

Total Rhetoric, Limited War: Germany's U-Boat Campaign 1917-1918.

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Home > Vol 1, No 1 (1998) > **Herwig**

Total Rhetoric, Limited War: Germ

Our armies might advance a mile a day and we blockade the enemy to his knees, or wh

Admiral David Beatty

January 27, 1917

Imagine this country's sufferings after four cattle 32 percent. The weekly per capita amount of available milk by half. Women's Tubercular-related deaths up 72 percent; the ulceration of the eyes, and hunger ede marketing, and hoarding widespread. And wartime blockade. This country is not "pe caused was not by unrestricted submarine Jay Winter, did not fall short of being a w unrestricted submarine warfare?

The Definition

The concept of "total war" is a vexing on "total" application of all available armed f annihilation of the adversary? Does it tran victory? Reference guides offer little assista American Joint Chiefs of Staff in Washingt civilian reference guide, Edward Luttwak a war" warns the reader: "The term is propaga

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For the purpose of assessing the "proposed unrestricted submarine campaign of 1917, Clausewitz in Book Eight, Chapter Two, of (of reference," as a "state of absolute perfect wars by." A nation or ruler seeking to apply wage war "without respite until the enemy until one side dictated political terms to tempered by "extraneous matters" such as of man."

Few military leaders read Clausewitz; even Tirpitz, the architect of Germany's High Sea in the first great naval battle" of a war. In o "absolute" or "total" war. And General Eri War, allowed that the very concept simply in the book championed unrestricted subm

The Vision

The first torpedo in the great debate over December 22, 1914. During an interview pu admiral threatened "total" submarine warf whether Germany truly intended to blocka the utmost, why not? - England wants to sta England and destroy each and every ship th of "setting London in flames in a hundrec blockade would be more effective."

A fellow naval officer, Captain Magnus v shortly after the start of the war gained in Arthur Conan Doyle. In 1913 the creator of ' o f England's Peril," wherein he suggeste defeated by eight (!) small hostile subma merchant shipping. Levetzow passed the pi as to Kaiser Wilhelm II, and thereby claime

In an even more bizarre way, Rear-Admi wanted Germany to turn to unrestricted si service at Berlin in 1916, Hollweg experie "Power and Glory" of the Lord's Prayer. "I us the power for the will to victory, Thou G

After the war, Allied leaders in their memoir of winning the war by way of the U-boats. T and despair that met him when he arrived a winning" the war. "They will win," Admira losses [603,000 tons in March] - and stc solutions to the problem, the first sea lo Indeed, Jellicoe was most pessimistic th submarines. On April 27, he cried out in exa of the submarine threat. "Disaster is cert: disaster and it is useless and dangerous in Admiral Sir David Beatty, was fully convinc on and below the seas.

Nor were the sailors alone in their gloom. For the submarine campaign . . . very nearly achieved. Winston Churchill confirmed even the greatest conflict ever decided at sea." The "among the most heart-shaking episodes have been within their grasp in the spring of 1916 on the British islands, but the foundations of the blockade began to loom black and imminent." In short, the Admiralty that Germany had crossed the

The Promise

There can be no question that the promise was for a "total" war. Success by slide-rule calculations, both official and private, on the issue of ultimate victory were analyzed by Holtzendorff on December 22, 1916. There would be forced to sue for peace within five months, estimates of Britain's demise due to the blockade in three months (Holtzendorff). Assuming that Britain would be forced to sue for peace within five months, Holtzendorff argued that the U-boats could sink 500,000 tons per month thereafter as the volume of neutral shipping would decline to 1.2 million tons, of neutral shipping would be 39 percent decline in tonnage available to the British. London would be "in the grip of that fear" Holtzendorff confidently accepted "the cost of the blockade nor American money could arrive in Europe." This was seconded by the Army Supreme Command (General Ludendorff), the Navy Office (Admiral Erich Raeder), and Admiral Levetzow).

