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Memories and Thoughts of an Old Warship Builder

German literature publisher, Dr. iur. Artur Pleissner, Dresden A 1 Buchdruckerei Albert Hille, Dresden N 6 1940

On the occasion of my 75th birthday, January 11, 1939, I was asked by colleagues and outsiders to publish my experiences in naval service, which I ended 20 years ago as deputy director of the design department in the former Reichsmarineamt.

This wish was addressed to me in earlier years, but was not fulfilled by me because I had mentally collapsed during the time in between and was later exhausted by a long illness.

After my health had improved and the rebirth of Germany had lifted my spirits, I no longer wanted to maintain my rejection. Unfortunately, the implementation of this decision has been delayed by a year due to unforeseen health and other incidents.

If I comply with the wishes expressed to me, it is not in order to make propaganda for me afterwards or to give instructions to the next generation, but because I hope that my experiences can be of use to those who have the task of giving the Third Reich a new fleet.

Certainly some of you may regard my remarks as "old news" or at best as a matter of merely historical interest; but I believe they can be of some use for the present, at least as a basis for comparing then and now. The development of the last two decades has significantly increased the structural difficulties in warship construction and increased the requirements in almost all areas. When I see modern warships or their plans, I have the impression of industrial exhibitions and see little that resembles the ships of yore, which, in spite of the perfection strived for by every means, were relatively uncomplicated structures compared with those that are being built today.

Since leaving the service, I have lived "in oblivion" and lost contact with almost all former colleagues, insofar as they are still alive at all, and now stand as an "outsider" in a profession that haunted me from my youth to the age of 55 years. Since my notes are not only intended for professional peers, but should also be understandable to laypeople, I have limited myself to as few technical terms as possible and, where these were unavoidable, explained them in brackets in an easily understandable version.

I will now move on to my topic and must first explain how, as a native of Dresden and a born landlubber, I came to study shipbuilding, a decision that was met with shaking heads not only from my classmates and teachers at the humanistic high school, but also from my relatives. As a high school graduate, I was even asked in amazement by the then Crown Prince Friedrich August, who later became King of Saxony, whether one could study shipbuilding at all!

My interest in the sea and shipping began as a boy, when I got to know the Baltic and North Seas on vacation trips, and became the choice for my profession when, at the age of 17, on a vacation trip to the south prescribed by a doctor, I saw the Mediterranean and could visit the ports and shipyards of Naples, Spezia and Toulon.

After graduating from high school, I first attended the universities of Heidelberg and Leipzig to study mathematics and natural sciences, then the Dresden Polytechnic and finally the Technical University of Berlin. Privy Councilor Dietrich, the chief designer of the Imperial Navy, who was part-time head of the shipbuilding section, took an interest in me, which he later showed me until his death. After graduating in shipbuilding, I joined the imperial shipyard in Kiel at the beginning of 1888 as an aspiring shipbuilding engineer. After the state examination in 1894, I was appointed naval master shipbuilder. I was assigned to the RMA (Reichsmarineamt) as a laborer and worked there for four years under the chief designer. When I then returned to work in Kiel and was later assigned to Hamburg as construction supervisor at the Blohm & Voss shipyard, to my surprise I received from the State Secretary of the RMA v. Tirpitz the following special orders that exceeded the scope of my official duties:

When the Kaiser visited the shipyard in Kiel in November 1901, I was commissioned by the Secretary of State to give

a lecture in his presence on the insulation and cooling of the ammunition chambers on the cruiser "Prinz Heinrich", whose construction I managed, for the first time in the Navy to hold, which the emperor followed with interest. In the autumn of 1902 v. Tirpitz personally commissioned me to draw the shipbuilding conclusions from the serious damage that the battleship "Kaiser Friedrich III" suffered as a result of grounding due to water ingress and an oil fire. The suggestions contained in my detailed report were almost completely taken into account on the ship and her sister ships. In the summer of 1903 I received orders to attend the annual meeting of the English Shipbuilding Society, which was being held in Glasgow, so that I could meet the representatives of British shipbuilding personally. In January 1904 I received an urgent order from the RMA to go to England with a mechanical engineering colleague who seemed to me to be suitable, in order to obtain a detailed and as quickly as possible judgment on the two ironclads "Libertad" and "Constitucion", which the Emperor was particularly interested in, since wild advertising was being made for these sister ships in the English press. During this fourteen-day course with Mugler, the master naval machine builder I had chosen, we had the opportunity to speak to the chief designers of the English Navy for shipbuilding and mechanical engineering and to visit the most important shipyards and relevant industrial plants. Our well-founded judgment on the two Chilean ships then helped to calm the RMA.

