

The Unavoidable Vision Failure

The Anglo–German First World War naval confrontation

Michael H. Clemmesen

It is almost an impossible challenge for the military professional to predict how a hypothetical future conflict will run and end. When advising politicians, professional leaders will seek to present options that they estimate can bring the relatively cheap, early, and acceptable conclusion that both they and their Government hope for. However, the opponent is an independent actor, and he will do everything possible to avoid or at least delay an unfavourable outcome, and all action and interaction in war is influenced by friction and chance. Another reason why prediction is exceedingly difficult is that even known technologies have not been tested under realistic conditions. If the conflict lasts longer than a few months, latent or immature technologies will be developed to a level where they can influence the outcome of the conflict in a decisive way. It is not only the opponent that is an independent actor, so are allies and formally neutral states, and it is very hard to predict if and how the regulations of international law will be respected by belligerents during the conflict. All these areas of uncertainty are illustrated and highlighted in this case, where the focus is on the expectations and reality of the 1914–18 Anglo–German naval conflict in the North Sea.

To some extent the pre-1914 vision of the coming naval war matched what actually happened. A key part of the confrontation actually did become the decisive struggle between the British Royal Navy and the Imperial German Navy in the North Sea and adjoining narrows. The timing of the war was not a major surprise either. The relaxation of Anglo–German tension at the end of the First Balkan War in spring 1913 may have lowered the feeling of urgency, but during the 1911 and 1912 international crises, leading naval professionals in Britain and Germany, as well

as small neutral Denmark, had considered an early war inevitable. Lord John Fisher, the retired British First Sea Lord, and the German leaders, had considered it likely that the period after the reopening in summer 1914 of the Kiel Canal would increase German willingness to risk war. In November 1912 the Danish Commanding Admiral had made that clear to his government, and during Wilhelm II's War Council on 8 December during the most critical part of the Balkan War Crisis the German Naval Secretary, Alfred von Tirpitz, had actually used the requirement to complete the Kiel Canal and the construction of the Heligoland Base as part of his effort to counter the attempt of the Army Chief of General Staff, Helmuth von Moltke (the younger), to exploit the chance to have an early war. By his criticism of the army's readiness for war he made certain that more money would be spent to reduce the deficiencies in the army's size and quality. The Kaiser asked for an accelerated construction of submarines to enhance the ability of the navy to interdict the British lines of communication across the Channel after Tirpitz had made clear that the German submarine force was far inferior in number and quality to the British. When the Chancellor some days later underlined Germany's financial limitations and that the existing building programme ("Novelle") was promised to be the last, Tirpitz emphasised the importance of completing the ongoing construction of the III. Battle Squadron (with the new *König* Class ships) and reinforcing the manning of the fleet. There were no longer plans to add to the number of large vessels, only to replace old ships such as the obsolete *Hertha* Class cruisers.¹

¹ On the 8th of December War Council discussion between Wilhelm II and his admirals and generals: Annika Mombauer, *Helmuth von Moltke and the Origins of the First World War* (Cambridge, New York: Cambridge University Press, 2001), 135–153, and her "German War Plans," – *War Planning 1914*, ed. Richard F. Hamilton and Holger H. Herwig (Cambridge, New York: Cambridge University Press, 2010), 48–79; Albert Hopman, *Das ereignisreiche Leben eines "Wilhelminers": Tagebücher, Briefe, Aufzeichnungen 1901 bis 1920*, ed. Michael Epkenhans (München: R. Oldenbourg, 2004), 268–277, plus and especially 284–290. However, for the "War Council" see also the analysis in: John C. G. Röhl, *Kaiser, Hof und Staat. Wilhelm II. und die deutsche Politik* (München: C. H. Beck Verlag, 1995), 175–202; Jörg-Uwe Fischer, "Admiral des Kaisers." *Georg Alexander von Müller als Chef des Marinekabinetts Wilhelms II* (Frankfurt am Main: Peter Lang, 1992), 128–131; Paul M. Kennedy, "The Development of German Naval Operations Plans Against England, 1896–1914" [1974] reprinted in: *Naval History 1850–Present* vol. I, ed. Andrew Lambert (Aldershot: Ashgate, 2007), 316–317; For the discussions at

Otherwise however, the pre-war vision of the character of the naval war failed to match what happened during the 4½ years of war.

I shall argue in this essay that this failure was basically unavoidable due to the difficulties in peace-time of seeing and accepting the dynamics and uncertainties of war and preparing accordingly, of foreseeing in-conflict technological development and interaction, and of understanding the basic character of the political-military process when the denied slide towards escalation happens anyway.

Problem one: the length and character of naval war

The previous naval war, the naval part of the Russo–Japanese War, had been decided conclusively by the battle of Tsushima, and both sides in the naval confrontation between Germany and Britain expected a similar outcome in the coming North Sea war.²

One very clear source of the naïve expectations is the retired Rear-Admiral Sir Sydney Marow Eardley Wilmots' small publication from 1913, *The Battle of the North Sea in 1914*. Wilmot had served as Deputy Director of the Naval Intelligence Department in the late 1880s. Thereafter he had been an ordnance – gunnery and torpedo – specialist until he retired in 1909 at the age of 61. He contributed professional articles to the 1911 version of *Encyclopædia Britannica*.

In his small fiction of the coming war, the conflict would be started with destroyer raids against the British fleets at Rosyth and Dover. The raid against Rosyth was a half-failure with the destroyers sunk and only four British battleships too damaged to join the fleet. Two more British battleships were sunk by the German destroyers on the way to Dover. The North Sea battle between the German High Seas Fleet and the Grand Fleet, the main fleet of the British Royal Navy, took place four days after

the Danish November 1912 crisis meetings: Michael H. Clemmesen, *Det lille land før den store krig. De danske farvande, stormagtsstrategier, efterretninger og forsvarsforberedelser om kriserne 1911–13* (Odense: Syddansk Universitetsforlag, 2012), 287–312.

² For a clear analysis of the popular expectations: Jan Rüger, *The Great Naval Game. Britain and Germany in the Age of Empire* (Cambridge: Cambridge University Press, 2007).

the start of hostilities with a battle cruiser engagement and ended with a “most complete and glorious (British) victory” fought at 8,000–9,000 yards in the very centre of the North Sea. The Royal Navy had no ships sunk, but casualties amounted to 200 killed and 600 wounded. In a modern repetition of Trafalgar the British captured eighteen German battle-ships and four cruisers. After the battle, the war moved to the eastern Mediterranean with a combined Austrian-Italian attempt to conquer Egypt that failed due to Italian half-heartedness. There then followed great power reactions against German violations of Danish neutrality, with Russia, France and Great Britain each reinforcing Denmark with a force of 60,000 soldiers, the two first still formally non-belligerents. The risks of a general European war deterred Germany and made her accept a peace where she gave-up her ambitions to create a great power navy.³

Let us return to reality. The creator of the German Navy and its State Secretary at the start of the war, Alfred von Tirpitz, had assumed that the risk his fleet presented to British economic interests would convince the City of London to keep Great Britain out of a war between Germany and a Franco-Russian combination. If the British intervened anyway, the German intent was to weaken the British Grand Fleet by a campaign of attrition with light forces against the expected blockading forces in the German Bight. It would be followed by an attempt to catch and destroy a part of the British battle fleet and thereby achieve a more favourable force balance in the follow-on operations. The high technical quality of the German High Seas Fleet units was expected to bring a clear advantage in battle. The outcome would be achieved in weeks or months using ships available or in the final stages of construction. There was no need to start construction of new large units as the war would be decided before they could become operational.⁴

³ Eardley Wilmots, *The Battle of the North Sea in 1914* (London: Hugh Rees, 2013), 44–76.

