Empire.

Masking the Evidence

How did the navy manage to pull off committing its plans and intentions to paper, but without making it blindingly obvious that it was intending to pursue an illegal strategy in the next war? In no small part it can thank the Japan’s attack on Pearl Harbor for deflecting the historians’ curious eyes for decades to come. Inasmuch as Pearl Harbor scarred psyches and united the nation against a common foe, out of that tragedy came an equalizer of sorts—who would probe and condemn the navy’s near-instantaneous

¹⁴³ Costello, 120.

¹⁴⁴ Memorandum; Java 1941-1942; Box 3; Papers of T.C. Hart; OA, Naval Historical Center, Washington, D.C..

¹⁴⁵ Copy of orders in file: Java 1941-1942; Box 3; Papers of T.C. Hart; OA, Naval Historical Center, Washington, D.C.. The order to execute WPL-46 against Germany and Italy did not come until 11 December, 1941.

¹⁴⁶ Orders in “Nimitz WWII Command Summary”, Book One, Volume One; Box 9, Papers of C.A. Nimitz; Operational Archive Branch (hereafter, OA), Naval Historical Center, Washington, D.C., 5.

decision to wage illegal war against the Japanese when the spectre of Pearl Harbor would forgive nearly all acts of war as “retaliation”?

Not until 1961 was a study done that began to uncover the agreement that Hart, Stark and Turner had arrived at well before most of the Pacific Fleet’s battleships were sent to the ocean floor.¹⁴⁷ This unpublished study entitled “Submarine Warfare in the Strategy of American Defense and Diplomacy, 1915-1945” was done by the ardently patriotic Samuel Flagg Bemis, holder of a Pulitzer Prize for History in 1927, and another in 1950 for Biography. Furthermore, the same year that Bemis produced this important work, he was the president of the American Historical Association—a role that lent him legitimacy and influence. It might have been that exact influence that caused him to bury the study after it was discussed *in camera* with the NWC faculty on 1 November 1961, for its results were not wholly favourable regarding the U.S. Navy’s activities during the interwar period. Thus, at Bemis’ request, the paper was left in the manuscript collection of Yale University, with the note “it is not considered in the public interest to publish this study at the present time.”¹⁴⁸ Twenty-three years later, another work was done that uncovered the same conclusions. In dribs and drabs since then, bits and pieces of the story have come to light, but even today it is relatively unknown that the United States planned for “unrestricted” submarine warfare for roughly a year before the Second World War began.

The involvement of key members of the naval officer corps can be easily culled from the existing documentary record. Moving beyond that to the political sphere

¹⁴⁷ “Submarine Warfare in the Strategy of American Defense and Diplomacy, 1915-1945”; Manuscript Collection of Yale University. Folder 785; Box 65, Samuel F. Bemis Papers, Yale University Archives, New Haven, Connecticut.

¹⁴⁸ “Submarine Warfare I the Strategy of American Defense and Diplomacy, 1915-1945”, 15 December 1961; Folder 785; Box 65, Samuel F. Bemis Papers, Yale University Archives, New Haven, Connecticut.

becomes more tenuous, but one can guess what was and was not likely. It was suggested that Frank Knox, the Secretary of the Navy, had no hand in the letter purportedly written by him. However, Knox *was* aware of WPL-46, and even approved the plan along with the terms of the ABC-1 discussions, neither of which he could have known about without understanding what they entailed. But higher up on the political ladder, the natural question becomes, what did former Secretary of the Navy FDR know? The president was a hard-working military micro-manager, aware and in charge of the nation's goings on. But he was also the consummate politician, and he committed far less to paper than some historians might desire; thus it is easier to suggest what he must have known than to prove what he really did.¹⁴⁹ When it comes to the plan to pursue USW, Roosevelt was given a copy of RAINBOW 5 and the United States-British Staff Discussions of 27 March 1941. It was forwarded to him by the Secretaries of War and the Navy, Henry L. Stimson and Frank Knox, *with their approval*. They wrote that "Rainbow No. 5 states the concept of war and provides for initial dispositions and operations of United States Forces, should the United States associate in a war with the Democracies against the Totalitarian Powers."¹⁵⁰ This makes clear that the War and Navy Secretaries were privy to the plan to focus on Germany first, with a defensive, primarily economic, war in the Pacific—a war that included "strategical" areas. And as they sent it on to the president, they put their names to the plan, as well.

Approval stopped there, however. On 9 June 1941 Lieutenant Colonel W.P. Scobey, the Secretary of the Joint Board, wrote a memorandum for the Chief of Staff,

¹⁴⁹ The Franklin Delano Roosevelt library at Hyde Park, New York has no documentation belying FDR's knowledge of and agreement to the navy's plans for USW.

¹⁵⁰ Letter to Franklin D. Roosevelt from Henry L. Stimson and Frank Knox, 2 June, 1941, no subject; Army-Navy Basic War Plan RAINBOW 5; Box 147J; Strategic and War Plans Division Records, 1912-1946; RG 38, NARA II, College Park, MD.

stating that, “The President on June 7, 1941 returned [RAINBOW 5 and the Staff Discussions] without approval.” The President’s Military Aide explained this further:

the President has familiarized himself with the two papers; but since the report of the United States British Staff Conversations, ABC-1, had not been approved by the British government, he would not approve the report at this time; neither would he give approval to the Joint Army-Navy Basic War Plan – Rainbow No. 5, which is based on the report of ABC-1. However, in the case of war, the papers would be returned to the President for his approval.¹⁵¹

As this chapter illustrates, RAINBOW 5 was not *based* upon ABC-1, though those talks did influence its shape. Rather, RAINBOW 5 pre-dates the January-March discussions by months. It was Stark’s “Plan Dog” from November 1940 that had set Turner to outlining RAINBOW 3 at the end of 1940—disproving the claim made by the President’s aide. What is more important for the sake of understanding the American pre-war decision to pursue USW in the Pacific is that President Roosevelt, by withholding his approval for RAINBOW 5 and the Staff Discussions, left a paper trail that would appear to absolve him of responsibility in planning for illegal war. As much as he did not condone the plans, neither did he take any steps to stop the momentum of this war plan—his lack of approval serves only political and historical ends by seeming to distance the President from his military commanders. Finally, by requesting that the papers be returned to the president for later approval in the event of war, FDR was giving tacit approval for them being the accepted plans when war *did* come, however that happened.¹⁵² Given that this all occurred before Pearl Harbor changed the United States’ destiny, it is impossible to

¹⁵¹ “Memorandum for the Chief of Staff”, 7 June 1941, from Lt-Col W.P. Scobey, Subject: J.B. No. 325 (Serial 642-5)—Joint Army Navy Basic War Plan – Rainbow No. 5 and Report of United States-British Staff Conversations—ABC-1; Box 147G; Strategic and War Plans Division Records, 1912-1946; RG 38, NARA II, College Park, MD.

¹⁵² And, as suggested above, the “how” could only have been via enemy attack, *not* on American initiative.

argue that USW was a matter of retaliation, or that the military ran wild without the political branch being aware of it.

The plans for unrestricted submarine warfare were nevertheless the navy's baby. Certain politicians did know about what was afoot, but it was undoubtedly Hart, Turner and Stark who pushed USW through to fruition. They did not heed the navy's own prescription, set forth in a lecture at the war college in 1937:

great successes are found most frequently where the statesman and the military leader are one and the same person, or, failing that, where the statesmen and the military commander are, during peace, in constant intercourse with each other, so that policy and preparation for war can go hand in hand.¹⁵³

In the interwar period, however, the United States did not see its military leaders and statesmen sharing ideas about submarine warfare.¹⁵⁴ However, these men's mistakes were forgiven and statesmen and military men sought out their "great successes" by employing another point from the same presentation:

In a war where it is evident that political objectives can be obtained only when the enemy has been totally defeated, the political objective becomes submerged in the military, and this latter becomes the guiding factor in the campaign.¹⁵⁵

After Pearl Harbor, the United States found itself in just such a war, where one of the key political objectives *was* to defeat the enemy—the end became the means. What sorts of restrictions could exist in that climate were shown in the conduct of the Pacific submarine war, where unrestricted submarine warfare was an integral part of the American strategy to grind Japan into defeat.

¹⁵³ "Policy and Naval Warfare", Staff Presentation at the Naval War College, Newport, R.I., 11 November 1937; Box 32, NWC Presentations, Studies, etc.; Strategic and War Plans Division Records; RG 38, NARA II, College Park, MD, 10.

¹⁵⁴ Ibid., 28; the "Policy and Naval Warfare" presentation confirmed this, in that "the American nation, organized as a democracy and having no long term personnel in charge of national planning, has, generally, failed to coordinate its policies and prepare for their successful accomplishment."

¹⁵⁵ Ibid., 2.

Chapter Four:

How We Fight:

Doctrine, Methods, and the Background for Early German and American Patrols

By doctrine, I mean organization, control, assignment of appropriate ranks to officers, regulation of supply routes, and the provision of principal items used by the army.

Sun Tzu, *The Art of War*

The paradox of the major submarine campaigns of the Second World War is that they were quite similar in intention, but drastically different in execution. A large part of the differences came from the variables beyond each state's control, including the oceanic theatre and the nature of the enemy, though, at crucial times it could also be found in what the states could and *should* have controlled: doctrine. The role doctrine played was in providing guiding principles for submarines at sea, but the war's execution made it clear that sometimes these guidelines were anticipating an ideal form of warfare that could never be achieved in times of war.

The German and American submarine wars share the characteristic of "unrestricted," but beyond that their differences were more numerous than the similarities. The greatest similarities in the submarine campaigns can be found in the doctrines, though they differed in target selection and in practice as the two states responded to their respective enemies' anti-submarine warfare campaigns. The early practices of each state yielded insight into the gulf that separated their two wars, creating a chasm that comparison would be hard-pressed to cross.

Part One: *Ordnung*—German Doctrine and Rules of Submarine Warfare

*Guiding the Kaleus*¹

German interwar period thoughts on U-boats naturally leaned toward the matter of economic warfare, given the experience of the First World War.² This was not the only application considered for future *Großadmiral* Karl Dönitz's grey wolves,³ but the only one relevant to this study. From the moment Britain declared war on Germany in response to invasion of Poland on 1 September 1939, this was the task the U-boat fleet was given to perform.⁴ This is not to say that the fleet was not deployed in other missions during the war, but it was Dönitz's vision that it be deployed solely against merchantmen; as his power in the navy grew and the *Oberkommando der Marine*'s (OKM, the Naval High Command) belief in the power of surface forces waned, his vision took on supreme importance for the *Kriegsmarine* (German Navy). This was expressed twice in the years before the Second World War (SWW) began, in both instances very publicly. In November 1937 Dönitz argued that First World War experience proved that "the U-boat is well suited to menace the enemy's maritime life-lines, the enemy's trade."⁵ Indeed,

¹ The word "*Kaleu*" was derived as a short form of *Kapitänleutnant*, the commanding officer of a U-boat. It is therefore equivalent to the English acronym "CO", or "commanding officer." In this study, *Kaleu* will be used to refer to the German "CO", and "skipper" or "CO" will be used for the American counterpart.

² See Chapters One and Two for further background on the First World War experience and interwar period ideas and intentions for future U-boat war.

³ Sarandis "Randy" Papadopoulos, "Between Fleet Scouts & Commerce Raiders: Submarine Warfare Theories and Doctrines in the German and U.S. Navies, 1935-1945", in *Undersea Warfare*, 7:4 (Spring 2005), 2ff. Papadopoulos goes into further detail examining the other options, notably fleet support. See http://www.navy.mil/navydata/cno/n87/usw/issue_27/scouts.html [last accessed, August 4, 2007]

⁴ See Dönitz's entry on 3.9.1939 in RM 7 N236; Nachlaß Dönitz, 1F /FC 1330N, BA/MA, Freiburg-i.-B., 10. He stated that war has broken out and at first commerce warfare by the U-boats should follow the operational order—which was prize laws.

⁵ Quoted in Holger H. Herwig, "Innovation Ignored: The Submarine Problem, Germany, Britain and the United States 1919-1939", in *Military Innovation in the Interwar Period*, Williamson Murray and Allan R. Millett eds., (Cambridge: Cambridge University Press, 1996), 239.

nothing else in the interwar period was known to be so certainly menacing to the enemy's subsistence.⁶

An echo of this sentiment reverberated through the 1939 publication of Dönitz's *Die U-bootswaffe*, in which he described the essential character that gave U-boats their key advantage and chance for great military success: invisibility. Dönitz concentrated his analysis of this "success" in the realm of commerce warfare, relegating issues about surface forces to points such as how many could be tied down by a relatively small number of U-boats. Experience in the SWW would show that this could be translated into use against men-of-war as well, for invading areas where the enemy controlled the sea was the point.⁷ Dönitz did not consider this paramount, however, and in his book warships were mentioned only inasmuch as they were required to protect and escort the merchantmen.⁸ Thus, regardless of what else a submarine was capable of, and what else it would be tasked to do in the war, that remained secondary to the greater issue: *Tonnagekrieg*—the battle against merchantmen.⁹

How would this play out in action, however? What rules would govern its execution? Doctrine is not so easily ascertained when it comes to the German U-boat war

⁶ Strategic bombing had not been at all effective in the First World War, and while its capabilities improved drastically with technological advances of the interwar period, it remained to be seen what air power could really *do*. U-boats against trade had, on the other hand, proven that they could inflict great damage. All that remained for Germany to work out if it planned on executing this strategy was how to overcome convoy. See below for details.

⁷ Most notably in this category is *U-47's* sinking of the HMS *Royal Oak* in October 1939, when Günther Prien and others penetrated Scapa Flow to attack British ships at anchor. Surprise was key in this attack, and its success did not change Dönitz's view that it was against *merchantmen* that U-boats best served the *Kriegsmarine*.

⁸ Karl Dönitz, *Die U-Bootswaffe*, (Berlin: E.S. Mittler & Sohn, 1939), 29-33. Dönitz *did* organise Prien's raid on Scapa Flow in October 1939, but more so because he was still subordinated to Raeder's will, and could therefore not exercise all of his plans. Had Dönitz been a bigger proponent of the idea of U-boats against men-of-war, then he might not have had to be *ordered* into pulling his boats from the Atlantic in March 1940 for the next month's operations in Norway. OKM's order is noted in Dönitz's *Memoirs*, 75.

⁹ *Tonnagekrieg* is "Tonnage war." Werner Rahn, *Militärgeschichtliches Forschungsamt* eds., Ewald Osers trans. ed., 7 vols., *Germany and the Second World War*, (Oxford: Oxford Clarendon Press, 1994), VI: 328.

because, as Sarandis Papadopoulos has argued, “‘doctrine’, a standardised set of combat methods and practices, did not enter German-language military use until after 1945.”¹⁰ Therefore, a search for documentation spelling out the rules in “doctrinal” terms is in many ways fruitless and frustrating, though it is possible to figure out the working rules and methodology of German submarine warfare in more intuitive and analytical ways.

The perplexing reality of German U-boat history is that it inundates the researcher with a collection of the bits and pieces of German submarine warfare at a tactical level. Most notable in this category is Clay Blair’s *Hitler’s U-boat War* (1996/1998). However, while these works *operate* at the tactical level, it is rare for them formally to set out and explain the rudiments of doctrine. For those details, one is best served by turning to primary documentation like the “Handbook of Commanders of German Submarines”.¹¹ A translated copy made its way into the hands of the Commander in Chief, United States Fleet, in 1944 and was disseminated among American submarine commanders for their consideration. It is not clear what effect this had on American skippers, but it certainly sheds light on the guiding maxims behind German *Kaleus*.

The Ways and Means

One of the most important tools in effective submarine warfare was having the right man commanding the boat, the “Handbook of Commanders of German Submarines” suggested. Indeed, there were times when situations existed to make an attempted attack seem impossible or “useless,” and only the talents of a commanding officers (CO) with “tenacity, the will to fight, and with great self-command” could manage to translate

¹⁰ Papadopoulos, “Between Fleet Scouts & Commerce Raiders” 2ff.

¹¹ A section of this also appears in Geoffrey P. Jones’ *Defeat of the Wolfpacks*, (London: William Kimber & Co. Ltd., 1986), 16-18. It is not cited, however.

apparent hopelessness into attack.¹² More importantly, the right man would not approach his task seeing danger everywhere and in everything. He would not overestimate his enemy, worry excessively or brood over the goings-on of his patrol; the successful *Kaleu* necessarily had to have “a sense of responsibility and daring, accompanied by cold and calm reflection, [these] are prerequisite and sure foundations of success.”¹³

Even the best man needed to have parameters spelled out for him, though. The Handbook thus established that his first order of business was self-preservation, for the first rule to a long life of fruitful hunting was avoiding detection. This was a matter that governed virtually all parts of the patrol, from setting sail, to hunting, to reconnaissance and to special missions. In each of these, periscope use needed to be governed as the Handbook warned that they could be extremely visible, sometimes in unexpected situations. Enemy warships, Germany knew, would be equipped with optical instruments as well as the traditional look-outs with binoculars. Thus, it was crucial to avoid incautious use of the periscope (which could give a U-boat its characteristic silhouette), but also to ensure that in good visibility no more than the tops of enemy masts had appeared on the horizon before diving. “It is better to submerge early rather than late,” the Handbook counselled wisely (if obviously), and in conditions where weather was a factor, only experience could indicate what could and could not be done without fear of being spotted. The message was clear, then: survival depended on living long enough to

¹² From Commander Submarines, SEVENTH FLEET to Submarines SEVENTH FLEET, Subject: Attack Notes for Commanding Officers, 16 August 1944; Box 49, A16-3 #3; Record Group (hereafter RG) 313, Records of the Naval Operating Forces; Submarines, Southwest Pacific. Restricted, Confidential, and Secret General Administrative Files, 1942-1945; National Archives and Records Administration (hereafter NARA) II, College Park, MD, 1.

¹³ Ibid.

make repeated patrols, which in turn was dependent on the *Kaleu* exercising a due measure of caution in his early days.¹⁴

The Handbook dealt with the “danger of being located” in a separate section, for there was a signal difference between this and the “avoiding detection” section above. “Danger of being located” meant that a warship would find the U-boat and potentially attack, but “detection” could be done by any vessel, potentially precipitating the threat level in “danger of being located”. Any ship with a radio could act as another pair of eyes for the Admiralty when it came to the U-boat war, thereby permitting Britain to re-route its convoys and decrease submarine successes. This had obvious ramifications on the effectiveness of the commerce war, but warships could decrease submarine success as well (and far more immediately and permanently) by killing U-boats.

Every warship *could* be carrying direction finding (DF) equipment, Handbook readers were warned, but that should not have caused the *Kaleu* to become unnecessarily paranoid. Escorts would manoeuvre, but it need not have meant that they were doing so because they had detected a U-boat. Only when there was no doubt that the warship was closing to drop its depth charges (DCs) was the U-boat to break off its attack and go on the defensive. This was the second general rule of attack: “during the attack there are often situations in which it is possible to have a motive for breaking off. This moment and these impressions must be overcome.”¹⁵ Thus, the focus was kept on the attack only until the U-boat was in jeopardy and forced to dive deep. Of course, going deep ought not to have been the defaulted means of defence, for as the Handbook reminded *Kaleus*, it was necessary to first make a dramatic course change and *then* to dive. DCs would

¹⁴ Ibid.

¹⁵ Ibid., 3.

always be dropped in a pattern around where the U-boat was last seen, and into the direction of its expected withdrawal. A last-minute hard turn to starboard could save the crew from some teeth-rattling explosions—or possibly save their lives.¹⁶

Survival both was and was not the most important part of a submarine patrol, for there was a fine line between living to fight another day and failing to realise the U-boat's *raison d'être*: attack. Thus, a *Kaleu* was to be cautious, but not to the detriment of his kill-rate. This was the first general rule for attack: “caution and prudence during passage as long as there is no target, but during the attack, highest degree of aggressiveness.”¹⁷ This did not mean to imply that this was a war of firing at targets blindly without consideration, for “attack and aggressiveness” was discussed alongside guidelines of stopping ships and subsequently sinking them with explosives.¹⁸ Clearly, OKM was still willing to anticipate a war of limitations, and planned for the boats to take part in legal warfare as well.

“Unrestricted” submarine warfare (USW) was clearly not the *only* strategy the *Kaleu* was meant to have in mind. He should also be thinking along the lines of Visit, Search and Seizure, for that could lead to the despatch of cargo and the same goal as an aggressive attack. These provisions for an alternative means of waging commerce warfare illustrate definitively that USW was never the *only* type of war U-boats were meant to fight. As has been illustrated, the German U-boats did not immediately and violently engage in USW when the war began, but rather crept there gradually as it

¹⁶ Ibid., 5.

¹⁷ Ibid., 3.

¹⁸ Ibid., 7. It must also be noted that this section primarily dealt with the matter of explosives—it was not doctrinally instructing boats on how to perform Visit, Search and Seizure, but instead on the fundamental issue that accompanied it: destruction after search. This was not intended as a guide for what to do when a torpedoed or artillery-damaged ship did not sink at first blush, however, for in those cases lingering to board the ship could be suicidal if the vessel had sent an “SSS” signal (the sign for submarine attack).

escalated. Attack and aggression remained vital for submarine war—but the bigger picture was sinking tonnage, which could also be done according to laws.

Attacking U-boats could follow two types of approach: submerged or surfaced. The Handbook did not explicitly state when each should be used, but in keeping with the responsibility placed on the *Kaleu* to best conduct the patrol, it set out a series of conditions that outlined what was best and worst for making an attack. That is to say, it was up to the skipper to analyse the situation and, based on the knowledge of what factors made an attack successful or unsuccessful, decide how to proceed.

In the submerged attack, a submarine needed to identify speed, range, and how favourable the attack conditions were. The Handbook was explicit in stating that “the speed of the enemy is best estimated from abeam. When estimating speed *it is better to observe the wake rather than the bow wave*, as the latter in the case of very sharp bow is often very small.”¹⁹ Estimating speed appeared to be simple compared to estimating range, a science as compared to an art, for in that the Handbook advocated taking every chance to practice range estimation—with attention paid to the common mistakes made in various visibility conditions. For example, clear weather with the sun at the look-out’s back would typically lead to an underestimation of range, while looking into the sun, at sunset, and in moonlight often led to overestimation.²⁰ Speed and range were two of the most critical factors to figure out when planning an attack, for if these were calculated incorrectly, they left the least chance of somehow squeezing out a success in spite of the errors. The list of favourable conditions for submerged attack that followed offered by comparison a series of variables, none of which were as absolute as range and speed.

¹⁹ Ibid., 2. Emphasis in the original.

²⁰ Ibid.

Favourable conditions for a submerged attack were relatively straightforward. They included coming out of the sun, attacking in a windward direction (so the periscope followed the motion of the waves), and in a wind force of three to four with seas between two and three. These conditions were not black and white, but offered ways for the *Kaleu* to achieve the best possible circumstances for his attack, and thus, the unfavourable conditions read like a list of opposites, save a few exceptions. Nature could hinder the attack if it was attempted in either a very rough sea with a swell or a very calm sea, but a calm sea could be manipulated into a favourable condition if the attack came out of bright sun, at twilight, or during a night with a full moon. The *Kaleu* also needed to think about how certain man-made factors interplayed with nature, like the fact that against the backdrop of black storm clouds, his periscope would appear glaringly white, regardless of its paint colour. Equally, when attacking against the sun, he would have to keep in mind that all his calculations would be more difficult to make correctly. Furthermore, something as simple as training his periscope on the target could result in the glass acting as a mirror, and result in the boat being seen.²¹ This list was quite specific, and while it gave the commander a lot to consider, it was virtually certain that attacks would still be made with storm clouds behind the periscope or into bright sun, for using these as reasons why *not* to make an attack would invite near certain criticism.

This fact was reinforced in the section entitled “Instructions for the Submarine Attacking Submerged: General Rules,” which emphasised aggression and dogged pursuit of attack possibilities. “Do not give way to the false²² idea of not attacking *at once* or not

²¹ Ibid., 2-3.

²² This likely represents poor translating on the Americans’ part. The German word “*falsch*” can be translated to mean “false”, as it appears in this sentence. Instead of reading as “untrue”, this word should be

remaining with the utmost determination *in contact* with the enemy because it is believed or hoped that later a better target may be found,” the Handbook advocated. “A bird in the hand is worth 2 in the bush. Such ideas do not save fuel!”²³ This proverbial “bird in hand” was best seized immediately, although with every calculation and estimation checked twice since a “spur of the moment and haphazard” attack would ultimately fail. Such attacks, made without a reasonable chance or without one’s wits about him, were ill-advised, for the *Kaleu* needed always to be ready to deal calmly with whatever situation arose from firing torpedoes. That could include quickly re-calculating to launch a second attack, re-manoeuving and re-starting the approach to maximise the chances of success again. The nature of the target could force a second attack as well, for targeting a destroyer or another submarine was more difficult due to the destroyer’s high speed and small beam, and the submarine’s short height which made range-estimation particularly problematic. In these cases, the Handbook gave rare formulaic advice: only attack certainly, which is to say at short range, and “*do not fire single torpedoes; fire a salvo.*”²⁴

The message for submerged attack was clear: be aggressive, but cautious. There were certainly times and circumstances that would increase the likelihood of being spotted and these should be born in mind when attacking, but not to the point of failing to seize the opportunity to attack. Attack was based on cold calculation and variable reasoning, and it would take the right man to walk this fine line and translate the Handbook’s guidelines into success. The final directives on the submerged attack illustrated this further, given that they were based on human nature and perceptions. They

“wrong” (another translation of “*falsch*”), or would likely be written as “mistaken” in a non-literal, proper English translation.

²³ Ibid., 3. Emphasis in the original.

²⁴ Ibid. Emphasis in the original.

emphasised that “*In general in war, especially at night, the distance is always further than is thought.* Therefore be firm and self-controlled. The short firing-range is also safest for your own ship. *The enemy escort does not drop depth charges near its own ships.*”²⁵ Once more, the point was “attack, but with survival in mind”.

The recommendations for a surfaced torpedo attack dwelled more heavily on the U-boat’s obvious increased potential for being sighted. Naturally, surfaced attacks were the minority of torpedo attacks, taking place only in times of very limited visibility—night time. In those cases, the ability to perform well on the surface came down to a state of mind, it appeared, as it was proposed that

The C.O.’s confidence in his own invisibility at night will grow with every fresh experience. Any impression to the contrary will be consciously overcome by reasoning; the enemy that is being attacked, like everyone on the defensive, has the weaker position; especially as, his look-outs being engaged in a continuous and fatiguing activity, he cannot maintain the degree of attention in observation which the [submarine] exercises in concentrated form at the moment when she is preparing to attack.²⁶

This had something of a propagandistic, self-serving tone when it came to evaluating the quality of surface ship look-outs. The fatigue generated by a night’s watch, especially in the North Atlantic where cold, inclement weather could wear down a look-out in far less time than in warmer conditions, would be shared equally between submarine and surface ship. It is true enough that the U-boat’s low height would make it *less* likely to be spotted as compared to a surface ship, but it overstates the case to suggest that there is such a significant advantage held by a submarine in these situations. Only the *knowledge* of an impending attack would give the U-boat its edge in observation, for at the point when the attack began, it could rotate more alert, less fatigued crew into look-out roles. Ultimately,

²⁵ Ibid., 4. Emphasis in the original.

²⁶ Ibid.

whatever intangible advantage this secured for the boat was lost when the night time difficulty of calculating speed and range for moving targets was factored in.

Not all nights were created equally, of course. There is a far cry between a night of cloud-cover with rain squalls and a peaceful full moon. For these and all those times that fell between these two polarities, there were things a U-boat could do to prevent being seen. Nothing could be done to change the paint once a boat put to sea, but the fact that the boat was *painted* was something the *Kaleu* needed to keep in mind. When a painted hull was wet it would invariably shine when lighted by the moon. Outside of that, the last measures a U-boat could take to decrease its chances of being seen included not approaching on the “moon-to-enemy” bearing, and approaching from the dark side of the horizon, preferably windward.²⁷

Clearly, there were two ways of waging a torpedo attack—surfaced and submerged. Throughout the war Dönitz would emphasise the former, but clearly there were defined time when the latter ought to be used. In *Die U-bootswaffe*, Dönitz made it clear that the time for using the submerged attack included daytime and very bright moonlit nights. In spite of that, he also maintained that nights were generally best for surfaced attacks, but if darkness was elusive, diving and leaving only the periscope above water was the best way to remain unseen.²⁸ This was not the ideal because the periscope offered problems in the attack as it allowed only a limited view; to increase all chances of success and to maximise strength, U-boats were to operate on the surface whenever possible.

²⁷ Ibid.

²⁸ Dönitz, *Die U-bootswaffe*, 39.

Torpedo attacks were not the U-boat's only option in attacking, however. The *Kaleu* also had the option of engaging his target in a gun battle, which was encouraged in some instances, because "the use of guns against an armed enemy can lead to success only if, by making use of surprise and at very close range, heavy damage to the target can be immediately inflicted."²⁹ It conflicted slightly with Dönitz's opinions that "the first weapon for which the U-boat was imagined and built is the torpedo," and "artillery is a secondary weapon, for which the U-boat basically was *not* developed and built,"³⁰ but it still remained an attack tool and was therefore worthy of instruction. A lengthy treatise on all the technical and procedural ways to act followed on the Handbook's pages, capped with an important maxim: "*in view of the dazzling effect of the flashes, avoid firing without much training.*"³¹ Artillery was a secondary weapons system, but still necessitated training to apply properly.

The final point of instruction for *Kaleus* came under the heading "Procedure with convoys". The expectations spelled out there demanded much of a U-boat in the face of numerous ships and escort vessels. First, it was established that "it is possible to keep contact even if enemy naval and air escort are present." It becomes more difficult to attack, but "with perseverance and tenacity on the part of the C.O. it is certainly possible."³² If a daytime attack was simply impossible because of over-zealous ASW, night attack was always an option. This did not advocate putting off the attack, it must be noted, but rather that repeated efforts had to be undertaken until nothing was left but the

²⁹ From Commander Submarines, SEVENTH FLEET to Submarines SEVENTH FLEET, Subject: Attack Notes for Commanding Officers, 16 August 1944, 5.

³⁰ Dönitz, *Die U-Bootswaffe*, 23-25.

³¹ From Commander Submarines, SEVENTH FLEET to Submarines SEVENTH FLEET, Subject: Attack Notes for Commanding Officers, 16 August 1944, 5. Emphasis in the original.

³² *Ibid.*, 7.

option of a night attack. Indeed, “if for any reason the [submarine] does not succeed in approaching the enemy even by night, this is still not a good reason for giving up. Remain perseveringly on the enemy’s track. In this way, hunting down a convoy may last several days before one obtains one’s first success.”³³ From these directives, the image of an ideal U-boat *Kaleu* was a man of contradiction. He had to be aggressive and tenacious (in attack), but also possessing superlative patience (to hunt for days without any feedback or release). It is therefore not surprising that the Aces were a rare breed.

Some German tactics were also undoubtedly shaped in response to developments by ASW forces, predominantly British innovations in the interwar period. To begin with, there was a great deal of buzz around the ASDIC (Anti-Submarine Detection Investigation Committee), which suggested that the age of submarines was over. Britain claimed that this electronic underwater device was 80 percent effective in locating submarines.³⁴ Dönitz did not subscribe to this opinion, and believed (rightly) that ASDIC was highly overrated—U-boat torpedoes could be fired from distances far outside ASDIC’s range, thus making it useless in preventing attacks. His prewar superiors in OKM were inclined to side with British perceptions of ASDIC, and showed this clearly with their emphasis on the surface fleet in the Z-plan.³⁵ Dönitz, however, oversaw tactical development for the U-boat arm, and focused on righting wrongs from the First World War.

³³ Ibid.

³⁴ Clay Blair, *Hitler’s U-boat War: The Hunters 1939-1945*, 1996 (New York: Modern Books, 2000), 37.

³⁵ Ibid., 39.

The most obvious problem that German U-boats needed to overcome in a future war was convoy.³⁶ The Commander of U-boats foresaw a massing tactic for this, but was quick to point out in his memoirs that he did not possess sole rights to this vision. Indeed, concentration was a Clausewitzian maxim,³⁷ but more recently Admiral Hermann Bauer, the Commander of U-boats in the First World War, had suggested it. Wolf-pack tactics were not included in the American translation of the Handbook, but for the sake of legend, mythology and historical study it is impossible to discuss the German U-boat war 1939-45 without including references to these massed tactics. These groups were to be Dönitz's answer to the convoy—meeting concentration with concentration, and a plan to wreak maximum devastation on the merchantmen. The first rule for U-boats operating in groups was to ignore the fact that radio traffic could lead the enemy to direction find individual boats, or even the whole group. It was more dangerous not to keep in proper contact with headquarters, and deprive the team of enough information on their target.

Group tactics would revolve around the first two U-boats making contact with a particular convoy, which would act as shadowers and provide hourly reports; if one boat failed to do so it would result in another boat taking up the role of shadower, assuming the first boat had lost contact (or worse). The most vitally important factor remained that information pass between the convoy hunters at sea and Dönitz at headquarters. In what would become an increasingly controversial decision in the long run, it was also stipulated that any boat that had fallen astern from being submerged too long, or because of ASW measures, was required to send a report of its own position as well as any other

³⁶ Karl Dönitz, *Memoirs: Ten Years and Twenty Days*, Fwd. by John Toland, Intro. and Aftw. by Jürgen Rohwer, Trans. by R.H. Stevens with David Woodward, 1958 (Cambridge, MA: Da Capo Press, 1997), 19.

³⁷ Carl von Clausewitz, *On War*, Michael Howard and Peter Paret, eds., (Princeton, NJ: Princeton University Press, 1984), 204.

information on the convoy. This would have been utterly foolish if the Allies had ever been able to decode German cipher, but Dönitz was ever convinced that that was an impossibility. Thus, information reigned over radio silence always.

It must be mentioned that while wolf pack tactics were designed to draw in an array of boats to the target, once they massed, they were not to act in any kind of unified attack plan. The wolf pack was about repeated attacks by multiple boats on multiple targets, ideally causing enough confusion and chaos that the convoy's escorts would be unable to defend their charges properly and the U-boats would win the day. But this is only in the best case scenario, and it is far from what happened as the *Kriegsmarine's* grey wolves went to war.

Part Two: Restricted War

U-boote los!—*A Mistake Blown Out of Proportion*

Dönitz's chapter on wolf pack tactics appeared prior to "U-boat building" and after "the new task". One would almost believe that with so much forethought, these tactics were instantly applied when the war began.³⁸ It may be true that he had long had the idea and made plans for grouped warfare, but the epic difficulties posed to the U-boat arm by both an early outbreak of war and the Z-plan's neglect of U-boat building made it impossible to mass any numbers until almost one year into the war.³⁹ Regardless, U-boats went to war with the opening of "Case White" on 1 September 1939 with orders to conduct war as interwar treaties had set out.

The intent to wage war legally at the outset was a choice made out of pragmatism, so as not to damage unduly neutral interests. This was possible because it was not the *fact*

³⁸ Dönitz, *Memoirs*, 19-24.

³⁹ See Chapter Five for details of the first packs *Rösing* and *Prien*.

that war broke out that made an illegal naval war the likely future situation. Instead, events from the war in the North Sea represented a *continuation* of the problems designed in the interwar period. First, as has been discussed already, the failure of laws to keep up with technological change hindered the ability of future submarine forces to wage commerce war legally—U-boats were simply too disadvantaged to do so in the long term. Rather than belabouring this point, though, it must be acknowledged that what made the collision between Germany, legality and the Royal Navy an *actual* possibility was set out in *other* interwar period laws, namely the Anglo-German Naval Agreement.

This treaty had allowed Germany to build to parity with the British submarine service; this was, of course, the smallest part of the formidable Royal Navy, for the size of Britain's surface fleet made the need for submarines relatively small, unlike the situation in states such as France, for example.⁴⁰ Nevertheless, the U-boat arm rose like a phoenix from the ashes because construction was again permitted. This is not to say that without the Anglo-German Naval Agreement a U-boat war would not have happened, for Adolf Hitler's complete disdain for Versailles Treaty rulings was thoroughly apparent in the birth of the *Luftwaffe*. The fact remains that Germany was legally given a head-start on submarine building, which also allowed the spectre of heroism and martial strength to rise again in German minds. This was a powerful vein to tap, as Michael Hadley's *Count Not the Dead* (1995) compellingly described.⁴¹ A vigorous movement had sprung up in the interwar period returning submarines and their sailors to a place of reverence in German popular culture; the legal development that created a rebirth of the German U-

⁴⁰ See Chapter One for details.

⁴¹ Chapter Two shows this especially for the interwar period; see Michael L. Hadley, *Count Not the Dead: the Popular Image of the German Submarine*, (Montreal and Kingston: McGill-Queen's University Press, 1995), 48-78.

boat arm helped it become such a powerful tool when linked to images of all that had been good and heroic in Germany's military history. There would be no half-measures in the war at sea.

Thus, a belief in U-boat capability was resurrected in Germany, made possible by the Anglo-German Naval Agreement, though shifted off course by the Z-plan and its focus on surface ship building. Obviously, not all members of the Naval High Command shared the popular perception about U-boats. This meant that the war that Dönitz envisioned would not take place with its intended decisiveness for it took time and command turn-over for a focus on *Tonnagekrieg* to take prominence in war strategies. Still, what happened might not have even been possible if not for the original permissiveness granted by the Agreement. It opened the door for Dönitz to begin gaming and trying out a series of tactics to refine U-boat doctrine, most notably including his group attacks—*Rudeltaktik*, or “wolf-packing”. This went hand-in-hand with Dönitz's vision far more so than it did with the realities of the war, however, and thus, when the war began the *Befehlshaber der Uboote's* (BdU, Commander U-boats) hands were tied by a myriad of forces—namely those of *Großadmiral* Erich Raeder. The grey wolves went on their first patrols with fixed rules, careful restrictions, and clear intentions.

1 September 1939: Strategies and Tactics, Tactics and Strategies

At 0400 on 1 September 1939 German troops marched on Poland, and the U-boats were scattered out to sea. The war had begun, but Hitler was not yet ready to commit to a full-fledged war on multiple fronts. He still believed that there was a chance Britain and France would roll over on Poland's sovereignty, much as they had done for Czechoslovakia. Therefore, he proceeded in a way that would not unduly antagonise: U-

boats were to operate with what the head of OKM, Raeder, called “severe restrictions.”⁴² The first rule was that U-boats were not to focus their attention on enemy warships, so as to avoid a potentially embarrassing and damning situation in which a U-boat might encounter massed enemy surface vessels—and sink a prestigious warship. It was Hitler’s decision that therefore drove the U-boats to operate primarily against merchantmen, in a purer form of USW, but not for the same reasons Dönitz supported such a choice. Furthermore, Hitler also insisted that U-boats were to abide by international laws—which put them at a disadvantage in both strategy and survival, as discussed above.⁴³

The first period of the German U-boat war is an anomaly, for it is more an issue of *strategy* than tactics. Whether the attacks made by the first patrol abided by doctrine is secondary to the question of what was targeted in the first attack. That was the clearest reflection of German naval strategic choice. On 3 September 1939 *Kaleu* Fritz-Julius Lemp of *U-30* was sailing off Ireland when a major political shift took place—Britain and France declared war on Germany. Just shy of 1400, Berlin time, out of Raeder’s command post came an urgent signal: “U-boats to make war on merchant shipping in accordance with operations order.”⁴⁴ The operations order quite simply stipulated commerce warfare would follow prize laws. There was a condition, however, which Dönitz clarified on 4 September: “As long as a total convoy system is not put into place and commerce war is waged along the lines of prize laws, the current arrangement is correct.”⁴⁵ Even from the start, there were indications of the direction the war would take.

⁴² Quoted in Blair, *Hitler’s U-Boat War: The Hunters, 1939-1942*, 64.

⁴³ Ibid.

⁴⁴ Entry of 3.9.1939; RM 7/844, I Skl. Teil C Heft IV U-Booskriegführung August 1939-November 1940; BA/MA, Freiburg-i.-B.,10.

⁴⁵ Entry of 4.9.1939; RM 7/844, I Skl. Teil C Heft IV U-Booskriegführung August 1939-November 1940; BA/MA, Freiburg-i.-B.,10.

Dönitz's statement came well after prize laws had already been violated by one of his boat's actions, little did he know. The culprit was Lemp's *U-30*, and the event of his first kill went on to join the annals of infamous wartime behaviour. At 1630 Lemp had sighted a ship in the distance and begun an approach. In the early evening he closed to a range that let him see that the ship was observing hostile protocols such as zig-zagging and sailing blacked-out. And it was armed—or so the *Kaleu* believed in the dusky light.⁴⁶ These actions justifiably gave Lemp reason to believe that his contact was a warship, and thus a legitimate target for attack. *U-30* dived, and two torpedoes later, it could claim the dubious distinction of firing the first shots in the Battle of the Atlantic—and successfully.⁴⁷

The sinking of the British passenger liner *Athenia* (the so-called *Athenia* incident) provided fodder for the gristmills about Germany's pernicious naval war for decades; for many, clearly the Germans had come out with their proverbial guns blazing, revealing the magnitude of their illegal intentions for the SWW from the time of first contact. For others, and more rightly so, the sinking of the *Athenia* was simply a mistake that has been cloaked in confusion and conspiracy. The outcry surrounding Lemp's choice has far outshone the event that brought it on. Of course, the timing of it was unlucky (to understate the case), and since Lemp failed to break the ordered radio silence to admit his error to Berlin, OKM and Dönitz remained in the dark about what had happened off the British Isles that evening. Therefore, on Hitler's orders, Germany vociferously denied

⁴⁶ Dönitz had made clear in the 1939 version of *Die U-bootschwaffe* that zig-zagging and using high speeds were things a *warship* would be forced to do to protect against U-boats. The understanding was that these were viable targets, and zig-zagging etc. comprised their defences. Thus, if one saw this behaviour from afar, it was understood that they were being done by a warship—hence Lemp's mistake. See Dönitz, *Die U-bootschwaffe*, 30-1.

⁴⁷ Blair, *The Hunters*, 67; Peter Padfield's *War Beneath the Sea: Submarine Conflict 1939-1945*, (London: John Murray, 1995) gives an entertaining picture of this first attack in his prologue, 1-7.

any complicity in *Athenia*'s watery demise when accused, and began a cover-up that went so far as to erase the written record from Lemp's war diary—his *Kriegstagebuch*, or KTB. Again, this appeared to be fodder for conspiracy theorists.

The event remained part of Dönitz's diary, though, as he reported the next morning that "Found out about the sinking of the English steamer 'Athenia' from *B-dienst* and radio. The exact specifications of the place of sinking have not been given."⁴⁸ At no point was the link made between the sinking and forces under his authority, however. Thirty minutes after his entry recorded the fact of the *Athenia* sinking, another entry was made establishing that the occasion did not change the situation for Germany, and once again it was pointed out that commerce war would be waged by prize laws.⁴⁹

In *Memoirs*, Dönitz recalled the start of the U-boat war somewhat differently. He wrote that at the beginning of the war it was believed it would take Britain some time to enact the convoy system, and therefore the U-boats "had" to wage a clean, legal war following prize laws.⁵⁰ That much is reflected in the orders given, if not in the reason for it. Naturally, Dönitz recounted, "perfidious Albion" did its "utmost to make it quite impossible for our boats to conduct their operations in accordance with the Prize Ordinance".⁵¹ Not only was Britain making legal war an "utmost" challenge for Germany, but *Hitler* also put limitations on Dönitz's boats, ordering an even more careful adherence to prize laws and erring on the side of caution. Lemp *had* had justifiable cause to believe the passenger vessel was an auxiliary cruiser and attack, but it was agreed that not even the chance should happen again. The bottom line for U-boat strategy was made

⁴⁸ RM 7/844, I Skl Teil C Heft IV U-Bootskriegführung August 1939-November 1940, 4.9.1939, BA/MA, 11. "*B-dienst*" is the radio intelligence service.

⁴⁹ Ibid.

⁵⁰ Dönitz, *Memoirs*, 54.

⁵¹ Ibid., 55.

clear in no uncertain terms by Dönitz: “As a result of this occurrence [the sinking of the *Athenia*], the following orders were issued to all U-boats on that same evening: ‘By order of the Fuehrer and until further orders no hostile action will be taken against passenger liners even when sailing under escort’.”⁵²

At that juncture, the *Seekriegsleitung* (Naval High Command) wrote up its own reflections following the British Admiralty’s report that *Athenia* had been sunk by torpedoes. Germany still did not know of Lemp’s complicity at this point, but Britain was convinced of it. Given the Admiralty’s belief that *Athenia* had been torpedoed, this established that German U-boats were operating around the mouth of the Irish Sea, and therefore there was a possibility for other ships in that area to be sunk. However, the Germans knew that their operational orders dictated that commerce warfare was to be conducted according to prize laws, with the exception of convoys, troop transports, and steamers that were plainly in military service. Thus, on the one hand, it was admittedly unacceptable that a U-boat sunk a lone sailing 13,581 ton passenger ship without warning, but on the other hand, it *was* possible that a seasoned surveillance force got the impression that the ship was a converted escort.⁵³ This much of the document was based in truth, and reflected the state of operations at the outbreak of war. However, Germany was not yet ready to admit culpability in the matter, and the ultimate point was that it was likely a mine that caused *Athenia* to sink. To the *Seekriegsleitung*, the Admiralty’s report

⁵² Ibid., 55-57

⁵³ “Überlegungen 1. Skl. zur Meldung der englischen Admiralität über Versenkung des englischen Dampfers “Athenia” durch Torpedos”, 4 September 1939; RM 7/844, I Skl Teil C Heft IV U-Bootskriegführung August 1939-November 1940.

proved only that Britain was returning to First World War ways by flinging propaganda and allegations of atrocities at Germany.⁵⁴

The first practice of the war suggests a strategy that was not in place, ultimately. USW had not yet been declared, so only when one counts Lemp's attack as a mistake (as it was) can the discussion turn to tactics. *U-30*'s KTB was "doctored" to erase the unfortunate events of 3 September from record, and thus it is impossible to analyse the tactics at work that evening. Returning to the established "doctrinal" organisation established above, however, one can safely suggest that Germany's tactical intent was highly evolved, and likely superior when compared to other state's submarine doctrine—but there remained one flaw in the plan.

Germany's downfall in the First World War had been caused in large part by the eleventh-hour entrance of an "associated power". The United States was drawn into the war in large part because of the antagonism of Germany's "unrestricted" U-boat war. This strategy was dabbled with periodically between 1914 and 1917, but for political reasons, Germany always pulled back. Finally, in February 1917 it was committed to in earnest, and for several months, the tonnage dispatched to the ocean's floor was staggering. In April 1917 more was sunk than would be in any single month of the Second World War. By May, however, Britain and the United States finally had the resources to fully enact the convoy system, with which they defeated the German U-boats. Therefore, in 1917 the nut of USW was cracked, and Germany's strategic plan came up broke.

In no way was any of this not known to the *Kriegsmarine*, and yet its pre-war plans anticipated re-applying their First World War plans with one tactical shift: wolf

⁵⁴ Ibid.

packs. The weight of their war rested on this tactic holding the answer to the convoy problem, or essentially undoing the effectiveness of the massed tactic that defeated German U-boats in the last war. That was a tall order to fill, especially since after the outbreak of war it would take ten months until groups could be organised. Success for the German U-boats therefore appeared to rest on taking Britain out quickly (and economic warfare never moves with speed), or else integrating some significant strategic changes to U-boat doctrine as the war heated up.

As it happened, the pre-war doctrine was not fully in practice until June 1940, ten months after the outbreak of war. So, tactically, Germany was delayed by inferior numbers of boats available, and thus unable to bring the full force of its strengths to bear immediately—but so too was its ideal strategy delayed. A speedy despatch of Britain's merchant fleet required maximum aggression from the start of the war. This was impossible since Dönitz was not given *carte blanche* to wage submarine war as he saw fit. Instead, the U-boat war was cloaked in another Clausewitzian notion: escalation.⁵⁵

The nature of strategic plans for U-boats at the outbreak have been well covered; the points at which this transformed from a war of legal means to all-out USW are worth establishing, however, as they indicate when the U-boat war approached its strategic peak. On 23 September 1939, the Chief of the Naval Staff, Vice Admiral Kurt Fricke, met with Hitler in one of many "Führer Conferences". They discussed semantics and rhetoric, deciding that "submarine warfare" was not to be used regarding the U-boat campaign, but rather "war against merchant shipping."⁵⁶ Furthermore, "unrestricted submarine warfare" was banished to be replaced with a proclamation of "siege of

⁵⁵ Clausewitz calls this "the Culminating Point of the Attack"; *On War*, 528.

⁵⁶ 23 September 1939, in Jak P. Mallmann Showell ed., *Fuehrer Conferences on Naval Affairs 1939-1945*, (Annapolis, MD: Naval Institute Press, 1990), 42.

England”.⁵⁷ This was not done to protect sensibilities against these potentially inflammatory labels, but instead because it “would free us from having to observe any restrictions whatsoever on account of objections based on International Law.”⁵⁸ Pragmatism and naval war continued hand-in-hand.

The phraseology “siege of England” was next used by Admiral Raeder on 10 October 1939, when the commander-in-chief of the *Kriegsmarine* reported to Hitler that “if the war continues this must be carried out at once and with the *greatest intensity*.”⁵⁹ Raeder’s next comments could have been just as easily apply to the First World War as the Second, for he stated that

all objections [to USW] *must* be overruled. Even the threat of America’s entry into the war, which appears certain if the war continues, must *not* give rise to any restrictions. The earlier and the more ruthlessly we commence, the sooner the effect and the shorter the duration of the war. Any restrictions will lengthen the war.⁶⁰

Raeder was not wrong about the urgency; as stated above, the only chance for German success in its U-boat war was a powerful, all-out war from the beginning, for if and when the United States joined the Allies, the end became inevitable. His rhetoric was eerily reminiscent of a pattern of warfare doomed to be repeated.

Events did not unfold according to all of Raeder’s directives, however. Restrictions were not lifted immediately, but instead slowly through a process of “intensification,” as the Germans referred to it. Less than a week after the meeting in which Raeder made those unequivocal statements, the intensity of the naval war built as Hitler agreed to allow *all* merchant ships recognised as enemy, be they British or French,

⁵⁷ Ibid.

⁵⁸ Ibid.

⁵⁹ Ibid., 46. Emphasis in original.

⁶⁰ Ibid.

to be torpedoed on sight, and passenger ships in convoy to be attacked a short period after being warned.⁶¹ By 1 November, Raeder claimed that “submarine warfare against enemy shipping has been intensified as much as possible... all that is lacking now is the declaration of a state of siege against England.”⁶² This had not yet been done because of the political implications including violating neutral rights (and Hitler’s desire to wait until it could be applied in conjunction with an offensive), but Raeder considered that the former was not too high a price to pay: it was time to escalate to full USW.⁶³

Nine days later, Raeder acted against his earlier statement when he advocated a step-by-step escalation of the naval war, *not* a full escalation. He suggested sinking enemy passenger ships without warning, since there was photo evidence showing that they had been armed. Hitler conceded, as long as the names of the ships were made known and it was clearly established that they had been used as auxiliary cruisers and troop transports. The Führer continued to choose cautious pragmatism over simple escalation. Neutral antagonism remained one step further than Hitler was willing to go, and he would not accede to Raeder’s request to sink without warning neutral ships known to be carrying contraband.⁶⁴ The navy’s commander in chief was far more militant than the Führer, and he continued to push for things that Hitler would not give. For example, on 25 November Raeder called for the England “siege.” Hitler refused, but expressed his “special appreciation of German naval warfare.”⁶⁵ That must have been a great comfort to Admiral Raeder.

⁶¹ Ibid., 51-2. Raeder pointed out after the Führer allowed this that passenger steamers sailing unlit were already being torpedoed, for this was a hostile measure.

⁶² Ibid., 55.

⁶³ Ibid.

⁶⁴ Ibid., 56.

⁶⁵ Ibid., 64.

30 December 1939 saw the next round of intensifications, as Hitler permitted merchant ships of all nations helping British trade by sale or lease of vessels to be torpedoed without warning in the American-declared war zone surrounding the British Isles. So, too, could neutral ships sailing through the “war zone” be torpedoed without warning, for Hitler stated that any sinkings there could be attributed to mines; this zone was further extended on 26 January 1940 so that only friendly ships and shipping were safe.⁶⁶ 23 February was the last time intensification was mentioned in the Führer Conferences, for the only thing holding Hitler back from the “siege on England” had been a land attack, and thereafter plans for the invasion of Denmark and Norway dominated discussion. When *Weserübung* was put into place, whatever restrictions were left to constrain *Kaleus* were lifted. By early 1940, Germany’s Battle of the Atlantic had finally become a ruthless war.