When I finally became building supervisor in 1905 at the age of 41 and was transferred to the RMA, it dawned on me about the purpose of these orders: v. Tirpitz had formed his own opinion of my abilities and had not wanted to rely on the good testimonials of his former chief designer Dietrich, as he had been considering me for a special assignment.

For the uninitiated I am including some information about the organization of the former RMA.

The various tasks which this administrative authority had to fulfill were divided among a number of departments, of which the following four were of particular importance for the development of new ships. Its directors were all admirals.

1. The General Marine Department had to set up the military conditions for the new constructions according to the instructions of the Secretary of State, taking into account the demands of the front.

2. The Shipyard Department was responsible for the development of small ships, vehicles and boats, and oversaw the Torpedo Inspectorate, which dealt with torpedo water, torpedo boats and submarines.

3. The Weapons Department was entrusted with the development of the guns and their ammunition and had to direct the firing tests when the armor plates were removed.

4. The Construction Department was responsible for the construction, subcontracting and construction supervision of battleships, cruisers and other capital ships. It was divided into the three departments of shipbuilding, engineering and administration, the heads of which were privy councillors. For this purpose, a military department was set up under a staff officer, who essentially held the position of assistant to the department director and whose cooperation in the completion of my special task failed due to the situation.

The shipbuilding department was divided into a number of departments, of which the one for the construction of the small cruisers was assigned to me when I was transferred to the RMA.

When I reported to the Secretary of State that I was about to take up my duties, he surprised me by asking whether I dared to take on the construction of the capital ships that had become necessary for us after England's surprising construction of dreadnoughts. — My doubts as to whether this task would not outgrow my head in addition to my duties as head of department for the small cruisers was justified; I didn't say it, however, and found the courage to answer the Secretary of State's question in the affirmative, with the caveat that I would be spared unforeseen resistance in my duties.

Fortes fortuna juvat, the ancient Romans said: If you have courage, you should also have luck! That also applied to me; for I must attribute it to particularly fortunate circumstances that I succeeded in solving this task in a timely and satisfactory manner.

First of all, I was fortunate to find a sufficient number of well-trained employees who showed the best will to devote themselves to the new task with all their abilities under my leadership. The fortunate circumstance was that the mechanical engineering department had an understanding boss in Privy Councilor Veith, who ensured that the cooperation between his

department heads and me went smoothly, which cannot be underestimated given the great importance that the mechanical side of the overall construction has could. The officers of the Weapons Department and the other military groups of the RMA with whom I had dealings also endeavored to avoid impeding cooperation, in particular not to get involved in purely shipbuilding questions.

But perhaps it wasn't just luck that I had to thank for all this, but probably also a certain skill in dealing with people, whether they were equals or subordinates, fellow professionals or not.

What I had particularly feared was the tension that the special assignment given to me would create between me and my two direct superiors, the head of department Privy Councilor Rudloff and the department director Admiral v. Eickstedt, which had to arise because they were eliminated from the design of the capital ships. But this fear was unfounded; for evidently the authority of the Secretary of State was sufficient.

On the other hand, during the entire period that Privy Councilor Rudloff remained in office, I could only regret that he, who had been a benevolent superior to me in the shipyard service for years and was universally valued as a practically and theoretically recognized shipbuilder, had to suffer from this neglect, which was probably the result of a - perhaps unjustified - underestimation of his official performance by v. Tirpitz.

The accommodation of our staff in the old rooms on Leipziger Platz was not opulent in 1905, but it was sufficient, especially because the offices and drawing rooms were large enough and close together. But when the RMA moved to its new office building on what is now Tirpitzufer shortly before the war, we received rooms that were satisfactory in every respect. Unfortunately, today this large building has to house many authorities.