For, Holtzendorff offered a "new" concept of warfare a decade had passed since U-1 had gone down. Warfare at sea, wherein submarines replaced surface ships, whereby ships and cargoes were to be destroyed by both naval and civilian expeditions, leading to political victory. New was the very concept of this kind of economic blockade. And new targets, children in particular were targeted for starvation. The U-war reduced German strategy to one

But how had the admiral arrived at his blueprints? And how accurate were they?

Another new element: Holtzendorff had gathered a group of experts--the equivalent of a modern-day think tank--the Disconto-Gesellschaft-Magdeburg; the Finance Commission of the Berliner Tageblatt, Otto J. H. H. Professor Bruno Harms of Kiel University. Holtzendorff's memorandum of December 1916 was distributed to the worlds of finance (Merk, Fink & Co. a member of the Norddeutsche Bank at Hamburg, and Zuckert & Foundries at Harde, Good Hope Foundry at Harde, agriculture (Chamber of Agriculture in Anhalt).

from Dirschau). In short, the admiral made a section of Germany's leading financial, commercial, and modern German history, a national grand strategy.

The statistics that buttressed the official Admiralty position. These included not only the London Times, the Economist, the Spectator, and the parliamentary Seed & Oil Reporter, the Corn Trade News, and the grain experts on the German Frankfurter

The various memoranda all agreed, to various points. First was that the war had to be brought to a "result in the exhaustion of all the belligerents." The prediction of victory through the U-boats was a strategic view.

Second, Holtzendorff and his paladins agreed that the war machinery; if it is once thrown into disorder, it will be without end." "Disorder" caused by raw materials would result in a grinding halt within five months of unrest.

Third, the German experts agreed that Britain (and Germany). London lacked the requisite local resources and to carry out central directives "is lacking the means to meet such a crisis." In other words, the British government of "war socialism" and "war economy." Such policies would cripple the national war effort and rising unemployment among laborers.

Fourth, Professor Levy, basing his research on the Food of 1903-05, convinced the Admiralty that wheat was an important cereal." Holtzendorff and Levy calculated that wheat per week, at present levels of supply and demand, would be differently, present provisions and reserves. Wheat imports from Canada and the United States would soon fall to half due to a bad harvest in Australia, India, and Argentina would do the same. All this would translate into food shortages for the "Englishmen" of drastically reduced foodstuffs as a direct result upon imports."

Fifth, Holtzendorff and Department B1 found that the financial burden imposed by increased military spending immediately, Britain's balance of payments would fall with English exports." But even more important, the price of Manitoba No. 1 Wheat had gone up 258 percent since 1914; barley and oats stood at twice their peacetime levels; cold storage increased threefold, and herring increased 600 percent in price.

Sixth, the Germans were mesmerized by the Scandinavian pit-prop timber (Grubholz) as the bread of commercial life." The price of coal in the best fields lay under German occupation, and in its part, drew half of its wood from Scandinavia.

sinking rapidly; the price of Scandinavia Holtzendorff opined, "are poor." In other words, the coal industry threatened to collapse.

Seventh, and perhaps most critically, the shipping tonnage under a microscope. According to Holtzendorff, 10 million tons of merchant shipping; by late 1916, the redirection of bottoms to "other tasks." Specifically, merchant shipping had been requisitioned for "military purposes." 10 million tons were under repair, and that 2 million tons were under repair just 8 million tons. But closer examination of the September 1916 showed that the real total was 900,000 tons of enemy shipping trading in the North Sea. London could command at best 10.75 million tons.

This was the prey of the U-boats. For every "grip of fear" would guarantee the success of the U-boat campaign. Heavy weather, inexperienced merchant captains, and anticipated congestion in ports would militate in favor of the "welcome sight"--a target-rich environment.

Eighth, Holtzendorff tied unrestricted submarine warfare to the High Sea Fleet's power. Since the High Sea Fleet had remained on energetic action at sea, and this could be a turning point in the direction in 1897; the Reich's "economic arm" was but one alternative: destruction of British shipping. Submarine war is the proper and only means of achieving this. In a memorandum by "guaranteeing" that "the knees." Almost at the same time, he submitted his plan to the government.