⁴ General analysis in Rolf Hobson, *Imperialism at Sea. Naval strategic thought, the ideology of sea power and the Tirpitz plan, 1875–1914* (Boston: Brill Academic Publishers, 2002); Eva Besteck, *Die trügerische “First Line of Defence,” zum deutsch-britischen Wettüsten vor dem Ersten Weltkrieg* (Freiburg: Rombach, 2006); Matthew S. Seligmann et al. (eds.), *The Naval Route to the Abyss. The Anglo-German naval race 1895–1914* (Farnham, Surrey: Ashgate, 2015).

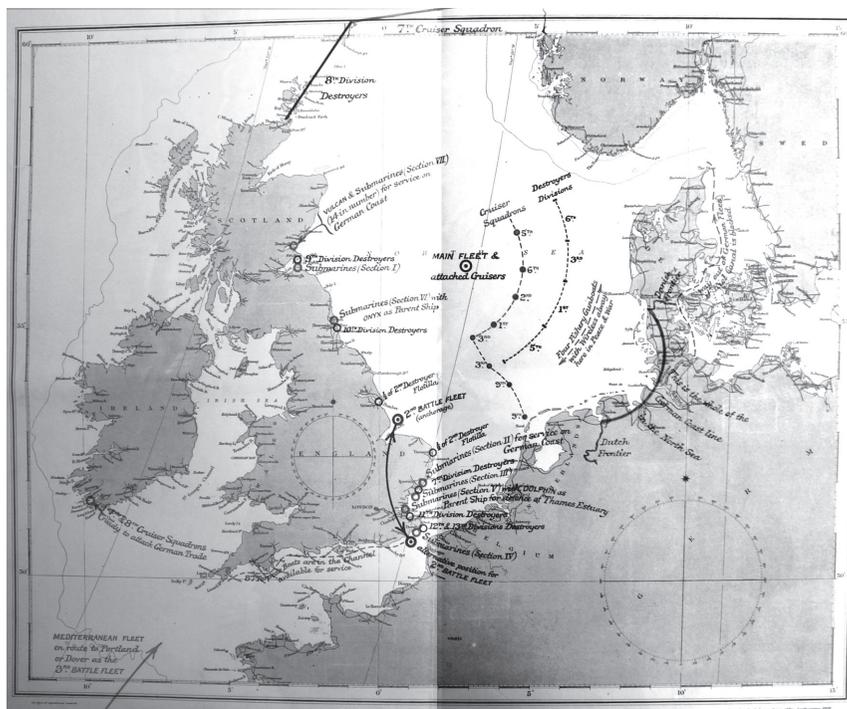


Chart from the March 1909 War Plan G.U. from Admiral of the Fleet John Fisher's personal files. Green marking by Fisher probably from 1916. Courtesy: Fisher Files, the Churchill Archives Centre

The British were aware that the Germans would hesitate to risk their fleet in battle against their numerically superior Home Fleets (regrouped as the Grand Fleet during the war). Therefore they looked at different ways to lure the High Seas Fleet far enough out into the North Sea to be able to insert part of the Grand Fleet between the High Seas Fleet and its bases in the Bight to block its retreat and then destroy it in as in a trap controlled by radio from the Admiralty War Room. After the destruction of most of the German fleet it would be possible to enter the Baltic Sea to make the blockade fully effective.

Different measures were considered to make the Germans leave their bases. One would be to capture one of the German North Sea Islands, another to make the blockade so effective that the Germans would be

forced to try to break it by an attack against the blockading forces. However, after 1912 the professional leadership of the Royal Navy realised that it could not press the Germans to sally to its destruction. Thereafter the main tool of the navy would have to be a trade and other economic warfare that was expected to be decisive far quicker than actually proved to be the case. However, even with the emphasis on the blockade it was hoped that the Germans would be caught and thereafter brought to battle in the regular “sweeps” conducted by the Grand Fleet and its cruiser squadrons towards the German coast. Like the Germans, the British considered that the war would be too short to expect new large ship construction to influence its outcome, and when construction on some specialised large units was started by late 1914, the emphasis was on accelerating construction to make sure that they would arrive in time to influence the outcome.

The British Navy’s political leader Winston S. Churchill, the First Lord of the Admiralty since 1911, disagreed with the War Plan outlined above, as he found it to be too passive. He believed it was essential that the service made a highly visible contribution to the expected early victory and he worked constantly to bully the admirals to begin risky offensive operations that would be more dramatic and visible than economic and other pressure.⁵

The period of the war where the naval warfare protagonists remained encouraged by the chance of a decisive battle lasted 22 months and finally ended at the Battle of Jutland: With the Germans handicapped by the distant trade blockade at the northern and southwestern parts of the North Sea, they could not expose the British forces to the planned attrition and

⁵ As note 1 plus Avner Offer, *The First World War: An agrarian interpretation* (Oxford: Clarendon Press, 1989); Nicholas A. Lambert, *Planning Armageddon. British Economic Warfare in the First World War* (Cambridge, Mass.; London: Harvard University Press, 2012); Matthew S. Seligmann, *The Royal Navy and the German Threat 1901–1914. Admiralty Plans to Protect British Trade in a War Against Germany* (Oxford: Oxford University Press, 2012); Shawn T. Grimes, *Strategy and War Planning in the British Navy, 1887–1918* (Woodbridge: Boydell, 2012); Christopher M. Bell, *Churchill and Sea Power* (Oxford: Oxford University Press, 2013); Stephen Cobb, *Preparing for Blockade 1885–1914. Naval Contingency for Economic Warfare* (Farnham: Ashgate, 2013); Michael Hesselholt Clemmesen, “The Royal Navy North Sea War Plan 1907–1917,” *Fra Krig og Fred. Dansk Militærhistorisk Kommissions Tidsskrift* 2 (2014): 88–109.

had to limit their operational endeavours to trying to catch and destroy part of the British Grand Fleet. That fleet pursued the concept of trying to trap the German Fleet by blocking its retreat to bases without success.