Part Three: American Anticipation and Adaptation to Submarine Warfare

“Current Doctrine, Submarines”—or “Rules for the Un-fought War”?

The U-boat campaign of the First World War was far from unknown to American naval officers in the interwar years. Depending on the perspective, this either was or was not reflected in doctrine and exercises. It *was* reflected inasmuch as the Americans remained forsworn to upholding the international laws that had been broken in the First War, and therefore their submarines prepared to fight a war unlike the U-boat war; theirs would be a cleaner, *legal* war. It was *not* reflected, however, in that the submarine service

⁶⁶ Ibid., 72-7.

practiced and indoctrinated itself as if the First World War had never happened, rather than learning lessons from the German experience.⁶⁷

Submarines had an inauspicious beginning as they participated in the American interwar Fleet Problems. In their first appearance in Fleet Problem One, the boats performed very much like the first tanks in the Great War: so many broke down before making it into operation as to make future uses questionable. Through the following two Problems they proved not to have the speed to keep up with the fleet, such that by Fleet Problem Four they were tried out in individual roles, tasked to operate ahead of the fleet without support. However, between Problem Five in 1925 and Problem Sixteen in 1935, submarines took their roles as individual operators seriously and began taking greater offensive chances. They succeeded in aggressively attacking capital ships and carriers, and earned a reputation for offensive action, which would certainly shape tactical things to come.⁶⁸

The U.S. Navy did not game USW in the Fleet Problems, with the exception of one small part of one exercise in 1938. Fleet Problem Nineteen used one fleet, including submarines, against another fleet's "vital centers and coastal shipping." This did not suggest USW out of hand, but instead that once the United States (U.S.) had taken control

⁶⁷ This is not to suggest that the navy was choosing ignorance in the matter. The General Board of the Navy archived translated texts by many of the German U-boat war's participants like Admirals Michelsen and Bauer, and Commanders Spieß, Gayer, Spindler and Boy-Ed, though as this chapter argues, the U.S.N. continued the tradition of following its own lead in warfare rather than learning from those who had gone before. These texts can be found in Record Group (hereafter RG) 45 Records Collection of the Office of Naval Records and Library, Subject File 1911-27, "US & Uboat War", at the National Archive and Records Administration (hereafter NARA) I, Washington D.C..

⁶⁸ Craig C. Felker, *Testing American Sea Power: U.S. Navy Strategic Exercises 1923-1940*, (College Station, TX: Texas A&M University Press, 2007), 68-72. Felker makes a good argument that the submarines exhibited Mahanian principles, which is to say fleet action by capital ships to control the sea lanes, as espoused by American naval officer and strategic theorist Alfred Thayer Mahan in the late nineteenth century. The more "Mahanian" submarines were, which is to say, the more submarines behaved in these offensive roles, the more they opened themselves up for future use as commerce warriors. See page 73.

of enemy waters, submarines would engage with and attack merchant vessels.⁶⁹ This training was the extent of submarine practice for their upcoming role in the Second World War—though in the war there would be no control of the sea when attacks on merchantmen began and, furthermore, the scale would be incomparable.

The anticipated role that American submarines would play in war was thus shaped by practical and predominantly law-abiding practices, and reaffirmed in doctrine. This paired training and theory to develop an American way of waging submarine war. It was legal, but it also underused a valuable tool. Only submarines could act offensively in enemy controlled waters, which would prove too important to the war effort to ignore.

As per a study of doctrine from 1944: “doctrine may be defined as a compilation of principles, applicable to a subject, that have been developed through experience or by theory, that represent the best thought of the unit concerned, and that indicate and guide but do not bind in practice.”⁷⁰ For the American submarine force, doctrine was to offer submariners a level of understanding between the captain and his crew that ensured that even without direct instructions given, quick and effective action would be taken. Initiative was allowed and even encouraged in this environment, with the knowledge that it would leave subordinates the ability to make intelligent choices in any situation.⁷¹ Doctrine was therefore developed with attention to small details on various subjects, furnishing submariners with what was believed to be answers to virtually every question in submarine warfare.

⁶⁹ Quoted in Felker, 73.

⁷⁰ “Current Doctrine, Submarines 1944”, U.S.F. 25, February 1944 prepared by Commander Submarine Force; Microfilm Reel, Current Tactical Orders and Doctrine-Submarines, 1939-44; Operational Archives (hereafter OA), Naval Historical Center (hereafter NHC), Washington D.C., x.

⁷¹ Ibid. This was also reiterated in the “General Instructions for Patrol” and the “Standard Patrol Instructions” which guided all submarine patrols.

Doctrine was thus a vital part of a submariner's education, and any study of it necessarily begins with the international laws that gave rise to the "Tentative Instructions for the Navy of the United States Governing Maritime and Aerial Warfare, 1941," discussed earlier.⁷² The "Tentative Instructions" had called for submarines to conform to the international laws governing surface vessels, and thus "Current Doctrine, Submarines" was developed with that same objective.⁷³ The first relevant "Current Doctrine, Submarines" was issued in April 1935, defining clearly what a submarine could and could not do in warfare. First and foremost on that list, in matters pertaining to merchant vessels, submarines were permitted to attack non-warships after following the guidelines stipulated for surface vessels, meaning after visit and search had been performed.⁷⁴ In 1935 the U.S.N. thus hung its hopes on waging future undersea wars parallel to the kind of submarine conduct that international laws had allowed prior to the First World War—but had come up short.

A new version of "Current Doctrine, Submarines" was issued in 1939 on the eve of the outbreak of war in Europe, revisiting submarine conduct in coming hostilities. Section 1, "Basic Considerations," expressed that,

the basic principle upon which the submarine type has been developed is that ability to submerge permits unobserved operations in an enemy area, and approach and attack on enemy ships. Any operations of submarines which do not contemplate taking advantage of this unique characteristic constitute a sacrifice of the potential military effectiveness of the type.⁷⁵

⁷² See Chapter One.

⁷³ *Tentative Instructions for the Navy of the United States Governing Maritime and Aerial Warfare, May 1941*, 1941 (Washington, D.C.: United States Government Printing Office, 1944), 184.

⁷⁴ "Current Doctrine, Submarines 1935", quoted in Sarandis Papadopoulos, "Between Fleet Scouts and Commerce Raiders: Submarine Warfare Theories and Doctrines in the German and U.S. Navies, 1935-1935, 2.

⁷⁵ "Current Doctrine, Submarines 1939", U.S.F. 25, Revised, April 1939, prepared by Commander Submarine Force; Microfilm Reel, Current Tactical Orders and Doctrine-Submarines, 1939-44; OA, NHC, Washington D.C., 1.

This pointed to the essence of submarine warfare: maximising the “invisibility” that permitted submarines alone to operate in enemy controlled waters. Continuing in the tradition of individual action developed between 1924 and 1935, “Current Doctrine” also stated that “the primary task of submarines is attack. Submarines shall carry out this primary task at all times unless expressly forbidden.”⁷⁶ Quite simply, then, “in battle, the primary objectives of submarines are enemy heavy ships,” as per “Current Doctrine.”⁷⁷ This was reaffirmed a few months later in September 1939 when the directive was refined to state that “the primary task of the submarine is to attack enemy heavy ships. A heavy ship is defined as a battleship, a battle cruiser, or an aircraft carrier.”⁷⁸ Thus, as the U.S.N. moved ever closer to the impending clash with Japan, it also moved incrementally closer to the letter of international laws, adopting a theoretically ultra-conservative *modus operandi* for the submarine service.⁷⁹

Doctrine made provisions for every step of the attack, giving step-by-step instructions from the time of first contact. After initially locating a target, the submarine would issue a contact report and then try to take its position ahead and out of sight, proceeding as long as possible on surface. Should that have proven impossible, the submarine was to continue either to an area the target was expected to pass through or an area astern of the vessel, so that it could be attacked if the target reversed course.

⁷⁶ Ibid.

⁷⁷ Ibid., 2. Paradoxically, later in the document it was written that attacks on “enemy capital ships and aircraft carriers may not constitute [*sic*] the paramount duty of submarines operating as described in the various sections of this chapter, but, unless expressly forbidden, shall be made whenever opportunity offers.” (p. 6) The effects of this point were diluted by the changes made in September 1939.

⁷⁸ “Change No.4 to Current Doctrine, Submarines,” quoted in Papadopoulos, 2.

⁷⁹ It is noteworthy that this “change” and move to ultra-conservatism came on 25 September, 22 days after the passenger liner S.S. *Athenia* had been attacked without warning. This sinking was not a sign of German USW as it has sometimes been interpreted, but rather it marked an untimely mistake as explained in this chapter. This was not yet known in the U.S., however, where this “change” appeared to put an even greater distance between the Germans’ conduct in the Great War and the United States’ intended conduct in future war.

Whenever possible, the attack was to be launched at twilight or dawn, but all ideal scenarios aside, the main concern was to ensure that an attack was ultimately *made*.

“Current Doctrine, Submarines 1939” alluded to the submarine’s vulnerability in some offensive situations. “Submarines cannot be used effectively against merchant ships without running undue risk of destruction,” explained “Current Doctrine,” reflecting the international laws as interpreted by the Treaty of London (1930).⁸⁰ This focus on laws in doctrine showed very different concerns than those expressed by Admirals Hart, Stark and Captain Turner, illustrated previously.⁸¹ The upper echelons of command were aware that following legislation forced limitations on submarines. It so chafed these three officers, that they strove to design more *effective* war plans, though not necessarily *legal* war plans. Meanwhile, in submarine doctrinal works the dangers of abiding by the law were also understood to bear on the submarine service: carrying out *guerre de course* according to the Treaty of London could lead to the destruction of United States’ vessels, delivering a blow to its own navy instead of the enemy.

When “Current Doctrine, Submarines 1939” explained the hierarchy of submarine duties, it came close to bridging the gap between the two camps of legality and efficacy. First and foremost the submarine would be employed in attack, as established above; secondary tasks were listed as “scouting, observation and reconnoitering, screening, patrol (*including commerce destruction*) and opposing a joint overseas advance, escort, mining, and services to aircraft.”⁸² However, while “patrol” seemed to flirt with the

⁸⁰ “Current Doctrine, Submarines 1939”, 2.

⁸¹ See Chapter Three.

⁸² *Ibid.*, 7. Emphasis added. Other minor duties were also listed as “taking needed supplies of small bulk to blockaded ports, making tidal observations, delivering important mail, and cable cutting.”

reality of “total” submarine warfare, it should not be taken to imply that “unrestricted” commerce destruction was advocated—doctrine remained legal to the last word.

A firm line was thus set on legal conduct, though this might have been the only truly firm line in doctrine. Paradoxes were woven through the “Current Doctrine” to show the struggle between ideals and realities. One example comes after the repeated statement that battleships were submarines’ key targets, when it was written that “enemy capital ships and aircraft carriers may not constitute [*sic*] the paramount duty of submarines operating as described in the various sections of this chapter, but, unless expressly forbidden, shall be made whenever opportunity offers.”⁸³ Therefore, battleships may not be the submarine’s prime target, yet they should always be considered so unless that was forbidden? While this appeared somewhat contradictory, it is unarguable that men-of-war were meant to dominate a submariner’s thinking.

The cautiousness of “Current Doctrine” mandating that submarines be submerged before contact with enemy air or surface vessels *was even possible* becomes more understandable in this light—though it was admitted that it could diminish submarines’ success—as submarines were almost entirely void of defensive strengths.⁸⁴ Deck guns offered some defensive strength, but since it was believed that even merchantmen would be able to outgun a submarine (to say nothing of a warship’s ability), guns were not to be used without due pause. Instead, the only true defence a submarine had was to submerge. Diving was not a perfect defence because too many signs were left to show where the submarine had gone, especially for aircraft, but this was a matter of making the best of a

⁸³ Ibid., 6.

⁸⁴ Papadopoulos explains that it was not only the capability of target vessels that kept the need for submergence alive. American torpedoes also left tracks that were especially visible by air, indicating the position of the U.S. submarine. In the interest of risk minimisation, subs were forced to submerge relatively deeply and sail slowly, a policy reflected in “Current Doctrines, Submarine.” See Papadopoulos, 2.

vulnerable situation; diving was suggested as the answer to virtually any defensive question. Doctrine remained conservative at each turn.

“Current Doctrine, Submarines” set out other more concrete and tactical requirements for submarine conduct, such as the mandate to deliver an attack “as soon as satisfactory firing position is reached.” Waiting for an improved position was believed to increase the chance of detection while decreasing the chance of a better position than what was already had.⁸⁵ Targets were to be as near as possible, but if the submarine was unable to close the range, it ought to spread its torpedoes so that the target could not hope to avoid them all. How many torpedoes ought to be fired per target? “Current Doctrine, Submarines 1939” was cryptic on the issue, retiring to *Alice in Wonderland* logic as it stipulated that “the number or torpedoes fired should be sufficient to insure destruction or crippling of the enemy.”⁸⁶ Indeed.

This was clarified later in the “Attack Section.” A chart provided gave submarines rules of thumb for determining how many torpedoes ought to be fired (a salvo) at a single target; the “volume of fire” was defined by the nature of the target. Figure 5.1 in Appendix C shows the breakdown volume of fire: battleships and command cruisers were the heartiest targets and given a seven torpedo-hit-life, which called for eight torpedoes without a spread, and ten torpedoes with. At the bottom of the scale was the submarine with a 0.3 torpedo-hit-life. That warranted one torpedo without a spread, and, oddly, none with a spread. Merchant vessels hovered below the half-way mark between these two, with a one torpedo-hit-life calling for two torpedoes with and without a spread to ensure a

⁸⁵ “Current Doctrines, Submarine 1939”, 3.

⁸⁶ Ibid.

kill.⁸⁷ The final word was that when choosing spreads and targets, the number of torpedoes fired ought to follow the maxim that one vessel seriously damaged was preferable to moderately damaging several.⁸⁸

Torpedo firing was a matter of some concern. In 1939 it was dictated that shots ought always to be fired at the centre of a target, with the belief that this would lead to destruction. Only when it was believed that the centre could not be hit should the submarine spread its salvo, with the understanding that the objective then went from maximum injury to variable damage.

Clay Blair, an icon of submarine warfare historiography, clung tenaciously to the idea that USW was not even a consideration until the attack on Pearl Harbor.⁸⁹ His explanation of spread determination reflected this as well, for he stated that “in peacetime they had trained with high-speed fleet units... setting up on a slow-moving shallow-draft merchant ship whose masthead height could only be guessed at was a wholly different ballgame.”⁹⁰ He wrote as if ignorant of “Current Doctrine,” explaining that ideal peacetime experiences had shown that a three-torpedo spread was best, firing one forward of the bow, one amidships, and one astern; three torpedoes fired, Blair reported, would result in two probable hits. These points were made to establish the difficulty skippers faced when the Commander of Submarines, Pacific Force (Comsubpac), Rear Admiral Thomas Withers, decreed that only “one or two [torpedoes] should suffice,” putting significantly more pressure on the man at the periscope, the diving officer, the

⁸⁷ Ibid., 23. The “linear spread” was explained in a glossary on page 19 of the document: “(19) Linear spread is the distance in yards between successive intercept points of target and torpedo tracks measured from the same point of the target at each interception. (Linear spread is a function of spread angle, torpedo run, and distance moved by the submarine during the firing interval).”

⁸⁸ Ibid.

⁸⁹ Clay Blair, Jr., *Silent Victory* (Boston: J.B. Lippincott Co., 1975), 106.

⁹⁰ Ibid., 111.

skipper and so on, according to Blair.⁹¹ This ignores interwar period doctrinal teaching, however, which would have prepared a skipper for a two-torpedo spread against merchantmen and one for an angle-free shot. Quite simply, no sailor would have been made the commanding officer of a United States submarine without a thorough understanding of doctrine and all it entailed.⁹² In this case, Blair is mistaken.

Some of the remaining “Current Doctrine, Submarines” instructions were more obvious than others, such as point (l): “empty tubes should be reloaded immediately,” and (m): “a great menace to submarine operations is detection by aircraft.”⁹³ But doctrine also paid close attention to the vital points necessary for survival. Defensive measures were limited to submergence; since dawn and twilight were the submarine’s most vulnerable time on the surface, the submarine was to remain underwater unless the orders given made it absolutely impossible. Survival was more important than success, it seemed, for the overarching emphasis running throughout was clear: at almost all costs, avoid detection!⁹⁴

In spite of what appears to be a rigid set of rules for submarines to follow in war time, it was also recognised in the “Current Doctrine, Submarines 1939” that a variety of factors existed that could trump doctrine. This point helps to refute the sometimes contradictory nature of doctrinal directives. The commanding officer was therefore required to understand that the nature of submarine tactical operations awarded him “greater opportunity for exercise of initiative than is accorded commanding officers of other types.” This offered freedom as well as the burden of responsibility—to the crew,

⁹¹ Ibid., 112.

⁹² See below for evidence of the importance of doctrinal teachings.

⁹³ “Current Doctrines, Submarine 1939”, 3.

⁹⁴ Ibid.

the boat, and to the superior officer. It was therefore embedded in doctrine just how significant the weight bearing down on submarine skippers was, and reinforced by the statement that the commanding officer was going to be called upon to make snap decisions, possibly putting him in position to have to choose between acceptable risk (and damaging the enemy) versus unacceptable risk (not damaging the enemy, but preserving his vessel). This might appear to be another fairly obvious point, and it certainly was not a quality reserved for the submarine force, but it emphasised the criticality of selecting the right men to command the boats of the U.S.N.'s silent service. This was ironic, given the command crisis the submarines would suffer at the beginning of the war.⁹⁵

Another version of "Current Doctrine, Submarines" was issued in 1941, very nearly mirroring "Current Doctrine, Submarines 1939." From targets to the primary objective of submarines, there was very little variation in doctrine. Attack had primacy, the targets would be capital ships, and the ways and means were mapped. Thus trained and instructed, the American submarine force went into the Second World War.

Part Four: United States' Transitioning to War

On Operational Orders and Patrol Reports: Setting the Stage

In the aftermath of the attack on Pearl Harbor and the order to execute USW against Japan, the U.S. sent patrols against some of the best-known and most-used shipping routes to and from the Japanese home islands. Naturally, one of the areas of greatest concentration was in Empire Waters off the coast of Japan, and that is where the first patrol of the U.S.S. *Pollack* was sent to cut a path of destruction through Japanese shipping.

⁹⁵ Ibid., 6.

Stanley P. Moseley was *Pollack*'s skipper on its first war patrol, and he was one of the more competent skippers of the first wave.⁹⁶ *Pollack* sailed out to "Area Four," defined as north of latitude 34° 10' north, "between the north and south lines extending through IRO SAKI and INUBO SAKI," after departing Pearl on 13 December 1941.⁹⁷ Immediately, *Pollack* sailed into heavy seas and did not even reach a 500-mile radius from Tokyo until 27 December; not until 31 December, eighteen days after setting sail, did Moseley's boat finally nose its way into the area. The long voyage seemed worthwhile, for almost immediately *Pollack* made its first contact.

Empire Waters were undoubtedly the best hunting ground for American submarines early in the war, but strategists in the immediate aftermath of the attack on Pearl Harbor had concluded that the Japanese fleet was likely at anchor in bases in the Marshall Islands, and with Admiral Husband E. Kimmel's influence, it was decided that the majority of submarines would be sent there. This was not a reactionary measure for the surprise attack, but rather a decision made in the spirit of prewar planning, whereby the submarine's primary target would be warships. For those few remaining boats tasked elsewhere, if Moseley's first day was any indication of things to come, they had found themselves ordered to the real show in Empire Waters by the luck of the draw. American strategy was unquestionably USW, but its tactical priorities still ranked men-of-war high on the list.

⁹⁶ In primary documentation, *Pollack* is spelled with an "a", but in secondary records and databases it is sometimes spelled interchangeably with an "o", as in *Pollock*. In all cases, this refers to the same boat.

⁹⁷ From Commander Submarines, Pacific Fleet to Submarines, Pacific Fleet, 29 January 1942, Subject: U.S.S. POLLACK – War Patrol – Report of; Box 2796; World War II Submarine Combat Control Reports; Record Group (hereafter RG) 38 Records of the CNO – Translations of Intercepted Enemy Radio Traffic and Miscellaneous World War II Documentation, 1940-46 (hereafter, Crane Files); National Archives and Records Administration II (hereafter NARA II), College Park, MD, 1.

Pollack's patrol made an impressive seventeen contacts in Area Four, three of which were attacked. Moonlight had wreaked havoc on Moseley's approaches, and after his first two torpedoes fired at a small destroyer missed, he opted to avoid patrolling against destroyers in such brightness unless a perfect shot set-up arose.⁹⁸ This was not strictly in keeping with doctrine, for it sacrificed "any attack" for "the perfect attack"—doctrinal paradox still allowed the CO to make such decisions for boat safety, so Moseley was not actually in the wrong. Four days later, *Pollack's* first attack for the year 1942 was made against a freighter: its lone torpedo fired missed. Dive bombers drove the boat down following the miss, and unluckily for *Pollack*, the next day this anti-submarine duty would be taken up by a destroyer. Moseley would get no second chance on his freighter. His boat was held down between 1925 hours and 2029, and then the rest of the night there were only ever sampan contacts.⁹⁹

On 5 January 1942 *Pollack* made its third attack and scored its first success, as Moseley expended six torpedoes in a night surface attack. This was *six* torpedoes for a single merchantman—well more than what "Current Doctrine" had outlined as an acceptable salvo. Moseley explained in his patrol report that he felt that this was too many torpedoes for the target, but a communications problem had been the cause. From the bridge, as Moseley wrote, he "expected to hear or see signs of hits, but observing none, thought that all but last shot were misses. Below decks where hits were heard the type of target was unknown and it was thought that the Commanding Officer knew he

⁹⁸ Patrol Report, U.S.S. POLLACK First War Patrol, January 1942; World War II Submarine Combat Control Reports; Box 2796; RG 38; Crane Files; NARA II, College Park, MD, 3. Sampans were small craft, sometimes only powered by oars, with far too shallow a draught for torpedoes. See below for further discussion.

⁹⁹ *Ibid.*, 3-5.

was hitting.”¹⁰⁰ Due to the failure to disseminate information properly, Moseley ordered another three-torpedo salvo fired. Thus, *Pollack*’s success rate in this attack was a respectable 50 percent, but not achieved in a doctrinally-sanctioned way.

Two more successful attacks were made following Moseley’s first merchantman on the night of 5 January: first on 7 January against a steamer and second on a vaguely described “ship” two nights later. The former was a daylight periscope attack and the latter a night surface attack. Moseley was aggressively taking every offensive possibility, and save for his decision to bypass destroyers in the full moon, he did so regardless of the conditions and time of day. His periscope attack had one of two torpedoes hit, as he observed the target to sink by the bow afterwards; when inclement weather came up two hours and seventeen minutes later he could no longer see signs of the ship and assumed it was sunk. *Pollack* changed course and shortly before 0100 hours on 9 January the CO spotted a ship with dimmed, but still lit, running lights.¹⁰¹ This posed a problem for Moseley: it was the act of a friendly vessel to sail alit, as it was understood that in a time of war all enemy shipping would sail totally blacked out. Moseley revealed that “I did not believe any friendly ships would be in these waters and as she had the lines of a typical well deck Japanese freighter, decided to attack.”¹⁰² It took four torpedoes, two bow shots and two astern, to achieve one hit—but that was the decisive blow that cause the ship to sink from the stern. After firing another torpedo at a destroyer almost three hours later, *Pollack*’s patrol was done: no torpedoes remained.

Upon returning to base, Moseley wrote his patrol report. This was the American way—a collection of the notes and data taken during the sail was reconstituted into a

¹⁰⁰ Ibid., 5.

¹⁰¹ Ibid., 6.

¹⁰² Ibid.

post-mortem patrol report. It had the benefit of being more in-depth than the German *Kriegstagebücher* (KTB—or “war diary”), as the commander could embellish or downplay whatever he chose once returning to base and having time to ruminate about his boat’s goings-on (although Moseley was considered “over modest” in his, avoiding either extreme).¹⁰³ The patrol report’s increased degree of information over the KTB often painted a more vivid picture of the experience, but at the expense of sacrificing the less-biased realism of instantaneously recorded KTBs. One need only look to Moseley’s own report for a clear example of this, for it is debatable whether his six-torpedo salvo at one single merchantman would have been explained on the fly in a KTB.

After completion, *Pollack*’s first patrol report was circulated for endorsement by the Commander of Submarine Division (Comsubdiv) 43, Commander of Submarine Squadron (Comsubron) 4, and the Commander of Submarines, Pacific Fleet (Comsubpac).¹⁰⁴ These patrol evaluations fleshed out the true operational doctrine for submarines, based on these commanders’ criticisms and commendations; this was also the forum in which technical problems were vented and considered. Therefore, it was noted by F.A. Daubin, Comsubron 4, that a voice tube had been approved by Comsubpac and would be installed before *Pollack*’s next patrol—thereby remedying Moseley’s communications problem from 5 January that had resulted in twice as many torpedoes expended as needed.¹⁰⁵ Other than identifying some technical and materiel difficulties and their remedies, Daubin had only good things to say about *Pollack*, an opinion echoed

¹⁰³ Ibid., 15.

¹⁰⁴ The Comsubpac was Rear Admiral Thomas Withers from Pearl Harbor until May 1942, when he was replaced by R.H. English. English was killed when a Pan-Am flight he was on crashed into a California mountain on 20 January 1943; his successor was C.A. Lockwood, who remained at the post through the remainder of the war.

¹⁰⁵ Patrol Report, U.S.S. POLLACK First War Patrol, January 1942, 17.

by the Comsubdiv 43, Norman Ives: “There is much to be praised in the Commanding Officer’s conduct of this patrol. He was successful in an undertaking which not long ago was thought to be impracticable if not impossible.”¹⁰⁶ Ives was clearly impressed by the submarine’s performance—though his elation would not endure.

The final gauntlet was run before Rear Admiral Thomas Withers, the Comsubpac, who congratulated Moseley on an aggressive and energetic patrol. Analysis of the report earned Moseley a credited total of three merchantmen sunk, for 16,000 tons. Therein lay the rub, however. Doctrinal commendations, criticism and corrections were made on the basis of the patrol report and the assessment of ships sunk and damaged. Throughout the war it was always believed that *Pollack* scored three kills on its first patrol, and this number would have stood were it not for a fateful decision in 1943 that created a joint committee to assess enemy naval and merchant shipping losses during World War II. Skippers were encouraged to observe attacked ships as long as possible to get sufficient proof of a kill. Sometimes their claims were discounted by the commanders evaluating their reports, but the final word was had by the Joint Army-Navy Assessment Committee’s (JANAC) findings. *Japanese Naval and Merchant Shipping Losses During World War II by All Causes* was printed in 1947; while not infallible, it was a far cry from the inaccuracies of the wartime record. JANAC reduced Moseley’s kills by one, finding no substantiation to the claim of 5 January’s sinking. The other two held, but his tonnage total dropped to just 7,600. Withers’ tally was therefore incorrect, but his assessment of Moseley’s patrol was not. This still marked one of the more successful endeavours by boats operating in Empire Waters in the first year of the war.

¹⁰⁶ Ibid., 15.

Moseley's success and being spared criticism from above made his experience unique in the early patrols. He had a wealth of contacts and made good attacks. He neither lacked aggressiveness as a CO nor did he suffer from the gross torpedo failures so many of his brethren did. However, as one of the first patrols, there was no legacy he was striving to live up to and he was not labouring under any apprehensions. The war was still new—but some of the key issues of the American submarine war were already evident.

Geography posed a significant issue for U.S.N. submarines. The extent of Japanese influence spread far enough that after three groups of submarine patrols sailed from Manila in December 1941, that command had to be moved to Australia. Thus, from the beginning of 1942 onward, all American submarines were operating from Pearl Harbor as well as Fremantle and Brisbane, Australia. The Australian ports were even farther from Empire Waters than Pearl. The boats sailing to Japan's home waters therefore departed Pearl and sailed approximately 5,300 kilometres before reaching the 500-mile limit (800 kilometres), after which their patrols began. In good weather with calm seas and no distractions along the way, it was an almost two week sail from base to the patrol area, and another two weeks to return.

Pollack made the trip out in nineteen days and the return in twelve, leaving a total of only twelve days in the area. The patrol was broken off early because of torpedo expenditure, and marked the shortest of the seven patrols of December 1941. *Pollack's* voyage outbound was slowed by extremely inclement weather; a twelve to sixteen day transit window was more representative of the norm. *Pollack's* 41 days was the shortest patrol, 58 days was the longest for an average of 46.7 days round-trip from Pearl Harbor through Empire waters. While Moseley's boat had a shorter patrol, it still found itself

closer to the mean experience than those on the longer end. Nevertheless, until bases closer to Japanese waters could be seized, a 46-day patrol would only leave a submarine around fifteen to twenty days on station. This offered a new dimension to the rule of thirds Germany experienced in the Great War, showing that bringing USW to bear on the Japanese was clearly an enormous logistical undertaking.¹⁰⁷

Simplifying this situation was a matter of organisation. Areas needed to be defined to maximise effectiveness and limit the enormity of the undertaking, but also to keep American submarines out of each other's way for security purposes. This was conveyed through operational orders, and though there are no known copies of *Pollack's* orders, from the report it is clearly understood that Moseley was sent to Area Four, instructed to wage unrestricted submarine warfare, and to observe what anti-submarine warfare, if any, Japan was conducting.

The post-patrol endorsements show that Moseley did as ordered, successfully sinking what they believed were three merchantmen in Area Four—and making pithy observations on anti-submarine warfare (ASW). First, *Pollack's* CO noted that destroyers were patrolling, one of which was using echo-ranging equipment, but that was not radical news. It was to be expected that the Japanese would engage with technology in waters where the Americans were known to be deploying submarines. Additionally Moseley reported “numerous sampans (burning lights) ... these may be fishermen *but probably*

¹⁰⁷ The “Rule of Thirds” implied that of a submarine force, only one third was available for military conduct at any time. One third would be in transit to and from station, and the last third would be undergoing repairs, illustrating that a submarine force was a fraction of the strength it appeared to be on paper.

keep lookout also.”¹⁰⁸ It was not an absolute statement, but the issue of this “probability” would warrant mention in most patrol reports over the next four years of the war.

Sampanns would be a perpetual question mark for American submariners; these Asian fishing vessels varied from two-oared skiffs to 50 ton boats, though neither could be considered a worthy operational adversary for a fully armed and mechanised submarine. Nevertheless, their contribution to the Japanese war effort far outweighed their relatively benign appearance. In the SWW, some sampanns would be equipped with machine guns or other ordnance, but the biggest threat they posed was in reconnaissance. It was impossible to make out what nationality a sampan’s crew was from a distance, although an educated guess could be made based on the waters it sailed in. Nevertheless, a submarine skipper would be hard-pressed simply on sight to know whether a sampan was benign or working for the enemy. That could only be figured out with certainty by approaching the boat, and sometimes only by making direct contact with the crew. If the gamble lost and it turned out to be a Japanese sampan, after initial approach it was very likely that more life-threatening vessels and crafts would have already been contacted and an anti-submarine attack was looming.¹⁰⁹

What could an American submarine do in retaliation for sampan ASW? Very little: the U.S.S. *Gar*’s first patrol report showed the challenge these boats offered. In his comments on the patrol report, the Commander of Submarine Division 61, C.D. Edmunds, commented that,

undue importance is still being given to sampanns... in the detection of submarines, which denies our forces many possible contacts... In lieu of diving when sampanns are encountered in proceeding to assigned areas, it

¹⁰⁸ Patrol Report, U.S.S. POLLACK First War Patrol, January 1942, 11. Emphasis added.

¹⁰⁹ Ibid., 15.

appears that their destruction by the deck gun or by a machine gun from a surface condition would be a distinct advantage.¹¹⁰

This was an oft-repeated position at the divisional level, though at the next level of command, Comsubron 6, A.R. McCann, chose not to endorse that view and noted that “steps have been taken to provide some measure of protection against sampans and small patrol boats but this is a subject which deserves further study.”¹¹¹ Anti-sampan actions were limited to firing deck ordnance since the draught of the boats was too shallow for a torpedo, but if a submarine opted for a gun attack, that could only be done on the surface and fully visible to the sampan. Even if the submarine succeeded in sinking an enemy sampan, it did not mean that a contact report had not already been sent to Japan’s military forces.

A submarine ultimately had two choices when faced with sampan contacts: dive and remain unobserved (though this would often reduce the submarine’s attack possibilities), or go on a highly aggressive offensive, and hammer it with the deck guns. *Greenling* opted for that course of action on 21 October 1942, taking aim with the three-inch deck guns but scoring next to no hits. The crew had been instructed to close their eyes on firing but had not done so and was left temporarily blinded, hence the poor gunning. They still managed to kill the sampan’s crew, but the boat remained afloat until *Greenling* dropped two buckets of oil on the deck and lit it ablaze. Comsubdiv 42 congratulated the skipper on his choice of leaving the sampan a burning hulk, for “dead men tell no tales,” although it was admitted that “a fiercely burning sampan undoubtedly

¹¹⁰ Commander Submarine Division 61 to Commander Submarine Squadron 6, 29 March 1942, Subject: U.S.S. Gar (SS206) – First War Patrol – Report of; Box 2803; World War II Submarine Combat Control Reports; RG 38 Crane Files; NARA II, College Park, MD, 1.

¹¹¹ Commander Submarine Squadron 6 to Commander Submarines, Pacific Fleet, 30 March 1942, Subject: U.S.S. Gar (SS206) – First War Patrol – Report of; Box 2803; World War II Submarine Combat Control Reports; RG 38 Crane Files, n.p., (enclosure C); NARA II, College Park, MD.

attracted attention and may have led to [*Greenling*'s] discovery.”¹¹² In the end, there was no clear, singular policy for dealing with sampans. Instead, a climate of tolerance was created that allowed each submarine to deal as the skipper saw fit—though there was still a preference for wasting as little time as possible on these vessels. Option one, avoidance, was most preferable.

The sampan issue was sufficiently important to figure into command's operational thinking after the preliminary December 1941 patrols. Undoubtedly, *Pollack*'s experiences were reflected in Operational Order 11-42, which sent U.S.S. *Tuna* to sea on 24 January 1942. RAdm Withers signed off on these orders, stating that “fishing sampans apparently show lights, but caution must be exercised as this may not be true for all sampans, some of which are believed to be operated as anti-submarine vessels.”¹¹³ This fairly echoed Moseley's patrol report findings, and it was not the only place that his experience was reflected in operational orders. These did not change drastically from patrol to patrol in the first year of the war, but instead variations occurred along a sine wave, ebbing and flowing with the rhythm of the wider war. Clusters of submarines would therefore receive nearly identical orders, but as land was lost and won and the nature of the war shifted, so would the operational orders.

Patrol orders were not simply a matter of giving a skipper his directives; they also provided some of the most current information on what to expect in theatre and in terms of Japanese defences against submarines. In January 1942 *Tuna* was warned of air cover,

¹¹² Commander Submarine Division 42 to Commander Submarines, Pacific Fleet, 2 November 1942, Subject: U.S.S. GREENLING Third War Patrol; Box 2806; World War II Submarine Combat Control Reports; RG 38 Crane Files; NARA II, College Park, MD, 1 (Enclosure B). A similar instance took place in September when the U.S.S.

¹¹³ “Operation Order 11-42”, to Lt-Cmdr DeTar, One SS TUNA, 24 January 1942; Submarines, Pacific OpPlan Material, January 1942; Box 294; RG 38, Records of the Office of the CNO, Plans, Orders & Related Docs; NARA II, College Park, MD, 1.

but informed that whatever patrolling took place over home waters would not be intense.¹¹⁴ Two months later, in March 1942, *Grayling*'s orders reflected increased intensity, and by the end of April *Pollack* was warned that "considerable air strength is located in the JAPANESE HOMELAND," poised to bring its weight to bear on submarines in Empire waters.¹¹⁵ In May 1942 the Philippines fell and the American forces there withdrew to Java and then Australia, which freed up Japanese aircraft to return to bases in Japan for a variety of reasons, only one of which was to deal with the not-yet-too-menacing submarine menace. By July, the dust had settled on recent Japanese conquests and the Japanese had again relocated aircraft to strategic locations throughout the areas under their control. That included the Philippines, French Indochina (today Cambodia, Laos, and Vietnam), Malaya (Peninsular Malaysia), part of Burma, the Dutch East Indies, part of New Guinea, New Britain, Guam and Wake—as well as all former Japanese-held territory. This decreased the concentration of aircraft working directly in Empire Waters, but increased the chances that those submarines operating in other areas would be harassed by air.

Japanese forces became increasingly difficult to isolate until the tide turned in the Pacific War. Initially, in January 1942 *Tuna*'s operation orders had Japanese forces concentrated around the Philippines, Malay, Celebes, Rabaul, Truk-Palau, and the Marshalls-Gilberts.¹¹⁶ However, by March RAdm Withers had to acknowledge that "the

¹¹⁴ Ibid.

¹¹⁵ "Operation Order 27-42", to Lt-Comdr Olsen, One SS GRAYLING, 22 March 1942; Submarines, Pacific OpPlan Material, March 1942; Box 294; RG 38, Records of the Office of the CNO, Plans, Orders & Related Docs; NARA II, College Park, MD, 1; "Operation Order 45-42", to Lt-Comdr Moseley, One SS POLLACK, 26 April 1942; Submarines, Pacific OpPlan Material, April 1942; Box 294; RG 38, Records of the Office of the CNO, Plans, Orders & Related Docs; NARA II, College Park, MD, 1.

¹¹⁶ "Operation Order 11-42", to Lt-Comdr. DeTar, One SS TUNA, 1.

exact disposition of the Japanese Fleet is not known.”¹¹⁷ Thereafter, the locations of men-of-war remained in the realm of uncertainty. Japanese submarines were said to be operating around Oahu and Midway by April, but nothing was definitively known until May, when Lieutenant Royal R. Rutter of *Dolphin* was warned that

a JAPANESE invasion force, consisting of many transports and a balanced force of BB's, CV's, AV's, CA's, CL's, DD's and SS's, is operating in the vicinity of NEW GUINEA. It is believed that this force is supported by the JAPANESE base at TRUK and that any injured units will retire to TRUK, which is the only large protected JAPANESE base in the immediate vicinity.¹¹⁸

The fleet might have been difficult to pin down, but one sure place where Japanese submarines came to be found by the end of 1942 was astern of their convoys. The Japanese had caught on to American tactics enough to begin operating one or more of their own submarines this way to draw off whatever American submarines were trailing the convoy, though this did not prove to be overly effective.¹¹⁹ Otherwise, it remained a matter of patrolling vigilantly and thoroughly to locate any and all Japanese shipping.

Inasmuch as energy was certainly spent locating the fleet, the submarine service was still engaged in *guerre de course*, valuing merchant shipping targets as much as men-of-war. To ensure there would be no qualms about sinking these non-warships, however, clear directives were given—such as those in the orders to *Tuna* in January 1942 and to *Haddock* in December 1942, which stated plainly that “it is expected that all JAPANESE

¹¹⁷ “Operation Order 27-42”, to Lt-Comdr. Olsen, One SS GRAYLING, 22 March 1942, 1.

¹¹⁸ “Operation Order 28-42” to Lt-Comdr. Rice, One SS DRUM, 29 March 1942; Submarines, Pacific OpPlan Material, March 1942; Box 294; RG 38, Records of the Office of the CNO, Plans, Orders & Related Docs; NARA II, College Park, MD, 1; “Operation Order “Operation Order 50-42” to Lieutenant Rutter, One SS DOLPHIN, 8 May 1942; Submarines, Pacific OpPlan Material, May 1942; Box 295; RG 38, Records of the Office of the CNO, Plans, Orders & Related Docs; NARA II, College Park, MD, 1. To put the hull designations referred to into proper English: BBs are battleships, CVs are aircraft carriers, AVs are seaplane tenders, CLs are light cruisers, DDs are destroyers, and SSs are submarines.

¹¹⁹ “Operation Order 116-42” to LtComdr. Taylor, One SS HADDOCK, 26 December 1942; Submarines, Pacific OpPlan Material, December 1942; Box 295; RG 38, Records of the Office of the CNO, Plans, Orders & Related Docs; NARA II, College Park, MD, 1.

merchantmen will be armed or will be operating under Naval Control.”¹²⁰ This was as unsubstantiated in the beginning of the war as it had been in the interwar period when it had figured into war plans, but was nevertheless one more reason for submarine skippers not to fret about sinking civilian ships—if another reason was needed after Pearl Harbor. The broad, catch-all approach to merchant vessel targeting was encapsulated in the explanation that these vessels had been reported “as burning both bright and dimmed running lights; [although] some run darkened.”¹²¹ Everything was a worthy target. Nothing in the orders pertaining to USW was drastically new or different from what was anticipated in interwar period plans.

Contradictions were found not only in American submarine doctrine, for after the emphasis on clearly spelling out to skippers what sorts of targets they were looking for, the actual statement that USW was to be conducted was not mentioned in orders until the second of two pages. Even then, it was hidden away in point 3 as the subordinate clause to a greater directive: “3 (5) Attack enemy forces encountered, including merchant shipping.”¹²² Suggestions and allusions coloured page one of the orders, but the *actual* order was simply embedded among the security-minded instructions that included the dates to sail and return, when and where to refuel, and what lanes to steam through coming and going from Pearl.¹²³ Was USW really so mundane?

In each case, the clear directive to wage war on merchant shipping followed point 2, which stipulated the “offensive patrol” area while it would also “furnish intelligence of major enemy movements which this can be accomplished [*sic*] without jeopardy to the

¹²⁰ “Operation Order 27-42”, to Lt-Comdr. Olsen, One SS GRAYLING, 22 March 1942, 1.

¹²¹ Ibid.

¹²² “Operation Order 11-42”, to Lt-Comdr. DeTar, One SS TUNA, 24 January 1942, 2.

¹²³ Ibid.

primary task.”¹²⁴ Thus, it was not the American submarines’ primary mission to wage unrestricted submarine warfare; that fell after offensive patrol and “furnishing intelligence.” Only embedded within the main clause of their orders did “Attack enemy forces encountered” appear, specifying merchant shipping.¹²⁵ The American submarine war therefore reflected the interwar Fleet Problems and plans that had called for submarine attacks on men-of-war; it thus became that attacking *any* shipping overruled attacking just *merchant* shipping in operational orders.

Appended to these patrol-specific though oft-repeated orders were “General Instructions for Patrol”—or “Annex B”. These gave way to “Standard Patrol Instructions” by July 1942, and provided the fundamental guidelines behind all submarine operational orders, including some revised points of doctrine as the war dictated. These instructions were regularly updated, although the main points remained virtually the same as procedure was revised and tweaked. The “General Instructions” mimicked “Current Doctrine, Submarines” in setting out some of the more basic patrol instructions, but also continued to emphasise that USW was not the primary objective. For example, in point 3 it was plainly stated that a submarine was to:

Press home all attacks. Do not be shaken off. Make sure that torpedoed vessel sinks. Use surface speed to get in position for attack when not initially in good position. Trail heavily escorted convoys and attack at night if day attack is not possible. The sinking of JAPANESE merchant ships, *next to sinking combatant ships*, is highly important in winning this war. The material they are carrying and the ships themselves are both very vital to the JAPANESE.¹²⁶

¹²⁴ Ibid., 1. By March 1942, the word “intelligence” in this order was replaced by “information.”

¹²⁵ Ibid., 2.

¹²⁶ “General Instructions for Patrol, ANNEX ‘B’ TO COMTASKFOR SEVEN OPERATIONAL ORDER No. 26 42”; appended to “Operational Order 26-42” to Lt-Comdr. Fenno, One SS TROUT, 22 March 1942; Submarines, Pacific OpPlan Material, March 1942; Box 295; RG 38, Records of the Office of the CNO, Plans, Orders & Related Docs; NARA II, College Park, MD, 1. Emphasis added.

In the very next breath, however, “*UNRESTRICTED* submarine and aerial warfare has been prescribed by the Chief of Naval Operations in the PACIFIC.”¹²⁷ The presence of this statement is puzzling at this point. The skipper who received this annex to his operational orders would have already been instructed to wage unrestricted war in the orders, both explicitly and implicitly, making this point redundant. However, its presence hints at the unease some would have felt in waging this illegal warfare, reinforcing that the responsibility for it lay entirely with Harold R. Stark, the CNO.

When the “General Instructions for Patrol” were replaced by the “Standard Patrol Instruction” (SPI), an even bigger doctrinal role was taken up. The SPI referred to Subpac Bulletin 25 (“Current Doctrine”) as the “General Instructions” had, but distanced itself from “Current Doctrine” by explaining that “the doctrine expressed [in “Current Doctrine”] was developed from peacetime experiences. Patrol reports indicate what changes are probably necessary to this doctrine.”¹²⁸ Indeed, after this had been introduced into the SPI, the CO of *Whale*, Lt-Comdr J.B. Azer recorded that he experienced problems with the gradient and had difficulty maintaining a shallower depth in one area—“also experienced by the SILVERSIDES while patrolling this area”.¹²⁹ This brief reference earned the comment by Comsubdiv 42 that

it is most gratifying to note that the commanding officer recognized several developments of the patrol as having been previously experienced by other

¹²⁷ Ibid.

¹²⁸ “Standard Patrol Instructions” annexed to “Operational Order 91-42” to LtComdr. Azer, One SS WHALE, 7 October 1942; Submarines, Pacific OpPlan Material, October 1942; Box 295; RG 38, Records of the Office of the CNO, Plans, Orders & Related Docs; NARA II, College Park, MD, Enclosure B, 1.

¹²⁹ From Commanding Officers to the Commander Submarine Force, Pacific Fleet. Subject: U.S.S. Whale – Report of First War Patrol, 10 November 1942; Box 2816; World War II Submarine Combat Control Reports; RG 38 Crane Files; NARA II, College Park, MD, 8.

vessels and it indicates a thorough preparation on his part by studying patrol reports and discussing experiences with other commanding officers.¹³⁰

That same month, November 1942, a new point was introduced into operational orders, stipulating that “the best information available on conditions, including anti-submarine measures, in patrol areas is contained in submarine patrol reports of previous patrols in area. A copy of the digest for the area assigned will be furnished you.”¹³¹ Doctrine thus re-developed out of war experience, and offered skippers another source of guidance as they headed out on patrol: other patrol reports were added to pre-war doctrine, “General Instructions” or “Standard Patrol Instructions” and operational orders. The American submarine war was learning from its own experience, if not from that of others.

The SPI also expanded on its precursor by issuing instructions to be both more offensive and yet limited. COs were told in point 9 that “attacks shall be made on all unidentifiable vessels in enemy waters if there is reasonable presumption they are enemy unless otherwise directed,” only to have that followed by point 10: “do not attack hospital ships complying with the 1907 Geneva Convention or other specially exempted vessels such as those carrying diplomats”.¹³² This paradoxical message was supported with a list of known Japanese hospital ships, details about their sizes and silhouettes, and a description of their legally-mandated colourings. However, this remained a mixed message, for the submarine skipper was told in one breath that, when in doubt the answer

¹³⁰ From Commander Submarine Division FORTY-TWO to Commander Submarine Force, Pacific Fleet, 16 November 1942, Subject: U.S.S. WHALE Report of First War Patrol; Box 2816; World War II Submarine Combat Control Reports; RG 38, Crane Files; NARA II, College Park, MD, Enclosure A, n.p.

¹³¹ “Operation Order 101-42” to LtComdr. Peterson, One SS SUNFISH, 21 November 1942; Submarines, Pacific OpPlan Material, November 1942; Box 295; RG 38, Records of the Office of the CNO, Plans, Orders & Related Docs; NARA II, College Park, MD, 1.

¹³² “Standard Patrol Instructions” annexed to “Operational Order 91-42” to LtComdr. Azer, One SS WHALE, 7 October 1942; 2.

was to attack, and then in the next breath to be sure that did not include ten particular ships. This superficial escalation of aggressiveness thus came with a major caveat; there were restrictions on “unrestricted” submarine warfare.

Conclusion

Germany and the United States went into their wars with doctrinal guidance, but neither began in the way their navies thought they would. Germany expected USW and wolf packs, and instead had prize laws and lone wolves. The United States expected fleet support and ended up with USW. This does not mean that all was lost, for the guidelines and rules established for each side still had a function as the wars began. It remained to be seen how much of a role these rules and guidelines would play in the long run, as each side suffered setbacks and made advances, and responded to what the enemy had in store. Chapters 5 and 6 illustrate the way that USW would evolve, to defeat on the one hand and victory on the other. Would American caution give way to greater aggression? Would German “attack at (almost) all costs” doctrine become more concerned with self-preservation? Essentially, it remained to be seen what changes would be made to address what worked and what did not, and only then could conclusions about the nature and character of USW be defined.

Chapter Five:

“Unlimited” Submarine Warfare with Limited Tactics:
Dönitz’s Deployments and Devastating Defeats

The submarine war will in the end decide the outcome of the war.

Karl Dönitz, May 1942

The tactical side of Germany’s Battle of the Atlantic has been examined and re-examined by historians and other “interested parties” virtually since the war was lost. This has yielded answers to many questions, possibly including “is there a need for *another* look at the German U-boat war?”¹ While a resounding “no” is likely on the lips of those perusing shelves of neighbourhood bookstores, this answer fails to address one thing: much of the existing work has focused primarily on picking apart U-boats at a *tactical level*. Tactics are not strategy, and a study of tactics alone yields nothing decisive about the nature of Karl Dönitz’s war. It is a matter of moving the pawns on the chessboard, but not a way to checkmate.

Even on the pages of this study it is acknowledged that Dönitz went to war with some of the best tactics in the world at the time—a fact that can be overshadowed by the end result of Germany’s defeat, but that remains celebrated by the massive U-boat following. Many who laud Dönitz as the best tactician also absolve him of blame for the “inevitable” results, as it is easily believed that Germany simply could not overcome the combined Allied forces against him in the Atlantic. An evaluation of U-boat *strategy* offers a different conclusion, and places the blame for German losses where it belongs: at Karl Dönitz’s feet.

¹ Axel Niestlé asked much the same question in his *German U-boat Losses During World War II: Details of Destruction*, (London: Greenhill Books, 1998)—and that was almost a decade ago.

Perfect tactics and poor strategy are as unlikely to win a war as a solid strategy and weak tactics. A war must be fought to its end goals to be won, but equally must a war *have* bigger goals for belligerents to strive for tactically. Dönitz may have been tactically skilled, though he himself pointed out that there were those who came before him who also envisaged his “wolf packs.” On a strategic level, however, his prowess was significantly less. Ultimately, the only truly sound strategic decision he ever made was actually a *grand* strategic decision when, as the last Führer, he sued the Allies for peace in May 1945.

The road to capitulation was long, and along the way the U-boat arm scored some significant successes against the enemy, although in the end Germany lost more than it won. This chapter examines the process of how some of Dönitz’s best ideas (the wolf packs) peaked and then waned, were re-organised and re-tasked, yet by the middle of the fourth year of war, were unable to do anything more than to die *mit Ehre*, with honour, and utter futility.

The first wolf pack that never was was meant to be made up of nine boats in October 1939. Ear-marked for participation were: *U-37*, *U-25*, *U-34*, *U-40*, *U-42*, *U-45*, *U-46*, *U-47* and *U-48*. It was a lacklustre beginning, for *U-47* was pulled from the list before it even set sail;² *U-25* and *U-34* were in repairs and not able to sail until too late; *U-40*, *U-42* and *U-45* were sunk sailing to the rendezvous; leaving three boats for the “group,” *U-37*, *U-46*, and *U-48*. This simply would not do.³ Some sources report that

² This operation sent *Kaleu* Günther Prien’s *U-47* to Scapa Flow where it famously sunk H.M.S. *Royal Oak*, a British battleship believed to be safely moored at the anchorage. Prien did not survive the war, but his book *I Sank the Royal Oak* (London: Gray’s Inn Press, 1954), translated from *Mein Weg nach Scapa Flow*, (Berlin: Im Deutsche Verlag, 1940) was published before his fateful final sail, and remains available.

³ Jak P. Mallmann-Showell, *U-boat Warfare: the Evolution of the Wolf Pack*, (Annapolis, MD: Naval Institute Press, 2002), 16-7.