I now turn to the work itself, to which I have had the privilege of dedicating myself for twelve years.

The course of construction was as follows: On the basis of the general conditions for armament, armour, speed, steam line, etc. drawn up by the Secretary of State after hearing the first design formulated by the General Naval Office, a design sketch on a scale of 1:500 was made. After approval by the RMA departments involved and approval by the Kaiser, draft plans were produced in 1:200 and sent to the departments involved for criticism, together with an accompanying text that also contained an estimate of the price. The negotiations that were then necessary only led to partial agreement, so that the State Secretary's decision on the building plans had to be brought about in a final meeting, after which the building regulations and final ship plans were then drawn up by the Construction Department. Until I left the service, the finished construction documents for all battleships and cruisers were supplied by the office itself, not just the projects.

Our further task was to assign the contracts and to monitor their execution.

The negotiations on the forgiveness, which took place under the chairmanship of the head of the administration department, were called upon by the instructions of the state secretary in a number increasing from year to year, but only to such an extent that, according to human judgement, their employment with quality work was assured. The three state shipyards in Wilhelmshaven, Kiel and Danzig were only given new contracts to the extent that they could train their staff, use their facilities and serve to control prices and performance over the private shipyards. Due to the limited budget, the prices had to be reduced when the forgiveness was granted, so that the shipyards often groaned heavily and v. Tirpitz could not acquire any special affection from them. In the end they found commendable work without risk through directing commissions and became happier.

The first class of battleships designed by me was the Nassau class, whose displacement (size in metric tons [t]) was about 50% larger than that of the battleships previously built. Since the tests of the Nassau were satisfactory, design followed design in the following years, increasing in size and cost of the ships, so that by the war there were six designs for 21 large battleships and eight for 14 battlecruisers, which grew from 19,000 to 33,000 tons . The last ten ships could no longer be completed or even start construction because there was a lack of personnel and material during the war.

There were also eleven designs for 22 light cruisers from 4300 to 5600 t.

According to the will of the Secretary of State, the external impression that we appeared to England as pacesetters had

to be avoided in all construction work for reasons of foreign and domestic policy. On the other hand, everything should be done to increase the quality of the ships in the details that are not easily recognizable from the outside, even if this results in considerable costs. v. Tirpitz was therefore always ready to approve the large sums, even for lengthy trials to determine the usefulness of proposals made to him, despite the tight budget approved by the Reichstag. In doing so, he showed not only generosity and consistency, but also an amazing technical talent; a sum of properties that will not be found again any time soon.

I will now enter details that seemed particularly important to me for solving the task at hand. Since, according to my experience in the shipyard, the building regulations and the weigh logs for the hull were insufficient documents for the correct determination of the weights and costs, I took it upon myself to rework these documents so that they corresponded better to this purpose both in terms of subdivision and content. I personally completed this task over a period of several months with the support of my friend and building supervisor Arendt, who was working at the Wilhelmshaven shipyard at the time. The makeover was worth it; because even with our first dreadnoughts, the Nassau class, the deviation of the weight from the predicted weight was limited to fractions of a percent, which also remained the case with all subsequent large battleships, battle cruisers and small cruisers, while the first English dreadnoughts seem to have exceeded their intended draft quite significantly (cf. the 1913 yearbook of the Nauticus). I am pleased to hear that the calculation documents I received are still being used with the factual supplements that are due to the technical and material-related developments that have taken place in the meantime.