With their failure to win a decisive battle, the only option left to the navies was to focus exclusively on the trade-economic contribution to the total war effort. The Royal Navy had already intensified its effort early in 1916, but the German Navy had to wait for the Government to decide a return to unrestricted U-boat warfare.⁶

Professional advisors to the political decision-makers have to offer War Plans that will bring the desired results, such as an offensive or defensive victory within a limited time, and limited disruption of their own society and economy.

The Tirpitz Plan “*Risikoflotte*” should have deterred British participation in the war, and if that failed, his fleet should have gradually weakened the closely blockading Royal Navy light forces and destroy the supporting larger ships by locally superior German forces. It was supposed to bring results quickly. When the British adjusted their strategy to that of a distant blockade, Tirpitz had no immediate response, and with Kaiser Wilhelm II unwilling to lose his ships in risky forward operations (such as a raid against the British transports to France in the Channel), the German Navy entered the war without any viable plan for influencing the outcome of the war and soon had to combine the hope for a miracle with the use of emerging weapons such as the U-boat in unrestricted trade war, and air ships in air raids against Britain.⁷ Even the massive raid against the British east coast, and torpedo boat raids against British battle ship bases that the Royal Navy had feared and discussed since 1904, were never planned by the Germans.⁸

⁶ James Goldrick, *Before Jutland. The Naval War in Northern European Waters, August 1914–February 1915* (Annapolis: Naval Institute Press, 2015); Michael Epkenhans et al. (eds.), *Skagerrakschlacht. Vorgeschichte – Ereignis – Verarbeitung* (München: Oldenbourg, 2009); John Brooks, *The Battle of Jutland* (Cambridge: Cambridge University Press, 2016); Eric W. Osborne, *Britain's Economic Blockade of Germany 1914–1919* (London; New York: Frank Cass, 2004), 44–152.

⁷ Besteck, *Die trügerische “First Line of Defence,”* 60–69.

⁸ To be covered by Michael H. Clemmesen, “The Japanese Torpedo Boat Raid on Port Arthur on 8 February 1904 and Naval Risks and Threats Perceptions the Next Ten Years,” to be pub-

As mentioned, the Royal Navy autumn 1912 War Plan failed to take risks as it emphasised the use of slow-working trade warfare and could only hope that battle came as a result of a German mistake. It did not match the expectations and requirements of the foreseen short and decisive war. Therefore Winston Churchill, worked and schemed hard from early 1913 to after the start of the war to replace that plan with something more aggressive and decisive. As his key staff officers failed to comply, they were replaced in spring-summer 1914, but until the Dardanelles operation in spring 1915, he failed to get his way.⁹

Problem two: unclear capabilities of even familiar operational technology

During the decades up to the start of the war most technologies relevant for naval operations developed very quickly, and the implications for battle tactics were nearly impossible to predict. Computer supported operational analysis was still unavailable, and thus the only way to gain an impression was to conduct practical experiments under controlled conditions. Safety and costs are always likely to limit realistic experiments that fully tests weapons and human-equipment interaction, and the limited knowledge about the opposing force capabilities reduces the value of even the most realistic test.

Both some of the well-known and newest technology proved to be a costly and ineffective waste of resources when exposed to the reality of war. One proven, but now ineffective, type of unit was the former second most powerful type of warship, the armoured and protected cruisers. They required large crews, but their armament, protection, limited speed, and endurance meant that they were neither suitable for the battle line, nor as effective cruiser scouts for the ever faster battle fleet, or on blockading independent patrolling work. The loss of the three *Cressy-*

lished in the *ACTA of the 42nd International Congress of Military History* 3–9 September 2016 in Plovdiv, Bulgaria.

⁹ Clemmesen, "The Royal Navy North Sea War Plan."

class cruisers with nearly 1,500 killed to one U-boat on 22 September 1914 might have been explained by stupid behaviour, but even the newest German armoured cruisers, the *Scharnhorst*, *Gneisenau* and *Blücher*, proved to be completely outclassed by their battle cruiser successors off the Falklands and at Dogger Bank during the first winter of the war. The *Edgar*-class protected cruisers that were deployed in less exposed roles in the 10th Cruiser Squadron on the distant blockade of Germany at the northern access to the North Sea were replaced by more suitable Armed Merchant Cruisers from December 1914 onwards.

The Zeppelin and other similar German airships were impressive to watch, but were basically a waste of resources. The weather conditions in the North Sea made airships less suited as fleet scouts than expected, and their dependency on weather, combined with their vulnerability to counter action by fighters, meant that they were ineffective as bombardment platforms.¹⁰

Neither the unexpected low value of the slightly older cruisers nor the unrealistic expectations for the airship had any significant impact on the development of the war. In this sense the view of the risk from torpedo attack was different. The main naval battle weapon was still the increasingly heavier and longer range artillery. However, the parallel development of ever faster and longer range automobile torpedoes on battleships, cruisers, and especially in the fleet torpedo boat/torpedo boat destroyer flotillas, complicated battle tactics, as it was obvious that an extended column of battleships would present an attractive target for a mass torpedo attack, especially in the limited visibility conditions likely to influence a North Sea battle. Torpedo technology developed quickly in the decade before the war. The traditional compressed air engine technology then gave a range of 1,100 yards at 35 knots, but the development of the fuelled so-called wet-heater torpedoes with increased range at high speed complicated prediction. In 1916 the British 21 inch torpedoes' range was 4,200 yards at 44–45 knots, 10,750 at 28–29 knots and approximately 17,000 yards at 18 knots. The German 50 cm torpedoes had a range of 5,450 yards at 35 knots

¹⁰ Douglas H. Robinson, *The Zeppelin in Combat. A History of the German Naval Airship Division. 1912–1918* (Atglen, PA: Schiffer Military/Aviation History, 1994).

and 10,950 yards at 28–28.5 knots.¹¹ Greater launch range would limit torpedo boat vulnerability to the small and medium range anti-torpedo boat self-defence batteries carried by the larger ships. The main defence thereafter had to become a timely deployment of own flotillas against the enemy threat. As the speed of ships increased, the torpedo boat targeting became more difficult, and the development of evasive drills such as turning parallel to incoming torpedoes reduced the chance of hits.

The British were deeply worried about the capabilities and aggressiveness of the German torpedo boat force, and not only about its deployment in battle. As already mentioned they foresaw that the German boats would try to execute an effective repetition of the pre-emptive Japanese raid against the Russian ships at Port Arthur that started the Russo–Japanese War, and the Royal Navy therefore moved its bases north to Scotland beyond the range of the German boats. Intelligence about German torpedo boat tactics was one of the key interests of the pre-war British naval attachés to Berlin and Copenhagen. Captain Hugh Watson, who served in the position from 1910 to 1912, used friendly Danish naval officers to get first hand intelligence. They were highly valued as sources because the Danes had the possibility of observing German torpedo boat exercises in the Baltic Sea and off the Danish coast.¹²

However, as a successful torpedo attack could at one stroke change the battle situation, the fleet commanders had to take the threat seriously, and as it was basically impossible to gain clarity through realistic experiments prior to the actual battle, the Grand Fleet Commander-in-Chief, John Jellicoe, acted cautiously when the fleets met on 31 May 1916. In the Battle of Jutland the combination of fighting distance, fast movement, manoeuvrability of fleets and limited range, and especially the speed of torpedoes, meant that the main roles of the fleet torpedo boat and destroyer forces proved to be defensive.¹³ During the confused and dynamic battle under difficult conditions of shifting bad visibility the

¹¹ John Brooks, *The Battle of Jutland*, 91–96.

