Essay by Mihály Krámli

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Preface

The partnership of the Imperial German Navy and the Austro-Hungarian Navy dates back to 1871 when the former had just been created. In 1900, when the first naval convention of the Triple Alliance was concluded, these bilateral connections were solidified. The flow of information between the two powers, especially since the beginning of the Tirpitz-era, was rather asymmetric. This was simply due to the fact that the German Navy was much larger, its financing much more generous, and the German technology and industry were well ahead of those of Austria-Hungary. This meant that the information flow was usually from Germany to Austria-Hungary and seldom vice versa. The most important examples of the latter were the German interest in the triple turrets of the first Austro-Hungarian dreadnoughts and the cooperation of the German Navy and the Austrian firm Petravic in the field of fire control equipment. In some cases, the Germans shared their most confident secret information with their Austro-Hungarian colleagues, while in other cases the two powers kept important secrets from each other.¹

The most prominent case in the decade preceding the First World War when the Germans shared top secret information with the Austro-Hungarian Navy was certainly the secret mission of Fregattenkapitän Alfred von Koudelka in Berlin on 29-30 April 1909. Koudelka was the secretary of the Marinekommandant (commander of the navy) Admiral Rudolf von Montecuccoli. Koudelka's task was to gather information on the newest German battleships to help the decision-making process over the armament of the first Austro-Hungarian dreadnoughts which were then under design. The German Emperor, Wilhelm II, personally gave permission to the Reichsmarineamt to share confidential information with their Austro-Hungarian ally. The head of the Reichsmarineamt, Admiral Alfred von Tirpitz personally received Koudelka and gave him an account of the results of the German gunnery and underwater explosion tests. Koudelka had also the opportunity to examine the plans of the German dreadnoughts and even given permission to make some sketches to copy details. On 3 May, in Vienna Koudelka handed his secret report to Montecuccoli personally.²

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¹ Rüdiger Schiel: Die Vergessene Partnerschaft. Kaiserliche Marine und k. u. k. Kriegsmarine 1871-1914. Bochum, 2014. This book provides a good and detailed overview of the German–Austro-Hungarian naval relations between 1871 and 1914.

² On Koudelka's Mission see Mihály Krámli: Austro-Hungarian Battleships and Battleship Designs 1904-1914.
Szeged, 2021 pp. 57-58 and Krámli Mihály: A Koudelka-misszió. Alfred von Koudelka fregattkapitány látogatása a berlini Birodalmi Tengerészeti Hivatalban és ennek dokumentumai, 1909. április 29-30. Hajózástörténeti Közlemények (online) 2010/1

With the outbreak of the First World War the German–Austro-Hungarian naval relations took on a new dimension. From 1915, with the appearance of the German U-boats in the Adriatic, the most important field of cooperation of the two navies was submarine warfare in the Mediterranean.³ Naturally, the Austro-Hungarian Navy intensively studied the experiences of the naval battles Dogger Bank and Jutland. This is especially true for the Battle of Jutland, which the Germans called the *Skagerrakschlacht*.

In the past few years I have found in two Hungarian archives a total of four reports on the Battle of Jutland. Two of them were copies of the original German reports, the other two were Austro-Hungarian ones. In chronological order, the first is the report of the Naval Attaché in Berlin on the battle written two weeks afterwards. This is the report which I will discuss in this essay. The Attaché wrote in his report that a team of Austro-Hungarian experts would travel to Germany to examine the damaged ships and to study the German experiences. This team, consisting of naval architects, engineers and physicians, spent some time in Germany in July 1916. I have found their reports as well and on the Centenary of the Battle of Jutland I published them in Hungarian in the journal Hadtörténelmi Közlemények.⁴ In truth, the Attache's report is more informative in many respects than the experts' reports.

Up until 1912, the Dual Monarchy did not have a separate Naval Attaché in Berlin, that role being handled by the (Army) Military Attaché. When the war started, the Naval Attaché in Berlin was Fregattenkapitän Graf Hieronymus Colloredo-Mannsfeld (1870-1942) who came from an Austrian-Czech aristocratic family of Italian roots.⁵ Within the Navy, he apparently pursued a career in diplomacy.⁶

Fregattenkapitän Colloredo-Mannsfeld's report consists of twenty single-spaced, typed pages. It is far the longest of the four above-mentioned reports. The report's first part, eight pages, is an introduction and a description of the course of the battle. The second part, twelve pages, is an account of the general experience of the battle in technical areas such as tactics, gunnery, etc., and a summary of the damages suffered by the German ships. I have decided to omit the sections of the first part that do not contain any substantive information and those that

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³ While we have general knowledge of some of the elements and particulars of the wartime relations of the two navies, their systematic exploration will be the task of future research.

⁴ Krámli Mihály: A Skagerrak-misszió. Osztrák-magyar haditengerészeti jelentés az 1916. május 31 – június 1-i skagerraki csata német tapasztalatairól Hadtörténelmi Közlemények 2016/4

⁵ For a book on his life, see Jaromir Patočka – Miloš Horžejš: Hieronymus Colloredo-Mannsfeld. Životni cesta rakousko-uherského námoržního důstojníka. Praha, 2022

⁶ In 1909, he was one of the candidates for being the naval aide-de-camp to Franz Joseph I, but finally the Hungarian Miklós Horthy won the position. See Turbucz Dávid: Horthy Miklós, a haditengerésztiszt. Budapest, 2022 pp. 93-97

deal with the most well-known events. The second part is published in full. This report accurately recounts the German initial feelings about the battle results, what lessons were learned and what their immediate plans were for implementing those changes seen as necessary.

Finally, I would like to say a few words about how the lessons of the Battle of Jutland were implemented in the Austro-Hungarian Navy. The German experiences of the battle influenced primarily two areas: First, they led to modifications and improvements on the latest battleships (Radetzky and Tegetthoff classes) and secondly set a new course for the battleship design work that had been going on since the second half of 1915. The most important of the modifications was the change of the handling of the ammunition in the 24 cm/45 and 30.5 cm/45 gun turrets of these ships. These turrets had a so called *Umladestatiom* (handling room) one level below the gunhouse. In these handling rooms it was possible to store 12 to 16 complete rounds (projectiles and propellant). Now in 1915, after the Battle of Dogger Bank, the Navy abandoned the practice of storing cartridges in the Umladestation. After analyzing the German experiences of the Battle of Jutland, in the spring of 1917 the Austro-Hungarian Navy decided for radical changes in the cartridge handling for the 30.5 cm turrets. These turrets had so called cartridge rings inside the revolving stalk which held a number of propellant casings. The main scope of these changes was the complete elimination of these rings along with a new method of transferring cartridges from the magazine to the turret stalk. Double flap doors were now installed between the magazines and the hoists.⁷ The scope of the abovementioned changes was the radical reduction of the number of cartridges stored inside the revolving part of the turret stalk and better protection of the magazine in the case of an enemy hit on a turret.

Another important change was to the fire control systems of the battleships. As commissioned, the original equipment was quite simple and obsolete. In his report Colloredo-Mannsfeld mentions the German use of *Richtungsweiser für automatische Ziel- und Seitenverschiebung* (automatic direction indicator for target bearing and deflection). In 1917, the dreadnoughts of the *Tegetthoff* class were fitted with this German device.⁸ Later, in 1917, the torpedo nets and their booms were removed from the *Radetzkys* and the Trieste built *Tegetthoff*s.⁹ The Navy did this because of the negative German experiences at Jutland.

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⁷ Kriegsarchiv, Vienna Marinesektion/II Geschäftsgruppe 47D/2 81 ex 1916; Marine Plansammlung Projekt der Patronenförderung unter Wegfall der Patronendrehscheibe in den Türmen der Schiff Type Tegetthoff

⁸ Friedrich Prasky: Die Tegetthoff-Klasse. Wien, 2000 pg. 111-113. NA Office of Naval Intelligence Register No. 3882 R-2-b

⁹ The fourth member of the *Tegetthoff* class, the Fiume built *Szent István*, was commissioned without torpedo nets.

