# Master Thesis Project

## Front page for the Master’s thesis

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### Title, Danish:
Tyske ubåde fra 2. Verdenskrig i danske farvande

### Title, English:
German World War II Submarines in Danish Waters

| Min./Max. number of characters: 144,000 – 192,000 (60 – 80 normal pages) | Number of characters in assignment\(^1\): 179,040 |
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I hereby declare that I have drawn up the assignment single-handed and independently. All quotes are marked as such and duly referenced. The full assignment or parts thereof have not been handed in as full or partial fulfilment of examination requirements in any other courses.


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Abstract
This thesis describes the history of German submarines from the Second World War in Danish waters. It focuses on two types of German submarine IXC/40 and XXI and specifically the submarines U-534 and U-3523, but also covers the general development and history of German submarines. The last days of the Nollau Group describes in detail the movements and fates of the four submarines U-534, U-3523, U-3503 and U-3017 on their way from Germany towards Norway in the final days of the Second World Ward.

The thesis also examines and presents the views and motivations of the different stakeholders in German submarines today to try and uncover which rules are in place that that the stakeholders operate under and how each stakeholder affect the submarines. The stakeholders are the two Danish bureaus Slots- og Kulturstyrelsen and Søfartsstyrelsen and the German bureau Bundesamt für zentrale Dienste und offene Vermögensfragen (BADV), the maritime archaeologist and curator at Langelands Museum Otto Uldum. It also includes three private stakeholders: Gert Normann Andersen, Åge Jensen and Stig Thornsohn.

The presentation of most of the of the stakeholder’s views and interests have been based primarily on interviews with them, but some of the stakeholders have simply been communicated with through conversations on the telephone or by email.

Dansk abstract

Specialet undersøger og præsenterer også forskellige interessenter i de tyske ubåde og deres synspunkter til og motiver med dem, og søger at afdække hvilke regler de forskellige interessenter opererer under og hvorledes hver interessent påvirker ubådene. Interessenterne er de danske departementer Slots- og Kulturstyrelsen samt Søfartsstyrelsen og det tyske Bundesamt für zentrale Dienste und offene Vermögensfragen (BADV) endvidere marinarkæolog og museumsdirektør for Langelands Museum Otto Uldum samt tre private aktører og interessenter: Gert Normann Andersen, Åge Jensen og Stig Thornsohn.

Den overvejende del af præsentationen af interessenternes holdninger er baseret på interviews med dem, men nogle af interessenterne er der kun kommunikeret med via en simpel telefonsamtale eller via email.
German WWII Submarines in Danish Waters
Identifying the interests of different Stakeholders and their impact on our Cultural Heritage

Introduction
Last year (2018) was the 100-years anniversary marking the end of World War I and with that anniversary all shipwrecks in Danish waters from that war have now finally, due to their age alone, officially been designated cultural heritage. This means that the wrecks from World War I are now protected legally and no permits for souvenir collection from them or salvage will be approved by Søfartsstyrelsen, and in general it is now illegal to interfere with these heritage sites. In 2045 the same protection will be bestowed on the last of the, mostly German, ships from World War II. But until then, wrecks from the last war are not protected, with a few recent exceptions.

And then also just last year, Gert Normann Andersen´s Sea War Museum announced that they had discovered the location of a submarine that had long been searched for, the U-3523. This submarine is the exact same type of submarine as the museum ship Wilhelm Bauer, which is exhibited at the Maritime Museum in Bremerhaven.

When one thinks about German submarines in Danish waters, one inevitably thinks about the raising of the submarine U-534 in 1993, and all the media attention it gained. Today that submarine is also on display, exhibited in Birkenhead as part of the U-boat Story, so apparently some military vessels from World War II are quite interesting to a lot of people, even though the wrecks are too young to be considered cultural heritage.

It is well known, that there are many that consider original effects from World War II very interesting as collectibles, and to many sports-divers a souvenir from a military wreck is more fascinating than a souvenir from the wreck of a civilian vessel. So I wonder, if the wrecks from World War II will be very negatively impacted by the historical enthusiasts who dive on them in the approximately 25 year timespan between now and the time when the wrecks will become cultural heritage sites, with the legal protection that designation ensues.

Objective
It simultaneously interests and vexes me that shipwrecks in Denmark suddenly become legally protected cultural heritage once they are exactly 100 years old, since the archaeological value of these wrecks hardly change from one year to the next. Wrecks from World War II in Danish waters are not old enough to be considered cultural heritage yet, but the naval history of the Second World War was just as dramatic as that of the First World War and it deserves to be preserved for posterity. Therefore, I have decided to explore which interests (stakeholders) there are in the - not yet - maritime cultural heritage from the Second World War, specifically German submarines, and what different views, interests and impact these stakeholders have on the submarines.

• The objective of this thesis is to uncover and clarify: what are the interests and motives of the stakeholders in German submarines, and which conditions and regulations apply to the wrecks of the German submarines from the Second World War which are in Danish territorial waters?

Looking specifically at the German submarines will help me focus my work, but at the same time most of the interests, conditions and regulations that apply to the German submarines also apply to any given type of
WWII wreck, so it should be possible to make some conjecture from any knowledge I present, and apply it to other types of military vessel from World War II.

Methods
The main way of gathering data for my thesis was through talking with knowledgeable and official interests and by conducting interviews with them, where possible, since I believe that the best way of understanding what people would like and what they think, is to simply ask them about it. There are many ways of going about this, but I felt that for this topic the most appropriate way was to conduct “sit-down” interviews with the respondents where this was possible, and where this was not possible, I have communicated with them via telephone or by email. In the end I chose to conduct three interviews with four respondents, and three of the respondents were chosen because they are in some way directly connected to the two case studies I am using.

Identifying Stakeholders
Identifying who exactly can be considered as stakeholders was the first thing to do, and I decided to focus on two main interest groups; official stakeholders and private stakeholders. The official stakeholders are the bureaus that oversee and manage the wrecks. In Denmark these bureaus are Slots- og Kulturstyrelsen and Søfartsstyrelsen. Because the submarines are of German origin the state of Germany also hold interest in the wrecks and this interest is managed by the Bundesamt für zentrale Dienste und offene Vermögensfragen (BADV). Another official group of stakeholders are the maritime archaeologist who represent the museums that manage Danish underwater cultural heritage. This group is represented by maritime archaeologist Otto Uldum from Langelands Museum.