¹² Michael H. Clemmesen, *Det lille land før den store krig*, 225–231; Matthew Seligmann (ed.), *Naval Intelligence from Germany* (London: Ashgate for the Navy Records Society, 2007), e.g. Report No.34/11, Berlin 30 November 1911, 344.

¹³ Michael H. Clemmesen, *Det lille land før den store krig*, 208–214, 235–239, 323–326.

German units fired approximately 110 torpedoes with around 90 from torpedo boats, but only hit one battleship without sinking it.¹⁴

With the knowledge gained by all *after* the battle of the limited effects of the torpedo under realistic battle conditions, it becomes clear that Jellicoe could have taken more risks to achieve the destruction of the High Seas Fleet in the battle. As a result of the disappointment that the battle did not become the Trafalgar of the First World War that Wilmot had predicted in his fiction, the actions of the Commander-in-Chief were exposed to severe criticism in the clarity created by the actual events.¹⁵ It may be considered a parallel to the post-event criticism of Helmuth von Moltke (the younger)'s management of his heritage from his predecessor Alfred von Schlieffen.

Problem three: unrealised potential of existing and latent technology

The naval war was less influenced by latent technology than land warfare, where improved chemical weapons, tanks and artillery counter-battery systems transformed the character of battle from 1916 onwards, together with aviation that matured into a key element in creating the conditions for operational victory.

Aviation did not mature enough during the war to contribute in a similar way to the naval battle beyond adding ability to tactical over-the-horizon reconnaissance. Submarines were different. With the adoption of the diesel engine, radios, gyro-compasses and the improved torpedoes, the slow, diving torpedo boats then called submarines had developed in the five years up to the war to become an effective weapon system, but the concept for their use was still immature.

The German Navy gave low priority to the U-boat service until 1912. It could only be seen as a supplementary tool in the initial attrition of the

¹⁴ *Ibid.*, 505.

¹⁵ One such example is *Jutland. The Naval Staff Appreciation*, edited by William Schleihauf (Barnsley: Seaforth Publishing, Pen & Sword Books, 2016).

British blockading forces in the Bight. The situation did change a little after the Balkan War Crisis. The not unexpected short time before the outbreak of war only gave time for new construction of smaller vessels such as submarines as the Kaiser had ordered on 8 December 1912. The realisation that the British strategy had changed to a distant blockade meant that a key mission of the U-boats would be an attempt to ambush the Grand Fleet off its new northern bases.

The professional leadership of the Royal Navy under its First Sea Lord from 1904 to 1910, John Fisher, was acutely aware of the future potential of the submarine in both influencing the freedom of movement and operations of fleets, and in conducting “cruiser warfare” against enemy merchant shipping. He developed his understanding in a close dialogue with his submarine expert, Captain Sydney S. Hall. The dialogue continued after Fisher had retired and Hall had been replaced by Commodore Roger Keyes as head of the Submarine Service. In mid-1913 Fisher informed the First Lord of the Admiralty, Winston Churchill, that Keyes was making a mistake by trying to add a fast steam-powered submarine to the service, able to give submarines the additional role of escorting the fleet. Hall had underlined that the existing engine technology only gave two potential missions to British submarines: coastal defence, and a forward presence in patrols off the enemy coast. Churchill answered politely, but continued to support Keyes’ unrealistic ideas.¹⁶ The exchange of views and concerns that summer also involved the former Conservative Prime Minister, Arthur Balfour. Balfour worried that future development of large numbers of long range submarines would deny the use of the sea around Britain to both sides. He wrote in May 1913 that due to that lack of means to find and destroy the opponent’s submarines:

... we might conceivably find ourself surrounded by seas in which no enemy’s battle-ship could live, and which no enemy’s troops could cross, but which would yet be as little under our control, for military or com-

¹⁶ Churchill Archives (Cambridge, United Kingdom), FISR 1/13, S.S. Hall to Fisher, 4 July 1913 & 19 August 1913; Churchill, Confidential to Fisher of 30 August 1913; S.S. Hall to Fisher (document 721 of unclear date) September 1913.

mercial purposes, as if we were the inferior maritime power. If there was any chance of such an extreme hypothesis being realised, we should not only be useless allies to any friendly Power on the Continent, but we should have the utmost difficulty in keeping ourselves alive.¹⁷

Fisher answered that, unfortunately, “our Admirals are so blind to these developments ... Lord C. Beresford wrote an official letter calling submarines ‘playthings’! Sir Arthur Wilson hates oil and loves coal!”

Fisher was now employed by the Government to investigate all the implications of changing from coal to oil fuel as head of the “Royal Commission on Fuel and Engines” and used that post energetically as his new platform. Late June Fisher had thought deeper about Balfour’s points and concluded:

It will be impossible for submarines to deal with merchant ships in accordance with international law. Is it presumed that they will disregard this and sink any vessel heading for an English port, commercial or otherwise? It is assumed that allowance must be made for an enemy attempting this and provision made as far as possible to meet it ... It would be an altogether barbarous method of warfare, but if it is done, the only thing would be to make reprisals.

He noted that one step to reduce the risks would be to arm merchant ships, but that would give the submarine the excuse that it acted in self-defence. Fisher also foresaw that neutral ships would be sunk because of the difficulty of recognising a flag through a periscope.¹⁸

After consulting his close advisors, as usual primarily the naval strategic thinker and the Admiral’s loyal pen, Julian S. Corbett, Fisher developed a memorandum to the Committee of Imperial Defence on the submarine issue in December 1913.¹⁹

¹⁷ Ibid., Arthur Balfour to Fisher, document nos. 683 and 691, of 6 May 1913 and 20 May 1913.

¹⁸ Ibid., Fisher to Balfour, document nos. 691a and 704, of 25 May 1913 and 26 June 1913.