With regard to force size, it should be pointed out that the issue in an impenetrable fog of uncertainty. In 1916, Hollweg had been forced to call a press conference that Germany was about to launch unrestricted submarine warfare. The leader of the pivotal Center Party, Matthias Erzberger, had said "more U-boats." And Grand Admiral von Tirpitz, who had said "construction for fear of thereby watering the ground," did nothing to lay to rest such doubts. He sent a deputy, Lieutenant-Commander Heintze, to the United States. He had "54 U-boats in commission" and "200 U-boats in construction" "total" force being on hand for "total" effort.

The formal decision to launch the U-boat campaign was made by the admirals at Pless on January 9, 1917. It is interesting to note that the volume stress the "acceleration of time"--that is, the need to make decisions of immense importance in a very short time (Hundred Years' War, Thirty Years' War, Napoleonic Wars, submarine warfare). The issue had been discussed in 1915; Holtzendorff had taken sixteen months to convince the Admiralty. Officers, statesmen, politicians, and journalists had all been involved in other issues during the war. Rationality had been the dominant conclusion. And the Admiralty Staff's conclusions were offered voluminous statistical material to be

In the end, the decision of January 9 can be seen as a result of internal political wrangling. Many of the U-boats (submersibles) deserved a chance to prove their effectiveness. Germany could not survive another winter (through victory). Yet others trumpeted the U-boats as Wunderwaffen, as Vergeltungswaffen that would bring about Germany's survival. Some undoubtedly saw the U-war as the last gasp of a system that others simply yearned for a delivery system to Germany--and the accompanying high rate of attrition. Showalter argues in his contribution to this volume that the U-war led to "total war." A very few among the ruling elite saw the recourse to unrestricted submarine war as a necessary step.

The fact remains that, in the final analysis, the ground chosen by the navy: the plethora of calculations of British bottoms, coal, and food supplies, and the tone of the debate, laid down its ground. Even the most bitter opponents of the U-war, such as Admiral Weber already in March 1916 tried to lobby for adopting unrestricted submarine warfare on the navy's behalf. Secretary of the Treasury Karl Helfferich subjected Holtzendorff's memoranda to a harsh review, and attempted to defuse Admiralty Staff thinking. Holtzendorff's calculations. Chancellor von Bethmann-Hollweg was offensive primarily on the basis of Holtzendorff's calculations. "The fall harvest." And as late as July 10, 1917, at the insistence of Albert Ballin, head of the Hamburg-American Line, Ludendorff strictly on the basis of Holtzendorff's calculations.

The Reality

How close did Imperial Germany's unrestricted submarine warfare to the theoretical "standard" to "judge all wars by the same standard" be? The U-boats for the first time were extremely accurate. The U-boats for the first time sank thousands of tons of shipping, and for the next two years they sank millions. Holtzendorff's predictions of December 22, 1916, that the U-war predicted, was slow to develop: a mere 22 million tons of shipping. But Britain had not been "brought to its knees."

What had gone wrong? In order to assess the "reality of unrestricted submarine warfare" that is the theme of this volume, we must look at the calculations, but rather on the basis of hard data and calculations against actual battlefield effects.

First, Holtzendorff and his experts failed to account for the inexhaustible lines of credits; can build up a system to believe in its future. In the British case, by the end of the war, the credits.

Second, a modern state's "machinery" is not what the planners had assumed. Rather, it is, in the words of the machine." The British economy had a great capacity for changes in imports and production.

Third, the British national character likewise predicted. Price mechanisms enabled Britain to avoid mild forms of rationing, and by adding other measures in 1917-8 saved about thirteen weeks' conscription. Britain outdid the Germans when it came to "war production." As Olsen first argued, and as several others pointed out, the Ministry of Shipping and a Food Production Department were established. The war oversaw 90 percent of the nation's imports and exports. In an almost obscene fashion, the government even given the absence of 13,000 doctors and nurses, cardiovascular diseases, diarrheal diseases, and other ailments in 1912, 1913, and 1914. The mortality rate due to influenza did that among women during childbirth. The mortality rate among civilians was probably higher than in Germany.