Dönitz made another abortive try in November 1939, attempting to send four boats against convoy KS-27, operating to Key West South, Florida.⁴ Again, the attempt was foiled and it would take at least another six months before properly massed groups could be formed.⁵

The transition from theory to game to accepted practice was smoother than one might imagine. *Rösing* was one of the first groups put to sea when the problem of insufficient boat numbers began to be sufficiently remedied to field a wolf pack, operating from 12 to 15 June 1940. Its goal was Convoy US-3, but it was wildly unsuccessful against the intended target. Equally, running parallel to *Rösing*, was Günther's Prien's Group *Prien*, both of which fell within what Germany has referred to as its "first happy time". This period was so-named for the seeming turkey-shoot that the U-boats engaged in, scoring the first string of grouped successes in a war dominated by wolf-pack action.

That triumphal period is where this chapter picks up. U-boat group tactics were considered successful almost immediately after sufficient numbers were made available, and to further analyse this period of success, Group Prien is Case One. This wolf pack action took place in June 1940, when ten months of the war had already passed, representing one of two exceptional peaks in German U-boat efficiency studied here.

⁴ At <http://uboat.net/ops/wolfpacks/1940.htm> [last accessed 20 July 2007], this second attempt at group tactics is noted, but it is not corroborated in Karl Dönitz's *Memoirs: Ten Years and Twenty Days*, Fwd. by John Toland, Intro. and Aftw. by Jürgen Rohwer, Trans. by R.H. Stevens with David Woodward, 1958 (Cambridge, MA: Da Capo Press, 1997); neither is it mentioned in Clay Blair's *Hitler's U-boat War: The Hunters, 1939-1942*, 1996 (New York: Modern Library, 2000); the official history *Germany and the Second World War*, 7 vols., Ewald Osers Translation editor (Oxford: Clarendon Press, 2003); Jak P. Mallmann-Showell's *U-boat Warfare*; nor Michael Salewski's *Die deutsche Seekriegsleitung 1935-1945*, 3 vols. (Frankfurt am Main: Bernard & Graefe Verlag für Wehrwesen, 1970). This is not to disprove uboat.net's statement, but merely to suggest that archival clarification would strengthen the claim.

⁵ Mallmann Showell also lists, in *U-boat Warfare*, two early packs between the 1939 abortive attempts and *Prien/Rösing* of 1940, taking place in March 1940. No names were provided, and further details were not forthcoming. See p. 144.

During the “First Happy Time” the U-boats picked off their targets and scored tonnage kills that worried the British, who, outside of escorted convoys and early ASDIC, had not yet come to terms with what was happening in the North Atlantic.⁶ In the months following Case One, Germany’s success rate declined and the U-boat war was imbued by stagnation until the fateful Japanese attack on Pearl Harbor brought the United States into the SWW.

President Franklin D. Roosevelt only declared war on Japan for its unprovoked aggression. Soon after, Hitler strangely declared war on the United States: Britain had a major ally for the Battle of the Atlantic. However, the Americans were slower to get war-ready on the east coast than they ought to have been. The “American way of war” had always had the United States find its own ways and means instead of learning from those around them. They were tragically slow in ordering the east coast blacked out at night, so that the shipping running north and south along the coast would always be silhouetted by a brilliant aura of artificial lighting.

The hunt for these easy pickings makes up Case Two, the U-boats’ “second happy time.” This case is the odd-ball, for it is the only instance where group tactics were not employed. Instead, this was “operation” *Paukenschlag*, or Drumbeat. Contacts came so fast and thick that success was possible even without a group, which was fortunate since a difference in opinion about operational priorities existed between the Commander U-boats and the Commander-in-Chief Navy. No packs would have been possible, even if the situation demanded it. This was irrelevant, and individual boats did their duty with

⁶ ASDIC is “Allied Submarine Detection Investigation Committee”, the earliest vestiges of an underwater listening system designed by Britain, allowed a ship-borne device to send out auditory “pings” that would echo back to the ship and (ideally) provide bearings for underwater targets. It was the precursor to American SONAR (Sound Navigation And Ranging).

brio. Since the later cases in this study examine times when the U-boats could do little to overcome enemy strength under their existing strategic mandate, Case Two provides a foil. The opposite situation existed, in a sense, for this time the *Allies* were cowed by enemy strength—although it was not a case of their being unable to do better, but instead, as yet unwilling.

Cases Three through Five are separated by just six months. In spite of the short span of time these proved to be the most pivotal months in the Atlantic war. Outwardly, Case Three was the greatest convoy battle ever, as the wolf packs *Stürmer*, *Dränger* and *Raubgraf* (Daredevil, Harrier and Robber-Baron, respectively) converged on the convoys HX229 and SC122 in March 1943.⁷ Germany emerged the victor and appeared to have the Atlantic war firmly in hand, though certain situations that allowed that would soon be changed in the Allies' favour. A symbol of this fact is that Case Four occurred just two months later when a massive assembly of U-boats in groups *Fink* (Finch) and *Amsel* (Blackbird) gathered again to feast, but instead were slaughtered in the Black Month of May 1943. Never again would U-boats be killed in such numbers in a single month; Dönitz was so alarmed by the carnage that he withdrew his boats from the North Atlantic until they had something new to offer. That time came, the *Befehlshaber der Unterseeboote* (BdU, the Commander-in-Chief Submarines) believed, in September of that same year. Once more the U-boats sortied towards the Atlantic run, as the boats of group *Leuthen* (a Silesian town, site of a mythological battle in 1757 where Frederick the Great defeated the Austrians who greatly outnumbered him) were laid to rest repeatedly

⁷ The word “outwardly” is intentionally used here, and in the discussion of Case Three it will be further scrutinised.

at the bottom of the Bay of Biscay. The tide had turned, and even if Dönitz was not ready to give up the fight, the Battle of the Atlantic was lost.

Part One:

Case One: The “First Happy Time”⁸

Ten months of the war had already passed when Günther Prien’s group took to the North Atlantic approaches into hunt convoy HX 48 in June 1940.⁹ During that time, Dönitz’s grey wolves had not been uniformly successful. In fact, at times they had performed downright dismally, in the opinion of Commander, U-boats. He did not put the onus for this on his *Kaleus* in particular because for other nefarious forces were at work. One was significant enough to trump them all: torpedo failure.¹⁰ In spite of the known defects and before the matter was entirely resolved, Case One began along with a period known for great U-boat success: the “first happy time”.

Dönitz was not the supreme commander at the outbreak of war; he was a captain and commodore, and the master of a small operational control department with a more powerful sounding title: “Commander-in-Chief U-boats”. However, his authority was not strong enough to overrule what the U-boat Division of the Supreme Naval Command

⁸ The boats included in this group (and their skippers) are: *U-28* (Kuhnke), *U-32* (Jenisch), *U-30* (Lemp), *U-51* (Knorr), *U-47* (Prien), and *U-38* (Liebe).

⁹ Convoy names were indicative of where to and from it was sailing. HX, for example was coming from Halifax, as was SC—a slow Sydney, Nova Scotia originating convoy. ONS and ON were “Outbound North (slow)” and “Outbound North”, departing the British Isles for North America.

¹⁰ Dönitz’s Appendix 3 in *Memoirs* is comprised of a Memorandum about the Inquiry into the causes of torpedo failures, 9 February 1942. Dönitz follows it with the explanation that “it is not possible to compile statistics to show the extent to which technical failures were responsible for non-success from the outbreak of war up to the conclusion of the Norwegian operations. It suffices, however, to say that failures during the first eight months of hostilities were double, and in some cases three times as great as, the average number to be expected of weapons in war.” Dönitz then took responsibility for the failures because they resulted from negligence in development testing, and included a list of the conclusions the Court Martial reached, signed by Raeder. See Dönitz, *Memoirs*, 482-5. This is in addition to his chapter 7, “The Norwegian Operation and the Torpedo Crisis”, 75-99.

wanted,¹¹ and he had had little choice but to allow his boats to take part in a series of special operations at the beginning of the war.¹² They did so without achieving what Dönitz believed his boats were capable of. One such diversion was made in April 1940 as U-boats were sent north to support the Norwegian invasion in Operation *Weserübung* (Weser Exercise). Clay Blair calculated that 48 boats were operational at that time—even fewer than Germany had started the war with—and virtually the entire fleet was focused on the invasion or in waiting positions not far from Norwegian waters, ready to take part if the call came.¹³ The U-boats were *not* operating against merchantmen in this engagement, but targeting men-of-war. Their success rate in this endeavour was low as torpedo problems quite obviously bankrupted a staggering number of attacks.

It was a less obvious conclusion at the time, but the *Kriegsmarine's* convoy-hunting U-boats were simply unable to perform well against fast-moving military targets. Virtually all attacks on enemy forces brought numerous destroyers to bear on the submarines, forcing them down and rarely allowing repeated attempts on the same targets. The U-boats' experience showed that their tried-and-true *guerre de course* tactics could not be so effectively applied against men-of-war, and thus the Norwegian deviation was a costly distraction, providing the Allies with weeks of free passage across the North Atlantic. The U-boat campaign in *Weserübung* was riddled with failure, and the butcher's

¹¹ Jak P. Mallmann Showell in the foreword of *Fuehrer Conferences on Naval Affairs 1939-1945*, (Annapolis, MD: Naval Institute Press, 1990), ix.

¹² Werner Rahn, 7 vols., Ewald Osers trans. ed., *Militärgeschichtliches Forschungsamt eds., Germany and the Second World War*, (Oxford: Oxford Clarendon Press, 1994), VI: 326. Raeder and the OKM wanted to employ *all* means of naval warfare, Dönitz wanted a concentration of U-boats in the North Atlantic. Raeder outranked Dönitz, and until he relinquished his post on 30 January, 1943—the ten year anniversary of Hitler's "seizure of power," Raeder's visions naturally ruled.

¹³ Blair, *Hitler's U-boat War: The Hunters, 1939-1942*, 148.

bill at the end was a total of four ships sunk, three by the “ducks,” the small coastal and support U-boats, and only one by an ocean-going boat (Type VII, mid-sized).¹⁴

The torpedo issue allowed Dönitz to overlook the doctrinal holes that had affected his boats, and BdU zeroed in on the ordnance issue with considerable concern. The pitiful display in Norway had forbidden even the “hero of Scapa Flow,” Günther Prien, a hit on several stationary targets—not once, but *eight* different times. Some of his “eels” had been fitted with magnetic pistols, some with contact pistols, and the equal failure between the two types proved that something was seriously wrong with ordnance. “Faith in the torpedo had been completely lost,” Dönitz bemoaned;¹⁵ he reckoned that up to 20 Allied capital ships had been saved by faulty torpedoes. The initial remedy was to disable the magnetic exploder, which he considered too complicated anyway. This did not immediately solve the problem, though, because impact pistols also proved grossly flawed, a fact that Dönitz placed squarely at the feet of the inadequacy of peacetime testing that had failed to bring these faults to light.¹⁶ Germany found a fortuitous solution to this problem by capturing a Royal Navy vessel. The mine-laying submarine HMS *Seal* was seized and towed to Germany, where upon inspection it was found to be carrying twelve contact-pistol torpedoes of a notably sound design. Not one to let this opportunity slip away, the *Kriegsmarine* copied the design and solved its pistol problems in much the same way that some of the best advances in military arts and sciences are made: by borrowing from an enemy’s innovations.¹⁷

¹⁴ Ibid., 156.

¹⁵ Ibid., 159.

¹⁶ Appendix 3 of *Memoirs* clarifies that the failure of peacetime testing was Dönitz’s own fault and he blamed himself. See Dönitz, *Memoirs*, 483. See also Dönitz’s notes of a conversation he had with Prof. Cornelius, in charge of solving the torpedo problem, of 15 May 1940 in RM 7 N236 Nachlaß Dönitz, 1F/FC 1330 N; BA/MA, Freiburg i. Br.

¹⁷ Blair, *Hitler’s U-boat War: The Hunters, 1939-1942*, 160.

This improvement was immediate, but did not address all the flaws in German torpedo design. Depth-keeping issues also plagued torpedoes, and would linger for several more years until the culprit—a flaw in the hydrostatic valve—was resolved. Clearly, the fate of the U-boat war did not rest singularly on torpedoes, for before the depth-keeping problems were fully resolved, the *Kriegsmarine* experienced two of its “happy times” in which significant numbers of merchantmen were sunk.

On 12 June *B-Dienst* received “very good information” that convoy HX 48 was sailing at eight to nine knots and now was due to pass through quadrant BE 6342 at 0630 on 17 June 1940.¹⁸ Dönitz considered that the intelligence was so exact that it demanded all available boats be despatched to deal with the convoy. For this end Group *Prien* was assembled around Günther Prien’s *U-47*. Prien was appointed the tactical leader should such a role need to be filled. Pre-departure orders deployed this group in a line, the boats 80 to 90 kilometres apart, in expectation that the enemy would filter through it by mid-day on 16 June. If no contact was made by then, the pack was under orders to narrow their search line within the area.¹⁹

At the same time as Prien’s pack was sent out to find HX 48, the other “first” wolf pack named *Rösing* was ordered to intercept Convoy US 3, as mentioned above.²⁰ That convoy was comprised of *Queen Mary* and two large passenger ships carrying 26,000 ANZAC troops, and a heavy escort of HMS *Hood*, an aircraft carrier and several cruisers,

¹⁸ Entry of 12.6.1940, “Kriegstagebuch des Führers der Unterseeboote (Seekriegsleitung)”; RM 7 N236 Nachlaß Dönitz, 1F/FC 1330 N; BA/MA, Freiburg, 39.

¹⁹ *Ibid.*, 39–40.

²⁰ These groups were organised and issued orders on 12 June 1940, as Dönitz recorded in his KTB. Thus, there is no single “first” wolfpack, as the groups Prien and *Rösing* share the honour.

deployed with parallel instruction and orders like those of *Gruppe Prien*.²¹ On 13 June both were ordered to maintain radio silence, and, until their respective convoys were located, to carry out attacks “only on valuable targets.”²²

Günther Prien found himself a very “valuable target” as the boats made their way into the eastern edge of the Atlantic Ocean. Early in the morning of 14 June *U-47* was sailing through quadrant BE 3344 and observed a steamer. The contact was solid and Prien decided to attack, preparing two eels that would not be fired: the target zigged before he had the chance to take his shot. Exasperated, *U-47* surfaced to deal with the target through artillery, but before a shell could be fired several other steamers came into view on the misty morning. *U-47* dived quickly in response; Prien had come upon what he reckoned was a 46-ship convoy escorted by five destroyers, sailing further south than that first steamer he had encountered that morning. He was ready for action, firing his first shot from 3000 metres away—a miss! That was “complete nonsense,” Prien recorded, and he vowed to fire again with a smaller angle and range.²³

U-47 took advantage of the lull in action to radio back to BdU about this large, westward-sailing convoy, found southwest of Ireland. Immediately, Dönitz scrambled to marshal a concentration, sending *U-38* to the position. It became increasingly clear that some members of Group Prien were unlikely, given the circumstances, to be able to get to the meeting point on 16 June for HX 48 if they were diverted. The draw of immediate attack possibilities was too much, though, and the lone-operating *U-52* radioed in asking

²¹ Entry of 12.6.1940, “Kriegstagebuch des Führers der Unterseeboote (Seekriegsleitung)”; RM 7 N236 Nachlaß Dönitz, 1F/FC 1330 N; BA/MA, Freiburg, 39. ANZAC is Australia and New Zealand Army Corps, originating from the First World War but now often used interchangeably.

²² *Ibid.*, 40.

²³ 14.6.1940/0400-0641; U 98/128 “Kriegstagebuch des Unterseebootes U 38” 19. August 1939 – 20. November 1941; BA/MA, Freiburg.

if it would be able to reach the attack area as well. BdU thought otherwise, but he permitted *U-30* to join in the hunt off southwest Ireland.²⁴ Prien had come across such a valuable target that it appeared to be worth potentially weakening future action against convoy HX 48. “Weakening” was tolerated as it would not derail the intended convoy battle, for the majority of the pack had *not* been redeployed to hunt the new targets.

Kaleu Heinrich Liebe in *U-38* received word of Prien’s convoy at 0945 on 14 June, and the order to attack followed 46 minutes later. He was put off course just as he began heading for the area, however, because a fishing boat nearby forced the U-boat to change its course to avoid detection, sailing to the east around the boat before it could head west to meet the convoy. By noon, Liebe could already see several clouds of smoke on the horizon. An hour after that he had a contact in sight, though it would take almost five more hours to achieve an attack position. Liebe dove and fired one stern shot at the Greek steamer *Mount Myrto*, but the ship stopped and manoeuvred between the time the torpedo was fired and its expected detonation: *Kaleu* Liebe was foiled. He did not give up, though, and surfaced to begin firing artillery shells from his 10.5cm deck gun. A sudden alarm forced *U-38* to break off the attack, losing six men overboard in the process. One ten-minute swim later, they were all picked up none the worse for wear. In the meantime, *Mount Myrto* stopped and the crew abandoned ship. Liebe recorded that even with 53 shots fired and many hits, the ship would not sink, so at 1925 he took his boat down once more to periscope depth to fire the *coup de grâce*—but the stubborn ship proved unsinkable. The culprit was the cargo of wood that kept *Mount Myrto* buoyant, but Liebe figured that it was too far gone to be considered anything other than destroyed.

²⁴ Entry of 12.6.1940, “Kriegstagebuch des Führers der Unterseeboote (Seekriegsleitung)”; 40.

This was the first casualty caused by group Prien's patrol—a lone-sailing, wood-carrying steamer, dispatched almost entirely by gunfire.²⁵

While Liebe was engaged with his ship, Prien spotted a contact that turned out to be a fishing boat—a non-valuable target utterly unworthy of a torpedo—though determining its character delayed him long enough for *U-47* to lose contact with the convoy. The ever-expressive Prien spat out “it makes me sick!” and, as he dove from an airplane, he decided to give up on the target since it would certainly force him to miss out on HX 48.²⁶

The convoy would not abide by Prien's decision to forfeit further attacks, however, and not even ten minutes later he found himself in contact with one of its steamers. Prien changed his mind and again went over to the attack. At 1944 *U-47*'s torpedo struck the armed *Balmoralwood* amidships, nineteen minutes after Liebe had chalked up the group's first success; two hours later, Prien could claim his first confirmed sinking for his pack, as he continued westward to the meeting point.²⁷

The reckoning came the next day at 1600 hours, however. Dönitz contacted *U-47* and -38 to find out if they would be in position for HX 48, or if the rest of the pack would be left to operate without the tactical leader. Both U-boats confirmed they would be there, and BdU informed the whole pack that if no contact had been made by 0500 on 17 June,

²⁵ 14.6.1940/0945-1925; RM 98/90 “Kriegstagebuch des Unterseebootes U 38” 19. August 1939 – 20. November 1941“; BA/MA, Freiburg.

²⁶ 14.6.1940/1514-1832; “Kriegstagebuch des Unterseebootes U 38” 19. August 1939 – 20. November 1941.

²⁷ 14.6.1940/19-44-35; “Kriegstagebuch des Unterseebootes U 38” 19. August 1939 – 20. November 1941. *U-30*, which was also sent to hunt Prien's convoy, contacted nothing and attacked nothing, but made its way to the meeting point.

they were to redeploy in a shorter line through quadrant BE, to await further the westward-sailing convoy.²⁸

Prien, Liebe and Lemp had not been alone in finding contacts prior to their expected convoy. The remaining boats in the pack also spotted traffic regularly, even frequently, but no contact was considered “valuable” enough to launch an attack. Others were not viable, for “unrestricted” submarine warfare in the Atlantic had a relatively high number of restrictions. Orders prohibited attacking fishing boats, which accounted for a fair share of the overall contacts made off the coast of Ireland. They were too trifling to be worthy of the expenditure of time and resources, though they could become problematic if found to be performing surveillance for the Royal Navy. They could also make themselves worthy targets by bearing arms, however, just as one had during *U-28*’s Prien group patrol. *Kaleu* Günter Kuhnke targeted a 5 to 6,000 ton steamer displaying the Swedish national emblem, even though Sweden was neutral and ordinarily not a target. This was even more important in Sweden’s case than some other neutrals, as it was an important provider of Germany’s iron ore; it was crucial that Sweden *remained* neutral as a result, and not be antagonised into war on the Allies’ side. However, the ship that crossed Kuhnke’s path was clearly armed *and* steering a zig-zag course, two defensive manoeuvres that always aroused suspicion—and were clearly in violation of the protocol for neutrals. *U-28* was justified by law in firing a torpedo into the ship’s starboard side in this case, and another amidships for the kill.²⁹

²⁸ 15.6.1940/1600-1820; “Kriegstagebuch des Unterseebootes U 38” 19. August 1939 – 20. November 1941.

²⁹ 21.6.1940/0800-1200; RM 98/46 “Kriegstagebuch des Unterseebootes U 38 19. August 1939 – 20. November 1941”; BA/MA, Freiburg. This was not supported by Jürgen Rohwer in *Axis Submarine Successes 1939-1945*, rev ed. 1983, (Annapolis: Naval Institute Press, 1999), 20, who found that on 21 June at 0846 in quadrant BF 1562 the British tanker *Prunella* was sunk in the southwest approaches. The

A murkier area was what to do with French contacts. Ten months before the “first happy time,” Dönitz recorded in his KTB that war had broken out with Britain. It was 1550 on 3 September 1939 when he dispatched to his forces: “Begin immediately hostilities against England, do not wait to be attacked first.” At 1810 that same day he noted that a state of war also existed with France, but for that his orders were: “No enemy action [against France] including against commerce ships, only in defence”.³⁰ French vessels frequently gave reason for pause when attacking, for shortly after the outbreak it was believed that though “perfidious Albion” was the true enemy, France’s head might be turned to the “Axis” cause, or to pacifism and neutrality at least, so destruction of its merchant marine could be self-defeating.

This situation underwent a transition from “special case” to antagonism to state of occupation gradually over the ten months following the outbreak of war, which in the long run simplified the *Kaleu*’s decision-making process when faced with a French vessel. During the “first happy time,” however, the situation was as complex as ever. On 25 June *U-30* patrolled in BF 7916, just off the northwest coast of Spain. Fritz-Julius Lemp observed that “a French tanker passed by at 600m away, unfortunately one day too early—cease fire exists that forbids attack against French ships.”³¹ He was deprived of a target once more the next day when a French passenger ship passed him by on a south-westerly course. Lemp radioed BdU asking if tankers or passenger ships moving

day before, the Swedish ship *Tilia Gorthon* was sunk by *U-38* for sailing blacked out, but no evidence corroborates *U-28* sinking any Swedish vessels.

³⁰ 3.9.1939, KTB Gruppe West; RM 7 N 236 Nachlass Dönitz, FC/1F 1330N.

³¹ 25.6.1940/1600; RM 98/67 “Kriegstagebuch der Unterseebootes U 30 22. August 1939 – 27. August 1941”; BA/MA, Freiburg-i.-B.

westward were viable targets, and the response came: “leave the tankers.” “Bad luck,” thought Lemp.³²

Target selection was always a highly charged issue for German U-boats, and perhaps never so much as in 1940; the policies and plans that the International Law, Propaganda and Politics section repeatedly considered, re-considered and debated through 1939 essentially came to a head, and those reams of papers they had painstakingly generated became useless. They had spilled vast amounts of ink on the issue of neutral powers’ rights, with the idea that until it became necessary to integrate them into the German strategic plan, it was vital to keep the northern neutrals pacified and out of the war. That translated tactically to a high degree of care when choosing targets, for the accidental destruction of Scandinavian ships at sea could undo a disproportionately large amount of German planning.

It was *always* vital to keep one particular neutral at peace, of course, for no one had forgotten the effects of USW in 1917 bringing the United States into the war; no one was willing to let it happen that way again. With this list of exceptions, the title “unrestricted” submarine warfare becomes something of a misnomer, for a series of questions needed to be asked before beginning an attack approach on a contact, all of which could preclude a contact from becoming a target. The answers to these questions were rarely black and white, for as the example of the Swedish merchantman above showed, there were exceptions to almost every rule. The fact that neutrals could make themselves targets if they behaved non-neutrally proves this, for nothing was spared scrutiny except perhaps Germany’s own ships. The onus was thus on U-boat skippers to

³² 26.6.1940/00800; RM 98/46 “Kriegstagebuch der Unterseebootes U 38 19. August 1939 – 20. November 1941”; BA/MA, Freiburg-i.-B.

be *au courant* with international laws and policies as much as with attack doctrine, for the cost of errors in target selection had the potential to be war-changing. Ultimately, there were so many factors to keep in mind when choosing “valid” targets that calling this warfare “unrestricted” seemed, at times, laughable.

It was obviously the case, then, that the majority of contacts made would not be targeted—either by the process of political and legal exclusion, the physical impossibility of positioning for an attack, or, as in Case One, by the order to eschew attacks until another objective had been met. If the odds were *against* locating legitimate targets, one might consider raising as many restrictions as possible to increase the chances of success. This might have crossed Dönitz’s mind by 17 June when there became cause for the FdU to regret his decision to forbid attacks until Convoy HX 48 was found; on that day he admitted in his war diary that “Group Prien had no contact with the Halifax convoy, there is a possibility of delay so the group should stay in its position today.” By that time, Dönitz had to have been wondering if the convoy would *ever* be contacted. If not, how many ships had been allowed to pass unmolested for the sake of this unrealised target? The smaller number of proper targets compared to contacts suggests that one would have had to have been extremely confident in issuing the “no attack” order, believing that there *would* always be more targets. This was not always the case, for later that afternoon, Dönitz reported that the convoy was to pass through a new area, further south than Prien and company were operating. Redeployment was impossible—convoy HX 48 got away.³³

The bitter taste of this failure was certainly compounded by the fact that it was an echo of another that had come just two days earlier. The speed and strength of the Australian convoy that group *Rösing* was chasing proved to be too much for the grey

³³ Entry of 17.6.1940, “Kriegstagebuch des Führers der Unterseeboote (Seekriegsleitung)”; 41.

wolves—they had not even managed a single contact. The boats were released to hunt in lines, but no longer in packs.³⁴ It was an inauspicious beginning for Germany's group tactics.

What conclusions can be made of these first wolfpacks? Quite simply, it revealed how much remained left to chance in convoy-hunting. Dönitz had good intelligence, and disseminated it quickly. He had one of his best skippers at sea at the helm of a six-boat wolfpack, and gave explicit instructions on operating policies to allow the best possible chances of these boats avoiding detection. The orders of radio silence and restricted attacking were limiting, and with hindsight it is clear that the latter injunction prevented the Prien boats from seizing the opportunities presented to them for the sake of a future possibility that never materialised. It can be argued that this caution was justified; Dönitz never believed that the Allies were able to read *Wehrmacht (Kriegsmarine)* Enigma, the German military encoding system, but direction finding (DFing) was still very possible. It was also likely that by attacking a friendly ship, Britain would have received a radio contact revealing the position and presence of one or more U-boats, and could reroute convoys around the area. In this case, however, caution did not prevent this from happening regardless.

The Prien group was a failure inasmuch as it did not meet its objective. It had been assembled for the sake of hunting HX 48, but the convoy's defensive measures made this an impossibility. After the group was disbanded the boats were ordered to join *U-52* as it hunted the heavy traffic between England and Quessant, in France, as Britain

³⁴ Entry of 15.6.1940, "Kriegstagebuch des Führers der Unterseeboote (Seekriegsleitung)"; 40.

shipped troops and material to coastal France to help its ally repel the German invaders.³⁵

In that first week after the wolfpack, Liebe's boat made seventeen contacts in his new deployment, four attacks, and claimed two ships sunk.³⁶ *U-30* made two contacts and one reportedly successful attack, and *U-47* made five contacts (including a convoy) and two successful attacks. Kuhnke in *U-28* also had five contacts, but three successful attacks, and the last two boats, *U-51* and *-32* together made 13 contacts, nine attacks and six kills. This laundry list supports what Clay Blair showed in *Hitler's U-boat War: The Hunter, 1939-1942* (1996), in which he gave the following statistics for the "First Happy Time":

- Prien in *U-47* sank seven ships for 36,000 tons...
- Liebe in *U-38* sank six for 30,400 tons...
- Hans Jenisch in *U-32* sank five for 16,000 tons...
- Dietrich Knorr in *U-51* sank three for 22,200 tons...
- Günter Kuhnke in *U-51* sank three for 10,300 tons.
- Otto Salmann in *U-52* sank three for 9,400 tons.
- Von Stockhausen in *U-65* sank two for 29,300 tons...
- Fritz-Julius Lemp in *U-30* sank two for 8,900 tons.³⁷

These figures combine to prove that the "First Happy Time" was still that, in spite of the failures of the two wolfpacks operating during that time. Coordinating attacks, or even specific boats to particular targets was perhaps beyond the U-boats capabilities, but unarguably they were still able to be effective on their own.

³⁵ Entry of 16. and 17.6.1940, "Kriegstagebuch des Führers der Unterseeboote (Seekriegsleitung)"; 39-40. After Nantes and Brest fell on 20 June 1940, this traffic was expected to stop soon, but for the boats in this case they remained largely in the area for the extent of their patrols.

³⁶ 18. -25.6.1940; RM 98/90 "Kriegstagebuch des Unterseebootes U 38 19. August 1939 – 20. November 1941."

³⁷ Blair, *Hitler's U-boat War: The Hunters, 1939-1942*, 167-8.

Part Two:

*Case Two: Operation DRUMBEAT*³⁸

In a letter of 26 November 1941, Dönitz wrote to his boss, Admiral Erich Raeder, at the head of *Oberkommando der Kriegsmarine* (OKM—the Naval High Command) that Britain had made excellent progress in its convoy system in the last few months. It was so improved that ships sailing alone had decreased significantly, making it seem as if within just two years of war, Britain had emptied the Atlantic Ocean. There had previously been parts of the ocean where a lingering U-boat could regularly find and destroy a single vessel, but since Britain's improvements, only large convoys could be found and battled.³⁹

1941 was not a time of great tonnage successes; Jürgen Rohwer has argued that probability suggests that the evasive action taken by convoys because of *Ultra* intelligence dropped shipping losses by roughly 65 percent between July and December 1941.⁴⁰ Dönitz responded to enemy evasive action by reviewing his own tactics. He saw two ways potentially to combat these large convoys: either by attacking them directly in front of their ports of departure or destination, or on the open seas. There were pros and cons to either option. Attacking near ports meant that the guess work of locating the proverbial needle in a haystack of a convoy in the North Atlantic was eliminated, but it was assumed that air cover would be thicker whenever a convoy was expected, forcing

³⁸ The boats included in this case are: *U-66*, *U-109*, *U-123*, and *U-130*. Their assigned operations areas were, respectively: CA 79 and 87 and DC 12-13; between BA 9633—CB 1577—BB 7355—BB8575; CA 28-29 and 52-52; and BB 51-52 and 54-55 and 57-58. For a map of these areas, see Appendix D.

³⁹ From Befehlshaber der Unterseeboote to Oberbefehlshaber der Kriegsmarine, 26 November 1941; RM 7/845, I Skl. Teil C IV U-Bootskriegsführung Januar 1941-Dezember 1941; BA/MA, Freiburg i.Br. Germany, 1.

⁴⁰ Cited in Rahn, *Germany and the Second World War*, 367. "Ultra" is the name for the British de-coding operation based at Bletchley Park. It was originally the code name for breaking the Enigma machine, but came to be an umbrella term for all British attempts to crack German SWW military codes.

boats to operate submerged during daytime. Periscope watches reduced sighting ability because they decreased the horizon, making it harder to locate ships. The eternal problem was that fewer contacts meant fewer legitimate targets, ergo, less success. This was exacerbated by the fact that, once enemy forces were noted to be operating in the coastal area against out-going convoys, in-coming ships were often re-routed, and therefore diminished the chances of sinking more tonnage.⁴¹

Dönitz's second option, attacking in the open sea, offered the advantage of decreased convoy defences, especially if attacks took place beyond the enemy's air capabilities. U-boats would also then be able to move more freely and could operate against convoys on the surface, possibly even giving more boats the opportunity to find and attack the convoy. These attacks could take place day or night at the U-boat's discretion. Experience showed that this option, operating in the open sea, brought his boats greater success, although they also suffered from the difficulty of simply *locating* a convoy in the first place. Britain was not routing convoys through particular sea lanes, Dönitz stated, but instead varying shipping routes across the vastness of the ocean. U-boats operating without proper reconnaissance would therefore be left to search out convoys on their own, with their lower eye-levels and with less speed than many surface ships, making them fundamentally unsuited for spotting on their own. Thus, Commander U-boats reasoned that giving orders based on reconnaissance was critical; finding convoys ought not to be just about pure luck, and the right information could put success

⁴¹ From Befehlshaber der Unterseeboote to Oberbefehlshaber der Kriegsmarine, 26 November 1941, 2-3.

within the *Kaleu's* grasp.⁴² The open sea offered enough possibilities when coupled with good intelligence and it was the best option—except when it was not.⁴³

The tonnage war had certainly slowed down since the “first happy time,” and a good commander would have looked to find ways to bring success back to his submarine force. A strategic shift was certainly in order—but not considered. Would developing a policy of attacking convoys in the mouths of harbour lead toward winning the war? Not at all; Commander U-boats was simply considering a tactical shift of redeploying U-boats to different areas of the ocean to respond to increased British convoying and decreased lone sailing ships. Thus he had not found a war-winning strategy, though perhaps his tactical shift could be considered to have made USW a war-*losing* strategy if the boats insisted on patrolling close to shore. To prove this statement one need look no further than the Bay of Biscay circa 1943-44, when Germany's campaign became nearly suicidal and boat after boat went to the bottom off France's west coast in particular.⁴⁴

The situation was not yet dire when a double-edged sword was introduced to the conflict: Japan attacked the United States, and Hitler declared war on the not-so-neutral Americans.⁴⁵ Dönitz recorded in his KTB under the heading “General” that “Japan

⁴² Ibid., 4-5.

⁴³ The signal example of when it was not is Case Two. The point remains that this is an anomaly, because it was predominantly the safest place for U-boats to operate. By 1943, however, operating in the open sea (in the air gap where aircraft could not yet cover) went from being the safest place to yet another potential U-boat morgue when “Very Long Range” aircraft “closed” the gap.

⁴⁴ The Bay became a virtual suicide course as soon as the Allies had air dominance. The best evidence of this is not a written source but instead graphic—the map of sunken U-boats in the Bay of Biscay available at [uboat.net](http://uboat.net/maps/biscay.htm) illustrates the severity of the situation showing 65 boats sunk: 5 in 1942, 28 in 1943, 25 in 1944, and 6 “other.” See <http://uboat.net/maps/biscay.htm> [last accessed July 29 2007]. Also, Chart 3 in Niestlé's *German U-boat Losses During World War II*, 213. For further information on boats in the Bay of Biscay, see Brian McCue, *U-boats in the Bay of Biscay: An Essay in Operations Analysis*, (Washington, D.C.: National Defence University Press, 1990).

⁴⁵ The declaration of war against the United States certainly came as a surprise to the Naval War Staff, and likely to virtually all others as well. The Tripartite Pact between Germany, Italy and Japan signed at Berlin, 27 September 1940 stated in Article 3: “Germany, Italy and Japan agree to co-operate in their efforts on aforesaid lines. They further undertake to assist one another with all political, economic and military means

opened hostilities against England and USA—an event with far-reaching meaning, that in the short term must have an effect on the current restrictions on submarine warfare.”⁴⁶ On 9 December, Hitler lifted all restrictions on U-boats against American ships and the “so-called Pan-American security zone,” which freed up the entire Atlantic seaboard for U-boat operations.⁴⁷ This was the area in which lone sailing ships left their departure points to collect in convoys—giving U-boats the opportunity to seize these ships during this phase, either while they sailed alone or when they met to form up convoys, since they would come to a complete stop in the process. “We must try,” Dönitz declared, “in the foreseeable future to ‘beat the drum’ on the American coast as soon as possible.”⁴⁸

This was only BdU’s opinion, of course. He was stymied by having no operational plans anticipating that the U-boats would operate that far from their bases in North American coastal waters so quickly. Furthermore, he still had to win over OKM’s mind before boats could be released for this. Dönitz exalted in the idea of an opportunity to move his boats away from their costly operations in the Mediterranean Sea and back into true economic warfare roles against the United States;⁴⁹ a return to *Tonnagekrieg* was certainly in order—and twelve boats should have done the job nicely, he thought.⁵⁰

when one of the three contracting powers is attacked by a power at present not involved in the European war or in the Chinese-Japanese conflict.” This pact made no commitments between the signatories if one of them decided to attack, and thus Japan’s aggression at Pearl Harbor in no way bound Germany or Italy to also declare war on the United States. Clay Blair incorrectly writes in *Hitler’s U-boat War: The Hunters, 1939-1942*, that “Hitler swallowed his pride and fulfilled his pledge to the Japanese” when he declared war on the United States, (433-4), although based on the Tripartite Pact there was no such pledge. For the full text of the Tripartite Pact see the Yale University Avalon Project at <http://www.yale.edu/lawweb/avalon/wwii/triparti.htm> [last accessed August 4].

⁴⁶ Entry of 8.12.1941, “Kriegstagebuch des Führers der Unterseeboote (Seekriegsleitung)”; 238.

⁴⁷ Entry of 9.12.1941, “Kriegstagebuch des Führers der Unterseeboote (Seekriegsleitung)”; 238.

⁴⁸ *Ibid.*, 239.

⁴⁹ Rahn, *Germany and the Second World War*, 369.

⁵⁰ Entry of 9.12.1941, “Kriegstagebuch des Führers der Unterseeboote (Seekriegsleitung)”; 239; Dönitz, *Memoirs*, 197.

In spite of what he wrote in the KTB, Dönitz also committed to paper his ruminations about the uses and possibilities of U-boats in *other* areas of the Atlantic on 17 December as he pleaded his case for DRUMBEAT. The sea area off the east coast of the United States was only one option, but the case he made was strong enough to make the benefits unarguably great:

Virtually the entire seaborne traffic on the American east coast winds around a few big harbours. 40 to 50 percent of the total tonnage of ocean-going traffic is routed around New York. The other great junction is the Chesapeake Bay with the harbours of Norfolk, Newport-News and Baltimore (together around 25 percent of the traffic). Around Philadelphia roughly there is 10 to 15 percent, and from Boston seven to eight percent. Also worth noting are Providence (around two percent), and Portland/Maine, over which only one percent of the total tonnage, but five to six percent of the exports to England.⁵¹

Indeed, this was compelling stuff, but Dönitz was unable to convince Naval High Command that it was worth the twelve boats he requested, because continuing operations in the Mediterranean still took precedence in their eyes.⁵² Just six boats were made available to take part in the free hunting of Operation DRUMBEAT; Dönitz simply had to make the best of it.⁵³

The United States-bound boats made ready in late December in France, and were to proceed with very clear instructions: their goal must be the lone sailing ships, taking advantage of the enemy's still "virginal" anti-submarine warfare (ASW). The convoy had always been the object of U-boats' desires, but in this case the focus was on the lone

⁵¹ "Aufgaben und Möglichkeiten für den Ubootseinsatz im Atlantik", 17 December 1941; RM 7/845 I Skl. Teil C IV U-Bootskriegsführung Januar 1941-Dezember 1941; BA/MA, Freiburg, 2-3.

⁵² Dönitz, *Memoirs*, 195-8. This was a criminal misjudgment on OKM's part, for the "second happy time" was probably the most singularly ideal USW situation of the entire war; entry of 10.12.1941, "Kriegstagebuch des Führers der Unterseeboote (Seekriegsleitung)"; 240.

⁵³ Entry of 10.12.1941, "Kriegstagebuch des Führers der Unterseeboote (Seekriegsleitung)"; 240. In *Memoirs*, Dönitz claims that one was in refit and therefore only five sailed (198), but Blair lists six, with one (*U-502*) aborting on 22 December 1941, leaving five, not four. See Blair, *Hitler's U-boat War, The Hunters: 1939-1942*, 438 and Appendix 4, 727.

vessels. U-boat plans inadvertently paralleled this notion, for massing was not recommended—and even forbidden. Dönitz reasoned that the boats should not be grouped around the singularly successful areas. Scattering would promise greater possibilities for success, because, for example, boats operating in the north (off Newfoundland) could have successes without it changing anything for those operating far south (around Trinidad). With only six boats for the entire continental length, massing would be counterproductive as it would scare shipping out of the area where U-boats were operating and into the areas where there were none.⁵⁴ Still, with the best intentions for this area worked out, Dönitz was left admitting that “it remains unfortunate that there are *not* enough boats available to really beat the drum.”⁵⁵

Dönitz eschewed the majority of the tactical means he had shown preference for recently, and with *Paukenschlag* he devised a new plan: six boats, one date, one attack. It was expected that the two boats patrolling in the northern vicinity around Newfoundland/Nova Scotia would arrive on station at the same time as the four operating roughly between New York and Cape Hatteras; all would avoid engaging contacts (unless they were over 10,000 tons) until 13 January 1942, when a simultaneous offensive would begin.⁵⁶ Their orders were to target the largest ships with a two-torpedo spread, or even deck guns if it could be done safely. It was hoped that this would cause another psychological shock on the American psyche after Pearl Harbor, but was certain to cause physical damage instead.⁵⁷

⁵⁴ Entry of 10.12.1941, “Kriegstagebuch des Führers der Unterseeboote (Seekriegsleitung)”; 240.

⁵⁵ Ibid.

⁵⁶ Kriegstagebuch des Befehlshaber der Uboote 1. Januar 1942-31. März 1942,” 9 January 1942; RM 87/20, BA/MA.

⁵⁷ Blair, *Hitler's U-boat War*, 441.

Operation DRUMBEAT is an exceptional case, for even when patrols were riddled with torpedo failures, bad weather and mistakes, U-boats could do nearly no wrong. This goes beyond the picture of a “second happy time” to be more “U-boat warfare, idealised.” The six boats taking part in this operation combined to sink 23 ships for 150,505 tons, which includes *U-502* aborting the patrol early. Specifically, 144,839 tons were dispatched by the four boats included in this case, for 22 of DRUMBEAT’s credited 23 kills. Perhaps most remarkable is that 35 percent of ships sunk were tankers, and therefore worth twice their weight in tonnage given that they were lost with significant quantities of much-needed oil. Clay Blair notes that in the first six months of 1942, Germany sank 43 Allied tankers in American waters, but no Allied tankers were sunk by U-boats in the same waters between July and December of that year.⁵⁸ Clearly, the shipping bonanza off the East Coast declined for the hunting U-boats with time, and even as DRUMBEAT played out into early February, the American learning curve became evident. Thus, the euphoria of nearly consequence-free patrols was brilliant and intense, but short-lived.

Reinhard Hardegen’s boat *U-123* sailed from Lorient on 23 December 1941, celebrating Christmas and New Year’s on board before celebrating the first contact of a *Paukenschlag* boat on 5 January 1942. Dönitz had tipped *U-123* off about an allegedly foundering Greek steamer hovering off the west coast of Newfoundland,⁵⁹ and Hardegen located it there in quadrant BC 4592, where a series of foghorns were heard late the night of 5 January. He was only meant to observe the situation, and at first he did: Hardegen saw shadows, and he swore he could see two faint lights as well, but the night was

⁵⁸ Ibid., 764. Only 19 percent of tankers were killed by DRUMBEAT boats.

⁵⁹ KTB der BdU, 3.1.1942.

overcast and foggy and uncertainty prevailed. Suddenly, he “made out a large shadow 100 metres away. Assumed to be steamer”. He was almost as surprised by the incoming radio message he picked up from another steamer stating “welcome, you are in view.”⁶⁰ Hardegen could not resist the opportunity—he elected to make an approach—but played it safe and chose to wait out the situation before deciding what action to take specifically. He continued waiting, for he could hear multiple ships but see so little. When the fog suddenly lifted and the moon shone through, he was amazed to find that another of his large shadows turned out to be hiding a big destroyer, a fourth as yet unheard vessel, and another destroyer as well. The *Kaleu* contemplated briefly sharing his surprise with the newly uncovered escort by opening fire with artillery prior to attacking that fourth ship, the Greek steamer, but opted against it since it he was lying in the moon-to-ship position and would certainly have been disadvantaged.⁶¹

That night unfolded badly for Hardegen’s boat; the *Kaleu* had decided on attack, but potential targets quickly slipped away. One contact was soon lost as it turned to head into St. John’s harbour, and *U-123* was still trying to get into a good position to attack the Greek ship, *Dimitrios Inglenis*. In spite of having been given orders simply to observe (which he broke), the *Kaleu* behaved exactly according to doctrine. He continued trying to set up attacks with torpedo shots in spite of a brightly moonlit night with heavy patches of fog and very questionable chances of success. In the end, he did not make the attack on his intended steamer, the final decision having been based on a notion of very justified self-preservation (less so for the sake of following orders), given that he believed there were two destroyers operating close by *U-123*. Neither would Hardegen succeed in

⁶⁰ “Kriegstagebuch des Unterseebootes U 123 30. Mai 1940-24. April 1944;” 5 January 1942, RM 98/330, BA/MA, Freiburg.

⁶¹ *Ibid.*, 6 January 1942.

attacking any of the other ships in the vicinity, for the curtain of fog present when he first came upon the group descended again, and he had to admit defeat.⁶² It was only one night, however, and he was slated for a six-week patrol from beginning to end. There was every reason to believe that there was more in store for *U-123*.

Hardegen continued on to his assigned area after that—recorded as quadrant CB 60—and exorcised his demons over having shied away from the letter of his orders. He had lost nothing save six cubic metres of fuel, he reasoned, though he also admitted that he had basically behaved incorrectly. Only if in the next week he missed arriving in his assigned area on time would he need to justify his actions, he believed.⁶³ Thus, he sailed on, his conscience apparently cleansed.

This tendency for independent action developed as a pattern with Hardegen, and *U-123* next circumvented orders just one day prior to the intended opening of U-boat hostilities—which *did* cause him to miss the *Paukensschlag* H-hour. His second temptation was the Blue Funnel Line steamer *Cyclops* encountered in CB 4322 shortly after 1630 on 11 January. Hardegen pursued and approached, and as the clock crept past midnight on 12 January *U-123* fired its first torpedo through the dark and hazy night; 96 seconds later, *Cyclops* was hit behind the smokestack and began to sink from the stern. That time the *Kaleu* remarked “I have lost much and must hurry to be in the operational area on the thirteenth.”⁶⁴ It was perhaps the greatest understatement of the New Year, and possibly served as motivation for Hardegen to observe *Cyclops*’ crew abandoning ship, yet offering nothing in the way of succour.

⁶² Ibid.

⁶³ Ibid., 8 January 1942.

⁶⁴ Ibid., 12 January 1942.

The need for self-discipline lifted after 13 January, however, and Hardegen became free to exercise his overt aggression at will. *U-123* had not missed much by being late for the appointed opening of attacks, it should be noted, for Dönitz's idea for 13 January to be *Paukenschlag*'s D-Day did not work according to plan. Richard Zapp's *U-66* had little to say about the big day, for with seas between force four and seven all day, only periodically could he have even employed his weaponry.⁶⁵ Heinrich Bleichrodt in *U-109* recorded for the day only that finally he was having nice weather and sun, but otherwise, "my neighbour *U-130* radioed that he was observed. Too bad, now the Canadians know about the German U-boats operating off their coast."⁶⁶ *U-130*'s message failed to tell Bleichrodt that observation came after its attack—the lone aggressive action for that fateful day. Even if *U-130* had not been spotted by aircraft, surely the loss of a ship would have indicated the presence of U-boats.

Kaleu Ernst Kals was the lucky skipper of *U-130* who had had a busy day on 12 January, when he arrived early in his operational area. Twice during the course of the day he dove from plane contacts as he patrolled on a north-south axis just off Sydney, Nova Scotia and Cape Race, Newfoundland. Once he was even bombed with considerable accuracy—maybe fifty metres away—but no damage was done. All this was forgotten at 2345 that evening when he sighted a steamer due west of the tip of Cape Glace on Cape Breton Island. As the day flowed one into the next, he noted that "since it's too bright for me, I'm sailing ahead of the steamer until the sky is covered by clouds and will then attack as the first beat of the drum." By 0116 there was enough cloud cover for Kals to

⁶⁵ "Kriegstagebuch des Unterseebootes U 66 (hereafter KTB U 66) 2. Januar 1941-1. September 1943"; 13 January 1942, RM 98/164, BA/MA.

⁶⁶ "Kriegstagebuch der Unterseeboote U 109 (hereafter KTB U 109) 5. Dezember 1940-28. April 1943"; 13.1.1941; RM 98/109, BA/MA.

launch his attack with a bow shot. The torpedo struck just behind the bridge of what the *Kaleu* believed was a fully laden tanker.⁶⁷ Minutes later the *coup de grâce* was also fired and the crew of the steam freighter *Frisco* abandoned ship. The hits resulted in a fire that began to spread down the ship thanks to (Kals supposed) its oil cargo; by 0230, Kals had seen enough and began to sail away. He reported seeing the inferno until 0330, and it was between setting the ship ablaze and his last notice of the flames that he issued his message to *U-109*—that he had been sighted. Little wonder, given the damage he left in his wake.⁶⁸

If Hardegen could stake his claim for the first beat of the drum, Kals had an equal claim for the first beat that followed orders. In both cases it was a sign of great things to come. They scored totals of seven and six ships sunk, respectively, though Zapp (*U-66*) and Bleichrodt (*U-109*) followed close behind with five and four.

Something was missing from many of their attacks compared to Case One, which might explain part of the secret of their successes. Some examples show that Kals' second attack on 13 January allowed him to get off three torpedoes spread across nearly one hour—without being forced to dive by escorts or aircraft. On 18 January he only managed four torpedoes in two two-torpedo spreads—again with almost an hour between the first two and the last—when *U-130* was driven down by a destroyer that prevented Kals from seeing the attack through to the end. It was the same case for Hardegen's 15 January attack on the tanker *Norness*, which sank after two torpedoes struck at almost 80 minutes apart.⁶⁹ In one epic battle with two separate contacts, *U-66* began firing

⁶⁷ Blair gives Kals credit for first sinking a tanker on 21 January. See Appendix 17, *Hitler's U-boat War*.

⁶⁸ "Kriegstagebuch des Unterseebootes U 130 (hereafter KTB U 130) 11. Juni 1941-28. February 1943"; 13 January 1942, RM 98/337, BA/MA.

⁶⁹ KTB U 123, 15 January 1942.

torpedoes at 0240 on 24 January and did not finish issuing the two *coups de grâce* until 0716—over four and a half hours later!⁷⁰

These are some of the extreme cases, for often ships were attacked and sunk with one round of torpedoes such that all U-boat action might have taken ten minutes, though the ship took longer to sink. Even though *Paukenschlag* boats were targeting non-escorted ships, they were in action relatively close to the shore and could easily have been harassed by land-based aircraft. Defences were certainly lighter in this case, and the DRUMBEAT boats took full advantage. Depth charges were few and far between, and most of them too far away from the U-boats to do any damage. At one minute after midnight on 16 January, *U-123* dove because of a plane appearing out of the mist. It dropped four bombs on Hardegen's starboard side, about which he noted "their positioning was poor—the Yankees still have a lot to learn!"⁷¹

A simpler defence would have been issuing a black-out order for the Eastern seaboard, but speed was not a key in this instance. Repeatedly, the boats remarked "coastal city brightly lit,"⁷² or "land in sight. Many lights noted. A whole suburb of New York illuminates the horizon."⁷³ It was not only the United States that failed to black out its coast, either. Canada had been at war with Germany since 10 September 1939, and yet in January 1942, *U-109* was patrolling off the south-eastern coast of Nova Scotia (quadrant BB 7747) and recorded: "It is also noticed that the coast is completely lit up, and near Shelburne a wide, high beam of light lights up the sky. Assumed to be the

⁷⁰ KTB U 66, 24 January 1942.

⁷¹ KTB U 123, 16 January 1942.

⁷² *Ibid.*, 17 January 1942.

⁷³ *Ibid.*, 16 January 1942.

approach lights of a landing strip or a floodlight barrier.”⁷⁴ North America almost welcomed the German U-boats in early 1942, to hunt nearly unimpeded in its waters.