In May 1914, the Austrian and Hungarian delegations voted funds for four new, 24,500 ton dreadnought battleships (Improved *Tegetthoff*). Due to the outbreak of the war, none of these ships were laid down and the battleships were cancelled in February 1915. In the Fall of 1915, the Navy began to work on larger battleship and battlecruiser designs. But, after the Battle of Jutland, design work was halted for more than eight months while the Austro-Hungarians studied the results. The Germans, who were impressed by the performance of the British 38.1 cm guns, resumed the design work on their future battleships by the end of 1916 and favored a new, larger caliber, 42 cm gun. They made several different battleship designs labeled as L20 to L24 ranging from 42,000 to 45,000 metric tons. Most of these designs were armed with eight 42 cm/45 guns. In turn, the Austo-Hungarian Marinetechnise Komitee¹⁰ resumed design work in March 1917. Two new battleship designs were made during 1917, which now incorporated the lessons learned at Jutland. The first was a battleship of 30,000 metric tons armed with eight 38 cm/45 guns with a designed speed of 25 knots. The second design displaced 37,500 metric tons and was armed with eight 42 cm/45 guns mounted in twin turrets¹¹ and a design speed of 24 knots. The great problem with the 42 cm gun was that the barrel was too long to be transported by rail to the main ports and naval bases of the Dual Monarchy. 12 In fact, the plan to build new battleships was totally infeasible in 1917-1918, a time when the Austro-Hungarian Navy was struggling with a modest destroyer and submarine construction program.

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¹⁰ The Marinetechnische Komitee (Naval Technical Board) was established in 1885. Among its other technical tasks, the board's naval architects designed the large, armored units of the Navy.

¹¹ A few data of this turret are available from a sketch design: turret weight 1,121 metric tons, face armor 400 mm, side and rear armor 300 mm, roof armor: 200 mm, projectile weight: 1,100 kg, muzzle velocity: 800 mps, maximum elevation: 30 degrees, maximum range: 33,000 m.

¹² All of the Austro-Hungarian Monarchy's railway lines to the Adriatic coast passed through high mountains. In some places the railway curve radius was so short that the ends of the 19-meter-long gun barrel would have overhung the rail gauge. The board that examined the different designs with 38 cm and 42 cm guns believed that the railway companies would solve this problem. Erwin F. Sieche: Großkampschiffs-Projekte des MTK aus der Zeit des Ersten Weltkrieges. Marine-Gestern, Heute 1981/4 p. 93

Report of Fregattenkapitän Colloredo-Mannsfeld

Naval Attaché¹³

At the k. u. k. Embassy in Berlin

Res. Nr. 553

Naval Battle on 31 May 1916

To

The k. u. k. Ministry of War, Naval Department, Vienna¹⁴

Berlin, on 17 June 1916

Below I report on the events at the sea from 31 May to 1 June this year and on the damages suffered by the fleet.

During my three-day stay at Wilhelmshaven followed by a short visit to the ships *Markgraf* and *Kurfürst* at Hamburg, I have the expectation that a team of experts from the k. u. k. Navy will examine every damage and will draw lessons from them, so I only sought to obtain a general impression on the effects of projectile hits and my main interest is directed to the course of the battle. Admiral Scheer, whom I myself saw only briefly since he went to Kiel to the funeral of his brother-in-law, Kapitänleutnant Mohr, killed in the battle, had very kindly ordered that the Chief of Staff, Kapitän zur See von Trotha, should give me a review of the entire battle proceedings on the basis of sketches and provide me with all the information that I needed. I sought to fill any remaining gaps by communicating with officers whom I knew personally; however, I encountered contradictions at times as there was still a lack of clarity on some points and all the battle reports of the ships were not yet submitted by that time. Some actions during the battle will be included in a supplement and these contradictions may later appear in a different light, but in general, which is what matters, the picture of this interesting clash is quite clear. The attached sketch of the battle 15 was compiled in a hurry for His Majesty the German Kaiser, so it will also undergo some corrections.

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¹³ Hadtörténelmi Levéltár (Budapest) I. Világháborús Gyűjtemény carton 4503 Marineattache bei der k. u. k. Botschaft in Berlin Res. Nr. 553. This document was copied from the original at the Kriegsarchiv, Vienna, in the early 1920s.

¹⁴ K. u. k. Kriegsministerium, Marinesektion. Unlike most naval powers, the Austro-Hungarian Monarchy did not have a separate naval ministry. The Marinesektion was a department of the common Ministry of War, and its head (Chef der Marinesektion) was the deputy of the minister of war.

¹⁵ This sketch is missing from the file.

The mood in the fleet cannot be described as anything other than enthusiastic and triumphant. The great weight that troubled everyone, the fear that this war could end without a clash of the fleets, has disappeared. The crews have learned how things really work, they know that they are tactically superior to the enemy, the path they have followed was the right one and they do not need to relearn old lessons. The effect of the German projectiles on their targets is greater than that of the enemy's projectiles, and one can absolutely rely on the flotilla organization for which the Germans has always held to be a major factor in a naval battle. Finally, it is known that the capital ships can withstand the most severe fire and damages, they do not leave much to be desired in terms of strength and are not easily sunk. In short, one feels that the English in spite of all their glory cannot beat the German fleet down and has sufficient respect for it. This awareness fills the entire fleet down to the last man with confidence in its own strength and quiet confidence in the face of future clashes. Doing so, one is free from selfoverestimation or disregard of the enemy. On the contrary, the English gunnery and the enormous penetrating power of the large calibers at the greatest distances was very impressive and exceeded expectations. This in no way permits a reckless view of the situation, and it is not to be feared that such clear and calm thinking heads such as Scheer and his chief of staff will in the future, on the basis on their successes, get involved in any daring undertakings. One does not deny that German fleet had enormous luck, and that the thing could have ended quite badly if there had been an energetic continuation of the fight on the part of the English and if there had been a real Nelsonian spirit, all the more so as the English still had a squadron of 12 battleships, which had not come into action, but one consoles oneself with the awareness that without luck a naval battle could never be won.

The Emperor's visit the day before my arrival and his address made them very happy, and in the next few days various other noblemen arrived to inspect the ships, such as Prince Heinrich and the Grand Dukes of Mecklenburg and Oldenburg, and a great deal of medal awarding took place. Vizeadmiral Scheer was promoted to Admiral and awarded the Order Pour le Merite along with Vizeadmiral Hipper.

[...]

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Course of the Naval Battle

The fleet commander intended to advance with the entire fleet to the waters of the Skagerrak, to make himself noticeable there by disturbing the shipping in the hope of thereby attracting English forces to himself and in this way get into the position of perhaps attacking a part of the English fleet with superior or at least equal force. He reckoned that he would receive timely information about the movements of the English fleet from the U-boats that had been posted along the English coast for long time and that he would have better reconnaissance than the enemy thanks to the airships.

[...]

This is the account given by Kapitän zur See von Trotha, who points out that the presence of the English fleet on the waters of the Skagerrak was not known and that a clash with it could not be expected until 1 June. I find here some items that are incomprehensible to me. The U-boats had supposedly been outside the British ports for a long time and were to withdraw on 1 June and be replaced by a probably weaker force. Otherwise, why should 31 May be the last date to sail, when the same number of U-boats is constantly keeping watch at the English coast. In any case, the moment to sail was already too late, because if a possible battle was not to be expected until 1 June, the U-boats posted at the coast could not possibly intercept the damaged British ships as was also projected, since such ships were hardly to be expected there before 2 June. Battleship König Albert stayed behind due to condenser repair works. Von Trotha told me that it could not be arranged any other way and that a ship had to undergo minor overhauls in the shipyard. But shouldn't be possible, if you have it in your hands, to choose the time for advance to have all ships together for this short time, and why do you choose the moment when one of the strongest ships of the *Kaiser* class is in the shipyard, instead of, for example, a Nassau with 28 cm guns? Furthermore, Bayern should join the fleet in the next few days. Why was this plan not postponed for 2-3 weeks to allow the participation of the only ship with 38 cm guns if one had already waited so long? In the same way, the air reconnaissance, from which so much was expected, did not take place.