Fourth, and most critically of all, Holtzendorff's calculations accurately the bulk of statistical materials on which they assumed that there was no alternative to the current policy. Additionally, they failed to recognize that the United Kingdom (compared to 308 acres in Germany and 400 acres in the United States) the belief that the Royal Navy could at a minimum protect the devoted to cultivated crops in 1915 than the United States.

Obviously, cultivation could be increased under a Cultivation of Lands Order in 1917 which would bring 10 million acres of grasslands under the plow; 10 million acres planned for 1919. While this reduced meat production by 2.3 million tons. Urban "garden allotments" which brought the most inclement harvest levels by 1 million tons, oats by 1.4 million tons. That Britain turned almost 4 million acres of land into cultivated crops in the last two years of the war.

Another cardinal miscalculation by Admiral Jellicoe was the wheat production. By assuming 1916 wheat output would be 100 million bushels, they appreciate that 1916 was an off-year due to drought. Annual production in 1913, 1914, and 1915 was 100 million bushels. The crop remained almost the same as that of 1916 (100 million bushels). The rye harvest steadily increased from 1913 to 91 million in 1918. American wheat and corn production prewar levels. Moreover, the "total war" agricultural production from the 1915 wheat crop on July 1, 1916 still measured 55.9 million.

Fifth, the unrestricted U-boat war did not cause vast and violent labor unrest. To be sure, the production of alcoholic beverages, beer, coffee, sugar, and other commodities were not adversely affected because of government control of flour, and milk by British working-class families. The production had been before 1914; that of bacon, potatoes,

Nor did the predicted surplus of unemployed workers. Quite the contrary. With millions of young men in the United Kingdom actually experienced an acute labor shortage. The hard-pressed to make up for the shortage

men, and prisoners of war for agriculture and other essential paying jobs in the industrial and commercial sectors. time have no problem absorbing available

Sixth, Holtzendorff's and Ludendorff's calculations that British mines failed to hold. Once again, they failed to make. First and foremost, given that coal mines were converted to pit-props, thus guaranteeing their availability for the duration of the war, and the wood thus saved from the Channel with impunity. The hard reality was that the commencement of unrestricted U-boat warfare against European neutrals--Denmark, the Netherlands--prevented them from maintain their trade (including wood and foodstuffs).

Seventh, the Germans erred terribly in their handling of Britain. They failed entirely to take into account that they anticipated that London could requisition all available tonnage and set and enforce uniform insurance rates. The loss of thirty to forty vessels protected by an escort was a reality in 1917, once ritualized it actually brought about predictable rhythms of arrivals and departures, thus avoiding anticipated congestion in British ports. And the longer more lengthy sea routes to Australia, India, and the East Indies.

Above all, the nature of merchant cargoes. Ludendorff and von Holtzendorff and his civilian experts failed to realize that grain could be delivered by a mere four ships per week of higher priority, thus assuring the national food supply.

In fact, as the U-boat historian Bodo Herzog noted, the Germans used oats for its race horses! No one in Berlin had any idea that the consumption at home, would eventually feed the American soldiers to France.

Eighth, the politics of unrestricted submarine warfare. The declaration of peace on August 1, 1917. Nor was General Ludendorff's U-boat war. British coal mines did not close completely the Atlantic: only 393 of the 95,000 ships engaged in transport was torpedoed en route to France. The German skilled labor developed. No public panic erupted.

Ironically, the Russian Empire collapsed just as the submarine campaign on February 1, 1917. The Russian army thereby turning the tide against Germany. The German army manned the front lines. They arrived in France from the eastern seaboard of the United States. The "doughboys" escorted to France by the U.S. Navy. They had been interned in American ports and later sent to the front.

Finally, Germany never managed to mount a serious internal study by Lieutenant Ulrich-Eberhart. In 1914 had estimated that at least 222 U-boats were engaged in shipping in the waters surrounding the British Isles. The figure. For much of 1915, when the clamor for unrestricted submarine warfare was at its peak.