¹⁹ Churchill Archives, FISR 1/14, documents no. 726, 731, 751, 752, 753, 754, 755, 756, 758, Fisher to Hall, Private and Secret, Marienbad, Bohemia 4 September 1913; Balfour to Fisher, Private, of 12 September 1913; Fisher to Corbett, 29 November 1913; Corbett to Fisher, 30 November 1913; Fisher to Corbett, 1 December 1913; Corbett to Fisher, 3 December 1913;

In the memorandum “The Oil Engine and the Submarine (A Contribution to the consideration of future Sea Fighting)” Fisher noted that “(T)he submarine was the coming type of war vessel for sea fighting”, and the diesel engine was the key in that development. He covered the different roles of submarines and noted that enemy submarines already ruled-out the feasibility of a close surface blockade, but use of own submarines could deter any enemy inclination to launch an invasion by sea and carry-out the blockade themselves. Fisher continued with his estimate of the future developments and then proceeded with comments on the vulnerability of Britain’s food supplies to submarine attacks. He argued that German submarines could not work effectively within international law:

Under these circumstances, is it presumed that the hostile submarine will disregard such law and sink any vessel heading for a British commercial port and certainly those who are armed or carrying contraband? ... The fact remains ... that there is nothing else the submarine can do except sink her capture ... The essence of war is violence and moderation in war is imbecility.²⁰

The view that German submarines would be used against British imports was not limited to Fisher. In the instruction during the Balkan War Crisis that the Danish Fleet Staff gave the fishery inspection ship *Islands Falk* about to depart for an Icelandic patrol in March 1913, the staff noted that the risk from the submarine attacks might even stop the traffic to the British western ports.²¹

Churchill reacted immediately to Fisher’s memo stating that he was “indebted ... for the epoch making Memo”, but three weeks later, on 1 January 1914, he made clear that:

Dumas to Fisher, 4 December 1913; Corbett to Fisher, 4 December 1913; Hall to Fisher, 11 December 1913.

²⁰ Nicholas Lambert (ed.), *The Submarine Service, 1900–1918* (London: Ashgate for the Navy Records Society, 2001), 213–231.

²¹ Rigsarkivet (The Danish State Archives, hereafter: RA), Marinestaben 1904–1932 A. Emneordnede Sager. 35-35a. Neutralitetsbestemmelser m.m., Læg, Tillæg til Instruks for *Islands Falk* 1913, Flaadens Stab, Fortroligt of 3 March 1913 to Chefen for Inspektionsskibet *Islands Falk*.

...There are a few points on which I am not convinced. Of these the greatest is the question on the use of submarines to sink merchant vessels. I do not believe this would ever be done by a civilised Power. If there were a nation vile enough to adopt systematically such methods, it would be justifiable and indeed necessary, to employ the extreme resources of science against them: to spread pestilence, poison the water supply of great cities, and, if convenient, proceed by the assassination of individuals...²²

Churchill only had to wait a little more than a year before the inconceivable became reality. After the debate in the German Government since November 1914 about whether to start a counter-blockade against England, the issue was decided after the Dogger Bank Battle on 24 January 1915. High Seas Fleet operations to cut-off and destroy part of the Grand Fleet seemed to be unrealistic, and on 4 February the German naval warfare was stepped-up to include an unrestricted U-boat campaign in the declared War Zone around the British Isles. The campaign lasted till mid-September that year, when U.S. reactions made the German Government withdraw the U-boat flotillas from their trade warfare operations in British waters.²³ The other new effort, the Zeppelin bombardment of London, was decided a few days later, in mid-February.

The unrestricted U-boat campaign was resumed on 1 February 1917 after another extended debate to make a final attempt to force Britain out of the war. The debate had intensified after the narrow escape of the High Seas Fleet on 1 June 1916 following the inconclusive Jutland Battle that made clear that seeking a decisive battle by fleet warfare was far too risky. An intensified strategic air war followed in spring 1917, now mainly carried-out with new heavy bomber aircraft far more effective than the airships.

²² Churchill Archives, FISR 1/14, documents no. 763, Churchill to Fisher, Secret, of 1 January 1914.

²³ Goldrick, *Before Jutland*, 285–298; Jürgen Rohwer, “U.Boot-Krieg,” Gerhard Hirschfeld, Gerd Krumeich, Irina Renz (eds.), *Enzyklopädie Erster Weltkrieg* (Paderborn: Ferdinand Schöningh, 2009), 931–934; Richard Compton-Hall, *Submarines at War 1914–1918* (Penzance: Periscope, 2004), 193–206; Edwyn A. Gray, *The Killing Time. The German U-Boats 1914–1918* (London: Seeley, 1972), 72–115.

As made clear by this analysis, the failure to face the risk of full utilisation of the submarine in trade warfare was not a failure of prediction. Both Balfour and Fisher saw and considered the possibility. Instead it was a result of political unwillingness to accept the likelihood of escalation towards what would be called total war.

Problem four: the expected and actual fate of the neutral states in the naval war

As already mentioned in the summary of Admiral Eardley Wilmot's *The Battle of the North Sea in 1914*, it was generally expected that neutral states such as Sweden, Norway and Denmark would have their neutrality violated in the coming great European War. The expectation was common to both the great powers and the neutral states' own policy-makers.

Even if rather pessimistic about the likelihood of success, the latter would try to stay out of the conflict by acting according to their legal obligation as neutrals and by pro-active diplomacy.

What the legal obligations would mean in relation to the territorial waters of the Nordic States had been made clear by the common declaration of neutrality agreed and issued in December 1912 during the Balkan War Crisis.²⁴ With different defence ambition levels, these three states all wanted to discourage belligerent use of their territory by guarding and defending the parts of the territory considered most likely to be violated and used against the opponent.

Sweden was expected to be involved on Germany's side in the war against its arch-enemy Russia. Russia expected Sweden to break with neutrality and invade Finland to support the population against Russian rule. The invasion would either take the form of a landing on the southwest coast of Finland, or as a land offensive around the northern end of the Gulf of Bothnia via Tornio. The invading force was expected to be of two army corps' strength.²⁵ The Swedish establishment agreed that the coun-

²⁴ Clemmesen, *Det lille land for den store krig*, 336–343.

²⁵ Pertti Luntinen, *The Imperial Russian Army and Navy in Finland 1808–1918*, *Studia historica* 56 (Helsinki: SHS, 1997), 221–226.

try would be involved in a great war on the side of Germany, but expected this to be the result of a Russian invasion, either around the northern end of the Gulf of Bothnia – possibly supported by a sea landing to outflank Swedish defences – or of a landing in central Sweden. The final objective of the Russian operation could still be to get possession of ice-free ports on the Norwegian coast, as had been the case before the break-up of the Swedish-Norwegian Union in 1905. The possibility of a German–British naval war and the likelihood of British-Russian co-operation in such a war meant that the Royal Navy might try to establish bases in the archipelago and fiords on the west coast of southern Sweden, or maybe even invade further inland from that coast.²⁶

What the Swedes suspected the Royal Navy might do was actually what Churchill wanted. He intended to be able to conduct the naval war more aggressively than foreseen by the Admiralty War Staff War Plan. As mentioned Churchill considered limitations of international law important in submarine operations against merchant shipping essential for Britain. However, violations of small state neutrality were a different issue. Such acts might be necessary, and in the First Lord's "Secret and Personal" instructions from 31 January 1913 to the aggressive Rear-Admiral Lewis Bayly for the study work he was to conduct independently of the War Staff, Bayly was to report "on the question of seizing a base on the Dutch, German, Danish or Scandinavian Coasts for operations of Flotillas on the outbreak of war with Germany, the other countries named being either unfriendly neutrals or enemies." In his final report from 30 June 1913 Bayly did as instructed. It discussed a major operation against Esbjerg in Denmark and destroyer bases at Borns Deep off Holland, Læsø Channel in Danish territorial waters in Kattegat, Kungsbacka Fiord on the Swedish west coast and Egersund ("Ekersund") in Norway off the