The private stakeholders were more difficult to define, because in a sense this group includes everyone that have an interest in wrecks from World War II, but I decided to focus on two subgroups; the stakeholders that have a lot of impact on the wrecks and the stakeholders that have little to no impact on the wrecks. This last group of stakeholders include the sports divers that although they sometimes collect souvenirs only have an impact because of their number. The private stakeholders with a large impact on the wrecks are Gert Normann Andersen, Åge Jensen and Stig Thornsohn.

Gert Normann Andersen was the one who discovered U-3523 last year, and Åge Jensen and Stig Thornsohn were behind the raising of U-534 in 1993. In this study I use them to represent the general private interests. They do not agree on everything, that would be weird, but since they are all very well-known both in maritime circles and in the general public, I asked them not only about their own opinions but also what they think about what the other private stakeholders, like sports divers and the (non-diving) public have. Normann Andersen has his own museum, the Sea War Museum in Thyborøn, and his interaction with visitors (who are also stakeholders) framed some of his responses. In hindsight I should have asked Otto Uldum more about this as well.

The third respondent Otto Uldum was chosen because he has been very vocal and passionate in the public debate about our underwater cultural heritage, especially concerning wrecks from World War II, and in this study, he not only represents himself but also the general point of view of the Danish maritime archaeologist. Naturally not every maritime archaeologist in Denmark share his interest in military WWII wrecks, but I would surmise most would share his viewpoints on cultural heritage, if not his passion.

The interviews
The interviews were basically unstructured in nature since my intention was to uncover and understand something that I did not previously know, but I did write questionnaires in advance of every interview to
make sure that I had covered everything I needed to know, but the questions should never hinder that important information surface, so I constantly had to keep track of what questions or topics the respondents had already covered during the interview, and at the same time try not to lose track of any interesting new development in the interview I had not anticipated. In the presentation I also try to note which questions I now regret that I did not think to ask at the time. A short summary of my biases and expectations prior to conducting the interviews will be made when I present the individual respondents. I relied on Interview, Introduktion til et Håndværk by Kvale & Brinkmann for my interviews.


A short presentation of the cultural heritage legislation in Denmark, Germany and Sweden (since these are central to the case studies) will help me frame some of the respondent’s argumentation, and this will be covered in the thesis where they are mentioned instead of in a separate part.

Apart from the interviews I have contacted the two official Danish departments; Slots- og Kulturstyrelsen and Søfartsstyrelsen, and the German Bundesamt für zentrale Dienste und offene Vermögensfragen (BADV) and made inquiries regarding the official position or attitude in certain questions. The people I have talked with have all been very helpful and forthcoming but conducting a real on the record interview has been either impractical or not possible. I have of course taken notes during these conversations, so these inquiries help me understand the day to day practice of the bureaus and the attitudes towards the cultural heritage, and this information I paraphrase rather than cite in my presentation, where I instead quote directly from my interviews.

Case Studies U-534 and U-3523

Hopefully investigating and presenting my two case studies will allow me to ask and answer relevant questions having to do with real factual matters, instead of only asking non-specific general questions and writing about something purely abstract. Theory and the more abstract considerations are certainly important, but I suspect that without this basis of factual examples it will not allow me to fully explore exactly what people say or think, which is my overall aim with this thesis.

The reason I have chosen these two specific submarines is threefold. Firstly and secondly U-534 is a famous submarine, currently a museum ship, of which a lot has been written since it was raised in 1993, while U-3523 is virtually unknown and was just discovered last year (this discovery was also what interested me to begin with), so a lot has probably changed the interim 25 years both in case of perception - how different people think of the wrecks, and with what the legal framework is now vs. then.

Just as one example of this; in 1993 there was no study for Maritime Archaeology in Denmark. The third reason is because the submarines on their final journey where part of the same group of submarines, the Nollau Group, as they left Germany and so their fate is already intertwined in a sense, and this would make it easier for me to compare them vis a vis legal and heritage matters.

Historical Background

To help me present the two case studies U-534 (type IX) and U-3523 (type XXI), I first describe and discuss the development of the different types of submarines in a historical context to try and answer, what was their development, production and their general significance for the war effort of the Kriegsmarine? I do this to try and judge the historical and archaeological importance of each type by providing their background. In order to provide further context, I will also make a description of the history of German WW2 submarine
wrecks in Danish waters and describe what has happened with them before, and how many of them are left today? The names of the different submarine commanders are from:


I then document the movements of the Nollau Group which incorporated both case study submarines in the final days of the war. This is to see if there is anything that could be said to give one or more of the submarines a special archaeological or historical significance as important cultural heritage as well as to help me answer certain legal questions regarding the ownership of the wrecks.

So, the first historical description focusses only on development and generic type and the second is a history of German submarine wrecks in Danish waters, whereas the third historical description will focus on the four specific submarines of the Nollau Group, two of which are my case studies.

**Other Sources**
Because of its nature, this thesis will not be a very literature-based study. However, the first historical description, the matter being generic, will be based solely on literary sources. I want to describe what separates these submarines from each other – why are they different?

The second historical description is also based primarily on literary sources, but this is supplemented with old newspaper articles and testimony from the actual participants as well as discussions I have had with an amateur expert in the field named Flemming Hansen. Flemming has provided me with a lot of information and most of the photographs I use, and he showed me how to find and understand the German enigma messages.

The third description, this being very specific, will be based highly on primary sources such as maps, enigma messages and RAF b which I will weigh against each other in the presentation where they seem to contradict each other. This will be supplemented with secondary sources such the testimony of survivors from newspaper articles and literary sources. The positions of the submarines given in this thesis are based primarily on:


This was the first work to collectively cover German submarine losses, and it is still considered the standard reference. I have also made great use of the webpage *ubout.net* (which usually refers to Niestlé on positions) and to a lesser extend *vragguiden.dk*.