In all drafts, the achievement of the greatest possible sink safety by extensive subdivision of the ships into watertight compartments and cells was of particular importance. When the naval engineers of the British Navy inspected our ships after the war, they were astonished at the "almost honeycomb-like" subdivision, as they put it. It was of course not enough simply to include the many bulkheads (watertight walls) in the plans, but it also had to be ensured by the construction of the bulkheads and the reduction in the number of their openings with doors, pipes, cables and speaking tubes that their watertightness remained secured even in the event of a fight if they were not directly damaged by hits. Therefore the regulations for the bulkhead tests were tightened and new regulations were worked out for the execution of door, hatch and channel closures. For the capital ships I also introduced a watertight center aisle, which was not allowed to have any openings, running from the front to the rear command center through about half the length of the ship along the armored deck. It accommodated all the lines that did not necessarily have to be routed through bulkheads, and at the same time served for secure combat traffic between the two conning towers. The drainage and flooding devices (means for emptying and filling the rooms with water) were also improved and new regulations for their operation were issued. The improvements aimed at the complete independence and mutual exchangeability of the individual groups. The flood installations did their part to ensure that our capital ships were spared explosion catastrophes at the Battle of Skagerrak, as they swept over the two British battlecruisers "Queen Mary" and "Indefatigable*, which blew up man and mouse.

Since all of these measures have proven their worth in battle, which the enemy has also recognized, I assume that the above principles will be maintained even now.

Closely linked to the question of sink safety was that of stability (moment of force to ensure the upright swimming position). It was a great risk I took in order to increase the stability of the capital ships when I decided to increase the metacentric height (lever arm of this moment) to two and three times what was previously considered correct. For the non-specialist, it should be explained that as stability increases beyond a certain level, movements in rough seas become more uncomfortable, so that not only the crew's well-being but also the usability of the weapons suffers. After trials and calculations, I relied on the dampening effect of well-formed bilge keels (keels attached to both sides of the hull) and dispensed with artificial dampeners. The seaworthiness of the battle cruiser “Von der Tann” and the large battleships “Kaiser” and “König Albert” later proved that these decisions were correct.

Increasing the maneuverability of the large battleships was also a goal, since their dimensions made it necessary. I decided, while maintaining the distribution of the machinery to three propellers carried out on the last battleships, to use two balance rudders arranged side by side (rudders that are balanced to facilitate operation) to be provided and arranged in such a way that the propeller current flowed between them. The control effect proved to be good, so that the turning circle diameter of the ships remained smaller than expected. Probably only through their great maneuverability were the combat turns without collisions possible, which Admiral Scheer carried out to the astonishment of the opponent in the Battle of Skagerrak.

Furthermore, care had to be taken to ensure that the pane area offered by the battleships remained as small as possible and that not only the freeboard (height of the ship's hull above water) but also all superstructures were restricted. The latter was also desirable because of the fragmentation effect when hit. The previous thick battle mast was replaced by a tripod mast, which offered less target area and was designed in such a way that its stability was maintained even if one of the three legs was shot to pieces. With regard to superstructures, the picture has changed significantly in all navies since then; because everything that is now being piled up around the conning tower, above it and in other places on the upper ship, obeying necessity, lacks the above-mentioned understandable principle, mainly a consequence of the carrying of aircraft with their launch systems and the development of anti-aircraft weapons.

For a long time, consideration of the risk of splintering and the risk of fire had led us to switch from wood to sheet metal for the interior fittings of the ships and their fittings. This path has been further developed. When the English paid us their "friendly" pre-war visit to Kiel in the spring of 1914, we were satisfied to see that they had not yet taken any steps in this direction.

Reducing the probability of hits and reducing the risk of fire and fragmentation of unprotected parts was only a small contribution to protecting ships against hits. Much more important was the correct development of means of protection against offensive weapons above and below water. Since the aircraft had no importance for naval warfare before the war, the armor of the upper body was only to be developed against flat trajectory projectiles, i.e. its weight was primarily to be applied, as before, for vertical armor made of Krupp steel, and secondarily for deck armor made of nickel steel which was distributed over two decks. The center nave received the heaviest armor for about 60% of the ship's length, so that the substructures of the foremost and rearmost gun turrets were enclosed by it. This best-protected part, which was also armored transversally, the "citadel" ranged from about 1.5 meters under water to the armored upper deck. At the ends of the ship, the thickness and mostly also the height of the vertical armor decreased. Significant improvements over the design on the last previously built battleships other than increasing armor thickness were not deemed necessary. This changed fundamentally after the war. The increased range of artillery and its improved tools, and even more so the development of the Luftwaffe with its bombs, has inevitably caused an increase in horizontal protection at the expense of vertical armor.