²⁶ Gunnar Åselius, *The "Russian Menace" to Sweden. The Belief System of a Small Power Security Élite in the Age of Imperialism* (Stockholm: Almquist & Wiksell International, 1994), 248–406; Arvid Cronenberg, "Säkerhetspolitik och krigsplanering. Huvudlinjer i arméns operative planering 1906–1945," – Bo Hugemark (ed.), *Neutralitet och försvar. Perspektiv på svensk säkerhetspolitik 1809–1985* (Stockholm: Militärhistoriska Förlaget, 1986), 60–66; Bertil Åhlund, *Svensk maritim säkerhetspolitik 1905–1939* (Karlskrona: Marinlitteraturföreningen, 1992), 67–90; Knut Wichman, *Gustaf V, Karl Staaff och Striden om Vårt Försvar 1901–1917* (Stockholm: P.A. Norstedt, 1967); Clemmesen, *Det lille land for den store krig*, 389–431, 464–474.

North Sea approach to Skagerrak. His interest and focus continued, and by mid-June 1914 Churchill instructed the First Sea Lord to develop a “Plan T” for a destroyer base at Stavanger as a supplement to the existing too passive main War Plan.²⁷

From 1911 onwards, Norwegians considered it likely that the Germans would violate the neutrality of their country by establishing a naval base in the south-west to be able to bypass a British attempt to block the northern end of the North Sea, and in early 1913 the German Minister to Christiania (Oslo) reported that Norwegian contacts thought that the German Navy needed “a German Gibraltar” at Kristiansand or Bergen. In August that year the scenario for the Norwegian Navy exercise included a German attempt to establish a base on the coast in order to break the British blockade.²⁸

During the Balkan War Crisis in winter 1912–13, the British Admiralty War Staff Operations Department considered how it should react to German cruiser use of the Norwegian Fiords as temporary bases. In the “General Instructions” of the new War Plan developed from draft to a version agreed with the Commander-in-Chief of the Home Fleets from November to December 1912, the Director of the Department underlined to the fleet commander that he should consider “the possibility of the enemy being already established in force on the outbreak of war on the west coast of Norway, or of enemy’s flotillas being in occupation of fjords or inlets on that coast ...” In a memorandum a couple of months later, the Director dealt with both the situation before and after the start of hostilities was considered. In the former case the British action depended on the size and character of the German force. If “war was considered inevitable” and the German force consisted of armoured vessels or “a large flotilla of torpedo craft”, the British would be likely to destroy the force as soon as

²⁷ The National Archives of the United Kingdom (hereafter: TNA), ADM 137/452, 7–6, 16, 40–46, 89–113, Churchill to Bayly, M-180/13 of 31 January 1913; Lewis Bayly, Admiralty, 30 June 1913, 21; ADM 116/3096, Churchill to First Sea Lord, Secret, of 11 June 1914, “War Plans”.

²⁸ Tom Kristiansen, *Tysk trussel mod Norge? Forsvarsledelse, trusselvurderinger og militære tiltak 1940* (Bergen: Fagbokforlaget, 2008), 102–103; Bundesarchiv, Militärarchiv (hereafter: BArch), RM 5/1639, Auswärtiges Amt. Abschrift. Ad A.4317 pr. 1. März 1913, Kristiania 23 February 1913, Vertraulich!; Riksarkivet, Norge (hereafter: NRA), KA 549, Bilag B, Underbilag 1. Hemmelig, Eskadrens krigsøvelser. August 1913, Almindelige forudsætninger.

hostilities started, even if this would be “offending Norway”. When discussing the situation after hostilities started, the War Staff made clear that “If Great Britain is ever engaged in war with Germany, it may be a life or death matter, and under such circumstances a great Power cannot reasonably be expected to forego an advantage of possibly vital consequences [sic?] in order to respect the susceptibilities of a neutral State in a matter which is not after all vital to the latter.”

The staff noted that such action would not be the first in British history. “If Germany is prepared to lay Belgium waste in order to get at France, international opinion could hardly find any fault with Great Britain for taking action which, although it might violate strictly neutral rights, would be unlikely to cause appreciable loss of neutral life or property...” The Director’s superior officer, the Chief of War Staff, suggested that Norway should be informed via diplomatic channels at the outbreak of war that the British would attack the sheltered German force after 24 hours. Churchill concurred, but underlined that “*All this is most secret and is not suited for an ordinary filed paper*”. Neither the Cabinet nor the Foreign Office should be formally consulted in the preparation of the matter. Churchill did consult the Foreign Secretary, Edward Grey, who had “*no objection to provisional instructions*”.²⁹ However, as already noted, Churchill preferred to take the initiative and establish a base at Stavanger rather than wait to react to a German violation.

Placed astride the straits between the North and Baltic Seas, Denmark was far more likely to be directly affected by an Anglo–German naval war than Norway or Sweden, and the pre-war discussion in Copenhagen was focused on when and where, rather than if, there would be a major violation of her neutrality. The traditionalists in the army and their Conservative group political supporters felt convinced that Germany would either seek control of the country by a pre-hostilities coup against Copenhagen, or by a later landing followed by a bombardment in the same way that the British had done in 1807. The navy leadership and most moderate liberal politicians could not be certain that the traditionalists were wrong, but they also saw the possibility that Britain would coerce Denmark to side

²⁹ TNA, ADM 116/3412, 7–33, 230–242.

with her by the threat of naval bombardment, and they considered it possible that Germany could be convinced to respect Danish neutrality until such time when a decisive British naval victory in the North Sea had made German control of the Straits urgent. The navy also understood that the British might try to invade North Germany and threaten the Kiel Canal via a landing at Esbjerg or further north on the Jutland Peninsula, rather than trying to force Denmark to take sides by threatening her capital.³⁰

The German Navy had actually wanted to do as the Danish Army leadership suspected, but in February 1905 the German Army had succeeded in convincing Kaiser Wilhelm II that it could not find the two army corps necessary for an early invasion of Denmark at the start of a war. Therefore Danish neutrality should be respected until she joined Germany's Western enemies, or they violated her neutrality to attack Germany via Jutland, or tried to enter the Baltic Sea.³¹

Even if the British Navy wanted to enter the Baltic Sea as early as possible in a war with Germany, most of the British Admiralty planners agreed with the Danish Navy in its view of the situation. After having analysed the options up to 1909 they understood that they had to wait to enter the Baltic Sea until after a decisive defeat of the High Seas fleet. Another important factor was that the British Army attitude mirrored that of the German Army: it rejected the use of part of its limited forces in secondary operations such as employment in Denmark in support of some Royal Navy objective.³²

When war came, all three Nordic States (as well as the Netherlands) survived without the foreseen violations of neutrality. The reason was not only that the great battle of the North Sea, when it finally came, ended without a decisive victory. The character of the long naval war with its focus on the nearly unexpected submarine warfare against trade and the endeavours to protect own merchant ships meant that the violations of

³⁰ Clemmesen, *Det lille land før den store krig*, mainly 69–100, 165–202, 318–322, 345–354, 451–464.