**German U-Boot production**

**Submarines in World War I**
Although Imperial Germany initially only had a small submarine program in the beginning of World War I, this was a great success, and the program was expanded greatly and between 1914 and 1918 German submarines sank more than 5200 Allied and neutral ships. (Delgado, 2011)

The British blockaded German ports since the beginning of the war, and the Germans responded by blockading Britain with submarines, which eventually escalated into unrestricted submarine warfare in February of 1915. This policy of unrestricted submarine warfare meant that the seas surrounding Great Britain and Ireland were henceforth considered a warzone and all vessels, be they military or merchant and
regardless of whether they were enemy ships or from neutral countries, would be targeted, and the use of prize rules were abandoned. The concept of prize rules mean that the submarine will surface and inform the (civilian) target that they are going to attack and allow the passengers and crew time to leave the ship. This aggressive measure caused some political blow-back when the U-20 sank the Lusitania which angered the Americans to such a degree that the Germans had to temporarily cease their submarine operations around Britain lest they provoke the Americans to enter the war. However, in 1917 Germany was faced with the fact that they had to renew their operations around Britain, but this time they used prize rules to stop angering the Americans, which in turn led the British to develop the Q-ship, which was a camouflaged warship, made to look like a merchant ship, that would attack the submarine the moment it surfaced. (Delgado, 2011)

The First World War also led to many other new technical developments in anti-submarine warfare like the depth charge, and a new navy and armament, and this was introduced by British as a necessary response to the success of the German submarine warfare. (Delgado, 2011) (Parker, 2008)

Although Germany lost the war the submarines had proven themselves very successful, and the technological development meant improvement in size, speed and armament, and this development of newer more refined submarines continued after the war.

Interbellum

Germany was forbidden to build new submarines after the war, but secretly operated a “Dutch” submarine design bureau where German engineers kept researching and improving submarine technology. The submarines produced by the company Ingenieurskantoor voor Scheepsbouw were sold to Finland, Spain and Turkey. (Delgado, 2011)

Even before Adolf Hitler attained power in 1933 Germany had already begun to stockpile materials for rearmament and a new navy was scheduled to be ready by 1938 which included three new types of submarines - type IA, type IIA and type III. When Adolf Hitler gained power the rearmament program really gained steam and he repudiated the Versailles Treaty. (Parker, 2008)

In 1935 the Anglo-German Naval Agreement meant that Germany could maintain a much larger submarine force (though still much smaller than the British), and the same year the first post-war German submarines were produced in Germany. These submarines were type IIA and type IIB (displacing 250 – 275 ton respectively) (Miller, 2000) but soon the focus in production changed to the much larger type VII submarine and eventually they build the type VIIC which displaced 750 ton. The type VII submarine type would become the most produced submarine class in history (with a total 703 built in different variations) The type VIIC is probably the most famous type of submarine today because it was featured in Das Boot. When the Second World War began in September of 1939 the Kriegsmarine only had a total of 57 submarines. (Gallop, 2015) (Miller, 2000)

U-Boot type IX

Work on the submarine of the IX series had already begun at the end of 1935 with a memorandum from the Kriegsmarine about the political and strategic position of Germany which now required focus on new combat missions. The original design, that was derived from the Type IA, was completed between 1935 and 1936 and it was built as a large ocean-going submarine intended for sustained long-range operations. There were five variants of the IX type: type IXA, type IXB, type IXC, type IXC/40 and type IXD of which type IXC and IXC/40 were the most numerous with 54 and 87 build respectively. (Parker, 2008)
The first type IX submarine to be produced was the U-37 (type IXA) which was launched on May 14th in 1938 and commissioned on August 4th the same year under the command of Kapitänleutnant Heinrich Schuch. (Busch, 1999)

The type IXC was a further development of the IX class with an additional 43 tonnes of fuel storage, which increased the boat's operational range. The U-166 (a type IXC) was sunk in the Gulf of Mexico, which indicated the long range of this submarine. Type IXC/40 was yet another improvement of the Type IXC with a slight increase in operational range (13,850 nautical miles vs 13,450 nautical miles) and an incrementally higher surface speed (18.3 knots vs 18.2 knots).

The first type IXC/40 submarine was the U-167 which was launched March 5th in 1942 and commissioned July 4th the same year under the command of Kapitänleutnant Kurt Neubert. (Busch, 1999)

Submarines in World War II

Soon after the outbreak of the war priorities in German ship production shifted from surface vessels to submarines, because the surface fleet could not compete with the British. Only those ships which were nearly ready were completed, and the production of submarines was supposed to rise from around 2-4 a month to between 20-25 a month. (Gallop, 2015)

The objective of the German submarine warfare was again to starve the British military of everything from oil for their ships and raw materials for the production to food for their mouths, and the U-boote were the only possible means of achieving this. (Delgado, 2011)

In October of 1939 Adolf Hitler ordered German submarines to stop using prize rules when they attacked British and French merchant vessels, but to keep using prize rules against other nations vessels. The British responded by adopting the convoy system like in the Great War to keep their supplies safe to which the Germans responded with the Rudeltaktik, or wolfpack tactic. This new tactic was initially very successful, and the latter half of 1940 was known to the Germans as the “Happy Time” in the submarine war. (Gallop, 2015)

U-Boot type XXI

The type XXI submarine was an innovative new class of German Elektroboote submarines designed near the end of the war. In total 118 were completed, but only four were made completely combat ready. During the war only two were put into active service and went on patrols, but neither of these ever saw combat. (Parker, 2008)

The first submarine of type XXI, which entered service, was the U-2501, commissioned on June 27th in 1944 and commanded by Oberleutnant zur See Otto Hübschen, but the first submarine of type XXI made for actual
combat was the U-2511, commissioned September 29th in 1944 and commanded by Korvettenkapitän Adalbert Schnee. He was on his first patrol when he received news of the cease-fire agreement and returned home without firing a single torpedo. (Busch, 1999)

Strictly speaking, the U-2501 was not the first electric submarine. The first Elektroboot was a small Küsten-U-Boot category submarine of the type XXIII with a displacement of only about 250 tons. The first deployed type XXIII (the U-2321) was assembled in Hamburg on April 30th in 1944. When development began on the larger type XXI in late 1942, it was decided to develop a smaller version with the same advanced technology to replace the type II Küsten-U-Boot. (Miller, 2002)