These considerations leave me with certain doubts as to whether the description of the situation given to me is entirely correct, and whether [the Germans] did not know much more about certain movements of the English fleet and considered the moment to strike extremely favorable. Perhaps they knew only of Beatty's squadron, believed the main force remote, and hoped to capture the former. In Berlin, there is a lot of talk, even in military circles, that the

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English fleet wanted to advance into the Baltic, and that Kichener's [sic] mission was connected with this. I think this is nonsense, because it is not likely that the English fleet would expose its coasts and would also oblige the Germans to operate in the Baltic which would certainly be the most favorable area for a naval battle. In any case, it seems to me that there are inconsistencies here, the clarification of which will probably be reserved for a later point in time.

[...]

On the English side were noted 3 *Lions*, 1 *Tiger* and 2 *Indefatigables* which were soon reinforced by 5 *Queen Elizabeths*¹⁶ that followed the former in their wake. With regards to the *Tiger*, it is claimed that this was a [new] *Tiger* with 38 cm guns as it is believed from recovered shell splinters, so she is the mysterious replacement ship for the *Tiger* sunk on 24 January 1915,¹⁷ which had only 34 cm guns, so that one now believes to have further proof of her loss. But the silhouette is said to have been exactly the same as that of the old *Tiger*. Since the *Queen Elizabeths* with 38 cm guns were also soon find the range, I think that I must view this assertion regarding the *Tiger* with a certain skepticism, just as, in general during this first part of the battle, the reports of the individual ships did not quite coincide.

[...]

Queen Mary must have been destroyed by a magazine explosion, as the ship was torn in two and, according to a watercolor made by an officer, she was enveloped in a colossal cloud of black smoke and disappeared after a few seconds.

 $[\ldots]$

Scheer therefore turned back again in a simultaneous turn and gave the cruisers and flotillas the order R "Run to the enemy". This second advance can be considered the climax of the battle. Admiral Scheer's comments on this were roughly as follows: "Those who will be engaged in the study of the battle will for once, rack their brains as to what I might have been thinking when I made these attacks against the wall of the English battleships. The fact is, however, that I did not think anything special of it at all. I made the first advance because I felt that I must make an attempt to come to the aid of *Wiesbaden*, and because I was completely in

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¹⁶ In fact, only four battleships of the class participated in the battle. At the time of the battle, *Queen Elizabeth* was being overhauled at Rosyth.

¹⁷ During the Battle of Dogger Bank on 24 January 1915, the battlecruiser *Tiger* was hit six times. Her damages were not serious, but a thick cloud of smoke was generated. The Germans believed that they had managed to sink her. A a few days after the battle, it was revealed that the *Tiger* had not sunk, and this was one of the reasons why the commander of the Hochseeflotte (High Seas Fleet), Vizeadmiral Friedrich von Ingenohl was sacked on 2 February. It is therefore interesting why, a year and half later, that many in the German Navy still believed in the sinking of *Tiger*.

the dark regarding the situation before me, since I saw nothing and received no radio message from Lützow, but soon as I saw that the van was coming under overwhelming fire, I realized that I could not put the fleet at stake for Wiesbaden. When I felt that the English pressure had completely ceased and the fleet in my hand was still intact, I turned back again dominated by the feeling that the thing could not end like this and that I must once again seek contact with the enemy." - The situation at the first and second advance can probably be regarded as a textbook example of how, according all rules of tactics, it should not be or could not be thought to be worse, and von Trotha¹⁸ also jokingly said that if an admiral brought about such a maneuver, he would certainly never again be entrusted with a command. In the North the Queen Elizabeths then the battlecruisers and from NE over E to SE an invisible line of battleships encompassed the German van in a bow and were keeping it under crossfire. One was obviously walking into the most beautiful trap. In addition to this tactically unfavorable position, there was the aggravating circumstance that the German ships were well seen, while they only saw muzzle flashes from the English, 4 to 5 flashes each, but could not find a target. The gunnery officer of the Markgraf told me that he could not fire at all for over half an hour, and that they had to let the English salvos fall over them. As critical as the situation was according to the theoretical rule, it is now believed, based on experience, that this "crossing the T" must not always be so disastrous in reality, since relatively few hits were scored during this time despite the colossal fire superiority; for the simple reason that, with such a fire concentration on a few ships at the head of the column, correcting the fire by spotting the shell splashes is out of the question. With good tactical training and good mobility of the formations, it is always easy to quickly pull yourself out of the unfavorable position and then possibly reach a better position yourself. The minor damage to the bulk of the fleet is partially explained by the fact that the battlecruisers in the lead probably took the heaviest fire, thus relieving the burden on the battleships. Only the first 3 battleships, the König, the Grosser Kurfürst and the Markgraf, were hit several times, while of all the rest only the *Kaiser*, the *Helgoland* and the *Schleswig-Holstein* received one hit each and the rest of the battleships none at all.

[...]

As the German battle fleet and cruisers turned to the west, the fire had completely ceased again and the battle fleet gradually swung from W to SW in reverse order and later set course for Horns Reef.

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¹⁸ Admiral Adolf von Trotha, later Chief of Staff (1916-1918).

What the English did is not known, but it is certain that they did not pursue and nothing more was ever seen of the main fleet. There was still daylight until 11 p.m. (summer time), and they would not have lacked the opportunity to close within combat range with their superior speed. One did not expect anything else and must be content with conjectures about the motives of the English fleet commander. It stands to reason that the unfavorable outcome of the first part of the battle and the demoralizing ship losses deprived Jellicoe of the desire to seek further engagement; perhaps his fleet was indeed badly battered and shaken by the torpedo boat attack, perhaps, since the Germans still had some intact flotillas, he feared further fierce torpedo boat mass attacks, especially in the critical hours of twilight, as Jellicoe was said in the German navy to really fear torpedo boats in particular. On the German side, at any rate, one did not have the feeling that the English fleet had been shaken to such an extent that it would have to give up the fight and after nothing more happened in the evening, the Germans were certain that they would find Jellicoe at dawn at Horns Reef and were all the more surprised about his absence, which was discovered through air reconnaissance that on the morning of 1 June when a squadron of 12 battleships was seen coming up from the southern North Sea. This squadron then suddenly turned around and retreated back the way it came. Since it could not possibly have been in the intentions of the English admiral to allow the German fleet to slip away after he had finally captured it far from its base, and since, moreover, he still had an intact squadron at his disposal, one necessarily concludes that he no longer felt strong enough for a second clash, so that the performance of the German fleet must be estimated very highly.¹⁹

[...]

The battlecruisers then gradually lagged behind and lost contact with the main fleet and with each other due to serious floodings and their uneven speed. *Lützow* had left immediately after the clash, and she continued on her way escorted only by 4 torpedo boats. She was initially able to run at 14 knots, but her speed quickly decreased and finally dropped to 4 knots. The bow slowly went underwater and when the whole foredeck followed and the screws came out of the water, the commander decided to abandon the ship. The severely wounded were carefully transferred to the boats and the embarkation of all the men was carried out in the greatest order. The ship then received a mercy shot with torpedo and sank in deep water; I believe at 1 p.m.