Germany had available in both the Atlantic following year, when public speculation w craft. Most of the Reich's treasure, labor, an auspices of the "Hindenburg Program" an 1917, the date on which Holtzendorff's unre stood at only 111 boats, of which 82 were keeps in mind that at any given time one another one-third were going to or returni mere 32 boats were on patrol in the North to bring Britain "to its knees." Moreover, on Britain's west coast. In short, there existe structure.

Nor did the U-boat force appreciate signifi debate over unrestricted submarine warfa purpose. A mere 29 craft were ordered in 19 building contract was placed in the critical the boats ordered in and after May 1916 we

Still, German yards proved unable to meet U-boat production consistently failed to completed on time; 50 were six months bel Boat Office to regulate the purchase, const December 5, 1917--four months after Ho "Scheer program" of the autumn of 1918, national placebo, a propaganda effort to s volumes for the "blue-water" mentality of unrestricted submarine campaign, in the s great deal of time pondering the construct the war. What in October he termed "ur promotions and battlefleet symmetry.

The Verdict

Was Germany's unrestricted submarine w the rhetoric was "total," the reality was l civilian experts sought "total" victory over British women and children and worker shipping--merchant as well as war, neut flagrantly ignored (indeed, violated) estab were viewed by Berlin as targets on an e question that, as Wolfgang J. Mommsen l qualitative shift in strategic thought" insofa

The cold-blooded calculus behind Holtzer and neutral ships, women and children wei front-line troops. Septic columns of merc Measures of caloric intake by Britain's w rehabilitated, of shells produced and firec romanticism. No adventure. No individuali target--in this case, torpedoes against stee crisp charts of Allied Bomber Command in Defense Robert McNamara during the bo worked in none of the cases cited. War rem:

Germany's unrestricted submarine campaign. Twenty or thirty 500 to 700 ton U-boats on simply were insufficient to do the job. As conceded: "The U-war was never unrestricted forces. In the end, only death was "total": the in 199 U-boats at sea. It remained for another statistics.

NOTES

1 C. Paul Vincent, The Politics of Hunger: The Allied Blockade of Germany After the First World War (Oxford, 1993), 39.

2 The Joint Chiefs of Staff, The Official Dictionary of Military Terms, is an "armed conflict between major powers in which the weaker belligerent is in jeopardy." *ibid.*, 157.

3 Edward Luttwak and Stuart Koehl, The Dictionary of Total War, concept, implying the use of all available resources and weapons against targets."

4 Carl von Clausewitz, On War, eds. Michael Howard and John P. Mayer.

5 Volker R. Berghahn, Der Tirpitz-Plan. Genesis und Verfall.

6 Erich Ludendorff, Der totale Krieg (Munich, 1935), 3.

7 *ibid.*, 83-5.

8 Cited in Alfred von Tirpitz, Politische Dokumente: Deutsche Kriegsmarine, interview had taken place on November 21. For the broader context, see The submarine problem--Germany, Britain, and the United States, Murray and Allan R. Millett (New York, 1996), 227-264.

9 Arthur Conan Doyle, "Danger! A Story of England's Peril,"

10 Bundesarchiv-Militärarchiv (BA-MA), Nachlass Hollweck, Hadley, Count Not the Dead: The Popular Image of the German U-Boat.

11 William Sowden Sims, The Victory At Sea (New York, 1919).

12 Jellicoe to the First Lord, Sir Edward Carson, April 27, 1917, private and official correspondence of Admiral of the Fleet John Jellicoe, The Submarine Peril: The Admiralty Policy in 1917.

13 David Lloyd George, War Memoirs, 6 vols. (London, 1919).

14 Winston S. Churchill, The World Crisis (London, 1932), see Hermann Bauer, Als Führer der U-Boote im Weltkrieg.

15 Cited in Stenographische Berichte über die öffentlichen Nationalversammlungen nebst Beilagen (Berlin, 1920), 2: 227. Official German Documents Relating to the World War, 2 vols. hereafter abbreviated as Stenographische Berichte. The original is in German.