These Electroboote were the first submarines designed to operate primarily submerged, where the earlier submarines had to spend most of their time as surface ships and could only submerge for shorter periods to escape detection. The XXI incorporated more batteries to increase the time they could stay submerged (as much as several days) and using the schnorkel they only needed to surface to periscope depth to recharge. The schnorkel was raised no more than once a day and used only for recharging batteries. The design included many general improvements as well: much greater underwater speed by an improved hull design, greatly improved diving times, power-assisted torpedo reloading and greatly improved crew accommodations. (Parker, 2008)

This photograph above illustrates the way the submarines were constructed in separate sections (only seven sections are shown here) for a type XXI submarine. The Montageplan below shows the eight sections.
Because the development and construction program for the type XXI submarines was behind schedule, Oberbefehlshaber der Kriegsmarine Karl Dönitz asked the Reichsminister für Bewaffnung und Munition Albert Speer to take control of everything connected with the production of the new submarines. Speer used the method he had already mastered elsewhere, where many smaller enterprises are involved in production and where separate sections, in this case 8 sections, were built. The final assembly would then be carried out at large shipyards. But because the submarine sections were too large to be transported by railway, the production in this case had to be located along the banks of rivers and canals.

With this new organization of production, the Allied forces were no longer able to disrupt the entire German submarine production with one blow. The assembly of the submarines was originally supposed to be carried out in a concrete bunker, but this bunker was not finished in time, so all type XXI submarines were assembled at the open stocks of three shipyards: Blohm & Voss in Hamburg, A.G. Weser in Bremen and Schichau-Werke in Danzig.
The Nollau Group
The Nollau Group was a group of four submarines; U-534, U-3503, U-3523 and U-3017 that in the last days of the war first met near Stevns, referred to as Anchorage T in the Enigma messages and on the maps used by the Kriegsmarine. The group was named after Kptlt. Herbert Nollau who was the commander of U-534 and the leader of the group. The other commanders were Oblt.z.S. Willi Müller of the U-3523, Oblt.z.S. Hugo Diering of the U-3503 and Oblt.z.S. Rolf Lindschau of the U-3017. (Busch, 1999)

Nollau was the officer with the highest rank and longest service record of the four commanders, so it was a standard practice of the Kriegsmarine that he was made commander of the group even though his submarine, a type IXC/40, was quite inferior to the other three more modern type XXI submarines. Another good reason was the superior anti-aircraft firepower of U-534 compared with the others because in the case of an attack, the leading submarine would remain surfaced and cover the others while they submerged to escape. Only when everyone else where safe, would the commander submerge. This practice came in full effect on May 5th, 1945.

The map shown to the left is a Danish post-war map, but it is based directly on the WW2 German maps used by the Kriegsmarine and shows the safe routes - Zwangswege - and anchorages. This was still very important in the early post-war years, because the seas where still littered with minefields and they posed a real threat for many years, as did the wrecks from sunken ships. As late as June 18th, 1954 the ship Monika hit a mine near Frederikshavn (luckily with no casualties).

If you look closely south of Helsingør, you can see a small anchor symbol and the Letter O 56°1,00’N - 12°37,90’E. North-west of Helsingør is Anchorage L 56°8,20’N - 12°26,40’E and directly to the south, just east of Copenhagen, lies Anchorage M 55°44,30’N - 12°41,30’E. The route going through the Sound is route 32. This route begins south of Møn and ends just north of Sjælland.

Unfortunately, this Danish map does not show the Punkt Verzeichnisse that a war-period map of the Kriegsmarine has. These points would, indicate, among other things, where support ships where located and they were colour coded based on which naval HQ was in charge of it – e.g. Punkt Rot 01 54°29,80’n / 10°17,80’e was at the Feuerschiff (lightship) by Kiel, where the Kriegsmarine had its Marinestation der Ostsee and from which the war effort in the Baltic Sea was led. Punkt Rot 07 is east of Fehmarn 54°25,80’n / 10°40,20’e and Punkt Schwartz 18A 57°32,00’n / 11°21,60’e is where route 48 and route TANNE intersect.

U-534 arrives at Kiel on April 29th and on May 1st U-534 departs Kiel with U-369 and on May 2nd U-534 reports
having joined the Lech Convoy whereas U-369 reports having already reached Anchorage O by Helsingør and is awaiting orders.

On May 2nd U-3523 and U-3017 also departs Travemünde (by Lübeck) with a steamer convoy bound for Kiel – speed 8 knots. They report their fuel to be 250 cubic metres diesel and 220 cubic metres respectively. Later the same day they both depart Kiel and report arriving and anchoring at Rot 07 awaiting further escort. U-534 does not report being at Rot 07 until May 3rd.

Already on the 3rd of May Guardship 101 reports that U-369 is now laying at the sea bottom awaiting a convoy to proceed its journey with. U-3503 reports leaving Kiel at 06:00 and arriving at Geltinger Bucht at 10:30 with 20 torpedoes and fully equipped except for oil of which it only has 10 cubic metres. It requests to bunker.

U-534 at this point is at Travemünde by Lübeck with U-2534 from which it is bunkering oil. Then it is requesting an answer as to where to scuttle U-2534 and the order is given to sink U-2534 outside of the mine-swept channel and proceed to Geltinger Bay, which is in Flensburger Förde just opposite of Sønderborg. In an interview with a Danish Newspaper in 1977 former crewmember of U-534 Oblt.z.S. (Ing.) Ludwig Schlumberger records how the crew of U-2534 had disembarked at Fehmarn. He explains how prior to the Operation Regenbogen, they had long been kept at harbour, on account of how the fuel consumption of the larger types of submarines was deemed to be great and so the focus in the war effort had shifted to using smaller submarines. But the groundwork for Operation Regenbogen was now in effect, and fuel had to be scavenged wherever possible. He explains how they wanted to go to back to Kiel, but near Fehmarn they were ordered to go to Norway instead.