Paukenschlag was not just a turkey shoot, however, for there were certainly obstacles in the way of clear and certain victory. To begin with, the old maxim that the U-boats were fighting two enemies was as true in the western reaches of the North Atlantic as anywhere else, and the second enemy, weather, often seemed to be working together with the first enemy—the Allies. *U-109* suffered material failures while spending almost five days in a snow storm, while *U-130*’s *Kaleu* noted “the crew is not outfitted for the intense cold, and it causes a great deal to cope with”. That was when the air temperature was -7°C, but eight hours later it would drop to a frigid, damp -12°C.⁷⁵ Zapp in *U-66* had so much to say about the patrol that he wrote up a section to summarise the experience at the end. The first two paragraphs were devoted solely to the weather, which was so bad that “Outside of the first three days of the sail and on the American coast, the boat only endured harsh weather. Only the last four days of the return voyage had weather been good enough for unlimited weapons use.”⁷⁶ In heavy seas, Kals noted, torpedoes could not be fired for fear they would breach, and artillery targeting became laughable. The U-boat then lost the use of its offensive arms. In spite of that and the fact that bad weather had delayed Kals’ arrival in the area, he still found and sunk six ships in the relative calm off the coast of the United States. It was a testament to the richness of targets during DRUMBEAT.

⁷⁴ KTB U 130, 21 January 1942.

⁷⁵ Ibid., 16-17 January 1942.

⁷⁶ “Allgemeines”; “Kriegstagebuch des Unterseebootes U 66 2. Januar 1941-1. September 1943”; RM 98/164; BA/MA.

This was a case of great successes, to be sure, but Dönitz still had the last word in his evaluations. *U-130* did no wrong in Dönitz's eyes, and he commented that Kals' accomplishments were "superior"; more than that, "the commander has not just achieved good results for himself, but also provided special understanding for the operations of other boats." At the other end of the spectrum, *U-109* was the "least successful" of the *Paukenschlag* boats covered here, where this lack of success was defined by four ships sunk. Dönitz was correspondingly less congratulatory, stating that "personnel failure interfered with success in the first attacks." BdU puzzled over why Bleichrodt frequently steered away from land, where the boat itself reported heavier traffic; this was forgiven in the end because "the later successful attacks were well done."⁷⁷

Dönitz had reason to be proud of his boats. They had sailed far from home and beat the drum soundly, in this most unique operational experience of the Atlantic War. It became clear that it was only a matter of time until the pickings became slim; as early as 27 January 1942, *U-109* noticed that after sinking the Greek ship *Andreas* off Cape Sable, Nova Scotia, the defences had strengthened, including air and destroyer U-boat hunters operating in the vicinity of the coast.⁷⁸ It would take time, but the fact that by mid-1942 the number of tankers killed in North American coastal waters dropped to nil revealed the Allied learning curve.

Conclusions

The difficulty in drawing conclusions about operation *Paukenschlag* among the remaining cases in this study lies in the fact that it is a black swan. It defies comparison, but serves as an idealistic perspective of what U-boats were capable of when almost

⁷⁷ KTB U 109, Stellungnahme des Befehlshabers der Unterseeboote zum KTB U 109 vom 20.11.31-23.2.42.

⁷⁸ KTB U 109, 27 January 1942.

unhindered by enemy countermeasures. There were no convoys, few escorts, limited aircraft, the coast was lit up providing a beautiful backdrop for the many contacts Dönitz helped his boats find with the help of intelligence. In spite of this, none of these cases is perfect. DRUMBEAT yields information on the limitations of U-boats, including numbers, human error, torpedo failures, machine break-downs, weather, and the bounds of attack capability of mid-sized, Type VIIC and larger Type IX SWW-era German U-boats. It is difficult to pinpoint even places where doctrine was or was not followed, for instructions were essentially to find and attack—and the U-boats did so with brio. From the German perspective it is almost criminal that Raeder and OKM allowed the Mediterranean to trump the Western Atlantic area in early 1942, for never before and never again would German forces be treated to such a generous combat situation.

Part Three: 1943: The Greatest High to the Lowest Low

Preliminaries:

1942 had been a good year for Dönitz's grey wolves. They began the year on a high point with Operation DRUMBEAT, though improved defences drove them off the coast by mid-year. Even when defences strengthened, however, it did not spell the end of the year's *Tonnagekrieg*. Germany had an impressive haul, killing 1,160 vessels at about 6.25 million gross tons—and more than half of that was done in North American waters. The total figure of shipping losses for 1942 went beyond simply U-boat warfare, and from all causes the Allies lost 1,664 vessels of 7.8 million tons. But this tells one side of the story. Whatever was impressive in the U-boats' successes of 1942 evaporate once one considers the other side: Allied shipyards put out 6.5 million gross tons that same year,

which left a difference of 1.3 million tons lost.⁷⁹ The point remains that all U-boat losses were replaced.

Economic warfare is designed to strangle the enemy and deprive the blockaded state of required goods to continue its war effort. It is a slow process, and the blockading state needs to be able to hold out longer; ideally, it helps to have been stronger from the outset. 1942 was the first full year of the American war, and as the world's economic juggernaut climbed onto a proper war footing and began producing for its own military and (limited) civilian needs (and often for its allies' needs as well), Germany's hopes for winning its economic war at sea fell away. The conditions so ripe for successful submarine warfare off the North American coast early in 1942 had been like a gift to Germany, but it was short-lived. The end result of this new Allied state's entry to war could not bode well for Germany, as the shipbuilding statistics show. These numbers paired along with improved enemy radar (centimetric replacing metric in British and American escorts, though not yet Canadian), greater numbers of escorts, superior intelligence, and an increasingly shrinking air gap in the mid-Atlantic Ocean put time on the Allies' side. The final reckoning shows that 1942 was the year the Battle of the Atlantic was decided; Case Three proves the exception to the rule shown by Cases Four and Five—for in no way would a Germany victory be seized from the jaws of defeat.

Case Three: Stürmer-Dränger-Raubgraf and the "Greatest Convoy Battle"?

It was poised to be a terrific clash when SC (slow convoy) 122's 50 ships meshed with nearly the same number of massing U-boats in the mid-Atlantic in March 1943. Add to that the fact that the fast moving convoy Halifax 229 sailing out from New York just three days behind SC 122 added another 45 ships (including escorts), and the impending

⁷⁹ Blair, *Hitler's U-boat war: The Hunted, 1942-45*, 161.

meet-up took on epic proportions. Yet there was still more: one day after HX 229 left, another 39 ships sailed as well in HX 229A, with a relatively weak escort group. Almost 190 ships, escorts and U-boats were on a collision course that March, all of which was made possible by the temporary loss of the Allied code-reading of “Enigma.”⁸⁰ On the surface, this looked like it could not help but be the greatest convoy battle of the war.

An increased number of available boats in 1943 opened the door for fluidity at sea, giving Dönitz the opportunity to maximise his pack-formations. For example, early in March 1943, BdU (and, since 30 January, Commander-in-Chief of the *Kriegsmarine*) had three groups operating in pursuit of a convoy out of New York, SC 121. For this he assembled the wolf packs *Neuland* (New Land), *Wildfang* (Madcap) and *Burggraf* (Fortress Chief), though the latter two missed the convoy entirely when “Enigma” intercepts had Allied authorities re-route the convoy around the U-boats lying in wait. *Neuland* was also reconstituted and sent out against the fast convoy Halifax 228—a battle Clay Blair described as “a humiliating defeat”.⁸¹ There the story diverges, however, for Blair explains that from the ashes of these wolf packs a new group was formed, comprised of all of *Neuland* and thirteen boats from *Wildfang* and *Burggraf*.⁸² Dönitz’s KTB of 6 March 1943, however, states instead that “parts of groups *Wildfang*, *Burggraf* and *Neuland* are in position against Convoy Nr. 15 [SC 121], the rest of the boats of both groups will be reorganised.”⁸³ He provided a list of the fourteen boats, assigned them their operational area to wait out the next convoy, and named the group *Raubgraf*.⁸⁴

⁸⁰ Ibid., 260-1.

⁸¹ Blair, *Hitler’s U-boat War: The Hunted, 1942-45*, 257.

⁸² These are Blair’s numbers from p. 257.

⁸³ KTB BdU, “Laufende Operationen” 6 March 1943.

⁸⁴ According to Dönitz’s list, this group was comprised of U-boats 638, 89, 529, 758, 664, 84, 615, 435, 603, 91, 653, 621, 600, and 468, tasked for the area between AJ 5982 to AK 7775. See Appendix D for the map.

(Robber-baron), destined to take part in what is often called “the greatest convoy battle of the war”.⁸⁵

Raubgraf was first deployed against a slow out-bound convoy from Britain on 11 March, the same day that Dönitz decided to break up the failed groups *Ostmark* and *Westmark*, taking their most petrol-rich boats to form group *Stürmer* (Daredevil).⁸⁶ Weather, Germany’s *other* enemy during operation *Paukenschlag*, this time played both sides—a storm off Greenland broke up the convoy that *Raubgraf* was awaiting, so the U-boats could not find their prey as the group tactics had intended. However, fate equalised the weather factor, for three lucky boats did find stragglers from that convoy. One such fortunate boat was Gerhard Feiler’s *U-653*. Feiler knew that weather had likely postponed the awaited convoy, but in the process found a steamer sailing out of a snow squall. It was only a 4,000 ton boat, but the flak gun on its after deck made it a tempting target—as did the offer of success.⁸⁷

Feiler found the ship at 1755, and strove to get into position for five hours in a sea force of almost seven. It took four more hours to obtain one hit, but *U-653*’s two torpedoes did nothing to sink the ship. A third torpedo at 0433 finally broke the ship’s back, and the American steam ship *Thomas Hooker* sunk from the bow disappearing in two minutes. It had been a long and difficult night for *U-653*, and the toll wore heavily on the crew—and only got worse when, two nights later, the first officer of the watch (IWO)

⁸⁵ Ibid., 258.

⁸⁶ This included U-boats 305, 527, 666, 523, 229, 526, 642, 439, 338, 641, 665, 618, 190, and 530. They were sent to line up across AK 0371 to AL 7278 for 15 March 1943—and no sooner.

⁸⁷ “Kriegstagebuch des Unterseebootes U 653 26. Mai 1941-13. Januar 1944”; 11 March 1943, RM 98/1125, BA/MA.

was lost overboard. The patrol ended early with just that one kill in the bag, for engine trouble forced *U-653* back to France before the battle commenced.⁸⁸

Dönitz had suspected by 12 March that ONS 169, the eastward-sailing convoy *Raubgraf* expected, had already made it through. With eyes forward, he took advantage of the fluid nature of his wolf pack system and strengthened *Stürmer* with another four boats, for a total of eighteen. *Raubgraf*'s fourteen with the addition of the group *Dränger*'s eleven boats brought the total to 43 boats stretched in a series of north-south lines, lying in wait for the next convoy—which the Allies inadvertently re-routed directly into its clutches. DFing *U-621*'s report of 12 March had led the Allies to send the slow convoy out of Halifax further south to avoid contact with *U-621*'s *Raubgraf* pack—and sent it directly into the north-south line held by *Stürmer* and *Dränger*. The loss of “Enigma” during this period meant that the Allies were caught unaware as the grey wolves circled for the kill.⁸⁹

The melee was cloaked in confusion, with the Allies sailing blindly into the largest concentration of U-boats organised in the North Atlantic to that point, and the Germans lying in wait for them thanks to *B-dienst* intercepts and U-boats' contact reports providing precise positions. On 14 March Dönitz was informed that SC 122 had shifted southward and would be sailing through BC 2752, and that HX 229 had also received new orders and would be sailing through BC 7518.⁹⁰ He responded by redeploying his boats; “all still available boats to position themselves to intercept SC 122,” Dönitz ordered, and *Stürmer* and *Dränger* were shuttled further to the south. The next day *U-91*

⁸⁸ Ibid., 12-14 March 1943; KTB des BdU, 14 March 1943.

⁸⁹ Blair, *Hitler's U-boat War: The Hunted, 1942-45*, 260.

⁹⁰ KTB BdU. 14 March 1943. (RM 87/8)

came in contact with a destroyer heading northeast, and radioed Dönitz that he assumed he had found the convoy in BC 3559.⁹¹ Thereafter, the hunt turned to kills.

Dönitz immediately sent the three southernmost boats, *U-758* (Helmut Manseck), *U-664* (Adolf Graef) and *U-84* (Horst Uphoff) to intercept along with the rest of *Raubgraf*, with the order that if no contact was made that night, they were to adjourn to a line from AK 7791 to BD 1485. The convoy remained elusive and as *U-91* made its way past position BD 1456, suddenly, the U-boats' luck changed. "I've got a big independent ship in sight," *Kaleu* Heinz Walkerling recorded on 16 March, as he radioed the short signal "1 steamer BD 1445, course 50°. Around 3 knots behind the steamer is a second bigger lone ship. It concerns the steamer radioed about by Uphoff [*U-84*] and here still." That was at 1410. By 1600, in quadrant BD 1513, he noted "both single ships were part of the convoy," radioed a short signal of their location, and began his approach on one of the original contacts.⁹²

It was hailing, yet still too light for a safe, surfaced attack, so *U-91* dove for the approach. Walkerling could not hold at periscope depth because of the heavy seas, so at 1801 he resurfaced and at 2000 made contact with the body of the convoy. Walkerling quite unfortunately either got caught up in the excitement or else was simply a poor diarist, for peppered in his war diary are places where there are hours between his entries, though it is obvious that much activity took place. For example, after his 2000 entry of contact made with the convoy's body, there is nothing until 2210, explaining that he had been driven off by a destroyer that hunted him for 35 minutes, but he was in contact and hunting the convoy again. Countless questions exist about the nature of this destroyer

⁹¹ "Kriegstagebuch des Unterseebootes U 91 28. Januar 1942-22. November 1943"; 15. March 1943, RM 98/309, BA/MA.

⁹² *Ibid.*, 16 March 1943.

contact (what was Walkerling doing when he encountered it? How did it locate *U-91*?), but certain details must be accepted as lost for the historian's purposes. At least when Walkerling finally attacked the convoy at 0337 on 17 March, he was more expressive.

Presumably, *U-91* remained on the surface in spite of the bright moonlight as the *Kaleu* let loose two torpedoes towards what he thought was an 8,000 ton freighter.⁹³ Two dull thuds followed, so Walkerling turned to port and fired once more—a tube runner. He then emptied tubes two and three at a new contact, a “Beaverdale”-type tanker, estimated at 10,000 tons, and this time two strong detonations followed 83 seconds later. Walkerling reported that the ship sank very quickly in a cloud of black smoke, while the first torpedoed steamer lay sinking beyond him—but post-war analysis revealed that his first target had sunk, the latter did not.⁹⁴

Walkerling was actually the second to spot SC 122—earlier that morning the homeward-bound *U-653* located it, and Walkerling was acting on Feiler's contact report. Feiler did not get a chance to take part in attacking the west-bound convoys, but his watchful eye had let him leave his mark on the battle. On 16 March, as he sailed home to France to deal with his engine troubles, he crossed paths with a vessel sporting both running lights and a bright red beacon. Three minutes later the boat dimmed all lights, at which point Feiler noticed the tell-tale shadow of a destroyer lurking. “I established after searching around further that I must be in a convoy,” Feiler wrote. He immediately issued the short signal “Convoy, BD 1491 70°”.⁹⁵ Multiple destroyers forced *U-653* to dive and

⁹³ Rohwer reports this as the American steam freighter *Harry Luckenbach*, 6,366 tons. See *Axis Successes*, 158.

⁹⁴ *Ibid.*

⁹⁵ “Kriegstagebuch des Unterseebootes U 653 26. Mai 1941-13. Januar 1944”; 16 March 1943; BA-MA.

kept him there until he was too far away to launch a single torpedo attack. The convoy was spared only temporarily.

Walkerling and Feiler had actually located the fast-moving HX 229, in the process of overtaking SC 122. Dönitz instantly deployed eight boats from *Raubgraf*, eleven *Stürmer* (plus another six that afternoon) and eleven *Dränger* boats, for a total of 38 U-boats hunting down Feiler's contact. *U-758* made contact at 1137, as the first boat to do so, followed that day by *U-603* and then into the night *U-435*, *U-631*, *U-228*, *U-305*, while others did not contact the convoy until 18 or 19 March. In the midst of these contacts, *U-338* also found SC 122, and in fact two separate battles waged over the next few days. HX 229A made it through unscathed; regardless, maximum confusion reigned with BdU never exactly clear on what convoy which boat was engaging. HX 229 did not have a rescue ship, so all but two of its escorts detached from the group and abandoned their duties to pick up the survivors from the frigid waters of the North Atlantic. The Allies, operating without "Enigma" crypts until 19 March, received reports from their own ships and escorts about the carnage and sent out greater numbers of ASW vessels from Canada, the United States and Britain to try to stem the flood of losses. This included a series of American Very Long Range (VLR) aircraft from Iceland and Ireland, which acted as a deterrent more than as hunter-killers, which they had attempted. They attacked numerous U-boats when they observed them hunting the convoys, but the aircraft failed to score a single kill against these U-boats. They had to content themselves with the knowledge that the U-boats that might have otherwise been operating on the surface were driven down, forced to cope with slower speeds and inferior vision, which

certainly spared merchantmen during those chaotic nights, albeit in an unquantifiable way.

The full story of the convoy battle has been told before and does not bear a step-by-step narrative recitation here.⁹⁶ Once Dönitz's boats made contact, it becomes more important to turn to analysis, concerning the pressing questions about the nature of wolf packs that this "greatest convoy battle" gives rise to.

For a battle in which massed U-boats fill the role of the protagonists, the question about the nature of wolf pack tactics becomes a good point of departure. The dissemination of information from one boat to the array of available U-boats was undoubtedly the single most important factor that contributed to the ships sunk by these three cooperating wolf packs. BdU possessed intelligence that gave rough guidelines on sailing dates and times, and the expected routes followed by Allied convoys—but based on the radio traffic re-deploying and shifting U-boats, this was obviously a most imperfect tool for locating convoys in the vast North Atlantic. It was the first step in a process that necessarily required many eyes scouring the sea, ready to call out their contacts as they arose. The role that *U-653* and *U-91* played by spotting the convoy, staying with it and giving precise coordinates was invaluable, then, as it beckoned the other wolves in for the feast. Once contact was established, however, tactically it became a matter of every boat for itself.

By 1943, replenishment at sea was taking place from U-tankers, and U-boats had always contacted each other through BdU to share provisions and fuel, or even personnel (such as doctors) when the need arose. These are signs of partnership, of a greater

⁹⁶ Martin Middlebrook's *Convoy: The Battle for Convoys SC. 122 and HX. 229*, (London: Allan Lane, 1976), comes immediately to mind; Blair devotes upwards of nine pages to the battle as well; see *Hitler's U-boat War: The Hunted, 1942-45*, 258-267.

unifying cause lying beneath each boat's priorities; they do not require membership to a wolf pack. What room was there for flankers and trailers when operating against a mass of fifty ships, fighting against bad weather as much as the spectre of the convoy? Dönitz's grey wolves adhered to *U-boat* tactics, but not group tactics. Save sharing contact reports, (which again could be disseminated to multiple boats without the need to gather them in ceremonial grouping that neither strengthened, improved, nor provided an advantage to the boats in question), this "greatest convoy battle" could have been equally great without the formality of having *Stürmer*, *Dränger* and *Raubgraf* operating against it.

Permitting the action of mid-March the title "greatest convoy battle" also begs other questions. A random analysis of thirteen members⁹⁷ of these three packs shows that four boats never succeeded in making contact with the convoys—*U-638*, *U-229*, *U-406*, and *U-641*. Five boats found the convoys but succeeded in making one attack prior to being driven off, held under, or otherwise losing contact—*U-603*, *U-631*, *U-221*, *U-305*, and *U-758*. Given the confusion in attack situations, "one attack" could be characterised by multiple torpedo hits on one target for a guaranteed sinking, or different hits on different targets, leaving damage (but not a sinking) in the wake of the boat's attack. A further four boats (*U-435*, *U-228*, *U-441* and *U-91*) made multiple attacks, which is to say, fired torpedoes on more than one instance. Less than one third of the time were the boats in this sample able to do that.

U-758 was one of those boats that made contact with the convoys but only attacked once. The *Kaleu*, Manseck, found HX 229 early, at 2133 on 16 March. Between 0022 and 0025, he fired four torpedoes, one each at an 8,000 ton tanker, a 6,000 ton

⁹⁷ Including the following U-boats: 435, 228, 441, 91, 603, 631, 221, 305, 758, 638, 229, 406, and 614.

freighter, a 7,000 ton freighter, and a 4,000 ton freighter. In each case, he witnessed the torpedo striking, and in two of the four instances, he reported the ships as having sunk. At 0032 he was driven down by a “convoy vessel with a red searchlight,” where ten minutes later he heard “sinking noises” coming from the direction of the torpedoed steamers as well as a series of DCs. When he resurfaced almost four hours later, Manseck was short on fuel and left for re-supply.⁹⁸ Dönitz exalted in his successes, incorporating them into a series of charts he made in his KTB to show his victory over SC 122 and HX 229: four ships *sunk*, at 25,000 tons.⁹⁹ Manseck attacked for three minutes, and his confirmed kills for his *entire* patrol were reduced to 1 ship for 6,813 tons.¹⁰⁰

Rudolf Bahr’s *U-305* made contact on 17 March, and attacked one target in quadrant AK 9529 at 2309. He fired two torpedoes followed by two more one minute later, though one failed to launch for what the *Kaleu* called an “operating error”. He dived afterwards because the outlook on the surface was poor, and reported hearing three explosions. He decided that one “eel” hit its target, the second hit a steamer in the convoy’s second column, and the third also hit his first target. As there were no ASW measures operating against him, he surfaced at 0002, and in the almost 50 minutes he had been underwater, the convoy disappeared. He could see a burning freighter five kilometres away, covered by a destroyer sailing back and forth. Bahr waited until 0041 to fire his *coup de grâce*, hitting his intended target (*Port Auckland*) but summoning the destroyer as well. He dove to 60 metres, and remained submerged in spite of no DCs ensuing. The destroyer patrolled over *U-305*’s head one last time at 0320, and Bahr

⁹⁸ “Kriegstagebuch des Unterseeboote U 758 5. Mai 1942-10. Oktober 1944”; 17 March 1943, RM 98/1187, BA/MA.

⁹⁹ KTB BdU, 16 March 1943.

¹⁰⁰ See Blair, Appendix 2. Rohwer lists the Dutch *Zaanland* as sunk, with *James Oglethorpe* damaged, later despatched by *U-91*. *Axis Submarine Successes*, 157.

surfaced an hour later, only to be driven back down again.¹⁰¹ Thereafter, he would be persistently harassed by ASW vessels, destroyers, corvettes or aircraft, and unable to return to attack again.

These are two cases of successful attacks, but they are not by themselves remarkable. This is symbolic of the bigger issue at work in this, the “greatest convoy battle,” for as Clay Blair has pointed out, the entire operation had 22 ships sunk for 146,596 tons,¹⁰² *not* the 32 ships for 187,560 Dönitz believed his boats had killed.¹⁰³ That was 22 ships out of the roughly 95 at sea in SC 122 and HX 229, for approximately twenty three percent of those convoys was lost. This is only half the picture, for while this does look grim for the Allies, it took Germany 43 U-boats to exact this toll. 22 ships divided by 43 boats means that the resource allocation was *one* U-boat for every *half* a ship sunk.¹⁰⁴

Conclusions

The statistical reality of this case is made glaringly obvious in an examination of just a random selection of the U-boats involved, as was done here. It is easy to mistake the value and importance of this, the “greatest convoy battle” of the war, based on the Allied perspective of tonnage lost, numbers sunk, and resources committed—for the sheer number of vessels involved in these convoys operating so close together in the expanse of the North Atlantic *does* deserve the superlative “greatest,” but more for the volume of Allied merchantmen and escort ships engaged. In terms of performance,

¹⁰¹ “Kriegstagebuch des Unterseebootes U 305 17. September 1942-22. Oktober 1943”; 17-18 March 1943, RM 98/828, BA/MA. See also David J. Bercuson’s and Holger H. Herwig’s *Deadly Seas: The Duel between the St Croix and the U305 in the Battle of the Atlantic*, (Toronto: Vintage Canada, 1997) for a description of this battle. Geoffrey P. Jones’ *Defeat of the Wolfpacks*, (London: William Kimber, 1986), also devotes a chapter to *U-305* and its successes, 177-191.

¹⁰² Blair, *The U-boat Hunters: The Hunted, 1942-1945*, 266.

¹⁰³ KTB BdU, 16-19 March 1943.

¹⁰⁴ See Blair, 266.

March was undoubtedly the month of greatest tonnage sunk for all of 1943; however, from the German perspective, it is alarming that Dönitz's 43 boats did not manage to do more.

Coupling this notion with the fact that the Allies regained their "Enigma"-reading capability on 19 March (though to a lesser degree than before), it paints an image of doom for the grey wolves, and visibly dulls the lustre of their apparent successes. This was not an operation characterized by great tactics; indeed, it was certainly not characterised by *any* wolf pack tactics save sharing contacts. It was a simplistic performance of "shoot when you can." Target selection from the middle of the convoy more often than not was about hitting *something* rather than sinking a carefully identified vessel. Case Three thus shares with Case Two the aura of opportunism, in which Dönitz managed to seize an apparent success out of what was only a matter of the enemy's temporary weakness. A close examination of the experiences of boats involved in the "greatest convoy battle" of the war then creates a sense of expectation for the outcome of Case Four—when opportunism evaporated—and readies the readers for the slaughter.

Case Four: Fink-Amsel and a Farewell to the North Atlantic¹⁰⁵

The difference in tonnage sunk by German U-boats in 1942 compared to 1943 was dramatic—6.2 million compared to 2.5 million. By the same token, the difference between March 1943 and every other month of 1943 is just as staggering: the spike enabled by a brief "Enigma" black-out in March helped to despatch 110 ships of 633,731 tons, which was more than double any other month, save February. Comparing that to the 287,137 tons in April, as one example, it actually indicates how severely curtailed the U-

¹⁰⁵ *Fink/Amsel* was comprised of 53 boats; the random sampling used in this case are U-boats 638, 358, 266, 377, 402, 403, 413, 438, 264, 260, 231, 125, 107, 584, and 628.

boats' success had become. Rather than showing the "greatest convoy battle" as a truly "great" period, it only emphasised the anomaly and highlighted how the tally kept slipping through the spring.¹⁰⁶

There is always another side when it comes to figures and USW, however; on the surface, it appears that these numbers tell a true tale of decreasing effectiveness and success. That is true, but what ought really to be the focal point of numbers for May 1943 is the catastrophic quantity of U-boats lost simply to achieve levels of decreased success. Put another way, it cost the Germans more for less. From February through April, Dönitz lost 18, 16 and 16 boats respectively, but the month of May rocketed up to a total of 41 U-boats lost. 32 of them went down with their entire crews—roughly between 1,700 and 2,000 men lost—cementing May 1943's status as the "Black Month" of the *Kriegsmarine*. Dönitz's response was to pull his boats from the Atlantic in order to wait out the new technologies in development.¹⁰⁷ In spite of this, the actions of wolf packs *Fink-Amsel* deprived the Allies of 56,000 tons—which seemed a respectable degree of success for one night's work.

In reality, the word "success"—*Erfolg*—ought to have been exorcised from U-boat lexicon by 1943. The outcome of *Fink-Amsel* leads one to the same conclusion as after the First World War, when, as Modris Eksteins has so splendidly expressed, "the integrity of language seemed to break." The experience of the First War stripped certain words of meaning, such as mud, and death, and war.¹⁰⁸ Add to that the U-boats' "success" from the Second World War, and one reaches the same crisis of expression.

¹⁰⁶ All figures from Blair, *Hitler's U-boat War*, Appendix 18 in *Hunters* and Appendix 20 in *Hunted*.

¹⁰⁷ See Case Five below for details.

¹⁰⁸ Modris Eksteins, "Memory and the Great War," in *The Oxford Illustrated History of the First World War*, Hew Strachan, ed., (Oxford: Oxford University Press, 1998), 308.

The problem was more tangible for the *Kriegsmarine* than this semantic analysis would suggest, though: what *was* “success,” if measured against its cost?

One must first seek to understand the conduct of the battle before contextualising it into the realm of cultural relativism, however. After the Allies began reading “Enigma” again following the March black-out, the coming months lacked the dramatic flair that had coloured 10 to 19 March 1943. Groups were formed through the month of April, putting to sea, sinking ships, and some boats were being sunk in return. It was business as usual. Within this normalcy, a series of wolf packs operated on the North Atlantic run late in April, including *Amsel* (Blackbird), *Star* (Starling), and a reconstituted *Specht* (Woodpecker). These three groups formed a line to wait for two big convoys headed eastward, SC 127 and HX 235, but “Enigma” let the Allies slip these convoys in between patrol lines without a single casualty. Once this had become clear to Dönitz, he sent *Amsel-Specht* southward to search for other eastbound convoys, but still they went without.¹⁰⁹ It was an utterly un-remarkable and un-exceptional time.

Then, on 26 April, the Allies lost “Enigma” again, for just about a week. In the latter half of this period, fickle Mother Nature unleashed nasty storms in the North Atlantic, which this time worked in the U-boats’ favour. This does not mean that the grey wolves were unaffected by the violence of the seas and winds, for patrol and attack in such conditions is often utterly impossible. However, in this instance, escorts were unable to refuel at sea, air power could not support the convoy, and pinging was unheard of. What tipped the weather factor in Germany’s favour was that with escorts unable to refuel, the British Admiralty made the controversial but necessary decision to route the Canada-bound convoy ONS (Outbound North Slow) 5 along the shortest, most direct

¹⁰⁹ Blair, *Hitler’s U-boat War: The Hunted, 1942-45*, 288.

route. This dangerous decision was compounded by the “Enigma” blackout and its ensuing confusion—the Allies could not know exactly where the U-boats were deployed. The final blow to ONS 5 was that the bad weather that spelled so much disaster in its routing *also* threw a storm in its path and scattered the convoy hopelessly.¹¹⁰

This was the situation into which a re-formed *Amsel* and the newly created *Fink* boats sailed. As much as the concentration of U-boats in the “greatest convoy battle” was staggering, the concentration of *merchantmen* involved was what made it so striking. The *Fink-Amsel* line, meanwhile, distinguished itself with its awesome number of *U-boats*, for with 53 boats ordered to report it was the single greatest number deployed in one congregation for the entire war.

Dönitz and the *B-dienst* suffered from the weather as the Allies did—but not from a lack of information. Anticipating the west-bound convoy, on 3 May Dönitz broke down the unwieldy length of his 20-boat *Amsel* line into four segments of five boats each, and parcelled out bits of quadrants AJ and BC for them to operate in. Part 1 was given a line east-west along AJ 7933 to AJ 8837, Part 2 was stationed east of Part 1, tilted slightly to run southwest, and Parts 3 and 4 continued spiralling downwards to allow ONS 5 to run on a number of different courses into harbour in Newfoundland, but almost always crossing a line of *Amsel* boats.¹¹¹ *Fink* was not assembled until one day later, when Dönitz realised that his groups *Specht* and *Star* had lost “Convoy 36,”¹¹² and as such were to create the new group “*Fink*” at 1000 on 5 May. *Fink*’s 29 boats were instantly decreased by one when a rare, weather-permitted sweep by a Canadian Catalina found *U-*

¹¹⁰ Ibid.

¹¹¹ KTB BdU, 3 May 1943.

¹¹² Dönitz numbered all the convoys himself, sometimes also providing their Allied-assigned names. In this case, Dönitz may not have been clear on exactly what convoys he had been hunting—though it was likely SC 127 and HX 29, as mentioned above. ONS 5 was Dönitz’s *Geleitzug* 36.

209 on the surface and bombed it.¹¹³ It was an omen for the month of May. The remaining boats were given AJ 2758 to AK 4944 as their operating area—a massive stretch of ocean due south from the tip of Greenland and east of Labrador, as if to complement *Amsel*'s more southerly position. *Fink* was poised to catch possible convoys steaming down from the farthest northern reaches into Newfoundland.¹¹⁴ Before this order could be issued, however, Heinrich Hasenschar in *U-628* found what was suspected to be the south-westerly convoy ON 180, in AJ 6271. *Fink*, *Amsel 1* and *Amsel 2*, as well as *U-614* and *U-258* were all sent against the convoy, numbering 41 boats in total. Dönitz noted that “many boats can not operate for long because of a shortage of fuel,” which might have been the reason why he instructed *Amsels 2* through 4 to proceed with “economical” speed to meet *U-628*'s convoy.¹¹⁵

Kaleu Hasenschar had spent most of a day underwater avoiding destroyers prior to his fortuitous discovery at 2005 on 4 May of what turned out *not* to be convoy ON 180, but in fact ONS 5. He made his preliminary contact report and then continued to file hourly updates, fulfilling the mandate of a “trailer” as stipulated by doctrine, while lingering at a distance because of the tenacity of the Allied escorts. *U-628* began noticing other U-boats in sight as well, and by 2350 on 4 May, up to seven other boats had also radioed their contact reports. When darkness fell, Hasenschar began preparing for his attack—the first attack for the boats of Case Four. *U-628* fired four torpedoes between 0243 and 0246 the night of 4-5 May 1943, with five different freighters as targets.

¹¹³ Blair, *Hitler's U-boat War: The Hunted, 1942-45*, 291.

¹¹⁴ KTB BdU 4 May 1943.

¹¹⁵ Ibid.

Interestingly, Hasenschar reported four hits, the first 7 minutes and 58 seconds after firing, the next after 9 minutes and 4 seconds.¹¹⁶

Dönitz saw through this lofty claim, stating in his comments that “the hits claimed by the boat from 7 minutes 58 seconds to 9 minutes 4 seconds are extremely improbable after a running time of seven minutes”; torpedo steering mechanisms would be exhausted well before eight minutes, causing the “eels” to lose depth.¹¹⁷ Post-war calculations took away any consideration of success in this attack, but credited Hasenschar with later killing an already-damaged ship—ironically, it was *Harbury*, which he had damaged himself on 5 May, and then sunk with artillery, not torpedoes.¹¹⁸ Not a single one of the three ships he claimed (including a corvette) held up.¹¹⁹

Hartwig Looks in *U-264* achieved the greatest tonnage sunk of any one boat in this case, though this does not immediately suggest great proficiency on the *Kaleu*’s part. The difference between Looks and, for example Rolf Borchers in *U-226*, is a few minutes of peace. During the last eight hours of 4 May, Looks was driven down by three destroyers, and another two between 0050 and 0214 on 5 May. In a period of relative quiet, he happened upon a crowd of five steamers and chose the first three as his targets. He fired two torpedoes at 0300 and two more two minutes later; all four were seen to hit. Looks turned for his *coup de grâce*, and recorded, “I assume that all thee steamers were sunk because of well-placed shots.” In the next breath, however, “a fast-moving destroyer

¹¹⁶ Kriegstagebuch der Unterseeboote U 628 25. Juli 1942-1. Juli 1943, 5 May 1943; RM 98/1104; BA-MA, Freiburg.

¹¹⁷ Ibid., “Stellungnahme des Befehlshaber der Unterseeboote zum KTB “U 628” (Hasenschar) vom 8.4-19.5.43.

¹¹⁸ Rohwer, *Axis Successes*, 165.

¹¹⁹ Blair, *Hitler’s U-boat War: The Hunted, 1942-1945*, 291; KTB U 628, 5 May 1943.

is coming at me from the North”—and after issuing a contact report *U-264* dove and lost contact.¹²⁰

Borchers, on the other hand, found a destroyer at 0549 and the convoy at 0714, with the intentions of a daytime attack at close range. Before his approach could be made, however, a second more aggressive destroyer found him, and began a series of depth charges. Every attempt *U-226* made to surface and achieve more than just a sound contact with the convoy left it diving and bracing for more bombs. This went on for almost twelve hours. Finally at 1722, just as Dönitz had predicted, Borchers was forced to admit that he lacked the fuel to follow through with the attack. Solid ASW by the Allies and simple bad luck deprived Borchers of his chance.¹²¹ Where Looks had the benefit of a few choice moments destroyer-free in a good attack position to fire his torpedoes, Borchers simply could not shake the escorts before his provisions forced him to give the battle up.

Otto Köhler in *U-377* was in the same situation as Borchers. High command was generous, however, stating only that “the boat was, with five or six others, in a good position in front of the convoy. Because of unclear situations and an incorrect radio telegram recommending a mutual attack for twilight, *U-377* and all the other boats unfortunately did not get to try a submerged attack.”¹²² It was generous of BdU to

¹²⁰ “Kriegstagebuch der Unterseeboote U 264 22. Mai 1942-5. Februar 1944”; 5 May 1943; RM 98/457, BA-MA. Looks’ luck held out for him to have another two minute window, firing three more torpedoes, which he believed led to one more steamer, “absolutely” sunk.

¹²¹ “Kriegstagebuch des Unterseebootes U 226 1. August 1942-5. Oktober 1943”; 5 May 1943; RM 98/429, BA-MA.

¹²² “Kriegstagebuch des Unterseebootes U 377 2. Oktober 1941-10. Oktober 1943”; “Stellungnahme des Befehlshabers der Unterseeboote zum KTB U 377 (Köhler) vom 19.3.-7.6.43”; RM 98/879, BA-MA, Freiburg.

absolve Köhler of responsibility, for breaking rules for the sake of success did not tend to be frowned upon.¹²³

In the end, seven of the fifteen boats in this case were not able to attack the convoy that had so conveniently tumbled into *Fink-Amsel*'s way. This shows how imperfect convoy hunting was even when Germany had an edge in intelligence. A gift such as ONS 5's disorganisation being routed directly into enemy hands did *not* mean that all enemy got their hands on ONS 5. Before an attack could even be made, there were still a few things that needed to be done, and done well: U-boats still had to chase down contact reports; hide from escorts; zig *with* the convoy's course changes and not zag against them; and, ultimately, pray to the weather gods that their boats would be fortunate enough to avoid the frequent fogs of springtime in the North Atlantic.

Indeed, Mother Nature retained her fickle nature until the end, for as much as weather had appeared to give the Allies the disadvantage at the beginning of this case, in the end the wrath of the weather gods punished Germany as well. Dönitz's comments on *U-584*'s KTB congratulated the *Kaleu*, Joachim Deecke, on this patrol for "the tenacity that the boat stuck to the enemy with was well rewarded."¹²⁴ This rewards system was not based on merit, however, for of the 52 boats in *Fink-Amsel* that May that were not lucky enough to find the convoy and set up their attacks all in a twenty-four hour period—they were simply out of luck. Soon this bad luck spread to both wolf packs, for not long after nightfall on 6 May, the curse of bad weather struck again. As *Kaleu* Harald Gelhaus in *U-107* stated, "it has become dark, I'm sailing at 90° to meet the enemy's course. The poor

¹²³ As evidence, Hardegen's *Paukenschlag* patrol show him violating orders twice, but receiving no reprimand.

¹²⁴ "Kriegstagebuch des Unterseebootes U 584 22. Januar 1941-2. September 1943"; "Stellungnahme des Befehlshabers der Unterseeboote zum KTB U 584 (Deecke) vom 12.2.-24.5.43"; RM 98/1059, BA-MA.

visibility makes it appear that contact has been lost. No surprise.”¹²⁵ With nothing but reports of “contact lost” coming in to BdU, Dönitz gave the order to abandon the fight by 1450 on 6 May.¹²⁶ Tenacity was worthless, for weather had won.

Luck was certainly a factor in this case—but that is not to suggest that it was simply a matter of chance that led to the Allies losing twelve ships, or the Germans losing a record 41 boats for the whole month. What “luck” is suggesting here is that with the then- current strategic realities of the U-boat war, the difference between a successful patrol and an unsuccessful patrol increasingly left the realm of action and entered a world of intangibles. It is entirely counterfactual, but supposing that Rolf Borchers had succeeded in making his first attack before the destroyer descended upon him, the resulting confusion from a sinking ship or burning hulk could well have distracted the escorts long enough to let Borchers get away and set up a second attack. This is pure speculation, and *anything* would have been possible after changing just one variable—but the point remains that Looks did not show the prowess or skill that earned him the right to sink ships, while Borchers languished. External forces sometimes were the determining factor in kills.

Increasingly, as Cases Three and Four illustrate, U-boat successes were reduced to being possible when Clausewitzian fog and friction—sometimes literally—unbalanced the playing field. In 1943 the enemy twice suffered a setback or a temporary weakness that gave the U-boats a chance to penetrate increasingly powerful defences to sink ships in convoy; the war had thus moved entirely out of Dönitz’s hands and into the Allies’.

¹²⁵ “Kriegstagebuch des Unterseebootes U 107 8. Oktober 1940-23. Juli 1944”; RM 98/192; BA-MA.

¹²⁶ Paul von Forstner in *U-402* did not find the contact and made no attacks, but the *Kaleu* did record some choice radio traffic in the KTB. It provides a good picture of how one by one the messages came in: “contact lost”, or “give contact reports.” See “Kriegstagebuch des Unterseebootes U 402 26. Oktober 1941-4. September 1943”; RM 98/902, BA-MA.

Clay Blair has called *Fink-Amsel*'s achievement of twelve confirmed ships sunk a "notable success." Returning to the same statistical analysis he introduced to re-evaluate the "greatest convoy battle," however, twelve ships shared by 53 boats is an appalling 22 percent per boat; requiring between four and five U-boats to kill one single merchantman is neither notable nor terribly successful, it must be stated. Out of the entire group of 53 *Kaleus*, only eight got to add to their tallies from their participation in *Fink-Amsel*, with Hartwig Looks in *U-264* and Ralf von Jessen in *U-266* each killing three, and a further six *Kaleus* each claiming one.¹²⁷ Dönitz's decision to then pull his boats out of the North Atlantic until further technological developments were made seems almost humane as a result, but their return with group *Leuthen* proved that humanitarianism had no role in Dönitz's "strategy"—appalling casualty rates continued into September 1943 and never improved; military duty ruled the day.

Case Five: Once More, With Führung—Leuthen at Sea¹²⁸

The summer of 1943 was a time of reflection for Karl Dönitz. He had faced a veritable massacre in the North Atlantic in May, and retired his boats to the Azores-Gibraltar run thereafter, in spite of threats from increasingly strong British and American aircraft and further carnage.¹²⁹ The airplanes-as-U-boat-killers phenomenon had begun in 1942, at first with just one or two or none per month, but peaking suddenly for the year at ten in October. For the first time, more U-boats were killed by air than by sea; planes caused 29 of 38 boats to be lost in the month of July 1943, a number never eclipsed for

¹²⁷ Von Jessen's coup was bittersweet, for on 14 May a British Liberator aircraft from 86th Squadron killed *U-266*, leaving no survivors. See "Vermerk, Kriegstagebuch des Unterseebootes U 266 24. Juni 1942-14. April 1943"; RM 98/459, BA-MA, Freiburg.

¹²⁸ The boats included in this study are U-boats: 402, 377, 260, 758, 641, 229, 603, 270, 952, 731, 645, and 584.

¹²⁹ Blair, *Hitler's U-boat War: The Hunted, 1942-1945*, 541; Mallmann Showell, *U-boat Warfare: The Evolution of Pack Warfare*; See also footnote 43 for further reading on the Bay of Biscay, the location of much of this period's carnage.

the war's duration. The toll of frontline boats sunk decreased somewhat to 23 in August as Dönitz prepared for his last throw of the dice in the North Atlantic;¹³⁰ this was the backdrop for September 1943 and the beginning of *Leuthen*, a wolf pack deployed back to the North Atlantic with new tactics and technology, and the weight of the submarine war on its back.

Allied strategy for the U-boat war shifted slightly after the U-boat carnage of May 1943, perhaps spurred on by the achievement of so many kills in one month.¹³¹ The Allied experience was no longer just about protecting the convoys, but also destroying those that threatened them. The “hunter-killers” were anti-submarine groups assembled as support to the convoy but not specifically escort duty. They would, as the name suggests, “hunt” U-boats to “kill” them rather than driving them down and away from the convoy, for its protection.¹³² The difference was in focus—“hunter-killers” were engaged in attacking U-boats, while escort units had as their duty ensuring the convoy's safe-passage. Ultimately, these attack groups were a waste of resources, it has been argued, and they did not achieve what their resources ought to. The point is moot if one is examining the war in terms of the bigger strategic goal: victory. The Allies had effectively won the Battle of the Atlantic by mid-1943, even earlier as stated above, though they obviously still needed to fight to the end as in the submarine war in the Pacific. With that in mind, one could argue that from a strategic perspective, “hunter-killers” did not change the outcome of the war and therefore they are simply a matter of experimentation. No doubt this would not have been the welcome perspective at OKM.

¹³⁰ All numbers from Niestlé, *German U-boat Losses During World War II*, 201.

¹³¹ *Ibid.*, 13.

¹³² One account of the American aircraft carriers engaged in such operations is William T. Y'Blood's *Hunter-Killer: U.S. Escort Carriers in the Battle of the Atlantic*, (Annapolis: Naval Institute Press, 1983).

On 16 September Dönitz issued *Leuthen* orders to “operate only against the westerly convoys.” Two convoys, an unspecified ONS and ON were expected on 21 and 23 September, and, paradoxically, given Dönitz’s order, he also pointed out that they offered U-boats good opportunities against the eastbound convoy. With the summer’s toll in mind, no doubt safety and preservation were on BdU’s mind as much as the relentless drive for success, so after the orders were issued there came a radio broadcast including a list of warnings and precautions for *Kaleus* to follow. “There is no longer any sea area in which one cannot expect a surprise attack from airplanes,” he stated, which set the tone for the remainder of warnings. *Kaleus* were warned that in the North Atlantic, planes mostly flew at low levels, around 2,000 metres above sea level in the mid-oceanic area, and could be spotted at 30° or 40° off the horizon. Bridge watches and time spent above decks was to be curtailed, and used only when absolutely necessary, for the boat had to be ready to dive at any time—even when re-supplying.¹³³ To facilitate this, during the day U-boats were not permitted to stop, but had to keep at least one diesel engine running so that if quick manoeuvres were called for, they could be executed as hastily as possible. The final warning issued was the most indicative of the decline of the German U-boat war, for Dönitz stated that

only the boats that are always thinking ahead about possible defensive measures, always adjusting operations accordingly, always practicing and improving, and conducting these defences with unflinching strength will successfully overcome the enemy defences, and have successful attacks with decks cleared for action.¹³⁴

Thus, U-boats were to be cautious and aware of enemy ASW at all times, and only then would they be successful in attack—or, strong defence was a good offence.

¹³³ Summer 1943 had savaged the fleet of U-tanker “milch cows”, the specially designed re-supply U-boats, but the last remaining tanker, *U-460* was to support *Leuthen*.

¹³⁴ KTB BdU, 16 September 1943.

The new tactics devised for this better, brighter U-boat deployment revolved around the use of “Hagenuk” radar detectors to detect the problematic Allied air cover. Radar detector was nothing new for U-boats; a series of less effective sets had been in use since the outset, including the *S-Gerät* which acted as an aircraft beacon, updated to “Metox” in May 1943 (which had given off emissions) and finally evolved into “Hagenuk” (also called *Wanze*), Dönitz’s new weapon for *Leuthen*. In terms of its air power hunting abilities, new tactics devised in June for the Bay of Biscay stipulated that U-boats were to stay on the surface and fight aircraft with artillery—“Hagenuk” would provide the warning.¹³⁵

The use of the “Hagenuk wave indicator” was not meant to influence the U-boat’s conduct in battle, however, and was only to be thought of as an expedient, a way to ensure surprise attack by letting the U-boats remain submerged as they glided into the North Atlantic unnoticed. Dönitz counselled that “already at the start of an operation against a convoy—when the boat’s objective is to approach unnoticed—the conception of [radar] detection is only as a warning for the boat, so that with heightened alertness it can dive to safety at first being sighted.”¹³⁶ U-boats were being told to trust their technology, but with reservations when it came to their safety. “Hagenuk” also held the possibility of being especially helpful in maintaining contact with ships and convoys, though the final benefit was that it would certainly ease night attacks.¹³⁷

Leuthen boats then readied themselves to go to sea with instructions to stay on the surface and fight it out with aircraft located on the new radar detection sets, but otherwise to go unseen into battle. The notion of meeting concentration with concentration (wolf

¹³⁵ Blair, *Hitler’s U-boat War: The Hunted, 1942-1945*, 420.

¹³⁶ KTB BdU, 18 September 1943

¹³⁷ Ibid.

packs against convoys) moved to the background in favour of overcoming air power. Survival was to precede aggressive attack inasmuch as failing to respond properly to the threat from the air had been dealing Germany a devastating blow for months.

Stories of “Hagenuk” problems came in immediately following departure, as *U-386* reported having been detected and attacked in the Bay of Biscay after its radar detection had failed to warn of an approaching plane.¹³⁸ Joachim Deecke of *U-584* reported that his machine was simply irreparable, and requested a replacement; his boat was later destroyed with all hands by two American planes from the escort carrier *Card* on 31 October 1943, though it is unclear whether this situation was exacerbated by having lost *Wanze*.¹³⁹ There were success stories as well, *U-377* in particular congratulated the new radar detector for having “proved itself,” but “Hagenuk’s” fallibility in face of the airplane threat simply offered too little with which the U-boats of *Leuthen* could protect themselves.¹⁴⁰

U-270 picked up the first sign of a convoy and issued its report at 0406 on 20 September—not *late*, as BdU had led *Kaleus* to expect it. A destroyer came down on the U-boat within a half hour, but before 0500 that morning, *Kaleu* Paul-Friedrich Otto made his first attack with the “TV”—*Torpedo Versuchs*, or experimental “eel,” which in this case was the homing “Wren,” or *Zaunkönig*. The destroyer had not been put off *U-270*’s scent, however, and the series of DCs that followed were almost a disproportionate response, they were so severe.¹⁴¹ This first attack in the new and improved era of U-boat

¹³⁸ Blair, *Hitler’s U-boat War: The Hunted, 1942-1945*, 420.

¹³⁹ KTB U 584, 11 September 1943 and *Vermerk*. *Card*’s planes were active, and also killed *Leuthen*’s *U-402* on 13 October 1943.

¹⁴⁰ KTB U 377, *Erfahrungen*.

¹⁴¹ “Kriegstagebuch des Unterseebootes U 270 5. September 1942-17. Juni 1944”, 20 September 1943; RM 98/463, BA-MA.

tactics was not yet yielding new or improved results. If anything, it still indicated that the Allies held the upper hand in the situation—but it remained too soon to pass concrete judgment.

Confusion cloaked Otto's discovery, with BdU radioing to *Leuthen* on 21 September that "Otto's flares and destroyer presumably did not belong to the convoy, there were too far back."¹⁴² Eventually, BdU worked out that Otto probably *had* found ON 202, and the original three boats dispatched to take part in the action were augmented by the whole of *Leuthen*.¹⁴³ Confusion funnelled down from the top, because the value of intelligence had diminished drastically when *B-dienst* "lost" the Allied convoy codes and reverted to a sort of "rhythm method" for convoy cycles that could even include information on stragglers. However, the magnitude of "losing" convoy codes was felt clearly through the words of Dönitz's right-hand man at BdU, Eberhard Godt, who wrote in the war diary, "dead reckoning on convoys is no longer accurate because data are lacking."¹⁴⁴

War diaries and attack protocol also became more confused. From 21 September until fog and weather forced it to end on 23 September, the U-boats did battle in quadrant AK, with a certain sameness repeating itself in the war diaries. *Leuthen* boats struggled to keep in contact with the convoy, but with virtually no effort at all stayed in near-perpetual contact with destroyers. The battlefield had become a more confusing place, for along with the new radar detector, "Hagenuk," the Germans were also employing "Aphrodite" in their U-boats, a sort of "radar detector impersonator." "Aphrodite" could be switched

¹⁴² Ibid., 21 September 1943. [KTB U 270]

¹⁴³ KTB BdU, 20 September 1943. Likely ONS 218 as well, as per Mallmann Showell, *U-boat Warfare: The Evolution of the Wolfpacks*, 127.

¹⁴⁴ KTB BdU, 19 September 1943; Blair, *Hitler's U-boat War: The Hunted, 1942-1945*, 421.

on to act as a decoy to throw the hunting Allies off the U-boats track. Other new technology includes the *Zaunkönig* torpedo, or “Wren,” a more evolved version of the acoustic torpedo *Falke*, or “Falcon” that had been in use since January 1943. These torpedoes aimed to take some of the human error out of torpedo misses by having them home onto the noise of a ship’s propeller. The “Falcon” was intended for use on merchantmen, but the “Wren” was also called “the destroyer cracker” (*Zerstörerknacker*). In addition, *Leuthen* boats sailed with a new noisemaking ASDIC decoy (*Bolde*), heavier deck guns (with which to engage the air craft that “Hagenuk” radar detector was to warn them of), and a more sensitive listening system.¹⁴⁵ It is impossible to think that all of these new toys, when coupled with the intense air cover and heavy escorts convoys needing to be dealt with, did not split the *Kaleu*’s focus. These new technologies added extra layers to what used to be a matter of “find the target, issue a contact report, make the approach, and fire!,” though at least target selection had broadened to including warships, thereby making virtually every contact an attack-worthy target.