16 In reality, half of the American soldiers transported to France during the Hundred Years of Sea Power: The U.S. Navy, 1890-1990 (St.

17 Stenographische Berichte, 260-2.

18 *ibid.*, 206, 229, 269. Italics in the original.

19 Bernd Stegemann, Die Deutsche Marinepolitik 1916-1918.

20 Stenographische Berichte, 231.

21 *ibid.*, 226.

22 *ibid.*, 233.

23 *ibid.*, 227, 249.

24 *ibid.*, 236-41.

25 *ibid.*, 265.

26 *ibid.*, 265.

27 *ibid.*, 240-3.

28 *ibid.*, 250-1. At Pless on January 9, 1917, Ludendorff also

29 *ibid.*, 226.

30 *ibid.*, 266.

31 *ibid.*, 263-4.

32 "The navy is still popular with the people. . . . But sometimes nothing, for example, about the U-boats."

33 BA-MA, Nachlass Levetzow, N 239, Box 3, vol. 4. Admirals

34 Memoranda of November 26 and December 24, 1916, B. Herwig, "Admirals versus Generals: The War Aims of the Imperial

35 Stenographische Berichte, 164. Press conference of March 1917

36 Matthias Erzberger, Erlebnisse im Weltkrieg (Stuttgart 1918)

37 Walter G. Rulitz, ed., The Kaiser and His Court: The Diaries of the Imperial Cabinet, 1914-1918 (New York, 1959), 144. Entry of March 1917

38 See "Der verschleierte U-Bootkrieg," in Max Weber, Gesammelte

39 See Stenographische Berichte, 170-8, 186-92, 199-209.

40 *ibid.*, 321. The chancellor saw the U-boats as Germany's

41 Hartmut Pogge von Strandmann, ed., Walther Rathenau (Oxford, 1985), 227-8.

42 Bodo Herzog, 60 Jahre Deutsche U-Boote 1906-1966 (Munich, 1966)

43 Avner Offer, "Economic interpretation of war: the German case," 32.

44 Mancur Olson, Jr., The Economics of the Wartime Shortage and II (Durham, 1963), 86, 95.

45 J. M. Winter, The Great War and the British People (Basingstoke, 1963)

46 Olson, Economics of the Wartime Shortage, 75, 77, 86, 92.

47 William Clinton Mullendore, History of the United States

48 Winter, The Great War and the British People, 219, 224.

49 Olson, Economics of the Wartime Shortage, 99.

50 *ibid.*, 87, 93. See Jellicoe, Submarine Peril, 206-7, for conclusions

51 Herzog, 60 Jahre Deutsche U-Boote, 109. See also John C. Hill (Princeton, 1971), 157, 159, 165-6; Klaus Epstein, Matthias Erzberger: Gesammelte Politische Schriften, 143 ff.; and Leonidas E. Fisher, "New views on the U-war. I am deeply indebted to Prof. Hill for this

52 Olson, Economics of the Wartime Shortage, 110-1.

53 Stenographische Berichte, 322. Pless conference protocol

54 Baer, One Hundred Years of Sea Power, 76.

55 *ibid.*, 79; Paul G. Halpern, A Naval History of World War I

56 Arno Spindler, ed., Der Handelskrieg mit U-Booten, 5 vols.

57 *ibid.*, 3: 212, 368.

58 Peter Graf Kielmansegg, Deutschland und der Erste Wel

59 *ibid.*, 387.

60 Herzog, 60 Jahre Deutsche UBoote, 109.

61 BA-MA, Nachlass Keyserlingk, N 161, vol. 19, 138. See H

Naval Officer Corps: A Social and Political History 1890-19

62 *ibid.*, 193.

63 Richard Fuss, Der U-Boot-Krieg des Jahres 1915. Ein Ka

64 Hadley, Count Not the Dead, 174

Refbacs

- There are currently no refbacs.



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