³¹ Clemmesen, *Den lange vej mod 9. april. Historien om de fyrre år før den tyske operation mod Norge og Danmark i 1940* (Syddansk Universitetsforlag, Odense 2010), Chapters 1 to 5.

³² Neil William Summerton, *The Development of British Military Planning for a War Against Germany, 1904–1914* (Unpublished thesis: London University, 1970), mainly chapters 6–8, 10.

neutrality that did take place became limited to territorial waters. The reason was not that the belligerents lost interest in the territory of the neutral states. Germany restarted formal war planning against Denmark (and the Netherlands) in autumn 1916, in spring 1917 against Norway, and in a more limited way against Sweden. British plans for the establishment of bases on the Norwegian coast at first Kristiansand and thereafter Stavanger started in 1916 and ended spring 1918 with a fully developed plan for a large base west of Stavanger.³³

Two main reasons for the passivity can be identified. The first reason was the belligerent armies' unwillingness to take increasingly scarce resources away from the main fronts. This must be seen as a reinforced extension of the German and British Armies' successful pre-war resistance to the use major forces in support of naval warfare objectives.

The second element was the effects of the German invasion of Belgium and the character of the German Army behaviour there. It was used energetically and successfully by Allied propaganda. The Admiralty War Staff Director of Operations was mistaken in winter 1913 when he predicted that German destruction of Belgium would legitimise later British action. On the contrary, the violation of Belgium made it nearly impossible for all belligerents to violate small state neutrality elsewhere later. The limitations on British actions created by the role as "protector of the small states" had been noted in an intelligence report from Denmark from August 1915 that reported on the opinion of the Danes. Such a protector "... could not violate the neutrality of a small state, after having declared war motivated the violation of Belgian neutrality". The intelligence officer also underlined that the Danes thought that their country had been spared a German invasion of Jutland as a result of the German experience with Belgium.³⁴ That the Danish view of the role of Belgium was correct became clear in the renewed German war planning against Denmark from late summer 1916: Any German action should be triggered either by British action or clearly hostile Danish moves.³⁵

³³ Clemmesen, *Den lange vej mod 9. april*, chapters 10, 13, 16, 26, 28–31, 45.

³⁴ RA 171 Tyske arkivalier om Danmark, DANICA AA, Pk. 55, Abschrift 12 August 1915, Friderici, Bericht aus Dänemark, page 5.

³⁵ Clemmesen, *Den lange vej mod 9. april*, 167–179.

That the German agent's 1915 report about Danish views on British constraints mirrored reality was made clear three years later by Admiral David Beatty, then Commander-in-Chief of the Grand Fleet. When ordered in August 1918 to mine Norwegian territorial waters east for the new Allied North Sea anti-submarine mine barrier, Beatty underlined that if the Norwegians resisted, blood would flow and this "would constitute a crime as bad as any the Germans had committed elsewhere." The Admiralty yielded, and the Norwegians laid the minefield themselves.³⁶

After Belgium, it became important to all belligerents that an operation against another neutral was triggered by the opponent's violation. When the war started, the German Foreign Office had seemed to be little more than the official mail office for handing over notes and ultimata from the General and Admiralty Staffs. The diplomatic costs of Belgium meant that this changed. Thereafter envoys to small neutral states such as Ulrich Count von Brockdorff-Rantzau in Copenhagen and Paul von Hintze in Christiania, gained a key role in pursuing German interest using the hosts' acute knowledge of German military power and thereby reducing the risks of its actual use.³⁷

Concluding summary

The initial land battles of World War I had much in common with how armies had fought during the 19th century. Four years later the army organisation and mode of combat more or less mirrored the combined arms fighting of the rest of the 20th century. This dramatic change had been largely unexpected, and anticipating the new situations and demands, and absorbing the effects of technological and political change, had probably been impossible prior to gaining direct and painful experience on the battlefield.

³⁶ Arthur J. Marder, *From Dreadnought to Scapa Flow. The Royal Navy in the Fisher Era 1904–1919, Volume V, 1918–1919, Victory and Aftermath* (Oxford: Oxford University Press, 1970), 72.

³⁷ Clemmesen, *Den lange vej mod 9. april*, e.g. 155–159, 329–330, 387–389. The work of both envoys was so appreciated in Berlin that their next job became Foreign Secretary.

Here the naval warfare was different. Both the British and German naval officers' corps had an acute understanding of the need to absorb all the developing and emerging technological possibilities into the various parts of the fleets. They did well considering the rapid revolutionary development in such fields as communication, weapon range, scientific fire-control, and submarine weapons at a time where testing by operational analysis support did not exist. On both sides the navies had gained a fairly accurate understanding of how the new technology would interact in *battle*. Prediction proved insufficient because the naval war was not decided by battle, but by raw and extended.

Both sides of the political-professional "strategy bridge" between the political intention and the militarily achievable found it impossible to face that war was most likely to become extended, and the longer a conflict, the more difficult accurate prediction of conflict development and results would be. Expectations of decisive action may have been built on naïve belief in the certainty of symmetric views and action. In war the opponents choose asymmetric and humble paths to avert defeat, and immature technology may quickly reach full usability and gain a major role such as submarines did here. It will also provoke the development of technological and tactical responses not foreseen in peace. Latent technology may emerge to become important tools. As the conflict escalates, some moral and legal constraints of peace are likely to become politically irrelevant. Peace-time prediction of freedom of action may prove anachronistic. But in the course of war new unpredicted constraints may limit the freedom of action.

In peace-time an acutely open-minded and broad professional may outline risks to decision-makers who are considering the option of war. That is their maximum contribution. It is irresponsible and pseudo-scientific arrogance to present any outcome of choosing war as certain.

Bibliography

Archives

The Churchill Archives Centre, Churchill College, Cambridge, United Kingdom
FISR 1/13 The Papers of 1st Lord Fisher of Kilverstone, Official Correspondence, 1913

FISR 1/14 The Papers of 1st Lord Fisher of Kilverstone, Official Correspondence, 1913-1914

The Danish State Archives (Rigsarkivet, RA), Copenhagen, Denmark
Marinestaben 1904-1932

171 Tyske arkivalier om Danmark

The National Archives (TNA), London, United Kingdom

ADM 137/452

ADM 116/3096

Bundesarchiv, Militärarchiv (BArch), Freiburg, Germany

RM 5/1639

Riksarkivet (NRA), Oslo, Norway

KA 549

Secondary sources

Åhlund, Bertil. *Svensk maritim säkerhetspolitik 1905-1939*. Karlskrona: Marinlitteraturföreningen, 1992.