To protect the living structure (ship hull under water) of the capital ships against torpedoes and mines, we used two fundamentally different means of protection: outboard torpedo protection nets and inboard torpedo bulkheads.

The introduction of protective nets had already begun before the turn of the century. They were made of interwoven rings of steel wire, about four meters high, and were stowed when not in use in flat iron net boxes outboard at upper deck level. They were swung out on iron spars, and they protected the ship for most of its length, but only when not in motion; because then the nets floated up and lost their protective value. In addition, in combat, although they remained stowed, they offered the danger that their shreds would get caught in the ship's propellers after hits.

Since, at the beginning of my RMA period, net scissors were introduced which, attached to the torpedo head, cut through the single net, we had to decide on the construction of double protection nets, the outermost of which was hung on the correspondingly lengthened spars, an apparatus which served both. This was questionable because of its weight and the difficult maintenance and operation. All the trouble that it caused us to study it was in vain in the end; for the protective nets were given removed soon after the war began.

The solution to this question of protection, which was already implemented in the first capital ships, was far better: the installation of heavy longitudinal bulkheads made of nickel steel, which ran at a large distance from the ship's side in the entire area of the citadel and reached from the armored deck to the bottom of the ship. They were given the designation "torpedo bulkheads". At their ends they were connected from board to board by transverse bulkheads of the same type, so they were a continuation of the citadel down to the bottom of the ship. To determine their proper functioning, a floating explosive target of 1500 tons was built, which represented the changing cross-section of the projected ships and was blasted with gradually increased torpedo charges. These trials lasted about nine years and were approved by the Secretary of State, recognizing their importance given the high cost. The costs were worth it; for the torpedo bulkheads, which no other navy possessed, have often enough saved our ships from the most serious accident or sinking. As an example of its effect, I cite that the battlecruiser "Goeben" was not prevented from completing its tactical tasks in two cases, once after two and a second time after three mine hits, while the English battleship "of the same age and size" Audacious" was lost to a single

mine.

It is therefore to be wished that in our current new construction the torpedo bulkheads and their details, in particular their distance from the ship's side, will continue to be accorded the importance they possess.

I now go into the armament of the capital ships. Apart from the caliber of the heavy guns, which in the battleships was increased from 30.5 cm without transition to 38 cm, in the cruisers the same increase was experienced, but with the interposition of 35 cm, the number of barrels and the grouping formed questions that were constantly discussed. All the guns were mounted in twin turrets (turrets with two guns), as was the case with the previous battleships. My proposal to use triple turrets (turrets with three guns) for the most recently designed ships because of the weight savings they made possible was rejected by the Weapons Department. Its introduction was reserved for the post-war period. The changing grouping of turrets in successive ship classes was dictated by changing views on tactical issues and eventually led, as in other navies, to the erection of superimposed turrets (towers one firing over the other). Gunnery trials at Meppen determined the smallest elevation of the barrels that could still be fired from the upper turret in close combat without disturbing or endangering the operation of the lower turret. The armor protection of the turret bases was improved compared to earlier in that it was brought down as a cylinder down to the citadel and the armored deck and mounted in such a way that the carriage base could not be damaged by hits on the armor.

In contrast to England, we stuck to a powerful, well-protected medium artillery from the very first capital ship. England followed us later in this. The caliber remained 15 cm as before, and it was set up in an armored overall casemate on the upper deck, which was divided into individual casemates by heavy splinter bulkheads. Placement of part of the 15 cm in turrets was rejected.

The small artillery of 8.8 cm caliber was only protected by shields.