**Regenbogen**

From looking at the Enigma messages, one can see that in late April and early May a lot of Submarines are arriving at Horten in Norway and another big gathering point is Geltinger Bucht (or Geltinger Bay as it is also called in the translated Enigma messages). Geltinger Bucht is where the Kriegsmarine planned to scuttle a large part of their fleet of submarines in the Operation Regenbogen. The message on the right shows that serviceable submarines (like e.g. U-534) should prepare to go to Norway in subdivisions, whereas those not able to do so should instead “if at all possible” arrange for Operation Regenbogen in Geltinger Bucht.

On May 4th the night before the surrender May 5th 47 submarines were scuttled in Geltinger Bucht and a further 28 submarines were scuttled in Flensburger Förde by their own crews in accordance with their long-standing orders in order to
prevent them from falling into the hands of the Allies. Some of the submarines scuttled in Flensburger Förde (but it is unclear exactly how many of them) were on the Danish side of the border.

It was from the beginning of the war a standing order in the Kriegsmarine that a warship was to be scuttled if it was threatened to fall into enemy hands, and this instruction was specified in 1943 for the submarines of the Kriegsmarine and given the codeword "Regenbogen". This act of self-abandonment in a hopeless situation is not a particularly German idea and should not be interpreted as a sign of fanaticism but it is rather fully in line with the naval tradition of many countries, Denmark included. The self-abandonment, or scuttling, of the Danish fleet on August 28th, 1943 is just one such example.

The order to carry out Operation Regenbogen (the most immediate ‘Blitz’ command) was quickly revoked again the same evening. But the order being revoked did not deter the honorable and determined crews from following the initial command. In the first order Karl Dönitz, or maybe Hans-Georg von Friedeborg who was now in command of the Kriegsmarine, was careful however, to specify that no further scuttling take place after May 5th 08:00, lest he provoke the Allied forces and risk the peace settlement. That thought probably led him to rescind on the most immediate ‘Blitz’ command and try to stop Operation Regenbogen again before it really began and, in any case, most submarine crews did scuttle their vessels anyway against orders even after May 5th at 08:00.

U-369 departs Helsingør already on the 4th in accordance with these new orders and maybe this earlier departure, just one day ahead of the Nollau Group allowed it to reach Norway without getting attention from the British. She eventually surrendered at Kristiansand on May 8th in Norway, she was transferred to Scapa Flow on the 29th of May and was sunk on the 30th of November as part of Operation Deadlight.

On the 3rd of May U-3503, reports sailing from Kiel for Geltinger Bucht and later reports anchoring there the same day. U-3503 and U-2521 (the latter not part of the Nollau Group) are ordered to go to Punkt Rot 07 and come to the Otto Wünsche (spelled Wuensche in the messages). The Otto Wünsche was an escort vessel for submarines, which was attached to the 26th Flotilla from April 1945 until the end of the war. At this point in time it was stationed near Warnemünde (by Rostock). After WW2 the Otto Wünsche served in the Soviet Navy and was renamed as the Petschora.

U-534 reports on May 4th around 02:23 that it is now anchored at Anchorage T with U-3523 and U-3017. It is asking for orders to proceed. It repeats this message again later, and U-3017 also reports being laying at Anchorage T at 04:06. They are then given orders to continue their passage.
Early on May 4th at around 03:11 U-3503 reports to the Otto Wünsche that it has been at Rot 07 since 21:30 (the evening the previous day that is) according to its orders. It is heading for the Sound and now request to bunker from Otto Wünsche.

Again, the times given in the enigma message heading, stating both when the message was sent and received, are somewhat unreliable, but times given in the message prober, the times stated by the crew themselves that is, should be considered reliable.

To summarize: On the 4th of May U-3017 and U-3523 is anchored at Anchorage T (by Stevns) and then later the same day U-534 arrives and is awaiting orders and asking to proceed. They proceed to Anchorage O at 06:45 and are reported as being expected there at 12:00 by M-3824 at 10:29 the same day. Later again, but still on the same day, U-3503 also arrives at Anchorage O and the Nollau Group is now fully assembled. They are ordered to settle on the bottom and surface every six hours for further instructions at which point an escort vessel will join them.

In the evening of May 4th, the entire Nollau Group is now anchored at Anchorage O (by Helsingør) and is awaiting orders. They are then given orders indirectly (via the guardship) to proceed their passage unescorted on the surface, but before they can continue, U-3503 needs to bunker diesel.

So, while the submarines are laying here by Helsingør U-3503 (commanded by Diering) bunkers 140 cubic metres of diesel from U-3523 (commanded by Müller). This indicates to me, that the previous request from U-3503 to bunker from Otto Wünsche was not acknowledged for some reason, perhaps it was too busy, and time was short, or perhaps it was deemed too hazardous at the time. The submarines are submerged and anchored at the seafloor, since this is the safest position in case of air raids.
Onward Passage
During the night the Nollau Group receive orders to continue to Norway. These orders are not specifically meant for them, but general orders that apply to other submarines as well. The orders are for all submarines to go to Norway if possible, and if in German or Danish ports, roads or bays or south of latitude 55°10 north at 08:00 to carry out Regenbogen. The use of the English word road is probably translated from the German word Zwangsweg, which is the name of the specified routes submarines (and other ships) had to follow e.g. route 32 through the Sound, as I explained above.

Why this specific latitude was chosen as the demarcation is unclear. I suspect it may have been chosen because this latitude is approximately where the two straights Little Belt and Great Belt begin, and the Copenhagen Convention of 1857 made both the Belts and the Sound international waterways so this was in a way keeping with the text of the peace treaty, though perhaps not its spirit.

I have seen the latitude 56° north referenced other places as the demarcation, including in the interview mentioned above with Oblt.z.S. Ludwig Schlumberger from 1977 and 56° north does in a way have a better more formal ring to it, but erroneous testimony from former crew members are probably the reason for this mistake, since the referenced enigma message above is quite clear, and I assume that Schlumberger is confusing the two positions, because the Nollau Groups position on May 5th at Anchorage O was at almost exactly latitude 56° north, and besides the interview was conducted 32 years later so this is an honest mistake.

After surfacing early in the morning on May 5th the submarines depart from Helsingør, and head towards Norway, since their current position is to the north of latitude 55°10 north. The submarines leave Helsingør no later than 07:30 according to the enigma messages, and this is at least an hour before the time of the official German surrender at 08:00 Double British Summertime (which is the same as standard Central European Time).