Seydlitz was in not much better condition than Lützow, diving forward gradually to near the deck edge and listing heavily over to port but continued steaming steadily. In the darkest

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¹⁹ In fact, Jellicoe was willing to continue the battle, his main problem was that he did not know where the German fleet was.

hours of the night, she suddenly spotted 3 heavy ships very close to port. She turned away, gave an English recognition signal and the enemy did not follow. *Seydlitz* had the misfortune that the mast top lamp had a short circuit so could not be switched off and so was constantly lighted.

Derfflinger, Moltke und Von der Tann followed more closely to the main fleet and had no special experiences.

They did have to repel a series of torpedo boat attacks and also came into battle with cruisers. The movements of these English cruisers which came into action individually are not comprehensible and gave the impression of complete lack of control. They seemed to have received the order, one German ship caught a radio message suggesting it, to go back to the N and NW, running into the long German line which they probably thought they had already passed to the S. A large cruiser (*Warrior*?) ran unsuspectingly against the battleship line at 800 meters and received concentrated fire from several ships before she could fire a shot, so that she was immediately engulfed in flames and disappeared after 47 seconds.²⁰

[...]

A large destroyer which also only recognized her danger at the last moment and tried to escape it by turning around was rammed by *Nassau*. The boat exploded and sank.²¹

The only ships hit were *Pommern* in II Squadron and *Rostock*. *Pommern* blew up immediately and no one was rescued. *Rostock* just passed through a gap in the main fleet when she was hit. The number of casualties here was low.

The whole way in which the English [torpedo] boats were handled, of which [the Germans] are supposed to have destroyed 11 in total²² did not leave a favorable impression, so that one has lost the respect for this weapon in any case. It is also felt that the English [torpedo] boats are too large and offer a too large a target area.²³

[...]

On the morning of 1 June in rather unfavorable weather a Zeppelin sighted English ship formations steaming NE out of the Channel. The news was somewhat unclear with 6 ships reported at one time and 12 at another. It seems however, that in total there were 12 battleships and 3 cruisers that soon turned back. The airship which once came down low to be able to see better was also fired upon. Some ships are said to have had tripod masts.

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²⁰ This was actually the armored cruiser *Black Prince*.

²¹ This was the British destroyer *Spitfire*. She was not sunk by this collision and returned home with a piece of the belt armor of the German battleship on her deck.

²² In fact, eight British destroyers were sunk during the night actions.

²³ British destroyers fared much better in the battle than the low opinion of the Germans suggests. For example, their larger size made them more seaworthy than the smaller German destroyers.

The German fleet entered the Jade in the afternoon except for *Seydlitz* which could not get over the sandbank due to her great draft at bow and was only towed in by the stern the next day at high water.

General

Tactics

The Germans attribute their successes to various factors; first and foremost, their own tactical superiority. This is a point that every officer comes to, constantly repeating that everything happened exactly as it did during tactical exercises and maneuvers and that it could not possibly have gone any better. Squadrons, divisions, ships, simultaneous turns and course reversals, speed changes, everything went like clockwork and proved the greatest mobility of all units. The radiotelegraphic communication never failed in the main fleet, and this would have been of no consequence since at the same time single- and two-letter flag signals were given which fluttered out at several places on the ship. This was possible thanks to peacetime training and the great fleet practicing of the commanders and commanding officers. However, the fleet commander had never led a fleet in peace, nor the squadron commanders ever led a squadron, but years of working in the same direction meant that everything happened with self-evident certainty. In contrast, the English are said to have displayed certain sluggishness in tactical terms, giving preference to turns in countermarch, although this conclusion is not really clear to me from the battle picture.²⁴ They kept ship distances of 500 m, and Vizeadmiral Schmidt told me that in his opinion this distance was too small for large ships and that he would prefer 600 m, since the shorter distance sometimes resulted in unpleasant queues and collisions. In order to reduce this, the flagship first turned to starboard and then sheared into the line. At night 600 m intervals were held. Interference in radio traffic by the enemy did not take place.

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²⁴ The word used in the original was "gefechtsbild." In Austrian-German this word has a different, extra meaning than it does in German-German. This is probably describing Fregattenkapitän Colloredo-Mannsfeld's understanding of this phase of the battle.

Gunnery

It is conceded that the English are superior in purely gunnery terms. Their salvos are downright amazingly tight and have caused general astonishment. Some claim that they were too tight in the first place, making it difficult to achieve a straddling salvo. This is especially the case with the largest calibers, 34 cm and 38 cm; and the battlecruisers' accuracy was noticeably worse than, for example, that of the *Queen Elizabeth* class. The salvo dispersion has often been only a few meters by length and width. *König* was hit by 3 shells of a salvo of 4 between the capstan and the bridge. This is attributed to the careful calibration that the English have been practicing for a long time and which, as is well known, was abandoned in the German Navy after a few experiments. Gunnery officers unanimously say that it is imperative to implement this technique in the German Fleet.

The rangefinders of the English are also superior to those of the Germans,²⁵ and their turret design allows them to fire at ranges that are impossible for the Germans. The question of range does not seem to have played any role at all with the English, because they fired at everything as soon as they saw it.

The German officers are completely convinced of the great superiority of the 38 cm gun over any other gun and regret that this caliber was introduced so late due to the conservative direction prevailing in the German Navy. The scapegoat here is the Head of the Weapons Department, Vizeadmiral Gerdes, who has always opposed an increase in caliber on the grounds that the poor visibility in German waters and the associated short ranges make an increase in caliber unnecessary and that the German 30.5 cm gun is a superior weapon to any other.²⁶

In one respect, however, the English seem to be at a disadvantage, or not as good as the Germans, in that they do not follow the changes in range quickly enough and depend too much on their range clock. The Englishman sees his strength in a calm fire at the longest ranges and adapts his tactic to this by embarrassingly avoiding turns and changes in range. The Germans, on the other hand, have always used large and sudden changes of range in their firing practices and have also practiced firing when in a full turn, so that the gunnery officers feel they have an advantage in this respect. Throwing the German fleet around, which was certainly not favorable for them in respect of accurate gunnery, but in this particular case it did no harm insofar as the

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²⁵ Much of the post-war reviews think the opposite; that the German Zeiss stereoscopic rangefinders were superior to the British Barr & Stroud coincidence rangefinders.

²⁶ Admiral Tirpitz had exactly the same ideas until the start of the design work on the *Bayern* class battleships. Vizeadmiral Gerhard Gerdes remained the head of the Waffendepartment until October 1917.

German ships did not find a target anyway²⁷, and must therefore have had some perplexing effect on the English and prevented many hits. Their salvos landed magnificently close around the German ships, but hits were few. The English rate of fire was said to be good but not excellent. Some even claim it was quite low.

The English shells have shown great penetrating power, and the main armor has almost always been completely penetrated at all ranges. From the shell fragments found it is perfectly proven that at least two types of shells were used and that the material and quality of these was also different. A very thick-walled projectile was fired with an extremely small explosive charge, which can almost be called a solid projectile. This was found to frequently fail to explode and just broke up and never ignited. The explosive effect, if any, was quite minimal, and one assumes that it did not have a high brisance explosive charge. According to the fragments, the wall thickness of such 38 cm projectiles is 16-17 cm, so the cavity could have been only 6-4 cm in diameter. However, the large fragments into which such shells broke then smashed through everything that stood in their way and when they did not hit armor often travelled through the entire ship. Several intact noses were found with and without caps, even whole pieces of the base. The second type of projectile had significantly thinner wall, about half as thick, but even this projectile often broke into large fragments and had no exceptional explosive effect and none or minimal incendiary effect. It seems, therefore, that the English were only aiming for penetration and the Germans thought that they did not have a bore-safe fuze for high explosive shells, which was assumed even before the war.