The torpedo armor of the capital ships caused us some difficulties. It was to consist of four tubes, one tube each on each side of the ship in the bow and stern underwater, which was particularly undesirable because it required two excessively large rooms reaching from board to board in places exposed to torpedoes and mines which practically had to remain unprotected, a disadvantage which was in no way outweighed by the advantage that the tubes were better protected against projectile hits than if they had been housed in the upper ship. The tactical disadvantage of these fixed tubes was that they could only be aimed by maneuvering the ship itself. In addition, the rate of fire was very low. With the caliber of the torpedoes increasing from 45 to 60 cm, the shipbuilding difficulties became greater and greater. The reason why above-water swiveling tubes were not introduced was probably that the military feared that the torpedoes would detonate if they were hit by a projectile. The demand that the rate of fire be increased eventually led to an outrageous project of the Torpedo Inspectorate, which consisted of a huge drum-type turret into which three or four torpedoes would be loaded and fired in rapid succession. Thank God, this fantasy product, which demanded an unacceptable amount of space and weight, apart from the question of whether a more powerful weapon was actually created with it, remained on paper. Since the Battle of Skagerrak seems to have shown that torpedoes have little chance of hitting well-maneuvering ships (cf. Frost: Grand Fleet and High Seas Fleet), the refusal to meet exaggerated requirements for this weapon was all the more justified.

The questions connected with the machinery of the ships were simpler for me than the questions of protection and armament; because in all the years of my activity in the RMA there was only little development in this area, and I left this area to the head of the mechanical engineering department, Privy Councilor Veitb, with justified confidence, after I realized that he was ready to take into account demands that I had to make in the interest of the overall construction. I don't remember any real fights with him or his department heads.

I can only remember one case that created a certain amount of tension: The mechanical engineering department had planned a large diesel engine from MAN (Mascinenfabrik Augsburg-Nürnberg) for the center shaft of the battleship "Prinzregent Luitpold", but the lengthy workshop tests could not be completed in time, so that the ship had to be put into service with only two engines. Fortunately, it was still able to take part in all of the fleet’s without being out of the ordinary.

The question of fuel associated with the engine system was not only determined by the required steaming distance, but even more by the type of fuel. The question of whether to carry coal or oil, and in what distribution, had a considerable impact on the overall design. Since coal requires far more weight and space than oil for the same power output, these two

points initially seemed to be the only ones involved. More important, however, was the fact that the coal, if arranged correctly, offers good protection against projectile, torpedo and mine hits, while the oil itself needs protection, i.e. it should only be stored in well-protected places if dangerous fires etc. were to be prevented. The bulk of the coal was placed in bunkers in the boiler room area, reserve bunkers were housed above the engine rooms and outside the torpedo bulkheads, which in exceptional cases had to be fitted with particularly well-secured, very small bunker doors for coal removal. The space that was needed for the coal in the upper ship was lost for accommodating the crew, but this disadvantage could be accepted because of the protective value of the coal. However, this advantage of coal was not the decisive factor for its extensive retention, but the well-founded fear that an adequate supply of oil would be impossible for us in the event of war. All these considerations applied to a similar extent to the small cruisers, which I shall now discuss.

A particular difficulty in their construction lay in the condition that they should serve two purposes at the same time, for which England could afford two quite different types of ship: for service as a scout in the fleet and for service abroad as a station ship. Especially for this reason v. Tirpitz had to fight stubbornly and tediously with the front line commanders about their armament, since he considered the previous gun caliber of 10.5 cm insufficient for their task in fleet combat and therefore proposed fewer but heavier guns. The same number of guns as before would have required a considerable enlargement of the ships, which was not permissible because of the costs. Therefore he had the most diverse designs for armament with 13 and 15 cm guns set up, all of which ended up in the wastepaper basket because the front line commanders declared the number of guns to be more important than the caliber. Already the first experiences of the war proved that v. Tirpitz was right, and now the finished cruisers and those still under construction and planned were armed with 15 cm guns. Since I had to design the small cruisers, the requirement was also made that they should have side armor, albeit thin, in addition to the arched armored deck as protection, instead of the cork dam that had been planned until then, which offered no real protection, but could only prevent provisional water penetration and should serve to ensure stability, a somewhat gray theory. The weight required for the side armor had to be obtained by savings on other parts of the hull. This task was solved by permanently installing the armor made of, for example, Nickel steel as part of the outer skin and switching from the mixed frame system (reinforcements of the outer skin transversally and longitudinally) generally used for warships to a purely longitudinal frame system. This design had been used in various designs on some merchant ships abroad for about eighty years, but had to be significantly improved in order to be really usable. For the tests and calculations necessary for the development of this new frame system, I have to thank the master builder Pietzker, who was snatched away from us as early as 1913 by a tragic fate. The great weight saving that was achieved by this construction while at the same time increasing the strength determined me to also provide it for the lower hull of the recently designed battlecruisers. Unfortunately, the war prevented it from being carried out. I hope, however, that this method of construction will now be used more extensively than was possible for me.