It can sometimes be a bit difficult to interpret these enigma messages, and especially the times given in them, since there are always two times given – one for when the message was sent (in the top left), and one for when it was received (top right). On top of that, sometimes the messages were relayed, so the times given are not the original time of sending, but when they were relayed. To complicate this even further, messages were often sent repeatedly several times even well after the first original message would have been received, because either the part sending the message did not receive confirmation the message was received. As an example of this, a message was sent May 7th at 13:00 from that U-534, U-3017, U-3503 and U-3523 has left Helsingør May 5th at 07:30.

To further complicate, this the times given cannot be trusted entirely since it sometimes looks as if a message was received before it was sent, which obviously can not the case. In any case, the message apparently sent at 07:30 from Nollau (when leaving Anchorage T) states that they are underway since 06:45 and not that they
are leaving at 07:30, so it must have been sent while the Nollau Group was well en route. Likewise, the Nollau Group had left the anchorage at Helsingør at least 30 minutes before the surrender. The reason I stress this, is because the Nollau Group was therefore not required to surrender, in fact they were directly ordered not to, and at the time of the German surrender in Denmark the Nollau Group was not in Danish territorial waters which, apart from the Belts and the Sound (international waters), was only three nautical miles from land at the time.

An enigma message indicates that the Guardship at Anchorage O received orders to inform the Nollau Group that they should continue their passage unescorted via route 48 to Schwar 18A. The Nollau Group followed the Zwangsweg route 32 for a while to get clear of Sjælland and then headed straight north via route 48 as ordered, which would bring them in the vicinity of Anholt.

Oblt.z.S. Ludwig Schlumberger stated in the interview, that they were ordered to remain surfaced on their way to Norway by someone in Helsingør because of the impending armistice (his words), but maybe he is confusing or misremembering the orders delivered by the guardship. They were ordered to stay surfaced, this is evident from the enigma message, but their destination and the direction they were sailing meant that they did not comply with the prescribed procedures that indicated surrender. Perhaps this was meant as a ruse (that failed) or perhaps Dönitz and the Kriegsmarine were more willing to risk the lives of their seamen than the peace settlement? In any case, as they came near Anholt the Nollau Group was spotted and engaged by two RAF Liberators at 12:43.

The Attack
The two Bombers were: Consolidated Liberator Mk. VIII “E” from the 547th Squadron and Consolidated Liberator MK. VIII “G” KH 347 from the 86th Squadron. The planes only observed three of the submarines in the convoy because the rear most (U-3523) had hastily submerged.

At around 13:35 two of the submarines, U-534 and U-3503, fend off an attack first from Liberator “E” from the 547th Squadron which is shot down.

The submarines are led by U-534 and followed by U-3017, U3503 and finally U-3523 in the end. The rear most submarine had submerged before the first attack began, despite a standing no-diving order due to low depth and the threat of mines, so the RAF Operations Records only mention three submarines.

The group is then attacked again this time U-3017 submerged first followed by U-3503. This left U-534 alone, fully surfaced, to fend of the attack. Of the four submarines it was best suited for this job, and it did put up a valiant fight which saw the Liberator “E” from 547th Squadron shot down.
First U-534 was attacked broadside by six depth charges. The bombs in first attack missed, and U-534 returned fire with its anti-aircraft guns.

The second attack by the Liberator “E” came from portside aft and during the second attack it was hit by the antiaircraft and went down in the sea at around 13:39 on position 56°45’n / 11°52’e.

The photo on the left was taken from the Liberator “G” the moment it attacked U-534 and shows the crew huddled around the tower taking shelter. Another third plane - Consolidated Liberator Mk. VII “C” from 206th Squadron later arrived and witnessed and later reported the aftermath of the combat – a large oil slick and approximately 40 survivors in rafts and inflatables. One mile to the south it saw a smaller oil slick and wreckage from a Liberator. One survivor was seen clinging to a raft and a dingy and a nearby lightship was seen picking up the survivors.

This attack separated the remaining submarines, and they each followed different routes from here on. This is also were communication via enigma end until two of the remaining submarines U-3503 and U-3017 reach (relative) safety. U-3523 is never heard from again.
The Fate of U-534

As mentioned, when the U-534 began to sink there were 17 crewmembers on deck. The crew of U-534 abandoned ship, but five crew members got caught in the submarine, and had to evacuate wearing diving gear. This was later discovered to be at (ED50) 56°50,96’n / 11°47,38’e.

There was at first confusion about exactly which submarine had been sunk, because another rescue operation was taking place at the same time, though the circumstances of that operation were not nearly as dramatic as the one concerning U-534 since the U-806 had simply run aground near Århus and had not suffered any casualties.

Therefore, the enigma message that confirms that the 49 members of the shipwrecked crew (including the commanding officer) are safely aboard Guardship 101 incorrectly refers to the U-806, but in reality, the total number of survivors recovered corresponds precisely with the total number of survivors from U-534, and besides the U-806 was never attacked like it is stated in the message. Basically, this is just a misunderstanding - fog of war. The message states, that the 49 survivors are safe onboard and being fetched by an M-Boat. They are later reported arriving safely at Århus. In all there were three casualties – two are buried in Danish cemeteries and one remained at sea.

The Fate of U-3523

No enigma messages are heard from U-3523 after the Nollau Group left Helsingør but at 18:39 on May 6th Consolidated Liberator MK. VIII “G” KH 347 from the 86th Squadron (the same plane as the previous day, but with different crew) while at 57°55n / 10°55e reports attacking and bombing a snorkel approximately on position 57°52n / 10°49e. It is highly likely that the snorkel belonged to U-3523 commanded by Oblt.z.S. Willi Müller. The submarine sinks and the entire crew of 58 men is lost. At this point nothing has been seen or heard from U-3523 since it submerged the previous day during the engagement that sunk U-534.
The wreck of U-3523 was never discovered, or at least not properly identified, until Gert Normann Andersens survey last year showed that the wreck at (ED50) 57°53,13’n / 10°32,84’e (roughly 9.2 nautical miles from shore) previously believed to be M/S Pioner is likely U-3523, but this still is not certain although the wreck is clearly that of a submarine. The location of M/S Pioner was searched after for many years by divers, but the true location was discovered last just year by Gert Normann Andersen’s Sea War Museum. In 1957 the Danish diver Ove Scharff thought he had found U-3523 at 56°05,89’n / 11°06,79’e but this turned out to be the tug Wotan, and for a long time it was speculated whether the Soviets had secretly raised U-3523 (Johansen 1988).