With the excellent explosive effect of German ammunition, it is believed to possess a significant superiority, which is in part able to compensate for the smaller caliber and perhaps also the less good gunnery performance of the German ships. In any case, the effect of the German shells on the target was significant. The explosions of the English ships must be attributed to magazine explosions. One has in mind the turret hit on *Seydlitz* in the battle of 24 January 1915. The turret armor must have been penetrated and the projectile must have detonated inside the turret. Since the English have no metal cartridge cases and no containers of the German kind, but keep the propellant bags in closed crates, which perhaps do not provide sufficient protection against flash fire, the experience of the case of *Seydlitz* demonstrates that the English ships are in particular danger. By the way, there were also several turret hits on the German side, which will be referred to in the description of the damages.

²⁷ The British ships were obscured at this time and the Germans could not find a target.

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That the explosive effect of the German shells is superior to that of English shells can be stated with certainty from the comparison of hits received and from our own observations on the target ships and this was already known after the battle of 24 January 1915. The Germans are all the more annoyed that they could not bring 38 cm guns into the battle, being convinced that such a protected ship as *Seydlitz* and *Derfflinger*, for example, would have been completely destroyed by their shells. I would like to note here that *Bayern*, the first ship with 38 cm guns will join the fleet in the next few days, *Baden* towards autumn.²⁸

English secondary artillery played no role and achieved only very few hits without significant effect.

The English fired half salvos like the Germans, there were very few hits with significant effect at this time.

The torpedo boat defense method reported at the time, turning and firing with only one or at most two boats, has also proven itself well and did not cause any difficulty in defense for both day and night actions.

Regarding gunnery, it should be noted that the communications equipment functioned perfectly well and withstood the heaviest shocks. The direction indicators (Richtungsweiser) ²⁹ worked excellently. Some ships were not yet equipped with them.

Torpedo

The German torpedo superiority is considered very important. There has long been reluctance to take away the independence of the flotilla commanders and place them under the command of a leader ship, but now there is a conviction that this is necessary so as to be able to deploy the flotillas at the right time and en masse. The flotillas were led by the two lead ships *Rostock* and *Regensburg*, one commanding two flotillas, the other three, while the remaining two flotillas escorted the main fleet and the battlecruisers, respectively. The leaders carried out their task with the utmost spirit and prudence. The English attacks were weak and fragmented and as a result could have had no or only random successes. The II Flotilla consisting of the

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²⁸ Bayern was commissioned on 15 July 1916; Baden was commissioned on 14 March 1917.

²⁹ Richtungsweiser für automatische Ziel- und Seitenverschiebung: automatic direction indicator for target bearing and deflection. The transmitter was a scissor telescope installed on the roof of the main fire control position. The telescope was directed to the target by a crank and by a second crank the deflection was set. The receivers in the gun turrets worked on the "follow the pointer" principle.

large 1500 ton torpedo boats was spared and not deployed. Although these boats are highly praised and indispensable for certain undertakings, it is now considered that they are too large and too precious to be used in battle. By the way, this flotilla left for Zeebrügge immediately after the battle and arrived there in one piece. They want to use them there to counteract the closing off of this harbor with nets, with which the English want to implement to prevent the U-boats from leaving.

As far as I have learned, of the large ships only *Moltke* launched torpedoes, having fired four during the battle.

U-boats did not make an appearance. There were none on the German side, but a German torpedo boat claims to have rammed an English submarine. However, this seems to have turned out to be a mistake and at least the Chief of Staff has said the whole thing was nonsense. **They failed in reconnaissance, and they failed in chase** [emphasis in the original].

On the English side, some in the north claim to have seen an aircraft that apparently took off from a cruiser.³⁰ In any case, it did not play a role. The use of smoke screens seems to have served quite well in that it and smoke from the torpedo boats completely obscured the main fleet and its movement at the most critical moments.

Speed

The advantage of speed was completely on the side of the English, not only with the main fleet due to the presence of the *Deutschland* class, but also with the battlecruisers. The latter are said to have been considerably faster than the Germans, an unpleasant experience that had already been seen on 24 January 1915. From this alone it is clear that the English assertion that the German fleet had escaped by flight is nonsense; far from its base the German fleet was entirely in the hands of the English, who simply did not want to exploit their superior speed, or could no longer do because of the damages suffered. It did not become more uncertain than it was during the day and the smoke screen was perhaps quite welcome for Jellicoe in order for him to be able to feign great uncertainty as a reason for not pursuing. In any case, the speed factor for dreadnoughts is rated very highly by the Germans, based on their experience. However, the shallowness of the German ports and the resulting limiting of draft make it particularly difficult for German designers to achieve much in this respect. Despite greater

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³⁰ This aircraft may have been the one launched from the seaplane carrier HMS *Engadine*.

length and an increase in machinery power compared with the older *Göben* [sic] type, the last new cruisers *Derfflinger*, *Seydlitz* and *Lützow* showed only an insignificant increase in speed and were disappointing in this respect.

The question of whether to take the older battleships to a main action was not easy to decide. The Squadrons IV and V created at the beginning of the war consisting of the Wittelsbach and Barbarossa class and coastal defense ships have long since been decommissioned, partially disarmed, or are now only used as guard and training ships. Squadron II, consisting of the most modern of these older battleships, was still considered reasonably useful for battle, but enjoyed a special position in that it was only attached to Squadrons I and III and the squadron commander had special freedom to maneuver independently and choose his position as he saw fit.³¹ This time it went along quite well and did not hinder, but this squadron did not come under serious fire either, which must be considered a great luck for in view of the damages suffered by the other ships and because it is now known that the English shells can penetrate any armor above or below the waterline at the greatest distances; it is certain that any ship of this class would soon have been sunk after a few hits since their internal division cannot stand much flooding. The loss of the *Pommern*, which was a cheap triumph for the English, speaks for itself. The Chief of Staff tells me that they will probably reconsider exposing them to this danger again, and so this battle would also further substantiate the utter worthlessness of all pre-dreadnoughts and condemn them to scrap-iron.

Torpedo Nets

The torpedo nets of the battlecruisers were all badly damaged and the equipment was broken, so that they were hardly usable. This was particularly the case on *Derfflinger* where the net hung completely in water on the port side of the stern and it was only thanks to the holding of a makeshift safety barrier that it did not fall into the screws. The ship had to stop to insure the net during the battle, and it would not have taken much for this to have caused the loss of the ship. All the nets were therefore disembarked after arrival together with the spars, much to everyone's satisfaction, and will not be reinstalled, except perhaps for operations in the Baltic Sea where it might be necessary to anchor in the sea.

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³¹ This squadron was consisted of *Deutschland* class pre-dreadnoughts.

Damage Control 32

The systematic trained damage control system has worked excellently and one is convinced that the Germans owe a lot to it. It is believed that *Seydlitz* would not have been brought in if the shoring up of bulkheads and the like had not been so drilled and the personal so skilled. It is also said that on *Lützow*, which had only been in service for 2 months, there was of course still a lot of to be desired in this regard, and this is not excluding those small omissions which of course cannot be blamed on anyone, which caused the sinking of the ship. *Lützow* was a bad luck ship after all. First her turbines broke down, delaying her commissioning by half a year, then she ran on a mine³³ and barely repaired, and then she was badly damaged during the battle and sunk.

Gas Hazard

Only 2 days before departure a large part of the ships, fortunately those that were most involved in the battle, the battlecruisers and III Squadron, received gas masks with alkali cartridges for the entire crew plus ample reserve masks (on *Seydlitz* 1500 masks for 1200 men). The same masks have been used as in the Army for poisonous gases. Every man had such a mask, if not on, around his neck. I am urged by all the officers that in their experience these masks are absolutely necessary, that they have not only saved a great many human lives, but have also made it possible to operate in rooms that would otherwise have had to be evacuated. The gases from the shells, mines and torpedoes penetrate through ventilators, voice pipes, etc. into rooms far away from the accident site in a way that one would never have believed. In several cases, thanks to the masks, large parts of the crews of the turrets hit by the enemy were able to escape, to remain inside or to transport away the wounded in time, and in one case, the crew of a main engine into which compartment gases had penetrated, was able to hold out on its station until the compartment was ventilated. The Flottenatmer³⁴ is preferable to the masks for special cases but it cannot be used for all people and it also hinders the movements which the mask does not do. Because of this eminent danger of gas it is also advisable to install quick-

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³² The original German term is *Leckdienst*.