All in all, I can be satisfied with the results of my twelve years of work at the RMA, and I feel the need to take this opportunity to thank those fellow professionals who have made a particularly important contribution to the success. In addition to their names, I will mention the titles they last bore and the tasks that essentially fell to them:

H. Hüllmann, Private Superintendent:
organization of the overall work and important suggestions in individual questions

E. Bockhacker, Private Superintendent:
construction and construction control of ships, torpedo nets

K. Konow, Private Senior Architect:
general regulations, construction of the first battle cruiser

A. Dietrich, Building Supervisor:
designs for four battlecruisers

H. Ahnhudt, Building Supervisor:
acting as my personal assistant, designs for the last few battlecruisers

H. Paech, Building Supervisor:
bilge, flood and fire extinguishing systems, designs for the last large battleships

A. Blechschmidt, Building Supervisor:
designs for the small cruisers

H. Burkbardt, Building Supervisor:
strength and material issues

O. Schlichting, Building Supervisor:
towing tests, shaping of the hull

H. Lottmann, Building Supervisor:
department assistant, negotiations with other departments

F. Pietzker, Master Builder:
strength issues and development of the longitudinal frame system

The fact that the usefulness that Germany could have had from its fleet was tragically stunted was unfortunately the fault of the Kaiser himself, who never tired of promoting its development before becoming acquainted with all technical questions of the Navy, both in lectures that I had to give him in the presence of the Secretary of State, as in the service of the RMA, where the need repeatedly arose to deal with ideas and plans that the Kaiser in the course of business had allowed. The hesitant use of the fleet, which was already apparent at the beginning of the war, when it could have been used with the greatest chance of success, was all the more incomprehensible to me. I couldn't come up with this absurd idea that one must avoid its serious use so that it would still be available intact at the time of the peace agreement.

How much v. Tirpitz has suffered from this and other consequences of an often changing and wrong naval warfare, which to prevent him was obstructed by the weak and mistrustful Reich Chancellor and a camarilla who feared his superiority and under whose influence the Emperor made his decisions, v. Tirpit "Political Documents" of 1924 and 1926 show clearly enough. On the rare occasions that I had during the war to see the Secretary of State, his bitterness was unmistakable, and I have a particularly wistful memory of our reunion at the beginning of June 1916, when I asked him, who had resigned months before, who attended the Battle of Skagerrak. He later thanked me in heartfelt words for what I had created in his mind, and I had to force myself to hold back the tears.

After the pitiful conclusion of peace, the English hurried to inspect our ships under construction, which we unfortunately had to put up with. But that the ships treacherously interned in Scapa Flow escaped them, I wrote sincere thanks to Admiral v. Reuter, who saved them from the undignified role of ending up as targets for British firing tests or as showpieces for curious Englishmen.

The result of the extensive sniffing of our ships under construction by the English after the end of the war was a lecture given by their chief designer to the English Shipbuilding Society on March 16, 1921, in which he criticized our ships with the popular bias towards British achievements. I could not refrain from giving him a detailed reply, which appeared in the magazine "Schiffbau" of July 6, 1921 and has received due attention from the English, as their press indicated.

Among other things, the specialist newspaper Navy and Military Record wrote on August 10, 1921 with the reserve required of its fellow countrymen: "It must be admitted that in the art of warship building we can study with advantage some principles and methods preferred by the German designers, considering that several of their ships have shown admirable characteristics in the trial of battle."

This, albeit timid, concession by the former “shipbuilder of the world” was finally enough for me.

As a personal result of my work, in addition to the great satisfaction that my work has given me and the recognition it has received from Grand Admiral v. Tirpitz, consider the appreciation that was repeatedly expressed to me on my 75th birthday and showed me that despite my long retirement I had not been forgotten.