The “Wren” torpedo likely had the greatest effect on tactics of all the new technologies, for the years-long policy of not engaging warships all but evaporated with its introduction. Given the density of convoy escorts, the “Wren” offered a critical way of cutting through the defences to access the real goal lying within: the merchantmen. Dönitz was of this mind as well, noting that the increased destroyer sightings had reached such a high number that on 21 September he had reports of 15 “Wren” attacks on destroyers.¹⁴⁶ Under the list of “Successes,” Dönitz had but 10 attacks on destroyers, but what was remarkable was that these outnumbered attacks on merchantmen by a factor of

¹⁴⁵ KTB BdU, 24 September 1943 “Abschlussbetrachtung Geleitzug Nr. 43;” Blair, *Hitler’s U-boat War: The Hunted, 1942-1945*, 404.

¹⁴⁶ KTB BdU, 20 September 1943.

more than three—and a full 70 percent of these were believed to have sunk their targets.¹⁴⁷ This number was re-evaluated *again* when Dönitz wrote up his closing observations on the wolf pack on 24 September, noting that convoy defences were so strong that rarely did a U-boat even catch a glimpse of the convoy; to remedy the situation, on the first night “seven destroyer escorts were certainly sunk and two more probably.”¹⁴⁸ The night of 22 September, BdU noted, another five were sunk—three certainly and two probably, and for the whole operation another nine merchantmen were sunk for 46,500 tons.¹⁴⁹

What a miraculous return to the North Atlantic! Or, as Dönitz expressed retroactively in his *Memoirs*, “we regarded this as a satisfactory success.”¹⁵⁰ In the face of frequent air cover and massive numbers of convoy escorts, at the time it still seemed that *Leuthen* was responsible for killing nine merchant ships in addition to the men-of-war, and the cost to the Third Reich was only two U-boats. Post-war reconsiderations pointed to certain conclusions that one might have made with some basic logic, undoing the glory of the U-boats’ September operations. For example, how strong could defences have really been for one single, empty convoy? ON 202 was heading back to North America to reload; what were the chances that this convoy could have had thirteen destroyers to lose without completely denuding its charges of their protection? It *had* been four months since Dönitz had operated in the mid-Atlantic, and perhaps he was sufficiently out of touch with convoy practices as to believe that the Allies had that many escorts available, though it was entirely self-serving to believe that *Leuthen* could have been responsible

¹⁴⁷ Ibid.

¹⁴⁸ Ibid., 24 September 1943 “Abschlussbetrachtung Geleitzug Nr. 43.”

¹⁴⁹ Ibid., 24 September 1943 “Abwehrverhältniss.”

¹⁵⁰ Dönitz, *Memoirs*, 419.

for such a high level of destroyer destruction. What BdU did not and could not have known at the time, given the limitations of “observing” one’s kill when hunting destroyers, was that only about one in every ten “Wren” was working. This helps to explain the staggering density of escort ships on the second night of the battle—they had not been destroyed that first night.¹⁵¹

The final reckoning for warships “cracked” by the “Wren” is likely closer to a total of three, only *one* of which was actually a destroyer. Clay Blair cites that the escorts lost to *Leuthen* included the Canadian *St. Croix*, along with the British corvette *Polyanthus* and frigate *Itchen*.¹⁵² Seven merchantmen were also lost, and *three* U-boats, not the two that Dönitz assumed.¹⁵³ Thus, it took more than two U-boats for each of the kills in September’s convoy battle—which was a marked improvement over the calamity of May 1943, but was simply not enough to reverse the course the Atlantic war was following.

Conclusions

September 1943 shows a real change in the way U-boats were operating for the first time in the cases examined. What remains paramount in understanding the nature of these changes is that new technologies drove tactical developments, a problem that was two-fold. First, Germany was losing the war *strategically*, so no *tactical* shifts alone could reverse its fortunes. Second, all the changes and developments happened *reactively*. Germany’s U-boat war progressed in response to the strengthening Allied ASW war, without taking the conflict onto a new plane where there might have been room for

¹⁵¹ Mallmann Showell, *U-boat Warfare: the Evolution of Wolf Packs*, 129.

¹⁵² Blair, *Hitler’s U-boat War: The Hunted, 1942-1945*, 423. The frigate HMS *Logan* was also torpedoed, but only damaged. For a popular account of the destruction of the *St. Croix*, see Bercuson and Herwig, *Deadly Seas*.

¹⁵³ Mallmann Showell, *U-boat Warfare: the Evolution of the Wolf Pack*, 130.

advances. All the time, effort and resources devoted to the new kit that *Leuthen* put to sea with might have been better spent elsewhere, for the new technology complicated the undertaking without offering a proportional chance for success.

At the end of 1943, 242 U-boats had been lost. That was almost four times the number lost in 1942 (86). Fortunately, if one could call it a “fortune,” there were six months in 1943 when U-boats sank more than 20 ships in a month, and another three when the total was 20 exactly. By 1944, the year when 250 boats were lost, only one single month exceeded 20 ships sunk, and only then just barely.¹⁵⁴ Ships continued to be sunk even in the dying days of 1945, but the bigger question was always “at what cost”?

At the outset of this chapter, Karl Dönitz was quoted as stating that “the submarine war will in the end decide the outcome of the war.” He was wrong about many things while he served as *Befehlshaber der Unterseeboote*—but was he right about that? Did Germany lose the war because the U-boat war was lost, or ought that be reversed? It is fair to pin a significant amount of responsibility for the loss of the Battle of the Atlantic to the Commander-in-Chief of the *Kriegsmarine*; but is it then also fair to hold him responsible for the outcome of the Second World War?

¹⁵⁴ All figures from Mallmann Showell, 152.

Chapter Six:

“Day of Infamy” Gives Way to “Infamous Warfare”:
From Learning Curve to Victory at Sea

*Even in war, a complete stoppage of the trade of the
defeated nation rarely can be brought about.*

Captain Milton S. Davis, U.S.N., 1933

The order to “Execute Against Japan” came from out of the fog of war of the Japanese attack on Pearl Harbor—the United States was at war, and the submarines were waging it without restrictions. But what did that mean? The submarine service’s operational history stated simply, “this directive hadn’t been expected.”¹ Another officer recalled apocryphally that when the order was received, he asked his commanding officer what that was. The response: “I don’t know.”² It is highly unlikely that a submarine officer would not have known what had happened in the German U-boat war of 1914-18, however. “Unrestricted” submarine warfare (USW) was a widely-*known* strategy, but, as the operational history recounts, the two officers’ conundrum likely arose because it was an *unexpected* strategy.³ Thus, after 7 December 1941, the Americans began figuring out what this unanticipated way of war would mean operationally for their submarine service.

American submarines served as jacks-of-all-trades in the Pacific War, performing USW against Japanese merchant shipping, hunting men-of-war, executing special missions (including life-guarding, reconnaissance, mine-laying, and landing special

¹ “Submarine Operational History World War II”, prepared by Commander Submarine Force, U.S. Pacific Fleet, Volume 1 of 4; Submarines, Pacific Fleet, Operational History, Vol. 1 of 4; Bulletins, Submarine Vol. II, 1945; Box 357, Submarines Pacific Fleet—History; Operational Archives (hereafter OA), Naval Historical Center (hereafter NHC), Washington, D.C., 1.

² Quoted in Joel I. Holwitt, “‘Execute Against Japan’: Freedom-of-the-Seas, the U.S. Navy, Fleet Submarines, and the U.S. Decision to Conduct Unrestricted Warfare, 1919-1941”, (Ph.D. Dissertation, Ohio State University, United States, 2005), 169.

³ The Operational History states on page three, “With the memory of American abhorrence to the German unrestricted submarine warfare of 1917-18 still fresh in mind, the “unrestricted warfare” directive came as a surprise.” Thus, the chances of a commanding officer in submarines not knowing what USW was are miniscule. “Submarine Operational History World War II”, 3.

forces), and supporting the fleet in naval operations. This study is predominantly interested in USW, however, which necessarily narrows the focus to targeting merchantmen, warships, and taking part in mine-laying operations. What results is a picture of the American submarine war reduced to just one part of its whole, though one of the most significant part, and remaining within the bounds of economic warfare as much as possible.

The United States initially rejected the methods it had seen Germany use to wage submarine war in the Atlantic Ocean. Perhaps most importantly, there were no “wolf pack”-type group efforts practiced by the United States Navy (U.S.N.) at the outset, to the detriment of future historical inquiry. Whereas the German operational case studies examined previously were formed primarily around Karl Dönitz’s tidily fixed and named groups, the American war demands a different organisational structure for its cases. Those selected were chosen on the basis of their operational areas within certain time frames, and later, they were chosen around groupings.

This chapter is comprised of four cases: the first occurred during the first full year of the American Pacific War (December 1941 to December 1942), in some of the most fertile hunting grounds—the Empire Waters around Japan. This area was one of the planned “strategical areas” from the RAINBOW 5 plan, so operating there had certainly been anticipated.⁴ Case Two covers boats operating from the base in Brisbane, Australia, in a strategy the divisional commander called “playing checkers,” which was most akin to Dönitz’s organisational methodology. These cases combine to tell a story of American struggle in the early days of the war as the United States (U.S.) sought to come to terms

⁴ For more on RAINBOW 5 (WPL-46) and “strategical areas”, see Chapter 3.

with the realities of submarine warfare, ascending a learning curve that would lead to decisive victory.

The second half of the American Pacific War submarine campaign tells a different story. Many of the initial problems in execution had been ironed out, paving the way for the submarine war to reach its conclusion in 1944. This section begins by reaching back to mid- and late-1943, when the U.S. first adopted similar tactics to the group tactics Germany had employed in the Atlantic—but with an American interpretation. Case Three charts the progress of a selection of “co-ordinated attack groups” in 1943 as the U.S. moved to embrace a “new” way of war. Finally, Case Four centres on a more matured version of co-ordinated groups in American “wolf-packs”—during the year that the submarine service won its Pacific War: 1944. Patrols of both “wolf packs” and “solo sorties” continued until the final days of 1945, but the Pacific War effectively ended by the last days of 1944, and so does this study.

These four cases chart the American submarine war’s trajectory using boats from two of the three command bases, Pearl Harbor and Brisbane, focusing on the key areas of Japanese shipping. All patrols studied here were done by the vastly superior fleet submarines. Case One focuses on an area known to be heavily trafficked by cargo and convoys, Case Two examines an attempted strategic shift, Case Three identifies the awkward transition towards “wolf pack” tactics, and Case Four shows what it looks like to achieve victory with “unrestricted” submarine warfare. An analysis of this war illustrates that the burden of innovation lay more with the Japanese than the Americans, for it was the Allies’ war to win, which allowed certain campaigns (like the submarine war) a degree of flexibility in how this was achieved.

Part One: A New Way of Warfare

*Case One: Empire Waters, December 1941-December 1942*⁵

U.S.S. *Pollack*'s first patrol, discussed earlier, was the confirmed lone success of all patrols in December 1941. So few boats were available that after that initial group of seven boats were let loose into the Pacific at the outbreak of war, nothing more could be done from Pearl Harbor until early in the New Year.⁶ The goals remained the same when the calendar rolled into 1942, and so did the means and methods, but as greater numbers went forth to hunt, the results were far from the same as *Pollack*'s first tour to Empire Waters. Each patrol was unique, naturally, but analysis of the boats in Case One makes *Pollack*'s experience look even more unique; it seems as if Stanley Moseley's boat somehow escaped the plague of problems so pandemic in the early years of the submarine service.

One of the worst curses in American submarine command was a lack of aggression.⁷ It has been suggested that this developed from interwar practice, when boats were so few and production so limited that caution was the key for advance. However, Craig Felker has argued in *Testing American Sea Power* (2007) that this was not the case; skippers showed aggression and it forced a change in the way that submarines were deployed in Fleet Problems.⁸ Clay Blair argues that the problem lay with high command and its refusal to replace unsuccessful, cautious older skippers with the younger, more

⁵The boats included in this case study are (with the attached figure denoting what number patrol the *boat* was making, not reflective of its captain or crew): *Pollack*-1; *Tuna*-1; *Gar*-1; *Grenadier*-1; *Grayling*-2; *Trout*-3; *Silversides*-1; *Drum*-1; *Pollack*-3; *Dolphin*-2; *Nautilus*-1; *Cachalot*-2; *Silversides*-2; *Pompano*-3; *Cuttlefish*-3; *Guardfish*-1; *Drum*-3; *Trigger*-2; *Kingfish*-1; *Greenling*-3; *Nautilus*-3; *Whale*-1; *Drum*-4; *Porpoise*-4; *Halibut*-3; *Sunfish*-1; *Pike*-6; *Haddock*-3; *Finback*-3; *Trigger*-3.

⁶Of those seven, three went to Empire Waters, four to the Marshall Islands, and in addition two boats each patrolled around Wake and Midway to protect against another attack like that at Pearl Harbor.

⁷Blair, *Silent Victory*, 199.

⁸Craig C. Felker, *Testing American Sea Power: U.S. Navy Strategic Exercises 1923-1940*, (College Station, TX: Texas A&M University Press, 2007), 69-71.

aggressive skippers.⁹ However, this was not always the case. By mid-May, after the Battle of Midway, the second Comsubpac, R.H. English, had relieved twelve of his skippers and replaced eight of them with men around six years younger than their predecessors. Blair argues that this was not enough and being done far too slowly, but English still believed there was greater value in his claim to have never lost a single boat in the first six months of war—their tonnage records notwithstanding.¹⁰ These authors have consistently overlooked “Current Doctrine, Submarines” and its cautious tone, recalling that commanders were tactically trained to dive well before first contact with targets.¹¹ COs would have been hard-pressed to forget that.

Thirty percent of submarine commanders were relieved in the first year of war. From the boats in Case One, however, only two of 29 COs were sacked, for a total of 6.9 percent. This represented about 23 percent of the normal attrition rate, though it is not clear what the causality is for there being less than a quarter of the number of under-aggressive skippers assigned to Empire Waters. The two offenders were *Grenadier*’s CO, Allen R. Joyce and George A. Lewis of *Cachalot*.¹² Joyce’s swan song in *Grenadier* happened six months before Lewis’, such that Joyce was put under RAdm Withers’ microscope while Lewis was under that of RAdm English. Withers tended to be more scathing in his evaluations and called *Grenadier*’s first patrol “a total failure”.¹³

⁹ Blair, *Silent Victory*, X

¹⁰ Blair, *Silent Victory*, 255.

¹¹ See Chapter 4.

¹² Lewis was removed from active service in the Pacific, but like others (including fellow Pearl Harbor reject Martin P. Hottel) was given a second chance commanding a boat out of Brisbane. For Lewis, *Swordfish* was his second chance, and for Hottel, *Grouper*.

¹³ From Commander Submarines, Pacific Fleet to Submarines, Pacific Fleet, 27 March 1942, Subject: U.S.S. GRENADIER (SS210) – First War Patrol - Report of; Box 2804; World War II Submarine Combat Control Reports; RG 38; Crane Files; NARA II, College Park, MD, 1.

What does “total failure” look like? It reflects a patrol of aversion more than offence, as Joyce made a total of one attack on 7 March 1942, having chosen to dive at virtually all other contacts. In his lone attack he fired four torpedoes at the freighter in his sights, but only heard one explosion. He did not observe this hit or see what happened to the ship in the immediate aftermath; instead, Joyce relied on what his calculations told him—that the freighter stayed afloat after the first salvo. *Grenadier* therefore let loose two further torpedoes, marking a total of *six* torpedoes spent for *one* freighter. This was wantonly wasteful considering that doctrine espoused using just two. Even worse, after six torpedoes the freighter was left to limp home, nurse its wounds, and return to serve the Japanese war effort.¹⁴ Joyce had done little to hurt the Rising Sun with that patrol.

Withers was baffled by the paucity of night contacts reported, but more so by the fact that Joyce did not investigate the few night contacts he had at all.¹⁵ In at least one situation a destroyer sailed between *Grenadier* and the moon—a perfect set up for a surprise night surface attack. Inexplicably, Joyce embraced his “dive upon contact” strategy once more, and lost the destroyer in the process. This was not the only time he botched what could have been a productive approach; he even purposely avoided a target once.¹⁶ Calling his actions “cautious” is an understatement. The problems were not limited to the CO’s lack of aggression, though a lack of *presence* would be a better criticism, for when *Grenadier* returned to base Joyce had an abundance of endurance factors remaining. They counted eighteen torpedoes, almost 20,000 gallons of fuel, 21

¹⁴ From Commanding Officer to Commander Submarines, Pacific Fleet, 23 March 1942, Subject: U.S.S. GRENADIER – Report of First War Patrol. Period from February 4, 1942 to March 23, 1942. Area Four; Box 2804; World War II Submarine Combat Control Reports; RG 38; Crane Files; NARA II, College Park, MD, 3.

¹⁵ From Commander Submarines, Pacific Fleet to Submarines, Pacific Fleet, 27 March 1942, Subject: U.S.S. GRENADIER (SS210) – First War Patrol - Report of, 1.

¹⁶ *Ibid.*

days' provisions, and fourteen personnel days. How could Joyce justify this waste of a patrol upon returning to base? He reported to Comsubdiv 42, F.M. O'Leary, quite simply that he had had to return because "he was tired".¹⁷

O'Leary was generous in his remarks on the CO's fatigue. Rather than castigate him for aborting a patrol with so many resources remaining, Comsubdiv merely advised Joyce that "Commanding Officers must have confidence and place responsibility in the hands of their junior so that they will never be tired."¹⁸ It is unlikely that delegating would have helped in Joyce's case, however, for as a member of the Naval Academy class of 1926, he was among the oldest of skippers. Many of the more senior officers like Joyce were found to lack the stamina to keep up with the demands of their jobs or the stresses of active wartime patrol. This was emblematic of the personnel problems the U.S.N. suffered with submarines, and showed that Clay Blair was certainly not all wrong in his earlier statement that caution in the submarine service was caused by a failure to replace the older, unsuccessful skippers in a timely way.

Lewis' patrol was a failure for much the same reasons as Joyce's. *Grenadier* had put out for 48 days, while *Cachalot* patrolled for 47—neither of these varied exceptionally from the norm in early 1942. That should have been time enough in the target-rich Empire Waters to do damage. However, Lewis belonged to the cautious group of senior commanders, having graduated from the Naval Academy one year after Joyce did. However, Lewis' greatest sin was not one of stamina, but instead one of non-

¹⁷ From Commander Submarine Division SIXTY-TWO to Commander Submarines, Pacific Fleet, 24 March 1942, Subject: U.S.S GRENADIER, War Patrol – Comments on; Box 2804; World War II Submarine Combat Control Reports; RG 38; Crane Files; NARA II, College Park, MD, 8.

¹⁸ Ibid.

aggression. His was a “most disappointing” patrol, though not a “total failure”.¹⁹ Lewis ignored those who had gone before him to the same area, showing that the boat needed to hug the coast to make good and plentiful contacts. Nevertheless, Lewis *did* make 22 contacts to Joyce’s twelve—but on closer examination, only two of those were not small craft and unworthy for torpedo attack. This abysmal result after 21 days in the patrol area was wholly self-inflicted; *Cachalot*’s skipper ought to have known that this had been a very fruitful area in the past, but perhaps he needed to be ordered to learn from earlier patrols (which became part of operational orders later that year) before doing so.²⁰ It was a blindingly obvious point, and Command reasoned that Lewis erred in not obtaining this information.

Lewis, like Joyce, got off one single attack for his patrol, on 22 June 1942. He fired one torpedo at an empty tanker and observed a hit. He then watched the tanker turn towards *Cachalot* and so he began setting up for his second torpedo, a “down-the-throat” shot. Lewis went deep to 250 feet (76 metres), after firing, commenting in his patrol report that “this torpedo should have missed ahead, unless the tanker continued on the course last observed and had reached the increase in speed.”²¹ Doctrine dictated that there ought not to have been any “should” about it—Lewis was meant to stay surfaced long enough to see the outcome of his attack unless his boat was in grave danger. Regardless, the CO gave other reasons for why he believed his second shot missed, and casually

¹⁹ From Commander Submarines, Pacific Fleet to Submarines, Pacific Fleet, 3 August 1942, Subject: U.S.S. CACHALOT (SS170) - Report of Second War Patrol; Box 2794; World War II Submarine Combat Control Reports; RG 38; Crane Files; NARA II, College Park, MD, 1.

²⁰ Ibid.

²¹ Report of War Patrol (Second), U.S.S. CACHALOT, July 1942; Box 2794; World War II Submarine Combat Control Reports; RG 38; Crane Files; NARA II, College Park, MD, 2.

mentioned that the tanker was last *heard* (not *seen*) heading back towards Hachijo Shima in the Bonin Islands.²²

Between his deep dive to 250 feet at 0450 and rising to periscope depth at 1000, Lewis merely bided his time deep underwater; on this, English could only remark (pun likely unintended): “the reason for deep submergence after obtaining one hit can not be fathomed.”²³ Not only had Lewis failed to use a spread (which was also commented on by Comsubpac), he had not fired the two torpedoes that doctrine suggested, and he barely followed up, questionably choosing essentially to run away from the damaged vessel—an easy target. Case One is somewhat remarkable in the overall aggressive nature of the majority of its commanders, as suggested above, but those who failed, did so grandly.

Not *all* the senior skippers were overly cautious and ineffective, of course. A notable exception was the CO of *Drum* for patrols one through three, Robert H. Rice, Naval Academy class of 1927 (like Lewis). All of Rice’s claimed kills held up under postwar scrutiny by the Joint Army-Navy Assessment Committee (JANAC), which allowed that he sunk four ships on his first patrol and three more on his third, both to Empire waters. Even though Rice came up short on patrol two around Truk Island, the three endorsements *Drum* received showed the greatest reticence to criticise a proven skipper when he did not produce. In that second patrol, Rice had made what for other COs would have been fatal decisions in not developing every attack opportunity and saving torpedoes for “the big chance,” instead of firing at all reasonable opportunities as doctrine stipulated.

²² Ibid.

²³ From Commander Submarines, Pacific Fleet to Submarines, Pacific Fleet, 3 August 1942, Subject: U.S.S. CACHALOT (SS170), 1.

Drum-2's first evaluation by Comsubdiv 102 set the tone of permissiveness, stating that: "while the report of the second war patrol conducted by the DRUM appears to be a succession of lost opportunities and disappointments, I am certain that it was more aggressive in nature than the colorless factual statements of the report seem to indicate."²⁴ Comsubron 10 gave less benefit of the doubt, but still only called the patrol's results "disappointing".²⁵ The damning words "not aggressive" were never written, though it is clear that failing to follow up properly on contacts was certainly that. By the end of Rice's next (successful) patrol, the commanders' belief in *Drum*'s CO was restored. Comsubdiv 42 wrote: "the conduct of the patrol itself and the excellent report thereof are dividends we're beginning to collect as a result of added seasoning and experience by commanding officers who were naturally proficient to begin with."²⁶

The fact is that Rice was an even fifty/fifty split between success and failure going into that third patrol. Had he not made three successful kills in his third effort, it is doubtful that he would have been considered so "naturally" proficient—he had shown himself capable of great success and utter failure, after all. Furthermore, Rice was one of the more senior COs, making the suggestion of beneficial "seasoning and experience" seem overstated. However, a trend developed in the navy in which commanders became only too happy to extol the virtues of success and highlight achievement—at the expense

²⁴ From Commander Submarine Division 102 to Commander Submarines, U.S. Pacific Fleet, 13 September 1942, Subject: U.S.S. DRUM, Second War Patrol; Comment on; Box 2812; World War II Submarine Combat Control Reports; RG 38; Crane Files; NARA II, College Park, MD, ENCLOSURE A, 1.

²⁵ From Commander Submarine Squadron 10 to Commander Submarines, Pacific Fleet, 12 September 1942, Subject: U.S.S. DRUM- Report of Second War Patrol; Box 2794; World War II Submarine Combat Control Reports; RG 38; Crane Files; NARA II, College Park, MD, ENCLOSURE A, n.p.

²⁶ From Commander Submarine Division 42 to Commander Submarine Force, Pacific Fleet, 10 November 1942, Subject: U.S.S. DRUM- Report of Third War Patrol; Box 2812; World War II Submarine Combat Control Reports; RG 38; Crane Files; NARA II, College Park, MD, n.p.

of addressing some real issues sometimes—such that this rhetoric played a significant role in building morale in the submarine service.²⁷

The theme for a successful patrol in the U.S.N. was clearly aggressiveness. Possessing an aggressive spirit on patrol could forgive a multitude of sins, as the commander of *Cuttlefish-3* found out. Lieutenant-Commander E.E. Marshall's 69-day patrol was "conducted aggressively,"²⁸ although RAdm English admitted that "errors were made which must be credited to profitable experience for future guidance."²⁹ At the time it was thought that Marshall was responsible for depriving the *Rising Sun* of two ships at almost 30,000 tons in total (though JANAC reduced that to nil and nil). This was respectable, but not exceptional. What made this such a successful patrol, then?

Cuttlefish-3 was not a success because of a devotion to the safety of crew and craft. The endorsements made put Marshall's patrol in a positive light *in spite* of the fact that some of the "errors" he had committed had actually been dangerous for the crew. For example, shortly after midnight on 14 August, *Cuttlefish* was patrolling across a bight in

²⁷ Perhaps the greatest example of the double-standard was in the commanders' total silence on Dudley "Mush" Morton's massacre of shipwrecked Japanese sailors during *Wahoo's* patrol three. On 26 January 1943 Morton torpedoed two freighters, at which point a transport appeared. The troops on board abandoned ship after three torpedoes hit, "like ants, off a hot plate" (p. 4), the CO observed. Morton decided to "destroy the estimated twenty troop boats now in the water" (p. 5); he manned his guns and a battle between the submarine's four-inch guns and the troops' small calibre side arms ensued. The endorsements praised his aggressive spirit, which was a vital tool for promoting the "aces" in the submarine service. Comsubron 10 called the patrol "an epic of submarine warfare. The report and results of this patrol speak for themselves and clearly demonstrate what an aggressive, determined commanding officer can do... the achievements of the Commanding Officer... cannot be too highly praised, and all are to be commended with an "Exceptionally well done" (Enclosure B). Morton was killed on a later patrol, which was fortunate in some ways for the U.S.N., for it therefore did not have to deal with the sticky issue of potentially bringing charges against a war hero post-bellum. See U.S.S. WAHOO (SS238) – Report of Third War Patrol, 12 February 1943; Box 2816; World War II Submarine Combat Control Reports; RG 38; Crane Files; NARA II, College Park, MD, 4, 5, Enclosure B.

²⁸ From Commander Submarine Squadron FOUR to Commander Submarines, Pacific Fleet, 22 September 1942, Subject: U.S.S. CUTTLEFISH – Third War Patrol – Comments On; Box 2794; World War II Submarine Combat Control Reports; RG 38; Crane Files; NARA II, College Park, MD, ENCLOSURE A, n.p.

²⁹ From Commander Submarines, Pacific Fleet to Submarine Force, Pacific Fleet, 25 September 1942, Subject: U.S.S. CUTTLEFISH (SS171) – Report of Third War Patrol; Box 2794; World War II Submarine Combat Control Reports; RG 38; Crane Files; NARA II, College Park, MD, 1.

a moonless, clear night, with visibility over 2,000 yards. The Officer on Deck had ordered one torpedo tube readied and standing by and as the boat began a turn to port a destroyer was suddenly noticed on the starboard beam, on a parallel and opposite course from *Cuttlefish* and not 150 yards (approximately 135 metres) away. Marshall's boat experienced a stroke of luck that the destroyer managed to approach that close but not noticed the submarine; the CO decided to exploit the advantage and attempt to get a torpedo fired. However, not one minute after the destroyer had been noticed by *Cuttlefish* did it notice *Cuttlefish* in return, leaving the submarine little choice but to dive, the crew barely closing the water-tight hatch before dropping to 250 feet deep. The Americans' luck held and the destroyer pinged in vain, and left without dropping any depth charges.³⁰

English was unflinchingly honest in his comments on this event, but also reserved, stating that "permitting a destroyer to get within 150 yards on August 14 without sighting it indicates a poor lookout which placed the submarine in a dangerous position with no plans for either attack or evasion."³¹ Never had Joyce or Lewis so endangered the lives of their crews or the safety of their boats, yet they had the dubious distinction of being called a "total failure" and "most disappointing." This is reminiscent of the emphasis "Current Doctrine, Submarines" placed on a commander's responsibility, when it suggested a CO would often be faced with making a choice between an acceptable risk (damaging the enemy) and an unacceptable risk (not damaging the enemy, but preserving his vessel). Doctrine put that decision squarely on a skipper's shoulders, but submarine commanders were directing them to err on the side of greater

³⁰ From Commanding Officer to Commander Submarine Force, Pacific Fleet, 20 September 1942, Subject: U.S.S. CUTTLEFISH (SS171) – Report of Third War Patrol; Box 2794; World War II Submarine Combat Control Reports; RG 38; Crane Files; NARA II, College Park, MD, 3.

³¹ From Commander Submarines, Pacific Fleet to Submarine Force, Pacific Fleet, 25 September 1942, Subject: U.S.S. CUTTLEFISH (SS171) – Report of Third War Patrol, 1.

risk—especially given how few boats had actually been lost early in the war. Action over inaction was the requirement.

Cuttlefish was constructively criticised further when English noted that on the morning of 4 September a “fairly large ship” was sighted, but rather than taking up station ahead of the vessel, the CO waited to try to get a better read on his sound gear for there was a sampan in the area.³² English again endorsed action over inaction, criticising Marshall’s reliance on sound gear, which was “a relic of peace time training which lingers in the minds of some commanding officers on first patrols.” Speed in the attack was key, as was moving away from peacetime practices.³³ “Current Doctrine” was not being rejected out of hand, but rather adapted to more appropriate and successful measures.

Studies of Second World War American submarines very frequently include discussions of torpedo problems, and for good reason. High command was almost negligent in dealing with the failures, but only at the expense of the American war effort, not lives. The problem developed from inadequate interwar testing, insufficient funding and inferior numbers, and by the time the war began, the various Mark torpedoes were simply failing to hit their targets.³⁴ This bore itself out in patrol reports as skippers claimed not to know why an otherwise perfectly set-up shot failed to hit, and the negligence was illustrated by commanders’ responses to the reports. *Trigger-2* was complimented on a “commendable spirit of aggressiveness” in the attacks of 5 and 17 October 1942, though “some wild shooting was engaged in, the percentage of torpedo

³² From Commanding Officer to Commander Submarine Force, Pacific Fleet, 20 September 1942, Subject: U.S.S. CUTTLEFISH (SS171) – Report of Third War Patrol, 16.

³³ From Commander Submarines, Pacific Fleet to Submarine Force, Pacific Fleet, 25 September 1942, Subject: U.S.S. CUTTLEFISH (SS171) – Report of Third War Patrol, 2.

³⁴ Papadopoulos, “Between Fleet Scouts and Commerce Raiders”, 420-455.

hits obtained, although disappointing, was on a par with average submarine patrol performance to date.”³⁵ The question is, in a case like *Trigger*’s, how much of that disappointment was owed to the CO, Roy S. Benson, and how much was simply torpedo failure?

High command had not exhibited a willingness to solve problems expediently when it came to ordnance. On the one hand, there was so much difficulty in supplying the mediocre torpedoes they had that they would have been hard-pressed to fix the problem without slowing down an already slow production process. On the other hand, wishing a problem solved does not make it so. Issues developed as early as *Tuna*’s first patrol in January 1942, when the CO, J.L. DeTar, deactivated his magnetic exploders. RAdm Withers was publicly complimentary on *Tuna*’s successes, but behind the scenes he was livid.³⁶ As he wrote in his evaluation,

it was noted on all attacks that torpedo depth settings were made for contact hits. The Force Commander has now issued positive instructions that torpedoes be set at not less than five feet greater than the estimated draft of the target in order to take advantage of the greater damaging effect of the magnetic feature of the exploder.³⁷

Withers was out of touch with reality in that recommendation: torpedoes were already running *too deep*.³⁸ *Tuna* had just one success after changing the depth settings on its torpedoes, and that was was not sufficient evidence to prove unquestionable problems on its own. As the year progressed, however, *Drum-1*, *Pollack-3*, *Drum-3*, and *Kingfish-1* all

³⁵ From Commander Submarines, Pacific Fleet to Submarine Force, Pacific Fleet, 24 November 1942, Subject: U.S.S. TRIGGER (SS237) – Report of Second War Patrol; Box 2816; World War II Submarine Combat Control Reports; RG 38; Crane Files; NARA II, College Park, MD, n.p.

³⁶ Blair, *Silent Victory*, 208.

³⁷ From Commander Submarines, Pacific Fleet to Submarines, Pacific Fleet, 25 March 1942, Subject: U.S.S. TUNA (SS203) – First War Patrol – Report of; Box 2803; World War II Submarine Combat Control Reports; RG 38; Crane Files; NARA II, College Park, MD, 1.

³⁸ At the end of the year, it was established that Mark 14 torpedoes were running ten feet deeper than set. In spite of this knowledge, the problem would not be remedied until July 1943.

experienced torpedo problems considerable enough to be worth mentioning in command evaluations as well, to say nothing of the failures that went reported but unrecognised by Command. The problems were there, but only after Lockwood ran tests in June 1942, changes were considered, though not yet.³⁹

Ordnance failure was not limited to the depth-settings, as the experience of *Guardfish-1* proved. The CO, Thomas “Burt” Klakring, was complimented on his aggressiveness, and the thoroughness with which he covered his patrol area; with ten torpedo attacks that sunk six ships and damaged at least one other, he had the highest percentage of successful attacks and the maximum tonnage sunk on a single patrol to date.⁴⁰ Comsubron 8, however, pointed out something Klakring had raised that would prove prophetic. He had considered it noteworthy that:

The first torpedo fired at this target leaped vertically clear of the water repeatedly off the bow of the target; this torpedo was observed later floating vertically *minus its warhead*. It is believed that this warhead was knocked off by striking the target. The reported observation of the second torpedo hitting just under the target’s main bridge and throwing a plume of spray higher than the main deck level, without an explosion being heard, leads to the belief that the air flask exploded on impact, while the warhead did not.⁴¹

It was not yet known that this was not an isolated case. Soon, it would be proven that American torpedoes had two fatal flaws: they ran deep and the warheads failed to detonate when striking the target at right angles. As was the case with the depth issue, the

³⁹ Papadopoulos, “Between Fleet Scouts and Commerce Raiders,” 467.

⁴⁰ From Commander Submarines, Pacific Fleet to Submarines, Pacific Fleet, 22 September 1942, Subject: U.S.S. GUARDFISH (SS217) – Report of First War Patrol Report; Box 2807; World War II Submarine Combat Control Reports; RG 38; Crane Files; NARA II, College Park, MD, 1. JANAC reduced Klakring’s ships sunk by one, but his tonnage dropped from 50,000 to just 16,709—only one third of what was accredited.

⁴¹ From Commander Submarine Squadron 8 to Commander Submarines, Pacific Fleet, 16 September 1942, Subject: First War Patrol U.S.S. GUARDFISH: Comments on; Box 2807; World War II Submarine Combat Control Reports; RG 38; Crane Files; NARA II, College Park, MD, ENCLOSURE A, 1. Emphasis in original.

signs were all there in the patrol reports, if only an analytical mind had combed them for patterns to explain the failures.

It took twenty months for the plague of unreliable torpedoes to be resolved because the Bureau of Ordnance had had statistics showing that only 7 percent of torpedoes fired before 30 June 1943 were failures, and thus it was slow to respond to the problem.⁴² In short, the Bureau did not initially believe there *was* a problem. When it broadened its study to discount torpedoes fired in a spread that would have missed, those statistics increased to twenty percent of torpedoes fired being failures.⁴³ Depth-keeping and the Mark VI exploder's tendency to detonate prematurely were the roots of the problem, as mentioned, but determining that was only the first step. These problems were not easily solved, especially the latter which was caused partly by a miscalculation about the earth's magnetic field. The torpedo was simply too sensitive for its task.⁴⁴

Successes and failures thus existed in spite of (and partially due to) these ordnance failures. Between the two polarities of success and failure, there remained a large grey area in which both successes and failures coalesced. For example, while Joyce and Lewis were relieved for lack of aggression, this was not always the immediate answer following a poor patrol. Robert Rice of *Drum* was not relieved, and nor was Richard W. Peterson of *Sunfish*, which was making its first patrol between November 1942 and January 1943.

Sunfish was on a double-duty patrol, common after the torpedo shortage forced some patrols to spare time for mine-laying operations. Peterson was making his freshman sail, allowing attack possibilities to go unexplored both before and after sowing his

⁴² Papadopoulos, "Between Fleet Scouts and Commerce Raiders", 458.

⁴³ *Ibid.*, 459.

⁴⁴ *Ibid.*, 470.

minefield. He made only two attacks, expended just five of his sixteen torpedoes, and claimed no kills. Comsubdiv 101 looked to explain this failure as Peterson had been “handicapped by his impression that he had to remain on the defensive until after laying the mine plants,”⁴⁵ but that would not account for the lack of aggressiveness *after*. Peterson got off two attacks with five torpedoes fired in his entire 52 day patrol, and yet the final word was that “the experience gained on this, the Commanding Officer’s first patrol should pay dividends on succeeding ones.”⁴⁶ Neither the “experience” nor the results were markedly different from Lewis’ failure to engage; why was Peterson rapped on the knuckles instead of handed his pink slip? Arguably, Lewis and Joyce suffered more for their errors because they belonged to a demographic that was believed less likely to adapt to wartime conditions, but Peterson was a class of 1931. He was slightly younger and that boded well for his ability to take the criticisms and learn from them. Sure enough, on *Sunfish*’s second patrol, Peterson was credited with sinking two ships.⁴⁷ The first year of the war was certainly about the learning curve, and while Clay Blair suggests that Command was mistaken in not rotating non-aggressive skippers out of combat faster, arguably command was making decisions on which “failures” were worth endorsing for the sake of improvement, and which “failures” would only be dead weight.

The problem with the U.S.N. reassessing doctrine through wartime practice is that it was in danger of becoming paradoxical in the attempt to reinforce successes. No two attacks were ever the same, no two commanders were ever the same, and the factors

⁴⁵ From Commander Submarine Division 101 to Commander Submarine Force, Pacific Fleet, 25 January 1943, Subject: U.S.S. SUNFISH –First War Patrol, comments on; Box 2830; World War II Submarine Combat Control Reports; RG 38; Crane Files; NARA II, College Park, MD, 1.

⁴⁶ Ibid.

⁴⁷ Blair, *Silent Victory*, 926. JANAC reduced his overall kills from three to one, though that would not have been relevant during the war. It must also be noted that Peterson skippered *Sunfish* in five patrols, and only sunk ships on the even numbered ones for a total of 4,000 tons sunk.

affecting whether one attack succeeded and another failed were often intangible. In fairness to those high commanders who endorsed contradictory doctrinal shifts, finding one course of action to succeed in any and all cases was virtually impossible.

The cases of *Nautilus-1* and *Porpoise-4* are a shining example of this. *Nautilus* sailed in June 1942 under Lieutenant-Commander William H. Brockman, first taking part in the Battle of Midway before turning to *guerre de course*. *Nautilus*' claim to fame was a wartime credit of sinking a damaged *Soryu*-class carrier earlier in that patrol, though that was rescinded by JANAC. Then, on 25 June Brockman sighted a large vessel off the port quarter, but as *Nautilus* was silhouetted against the dawn, he took the boat down to make his approach. As he did, the destroyer escort that had been lurking on the vessel's port side began to pursue the submarine, dropping depth charges at about 1,000 yards away (914 metres). Brockman managed to fire two torpedoes and hear the ship begin to sink,⁴⁸ but Command was not satisfied. Comsubron 4, J.H. Brown Jr., remarked that:

the commanding officer who is on the spot, must be the judge of which is the better target to attack when several ships present themselves. It is, however, felt that in the case of small convoys with only one escorting ship, consideration should be given to attacking the escorting cruiser or destroyer *first*. If this can be successfully carried out the slower, unprotected merchant ships are more or less at the mercy of the submarine.⁴⁹

There was logic in this request; a boat that attacks without fear of retaliatory depth charging can remain at periscope depth to set up another attack. This logic, however, was not universally shared.

⁴⁸ U.S.S. NAUTILUS— First War Patrol; 16 July 1942; Box 2794; World War II Submarine Combat Control Reports; RG 38; Crane Files; NARA II, College Park, MD, 5-6.

⁴⁹ From Commander Submarine Squadron FOUR to Commander Submarines, Pacific Fleet, 14 July 1942, Subject: U.S.S. NAUTILUS – First War Patrol – Comments On; Box 2794; World War II Submarine Combat Control Reports; RG 38; Crane Files; NARA II, College Park, MD, ENCLOSURE C, n.p.

On 3 January 1943 *Porpoise* continued the patrol it had begun on 30 November 1942. In the early afternoon it came across a patrol vessel seen the day before, and then 80 minutes later three or more ships' wakes were also sighted, headed in the same direction as the patrol vessel. Frequent heavy snow squalls made it impossible for *Porpoise* to see precisely what the convoy's make-up was, but the submarine still bided its time until the convoy zigged north. Then, the CO, J.R. McKnight Jr., began to close for the attack. The escort was echo ranging, leaving the American skipper to wonder how he could get past it to get at the convoy. The logical thing to do based on Comsubron Brown's opinion was for McKnight to turn away and fire a stern shot at the escort—which is what he did. Because of the curse of deep-running American torpedoes, the fishes all ran right under the torpedo boat as the magnetic exploder failed. It had seen the threat, and answered in kind: nine depth charges rained down on *Porpoise*, all close. When no more pinging could be heard, *Porpoise* came to periscope depth and continued the hunt, to no avail; not even the SJ radar could detect any sign of a contact. With a heavy heart, McKnight radioed Comsubpac about the convoys and the results, and went off to get a day's rest at sea.⁵⁰

When the Comsubdiv 44 received his copy of the report, more criticisms than accolades were issued. For the 3 January attack, the endorsement read, "it is unfortunate that the Commanding Officer found it necessary to fire upon the escort thereby making known his presence and spoiling his chances for attacking the convoy."⁵¹ This

⁵⁰ U.S.S. PORPOISE – Report of Fourth War Patrol, 15 January 1943; Box 2794; World War II Submarine Combat Control Reports; RG 38; Crane Files; NARA II, College Park, MD, 8-9.

⁵¹ From Commander Submarine Division FORTY-FOUR to Commander Submarine Force, Pacific Fleet, 7 February 1943, Subject: U.S.S. PORPOISE – Fourth War Patrol – Comment On; Box 2794; World War II Submarine Combat Control Reports; RG 38; Crane Files; NARA II, College Park, MD, ENCLOSURE C, 1.

contradicted Brown's ideal scenario, but it was paradoxical for deeper reasons as well. Pacific Fleet submarines had received orders detailing that they were to attack *shipping*, as discussed previously. McKnight had done so, he had abided by the strictest letter of his operational orders, for they placed attacking shipping over what *kind* of shipping—*merchant* shipping was only qualified as an afterward. The target hierarchy defined in doctrine also placed warships ahead of merchant vessels, and it also stipulated taking the best possible *earliest* shot, for nothing could be guaranteed in waiting for a perfect *future* shot. McKnight had done things by the book—and while the “book” was in the process of edits and revisions, neither of these points had yet been stricken. The only thing to lament about this attack was the fact that torpedo failure denied McKnight the same opportunity that Comsubron 4 had advocated to *Nautilus*. Endorsements could be paradoxical—and when the senior commanders did not support or condemn a subordinate's recommendations within his own write-up (which happened frequently), this confusion and uncertainty was disseminated to other submarine commanders as examples to “learn from”.

Conclusion

During the first full year of war, the navy believed that the submarines from Case One were responsible for sinking 61 ships of 396,300 tons. In fact, JANAC credited 42 ships and just 173,825 tons, meaning that the real tonnage sunk was only 44 percent of the believed tonnage sunk. As shocking as this disparity is, the patrols to Empire Waters were still the best part of the first year of the war. Clay Blair suggested that the randomness of the way remaining boats were deployed illustrates a lack of cohesive strategy, which is entirely supported by the sometimes schizophrenic attitude of operational orders. Never was USW given a full endorsement as the submarine's primary

goal, and deployment reflected that. If USW was the aim, then deploying boats to Empire Waters where the main arteries of Japanese shipping crossed would have been a means to a success. Instead, representing the belief that sinking “all” ships, regardless of character, was the key to the Pacific War, ships were sent wherever the Japanese might be.

One example of this waste of resources was in sending seventeen boats for 24 to 31 days each to support the Battle of Midway in June 1942 for a total of zero ships sunk. Another nine boats took part in the battle when sailing home from their areas; the resources misapplied were catastrophic in a year when the U.S.N. needed every advantage it could get.⁵² With torpedo problems and the growing pains of seasoning commanders, the lack of strategic cohesion cost the American submarine service what it could ill-afford to lose.

After the untimely death of RAdm English, Captain J.H. Brown took over temporary command of the Submarine Force, Pacific Fleet. As Acting Comsubpac, Brown made a poignant observation to one non-aggressive CO in a way that summarises the entire philosophy developed in Case One. He stated that “to any one submarine, opportunities for attack come relatively seldom. Enemy targets at hand must be attacked and sunk.”⁵³ This had proved to be a surprisingly difficult mindset to enforce on the submarine in Empire Waters in 1942, as Case One showed.

⁵² According to JANAC, Robert H. Rice sunk a seaplane tender for 9,000 tons on 2 May 1942, though it is unclear whether this vessel was taking part in Midway or not.

⁵³ From Commander Submarine Force, Pacific Fleet to Submarine Force, Pacific Fleet, 26 January 1943, Subject: U.S.S. SUNFISH – Report of First War Patrol; Box 2830; World War II Submarine Combat Control Reports; RG 38; Crane Files; NARA II, College Park, MD, n.p.

Part Two:

*Case Two: An Unwanted Strategy*⁵⁴

The submarine service penned its own unofficial history of the operational war, quite pithily commenting that “if 1942 may be called, in American Submarine History, the year of exploratory patrols and limited freedom of deployment, the first half of 1943 must certainly be labelled the period of great disappointments.”⁵⁵ Indeed, the problems and pitfalls from that first year of war were not instantly resolved when the calendar turned over to the new year, but instead a new tack was taken to try to find greater success *in spite* of the disappointments.

Case One distinguished itself by lacking a cohesive strategy and relegating USW to one submarine task among many; conversely, Case Two explores the strategy of USW with different methods, yielding very different results. The following study shows how the road to a proper concept of “unrestricted” submarine warfare involved trial and error, as some legitimate strategies could be at once effective and yet fail to live up to American priorities in the undersea war. The attempt showcased in this section nevertheless challenged the pre-war doctrine and the developing wartime *modus operandi* to serve as an important stepping stone on the road to a new way of submarine warfare beginning in 1943. This pivotal year continued the submarines’ climb up the learning curve, as the U.S.N. made its way to domination and victory in the Pacific War—though *not* with what was learned from Case Two.

In January 1943 Rear Admiral English died suddenly and unexpectedly on a trip to the United States when the plane he was flying in crashed into a California mountain in

⁵⁴ Patrols included in this case are *Growler-4*, *Grouper-4*, *Gato-4*, *Snapper-6*, *Swordfish-7*, *Tuna-5*, *Greenling-5*, *Albacore-3*, *Grayback-6*, *Tuna-6*, *Gato-5*, *Grouper-5*, *Peto-1*, *Grayback-7*.

⁵⁵ “Submarine Operational History, World War II”, 49.

inclement weather: a new Comsubpac needed to be found. Admiral Ernest J. King, the Commander-in-Chief, U.S. Forces,⁵⁶ named RAdm Charles A. Lockwood Jr. as English's successor; as Lockwood left the Command of Submarines Southwest Pacific in Fremantle, Australia, he was replaced by RAdm Ralph Christie from Brisbane, and Captain James Fife Jr. took that post over, becoming the Commander of Submarines South Pacific. In this personnel juggling, the man with the lowest rank and smallest command is of most relevance to this study, for Fife's plans for his base were infamous in the first half of 1943.

Fife was a serious sailor—serious in character and temperament as much as anything else. He lived very modestly in a Quonset hut, foregoing the spoils of officer housing and remaining utterly devoted to his job day and night. Brisbane was known for being something of a wild base with the returning submarine crews running rampant, drinking, playing, partying, and celebrating life after the rigours of a combat patrol. Fife, as Commander Task Force (Comtaskfor) 72, demonstrated a lifestyle at the opposite end of the spectrum. Unlike the men under him, he neither drank nor fraternised, and chose to focus on the workings of machines over men. Fife took his promotion to Comtaskfor 72 seriously, though, and he began his tenure by addressing the fact that *people* were causing the operational disappointments in the Brisbane command, and not *machines*.⁵⁷

Fife's command shared the problems plaguing the boats operating out of Pearl to Empire Waters in 1941-2. Torpedo failures remained an issue, and his commanders, he believed, were overly cautious. There was little that could be done for the former from his level, but for the latter, Fife swore to uproot any CO not delivering. No longer would

⁵⁶ Pre-war, King's position was called CinCUS ("sink-us"), but following Pearl Harbor was understandably changed to COMinCH.

⁵⁷ Blair, *Silent Victory*, 371-2.

he leave it up to the skipper to decide how to patrol his assigned area; Fife would take the available *Ultra*-intelligence that code-breakers provided and disseminate it to the submarines as it arose.⁵⁸ This would allow a tighter, more controlled command to shift the boats where they could best be deployed; Fife called it “playing checkers” with submarines,⁵⁹ and this trial makes up Case Two in this study. It was a period of controversy for U.S.N. submarines, however. From its entry into the war, the U.S.N. had decided to forge its own way, largely ignoring how USW had been waged in the past—including in the current war.⁶⁰ When it came to certain tactics, like the wolf-packing discussed below, that was an oversight. However, when it came to micro-managing patrols with quasi-strategic shifts and heavy radio traffic, Fife’s experiment showed that ignoring the way wars had been waged was arguably a sign of deeper wisdom.⁶¹

The operational orders for American submarines based in Australia are not available; however, in many reports sufficient reference to the orders was made to derive a good idea, if not the full account. One thing that is clearer for submarines in the South Pacific than those operating from Pearl Harbor in 1941-42 is that they were fighting a true *guerre de course*. Arnold H. Holtz, CO of the checker-playing *Tuna-6*, stated in his report, “Operation Order directed this vessel to conduct unrestricted warfare in the

⁵⁸ “Ultra” was the name for American intelligence here, where “Ultra” was short for “Ultra Secret.” This referred to the messages gotten from the Purple machine, the output of which was known as “Magic.” The intercepts that were related to Japanese fleet movement was known as “Ultra”—and that was passed on to Commanders in the Pacific. Thus, intelligence is referred to as “Ultra,” passed around on a very strict “need to know” basis to keep American intelligence abilities as protected as possible. See Blair, *Silent Victory*, 87.

⁵⁹ Blair, *Silent Victory*, 372.

⁶⁰ This “American way of war” was not unique to World War II submarines. This is the same approach the American Expeditionary Force took in Europe in the First World War, and the same approach the United States Army Air Force did in its strategic bombing campaign over Europe in the Second World War. In both cases it had allies (or associated powers) that had experience in the trenches in the first case and with the challenges of strategic bombing in the latter, and in both cases the United States’ command opted to establish its own means and methods.

⁶¹ This, of course, alludes to the way that Karl Dönitz operated his U-boat command from a central headquarters with excessive radio contact.

Solomons – Bismarks [*sic*] area, and destroy enemy shipping,”⁶² and he was not alone in this categorical statement. In Brisbane, the order was not couched as it was in Pearl Harbor in terms of the more doctrinally-friendly “attack enemy shipping,” though practice indicates that the implications were largely the same. Centring the patrol on the idea of conducting USW nevertheless represented a shift toward a stronger, more defined strategy. This strategic move ultimately happened far sooner in orders than patrol reports.