The photo on the left shows the plaque in honour of the crew of U-3523 at the German U-Boot-Ehrenmal Möltenort.

The Fate of U-3503

The attack of the bombers in the Kattegat strait caused some damages to U-3503 and was silent running fully submerged and with only the electric engines at about three knots. She had to surface again because of stirred up sand and sludge at around 21:00 and soon after she once more had to make an emergency dive because of approaching planes. May 6th at around 01:00 she started sailing with the snorkel above water, so she could sail with both her main engines. Consolidated Liberator Mk. VIII “K” from the 86th Squadron had been following and searching for U-3503 for some time and at 03:39 the snorkel and a periscope was seen the searchlights. Six depth charges were dropped initially and then “K” let lose fire with all its guns at the water were U-3503 was seen. Afterwards an oil slick was seen, but no bubbles or debris. This attack hit the snorkel which meant that some of the exhaust from the main engines came into the submarine and made part of the crew (including Hugo Diering) sick. The submarine continues towards Gothenburg and surfaces in Swedish territorial waters around 05:00 having suffered only minor damages (Lindberg 2001).
At 07:50 she was approached by the Swedish destroyer HSwMS Göteborg and the delegation of Swedish officers that came aboard were told that the exhaust flaps and rudders were damaged. U-3503 can stay in Swedish waters for repairs until 17:00 but are given a now place to anchor, outside the sea lanes near Vinga Lighthouse. May 7th the destroyer HSwMS Norrköping relieves HSwMS Göteborg and Hugo Diering is brought to Gothenburg to negotiate with the Swedes about the internment of his crew. At 22:00 the submarine is prepared to be scuttled and all torpedoes are launched, and all secret papers and equipment are destroyed and thrown overboard. The next day the systematic destruction of the electronic equipment begins, and different handles are switched around in the engine room. May 8th at 17:00 Diering’s orders the aft most flood valves opened and as the submarine slowly begin to sink the crew begin to depart in small rafts with their private belongings. The Swedes try to prevent the scuttling but are ultimately unable, and at around 20:00 U-3503 had sunk at 20 metres depth at 57°39’n / 11°44’e. The Germans were picked up by the Destroyer and later interned at the internment camp Backamo. In the picture above U 3503 is still under the German military flag and the crew with their belongings are gathered on the upper deck, ready for evacuation from the stern. On August 24, 1946, the U 3503 was raised by the forces of the Swedish navy, and it was studied carefully but the Allies demanded that it was completely scrapped. During its service (launched 27 July 27th, 1944 and commissioned 9 September 9th, 1944) U-3503 only conducted training patrols. (Lindberg 2001)
The Fate of U-3017

Of the group that set out together, if you disregard the U-369 that forged ahead early that is, the sole survivor that accomplished its mission was the U-3017 since it safely made its way to Horten in Norway on the 6th of May. At this time Norway was still occupied, but occupying German forces surrendered there on May 8th. The submarine was transferred, first to Oslo on May 18th, and then moved to Northern Ireland arriving there on June 7th. U-3017 was repurposed as the British N-class submarine N-41 and used for testing until finally in November 1949 it was scrapped at Newport in Wales.

The photo above shows the U-3017 crew during maintenance work on their submarine at the base in Horten. Next to U-3017 lie the submarines U-3041 and U-2502. These submarines were all transferred to the British and in early June transferred to a base of submarines in Northern Ireland.
German Submarines in Denmark after the War

By the end of the Second World War there were a lot of German military wrecks in Denmark that had been either lost in action or scuttled at the end of the war. But there were also still fully intact submarines present in Denmark on May 5th and these submarines surrendered in accordance with the peace settlement. U-1233 (type IXC/40), U-680 (type VII) and U-155 (type IXC) surrendered May 5th in Båring Vig (North Funen near Middelfart) and U-806 (type IXC/40) surrendered May 6th at Aalborg (it had run aground the previous day).

All four submarines were sunk/scuttled by the Allies in Operation Deadlight on December 21st, 1945 in at 55°44’N / 08°18’W north of Ireland (preparations seen in the photo left). They were all of the older types of submarines and as such not really of any interest to the Allies, regrettably since U-155 had one of the most fascinating histories of all the German submarines.

The Tripartite Naval Commission divided the spoils of war, which included a total of 157 surrendered or interned submarines, in such a way that only 36 submarines were spared; 30 were allocated to the major Allied powers – ten each (England, Russia and The US), one was handed back to the Dutch Navy, four were taken over by Norway, and one was taken over by France.

But the events surrounding the surrender in Denmark and the Regenbogen order left submarine wrecks all over Denmark both as a result of combat, as detailed in the description of the Nollau Group, and as an act of abandonment. Submarines were scuttled sometimes in spectacular joint operations where several submarines were scuttled in concert. This was most numerous around Høruphav (or Höruper Hoff - though it is actually a bay) by Als, directly opposite Geltinger Bucht.

The Kriegsmarine had a Marine-Nachrichtenmittel-Versuchs-Kommando (NVK) at Høruphav named Hørup Klint (originally built in 1906 for the Kaiserliche Marine when it functioned as a torpedo station). It is reported that 8 submarines were in Hørup Hav on the 5th of May (or in the nearby Sønderborg Bugt) and all of them were scuttled. Anton Marckmann (Marckmann 2006) gives a detailed description, with many eyewitness accounts of the events, and many describe the following beachcombing by locals.
The moment the war ended, immediately operations began to clear the sea routes of the mines and wrecks that posed a threat to navigation, and soon after licenses to detonate and salvage the wrecks of submarines and other wrecks were issued by Fyr- og Vagervæsnet (which was the precursor to Søfartsstyrelsen). In July, demolitions of the wrecks in Flensburger Förde (Danish side) began, and the public was warned that bathing in the vicinity was dangerous. Focus was still primarily on the wrecks that posed a danger or were still clearly visible, sometimes partially above water due to the shallow depth at the place of their scuttling. Complete official registry of the wrecks was never attempted, but the positions of those that posed a direct threat to shipping were notified in Efterretninger for Søfarende, upon which Scrap harvesters acquired the permissions and descended upon the position. The news article on the left refers to applications for permits to scavenge half a dozen submarine wrecks, and specifically refers to four wrecks, one by Jernhatten and three elsewhere in Kattegat.