Åselius, Gunnar. *The "Russian Menace" to Sweden. The belief system of a small power security elite in the age of imperialism*. Stockholm: Almqvist & Wiksell International, 1994.

Bell, Christopher M. *Churchill and Sea Power*. Oxford: Oxford University Press, 2013.

Besteck, Eva. *Die trügerische "First Line of Defence," zum deutsch-britischen Wett-rüsten vor dem Ersten Weltkrieg*. Freiburg: Rombach, 2006.

Brooks, John. *The Battle of Jutland*. Cambridge: Cambridge University Press, 2016.

Clemmesen, Michael H. "The Japanese Torpedo Boat Raid on Port Arthur on 8 February 1904 and Naval Risks and Threats Perceptions the Next Ten Years," ACTA of the 42nd International Congress of Military History 3-9 September 2016.

- Clemmesen, Michael H. *Den lange vej mod 9. april. Historien om de fyrre år før den tyske operation mod Norge og Danmark i 1940*. Odense: Syddansk Universitetsforlag, 2010.
- Clemmesen, Michael H. *Det lille land før den store krig. De danske farvande, stormagtsstrategier, efterretninger og forsvarsforberedelser om kriserne 1911–1913*. Odense: Syddansk Universitetsforlag, 2012.
- Clemmesen, Michael H. “The Royal Navy North Sea War Plan 1907–1917,” *Fra Krig og Fred. Dansk Militærhistorisk Kommissions Tidsskrift* 2 (2014): 88–109.
- Cobb, Stephen. *Preparing for Blockade 1885–1914. Naval contingency for economic warfare*. Farnham: Ashgate, 2013.
- Compton-Hall, Richard. *Submarines at War 1914–1918*. Penzance: Periscope, 2004.
- Cronenberg, Arvid. “Säkerhetspolitik och krigsplanering. Huvudlinjer i arméns operative planering 1906–1945,” – *Neutralitet och försvar. Perspektiv på svensk säkerhetspolitik 1809–1985*, ed. Bo Hugemark, 60–66. Stockholm: Militärhistoriska Förlaget, 1986.
- Epkenhans, Michael; Jörg Hillmann, Frank Nägler (eds.), *Skagerrakschlacht. Vorgeschichte – Ereignis – Verarbeitung*. München: Oldenbourg, 2009.
- Fischer, Jörg-Uwe. *Admiral des Kaisers. Georg Alexander von Müller als Chef des Marinekabinetts Wilhelms II*. Frankfurt am Main: Peter Lang, 1992.
- Goldrick, James. *Before Jutland. The naval war in Northern European waters, August 1914–February 1915*. Annapolis: Naval Institute Press, 2015.
- Gray, Edwyn A. *The Killing Time. The German U-Boats 1914–1918*. London: Seeley, 1972.
- Grimes, Shawn T. *Strategy and War Planning in the British Navy, 1887–1918*. Woodbridge: Boydell, 2012.
- Hobson, Rolf. *Imperialism at Sea. Naval strategic thought, the ideology of sea power and the Tirpitz plan, 1875–1914*. Boston: Brill Academic Publishers, 2002.
- Hopman, Albert. *Das ereignisreiche Leben eines “Wilhelminers”: Tagebücher, Briefe, Aufzeichnungen 1901 bis 1920*, ed. Michael Epkenhans. München: R. Oldenbourg, 2004.
- Kennedy, Paul M. “The Development of German Naval Operations Plans against England, 1896–1914” [1974] reprinted in: *Naval History 1850–Present*, vol. I, 316–317, ed. Andrew Lambert. Aldershot: Ashgate, 2007.
- Kristiansen, Tom. *Tysk trussel mod Norge? Forsvarsledelse, trusselsvurderinger og militære tiltak 1940*. Bergen: Fagbokforlaget, 2008.

- Lambert, Nicholas A. (ed.), *The Submarine Service, 1900–1918*. London: Ashgate for the Navy Records Society, 2001.
- Lambert, Nicholas A. *Planning Armageddon. British economic warfare in the First World War*. Cambridge, Mass.; London: Harvard University Press, 2012.
- Luntinen, Pertti. *The Imperial Russian Army and Navy in Finland 1808–1918*, Studia historica 56. Helsinki: SHS, 1997.
- Marder, Arthur J. *From Dreadnought to Scapa Flow. The royal navy in the Fisher era 1904–1919*, Volume V, 1918–1919, victory and aftermath. Oxford: Oxford University Press, 1970.
- Mombauer, Annika. “German War Plans,” – *War Planning 1914*, ed. Richard F. Hamilton and Holger H. Herwig, 48–79. Cambridge, New York: Cambridge University Press, 2010.
- Mombauer, Annika. *Helmuth von Moltke and the Origins of the First World War*. Cambridge, New York: Cambridge University Press, 2001.
- Offer, Avner. *The First World War: An agrarian interpretation*. Oxford: Clarendon Press, 1989.
- Osborne, Eric W. *Britain’s Economic Blockade of Germany 1914–1919*. London; New York: Frank Cass, 2004.
- Robinson, Douglas H. *The Zeppelin in Combat. A history of the German naval airship division. 1912–1918*. Atglen, PA: Schiffer Military/Aviation History, 1994.
- Röhl, John C. G. *Kaiser, Hof und Staat. Wilhelm II. und die deutsche Politik*. München: C. H. Beck Verlag, 1995.
- Rohwer, Jürgen. “U-Boot-Krieg,” – *Enzyklopädie Erster Weltkrieg*, ed. Gerhard Hirschfeld, Gerd Krumeich, Irina Renz, 931–934. Paderborn: Ferdinand Schöningh, 2009.
- Rüger, Jan. *The Great Naval Game. Britain and Germany in the age of Empire*. Cambridge: Cambridge University Press, 2007.
- Schleihau, William. *Jutland. The naval staff appreciation*. Barnsley: Seaforth Publishing, Pen & Sword Books, 2016.
- Seligmann, Matthew S. (ed.). *Naval Intelligence from Germany*. London: Ashgate for the Navy Records Society, 2007.
- Seligmann, Matthew S., Frank Nägler and Michael Epkenhans (eds.). *The Naval Route to the Abyss. The Anglo-German naval race 1895–1914*. Farnham, Surrey: Ashgate, 2015.

- Seligmann, Matthew S. *The Royal Navy and the German Threat 1901–1914. Admiralty plans to protect British trade in a war against Germany*. Oxford, Oxford University Press, 2012.
- Summerton, Neil William. “The Development of British Military Planning for a War against Germany, 1904–1914.” Unpublished thesis: London University, 1970.
- Wichman, Knut. *Gustaf V, Karl Staaff och Striden om Vårt Försvar 1901–1917*. Stockholm: P.A. Norstedt, 1967.
- Wilmots, Eardley. *The Battle of the North Sea in 1914*. London: Hugh Rees, 2013.