³³ This is an error and may be confused with the mining of *Seydlitz*.

³⁴ Flottenatmer: An oxygen breathing apparatus used in firefighting.

closing flaps in all shafts and to have a suitable wooden plug and hammer near to the voice pipes to drive the plug into the opening.

I am told that it has proved very useful to keep the people working in the lower rooms such as central control, machinery and torpedo launching rooms, etc., constantly informed of the events taking place. Especially in the beginning, the people were nervous because of the strong vibrations which were caused by the shells hitting the water near the ship which the men above felt less and it raised their confidence and made them happy when they knew what was going on above.

Damages 35

The distribution of the individual ships in need of docking among the shipyards is as follows:

- König left immediately for Kiel and will repair by Howaldt. I have not seen this ship.
- Markgraf and Moltke are at Blohm and Voss. The former in the k. u. k. dock. 36
- *Kurfürst* at Vulkan in Hamburg.
- *Derfflinger* was first docked at Wilhelmshaven and the leak provisionally sealed, then went to the Kaiserliche Werft Kiel.
- *Seydlitz*, which was still in the lock during my presence, will then be docked in the large dock thus freed up in Wilhelmshaven
- *Von der Tann, Ostfriesland* and *Helgoland* will be repaired in the dry docks of the Wilhelmshaven shipyard. Other large ships are not in need of docking.

For *Seydlitz*, the number of hits has not yet been fully determined,³⁷ since the entire foreship up to the upper deck was still under water and it is not quite known how it will look below. The ship was brought into the lock with difficulty and, with its large draft at the bow, about 13 m., she cannot enter the harbor. They do not dare to dock the ship in the lock itself, and for the time being they want to raise the bow a little. The turret roof and barrels of the front turret, anchors, chains, etc. have already been disembarked, and it is now intended to install cofferdams and pump out the bow to such an extent that she can enter the harbor.

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³⁵ This part of the report contains many errors, probably because the damage reports were in a preliminary state at the time this account was written.

³⁶ In 1914, the Austro-Hungarian Navy ordered a new floating dock of 40,000 tons lifting capacity from the Blohm und Voss shipyard for 8.4 million Kronen. The German shipyard completed the dock in 1915 but due to the war it was impossible to transport it through the English Channel and Gibraltar to Pola. This is the "k. u. k. dock" mentioned above. Post-war, in 1919 Blohm und Voss sold this dock to a Dutch shipyard.

³⁷ According to a later Austro-Hungarian report made by Oberingenieur Schneider published in "Hadtörténelmi Közlemények" 2016/4, *Seydlitz* was hit by 24 large caliber shells and a torpedo.

The large amount of flooding, which filled more or less the entire foreship up to the forward boiler room bulkhead, is due to a whole series of hits. For the time being, a belt armor plate is missing on the port side, which has fallen off, and at least 2-3 more underwater hits are expected on the port side. In any case, the list of heights and depths was already considerable when the ship received a hit on the port upper deck edge at the level of the command bridge, through which a great deal of water penetrated the battery deck and which had a particularly damaging effect. In addition, a torpedo hit the starboard side under the foremost 15-cm gun in the daytime battle pushed the forecastle down even further. This gun, damaged by the shock from below, fell out of action. In addition, there are 4 heavier hits on the forward open deck and port side in front of the turret, one of which also shattered the port capstan. These shells and their explosive fragments of course also reached the armored deck, so that the entire forecastle above and below the armored deck is perforated in several places, giving free space to the water. The foreship was hit with at least 8-9 shells plus a torpedo hit. Apparently, the only rooms that are not flooded are the bow torpedo room and the ship's control center. The former is constantly pumped as a lot of water flows in from above. The torpedo control room had to be abandoned as its forward wall was no longer watertight. The ship's aft control room remains manned, but of its two access points, the starboard and port central corridors, only the latter is passable, as the starboard one is under water. The artillery center is much further back and was not affected by the flooding. The ship has a 7 degrees list to port and, since the foreship is already somewhat lowered, the stern is about 1/2 m out of the water.

The main sea pressure, especially when moving forward, was exerted on the forward boiler room bulkhead, which is supported everywhere but is leaking in places.

The other interesting hits concern the turrets. Turret II [B]³⁸, forward starboard, received a direct hit on the front wall of the rotating part. A round piece of plate is punched out, but fortunately the main effect remains outside. The right barrel failed due to slight damage to the carriage, but the turret remains operable and the left gun continued to fire.

In turret III [E], the right barrel took a direct hit, which severely dented the barrel in an elongated depression. The second gun continued to fire.

Turret IV [C] received a hit on the barbette at the level of the handling room and the armor was penetrated. This hit is particularly interesting because on 24 January *Seydlitz*

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³⁸ The Germans identified gun turrets by capital letters (A, B, C, D, E), while the Austro-Hungarian Navy used Roman numerals (I, II, III, IV, V), but this did not directly match up with the German designations. For the German turret designations used on World War I capital ships, see "German Turret Designations" by Peter Lienau.

received an identical hit on turret V [D], at the same height, which is known to have put both aft turrets out of action by burning out and killing the entire crews. This time the damage was minor. There was no ready ammunition, and only one cartridge³⁹ burned against 6200 kg of propellant on 24 January 1915. The turret commander and a large part of the crew were saved thanks to the gas masks.⁴⁰ However, the damage caused by the splinters was quite significant, and the turret was abandoned because it was unusable. This was a hit by a 34 cm projectile, distance 140 hm, armor thickness 220 mm. After the turret was abandoned, it was later hit a second time on the rear of the revolving part, which was also penetrated which of course increased the devastation inside.

Turret V [D] received a hit on the roof. The round bounced off; the roof is slightly dented. No one was injured and the turret continued to fire.

On Seydlitz, all turrets except the foremost were hit and one was hit twice.

Another hit penetrated the 150 mm casemate armor of the aftmost 15 cm gun starboard No. 11. The deck was penetrated by splinters at the top as were the splinter bulkheads. The gun was knocked out of action, and all the crewmen were killed, except for the ship's priest, who happened to be present in the casemate and must have had a special guardian angel. A similar hit by a 38 cm projectile struck the casemate armor of 15 cm gun No. 7 and detonated in the casemate. The gun crew was killed, the gun damaged, and splinter bulkheads penetrated by large splinters. Here too, one is amazed at the relatively small effect of this large caliber hit.

Derfflinger. A projectile hit the belt armor in front of the anchor hawse on the port side, probably on a plate, as two plates fell off the ship. The backing is correspondingly compressed and there has been heavy water penetration here.

The belt armor on the port side above the waterline was hit twice in the middle parts and smoothly penetrated. The splinters penetrated more than half of the ship, and in one case a punched-out piece of a plate was also propelled that far. These hits, perhaps with others, also completely tore apart the torpedo nets along with the backings in several places.

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³⁹ Actually, two main and two fore charges were ignited here, but this was still much smaller than the amount of propellant ignited following damage at the Dogger Bank battle. This shows that the preventative measures taken by the Germans after that battle were effective.