Patrol reports are not radio logs, a fact that provides a challenge in analysing them for this case. Only the transmissions that the CO chose to record were incorporated into the write-ups. Therefore, some, like *Peto-1*, recorded no traffic, while others, like *Gato-4*, recorded 20 incomings and outgoings. What is particularly noteworthy about the increase in radio exchanges is that in Case One radio traffic was predominantly restricted to contact reports, but in Case Two, an average of 9.5 notable radio messages went back and forth, including contact reports, new area directives and sometimes “most secret dispatches.”⁶³ The majority were positional changes modifying a submarine’s patrolling area, although once the line was opened the communications continued to the point where some of the transmissions were often not much more than chatter.

One example of superfluous transmitting is in *Gato*’s fifth war patrol, a special mission followed by a USW patrol. On 26 March during the first part of his voyage, the CO, Robert J. Foley, wrote, “Received Comtaskfor 72 serial 82 with the report of a target but tells us to leave him, as well as any but major targets, alone until our special job is

⁶² Report of Sixth War Patrol – U.S.S. TUNA, 21 April 1943; Box 2805; World War II Submarine Combat Control Reports; RG 38; Crane Files; NARA II, College Park, MD, 1.

⁶³ This cryptic reference comes from a 1 March 1943 incoming message received by *Grayback-6*: at 0018 “Received CTF-42 most secret dispatch number 281301.” It is not known what the contents of this dispatch were. See Patrol Report, U.S.S. GRAYBACK, Sixth War Patrol, March 1943; Box 2804; World War II Submarine Combat Control Reports; RG 38; Crane Files; NARA II, College Park, MD, 5.

completed.”⁶⁴ This was a redundant transmission for several reasons. First, informing the CO of a target he was not to chase was a waste of time for personnel both at base and at sea. It would be ludicrous to begin radioing the boats about everything that was *not* directly a part of their immediate duties, especially when it was more than likely unnecessary. The reason for this was that information like this was typically disseminated in operational orders, where the details of the special mission were established as well. Doctrine had always preached that a submarine skipper had a burden of responsibility unknown by other naval commanders, such that micro-management on this level ignored doctrine and moved responsibility to the base commander—who was not always in the best position to advocate ways and means. Whether *Gato* had been meant to conduct each part of its patrol wholly independently ought to have been made known on the pages of the operational orders prior to departure, *not* after one week at sea. The pointlessness of such radio emissions would have serious ramifications for the boats’ safety as well as the conduct of the campaign.

At first glance, it appears Comtaskfor 72’s micro-managing boats to line them up with contacts helped solve the “needle in a haystack” dilemma of finding ships in the vastness of Pacific waters. Upon closer investigation, however, the chances of finding targets were not as remote as that. Just as Case One directed boats to the much-used Empire Waters to prey on trade routes there, Case Two focused boats on operating around the Solomon Islands, Bismarck Archipelago and New Guinea, all sites of land warfare in 1943 and situated within a 2800-kilometre range from Brisbane. The submarines were closer to their areas in the first place than those operating out of Pearl

⁶⁴ Report of Fifth War Patrol – U.S.S. GATO; Box 2805; World War II Submarine Combat Control Reports; RG 38; Crane Files; NARA II, College Park, MD, 2.

had been, which left more time on station before a submarine had to return to base. More time meant increased chance of contacts, especially since a few key shipping routes ran through the area. While Japan had begun pulling out of Guadalcanal at the end of 1942, not until February 1943 was the American commander able to report: “the Tokyo Express no longer has terminus on Guadalcanal”.⁶⁵ Therefore, the first two months of 1943 were clearly times of heavy traffic as Japan withdrew, and even more so considering the Tokyo Express did not stop after the Battle of Guadalcanal—New Britain, New Guinea and other Solomon Islands were still being disputed, and still needed re-supply. Even with the relative density of shipping, however, Comtaskfor 72’s boats were unarguably greatly advantaged by Fife’s radio-dictated re-positioning.

This was not solely a story of improvement, for as much as the submarines were able to find more contacts in the breadth of the Pacific Ocean with Fife’s radio bonanza, so too was the enemy able to find more submarines. On 26 January *Grouper* was sailing off Wickham Island around the Coral and Solomon Seas and noted repeated radar plane contacts through the night; while off the Admiralty Islands on 18 February, a non-directional radar, “probably shipborne,” was also detected.⁶⁶ The Japanese were becoming increasingly adept at ASW, it seemed, for at least half the boats in this case reported enemy radar contact, or the strong possibility that the Japanese were using shipborne radar to detect American submarines—or their transmissions.

⁶⁵ Quoted in Ronald H. Spector, *Eagle Against the Sun*, (New York: Macmillan Inc., 1985), 214. The “Tokyo Express” was the name the Allies gave Japanese shipping supplying New Britain and the Solomon Islands. Even when Guadalcanal was taken out early in 1943, however, the “express” kept running between remaining Japanese-held islands in the Solomons, New Britain and New Guinea throughout the time period covered in Case Two.

⁶⁶ Report of Fourth War Patrol – U.S.S. GROUPE; Box 2806; World War II Submarine Combat Control Reports; RG 38; Crane Files; NARA II, College Park, MD, 2, 8.

In the years following the war, the silent service was happy to make little of Japanese ASW. In *United States Submarine Operations in World War II* (1949), Theodore Roscoe wrote that Japanese naval intelligence “failed to contribute anything of notable value to their anti-submarine effort.”⁶⁷ Submarine detection ranked better by American standards, but this status was allowed only after Roscoe outlined the flaws and weaknesses. The latter included that the Japanese had no ship-borne radar in the early part of the war—only in late 1944 did escorts receive such equipment. Airborne radar was not introduced in medium bombers until fall 1943, and even then was it not sent into operation against submarines until fall 1944. Japanese radar was reputedly inferior to Allied radar, though they did *have* radar detection on ships as early as 1942.

Once the denigration was finished, it had to be admitted that the most submarine-affecting Japanese ASW measures were present relatively early on. Combining ship-borne radar with land-based radar meant that direction finding (DFing) was possible, though typically only within a 100-mile radius. As such, ships’ main tools of detection remained lookouts and sonar—but even the American navy had to admit that Japanese listening gear was excellent. Planes had more to offer in terms of accurate DFing. Magnetic submarine-detectors affixed to aircraft let them find submersibles at up to 500 feet depth. *Submarine Operations* even had to concede certain strengths, as it concluded that “although the Japanese anti-submarine effort was haphazard and at times almost lackadaisical, it managed to exact a punishing toll... In February, March and April 1943, Japanese A/S forces struck with tempestuous violence and ferocity.”⁶⁸ Thus, Japanese

⁶⁷ Theodore Roscoe, *Submarine Operations in World War II*, (Annapolis, MD: Naval Institute Press, 1949), 210.

⁶⁸ Roscoe, *Submarine Operations*, 217.

ASW had its faults, but it also could pose problems for American submarines. Experience in 1943 showed the very same.

Grouper had certainly encountered what Japan had in its ASW arsenal, observing “plane or planes must be equipped with radar as SD [early American radar] showed them coming straight in at high speeds.”⁶⁹ This was not a singular observation. Jimmy Fife’s write-up of *Albacore*-3’s patrol around Rabaul-Pelews-Wewak stated directly that *Albacore* encountered a destroyer “who detected her in bright moonlight” (though whether that was truly a visual detection or radar is impossible to state). Then again the next day, *Albacore* was “detected and depth-charged by alert subchaser escort.”⁷⁰ Further, *Grouper*-5’s squadron commander noted that *Grouper*’s attempted attack on a southbound convoy of 12 May failed

when GROUPER was detected by the escorts at long range and forced to employ evasive tactics, while the convoy turned away. It is possible, if not probable, the GROUPER was detected at 1925, while still on the surface, as indicated by the first radical change of course by the convoy.⁷¹

Had Comsubron 8 been willing to risk the assessment that this was probably a result of ship-borne radar, it would not have been the first record of such an event. Instead, he took the conservative route and stated that “while it is possible that Japanese escorts encountered during this patrol were equipped with radar, such is not conclusive as GROUPER may have been detected in each instance by visual sighting.”⁷² Fife was more exacting as he pointed out that “destroyers made high speed attacks from sectors of

⁶⁹ Report of Fourth War Patrol – U.S.S. GROUPER, 2.

⁷⁰ Commander Task Force 72 to Commander in Chief, United States Fleet, 16 March 1943, Subject: U.S.S. ALBACORE (SS218), Third War Patrol; comments on; Box 2807; World War II Submarine Combat Control Reports; RG 38; Crane Files; NARA II, College Park, MD, 1-2.

⁷¹ Commander Submarine Squadron 8 to Commander Task Force 72, 31 May 1943, Subject: U.S.S. GROUPER (SS214), Fifth War Patrol; Comments on; Box 2807; World War II Submarine Combat Control Reports; RG 38; Crane Files; NARA II, College Park, MD, n.p.

⁷² Commander Submarine Squadron 8 to Commander Task Force 72, 31 May 1943, Subject: U.S.S. GROUPER (SS214), Fifth War Patrol; Comments on; n.p.

low visibility outside sight and sound range *each time sub surfaced*.”⁷³ Thus, by the commander of all Brisbane submarines’ reckoning, Comsubron 8 was overly cautious: undoubtedly Japanese radar was at work against American submarines.

Japan was not alone in reaping rewards from radar, as it was a boon to both sides in the Pacific War. On the American side, by 1943 more and more submarines were operating with SJ Radar, the importance of which was spelled out in no uncertain terms by Comtaskfor 72, Jimmy Fife. He wrote in his endorsement of *Albacore*’s third patrol that “the difference between good and bad performance of the SJ radar can be the difference between an excellent and a mediocre patrol”.⁷⁴ The SJ radar was preceded by the SD radar, which tended not to be able to detect air craft but *was* susceptible to being detected by Japanese radar, some thought. By May 1943, some submarines were no longer using SD anymore, but not all boats were able or prepared to use SJ to its fullest extent as an alternative. Newer technology always involves a learning curve and some boats found that from the moment of departure, their radar could not be depended upon. Other boats understood that new technology did not always have all its wrinkles ironed out, and those that continuously worked on their equipment tended to have better luck. Radar was both a significant help and hindrance to American submarines in the South Pacific, as it clearly led boats to detect but also be detected.

The obvious ramifications of Japanese detection meant two things: first, submarines could be targeted far more easily; and second, convoys could be routed around areas where submarines were known to be operating. The former became

⁷³ Commander Task Force 72 to Commander in Chief, United States Fleet, 31 May 1943, Subject: U.S.S. GROUPER (SS214), Fifth War Patrol, Comments on; Box 2807; World War II Submarine Combat Control Reports; RG 38; Crane Files; NARA II, College Park, MD, 1. Emphasis added

⁷⁴ Commander Task Force 72 to Commander in Chief, United States Fleet, 16 March 1943, Subject: U.S.S. ALBACORE (SS218), Third War Patrol; comments on; 2.

apparent in February 1943 when Brisbane lost three boats in one month, and one more before the end of the “checkers” strategy in May 1943. As for the latter, this may also have been a factor in the sharp decline in American successes post-February 1943. The lack of available Japanese sources on anti-submarine warfare makes it impossible to look at both sides of the story, and leaves certain points, including convoy routing, to speculation at best. What is certain is that *Ultra* intelligence was dried up in February for several months, and thus Fife was deprived of his greatest weapon. As proof of how dependent “checker-playing” was on these reports, 18.5 ships were confirmed sunk between January and May 1943; two-thirds of those were sunk during the *Ultra*-period, and a mere six were sunk after the blackout began.⁷⁵

Ultimately, the biggest question concerning Japanese detection remained: what were the Japanese actually detecting? When some American commanders banned the use of the SD radar in May 1943, this suggested that they believed their own radar was giving off a virtual homing signal to Japanese forces. Nothing indicates that it was SD alone that caused the problems, though, for it had also been in use among planes throughout Case One as well—and *all* of 1941-42—so why then was it singled out in 1943? It is probable that radio emissions were also subject to detection, which then off-set the benefits of Fife’s “checker playing” and the directed kills it enabled by leading to American submarines *being* killed in return.

This had been suspected by the American submarine commander on Australia’s western coast, RAdm Ralph W. Christie, in Fremantle. Maybe Christie was thinking about what had long been part of the Standard Patrol Instructions for boats operating out of Pearl, which dictated that: “Radio must be used to the minimum consistent with the

⁷⁵ Blair, *Silent Victory*, 387.

mission... the commanding officer must decide whether the information is sufficiently essential to warrant possible disclosure of the submarine's presence."⁷⁶ Or, it is possible that Christie was simply making a judgment based on common sense: radio was detectable. Too much radio was therefore intensely dangerous.

Perhaps the greatest testament to the danger of radio came with the losses of *Amberjack*, *Grampus* and *Triton*, which were a shock to the submarine service, coming as they did in a cluster. Clay Blair quoted Fife's reaction to the losses in a letter to Comsubpac Charles A. Lockwood: "tough luck, but they can't get Japs without taking chances... don't think the time has arrived to inject caution into the system because it is too difficult to overcome again."⁷⁷ With three submarines and their entire crews at the bottom of the Pacific, questions arose as to Fife's suitability for squadron command; at the same time as it was independently decided to launch an investigation into the conduct of the war out of Brisbane.

The report and its conclusions were sealed for the duration of the war,⁷⁸ but that did not stop Christie, the Commander of Submarines Southwest Pacific, from firing off a scathing critique to Fife. Christie wrote, "the probability that the enemy is able to derive information of value from a large number of submarine operational dispatches must be reckoned with."⁷⁹ Indeed, he cited that the sunk *Grampus* and *Amberjack* had totalled 106 dispatches between them, 46 of which were positional reports requested from higher

⁷⁶ "Standard Patrol Instructions" annexed to "Operational Order 91-42" to LtComdr. Azer, One SS WHALE, 7 October 1942; Submarines, Pacific OpPlan Material, October 1942; Box 295; RG 38, Records of the Office of the CNO, Plans, Orders & Related Docs; NARA II, College Park, MD, Enclosure B, 1.

⁷⁷ Blair, *Silent Victory*, 376.

⁷⁸ After the war, the report's author, Captain A.R. McCann, explained that he entirely exonerated Fife in his report given that there was no way of confirming that the boats had not been lost to friendly fire by United States' planes; during the war, the sealed file and Brisbane's record nonetheless left a lingering displeasure among certain submarine commands. See Blair, *Silent Victory*, 377.

⁷⁹ *Ibid.*, 378.

command. Christie believed not only that the boats were being DFed by making so many transmissions, but that these were also yielding far too much information should the Japanese forces be able to crack American code.⁸⁰ Security demanded sparse communications, Christie stipulated—so at least some members of submarine high command believed that more than just the SD radar had run afoul.

Conclusion

There are a series of factors that combined to contribute to the relative successes of the Brisbane boats between January and May 1943—and also a series of factors that point to the risks involved in achieving this success. American sensibility was ultimately in favour of conservation, and in spite of the drive for all aggressiveness, all the time, self-preservation was still a precious commodity. It was a point of pride for Comsubpac that in the first year of the war, only one boat operating out of Pearl was lost, and four in total.⁸¹ When Fife lost three in one month from Brisbane, and four in five months during “checkers playing,” it was a rude awakening.⁸² The investigation launched to examine Fife’s leadership led Comtaskfor 72 to offer his resignation, though he was refused. “Playing checkers” fell quietly by the wayside. As a further testament to the degree of recklessness involved in such an aggressive campaign, for the last seven months of the year, not a single Brisbane-based boat was lost.⁸³ By the end of the year, the land war was

⁸⁰ Ibid (Blair 378)

⁸¹ Karl Dönitz commented in his war diary that by the end of 1942, the Americans admitted to five boats sunk, while Japan was claiming to have sunk 93 enemy submarines and damaged another 58. Given that at war’s outbreak the Americans were known to have at their disposal 53 boats, as per Dönitz, and by the end of 1942 to have built another 90, the Japanese figures were clearly inflated. However, what middle road ought the world to have extrapolated from between these two extremes? See “Material zur Feindlage”, 7.1.1943; in 1. Skl. Teil C Heft IV Kriegstagebuch U-Bootsführung, Jan. 1943-März 1944; Reichsmarine 7/847, Bundesarchiv-Militärarchiv, Freiburg-i.-B., Germany.

⁸² A total of 15 were lost for the year, showing that Japanese ASW was improving in 1943.

⁸³ Edward C. Whitman, “Rising to Victory: The Pacific Submarine Strategy in World War II”, *Undersea Warfare*, 3:4 (Summer 2001): http://www.chinfo.navy.mil/navpalib/cno/n87/issue_12/rising.html [last accessed, 15 July 2007]

winding down in the Solomons and many of Fife's boats were transferred to Western Australia to continue the fight. Brisbane was only ever a token force after that.

A side-by-side comparison of Cases One and Two does not yield simple and certain conclusions about the USW campaign, ultimately, but instead suggests context that points to greater conclusions. For example, in the thirteen months of Case One, 29 patrols sunk 42 ships for a total of 173,825 tons. In Case Two, between January and May 1943, fourteen patrols sunk fourteen ships for a total of 56,350 tons. In just five months, the case boats "playing checkers" managed to kill one third of the tonnage and ships that case boats in Empire Waters did in over a year. Personnel problems were still in the process of being worked out (of the eleven skippers in Case Two, only two were the "younger" skippers from the Naval Academy classes of the 1930s, but still just barely), torpedoes still ran foul, and yet the boats were achieving beyond what Case One illustrated. Was Fife's strategic deployment and constant re-deployment according to *Ultra*-intelligence the key to better performance? This is easily argued, but this success cost more than American sensibilities were allowed.

Thus, Case Two is a quixotic example of successful failure. Submarine command in Brisbane tried to adopt a new strategy to overcome an endemic past failure—over-cautious skippers—and in so doing found both an affirmation and a potential downfall. If "checkers"-style conduct had continued, it is easy to argue that the United States could have killed a superior number of Japanese ships (provided *Ultra* was again available). This was not the only goal in the American USW war, however. The U.S.N. was never under so much pressure in the Pacific that taking the catastrophic losses of "checkers"-style warfare was warranted. The 22 percent submarine loss rate the U.S.N. took for the

entire war *was* still considered staggering at roughly six times the rate of surface navy casualties—and that was without a full commitment to such daring-but-successful strategies as “playing checkers” beyond those five months in Brisbane. To Fife’s credit, he tried making a strategic shift in a war that was crying out for one; it was just a shift for which the U.S.N. was not ready to pay the price. The submarine service would seek another way to bring greater punishment on the Japanese merchant marine.

Part Three:

***Case Three: A “Wolf Pack” by Another Name? 1943: Transitioning to “Coordinated Groups”*⁸⁴**

On 7 December 1941 the United States had 22 submarines operating from its base in Pearl Harbor.⁸⁵ The rule of thirds dictated that only seven boats would be available for patrol at any one time, with one third sailing to and from operational areas and the last third in port for refits. These paltry few submarines had their work cut out for them. They had the vastness of the Pacific Ocean to patrol, with thousands of kilometres of ocean west of Pearl Harbor, north to Alaska, and as far south as Australia—to be watched over.⁸⁶ Their numbers increased in fits and starts, but given the scale of the theatre and the quantity of available submarines, it is easy to understand why the U.S.N. was slow in simply *considering* grouped tactics. It took fifteen months of war before the thought developed, and another seven months after that before the idea became reality.

The idea of coordinated attack groups was first raised in March 1943, when a groups of officers began batting the notion about amongst themselves. They addressed the matter from the tactical level right from the start—for this could potentially have

⁸⁴ Patrols in this case include *Shad-6*, *Grayback-8*, *Cero-1*, *Snook-4*, *Pargo-2*, *Harder-3*.

⁸⁵ Roscoe, *Submarine Operations*, 7.

⁸⁶ They had help with the boats based at Manila, though they were engaged in special missions as the battle for the Philippines waged. As the Japanese forced the Americans out of the Philippines, the Manila boats were relocated to Fremantle, Australia, where they became the boats of Submarines, Southwest Pacific.

demanded a total re-write of existing doctrinal maxims. Perhaps the first voice on the subject was that of C.W. Styer, Comsubron Ten at Midway, who wrote that

It is considered impracticable under war conditions to conduct a coordinated attack by submarines in any close formation. Rather, the attack will consist of an assembly of submarines on an enemy body, after which assembly, each submarine is *on its own* and will make repeated attacks as opportunity offers with the one and only restriction that submarines will not be attacked without positive identifications, and *there is no need for training* other than in communications; all submarines already are trained for the attack by a single submarine.⁸⁷

Styer's suggestion that submarines continue to use the same tactics of individual attack had the benefit of requiring little more work to put into play than had already been done. His vision for how to make the tactical transition was low-maintenance, and found favour with the Comsubpac at Pearl Harbor: as RAdm Lockwood put it, "present training is adequate."⁸⁸ This boded well for the earliest possible introduction of coordinated attack groups, for it meant that virtually all submarines with the usual training were already properly indoctrinated for group work.

Was this the wisest course of action, however? Did a new approach to attack not warrant its own doctrine, perhaps based on what Germany had applied in the Atlantic? John B. Griggs, Comsubron Twelve out of Fremantle, provided the reasoning for toeing the traditional line when he explained that, "Until such a time as the enemy changes his transportation methods (size and speed of convoys), the present single submarine attack

⁸⁷ "Tactics of Coordinated Attack by a Group of Submarines", by C.W. Styer, 19 March 1943; Box 48, Submarines, Southwest Pacific. Restricted, Confidential and Secret General Administrative Files, 1942-1945; RG 313 Records of the Naval Operating Forces; NARA II, College Park, MD, 2. Emphasis added.

⁸⁸ "Submarine Force, Pacific Fleet, NOTES ON COMINCH 122204", by C.A. Lockwood, Jr., n.d.; Box 48, Submarines, Southwest Pacific. Restricted, Confidential and Secret General Administrative Files, 1942-1945; RG 313 Records of the Naval Operating Forces; NARA II, College Park, MD, n.p.

principle should be maintained, rather than introducing German ‘wolf-pack’ tactics.”⁸⁹ This statement was based on a realistic assessment of the two oceanic wars, for the Atlantic and Pacific theatres were never so similar or interchangeable that the methods of one could be seamlessly introduced to a successful end in the other. “This principle [of wolf-packs], to the knowledge of the board, has never been essayed by the Germans against fast combatant ship concentrations,” Griggs rightly pointed out.⁹⁰ The Americans targeted men-of-war where the Germans did not; that fact alone made it conceivable that German tactics could not be effective in the Pacific, or at least less so.

The Americans thus went forward with a new strategy made up of old tactics—save for one significant tweak in communications. This was recommended by Styer and all agreed with modifying communications, but what is noteworthy is that it advocated adopting the same practice Captain Fife had just a few months earlier, as he led the South Pacific Submarines to their most devastating period of the war. This was about the “removal of restrictions regarding radio silence,” Lockwood explained, which would also require “use of submerged radio reception coil so as to permit receipt of orders from operations center at any time.”⁹¹ It would be the most important part of their operations, as a lack of proper communications coordination could lead to situations of grave danger, including a risk of friendly fire. Of course, as Fife’s radio record showed, the increased traffic could be dangerous in itself. Only time would tell what effect this would make on group tactics and their successes.

⁸⁹ “OPINIONS”, by J.B. Griggs; Box 48, Submarines, Southwest Pacific. Restricted, Confidential and Secret General Administrative Files, 1942-1945; RG 313 Records of the Naval Operating Forces; NARA II, College Park, MD, n.p.

⁹⁰ *Ibid.*

⁹¹ Submarine Force, Pacific Fleet, NOTES ON COMINCH 122204”, by C.A. Lockwood, Jr.

Beyond giving the fleet an upgrade and some retraining in communications, this remained an easy-to-implement plan. Any boat could be tasked to take its place in group action. Griggs had outlined the benefits of the universality in his vision, explaining that “when coordinated action by a group of submarines is contemplated, they should be drawn from those available, either already on patrol or finishing refit, instead of from a special task group permanently maintained for this purpose.”⁹² A reserve force would inevitably have found itself languishing at base waiting for one of its members to refit or for a new boat to train up and join the group, leading to a loss in productive days in the area. The numbers of available boats at Pearl was always a matter of concern, so the notion of coordination offered the best way to maximise patrol opportunity and productivity.

A “tentative plan” was committed to paper on 19 March 1943 at roughly the same time as these commanders exchanged ideas. Everything “tentative” about it was brushed aside in the formal Operational Plan of June 1943—though there were still no Operational Orders forthcoming for another three months. The move toward groups putting to sea could only be made once there was enough of an increase in Pearl-based submarines, an aim set out since the start of the war. The 22 submarines available in December 1941 had given way through production and re-organisation to a projected 55 by October 1943 (18 on patrol at any one time), forecasted to be 116 (39 on patrol) by mid-1944. *Finally*, there would be sufficient numbers to entertain the real possibility of group action in the Pacific.

The basic guidelines set out in the Tentative Plan began broadly: “The United States is at war with JAPAN, GERMANY, ITALY, and various satellite [*sic*] or puppet

⁹² “OPINIONS”, by J.B. Griggs.

nations of the AXIS powers”.⁹³ This was true enough, though there remained only one true foe for American submarines in the area ear-marked for coordinated attacks: Japan.⁹⁴ It was clearly a continuation of Case One’s war by other means, as the instructions to “*wage unrestricted submarine warfare against the enemy in the CENTRAL PACIFIC AREA and comply with the letter of instructions from Commander-in-Chief, United States Pacific Fleet*” offered more concision, but no real deviation from the submarine war to date.⁹⁵

The great German General Staff Chief Helmuth von Moltke, the elder, famously remarked that “no plan survives first contact with the enemy.” In this case, however, the plan was derailed well *before* first contact. Prior to the Operational Order of 25 September, practical experiments were held with Hawaii-bound convoys to work out the finer points of group attack.⁹⁶ This marked a notable change in doctrinal policy, for the U.S.N. began to consider that wolf packs could offer benefits to off-set the fact that convoy had the effect of “nullifying submarine attack.” Single submarines were suffering from the effects of multiple escorts, limited available torpedoes, and the infrequency of convoy traffic on one route, all of which could be overcome with grouped tactics.⁹⁷ Groups could engage in mutual attack support, and they could provide extra defensive

⁹³ Operation Plan 1-43, 24 June 1943, signed Charles A. Lockwood Jr; Box 295 SUBPAC Orders; RG 38, Records of the Office of the CNO, Plans, Orders & Related Docs, SUBPAC May 42 to Mar 43; NARA II, College Park, MD, 2.

⁹⁴ The plan established that the “Central Pacific” within very specific latitudes and longitudes was the area in question for groups, though this was more rhetorical than actual. Boats were always sent to the existent areas that submarines had been using since the outbreak of war, though these areas were modified between 1941 and 1945 to reflect the needs and nature of the war.

⁹⁵ Operation Plan 1-43, 24 June 1943, signed Charles A. Lockwood Jr, 3. Emphasis in original.

⁹⁶ From Commander Task Group 17.14 to Commander in Chief U.S. Fleet, Subject: War Diary, 28 November 1943; Box 98 World War II Action and Operational Records; RG 38 Records of the Chief of Naval Operations; NARA II, College Park, MD, Enclosure A, 1.

⁹⁷ From Commander Training Command, Submarine Force Pacific Fleet to Submarine Force, Pacific Fleet, Subject: Coordinated Submarine Attack Doctrine, 18 January 1944; Box 4093, COMSUBPAC Secret serial Files, 1931-1952; RG 313 Records of Naval Operating Forces; NARA II, College Park, MD, 1.

measures when the need arose—but new or modified rules and guidelines were needed to maximise this. Some of the finer points of group doctrine were thus developed using the game board on the wardroom dance floor at Pearl Harbor, with problems gamed for groups attacking single and grouped ships; this is what came to be applied when the first coordinated group sailed.⁹⁸ For all the lip-service paid to keeping the pack simply a group of independently-acting submarines, a group-oriented doctrine nevertheless slowly made its way into being.

Concentrated attack strategies are timeless; the strategist Carl von Clausewitz advocated in his work *On War* that “the best strategy is always *to be very strong*; first in general, and then at the decisive point.”⁹⁹ Capitalising on the idea of strength at a decisive point also required *flexibility*, of course, for simply *locating* the decisive point was often more art than pure science. The doctrine thus developed was made up of elasticity for the sake of the ever-changing realities of the patrol, but relied also on a fixed set of policies. First, Japanese convoys tended to be small, so the number of hunters needed not exceed three in most cases. These three submarines would sail in line or column roughly twice the distance of sight apart (or twice radar range) in order to expand the pack’s search capabilities.¹⁰⁰

When the search was fruitful and contacts were made, the spotting submarine would immediately radio its fellow pack-mates and make the first attack. Ideally, this would fall on the convoy’s flank, away from the other submarines to avoid catastrophe.

⁹⁸ Ibid., 2.

⁹⁹ Carl von Clausewitz, *On War*, Michael Howard and Peter Paret, eds., (Princeton, NJ: Princeton University Press, 1984), 204.

¹⁰⁰ Roscoe, *Submarine Operations*, 241; From Commander Training Command, Submarine Force Pacific Fleet to Submarine Force, Pacific Fleet, Subject: Coordinated Submarine Attack Doctrine, 18 January 1944, 3.

After the preliminary attack, the submarine would fall back and play the role of the “trailer,” following the convoy while waiting for the others to catch up. When they did, these submarines would take up position on either of the convoy’s sides as the “flankers,” attacking the convoy thereafter. The flankers’ job was to make repeated attacks on the convoy, alternating and regrouping for successive rounds while the trailer remained in position and kept the flankers abreast of developments, such as stragglers, course changes, or the locations of escorts.¹⁰¹ The flankers were also, quite critically, to attack whatever escorts were counter-attacking the remaining submarines. Group tactics could therefore offer defensive as well as offensive strengths.¹⁰²

Some of the finer details of pack tactics included what to do if an enemy reversed course, or the bounds of patrol responsibility if a convoy scattered. In the former, the trailer was tasked with attacking, and in the latter, each flanker was given a sector defined by an arc of 120° on either side of the enemy base course, while the trailer took the sector of 120° astern. “After dispersal of the enemy,” the doctrine instructed, “each submarine’s search should be along radii of the arc having as its center the point of attack causing the ‘scatter’.”¹⁰³ It is pure fantasy to imagine that during the mass confusion of a scattering convoy with escorts pinging and friendly submarines re-manoeuving, any CO would be worrying about which arc degrees were his responsibility. This was likely known to those who devised the doctrine, for the following point stated clearly that “in the melee

¹⁰¹ Ibid.

¹⁰² From Commander Training Command, Submarine Force Pacific Fleet to Submarine Force, Pacific Fleet, Subject: Coordinated Submarine Attack Doctrine, 18 January 1944, 3.

¹⁰³ Ibid., 4.

following an attack *nothing in this doctrine prevents a submarine from attacking the enemy* when he is in a favorable position to do so.”¹⁰⁴ Attack, as always, was key.

The first group to put this in practice was organised on 25 September 1943, comprised of *Cero*, *Shad* and *Grayback*. With that, Task Group (TG) 17.14 was born, and let loose to hunt in the East China Sea area. TG 17.14’s orders were almost identical to those of individual boats that sailed a year earlier. Standard orders for reaching the patrol area were given, but then the singularly different segment of the order was made. Once the group was operating in area, it was decreed that “you will conduct *coordinated patrol and coordinated attack* from about October twelve, nineteen forty-three, until not later than sunset on November eleven, nineteen forty-three.”¹⁰⁵ Ultimately, the orders *were* somewhat vague, but this was intentional. Little more, at that point, needed to be said.

The further specifics of the whens, wheres and hows of coordinated patrols were to be determined by the group’s CO, and each group had one CO who operated above and beyond the submarines’ own. It had been decided back in March 1943 that “the officer who is to exercise tactical command of this group should be so situated as to have access to all available information, friendly and enemy,” and clearly it was felt that no man could do all these things *and* skipper his own boat at the same time.¹⁰⁶ What this essentially translated into was a regularly updated *Ultra* feed, with information doled out as the TGC deemed it necessary. Thus, the COs of *Shad*, *Cero* and *Grayback* were Commanders MacGregor, White and Lieutenant-Commander Moore respectively, but the group captain was the squadron commander—in this case, Captain Charles “Swede”

¹⁰⁴ Ibid.

¹⁰⁵ “Operational Order 217-43” to Task Group 17.14 – Coordinated Attack Group, 25 September 1943; Submarines, Pacific OpPlan Material, September 1943; Box 297; Plans, Orders & Related Docs; RG 38, Records of the Office of the CNO; NARA II, College Park, MD, 1. Emphasis added.

¹⁰⁶ “OPINIONS”, by J.B. Griggs.

Momsen, embarked in *Cero*. He would dictate the patrol's rhythms, for beyond the standard instructions and the stipulation to coordinate patrols and attacks, Momsen was given a free hand to act as he saw fit, guided by intelligence. The Operational Orders provided no other specific guidance.

The first group made its way from Midway to the assigned area on 1 October 1943, without any remarkable instances along the way. By the tenth day, the contacts started registering and quickly translated to targets. This began with an attack by *Grayback* on a four-ship convoy. *Grayback* was unable to get a report out to the group, but *Cero* reported hearing twelve depth charges—proof of action, at least—though without getting a bearing on where they came from. Between then and 15 October, the first problem with coordinated groups was made abundantly clear: communications suffered a significant breakdown and the submarines could not contact each other. This was not a shocking turn of events, for communications between submarines were almost always problematic in the SWW, and *Cero*, *Shad* and *Grayback* found that they were simply unable to exchange signals unless at close range.¹⁰⁷ Nevertheless, this did not prevent the group from locating two convoys and sinking ships—only, they did not do it “by the book.”

The first major attack came on the night of 12 October, when *Cero* spotted and attacked a convoy with six torpedoes. The CO noted one torpedo was seen to explode, and a further two were heard. A second attack was launched with all three torpedoes fired, all said to have hit the target, but postwar, JANAC failed to record a sinking that

¹⁰⁷ Momsen recommended that if a satisfactory means of communication could not be found for sending and receiving at twenty miles distant while submerged, then groups should only operate in areas where submarine could patrol on the surface—which was not possible in the East China Seas with heavy escort and air coverage. See From Commander Task Group 17.14 to Commander in Chief U.S. Fleet, Subject: War Diary, 28 November 1943, 3.

night. Most likely, only damage was done: *Shad* reported stalking a wounded target that same night, possibly the ship that *Cero* had hit. *Shad*'s CO knew he needed to dispatch the escort before taking out the damaged transport and turned his attention away, but in the attempt he was driven down and lost the convoy.¹⁰⁸ So much for the first attack.

The second major attack on the night of 27 October again failed to use the group doctrine, and, in fact, was not even a group attack. *Shad* made the first contact at 2325 on 26 October, and as it began the attack approach, the CO's comments made it clear how these new group tactics were hamstringing him from taking the action he would have preferred. He wrote, "Normally would have turned away and made another approach from port side but in view of group attack doctrine for ship making initial contact to attack as soon as possible, decided to stand across track and fire stern tubes at right flank transport."¹⁰⁹ MacGregor stayed the course for coordinated attack doctrine, but was not rewarded for his efforts. *Grayback* also got in a few shots at a damaged tanker, though JANAC did not reveal a single ship sunk on that night by Task Group 17.14. It is counterfactual to suggest that *Shad* would have been more productive attacking alone, but it is reasonable to argue that without a single coordinated attack made on that first patrol, these tactics were still too new for the best possible results to be achieved.

Momsen's laundry list of problems encountered in this patrol included a lack of proper search doctrine, an inability to maintain the element of surprise because of air coverage, torpedo failure, communications failure, and perhaps most importantly, the

¹⁰⁸ It is not clear if this had been adopted formally after J.H. Brown's recommendation to *Nautilus* in his endorsement of its first war patrol, or if this reflects MacGregor's individual opinion.

¹⁰⁹ Report of Fourth War Patrol – U.S.S. SHAD; Box 2815; World War II Submarine Combat Control Reports; RG 38; Crane Files; NARA II, College Park, MD, 8.

Task Group Commander was, Momsen believed, in the entirely wrong place.¹¹⁰ Embarking the commander prevented him from breaking down information as thoroughly as he might if he were based in Pearl; neither could he pass on the long despatches required to direct the group properly from aboard a submarine. Radio contact from the commander at base to the boats operating at sea was identified as the optimal situation, though Momsen recommended further work on the game board to figure the best way to put this to work.¹¹¹

RAdm Lockwood did not agree. The group commander *had* to be embarked, ComSubPac stated, because the volume of radio traffic between Pearl and boats at sea would cause inevitable delays, forcing the commander into a time-lag on all decisions. The officer controlling an attack group could only do his job by supervising day-to-day issues in the patrol areas, *to be assisted* by information from the Commander Submarine Force, Pacific Fleet, but not governed wholly by Pearl. Additionally, Lockwood pointed out that this “parallels somewhat the German idea” of perpetual contact, giving up U-boat positions and leaving the entire attack group vulnerable to DFing. The American way of maintaining radio silence was considered the reason that U.S.N. losses were a small fraction of *Kriegsmarine* losses; thus, Lockwood stated definitively, “it is strongly felt that this practice is sound.”¹¹²

Lockwood and Momsen agreed that it was possible that Japanese escort tactics were being changed in response to spotting more than one submarine in a particular area

¹¹⁰ From Commander Task Group 17.14 to Commander in Chief U.S. Fleet, Subject: War Diary, 28 November 1943, 1-5.

¹¹¹ *Ibid.*, 5.

¹¹² From Commander, Submarine Force Pacific Fleet to Commander in Chief, United States Fleet, Subject: Commander Task Group 17.14 War Diary, 7 December 1943; Box 98 World War II Action and Operational Records; RG 38 Records of the Chief of Naval Operations; NARA II, College Park, MD, 1-3.

at once. Momsen noticed that when attacked by a single submarine, the escort would detach and be free to hold the enemy down, but when multiple submarines were attacking, “they cannot afford to do this.”¹¹³ To Lockwood, this showed that “another advantage has been gained by grouping submarines”—but in reality, given that grouping had not yet led to an unarguable advance in submarine practice, this might have been *the only* advantage gained by grouping in the experience of this first task group.¹¹⁴

The second group left Pearl at almost the same time as the first group departed its area—thus not enough time passed for Task Group 17.15 to learn lessons from the first experience. The second group patrolled around the Marianas Islands, which lay thousands of kilometres off mainland Asia, yet offered no respite in ASW measures. TG 17.15 was made up of *Snook*, *Harder* and *Pargo*, with the Task Group Commander (TGC), Captain Frederick Warder, embarked in *Pargo*. The second coordinated group suffered many of the same problems the first had, including poor communications and difficulty actually *acting* as a coordinated group, but just as every patrol is unique, so too is every group. TG 17.15 again failed to engage in proper group attacks with all three boats, but did distinguish itself by achieving one near-group attack in which two boats coordinated, albeit awkwardly. However, the greatest success that TG 17.15 had was when *Harder* acted alone. Each of the COs patrolling, including the TGC, had clear opinions about the way this new tactical development was working, or *not* working, as the case seemed to be.

¹¹³ From Commander Task Group 17.14 to Commander in Chief U.S. Fleet, Subject: War Diary, 28 November 1943, 6.

¹¹⁴ From Commander, Submarine Force Pacific Fleet to Commander in Chief, United States Fleet, Subject: Commander Task Group 17.14 War Diary, 7 December 1943, 3.

The documentary record for these three submarines hardly reads as three parts of one whole group. Each boat had its own story, and the three were then woven together in the TGC's report—though it favoured *Pargo*, given that that was where the commander was embarked. For example, on 12 November *Pargo* and *Harder* sighted a convoy almost simultaneously. *Snook* dove at 1305 because of an SD contact (aircraft), however, so the drama unfolded one boat shy of the full complement.¹¹⁵ At 1340 *Pargo* sighted the convoy's smoke and fired off a contact report to the group while manoeuvring for a position ahead of the convoy. Fifteen minutes later *Harder*'s contact report for the same convoy was received.¹¹⁶ According to *Harder*'s patrol report, though the convoy was not sighted until 1420, and then it sent its contact report and “five seconds later” received *Pargo*'s.¹¹⁷ Putting aside the questions of temporal discrepancy, it appeared from *Pargo*'s patrol report that it had a forty minute head-start, and yet *Harder* beat *Pargo* to the attack, firing three torpedoes and reporting two hits causing “instantaneous” and complete destruction—to an extent never seen before in the CO's three-patrol career.¹¹⁸ When *Snook* surfaced and received a report at 1920 of the two ships *Harder* sent to Davy Jones' locker earlier that day, Charles O. Triebel, the skipper, commented: “surprised by HARDER's message that they had sunk two ships.”¹¹⁹ So would the Japanese have been to hear such a report, for the “complete and instantaneous destruction” went unconfirmed by JANAC.

¹¹⁵ Report of Fourth War Patrol – U.S.S. SNOOK; Box 2830; World War II Submarine Combat Control Reports; RG 38; Crane Files; NARA II, College Park, MD, 1.

¹¹⁶ Report of Second War Patrol – U.S.S. PARGO; Box 2825; World War II Submarine Combat Control Reports; RG 38; Crane Files; NARA II, College Park, MD, 2.

¹¹⁷ Report of Third War Patrol – U.S.S. HARDER; Box 2823; World War II Submarine Combat Control Reports; RG 38; Crane Files; NARA II, College Park, MD, 3.

¹¹⁸ *Ibid.*, 4.

¹¹⁹ Report of Fourth War Patrol – U.S.S. SNOOK, 1.

Such was the nature of this “coordinated” attack: one participant was completely ignorant, and the other two vied for the same target without any semblance of joint operations. This was almost a standard for this group: on 19 November *Pargo* spotted a convoy and radioed to the pack. *Snook* received it, *Harder* did not. *Harder* also spotted a convoy, and radioed to the pack. Again, *Snook* received it, *Pargo* did not. A comedy of errors ensued.

Snook reported receiving *Harder*’s contact report at 0210, but “PARGO did not receipt for it. Contact was about on top of our DR for PARGO.”¹²⁰ There followed a flurry of exchanges between then and 0543, when *Snook* noted “received enemy course from *Harder*. Noting *Harder*’s range just prior to explosion [one minute earlier] we were certain PARGO had attacked.”¹²¹ Between 0600 and 1500 on 19 November, *Snook* shuttled around all potential course bearings, searching in vain for the convoy. “This was the most frustrated I have ever felt,” Triebel exclaimed. “On the surface at full speed, hearing explosions, and we couldn’t make contact.”¹²² It was a day of confusion as well, for shortly afterward, *Snook*’s report noted “surprised to hear PARGO on radio assigning new patrol stations. HARDER did not answer.” So much for many boats providing greater clarity and opportunity—*Snook* was in the dark and almost aimless in the offing.

Pargo found the convoy on its own at 0501, almost three hours after *Harder* began chasing it down. The set up was “perfect,” and it looked like the target would pass right over *Pargo*’s position.¹²³ At 0507 *Pargo* sent the contact report, *Snook* receipted, and within twenty minutes, *Pargo* had five ships in sight, but still no word from *Harder*.

¹²⁰ Report of Fourth War Patrol – U.S.S. SNOOK, 2.

¹²¹ *Ibid.*, 3.

¹²² *Ibid.*, 3.

¹²³ Report of Second War Patrol – U.S.S. PARGO, 3.

The escorts turned on *Pargo* and began depth charging, but it still began manoeuvring for a shot at the escort. The boat was submerged, though, and therefore utterly unaware of what its pack mates might have been doing; by midday, *Pargo* was able to surface but could get no contact from *Harder* or *Snook* until 1421, when Samuel L. Dealey (*Harder*) informed Ian C. Eddy (*Pargo*) that he had attacked another convoy—of which Eddy had had no report of its existence. *Snook* reported having chased *Harder*'s morning convoy in vain, and at 1703 switched over to search for *Pargo*'s. Thus, with two separate convoys and three boats operating in a way that almost defied understanding, poor *Pargo*'s experience hardly praised the superiority of group tactics.

Meanwhile, *Harder* was having an adventuresome time patrolling around the Marianas; unfortunately, Dealey's boat was almost completely engaged in individual action. For an hour, *Harder* and *Pargo* tried to raise *Snook*, but to no avail. At that point, *Harder*'s diary revealed, "the JAPS 'jammed' any further attempt to communicate with the other subs by holding down their key on our frequency."¹²⁴ So Dealey went on alone from the port quarter of the convoy (with *Snook* believed to be on the starboard flank), eventually manoeuvring to a position to shoot six torpedoes at two targets within one minute, and another four torpedoes in the next four minutes. "This had been a dream come true," Dealey wrote, and sure enough in one single battle *Harder* sank three confirmed targets for 15,273 tons. Two more attacks that night left *Harder* with torpedoes expended.¹²⁵ When *Snook* received the signal at 1319 that Dealey's boat had fired all torpedoes Triebel could only remark, "Had no idea from it who he had shot or

¹²⁴ Report of Third War Patrol – U.S.S. HARDER, 6-7.

¹²⁵ Ibid., 8-10.

where or when.”¹²⁶ *Harder* thus detached having had an excellent run, but done little if anything to further the experience of coordinating submarine attacks.

Pargo bagged a ship that night, as well—it was happy hunting for the American submarines. Ultimately, though this second coordinated attack was shaping up to be quite successful, it did so without resembling a *coordinated attack* group at any time. The extent of the cooperation between the boats was restricted to sharing confusing contacts. Beyond that, there were so many problems in communications, and chaotic situations in which pack doctrine simply could not be applied, that never could the “trailer and two flankers” system be made to work.

TG 17.15 still continued to be successful even after *Harder* detached and sailed home. On 28 November *Snook* and *Pargo* went on to find another convoy, which *Pargo* sighted first and contacted *Snook* about. As *Pargo* went to get in a position ahead, it picked up a target on radar—which turned out to be *Snook*, the two boats operating on the same side of the convoy: the port side. Great confusion ensued as *Pargo* tried to change sides to take up the other flank, only to find that *Snook* had done the same. This occupied the hours between 1816 and 2003, as the two “coordinated” boats failed to coordinate the most basic issue of taking up opposite sides of the convoy. Ultimately, *Snook* went back to the original position and left *Pargo* to continue ahead. The confusion was not a sign of things to come, and over the next two days Eddy’s boat sank two ships for 7,810 tons, and Triebel managed two ships for 8,440 tons.¹²⁷

These three submarines had deprived the Empire of the Sun of seven ships in total, winning the patrol accolades for their aggressiveness. That it may well have been,

¹²⁶ Report of Fourth War Patrol – U.S.S. SNOOK, 3.

¹²⁷ Both of these boats were claimed during the war and confirmed by JANAC, with only the tonnage reduced in both cases.

but a reading of the patrol's day-to-day conduct *also* shows it to be confusing and highly imperfect. The U.S.N. worshipped at the altar of success instead of assessing just how many problems there were in trying to make coordinated attacks work. Aside from the continued criticism of communications, however, patrol endorsements remained largely positive. *Pargo's* CO observed that "considering the patrol as a whole the wolf pack tactics have considerable advantage over area patrol close to enemy bases."¹²⁸ This was an interesting assessment, for in no way had these tactics been put into play during TG 17.15, save for sharing contacts within the group. More tellingly, Eddy continued that "it is believed that with more experience at this type of operation it can be more effective than the area type of patrol."¹²⁹ This was closer to the reality—it was *not* yet an effective type of patrol. Finally, *Pargo's* CO admitted that he recommended "some pack training be conducted prior to departure on patrol in order that the boats may become accustomed to operating together and a suitable pack doctrine be worked out."¹³⁰ Thus, in the space of two paragraphs wolf packing went from giving a considerable advantage, to not being totally effective, to lacking in appropriate and applicable tactics. A confusing patrol begat a confusing report.

Harder's quasi-individual patrol was lauded as "an outstanding achievement in submarine warfare" by its squadron commander. Dealey's patrol had hardly yielded a plethora of innovation, thus the message seemed to be that with the benefit of spotting assistance by a group, the traditional tactics could still be successful.

Not only were communications difficult, but radar use infused instability into the patrol. The SD radar made its usual controversial appearance, failing to spot anything

¹²⁸ Report of Second War Patrol – U.S.S. PARGO, 26.

¹²⁹ Ibid.

¹³⁰ Ibid.

more than planes and falling victim to the old issue of betraying the submarine's location. Still, the problem of friendly submarines operating at close proximity stood to pose potentially bigger dangers. On several occasions, such as the *Snook-Pargo* attack of 28 November, and also when the U.S.S. *Scorpion* was operating near by, the lack of ability to pinpoint friendly forces' locations had had these submarines tracking and making attack approaches on each other. In this instance, crisis was averted, but with the increased number of submarines becoming available for patrol and the adoption of group tactics, this was poised to become a major problem. The trinity of coordinate problems was therefore in identifying friendly forces, communications (submerged and otherwise), and in positioning.

Warder's most surprising assessment came with the suggestion that perhaps, the divisional commander was not necessary in the boat. The position had been created because a glut of senior submarine commanders had been gathering at Pearl and this gave them a function to fill. But Warder found it superfluous. While Momsen envisioned the role expanding by basing the commander at Pearl, at the hub of information, Warder also found that he would have done well to be situated back in Hawaii—but to allow the senior submarine skipper to fill his role at sea.¹³¹ To this he added that “it is thought, however, that the occasional presence of a division commander will be beneficial to both him and to the service.”¹³²

This was likely a very diplomatic way of expressing that having a CO and the TGC embarked in one boat was a case of the proverbial “too many cooks.” In 1985 the

¹³¹ From Commander Task Group 17.15 to Commander-in-Chief, United States Fleet, Subject: War Diary of Coordinated Attack Group from October 30, 1943 to December 1, 1943, 5 December 1943; Box 98, World War II Action and Operational Records; RG 38 Records of the Chief of Naval Operations; NARA II, College Park, MD, 8.

¹³² Ibid.

one-time CO of *Pompano* and *Seahorse*, Slade D. Cutter, told the story of a wolf pack with one skipper too many, it seemed. The boat in this instance was under L.P. “Red” Ramage’s direct control, with the group commander, Lewis Parks, embarked. As Cutter told it, “they didn’t get along very well. I don’t care what Red says, because I heard the other side. Both of them great men, but they had their problems. So you can’t have two strong personalities running a ship.”¹³³ Remembering the criteria for successful submarine skippers, more than likely the men in command of the silent service *were* possessed of strong personalities; the resulting tension could distract from the task at hand.

Conclusion

These two cases were the extent of group action for 1943. The idea had been worked with, theorised over, examined and re-examined since March, formulated into an Operational Plan in June, and ordered into action in late September with some revised and almost improvised tactics. The outcome reflected the priority in the submarine service—success was worth more than the way it was gotten. At no time did any of these six boats follow through with a proper coordinated attack. Nevertheless, there were congratulations and cheers over the tonnage sunk, and not a single endorsement recommended working harder to implement the tactics. In one case, a CO revealed that he did not like operating in groups, and that the tactics were a waste of time. “You can’t anticipate what’s going to happen... you don’t know what the enemy is going to do, and what you do is based upon what he does.”¹³⁴ To take this comment too seriously reaches into the realm of the absurd, for doctrine existed to give options and guidelines for

¹³³ Slade D. Cutter, *Reminiscences of Captain Slade D. Cutter, USN (Ret.)*, (Annapolis: Naval Institute Press, 1985), 535.

¹³⁴ *Ibid.*, 534-5.

various eventualities. But American commanders often chafed under such restrictions as doctrine. The fact that these first groups were congratulated in spite of never once coordinating their tactics symbolised the American commitment to sinking ships over finding the most effective way to do it. Undoubtedly, failing to properly develop this style of patrol had to have left out some of the benefits of pack action.

Clay Blair's analysis of the U.S.N.'s errors in its submarine campaign offered the following insight:

Perhaps the gravest [error] was the failure to develop wolf pack tactics and methods of communicating between wolf packing submarines. Had this been done—or at least tried—the first three boats going to Empire waters could have operated as a mutually supporting pack. Time would prove that wolf packing was not nearly so dangerous as believed and produced better results. It increased area coverage, brought greater firepower to bear on a given Japanese convoy or fleet unit, and befuddled antisubmarine vessels. It also worked to increase the aggressiveness of submarine skippers.¹³⁵

While the argument was made above that the U.S.N. moved to pack tactics as soon as it had the numbers available for it, these early cases show that even when a policy called “coordinated group action” was in effect, sometimes this was only a semantic change from the existing standard. Ultimately, to reap the benefits of group action, a practice that stayed closer to doctrine was necessary—but as the U.S. continued its ascendancy and the Japanese effort continued to decline, the likeliness of this kind of commitment followed the Rising Sun's trajectory.

¹³⁵ Blair, *Silent Victory*, 125.