⁴⁰ Kaptitän zur See Moritz von Egidy, the commander of the *Seydlitz*, stated that only 20 men died or burned severely in the turret. See Moritz von Egidy: SMS *Seydlitz* at Jutland (http://www.gwpda.org/naval/jut01.htm). Colloredo-Mansfeld repeats here Egidy's account. In fact, 64 men died in the turret after this hit and only 6 men managed to escape. Three of them died later of their wounds. The Austro-Hungarian experts' report written two months later gives the correct number. Krámli 2016, pg. 1045.

⁴¹ Seydlitz suffered six casemate hits altogether. The 38.1 cm shell mentioned in the report was in fact a 34.3 cm one.

The two aft turrets were hit by direct hits, in one case on the roof and in the other on the barbette above the deck, the armor was penetrated, and the upper parts of the turrets burned out and badly damaged, but the fire did not reach the magazines. The crews in the upper part of the turrets were killed and the turrets both failed. This happened in an early phase of the battle. The barrels with great elevation have not yet been removed because everything is wedged. The barrels themselves do not seem damaged.

The muzzles of the 4 forward 15 cm guns on the port side were knocked off. Of these, two were probably destroyed by the same shell that hit the armor. One of the muzzles, which may have been damaged by a splinter, was then apparently blown apart by a barrel burst which was in the shape of a tulip.

Derfflinger has a few other hits, but they are less interesting and, together with *Seydlitz*, she makes the most negative impression.

Moltke had only 5 hits, all of which he received during the battle on the southern course, while the cruisers mentioned above mostly received their hits on starboard, i.e., in the later phases of the battle. A shell passed through the side of the stern above the armor, passed through the ship, and hit the armor on the port side from the inside, about 1 m below the waterline. One plate was knocked out and missing. The water penetration was quite significant. The aft spaces above the armored deck, which itself had remained intact, were more or less all full.

The second hit a little further forward below the belt armor, shell exploded in the bunker but the explosion was held by the armored deck and did not let any water enter the ship. The adjacent bunkers made only little water and could be drained.

Even further forward was a hit on 150 mm armor above the waterline in the upper bunker. The armored deck held again, but the inner bunker wall cracked and was penetrated against the top of the battery deck, which caused a 15 cm gun to be damaged and put out of action.

In the forecastle, a shell hit the belt armor underwater. The plate remained whole and was pushed about 20 cm into the ship. The compartment filled up and the torpedo bulkhead remained watertight. Adjacent compartment leaked a little because of rivets that had broken off.

The fifth hit which smashed and crushed the plates under the belt armor, can hardly be attributed to a direct hit, but was probably caused by splinters from a near miss.

Von der Tann. Aft to starboard, a shell hit the lower part of the 100 mm thick belt armor and penetrated it. The spaces above the armored deck and some of the decks above it were

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flooded. The shell impact, which was mainly outside the ship, also bent the plates below the armored deck, which was intact, so that there was also considerable water penetration into the spaces below the armored deck. The stern torpedo room was half full and the people in the starboard steering gear room were trapped for a long time because of jammed entrances.

The foremost gun turret was hit on the starboard side at the uppermost edge of the barbette and a semicircular piece of armor was knocked off here. The turret mechanisms were severely shattered, causing the turret to fail. The penstock⁴² was damaged, temporarily knocking out the entire main battery. Oddly enough, only wounds occurred among the crews.

The aft turret received a hit on the 250 mm thick barbette armor in the battery deck. The armor was penetrated, but the effect remained outside, and the interior of the turret is little damaged, so that the turret continued to be operated by hand. It was only jammed in one place and could not train. However, it was possible to cut off the piece of the rotating part that was jammed against the inside of the barbette with cutting torch, thus eliminating the accident. This hit caused quite a bit of devastation outside the turret and some large splinter pieces dented the armor deck and made some holes. This is the only damage to the armor deck that I am aware of and it is not significant.

The aft fire control tower was hit, and a piece of armor punched out. Occupants, including the 3^{rd} gunnery officer were killed. Shell fragments slammed down into the machine hatch, but the armored gratings stopped them.

Ostfriesland. Has a mine hit port side under the fore wing turret. The leak is 12 by 5 meters. The torpedo bulkhead is only slightly cracked and the water penetration remained localized.

Helgoland. A 34 cm shell hit the 200 mm thick belt armor on the port side and penetrated it. The shell seems to be only broken and there is no explosive effect. The range was about 130 hm.

Nassau rammed an English destroyer, or rather, it drove into the ship on the port side. Its bow must have been lifted all the way up because the destroyer's anchor hawse remained on board and was wedged firmly into the upper deck edge of the *Nassau*; so that it had to be cut out. The side of the *Nassau* below the deck is torn open over a length of about 10 meters. The destroyer then streaked along the ship's side and exploded underboard. An Englishman remained on the nets but went overboard with a salvo that *Nassau* fired.⁴³

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⁴² Part of the hydraulic system.

⁴³ This was HMS *Spitfire*.

Nassau received a shrapnel hit from attacking torpedo boats in the forward searchlight group so that both searchlights on the port side failed. Control apparatuses and cable lines were destroyed and many crew members were killed. The aft searchlight group received a similar hit, knocking out one searchlight. *Rheinland* and a small cruiser received a similar hit.

I have seen all the ships mentioned in Wilhelmshaven. The *Markgraf* and *Kurfürst* were in Hamburg, but unfortunately, I am not in a position to say much about them. They had already been under repair for several days and the damaged areas were no longer in their original condition. In addition, the circumstances were not conducive to a quiet inspection. RMA [Reichsmarineamt]⁴⁴ commissions on board, crowds of workers, terrible noise and pouring rain. I therefore didn't take any notes on the spot and relied on my memory, which let me down a bit with the many impressions and analogous cases, so that I can't list the individual hits with certainty. However, this is of little importance, as there were no particularly interesting hits here and no turrets were hit on any of the ships. There are various armor penetrations, which are all analogous and have the same character, and hits on unarmored parts, which are meaningless anyway.

On *Markgraf* is a hit aft port in the waterline straight on a plate joint and from both plates an equal piece was punched out. The projectile then hit the sloped part of the armored deck, the debris bounced off and went through the ship. The plates had already been removed. A casemate was penetrated, and the gun destroyed. The only mast hit was on *Markgraf*. But the mast remained standing and had already been dismantled. The observation station had to be retracted because the connections to the conning tower were interrupted. This is also the only conning tower hit, but it only grazed the upper edge and fell off. The people in the tower hardly felt it. The port engine failed, but not as a result of damage to the turbine, which was completely in order, but because the propeller axle bearings melted out. The cause is not yet clear, but it is believed to be due to vibrations. The ship was able to maintain its position with the remaining two engines.

On *Kurfürst*, a water penetration on the port side was of particular importance, namely above the armored deck as a result of a belt armor hit. Otherwise, the damages were of no great significance.

As far as the duration of the repairs to these ships is concerned, nothing definite can yet be said, as it was not decided whether they should be carried out immediately and thoroughly.

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⁴⁴ Reichsmarineamt (Imperial Naval Office) functioned as naval ministry in Germany between 1889 and 1919.

In any case, the difficulty lies in the production of new armor plates, but it is likely that some of the damaged plates will be left in place for the time being. Some of the turrets of the armored cruisers⁴⁵ will also take a long time, but here, too, it is intended to make do in certain cases. *Von der Tann* is to receive a complete turret from one of the *Nassau* class ships, probably the forward one, which will remain without one for the time being. There was also a lot of talk about replacing the gun barrels and it is likely that the *Hindenburg*, which will not be ready until late fall, will be used. One might assume that the ships of the line⁴⁶ will be ready in about 4-6 weeks, the battlecruisers, especially *Seydlitz*, in less than 4 months. Of course, work will be carried out day and night with all new buildings being put on hold.

The accidents involving small cruisers and torpedo boats are insignificant. A funnel was shot down on *Hamburg*. As these seemed insignificant to me, I was not interested in them.