Part Four:

*Case Four: 1944: Winning the War*¹³⁶

When *Parche*, *Bang* and *Tinosa* sailed from Pearl Harbor as the fourth coordinated attack group on 29 March 1944, a full half year had passed since the first task group had been assembled for patrol. A decided lack of commitment was being demonstrated to this strategy, given that only four groups had been marshalled between then and April 1944, but also because there had been no notable changes in doctrine or practice since the first voyages had brought their problems and pitfalls to light. 1944 was the year the submarine war turned to certain victory; rather than attribute that to the wolf packs, however, this is more of a reflection of the overall direction of the war.

The action reports from the fourth group seem relatively condensed and brief as they fulfilled the ages-old maxim of naval warfare: periods of extended boredom punctuated with brief spurts of danger and excitement. During the first month of this group's patrol, nothing of note happened. Suddenly, on 29 April 1944 *Bang* located a convoy. Two ships were sunk within forty-eight hours, and over the next four days another four went to the bottom of the East China Seas. This glut of targets brought on the end of the group, for *Tinosa* and *Bang* expended their torpedoes in those five days and were sent home, leaving *Parche* an uneventful nineteen additional days of patrol. This alone suggests an increase of contacts with multiple boats patrolling. Furthermore, all accounts deemed this a successful group patrol; it reflected a certain improvement on past group tactical applications, but still failed to meet the definition of "coordinated."

¹³⁶ Patrols included in this case are *Parche*-1, *Bang*-1, *Tinosa*-6, *Hammerhead*-1, *Steelhead*-6, *Parche*-2, *Apogon*-4, *Thresher*-13, *Guardfish*-8, *Piranha*-1, *Barb*-9, *Queenfish*-1, *Tunny*-7.

Lt-Comdr Antone R. Gallaher of *Bang* had made his first sail as CO during that patrol, and he received the highest praise from all levels of command for his accomplishments. Commanders were measured to the same bar as they had been since the beginning, as was made clear by Comsubdiv 202's comment: "it was characterized throughout with determination and aggressiveness"; success still meant "aggressiveness" in 1944.¹³⁷ Comsubron 20 found him "outstanding;" and Comsubpac bestowed an additional "tenacious" upon him to round out the accolades.¹³⁸ They were not overstating the case. *Bang* was responsible for locating the first convoy, and in unflinchingly trying to reach its pack mates each hour while doggedly pursuing the convoy. When finally *Parche* and *Tinosa* receipted and gave their positions, Gallaher reckoned that as they were between 60 and 70 miles (96 to 112 kilometres) away, they would not make it into group formation prior to dawn breaking.

Bang then attacked alone before moonrise (when a better position would have been achieved), with the intention of scattering the convoy and buying time for *Parche* and *Tinosa* to catch up. In this, Gallaher was successful and unsuccessful, for he sunk a ship in his attack, but neither *Parche* nor *Tinosa* were able to do the same once on station. The attack on that convoy continued through a second night, and again *Bang* alone was successful, though in between his two ships sunk Gallaher also fired *ten* torpedoes while the torpedo data computer (TDC) was out of commission, leading to *ten* misses. That was

¹³⁷ From Commander Submarine Division 202 to Commander in Chief, United States Fleet, Subject: U.S.S. BANG (SS385) –Report of War Patrol Number One, 15 May 1944; Box 2844; World War II Submarine Combat Control Reports; RG 38; Crane Files; NARA II, College Park, MD, 1.

¹³⁸ From Commander Submarine Squadron 20 to Commander in Chief, United States Fleet, Subject: U.S.S. BANG (SS385) –Report of War Patrol Number One, 16 May 1944; Box 2844; World War II Submarine Combat Control Reports; RG 38; Crane Files; NARA II, College Park, MD, n.p.; From Commander, Submarine Force, Pacific Fleet to Commander in Chief, United States Fleet, Subject: U.S.S. BANG (SS385) –Report of First War Patrol, 29 May 1944; Box 2844; World War II Submarine Combat Control Reports; RG 38; Crane Files; NARA II, College Park, MD, n.p.

a staggering number of torpedoes fired in such a short period and did not in any way correspond to earlier doctrine on torpedo-life measurements. Obviously, Gallaher's methods and escape of censure depended heavily on the fact that torpedoes by 1944 were plentiful, and according to Clay Blair, were reduced in explosive strength.¹³⁹

Shortly after *Bang* despatched its second ship, the TGC, Captain Walter Peterson, relegated *Bang* to the "trailer" position. This was where the submarine that spotted the convoy was meant to go and so *Bang* did, but instead of giving the other boats their opportunities to succeed, it is noteworthy that nothing else was sunk in that convoy. For all his aggressiveness, Gallaher was almost punished, and he was forbidden to attack again until *Parche* and *Tinosa* had had their chances. Each got attacks in on the morning of 30 April, but for the combined total expenditure of 12 torpedoes, all they could claim was damage. The level of action had already peaked and waned for that convoy, and as the depth charges were dropped with increasing aggression, the convoy escaped. The group returned to its scheduled patrol lines to seek out what else was afloat in its area.

A submerged *Tinosa* spotted the second big convoy at 0552 on 3 May, and trailed it while sending signals out to its group mates. This continued to show that communications issues were not solved yet, for *Parche* returned the signal, *Bang* did not, and would not until four hours later. *Tinosa* broke with group doctrine by not making an attack before taking up the trailing position, but surely the kills that followed vindicated any choices the CO made. *Parche* had the distinction of making the first end-around run on the starboard flank at 0825, only to be driven down by two planes on the SD radar between 0915 and 0933. Then it was *Tinosa*'s turn, and it began a port-side end-around at

¹³⁹ Blair, *Silent Victory*, 818. Blair cites that in 1944, 6,092 torpedoes were fired, as compared to 5,379 in 1942 and 1943 combined. Skippers were firing full salvoes, as seen here, partly because it was allowed and partly because it was observed that bigger targets *needed* more hits to send them to the bottom.

1057, but again to no avail. By 1742 that day, *Bang* had joined the other two in the pursuit, but repeated plane contacts kept driving the whole group down. When contact between the boats was established again, TGC Peterson ordered *Bang* to trail again, leaving *Tinosa* submerged on the port flank and *Parche* surfaced on the starboard flank. This time it was sea-based craft that foiled the group's attacks, for the escorts detached and prevented action. Finally, at 2045 that night it was realised that *Bang* was in the best position to get off an attack, which was meant to hit the port side and divert the convoy eastward.

No historical record exists to explain why, then, *Tinosa* suddenly submerged to begin an approach before *Bang* made that attack; *Tinosa*, fired its first six torpedoes shortly after midnight on 4 May.¹⁴⁰ The explosions that followed reverberated through all the boats preying on this convoy, earning the CO, Cmdr L.P. "Red" Ramage, two possible kills and an intense round of depth charging.¹⁴¹ An hour later it was *Parche*'s turn, firing all bow tubes in a surface attack, adding two ships to its tally. The situation was entirely satisfactory to TGC Peterson, whose final words after *Parche* attacked were that "although numerous contacts were made on small Maru escorts, no large ships were in evidence. (Believe the entire convoy was destroyed with perhaps one exception. This ship was damaged and would be most fortunate if she reached port.)"¹⁴² At the end of this

¹⁴⁰ At 2155 *Tinosa* reports being ahead of convoy and tracking, but then easing to starboard to clear *Bang* for its ordered attack on the port flank. Not even twenty minutes later *and* without a word of explanation, *Tinosa* submerges to begin approach. If this was condoned or if D.F Weiss, the CO, disobeyed orders is not known. See U.S.S. TINOSA (SS283) – Report of Sixth War Patrol; Box 2831; World War II Submarine Combat Control Reports; RG 38; Crane Files; NARA II, College Park, MD, Enclosure A, 11-12.

¹⁴¹ It is difficult to pinpoint when *Tinosa* had its successes, for it claimed four sunk during that patrol, but only had two vindicated, both on 4 May when the all its action took place.

¹⁴² War Patrol of Coordinated Attack Group 17.15; Box 98, WW II Action and Operational Records; RG 38 Records of the CNO; Enclosure A, 7.

long and costly night for Japanese shipping, *Tinosa* and *Bang* had expended all torpedoes and went home believing six ships had been sunk between them.

The attacks on 3-4 May 1943 by this task group mark the first good example of a coordinated attack in this study. However, the way that the group commander played out the attack seems sometimes to be more about sharing the opportunities than a quest for maximum effectiveness. An alternate possible interpretation is that by holding the *über-aggressive Bang* back from making further attacks, it kept four fishes in Gallaher's reserve. So long as his boat had torpedoes remaining, it had a reason to remain on station—and undoubtedly having three submarines working together was crucial for this group's functioning. In both major attacks, there was difficulty in contacting all three of the submarines at any time. In both instances, the unreachable boats were submerged and therefore went without receiving contacts, so to approach a convoy with more than one boat *required* at least three submarines in a pack. Furthermore, patrolling groups in the East China Sea were always for want of another group of eyes and radars, and losing one boat would be felt keenly by the remaining members when it came to spotting. There should be no doubt about whether these were changes made for the sake of a more effective *group* operation, or simply increasing target chances; clearly the latter was the prime motivation.

Seeking to make groups more effective was a good goal for American submariners, especially as Japanese ASW was very strong in places during 1944.¹⁴³

¹⁴³ Evidence of this is spread throughout the patrol reports, from the more frequent air patrols overhead that forced the submarines down, to the noted increased amount of depth charges, to convoys being given multiple escorts. See U.S.S. TINOSA (SS283) – Report of Sixth War Patrol; Box 2831; World War II Submarine Combat Control Reports, 9; See U.S.S. BANG, Report of First War Patrol; Box 2844; World War II Submarine Combat Control Reports; RG 38; Crane Files; NARA II, College Park, MD, 25, for two examples, corroborated by Roscoe, *Submarine Operations*, 341. Roscoe pinpoints August 1944 as the apex

Often, failed communications between submarines was caused by lengthy depth charge attacks or frequent air patrol driving submarines down and keeping them down for up to half a day, so effectiveness outside these periods was vital. In spite of this annoyance (for it was more a matter of annoyance than danger), Lt-Comdr Ramage, *Parche*'s CO, was extremely congratulatory of the "pack" way of submarine warfare. He wrote that

the results of this coordinated patrol demonstrate the advantages of the wolf pack and prove that they can be effectively employed. It is evident that as Japanese shipping losses increase it will become more necessary to provide greater submarine concentrations in more limited areas in order that every contact may be fully exploited.¹⁴⁴

Obviously, Ramage felt the U.S. had outsmarted the Japanese convoys. He also observed that communications between the boats did not suffer the degree of breakdown that had been expected. The proviso to that was that "on both occasions once contact had been made, a continuous exchange of information could and should have been maintained between all boats. Too much was left to supposition."¹⁴⁵ Remembering how *Tinosa* suddenly manoeuvred itself into attacking position after conceding that role to *Bang* shows this was indeed an issue. What *was* the CO's idea in that? No censure followed, however, indicating that sticking to the letter of doctrinal law (and even orders) was regularly less important than aggressive patrolling.

This was considered an exemplary group patrol in many ways. During the war, it was believed that this pack despatched an incredible *sixteen* Japanese ships; if that figure had held up in postwar examination, the failure of the United States to force greater implementation of pack tactics on the submarine service would have been a glaring

of Japanese ASW, 352. Furthermore, *Flier*, *Robalo*, *S-28*, *Golet*, *Herring*, *Gudgeon*, *Tullibee*, *Trout*, *Scorpion*, and *Grayback* were all lost between January and August 1944.

¹⁴⁴ U.S.S. *PARCHE* (SS) – Report of War Patrol; Box 2844; World War II Submarine Combat Control Reports; RG 38; Crane Files; NARA II, College Park, MD, 26.

¹⁴⁵ *Ibid.*

mistake.¹⁴⁶ However, JANAC gave credit for exactly half that figure, which worked out to two ships each for *Parche* and *Tinosa*, and three for the supremely aggressive Gallaher in *Bang*. These numbers are entirely comparable to those achieved in successful patrols by lone boats, even in Case One when a litany of problems plagued the submarine service. Would Ramage have been so enthusiastic about group warfare if this pedestrian outcome had been known at the time? Arguably, any success is a welcome success, and the war's direction showed the American star on the rise; there would have been no reason to criticise a new strategic development simply for failing to outdo what had always been considered effective.

At a certain point, discussing the development and progress of American “wolf-packs” in 1944 becomes less a matter of what obstacles the submarines were surmounting, and more a matter of what the war did to affect the theatre that submarines fought in. By the summer of 1944, convoy routes to some of the farther-flung parts of the Greater East Asia Co-Prosperity Sphere had been eliminated by necessity. Thus, a combination of two factors helped turn the Pacific War into a fertile ground for grouped tactics: first, there was a drastic reduction in areas requiring patrols by American submarines; and second, the Japanese need and ability to float ever-larger convoys to and from the home islands offered significant concentrated targets for the grouped submarines to hunt.¹⁴⁷ By this point, the American pack tactics had gelled into what they would be for the remainder of the war, save the smallest of adjustments. This was characterised as a group strategy shaped more around *locating* convoys rather than

¹⁴⁶ Keeping in mind that in the first six months of war, only three three-boat packs had been organised, obviously grouping was not as serious a concern as it might have been.

¹⁴⁷ Roscoe, *Submarine Operations*, 341.

attacking convoys as a group—that remained ingrained in the doctrine, but not exactly promoted.

Two mid-year packs let loose around the Luzon Straits and Formosa (Taiwan) as the submarine war refined yet further. They were patrolling in the newly re-sectioned area off the Asian coast called “Convoy College,” as the Americans showed themselves as capable as the Germans at making USW kitschy. “Convoy College” was not the only area of its kind, there was also “Hit Parade” and “Maru Morgue,” to name a few. These were zones where boats on station would be involved in rotating patrols, enabling the greatest coverage possible. The two named groups sent to work in the “Convoy College” in June 1944 were “Parks’ Pirates” under Commander L.S. Parks,¹⁴⁸ and “Mickey Finns” under Captain R.V. O’Regan.¹⁴⁹

The “Finns” left Pearl first by a matter of days save *Apogon*, who was joining them later from a refit at Majuro in the Marshall Islands. *Guardfish* and *Piranha* sailed together and practiced some group exercises, though with only half of their group when *Thresher*’s refit delayed its sail. 22 days later all four boats were at sea and receiving word of the first contact made by *Thresher*, which fell back as trailer immediately. It was a nine-ship convoy with roughly five escorts, and *Guardfish* quickly took position on the port flank followed by *Apogon* on the starboard side. *Piranha* was too far north to make contact immediately, but the group proceeded regardless. The TGC, Captain O’Regan,

¹⁴⁸ The “Pirates” included *Hammerhead*, *Parche*, and *Steelhead*. This was the patrol in which the TGC, Parks, and *Parche*’s CO, Ramage, had their personality clash mentioned above by Slade Cutter.

¹⁴⁹ The “Finns” included *Apogon*, *Guardfish*, *Pirahna*, and *Thresher*.

was thrilled with the way that his pack was manoeuvring, noting in his patrol report that “The attack doctrine at this time was working beautifully.”¹⁵⁰

This admiration was short-lived. Events unfolded only to let *Apogon* get any shots in, firing six torpedoes, all of which missed the targets. It was the one and only attack for *Apogon* on this patrol, for shortly afterwards, a cargo ship turned on the submarine just as the CO, W.P. Schoeni, was turning to port to bring stern tubes to bear. A sound contact with a destroyer coming in off the port bow at high speeds was made at almost the same time; between executing a turn and the distraction of an escort, Schoeni failed to see the cargo ship heading for him until it was too late: ramming was inevitable. With the ship only 400 yards away and closing rapidly, Schoeni gave the order to dive from 62 feet to 90 feet (19 to 27 metres), but it could not save *Apogon*. The boat was rammed soundly on the starboard side, shearing off one set of periscopes, bending the other, and severing the radar antenna. *Apogon* began taking on water; between that and the periscope damage suffered, Schoeni limped back to Pearl.¹⁵¹

Apogon was written up in a congratulatory way for its efforts. The attack was aggressive, if somewhat disastrous in the end, and the CO dealt with the boat’s casualty admirably.¹⁵² With that, this four-boat group became a three-boat group, and the hunt carried on.

¹⁵⁰ War Patrol of Coordinated Attack Group 17.16 from 14 June 1944 to 1 August 1944, 23 August 1944; Box 98; WW II Action and Operational Records; RG 38 Records of the CNO; NARA II, College Park, MD, Enclosure A, 2.

¹⁵¹ From Commander Submarine Division FORTY-TWO to Commander in Chief, United States Fleet, Subject: U.S.S. APOGON (SS308) – Report of War Patrol Number Four, 27 July 1944; Box 2835; World War II Submarine Combat Control Reports; RG 38; Crane Files; NARA II, College Park, MD, n.p.

¹⁵² From Commander Submarine Force, Pacific Fleet to Commander in Chief, United States Fleet, Subject U.S.S. APOGON (SS308) – Report of Fourth War Patrol (19 June to 26 July 1944), 4 August 1944; Box 2835; World War II Submarine Combat Control Reports; RG 38; Crane Files; NARA II, College Park, MD, 1.

The attack continued that night regardless of *Apogon*'s plight. Or it meant to, as *Guardfish* tried to get into firing position but was foiled by a convoy course change. *Thresher* was driven off by an escort twice and *Piranha* dove for a morning attack, but only the one attack by *Piranha* was mounted in the end.¹⁵³ O'Regan remained pleased in spite of all the shipping that made it through his pack, reporting that he was

particularly pleased with the attack teamwork manifested by all submarines. That more damage was not inflicted is regretted and may be directly attributed to the close proximity of the convoy to the channel, bright moonlight, air cover, and to the serious battle damage sustained by the APOGON.¹⁵⁴

O'Regan was ungenerous to the work of Japanese escorts and ASW, which certainly deserved their share of credit for keeping the "Mickey Finns" at bay on 11 July 1944. What is noteworthy in his evaluation is the emphasis the TGC put on the team over individual submarines. This group did work by the letter of group attack doctrine as well as it could have, and it is impossible to pass judgment on its lack of kills based solely on the fact that it *did* emphasise group doctrine more; this would completely disregard the value of Japanese ASW. The latter never reached Allied standards, but nevertheless deserved more credit than it has been given.

The "Mickey Finns," like the *Parche-Bang-Tinosa* group, launched only two proper convoy attacks, and also like the earlier pack, O'Regan's group simply did not stay devoted to group doctrine after the first trial. The group was credited with killing eight boats during its time in "Convoy College," and fully 75 percent of those were made

¹⁵³ *Piranha*'s kill, a freighter-passenger type, was celebrated by Comsubdiv 102 for being a "valuable target" thanks to its human cargo. From Commander Submarine Division 102 to Commander in Chief, United States Fleet, Subject: U.S.S. PIRANHA (SS389) – Report of First War Patrol, 11 August 1944; Box 2845; World War II Submarine Combat Control Reports; RG 38; Crane Files; NARA II, College Park, MD, 1.

¹⁵⁴ War Patrol of Coordinated Attack Group 17.16 from 14 June 1944 to 1 August 1944, 23 August 1944, 4.

on the night of 16-17 July 1944—convoy attack number two, after loosening the grip on group tactics. All six of the kills from that night were made entirely alone, with only preliminary shared contact messages fitting into the category of “group work.” This would suggest that O’Regan’s enthusiasm for group attack doctrine was premature, for only one boat was able to attack the night that that was observed, and for the group’s intents and purposes, that boat was then lost. Following that, when the group coordinated with contact reports but then each boat pursued its own destiny, major damage was done to the enemy.

Next, the experience of “Parks’ Pirates” in “Convoy College” offered evidence of how unfortunate a group patrol could be when all that was coordinated was contact information. The group patrolled for 30 days with few targets, and was punctuated by one particularly bad day of spotting by *Hammerhead*. On 30 July *Hammerhead* sent out a contact report of a convoy that its pack mates ought to have been able to close with. Twenty minutes after receipt of the contact, however, the TGC in *Parche* requested confirmation of the enemy position from *Hammerhead*. The CO, J.C. Martin, obliged by providing a whole new set of coordinates. Without judgment or censure, the group commander commented that “it was not obvious that *Hammerhead* was giving incorrect positions so directed her to verify and repeat last message.”¹⁵⁵ This did not remedy the situation, and the location of the convoy remained a mystery.

There was no attempt at coordination within this group. Never were the words “trailer” or “flanker” uttered in the historical record, and never did it seem as if multiple submarines were attacking the *same* target. A cursory examination of the night of 11 July

¹⁵⁵ From Commander Task Group 17.15 to the Commander in Chief, United States Fleet, Subject: War Patrol of Coordinated Attack Group 17.15 from 17 June to 17 August 1944, 9 October 1944; Box 98; World War II Action & Operational Records; RG 38; Records of the CNO; NARA II, College Park, MD, 5.

1944 shows these boats to be acting virtually alone. They were unable to coordinate within their pack, yet early in the patrol the TGC had taken the incentive to show how potentially viable the rotating patrol areas and group tactics *might* have been. Cmdr Parks contacted and coordinated with the adjacent wolf pack, the “Wildcats,” and a massed patrol comprised of both groups ensued—but to disappointing ends. Only one of the “Wildcats” made an attack before “Parks’ Pirates” returned to their own zone, so it added nothing to the “Pirates’” tally. The “Wildcats” also benefited from proximity to Parks’ group when the latter lost contact with a convoy it was chasing because of high speeds and seas. Parks signalled the “Wildcats’” TGC, thereby allowing another group to carry on where the “Pirates” had been unable to. Thus, Parks showed himself extremely capable of innovating new forms of coordination, though only coordination *outside* his own group. Parks’ experiments were not brought to bear on tactical doctrine in the end, for in spite of increased ASW in 1944, there was never a time when measures called for such drastic innovation as coupling groups.

The last group of interest in this study is “Ed’s Eradicators,” the ninth group to patrol from Pearl Harbor. *Barb*, *Queenfish* and *Tunny* headed to Convoy College in August 1944, though like the “Mickey Finns” of earlier that year, the “Eradicators” were left one member short when *Tunny* was forced to abort due to depth charge damage early in the patrol.¹⁵⁶ Before it did, however, the CO, George E. Pierce, explained that on 31 August *Tunny* “gave [*Barb*] position, course and speed of enemy. This was only positive

¹⁵⁶ From the Commander Task Group 17.16 to the Commander in Chief United States Fleet, subject: War Patrol of Coordinated Attack Group 17.16 from August 4, 1944 to 3 October 1944; Box 98; WW II Action and Operational Records; RG 38 Records of the CNO; NARA II, College Park, MD, 1.

contribution by TUNNY during whole patrol.”¹⁵⁷ This was not modesty, and based on what happened next, it was an extremely generous statement. *Barb* did nothing to return the favour of a convoy contact report in ComSubDiv 42’s opinion.

At 0616 on 31 August *Tunny* had chosen a large cargo ship as its target, but eleven minutes later, before an attack could be made, *Tunny* watched the ship suddenly disappear into a terrific cloud of smoke. O’Regan, the divisional commander, wrote that “The BARB had stolen this one right out from under the TUNNY. This attack dispersed the convoy in a northwesterly direction away from the submarine. The TUNNY, then, made persistent attempts to end-around during the day in the face of air cover but was forced down by alert planes.”¹⁵⁸ Just two days later, *Tunny* was bombed by a plane and had to content itself with no ships sunk or damaged on the seventh war patrol, and a total overhaul was required before *Tunny* could sail again. Clearly, there were times when sharing contact reports could be detrimental, as a hyper-aggressive CO like Eugene B. Fluckey had no qualms about padding his own list of achievements at the expense of a group member’s success. His (successful) actions went completely unpunished.

What remained of the pack was characterised by a great deal of contact and intermingling with other American submarines, which took the idea of “group” attack to another level. The action of 31 August (after which *Tunny* was damaged) occurred in an unassigned area, with both “Ed’s Eradicators” and the neighbouring “Blair’s Blasters” at work. *Barb*’s CO, Cmdr Fluckey, called it a “three ring circus... with two wolfpacks and

¹⁵⁷ U.S.S. TUNNY - Report of Seventh War Patrol; Box 2831; World War II Submarine Combat Control Reports; RG 38; Crane Files; NARA II, College Park, MD, 5.

¹⁵⁸ From Commander Submarine Division 42 to the Commander in Chief, United States Fleet, Subject: U.S.S. TUNNY (SS 282) – Report of War Patrol Number Seven, 20 September 1944; Box 2831, World War II Submarine Combat Control Reports; RG 38; Crane Files; NARA II, College Park, MD, n.p.

one convoy.”¹⁵⁹ This mass concentration was more a matter of being *aware* that other boats were operating in proximity instead of trying to *coordinate* with them—but it was enough.

The war developments that had shortened Japanese convoy lines earlier made themselves greatly appreciated, for during the sixty days that *Barb* and *Queenfish* were on station, they contacted or operated in close vicinity with at least two other groups and one lone patrolling boat. In 1942 a submarine would have been hard-pressed not to feel alone in the expanse of the western Pacific, but two years later it regularly found other submarines at work. The obvious effect of this was a question of definition: what did it mean to operate in a wolf pack? Groups seemed to be coordinating as much with the boats around them as they did within themselves, and yet they still had not made a concerted effort to perform consistent group tactics.

There were times when having multiple groups working together was less than ideal. For example, the TGC of “Ed’s Eradicators,” E.R. Swinburne, noted that

On several instances, lack of knowledge of other submarines’ calls, frequency and code hampered our movements and dissemination of information. It is believed that greater destruction can be wrought with better dissemination by pack commanders of information known to them. The senior pack commander should be authorised to act as area commander and direct packs to intercept convoys and coordinate activities in the College.¹⁶⁰

Slade Cutter had been very derisive of group tactics, as being impractical, but Cmdrs Parks and Swinburne both recognised the potential of close-operating packs, yet foundered in the lack of regulations and guidelines. Clearly, doctrine offered ways to help capitalise on attack possibilities, but possibly more importantly also provided rules for

¹⁵⁹ U.S.S. BARB – Report of Ninth War Patrol; Box 2805; World War II Submarine Combat Control Reports; RG 38; Crane Files; NARA II, College Park, MD, 5.

¹⁶⁰ From the Commander Task Group 17.16 to the Commander in Chief United States Fleet, subject: War Patrol of Coordinated Attack Group 17.16 from August 4, 1944 to 3 October 1944, 9.

safe patrolling which could “un-hamper” submarine movement. In the end, if cooperation between coordinated groups occurred, it was to the groups’ credit—not intentionally encouraged through doctrine—and even more so if it was done without incidences of friendly fire.

Captain Swinburne observed in his report that “Three submarines appear to be the best number for a pack... The wolfpack doctrine is sound and was followed by this pack.”¹⁶¹ On the one hand, the TGC was simply reiterating what existed in doctrine with that statement, but a closer look makes it interesting for several reasons. First, *Tunny* left the group on 1 September, having spent half the time in area that the other boats did, and did not take part in the most profitable and productive night of the pack’s patrol. How could Swinburne truly say that three was the right number for a wolf pack, then? Furthermore, before *Tunny* left there was nothing resembling a coordinated attack. Of course, nor was there afterward, but it does raise questions about how Swinburne could laud group doctrine and claim that his group had practiced it.

This was not the first time a commander has stated a commitment to tactics he did not practice. It is rhetorical and speculative to ask what these submariners believed a coordinated attack group *was* if they never actually *coordinated* attacks. The defining characteristic of American wolf packs therefore seemed to be that they were “coordinated groups” that never actually coordinated an *attack*.

Conclusion

This final case does not show a definitive ending, or offer definitive evidence of Japan’s defeat. The reason for that is that there was never anything definitive about this

¹⁶¹ From the Commander Task Group 17.16 to the Commander in Chief United States Fleet, Subject: War Patrol of Coordinated Attack Group 17.16 from August 4, 1944 to 3 October 1944, 9.

war. USW had to be waged against Japan, but the simple nature of the war and the economic realities of Japan (well understood even in the 1930s) made this the Americans' war to lose. The U.S. Navy did not have the burden of having to exhaust every possibility in its submarine war, and thus it did not. Never were "coordinated attack groups" more than "spotting groups"—a collection of boats that helped each other find contacts, but without bringing concentration to bear on targets. The fact was, in 1944 and 1945, once there were numbers and ability to wage grouped warfare, there were still many times more boats sailing alone than in a packs. There had always been a lack of commitment to this newly developing group strategy, but it also demonstrated the degree of superiority and strength that the U.S.N. had over the Japanese merchant marine—especially from late 1944 to 1945. The submarines did not *need* to explore the bounds of possibilities within group tactics in order to be victorious, they only needed to keep putting to sea, tying down Japanese resources and sinking what they could.

The American submarine war shows a search for identity. The silent service wore many hats, as fleet supporters, mine-layers, life-guarders, warship killers and, not least, as wagers of unrestricted submarine warfare. This schizophrenic classification reflects an endemic uncertainty of what American submarines were really *meant* to be doing, and did not allow for any one area to be fully utilised and practiced. Throughout the war the search for a single doctrine—an answer to "what should we do?"—continued, yet the options of "what *could* we do?" were never entirely probed. Groups remained rudimentary in operation, and the ability to coordinate air, surface and subsurface could have yielded a superior way of employing submarines in war.¹⁶² But the bottom line was

¹⁶² It was discussed at the Flag Command level, but not introduced widely in practice. 5384 11/1/06.

that what the U.S.N. was doing *worked* thanks to the enemy's limitations and restrictions, and Japan's ASW never forced the United States to seek out new strategy.

Fin

Arguably, there was little reason for the U.S.N. to make drastic changes and force the submarine fleet into group attacks all the time, since during 1944 the Japanese were engaged in a self-induced creep-back. It was more important that the Americans kept constant pressure than that they evolved their submarine war to a perfect state of efficiency, and so they did. Thus, Case One is not a story of the United States' submarines against the Rising Sun, but instead a case of the U.S.N. against itself, trying to overcome the adolescence implied in its first major submarine campaign. Case Two is an example of how one of the riskier new tactical shifts was shunned for the losses it incurred. It might have scored successes, but with too many American sailors dying in the process for high command's liking. Thus, Case Two characterises the war as one of caution instead of effective (if chance-taking) innovation.

Cases Three and Four demonstrate the shift to a tactic that had proven occasionally effective in another theatre of the war, but was only ever effective when strength and dominance was on the commerce warriors' side. A weaker enemy would suffer the effects of "wolf packs," and Japan was that weaker enemy where the Western Allies were not. The Pacific War became, for submarines, a theatre in which momentum created a sort of tactical permissiveness, such that failing to even entertain "wolf pack" tactics would have been an egregious oversight. Quite simply, the United States had little to lose in the effort. But the attempt was only half-heartedly made, with the bulk of the force still operating alone. Even one year after it had been instituted, commanders still

failed to grasp the overall point of a “coordinated *attack* group,” and congratulated themselves on “coordinated *contact-spotting* groups.”

Chapter Seven: Conclusion

The trend of events will be backward.

Thomas C. Hart, 1924

Like terms invite comparison. They cannot be “like” until they have been held up against others and deemed similar, which is in itself a comparison. “Unrestricted” submarine warfare (USW) in the Second World War (SWW) defies this convention, for when looking at two campaigns of this one strategy, it becomes clear that it is an umbrella phrase shielding un-like practices from prying eyes. Germany and the United States did both wage an unrestricted war with their submarines in the SWW. Both states would have admitted as much. As this study shows, however, Admiral Chester Nimitz’s Nuremberg interrogation was incorrect: a side-by-side examination of the two campaigns yields more differences than similarities. There is no secret to winning an unrestricted war; instead, the conclusion is simply that USW is an important tool in naval war, but it alone is influenced as much (and possibly more) by the greater war around it, than that war is influenced by it.

The word “inevitable” has been used here to describe German USW. Historical inevitability is dangerous ground on which to tread, but in this case tangible and intangible factors met to create a situation that made an unrestricted campaign difficult, if not impossible, to avoid. Ultimately, “inevitability” sprung from two sources: first, from geopolitical strategy, which was based on the geographic situations of Germany and Great Britain, combined with the historical causation of the U-boat war in the First World War. Pitting these two states against each other demanded economic warfare, the likes of which would naturally play out (in large part) at sea. Besiegement was both states’ best

option for economic war. This was simply a strategic reality, and little could be done to alter geography to invalidate it.

The second source of inevitability derived from a combination of intangible factors. The image of the U-boat as a German military service untainted by the shame of First World War defeat was powerful, and with the U-boat arm in the hands of a veteran possessing vision and drive, it offered a strategy with boundless potential. More importantly, Karl Dönitz *desired* a *Tonnagekrieg*, a war against tonnage. In his capacity as the U-boat commander-in-chief, he responded to what looked to have been the U-boat Achilles' heel by developing a convoy countermeasure: the wolf pack. Dönitz therefore offered a reason for mythological beliefs to be made concrete; what had defeated the U-boats was to be neutralised with new tactics.

Germany had been permitted little influence or participation in the interwar legal conferences that determined the submarine's legal role in future conflict. In spite of the fact that it had only put its signature to the final decree, the Protocol to the London Conference (1936), Germany showed a surprising degree of commitment to the laws. They were disseminated and circulated in pamphlets that underwent regular updates—the *Kriegsmarine* was versed in the postulates of international laws. This, of course, ran parallel and contrary to the war plans Dönitz was making in which unrestricted warfare was the strategy, but it was the careful, legal course that was followed at the outbreak of war.

Germany's "clean" war was derailed almost immediately by the mistaken targeting of the British passenger ship *Athenia* on 1 September 1939. Regardless of the order to wage war by Prize Laws, Britain recognised the action over the intent. The war

at sea began an almost immediate escalation, the end result of which could be none other than USW.

In the United States, the initial hue and cry surrounded the submarine as a weapon rather than the means of waging submarine war. The United States had never participated in a submarine war, and did not have that history to draw from. Rather, its history with the submarine was one of antagonism. The U-boat had brought the United States into the First World War, and the Americans were loathe to permit that to happen again. Thus, the interwar period was spent in successive attempts to abolish the submarine. When this proved impossible, the United States had to take a new tack.

Limitation was the new plan; permit submarines, naval officers stated, but insist they follow the laws of cruiser warfare. A struggle ensued as American naval minds came to terms with the notion that the submarine was in fact very well suited to war against merchantmen, and from there the transition to USW was done quietly, whispered behind hands and coded in a secret language.

The fact was that Japan was in the same geopolitical reality vis-à-vis the United States as Britain was for Germany. As an archipelagic state, Japan was heavily reliant on imports to sustain its people and war effort, and from the first days that the United States *had* a war plan against Japan, it involved economic warfare. It took the work of three naval officers to translate those thoughts to action, however.

Admirals Thomas C. Hart, Harold R. Stark and R. Kelly Turner appreciated just how effective submarines could be against merchantmen, and chafed under the restrictions of international laws. They embedded in WPL-46 (War Plan 46) a series of instructions in which the submarine would act against “lines of communication” in

“strategical areas”; naturally this meant that submarines would attack “merchantmen” in “war zones.” Thus, when Pearl Harbor was hit without warning on 7 December 1941, it was not a lightning-quick reversal of policy that led to the United States immediately waging USW on Japan, but the activation of a plan already in existence, but veiled by coded language.

The two campaigns’ conducts are as different as the roads that led to them. The German war has images of great success tempered by ultimate defeat. In fact, the case studies here reveal that this war was riddled with weaknesses from the outset; “success” is a relative term. The American war suffered more at its own hand than at the enemy’s, as it struggled to overcome institutional problems and technological hindrances along with the growing pains of a new way of war. There was frustration, but never desperation, even when the situation was relatively dire.

The German Case One was destined to intercept convoy HX 48; that, it never did. Even though the tonnage sunk before and after this intended convoy was significant enough to label this period the “first happy time,” that happiness must be viewed cautiously. Group *Prien* was one of the first wolf packs, but the extent of the group’s joint operations included sharing contacts on sight. This was the situation for virtually *all* “wolf packs,” German and American. The most valiant attempts at coordinating action as per doctrine with the trailer/flanker system were made by the Americans. This might have been possible because of the small sizes of groups and packs; the idea of collecting 53 submarines for one convoy in the Pacific, as was done in Case Four in the Atlantic, would have been absurd. Japanese convoys came relatively late in the war, and even

when they were forced into massing larger and larger concentrations of boats, it simply did not come close to the scope of Allied convoys in the Atlantic.

The enemy's situation was instrumental in shaping the nature of each USW campaign, as well. The Americans did not group until September 1943 because Japan did not use convoys until then, though until the end of the war, there were always more boats patrolling alone than with groups. Conversely, the Germans began surrendering group tactics, save sharing contacts, by September 1943, when *Leuthen's* situation was so perilous that it was every boat for itself, in attack and defence. Arguably, Germany was a greater slave to the enemy's manoeuvres, but that follows the trajectory of its war in general.

The German war has been studied, re-studied and studied again, yet little consensus has been reached on the date the tide turned against the U-boats. Many studies still consider May 1943, the *Fink-Amsel* packs, to be the point of no return, for the mass of U-boats deployed did not achieve success on the same relative scale as their concentration, and their losses were catastrophic. Others cite *Stürmer-Dränger-Raubgraf* in March 1943 as the turning point, given that it marked the peak in *Tonnagekrieg* for that year by a factor of more than two. However, this study argues that the decisive moment when German momentum lost the Battle of the Atlantic falls between Cases One and Two, thus, between June 1940 and December 1941, for even the "second happy time" was not what it seemed.

German fortunes after the "first happy time" were tied to the enemy's situation. When the enemy had good defences, stronger escorts, and better intelligence, the U-boats suffered. If one of these factors was temporarily lifted, the U-boats had "success." In

hindsight, then, it seems as if losing the U-boat war was as “inevitable” as waging an unrestricted campaign was. However, Dönitz’s failure, in 1943 especially, to respond with a new *strategy* to the degrading situation in the Atlantic Ocean helped this illusion of “inevitability” along. Each time his boats failed to achieve their desired objectives, Dönitz would throw new tactics or technology at the situation and hope that it would recapture a happier time. Each time, it was unsuccessful. As the U-boat war became a virtual suicide run, whispers developed about keeping up the patrols for the sake of drawing resources away from the Continent by tying them down at sea.¹ There was no question of victory. For this carnage, Dönitz must be blamed. For failing to adapt strategically to the war his boats were fighting, Dönitz must be blamed. But to blame Dönitz for the overall German loss in the Battle of the Atlantic is to attribute far too much to this one man; from insufficient U-boats at the beginning of the war to an ever-strengthening enemy at the end, Dönitz could only work within what the wider war permitted him. The way the U-boats lost was Dönitz’s fault, therefore, but *that* they lost was not.

The Americans, save one “checker-playing” interval, always adhered to a more cautious strategy. The proof was in their losses, or lack thereof: the U.S. Navy’s 22 percent loss rate for the submarine service seemed catastrophic in comparison to other branches of military service, but in comparison to the *Kriegsmarine*’s 77 percent, it is almost paltry. A correspondingly smaller amount of tonnage was sunk in the Pacific War, but this figure is misleading if taken out of context: the nature of the enemy allowed this to be so while it also remained victorious. Germany was battling against American ship-

¹ Clay Blair, Jr., *Hitler’s U-Boat War: The Hunted, 1942-1945*, (New York: Modern Library, 2000), 705; Michael Salewski, “The Submarine War: A Historical Essay,” in Lothar-Günther Buchheim ed., *U-Boat War*, (New York: Knopf, 1978), n.p.

building, which could rebuild bottoms almost as fast as Germany could sink them, a benefit Japan was without. Furthermore, American ships were sent on patrol to certain *areas*, given that Japan did not mount convoy on the same scale as the Allies did, instead of targeting specific convoys. A certain amount of “fishing” was therefore part of every patrol. Dönitz could send his boats against specific convoys, and with his increased and frenetic radio usage, re-route the packs for optimal chances of interception. Save “checkers,” “increasing chances of interception” was a role filled by coordinated groups in the United States. The Americans would not give in to the allure of constant radio contact; for though it offered greater chances of detecting targets, conversely, it also offered greater chances of being detected—and preservation remained a paramount theme.

A final similarity between these two different case studies is that the American submarine service deserves its accolades for selfless service to the state, as do the U-boaters. Due credit for victory must still be granted to the other factors and forces that helped speed up Japan’s defeat, just as Dönitz could not take full responsibility for the defeat of his wolf packs.

The lessons about international laws that are gleaned from this study of USW are about the role of international laws in interstate discourse, not about how to regulate future submarine war. International laws cannot be enforced the same way that municipal laws can, and therefore they must be dealt with uniquely. Thus, there were no penalties against either Germany or the United States for their failures to uphold the laws governing submarine warfare. Laws, in this case, were simply a tool, or a means of communication instead of a strict set of behaviour-modifying laws.

The question must be raised: how had international laws failed so badly in the interwar period to lead to illegal war again? A better question might be, how can they continue to fail so badly now? The San Remo Manual on International Law Applicable to Armed Conflicts at Sea (1994) stipulates that

40. In so far as objects are concerned, military objectives are limited to those objects which by their nature, location, purpose or use make an effective contribution to military action and whose total or partial destruction, capture or neutralization, in the circumstances ruling at the time, offers a definite military advantage.

41. Attacks shall be limited strictly to military objectives. Merchant vessels and civil aircraft are civilian objects unless they are military objectives in accordance with the principles and rules set forth in this document.²

This can be taken in two ways. Either the reader assumes that a merchant vessel sustains the war effort, which is a definite military advantage, and thus it is a military objective, subject to target. If that is the case, then the effects of Nimitz's interrogation at Nuremberg were to change the codes of law and permit that civilians, when charged with perpetuating the war, lose their civilian character. Merchantmen are therefore allowed to be sunk, and there will be no more unrestricted submarine warfare. Or, the reader assumes that merchant vessels are not military objects because they do not offer a definite military advantage, and thus unrestricted submarine warfare is still anathema. There have not been sufficient instances since 1994 to test how the international community interprets this.

Assuming it is the latter, the international community remains unwilling to permit USW as a way of warfare, just as it had in the interwar period, and before the Great War,

² Louise Doswald-Beck ed., *San Remo Manual on International Law Applicable to Armed Conflict at Sea*, (Cambridge: Grotius Publications, 1994). Accessed at <http://www.icrc.org/ihl.nsf/FULL/560?OpenDocument>

as well. However, it does not pose the same problems that it did at either of those times, for it is extremely unlikely that another world war will break out, and USW is a strategy reserved for “clash of civilisation”-type battles. Thus, the codes of San Remo are unimportant.

While these laws will not, in all probability, be called upon to govern a future submarine war, interpreting these laws to prohibit targeting merchantmen is both insulting and damaging to international laws. It is insulting that sixty years have passed since a series of treaties were signed that failed to reconcile technological capability with laws—and in that time, this problem has not been addressed. The laws would therefore continue to reflect an antiquated military capability. Such a situation is also damaging to international laws, for the refusal to address codes that have been proven failures weakens a system that is founded upon (self-serving) goodwill.

Ultimately, the last word on matters of U-boats and international laws belongs to former Chancellor of Germany, Theobald von Bethmann Hollweg. On 4 August 1914 as the First World War began, he made a declaration to the Reichstag that fits equally with unrestricted submarine warfare, for, *Not kennt kein Gebot*—“necessity knows no law.”³

³ Quoted in Bernhard von Bülow, *Denkwürdigkeiten*, (Berlin: Ulstein, 1931), IV:556; and Immanuel Geiss, *Juli 1914: Die europäische Krise und der Ausbruch des Ersten Weltkriegs*, (Munich: Deutscher Taschenband Verlag, 1965), 347.

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Appendix A

Boat:	Patrols:	Life:	Successes ⁺ :	Fate:
U1	0	1906-1919	0	19.2.1919: stricken, on display at Deutsches Museum München
U2	0	1908-1919	0	19.2.1919: stricken, broken up at Stinnes
U3	0	1909-1919	0	1.12.1918: surrendered to GBR, sank on way to break up at Preston
U4	0	1909-1919	0	27.1.1919: stricken, broken up at Imperial Navy Dockyard, Kiel—hull sold to Stinnes on 3.2.1920
U5	2	1910-1914	0	18.12.1914: mine or accident off Belgian coast. All hands lost (29). Approximate date
U6	4	1910-1915	13 ships sunk, 4.653 tons*	15.9.1915: torpedoed by HM Sub E16 off Stavanger. 24 dead, 5 survivors
U7	3	1910-1915	0	21.1.1915: misidentified and torpedoed off Dutch coast by U22. 26 dead, 1 survivor
U8	1	1911-1915	5 ships, 15.049 t	4.3.1915: trapped in nets, forced to surface and scuttled by gunfire of HMS <i>Gurkha</i> and <i>Maori</i>
U9	7	1910-1918	13 ships, 8.636 t	26.11.1918: surrendered to GBR. Broken up at Morecambe in 1919
U10	6	1911-1916	7 ships, 1.625 t	30.6.1916: probably mined in Gulf of Finland. 29 dead
U11	2	1910-1914	0	9.12.1914: mined off Belgian coast. 29 dead
U12	4	1910-1915	1 ship, 3.738 t	10.3.1915: gunned and rammed by an armed trawler off Fife Ness, then scuttled. 20 dead, 10 survivors
U13	1	1910-1914	0	12.8.1914: off Heligoland Bight, mine or accident. 23 dead
U14	1	1911-1915	1	5.6.1915: disabled by gunfire from armed trawler <i>Oceanic II</i> and sunk off Peterhead. 1 dead, 27 survivors
U15	1	1911-1914	0	9.8.1914: rammed by HMS <i>Birmingham</i> off Fair Isle. 23 dead
U16	4	1911-1919	10 ships, 11.476 tons	8.2.1919: sunk in an accident while on passage to surrender
U17	4	1912-1919	12 ships, 16.635 t	27.1.1919: stricken, broken up at Imperial Navy Dockyard Kiel, sold to Stinnes, Hamburg, 3.2.1920
U18	3	1912-1914	0	23.11.1914: rammed by HMS <i>Garry</i> and trawler <i>Dorothy Grey</i> in Pentland Firth, Scapa Flow. 1 dead, 22 survivors
U19	12	1912-1918	46 ships, 64.816 tons	24.11.1918: surrendered to GBR, broken up at Blyth in 1919-20.
U20	7	1912-1916	36 ships, 144.300 t (including <i>Lusitania</i>)	4.11.1916: grounded on the Danish coast and blown up by her crew the next day
U21	11	1913-1919	36 ships, 78.712 t	22.2.1919: sunk in an accident while on passage to surrender
U22	14	1913-1918	43 ships, 46.687 t	1.12.1918: surrendered to GBR, renamed U19
U23	3	1912-1915	7 ships, 8.822 t	20.7.1915: torpedoed by HM Sub C27 in connection with decoy trawler <i>Princess Louise</i> . 24 dead, 10 survivors

U24	7	1913-1918	33 ships, 105.732 t	22.11.1918: surrendered to GBR, broken up at Swansea in 1922
U25	3	1913-1919	21 ships, 14.126 t	23.2.1919: surrendered to France, broken up at Cherbourg, 1921-2
U26	1	1913-1915	2 ships, 2.849 t	30.9.1915: lost in Gulf of Finland Aug/Sep 1915 for unknown reasons. 30 dead
U27	3	1913-1915	9 ships, 29.402 t	19.8.1915: sunk by gunfire from Q-ship <i>Baralong</i> in Western Approaches. 37 dead
U28	5	1913-1917	39 ships, 93.782 t	Sunk by explosion of SS <i>Olive</i> 's cargo following gunfire from the U-Boat, off Cape North. 39 dead
U29	1	1913-1915	4 ships, 12.934 t	18.3.1915: rammed by HMS <i>Dreadnought</i> in Pentland Firth. 32 dead
U30	6	1913-1918	26 ships, 47.383 t	22.11.1918: surrendered to GBR, broken up at Blyth, 1919-20
U31	1	1914-1915	0	13.1.1915: final fate unknown. Possibly mined off E. coast of UK. 31 dead
U32	11	1914-1918	37 ships, 105.740 t	8.5.1918: shelled then depth charged by HMS <i>Wildflower</i> NW Malta. 41 dead
U33	16	1914-1919	84 ships, 229.598 t	16.1.1919: surrendered to GBR, broken up at Blyth, 1919-20
U34	17	1914-1918	121 ships, 262.886 t	18.10.1918: sailed on 18.10 and was never heard from again. 38 dead
U35	17	1914-1918	224 ships, 539.741 t	26.11.1918: surrendered to GBR, broken up at Blyth in 1919-20
U36	2	1914-1915	14 ships, 12.688 t	24.7.1915: sunk by gunfire from Q-ship <i>Prince Charles</i> off the Hebrides. 18 dead, survivors unknown
U37	1	1914-1915	2 ships, 2.811 t	30.4.1915: final fate unknown. Possibly mined off Zeebrugge. 32 dead
U38	17	1914-1919	137 ships, 299.985 t	23.2.1919: surrendered to France, broken up at Brest, July 1921
U39	19	1914-1918	154 ships, 404.478 t	18.5.1918: interned at Cartagena, Spain after being damaged by Allied escorts and aircraft the same day. Broken up at Toulon, 1923
U40	1	1914-1915	0	23.6.1915: torpedoed by HM Sub C 24 in connection with decoy trawler <i>Taranaki</i> . 29 dead, unknown survivors
U41	4	1914-1915	28 ships, 58.949 t	24.9.1915: sunk by gunfire from Q-ship <i>Baralong</i> in Western Approaches. 35 dead, 2 survivors
U43	11	1914-1918	44 ships, 116.590 t	20.11.1918: surrendered to GBR, broken up at Swansea in 1922
U44	6	1914-1917	21 ships, 72.332 t	12.8.1917: rammed by HMS <i>Oracle</i> off S Norway. 44 dead
U45	7	1915-1917	24 ships, 45.622 t	12.9.1917: torpedoed by HM Sub D 7 west of Shetlands. 43 dead, 2 survivors
U46	11	1915-1918	55 ships, 150.399 t	26.11.1918: surrendered to Japan. In Japanese service as O2 1920-21. Partially dismantled at Kure Naval yard in 1921, rebuilt at Yokosuka Navy Yard in 1925. Lost in a storm, 21.4.1925. 5.8.1927: hulk spotted by U.S. merchant west of Oahu and later scuttled
U47	2	1915-1917	14 ships, 24.075 t	28.10.1918: scuttled at Pola during evacuation

U48	8	1915-1917	34 ships, 103.552 t	24.11.1917: went aground on Goodwin Sands after drifting while waiting for moon to set. Discovered at dawn by GBR patrol. Gunfire exchanged, crew set scuttling charges and abandoned the boat. 19 dead, 17 survivors
U49	6	1915-1917	38 ships, 86.433 t	11.9.1917: rammed in Biscay and sunk by gunfire from SS <i>British Transport</i> . 43 dead
U50	5	1915-1917	26 ships, 92.764 t	31.8.1917: sunk, probably from a mine, off Terschelling on or after 31.8.1917. 44 dead
U51	1	1915-1916	0	14.7.1916: torpedoed by HM Sub H5 while leaving Ems estuary. 34 dead, 4 survivors
U52	4	1915-1918	30 ships, 71.875 t	21.11.1918: surrendered to GBR. Broken up at Swansea, 1922
U53	13	1916-1918	90 ships, 215.729 t	1.12.1918: surrendered to GBR, broken up at Swansea, 1922
U54	12	1916-1918	29 ships, 90.927 t	24.11.1918: surrendered to Italy, broken up at Taranto, May 1919
U55	14	1916-1918	65 ships, 145.013 t	26.11.1918: surrendered to Japan. In Japanese service as O3, 1920-21. Dismantled at Sasebo Navy Yard between March and June 1921
U56**	1	1916-1916	4 ships, 5.374 t	3.11.1916: missing after 3.11.1916. 35 dead
U57	7	1916-1918	58 ships, 115.192 t	24.11.1918: surrendered to France, broken up at Cherbourg, 1921
U58	8	1916-1917	21 ships, 30.901 t	17.11.1917: depth charged by destroyer USS <i>Fanning</i> in Bristol Channel. 2 dead, unknown survivors
U59	4	1916-1917	13 ships, 18.763 t	14.5.1917: struck a German mine off Horns Reef. 33 dead, 4 survivors
U60	10	1916-1918	0	21.11.1817: surrendered to GBR. Ran aground on the English east coast on the way to be broken up in 1921
U61	9	1916-1918	36 ships 90.770 t	26.3.1918: sunk in a depth charge attack by Patrol Craft 51. 36 dead
U62	9	1916-1918	47 ships, 129.066 t	22.11.1918: surrendered to GBR. Broken up at Bo'ness in 1919-20
U63	12	1916-1919	74 ships, 210.865 t	16.1.1919: surrendered to GBR. Broken up at Blyth in 1919-20
U64	10	1916-1918	45 ships, 132.166 t	17.6.1918: damaged by depth charges from HMS <i>Lychnis</i> . U64 surfaced, received a hail of fire until sinking. 38 dead, 5 survivors
U65	11	1916-1918	52 ships, 94.659 t	28.10.1918: scuttled at Pola during evacuation
U66	7	1915-1917	24 ships, 69.016 t	3.9.1917: lost on or after 3.9.1917, possibly in the Dogger Bank from a mine. 40 dead
U67	13	1915-1918	19 ships, 48.969 t	20.11.1918: surrendered to GBR, broken up at Fareham in 1921
U68	1	1915-1916	0	22.3.1916: sunk by gunfire from Q-ship <i>Farnborough</i> , southwest of Ireland. 38 dead
U69	6	1915-1917	30 ships, 104.471 t	11.7.1917: last contact this day, while en route to patrol station off Ireland. 40 dead. (possibly depth charged off Norway)
U70	12	1915-1918	54 ships, 148.689 t	20.11.1918: surrendered to GBR. Broken up at Bo'ness in 1919-20
U71	12	1915-1919	17 ships,	23.2.1919: surrendered to France. Broken up at

			11.653 t	Cherbourg, 1921
U72	4	1915-1918	18 ships, 38.571 t	1.11.1918: scuttled during evacuation of Cattaro
U73	2	1915-1918	16 ships, 83.721 t	30.10.1918: scuttled at Pola during evacuation
U74	2	1915-1916	1 ship, 2.802 t	16.5.1916: sank in a mine handling incident, 3.5 miles off Dunbar, Scotland. 34 dead
U75	7	1916-1917	9 ships, 13.618 t	13.12.1917: struck a mine off Terschelling. 23 dead, unknown survivors
U76	3	1916-1917	1 ship, 1.146 t	22.1.1917: foundered in bad weather off North Cape after damaged by collision with a Russian trawler. 1 dead, unknown survivors
U77	2	1916-1916	0	7.7.1916: lost after this date while on a mission to lay mines off Kinnaird Head, Scotland. 33 dead
U78	12	1916-1918	16 ships, 26.678 t	28.10.1918: torpedoed by HM Sub G2 north of the North Sea. 40 dead
U79	11	1916-1918	21 ships, 33.731 t	21.11.1918: surrendered to France, re-commissioned as French submarine <i>Victor Reveille</i> until being broken up in 1935
U80	17	1916-1919	26 ships, 49.948 t	16.1.1919: surrendered to GBR. Broken up at Swansea in 1922
U81	4	1916-1917	31 ships, 89.005 t	1.5.1917: torpedoed west of Ireland by HM Sub E54. 24 dead, unknown survivors
U82	11	1916-1919	35 ships, 108.630 t	16.1.1919: surrendered. Broken up at Blyth in 1919-20
U83	2	1916-1917	5 ships, 6.286 t	17.2.1917: sunk by gunfire of Q-ship <i>Farnborough</i> southwest of Ireland. 35 dead, 1 survivor
U84	8	1916-1918	27 ships, 82.946 t	26.1.1918: possibly rammed and depth charged by PC62 in St George Channel and sunk. 40 dead
U85	2	1916-1917	5 ships, 23.127 t	12.3.1917: sunk by gunfire from Q-ship <i>Privet</i> . 38 dead
U86	12	1916-1918	33 ships, 125.580 t (incl <i>Lland-overly Castle</i>)	20.11.1918: surrendered to GBR. Sank in the English Channel on the way to be broken up in 1921
U87	5	1916-1917	21 ships, 59.170 t	25.12.1917: rammed by HMS <i>Buttercup</i> and depth charged to be finally sunk by Patrol Craft 56 in Irish Sea. 44 dead
U88	4	1916-1917	13 ships, 39.583 t	5.9.1917: presumably mined off Terschelling. 43 dead
U89	3	1916-1918	6 ships, 15.381 t	12.2.1918: rammed north of Malin Head by HMS <i>Roxburgh</i> and sunk. 43 dead
U90	7	1917-1918	35 ships, 104.509 t	20.11.1918: surrendered to GBR, broken up at Bo'ness in 1919-20
U91	8	1917-1918	40 ships, 96.250 t	26.11.1918: surrendered to France. Broken up at Brest during July 1921
U92	5	1917-1918	8 ships, 19.790 t	9.9.1918: lost for unknown reasons. Possibly mined off southern Fair Isle. 42 dead
U93	5	1916-1918	30 ships, 78.824 t	15.1.1918: missing after this date. 43 dead
U94	13	1917-1918	20 ships, 57.645 t	20.11.1918: surrendered to GBR. Broken up at Bo'ness, 1919-20
U95	6	1917-1918	14 ships,	16.1.1918: sunk by unknown cause off Haredot,

			37.930 t	France in the second half of January, 1918. 36 dead
U96	9	1917-1918	32 ships, 101.532 t	20.11.1918: surrendered to GBR. Broken up at Bo'ness, 1919-20
U97	5	1917-1918	4 ships, 5.406 t	21.11.1918: sank by accident in the North Sea while on passage to surrender
U98	5	1917-1919	3 ships, 9.120 t	16.1.1919: surrendered to GBR. Broken up at Blyth in 1919-20
U99	1	1917-1917	0	7.7.1917: torpedoed by HM Sub J2. 40 dead
U100	8	1917-1918	12 ships, 56.208 t	27.11.1918: surrendered to GBR. Broken up at Swansea in 1922
U101	8	1917-1918	27 ships, 60.707 t	21.11.1918: surrendered to GBR. Broken up at Morecambre beginning in June 1920
U102	7	1917-1918	5 ships, 13.245 t	30.9.1918: possibly mined in the Northern Barrage some day at the end of the month. 42 dead
U103	5	1917-1918	8 ships, 22.249 t	12.5.1918: rammed by RMS <i>Olympic</i> and sunk. 10 dead, unknown survivors
U104	4	1917-1918	12 ships, 36.712 t	25.4.1918: depth charged by HMS <i>Jessamine</i> in St George's Channel and sunk. 41 dead, 1 survivor
U105	6	1917-1918	20 ships, 55.884 t	20.11.1918: surrendered to France. Re-commissioned as French submarine <i>Jean Autric</i> until 27.1.1937. Broken up in 1938
U106	1	1917-1917	0	7.10.1917: lost in a new minefield off Heligoland when homeward bound. 41 dead
U107	5	1917-1918	6 ships, 24.576 t	20.11.1918: surrendered. Broken up at Swansea in 1922
U108	3	1917-1918	2 ships, 8.445 t	20.11.1918: surrendered to France. Re-commissioned as French submarine <i>Léon Mignot</i> until 24.7.1935
U109	1	1917-1918	0	26.1.1918: possibly mined in the Strait of Dover on this date. 43 dead
U110	3	1917-1918	8 ships, 32.141 t	15.3.1918: severely damage in a depth charge attack by HMS <i>Michael</i> and <i>Moresby</i> . Surfaced by sank. 39 dead, unknown survivors
U111	4	1917-1918	3 ships, 3.011 t	20.11.1918: surrendered to the USA. Boat was used for exhibitions on the New England coast, used for research, then sunk by explosives in deep water off Cape Charles, Virginia.
U112	0	1917-1918	0	22.11.1918: surrendered to GBR. Broken up at Rochester in 1922
U113	3	1917-1918	4 ships, 6.734 t	20.11.1918: surrendered to France. Broken up at Brest, 7.1921
U114	1	1917-1918	0	26.11.1918: surrendered to Italy. Broken up at La Spezia in May 1919
U117	1	1917-1918	24 ships, 46.898 t	21.11.1918: surrendered to the USA. Boat was used for exhibitions on the Atlantic coast. Sunk 6.1921 near Cape Charles, Virginia during tests
U118	1	1918-1919	2 ships, 10.439 t	23.2.1919: surrendered to GBR. Meant to be transferred to France, but the tow parted and she went aground off Hastings 15.4.1919. Broken up.
U119	1	1918-1918	0	20.11.1918: surrendered to France. Re-commissioned as French submarine <i>René Audry</i> until 7.10.1937. Broken up

U120	0	1918-1918	0	20.11.1918: surrendered to Italy. Broken up at La Spezia, 4.1919
U122	1	1917-1918	1 ship, 278 t	26.11.1918: surrendered to GBR. Ran aground on English east coast while on passage to surrender, broken up.
U123	0	1918-1918	0	26.11.1918: surrendered to GBR. Ran aground on English east coast on route to be broken up in 1921
U124	0	1918-1918	0	1.12.1918: surrendered to GBR, broken up at Swansea, 1922
U125	0	1918-1918	0	26.11.1918: surrendered to Japan. In Japanese service as O1 1920-21. Dismantled at Yokosuka Navy Yard between 1. and 3.1921. 19.8.1931, re-commissioned as Auxiliary Vessel No 2900; used until 1935
U126	0	1918-1918	0	22.11.1918: surrendered to GBR. Broken up at Upnor, 1923
U135	0	1917-1918	0	20.11.1918: surrendered to GBR. Ran aground on British east coast en route to be broken up in 1921
U136	0	1917-1918	0	23.2.1919: surrendered to France. Broken up at Cherbourg in 1921
U137	0	1916-1918	0	???
U138	0	1917-1918	0	???
U139	1	1917-1918	6 ships, 7.208 t	24.11.1918: surrendered to France. Became French submarine <i>Helbronn</i> until 24.7.1935; broken up
U140	1	1917-1919	7 ships, 30.888 t	23.2.1919: surrendered to the US. Used for testing; sunk by US destroyer <i>Dickerson</i> off Cape Charles, 22.7.1921
U141	0	1918-1918	0	26.11.1918: surrendered to GBR. Broken up at Upnor, 1923
U142	0	1918-1918	0	10.11.1918: taken right back to the dockyard after commissioning; demilitarized, broken up at Oslebshausen in 1919. Engine plants surrendered to the Allies
U151	4	1917-1918	51 ships, 138.284 t	11.11.1918 (?): surrendered to France at Cherbourg. Sunk as target ship, 7.6.1921
U152	2	1917-1918	20 ships, 37.726 t	24.11.1918: surrendered to GBR. Sink off the Isle of Wight, 30.6.1921
U153	1	1917-1918	4 ships, 12.780 t	24.11.1918: surrendered to GBR. Scuttled off the Isle of Wight, 30.6.1921
U154	1	1917-1918	4 ships, 8.158 t	11.5.1918: torpedoed in the Atlantic by HM Sub E35. 77 dead
U155	3	1916-1918	66 ships, 188.101 t	24.11.1918: surrendered to GBR. Taken to GBR for exhibition, broken up at Morecambe in 1922
U156	2	1917-1918	56 ships, 63.795 t	25.9.1918: probably mined in Northern Passage (failed to report clear of). 77 dead
U157	2	1916-1918	14 ships, 10.765 t	11.11.1918: interned at Trondheim, Norway. Surrendered to France, 8.2.1919. Broken up at Brest, 7.1921
U160	1	1918-1918	0	20.11.1918: surrendered to France, broken up at Cherbourg
U161	1	1918-1918	0	20.11.1918: surrendered to GBR. Ran aground off English east coast en route to be broken up,

				1921
U162	1	1917-1918	0	20.11.1918: surrendered to France. Became French submarine <i>Pierre Marast</i> until 27.1.1937, then broken up
U163	0	1918-1918	0	22.11.1918: surrendered to Italy, broken up at La Spezia, 8.1919
U164	0	1918-1918	0	22.11.1918: surrendered to GBR. Broken up at Swansea, 1922
U165	0	1918-1918	0	18.11.1918: sank in an accident on the Weser River before surrendering. Raised and stricken on 21.2.1919, broken up
U166	0	1918-1918	0	21.3.1919: surrendered to France. Became French submarine <i>Jean Roulier</i> until 24.7.1935
U167	0	1918-1919	0	18.3.1919: surrendered to GBR, broken up at Grays, 1921

* all tonnage excluding warships

** vague summary of fate in source

† number of ships sunk, tonnage sunk, in thousands of tons

UB: Coastal Submarines

Boat:	Patrols:	Life:	Successes:	Fate:
UB1		1915-1919	0	9.7.1918: sunk by mines near Caorlé. Raised, 25.7.1918, handed over to Italy in 1920 and broken up
UB2	38	1915-1919	11 ship, 1.378 t	19.2.1919: stricken, hull broken up by Stinnes, 3.2.1920
UB3	1	1915-1915		23.5.1915: lost in Aegean, final fate unknown. 14 dead
UB4	14	1915-1915	3 ships, 10.883	15.8.1915: sunk by gunfire from Q-ship <i>Inverlyon</i> off Yarmouth. 15 dead
UB5	24	1915-1919	5 ships, 996 t	19.2.1919: stricken, broken up by Dräger Lübeck in 1919
UB6	60	1915-1917	16 ships, 7.007 t	18.3.1917: sunk at Hellevoetsluis while interned (after having run aground). Wreck surrendered to France, 1919. Broken up at Brest, 7.1921
UB7	15	1915-1916	1 ship, 6.011 t	27.9.1916: sunk for unknown reasons in Black Sea. 15 dead
UB8	14	1915-1919	1 ship, 19.380 t	25.2.1919: surrendered to France. Broken up at Bizerta, 8.1921
UB9	0	1915-1919	Training boat only	19.2.1919: stricken by Dräger Lübeck in 1919
UB10	115	1915-1918	36 ships, 22.583 t	5.10.1918: scuttled and sunk off Belgium during German evacuation of Flanders
UB11	0	1915-1919	Training boat only	19.2.1919: stricken, hull broken up by Stinnes, 3.2.1920
UB12	98	1915-1918	21 ships, 10.142 t	19.8.1918: lost for unknown reason between 19 and 24.8.1918 in North Sea. 19 dead
UB13	36	1915-1916	10 ships, 3.763 t	24.4.1916: lost in a mine net off the Belgian coast. 17 dead
UB14	22	1915-1918	4 ships, 13.662 t	25.11.1918: disarmed at Sevastopol, surrendered to GBR at Malta, broken up in 1920
UB15				1915: transferred to Austro-Hungarian navy, where it became U11. Broken up at Pola, 1919

UB16	87	1915-1918	25 ships, 18.825 t	10.5.1918: torpedoed by HM Sub E34 in North Sea. 15 dead, 1 survivor (commander)
UB17	91	1915-1918	13 ships, 2.274 t	15.3.1918: sailed from Zeebrugge on 11.3.1918 and was never heard from again. 21 dead
UB18	31	1915-1917	126 ships, 128.555 t	9.12.1917: rammed and sunk by trawler <i>Ben Lawer</i> in the Channel. 24 dead
UB19	15	1915-1916	11 ships, 11.558 t	30.11.1916: sunk by gunfire from Q-ship <i>Penshurst</i> . 8 dead, 16 survivors
UB20	15	1915-1917	13 ships, 9.914 t	28.7.1917: hit a mine and sank with all hands while on a diving trail off Zeebrugge. 13 dead
UB21	26	1915-1918	34 ships, 39.925 t	24.11.1918: surrendered to GBR. Sank off English east coast on the way to be broken up in 1920
UB22	18	1915-1918	27 ships, 16.646 t	19.1.1918: mined in the Heligoland Bight. 22 dead
UB23	21	1915-1917	51 ships, 34.322 t	29.7.1917: interned at Corunna, Spain after being badly damaged by depth charges from the patrol boat HMS PC-60 off the Lizard on 26.7.1917
UB24	0	1915-1918	Training boat only	24.11.1918: surrendered to France at Cherbourg, broken up at Brest, 7.1921
UB25	0	1915-1918	Training boat only	26.11.1918: surrendered to GBR, broken up at Canning Town in 1922
UB26	2	1915-1916	0	5.4.1916: entangled in nets from the French destroyer <i>Trombe</i> , had to surface and was scuttled in Le Havre Roads. 21 survivors (no casualties) Wreck raised and repaired by French. On 3.8.1916, re-commissioned as <i>Roland Morillot</i>
UB27	17	1915-1917	12 ships, 16.666 t	29.7.1917: commonly listed as rammed and depth charged by HMS <i>Halcyon</i> off east coast of UK. (This is inconsistent with UB27's orders, and evidence of a sinking is lacking.)
UB28	0	1915-1918	Training boat only	24.11.1918: surrendered to GBR, broken up at Bo'ness in 1919
UB29	17	1916-1916	28 ships, 39.378 t	13.12.1916: sunk by 2 depth charges from HMS <i>Landrail</i> . 22 dead
UB30	19	1915-1918	22 ships, 36.277 t	13.8.1918: depth charged off east coast of UK, sunk. 26 dead
UB31	25	1915-1918	29 ships, 84.350 t	2.11.1918: lost on a mine in the Strait of Dover. 26 dead
UB32	16	1915-1917	22 ships, 42.889 t	22.9.1917: possibly sunk by bombs dropped from RNAS aircraft. 23 dead
UB33	17	1915-1918	15 ships, 14.152 t	11.4.1918: struck a mine and sank SW of the Varne sandbank. 28 dead
UB34	21	1915-1918	34 ships, 48.728 t	26.11.1918: surrendered to GBR, broken up at Canning Town, 1922
UB35	26	1915-1918	39 ships, 47.216 t	26.1.1918: depth charged by HMS <i>Leven</i> . 26 dead, 2 survivors
UB36	12	1916-1917	11 ships, 6.252 t	21.5.1917: rammed off Ushant by French steamer <i>Molière</i> . 23 dead
UB37	10	1915-1917	30 ships, 20.550 t	14.1.1917: sunk by gunfire from Q-ship <i>Penshurst</i> . 21 dead
UB38	21	1916-1918	49 ships, 53.991 t	8.2.1918: ran into a minefield while attempting to escape destroyers and blew up. 27 dead
UB39	14	1915-1917	93 ships,	23.4.1917: lost east of the Sandettie Bank, likely

			89.810 t	on 23. or 24.4.1917. 24 dead
UB40	28	1916-1918	104 ships, 133.358 t	5.10.1918: scuttled at Ostende during German evacuation of Belgium
UB41	13	1916-1917	8 ships, 8.387 t	5.10.1917: mined north of Scarborough, England. 24 dead
UB42	21	1916-1918	11 ships, 17.557 t	16.11.1918: disarmed by the Allies at Sevastopol. Broken up at Malta, 1920
UB43	10	1916-1918	22 ships, 99.202 t	6.11.1918: surrendered at Venice, broken up in 1919. (From 30.7.1917, served as Austro-Hungarian boat U43)
UB44	2	1916-1916	2 ships, 3.409 t	4.8.1916: disappeared on the Aegean Sea on or after this date. 24 dead
UB45	5	1916-1916	3 ships, 11.666 t	6.11.1916: struck a mine off Varna. 15 dead, 5 survivors
UB46	5	1916-1916	4 ships, 8.099 t	7.12.1916: struck a mine in the Bosphorus, 20 dead
UB47	7	1916-1918	20 ships, 75.834 t	20.7.1917: transferred to Austria-Hungary (U47). Surrendered to France, broken up in 1920
UB48	9	1917-1918	36 ships, 109.273 t	28.10.1918: scuttled at Pola in the Austro-Hungarian surrender
UB49	8	1917-1919	44 ship, 97.700 t	16.1.1919: surrendered to GBR, broken up at Swansea, 1922
UB50	7	1917-1919	41 ships, 109.192 t	16.1.1919: surrendered to GBR, broken up at Swansea, 1922
UB51	6	1917-1919	20 ships, 53.528 t	16.1.1919: surrendered to GBR, broken up at Swansea, 1922
UB52	4	1917-1918	14 ships, 42.637 t	23.5.1918: torpedoed by HM Sub H4 in Strait of Otranto. 32 dead, 2 survivors
UB53	5	1917-1918	29 ships, 51.184 t	3.8.1918: hit 2 mines in Otranto Barrage. 10 dead, unknown survivors
UB54	6	1917-1918	16 ships, 9.882 t	1.3.1918: sailed on this date for patrol off Portland and was never heard from again. 29 dead
UB55	7	1917-1918	20 ships, 25.178 t	22.4.1918: mined while outbound in Strait of Dover. 23 dead, 6 survivors
UB56	4	1917-1917	4 ships, 5.407 t	19.12.1917: mined in the Strait of Dover. 37 dead
UB57	11	1917-1918	53 ships, 153.150 t	14.8.1918: mined off the Flanders coast. 34 dead
UB58	6	1917-1918	8 ships, 8.191 t	10.3.1918: sunk by a mine in Dover Barrage. 35 dead
UB59	5	1917-1918	7 ships, 10.978 t	5.10.1918: scuttled at Zeebrugge during German evacuation from Belgium
UB60	0	1917-1918	Training boat only	26.11.1918: surrendered to GBR. Ran aground on the English east coast, broken up in 1921
UB61	3	1917-1917	2 ships, 12.920 t	29.11.1917: blew up on a mine previously laid by HM Sub E51. 34 dead
UB62	7	1917-1918	8 ships, 22.252 t	21.11.1918: surrendered to GBR, broken up at Swansea
UB63	3	1917-1918	6 ships, 18.151 t	14.1.1918: lost for unknown reasons in 1. or beginning of 2.1918, either in North Sea or Irish Sea. 33 dead
UB64	8	1917-1918	30 ships, 40.200 t	21.11.1918: surrendered to GBR, broken up at Fareham in 1921
UB65	6	1917-1918	9 ships,	14.7.1918: lost by accidental cause (marine

			22.461 t	casualty) off Padstow, Cornwall, on or after this date. 37 dead
UB66	2	1917-1918	1 ship, 3.693 t	18.1.1918: missing in the Eastern Mediterranean after 17.1.1918. 30 dead
UB67	3	1917-1918	1 ship, 13.936 t	24.11.1918: surrendered to GBR, broken up at Swansea, 1922
UB68	5	1917-1918	7 ships, 16.993 t	4.10.1918: encountered technical problems and had to surface. She was shelled until sinking—1 dead, 33 survivors
UB69	1	1917-1918	0	9.1.1918: destroyed by an explosive sweep following a depth charge off Bizerta. 31 dead
UB70	2	1917-1918	1 ship, 1.794 t	5.5.1918: sailed 16.4 from Germany for Cattaro and vanished in the crossing. This date was last contact, east of Gibraltar. 33 dead
UB71	1	1917-1918	0	21.4.1918: lost off Gibraltar when depth charged by ML413. 32 dead
UB72	5	1917-1918	6 ships, 12.578 t	12.5.1918: torpedoed by HM Sub D4. 34 dead, unknown survivors
UB73	6	1917-1918	10 ships, 22.259 t	21.11.1918: surrendered to France. Broken up at Brest, 7.1921
UB74	4	1917-1918	10 ships, 19.530 t	26.5.1918: sunk by depth charges from patrol yacht <i>Lorna</i> in Lyme Bay. 35 dead
UB75	2	1917-1917	5 ships, 9.529 t	10.12.1917: Mined off Scarborough. 34 dead
UB76	0	1917-1919	Training boat only	12.2.1919: surrendered to GBR. Broken up at Rochester in 1922
UB77	7	1917-1919	2 ships, 15.448 t	15.1.1919: surrendered to GBR, broken up at Swansea in 1922
UB78	5	1917-1918	3 ships, 1.511 t	19.4.1918: mined off Dover. 35 dead
UB79	0	1917-1918	Training boat only	26.11.1918: surrendered to GBR, broken up at Swansea in 1922
UB80	10	1917-1918	19 ships, 41.471 t	26.11.1918: surrendered to Italy, broken up at La Spezia in 5.1919
UB81	2	1917-1917	1 ship, 3.218 t	2.12.1917: mined 10 miles southeast of Dunnose Head. 29 dead, unknown survivors
UB82	3	1917-1918	1 ship, 1.920 t	17.1.1918: severely damaged in a depth charge attack by 2 trawlers. 32 dead
UB83	6	1917-1918	2 ships, 1.770 t	10.9.1918: sunk by depth charges from HMS <i>Ophelia</i> off Orkney. 37 dead
UB84	0	1917-1918	Training boat only	26.11.1918: surrendered to France, broken up at Brest in 1921
UB85	2	1917-1918	0	30.4.1918: flooded by open hatch while diving to evade gunfire of Royal Navy drifter <i>Coreopsis</i> . Resurfaced, crew abandoned under fire from patrol vessel. 34 survivors (no casualties)
UB86	5	1917-1918	7 ships, 13.351 t	24.11.1918: surrendered to GBR, broken up in situ from 1921 after grounding near Falmouth with UB 97, 106, 112, 128 and UC 92
UB87	5	1917-1918	7 ships, 34.380 t	20.11.1918: surrendered to France. Broken up at Brest, 7.1921
UB88	5	1917-1918	13 ships, 32.333 t	26.11.1918: surrendered to the US. Used for exhibitions on Atlantic coast around to West Coast. Used for tests, scuttled off San Pedro, CA 3.1.1921 after being used for gunnery target by

				US destroyer USS Wilkes
UB89	3	1917-1918	0	21.10.1918: sank at Kiel after collision with the cruiser <i>Frankfurt</i> . Raised on 30.10.1918, drifted off course on passage to surrender, 7.3.1919. Brought to Ymiuden, broken up at Dordrecht in 1920. 7 dead, unknown survivors
UB90	2	1918-1918	1 ship, 1.420 t	16.10.1918: torpedoed by HM Sub L12 in Skagerrak. 38 dead
UB91	2	1918-1918	5 ships, 16.448 t	21.11.1918: surrendered to GBR, broken up at Briton Ferry in 1921
UB92	2	1918-1918	7 ships, 16.459 t	21.11.1918: surrendered to GBR, broken up at Bo'ness in 1919-20
UB93	2	1918-1918	0	21.11.1918: surrendered to GBR, broken up at Rochester in 1921
UB94	2	1918-1918	2 ships, 3.261 t	22.11.1918: surrendered to France, became the French submarine <i>Trinité Schillemans</i> until 7.1935. Broken up.
UB95	1	1918-1918	2 ships, 5.282 t	21.11.1918: surrendered to Italy, broken up at La Spezia in 5.1919
UB96	1	1918-1918	0	21.11.1918: surrendered to GBR, broken up at Bo'ness in 1919-20
UB97	0	1918-1918		21.11.1918: surrendered to GBR, broken up in situ from 1921 after grounding near Falmouth with UB 86, 106, 112, 128 and UC 92
UB98	1	1918-1918	0	21.11.1918: surrendered to GBR, broken up at Parmadoc in 1922
UB99	0	1918-1918	0	26.11.1918: surrendered to France, became the French submarine <i>Carissan</i> until 24.7.1935. Broken up
UB100	0	1918-1918	0	22.11.1918: surrendered to GBR, broken up at Dordrecht in 1922
UB101	0	1918-1918	Training boat only	26.11.1918: surrendered to GBR, broken up at Felixstowe in 1919-20
UB102	0	1918-1918	Training boat only	22.11.1918: surrendered to Italy, broken up at La Spezia in 7.1919
UB103	6	1917-1918	15 ships, 28.746 t	14.8.1918: mined off Flanders coast after sailing from Zeebrugge on 14.8.1918. 37 dead
UB104	3	1917-1918	7 ships, 14.442 t	21.8.1918: disappeared presumably in Lyme Bay for an unknown reason on or after 17.9. 36 dead
UB105	5	1917-1918	25 ships, 69.641 t	16.1.1919: surrendered to GBR, broken up at Felixstowe in 1922
UB106	0	1917-1918	0	15.3.1918: sunk in a diving accident near Kiel, 35 dead. Boat was raised on 18.3.1918, overhauled, then it served with U-Schule until 26.11.1918 when it surrendered to GBR. Broken up in situ from 1921 after grounding near Falmouth with UB 86, 97, 112, 128 and UC 92
UB107	4	1917-1918	12 ships, 28.740 t	4.8.1918: sunk by unknown cause one mile north of Flamborough Head between 28.7 and 3.8.1918. 38 dead
UB108	3	1917-1918	2 ships, 2.655 t	2.7.1918: mined off Flanders in 7.1918. 36 dead
UB109	3	1917-1918	5 ships, 13.610 t	28.8.1918: mined and sank in the Dover Barrage. 28 dead, 8 survivors
UB110	2	1917-1918	1 ship, 3.709	19.7.1918: damaged by depth charge attack. She

			t	surfaced and was rammed by HMS <i>Garry</i> . 13 dead, unknown survivors
UB111	3	1917-1918	8 ships, 1.571 t	21.11.1918: surrendered to GBR, broken up at Bo'ness in 1919-20
UB112	3	1917-1918	9 ships, 9.238 t	24.11.1918: surrendered to GBR, broken up in situ from 1921 after grounding near Falmouth with UB 86, 97, 106, 128 and UC 92
UB113	2	1917-1918	2 ships, 1.836 t	14.9.1918: left Zeebrugge for western Channel via north route and was never heard from. 39 dead
UB114	0	1917-1918	0	26.11.1918: surrendered to France, used for underwater explosion tests. Broken up at Toulon in 7.1921. (sank 13.5.1918 during trimming trials in Kiel harbour. 7 dead, unknown survivors, boat raised)
UB115	2	1917-1918	1 ship, 336 t	29.9.1918: depth charged until destruction by HMS <i>Ouse</i> and <i>Star</i> . 39 dead
UB116	4	1917-1918	0	28.10.1918: mined off Hoxa Gate and depth charged until destruction in a vain attempt to reach the empty Scapa anchorage. 36 dead
UB117	3	1917-1918	6 ships, 11.586 t	22.11.1918: surrendered to GBR, broken up at Felixstowe 1919-20
UB118	5	1917-1918	5 ships, 23.967 t	20.11.1918: surrendered to GBR. Likely sank under tow on 21.11.1920 near Falmouth
UB119	1	1917-1918	0	5.5.1918: rammed by the steamer <i>Green Island</i> between Rathlin Island and the Irish Coast. 34 dead
UB120	2	1918-1918	2 ships, 7.219 t	24.11.1918: surrendered to GBR, broken up at Swansea in 1922
UB121	3	1918-1918	0	29.11.1918: surrendered to France, used for underwater explosion tests. Broken up at Toulon in 7.1921
UB122	2	1918-1918	1 ship, 3.150 t	24.11.1918: surrendered, sank off the English east coast on the way to be broken up in 1921
UB123	2	1918-1918	5 ships, 4.490 t	19.10.1918: most likely mined in the Northern Barrage. 36 dead
UB124	1	1918-1918	0	20.7.1918: severely damaged by depth charge attack, she surfaced and was scuttled by her crew. 2 dead, unknown survivors.
UB125	2	1918-1918	6 ships, 10.967 t	20.11.1918: surrendered to Japan. In Japanese service as the O6, 1920-21. Broken up at Kure, at the Sasebo Navy Yard by June 1921 and later used as a floating jetty at Sasebo
UB126	3	1918-1918	2 ships, 3.078 t	24.11.1918: surrendered to France. Used for underwater explosion tests. Broken up at Toulon in 7.1921
UB127	1	1918-1918	0	30.9.1918: possibly mined south of Fair Isle passage on or after 9.9. 34 dead
UB128	2	1918-1918	1 ship, 7.418 t	3.2.1919: surrendered to GBR, broken up in situ from 1921 after grounding near Falmouth with UB 86, 97, 106, 112, and UC 92
UB129	1	1918-1918	1 ship, 9.217 t	31.10.1918: scuttled at Fiume on the Austro-Hungarian surrender, after serving in that navy as U55
UB130	1	1918-1918	0	26.11.1918: surrendered to France, used for

				underwater explosion tests. Broken up at Toulon in 7.1921
UB131	0	1918-1918	0	24.11.1918: surrendered to GBR, ran aground near Hastings 9.1.1921, broken up
UB132	0	1918-1918	0	21.11.1918: surrendered to GBR, broken up at Swansea
UB133	0	1918	0	---- (commissioned, 1919)
UB136	0	1918	0	---- (commissioned, 1919)
UB142	0	1918-1918	0	22.11.1918: surrendered to France, broken up at Landerneau, in 7.1921
UB143	0	1918-1918	0	1.12.1918: surrendered to Japan. In Japanese service as O7, 1920-21. Dismantled at Yokosuka Navy Yard by 7.1921, used as a floating jetty.
UB144	0	1918-1919	0	27.3.1919: surrendered to GBR, broken up at Rochester in 1922
UB145	0	1918-1919	0	27.3.1919: surrendered to GBR, broken up at Rochester in 1922
UB148	0	1918-1918	0	----
UB149	0	1918-1918	0	----
UB150	0	1918	0	---- (commissioned, 1919)
UB154	0		0	---- (commissioned, 1919)

UC: Coastal Minelayer Boats

Boat:	Patrols:	Life:	Successes:	Fate:
UC1	80	1915-1917	0	19.7.1917: possibly mined off Nieuport in a newly laid minefield. She had sailed the day before. 17 dead
UC2	2	1915-1915	0	30.6.1915: destroyed by own mines' detonations off Yarmouth. 15 dead
UC3	29	1915-1916	19 ships, 28.266 t	27.5.1916: mined north of Zeebrugge. 18 dead
UC4	73	1915-1918	28 ships, 27.135 t	5.10.1917: scuttled off the coast of Flanders during German evacuation of Flanders
UC5	29	1915-1916	29 ships, 36.288 t	27.4.1916: grounded on the Shipwash Shoal. Boat scuttled, but charges failed to explode
UC6	89	1915-1917	54 ships, 64.064 t	27.9.1917: sunk in a mined net off North Foreland. 16 dead
UC7	34	1915-1916	29 ships, 45.270 t	5.7.1916: presumed to have blown up on a mine north of Zeebrugge. 18 dead
UC8	1	1915-1915	0	4.11.1915: ran aground on the Dutch coast while on passage to Flanders. Interned at Nieuwediep and Alkmaar (sold to the Dutch as submarine M 1, broken up in 1932)
UC9	2	1915-1915	0	20.10.1915: assigned to lay mines off Long Sand. She sailed on 20.10 but did not return. 14 dead
UC10	30	1915-1916	0	21.8.1916: torpedoed by HM Sub E54 off Schouwen Bank. 18 dead.
UC11	83	1915-1918	29 ships, 38.556 t	26.6.1918: hit a mine while submerged in Strait of Dover. 18 dead, 1 survivor
UC12	7	1915-1916	5 ships, 3.039 t	16.3.1916: sunk by detonation of her own mines off Taranto. 15 dead
UC13	3	1915-1915	5 ships, 387 t	29.11.1915: went aground in a storm off the Bosphorus.

UC14	38	1915-1917	14 ships, 8.967 t	3.10.1917: mined in a British minefield off the entrance to Zeebrugge harbour. 17 dead
UC15	8	1915-1916	1 ship, 3.905 t	30.11.1916: lost for unknown reasons, probably off the Danube's mouth after 7.11. 15 dead
UC16	13	1916-1917	42 ships, 43.076 t	4.10.1917: presumed mined off Zeebrugge in 10.1917. 27 dead
UC17	21	1916-1918	94 ships, 143.870 t	26.11.1918: surrendered to GBR, broken up at Preston in 1919-20.
UC18	6	1916-1917	34 ships, 33.616 t	19.2.1917: sunk by gunfire of Q-Ship <i>Lady Olive</i> . 28 dead
UC19	3	1916-1916	3 ships, 3.355 t	6.12.1916: sunk in the English Channel by depth charges from the British destroyer HMS <i>Ariel</i> . 25 dead
UC20	13	1916-1919	24 ships, 30.114 t	16.1.1919: surrendered to GBR, broken up at Preston in 1919-20
UC21	11	1916-1917	95 ships, 129.502 t	30.9.1917: departed Zeebrugge for the Channel on 13.9. and disappeared for an unknown reason. 27 dead
UC22	15	1916-1919	24 ships, 52.703 t	3.2.1919: surrendered to France, broken up at Landerneau in 7.1921
UC23	17	1916-1918	66 ships, 40.174 t	25.11.1918: surrendered at Sevastopol, became a French prize. Broken up at Bizerta in 8.1921
UC24	4	1916-1917	4 ships, 9.516 t	24.5.1917: torpedoed by French submarine <i>Circé</i> off Cattaro entrance. 24 dead, unknown survivors
UC25	13	1916-1918	17 ships, 27.733 t	28.10.1918: scuttled at Pola on surrender of Austria-Hungary after serving in its navy as U89
UC26	9	1916-1917	35 ships, 56.232 t	8.5.1917: rammed by HMS <i>Milne</i> off Calais. 24 dead, 2 survivors
UC27	14	1916-1919	53 ships, 67.990 t	3.2.1919: surrendered to France, broken up at Landerneau, 7.1921
UC28	0	1916-1919	Training boat	12.2.1919: surrendered to France, broken up.
UC29	7	1916-1917	17 ships, 20.765 t	7.6.1917: sunk by gunfire from Q-ship <i>Pargust</i> south of Ireland. 23 dead, 2 survivors.
UC30	4	1916-1917	9 ships, 5.867 t	21.4.1917: struck a mine off Horns Reef. 27 dead
UC31	13	1916-1918	37 ships, 53.627 t	26.11.1918: surrendered to GBR, broken up at Canning Town, 1922
UC32	3	1916-1917	6 ships, 6.847 t	23.2.1917: blew up on her own mines off Roker Pier. 19 dead, 3 survivors
UC33	7	1916-1917	35 ships, 20.557 t	26.9.1917: gunned and then rammed by patrol boat OC61 in St George's Channel. 27 dead, 1 survivor
UC34	9	1916-1918	19 ships, 65.546 t	30.10.1918: scuttled at Pola on surrender of Austria-Hungary, after serving in its navy as U74
UC35	11	1916-1918	42 ships, 65.569 t	17.5.1918: sunk by gunfire from French patrol vessel <i>Ailly</i> southwest of Sardinia. 20 dead, 5 survivors
UC36	5	1916-1917	17 ships, 23.348 t	19.5.1917: lost for unknown reasons after 16.5.1917. 27 dead
UC37	13	1916-1918	66 ships, 78.158 t	25.11.1918: disarmed at Sevastopol. Surrendered at Malta in 1919, broken up in 1920
UC38	9	1916-1917	36 ships, 52.525 t	14.12.1917: depth charged by French destroyers in the Ionian Sea. 9 dead, 25 survivors
UC39	1	1916-1917	3 ships, 6.329 t	8.2.1917: forced to surface by depth charge and sank by gunfire from HMS <i>Thrasher</i> off

				Flamborough Head. 7 dead, unknown survivors
UC40	17	1916-1919	32 ships, 46.934 t	21.1.1919: Sank in the North Sea while in passage to surrender. 1 dead, unknown survivors
UC41	7	1916-1917	17 ships, 18.233 t	21.8.1917: suffered an explosion of its own mines, then depth charged in the Tay estuary. 27 dead
UC42	6	1916-1917	13 ships, 9.635 t	10.9.1917: lost in explosion of own mines off Cork. 27 dead
UC43	2	1916-1917	13 ships, 24.727 t	10.3.1917: torpedoed by HM Sub G13 north of Muckle Fluga, Shetlands. 26 dead
UC44	6	1916-1917	27 ships, 24.271 t	4.8.1917: sunk in a German minefield laid by UC42 and voluntarily un-swept by the Allies south of Ireland. 28 dead, 1 survivor
UC45	5	1916-1918	12 ships, 16.809 t	17/9/1917: sunk in the North Sea after a diving accident. 35 dead. Raised on 11.4.1918 by salvage vessel <i>Oberelbe</i> . Returned to service 24.10.1918. 24.11.1918: surrendered to Britain, broken up at Preston 1919-20
UC46	4	1916-1917	10 ships, 10.660 t	8.2.1917: rammed by destroyer HMS <i>Liberty</i> southeast of Goodwin Sands. 23 dead
UC47	13	1916-1917	52 ships, 65.884 t	18.11.1917: rammed by patrol boat P57 off Flamborough Head. 28 dead
UC48	13	1916-1918	34 ships, 67.776 t	23.3.1918: interned at El Ferrol, Spain. Boat was badly damaged by depth charges from the RMS <i>Loyal</i> 20.3.1918
UC49	13	1916-1918	23 ships, 64.195 t	8.8.1918: depth charged by HMS <i>Opossum</i> off Start Point and sunk. 31 dead
UC50	9	1916-1918	29 ships, 45.822 t	7.1.1918: missing after sailing on 7.1.1918 for the Bay of Biscay. 29 dead
UC51	7	1916-1917	29 ships, 34.394 t	17.11.1917: sunk in the English Channel by a British mine. 29 dead
UC52	7	1917-1919	20 ships, 27.671 t	16.1.1919: surrendered, broken up at Morecambre
UC53	8	1917-1918	53 ships, 64.022 t	28.10.1918: scuttled at Pola on the surrender of Austria-Hungary after serving as U95
UC54	8	1917-1918	19 ships, 69.359 t	28.10.1918: scuttled at Trieste on surrender of Austria-Hungary after serving as U96
UC55	6	1916-1917	9 ships, 12.988 t	29.9.1917: lost by accident in a mine laying operation off Lerwick. 10 dead, no survivors
UC56	6	1916-1918	2 ships, 9.824 t	24.5.1918: interned at Santander, Spain after suffering mechanical problems
UC57	7	1916-1917	1 ship, 88 t	12.11.1917: sailed a mission to Hamnskär. Completed mission, planned to lay on seabed for one night before returning to Germany, but never arrived. Presumably mined in the Gulf of Finland, 18.11.1917. 27 dead
UC58	12	1916-1918	20 ships, 20.755 t	24.11.1918: surrendered to France, broken up at Cherbourg in 1921
UC59	9	1916-1918	8 ships, 8.331 t	21.11.1918: surrendered to GBR, broken up at Bo'ness in 1919-20
UC60	1	1916-1919	1 ship, 1.426 t	23.2.1919: surrendered to GBR, broken up at Rainham in 1921
UC61	5	1916-1917	11 ships, 13.819 t	26.7.1917: stranded north of Boulogne. Flooded and scuttled
UC62	9	1916-1917	12 ships,	14.10.1917: mined on the Thorton Bank near

			20.035 t	Zeebrugge in 10.1917. 30 dead
UC63	9	1916-1917	36 ships, 36.404 t	1.11.1917: torpedoed by HM Sub E52 off Goodwin Sands. 1 survivor, 26 dead
UC64	15	1917-1918	27 ships, 25.038 t	20.6.1918: mined off the Varne after being forced to dive by patrol craft. 30 dead
UC65	11	1916-1917	103 ships, 112.859 t	3.11.1917: torpedoed by HM Sub C15. 22 dead, 5 survivors
UC66	5	1916-1917	33 ships, 47.152 t	12.6.1917: it's commonly believed that UC66 was forced to dive by HMT <i>Sea King</i> , and then depth charged, finally blowing up by the explosion of her own mines. This requires an excessively long patrol length and should therefore be taken with extreme caution
UC67	11	1916-1919	53 ships, 98.315 t	16.1.1919: surrendered to GBR. Broken up at Brighton Ferry in 1919-20
UC68	2	1916-1917	0	13.3.1917: blew up on her own mines off Start Point. 27 dead
UC69	9	1916-1917	50 ships, 88.138 t	6.12.1917: went into collision with U96 off Barfleur and sank. 11 dead, unknown survivors
UC70	10	1916-1918	33 ships, 26.923 t	28.8.1918: sunk by depth charges from HMS <i>Ouse</i> off east coast of England. 31 dead
UC71	19	1916-1919	69 ships, 143.925 t	20.2.1919: sunk in the North Sea while on passage to surrender. (**on 8.8.1917, UC71 engaged in an 8 hour duel with Q-Ship <i>Dunraven</i> . The unharmed U-boat left the Q-ship ablaze and in a sinking condition***)
UC72	8	1916-1917	37 ships, 64.323 t	21.8.1917: missing after 21.8.1917. Loss could be anywhere from the Bay of Biscay to Flanders coast. 31 dead
UC73	10	1916-1919	18 ships, 26.420 t	6.1.1919: surrendered to GBR. Broken up at Brighton Ferry, 1919-20
UC74	10	1916-1918	37 ships, 96.899 t	21.11.1918: interned at Barcelona after running out of fuel. Surrendered to France on 26.3.1919. Broken up at Toulon in 7.1921. Served as Austro-Hungarian U93
UC75	13	1916-1918	56 ships, 89.073 t	31.5.1918: rammed and sank by HMS <i>Fairy</i> while attacking a convoy. 19 dead, unknown survivors
UC76	2	1916-1918	14 ships, 6.006 t	1.12.1918: surrendered to GBR, broken up at Brighton Ferry, 1919-20
UC77	13	1916-1918	32 ships, 49.062 t	14.7.1918: mined off Flanders coast in late 7.1918. 30 dead
UC78	12	1916-1918	2 ships, 13.000 t	9.5.1918: rammed by steamer <i>Queen Alexandra</i> west of Cherbourg. 29 dead
UC79	11	1916-1918	10 ships, 22.347 t	5.4.1918: mined off Griz Nez, France while homebound in the first week of 4.1918. The exact date is not determined. 30 dead
UC90	0	1918-1918	Training boat	1.12.1918: surrendered to Japan. In Japanese service as O4, 1920-21. Dismantled at Kure Navy Yard in 1921
UC91	0	1918-1918	Training boat	5.9.1918: sunk in Baltic after collision with steamer <i>Alexandra Woermann</i> . 17 dead, unknown survivors. Raised on 6.9 and repaired. 10.2.1919: sank in the North Sea while on passage to surrender

UC92	0	1918-1918	0	24.11.1918: surrendered to GBR, broken up in situ from 1921 after grounding near Falmouth with UB 86, 97, 106, 112, and 128
UC93	0	1918-1918	0	26.11.1918: surrendered to Italy. Broken up at La Spezia in 8.1919
UC94	0	1918-1918	0	26.11.1918: surrendered to Italy. Broken up at Taranto, 4.1919
UC95	0	1918-1918	0	22.11.1918: surrendered to GBR, broken up at Fareham in 1922
UC96	0	1918-1918	0	24.11.1918: surrendered to GBR, broken up at Morecambre in 1919-20
UC97	0	1918-1918	0	22.11.1918: surrendered to the US. Used for exhibitions from NY via Halifax and the St Lawrence to the Great Lakes. Sunk 7.6.1921 by gunfire from US training vessel <i>Wilmette</i> at Lake Michigan
UC98	0	1918-1918	0	24.11.1918: surrendered to Italy, broken up at La Spezia in 4.1919
UC99	0	1918-1918	0	22.11.1918: surrendered to Japan. In Japanese service as O5, 1920-21. Dismantled at Yokosuka Navy Yard 1921
UC100	0	1918-1918	0	22.11.1918: surrendered to France, broken up at Cherbourg in 7.1921
UC101	0	1918-1918	0	24.11.1918: surrendered to GBR, broken up at Dordrecht in 1922
UC102	0	1918-1918	0	22.11.1918: surrendered to GBR, broken up at Dordrecht in 1922
UC103	0	1918-1918	0	22.11.1918: surrendered to France, broken up at Cherbourg in 1921
UC104	0	1918-1918	0	24.11.1918: surrendered to France, broken up at Brest, 7.1921
UC105	0	1918-1918	0	22.11.1918: surrendered to GBR, broken up at Swansea in 1922

Appendix B

German U-boats, First World War

Total Boats:	UA+UB+UC+U=383
Total less no information:	383-5=378
Less 1919 commission:	378-3=375
Total sunk:	182
Total surrendered:	173
Total scuttled:	14
Total interned:	6

Percentage kills, by method

Method:	Number Killed:	Percentage:
Torpedoed by enemy sub:	18	9.9%
Possibly torpedoed:	1	0.6%
Mined:	45	24.7%
Possibly mined:	15	8.2%
Rammed:	19	10.4%
Possibly rammed:	1	0.6%
Depth charged:	21	11.5%
Possibly depth charged:	1	0.6%
Attacked by armed merchantman (but not killed solely by attack):	2	1.1%
Other (incl. accident, no data etc):	48	26.4%
Armed merchant vessel/Q-ship:	11	6.0%
TOTAL:	182	100.0%
Armed merchant vessel/Q-ship, including attacked but not killed:	13	7.1%

Breakdown of Sinkings, by method

Method:	Boats included:
Torpedoed by enemy sub:	U6; U23; U40; U45; U51; U78; U81; U99; U154; UB16; UB52; UB72; UB90; UC10; UC24; UC43; UC63; UC65
Possibly tor'd:	U7
Mined:	U11; U59; U74; U75; U106; UB1; UB20; UB22; UB31; UB33; UB38; UB41; UB45; UB46; UB53; UB55; UB56; UB57; UB58; UB61; UB75; UB78; UB81; UB103; UB108; UB109; UB116; UB123; UC2; UC3; UC11; UC12; UC14; UC16; UC30; UC32; UC41; UC42; UC44; UC51; UC62; UC64; UC68; UC77; UC79
Possibly mined:	U5; U10; U13; U31; U37; U50; U66; U88; U92; U102; U109; U156; UB127; UC1; UC7
Rammed:	U15; U18*; U29; U44; U49*; U87; U89; U103*; UB18*; UB27; UB36*; UB110; UB119*; UC26; UC33; UC46; UC47; UC75; UC78*
Poss. rammed:	U84
Depth charged:	U32; U58; U61; U64; U104; U110; UB29; UB30; UB35; UB69; UB71; UB74; UB82; UB83; UB115; UB124; UC19; UC38; UC39; UC49; UC70;
Poss. DC:	UC66
Attack AMM:	U12; U14
Sunk AMM:	U27; U36; U41; U68; U83; U85; UB4; UB19; UB37; UC18; UC29;
OTHER:	U8; U20; U26; U28; U34; U48; U56; U69; U76; U77; U93; U95; UB3; UB7; UB12; UB13; UB17; UB26; UB32; UB39; UB44; UB54; UB63; UB65; UB 66; UB68; UB70; UB85; UB89; UB104; UB106; UB107; UB113; UC5; UC6; UC9; UC13; UC15; UC21; UC35; UC36; UC40; UC50; UC55; UC57; UC61; UC69; UC72

* denotes boats rammed by non-warships; AMM = armed merchantman

Appendix C

Volume of Fire:

Target	Life in Torp. Hits	Insure Sinking Target		Volume of Fire	
		75% Hits	50% Hits		
		Without Spread [†]	With Spread [†]	Without Spread [†]	With Spread [†]
BB, CC	7	9.3	14	8	10
Large CV	5	6.7	10	6	10
Small CV	2.7	3.6	5.4	4	6
CA, Large CL	1.5	2.0	3.0	2	3
AV, Large Aux., Med CL	1.3	1.7	2.6	2	3
Merchant , Small CL, Small Aux.	1.0	1.3	2.0	2	2
DL, DD	.5	.7	1.0	1	---
SS	.3	.4	.6	1	---

Figure 5.1¹**Legend:**

Hull Classification Symbol:	Ship Type:
BB	Battleship
CC	Command Cruiser
CV	Fleet Aircraft Carrier
CA	Cruiser
CL	Light Cruiser
AV	Seaplane Tender
DL	Destroyer Leader (Frigate)
DD	Destroyer
SS	Submarine

[†] “Linear Spread” is the distance in yards between successive intercept points of target and torpedo tracks measured from the same point of the target at each interception. (Linear spread is a function of spread angle, torpedo run, and distance moved by the submarine during the firing interval).²

¹ “Current Doctrine, Submarines 1939”, U.S.F. 25, Revised, April 1939, prepared by Commander Submarine Force; Microfilm Reel, Current Tactical Orders and Doctrine-Submarines, 1939-44; Operational Archives, Naval Historical Center, Washington D.C.

² Ibid., 19.

Target	Life in Torp. Hits	Req'd Torpedoes to Insure Sinking Target. 50% hits with Spread	Recommended Volume of Fire With Spread[†]
BB, CC	7	14	10
Large CV	5	10	10
Small CV	3	6	6
CA, Large CL	3	6	6
AV, Large Aux., Med CL, Merchant , Small CL, Small Aux.	2	4	3-4
DL, DD	1	2	3
SS	1	2	3

Figure 5.2³

³ "Current Doctrine, Submarines 1944", U.S.F. 25, February 1944, prepared by Commander Submarine Force; Microfilm Reel, Current Tactical Orders and Doctrine-Submarines, 1939-44; Operational Archives, Naval Historical Center, Washington D.C..

Appendix D

List of Maps:

1. German Naval Quadrants
2. Western Atlantic Quadrants
3. British Coastal Quadrants
4. North Atlantic Quadrants