Since it does not seem to be the intention of our allies to allow us to participate fully in the conclusions that they may draw from these damages for their shipbuilding, we will have to try to find them out bit by bit in the course of time through surveys and from the nature of the development of their shipbuilding. I hardly feel called upon to draw hasty and bold conclusions on the basis of my impressions today, but this should not prevent me from summarizing these views and those I have heard.

It is particularly striking that on the ships that returned home, even *Lützow* was no exception, as she continued to sail under her own power until late into the night after the battle, all the machinery and boiler rooms remained intact. RMA assured me afterwards, after the inspection by the chief engineer, that not a single auxiliary machine had broken down. Only the foremost boiler room on *Seydlitz* was put out of operation due to the propping up of the bulkhead, and during the voyage a lot of water came in through rivet holes and cracks. One could therefore conclude that these vital parts of the ship are sufficiently protected, that the belt armor of the known German dimensions, which cannot stop the projectile, at least fulfills its duty by breaking it; and that even the largest fragments of a 38 cm shell will then hardly be able to penetrate through the armored deck or torpedo bulkhead into the machinery and boiler rooms. Even with these long ranges and steep angles of fall, penetrating the armored decks was out of the question, but the use of stronger gratings over the hatches, which prevented serious machinery damage on *Von der Tann*, was certainly advisable. The torpedo bulkheads also held

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⁴⁵ Panzerkreuzer (armored cruiser) means here battlecruiser. Colloredo-Mannsfeld used the words Schlachtkreuzer and Panzerkreuzer alternatively for battlecruiser.

⁴⁶ Linienschiff (ship of the line) means here battleship. In his report, Colloredo-Mannsfeld uses three words for dreadnought battleships: Schlachtschiff, Großkampfschiff and Linienschiff as synonyms.

up well against shells, mines, and torpedoes, and where they were slightly damaged, the result was no more than the compartment in question filling up.

Perhaps it would be advisable to make the forward boiler room bulkhead particularly strong, like a torpedo bulkhead, so that it could not be damaged by splinters or water pressure. The inspection of the *Seydlitz* left me with the impression that the commander had expected a lot from his ship and that it was only by very good luck that the ship was brought in. At a time when the whole foreship was filled and the bow was already completely in the water, he still sailed occasionally with turns for 22 knots, as he told me himself, in order to put the stability of his ship in the best light. This may have been very dashing and possibly dictated by the circumstances in order not to lag too far behind and be caught by the enemy, but it is certainly not seamanship and if he had broken the boiler room bulkhead, *Seydlitz* would have sunk just like *Lützow*, where the circumstances were apparently similar. Later, however, he decreased the speed and the last leg was sailed sternward. I therefore do not consider it impossible that the sinking of the *Lützow*, which allegedly ran at 14 knots for some time, was only due to such reckless sailing and that the ship could perhaps have been saved if she had been sailed over the stern or towed in this way. However, since the stress in terms of water pressure will always be greatest from the front, it is certainly advisable to take special precautions against this danger.

VA Schmidt tells me that, in his opinion, the belt armor should be strongest in the middle, but then at the stern, to protect the steering machines and possibly at the foreship, but not decrease evenly from the middle to the ends. He would also definitely be in favor of an armored upper deck as a second armored deck.

The excellent hardness, extensive interior subdivision and the resulting buoyancy of the German ships is the best testimony to the goal-oriented German shipbuilding and also proves that the creator of the modern battle fleet, Großadmiral von Tirpitz, was right when he made it a principle that the ships must above all float and not sink, not even heel, and that everything else was secondary.

What is striking is the large number of turret hits and the general opinion that the armor must be considerably stronger here, especially in the lower parts of the barbettes, since it is not just a matter of the guns failing, which would be bearable, but of the magazine explosion and total loss, since the shaft leading to the magazines cannot be completely sealed against the penetration of stabbing flames. This is the most vital part of the ship. The fact that no

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magazines were exploded on the German side⁴⁷ is only due to the weak explosive charges of the English shells. After the battle of 24 January 15, the best humanly possible had been done to protect against this danger, the ammunition had been removed from the working chamber and, where possible, all openings in the shafts leading downwards had been fitted with flaps, covers and heavy asbestos mats, just as German ammunition is known to be particularly well stored and secured in cans with screwed-on lids. However, the disasters on the British side are proof that this is a matter of the utmost importance. It should also be borne in mind that while all other damages can be repaired quickly, the repair of a destroyed gun turret is likely to take months.

The numerous turret hits also seem to prove right those who rejected the triplet turret on the grounds that too much of the artillery would be lost if one turret failed.

The fact that a hit in the casemate destroys it and puts the gun out of action is self-evident and irrelevant. It is only important to ensure that there is no ready use ammunition present and that the ammunition hoists are tightly sealed with strong asbestos mats and also sealed down in the magazines. In the German paternoster hoists,⁴⁸ the incoming ammunition automatically opens this mat, which then closes the opening again as it falls back, which is very practical.

Other hits on unarmored parts, which more or less smash all light stuff and at first glance give the impression of being the most destructive, play no role at all.

On *Von der Tann* they wanted to flood a turret magazine. This was not possible because the flood valves in the battery or 'tween deck were covered with debris, cabin fittings, etc. and were inaccessible. Fortunately, it later proved unnecessary to flood the chamber. The first officer only pointed out to me how critical such a small matter could become, and that one could not be too careful when choosing the location for the valves and had to keep them free of easily destructible objects.

I was told that manhole covers in the decks, such as coal chutes etc., were dangerous; they are shot upwards by gas pressure from below, cause a lot of mischief and also allow gases to enter. These should be secured in a completely different and much more solid way.

The flood and drainage systems were excellent and could hardly be improved. The only disadvantage is that there is no draining device for spaces above the armored deck. This should

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⁴⁷ This ignores that the pre-dreadnought *Pommern* suffered a magazine explosion after a torpedo hit, which destroyed the ship and killed her entire crew.

⁴⁸ These are ammunition hoists which consisted of an endless chain of compartments which move slowly in a loop.

be remedied. In the event of water flooding, it was always possible to easily eliminate the list by counter-flooding. This is very important because of artillery and personnel.

The searchlights, which are not known to be removed in the German ships, all came out of the battle in one piece, so any fears in this regard were not realized. The shelling of the searchlights by the attacking boats was perceived as unpleasant and it was therefore believed that the operating crews of the control apparatus and the cables to the searchlights along the masts had to be protected by light armor.

No significant fire effect has been observed in any case. One is now smiling a little at the care with which all the interior walls have been scrapped clean of paint.

I involuntarily had to compare the German ships with the Russian battleship *Orel*, which had been taken to Maidzuru after the Battle of Tsushima. If I remember correctly, it had 5 heavy and some 40 medium-caliber hits. The enormous explosive effect of the shimose shells, which broke up into tiny pieces, did not do the least bit of damage to the vital parts of this ship at that time, but they turned the upper ship into a desolate heap of rubble, destroyed superstructures, bridges, masts, funnels, etc., cut off gun barrels and caused fires. Nothing like this can be seen on the German ships, which only have a few more or less smooth holes on the outside and which you would otherwise never realize had come out of battle, everything looks so neat and intact. However, the upper decks are said to have been covered with numerous splinters, but these were caused by the shells hitting the water, which exploded there and sometimes threw large masses of water onto the deck. The armor penetrations show the characteristic concentric cracks around the penetration and radiating abrasions, which indicate that the shells detonate on impact or at the latest when they pass through. In many cases, as already mentioned above, the explosive effect has remained completely outside and only pieces of the shell, possibly the nose, have been driven in.

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Epilogue

After this essay was added to NavWeaps, the folks over at <u>The Dreadnought Project</u> found a British translation of the report and added it to their <u>website</u>. Their copy includes some closing remarks which are not part of the Marinesektion version found in the archives.

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