A survey of the positions, that was conducted in the late seventies, has shown that a lot of debris, often the keel, remained in many of the locations. The salvagers were only interested in the valuable metals, and Otto Olsen, a former ship’s captain, believes they only salvaged roughly about 75% of each wreck (Schmidt 1991). Some types of U-Boots were built with a detachable keel, which was used in emergencies to allow for the submarine to come clear in case of getting stuck at the seabed, so maybe this is the reason so many keels remain?

The innermost part of Høruphav, called Lillehav, is supposed to have been the final resting place of two submarines, and one of these was quickly discovered and harvested for valuable metals by the company Christensen from Korsør. The second submarine was never found, and it is speculated that one remains buried in the mud sediment. The other submarines were all located later, blown into pieces and dredged in smaller parts. (Schmidt 1991).
The Iron Age

After the war there was a serious lack of metals (a lack of everything really), and the precious metals and lead reached very high prices. After having obtained permission from the authorities to salvage materials from the submarines, professional salvagers were ready to salvage their valuable contents, including lead from the accumulators (part of the batteries), the bronze from the torpedo tubes and alloyed steel from the pressure hull (the internal hull of a submarine that maintains structural integrity).

The mine-free Høruphav had ideal working conditions with depths from 14 to 30 meters, calm water conditions and proximity to the harbour in Sønderborg. The man who was ultimately behind the salvage of most of the submarines in Denmark, though he did not carry out the work himself, was scrap metal dealer Karl Henry Andersen (in the photo above). All the salvage companies, including Svitzer, were ultimately contractors working on his behalf.

The Danish salvage company Svitzer, which was founded in 1833 as Svitzer Bjærgnings-Entreprise by Emil Z. Svitzer (probably the world’s oldest salvage company today) had different procedure than most of the others in that they would simply raise the entire submarine and drag them to Masnedø where they were scrapped at Karl Henry Andersen scrapyard.

One of the most renowned of the scrap salvage scavenger contractors who “harvested” several submarines after the war was Vilhelm Jensen, who with his grab-dredger Stenfiskeren Kirsten Jensen worked all over Denmark. The former head of the operation, and pilot of Kirsten Jensen, Otto Olsen recalls that they blew up 7 submarines in Høruphav, two of which were larger submarines (so probably the type IX or XXI), but he readily admits that they were more focused on tonnage than the exact number of submarines (Schmidt 1991).

In any case it has only been possible to identify five of the U-Boats in Høruphav, two of which are in fact of the larger types. But, the special Seehund class (type XXVII) was even smaller than the type XXIII and with only two crew.
Unfortunately, the fates of U-boats of this type is very poorly accounted for. If the eyewitness accounts saying 8 submarines were scuttled, then perhaps Otto’s memory is correct, and they did break and grabble 7 submarines - the diver’s report from a diver working for Svitzer (from 1949) certainly indicates this, but the last two (still unidentified) U-boats were probably Seehunde.

This could also be the case with the supposedly missing submarine in Lillehav, the innermost part of Høruphav, since naturally a type XXVII at only 11.86 meters length and 1.68 beam would be more difficult to locate than a type XXIII (34.7m x 3m) or the even lager type IXC/40 (76.76 m x 6.86 m) which also towered at 9.6 meters height including the conning tower. The diver’s report (shown left) refers to submarine number 7 and says it is approx. 230 feet in length (70 meters), so this is clearly either the U-351 (67.10 meters) or U-1234 (76.76 meters).

Otto Olsen also recalls a submarine located by Omø in very shallow water (U-2503), yet another submarine at Kobbelskov and one at Jernhatten by Greenå (U-1008) which is also mentioned in the news article above. He also recalls two by Fredericia, one of which they never blew up (he is probably referring to U-2338), and finally he mentions a submarine at Slettehage near Århus Bugt (U-2544). Of the five or so forests in Denmark named Kobbelskov, this must refer to the one at Sønderborg Bugt since this is the only Kobbelskov by the Sea, so likely this is U-37 he means.

Høruphav and Sønderborg Bugt

To summarise, the following submarines were broken apart with dynamite and grabble dredged in Høruphav in the years between 1946 and 1951. Especially U-37 had been successful with 11 patrols and 53 cargo ships sunk (200,063 GRT) and 2 warships sunk (2,404 GRT). The newer type XXIII submarines did not really get to do anything since they were commissioned late in the war.

<table>
<thead>
<tr>
<th><strong>Høruphav</strong></th>
<th><strong>Name</strong></th>
<th><strong>Type</strong></th>
<th><strong>Position</strong></th>
<th><strong>Salvage Year (approx..)</strong></th>
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<tbody>
<tr>
<td>U-351</td>
<td>Type VIIIC</td>
<td>54°53’n / 09°50’e</td>
<td>1948</td>
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<tr>
<td>U-1234</td>
<td>Type IXC/40</td>
<td>54°53’n / 09°49’e</td>
<td>1946 - 1951</td>
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<td>U-2352</td>
<td>Type XXIII</td>
<td>54°53’n / 09°50’e</td>
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<td>U-4701</td>
<td>Type XXIII</td>
<td>54°53’n / 09°50’e</td>
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<td>U-4704</td>
<td>Type XXIII</td>
<td>54°53’n / 09°50’e</td>
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<tr>
<th><strong>Sønderborg Bugt</strong></th>
<th><strong>Name</strong></th>
<th><strong>Type</strong></th>
<th><strong>Position</strong></th>
<th><strong>Salvage Year</strong></th>
</tr>
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<tbody>
<tr>
<td>U-37</td>
<td>Type IXA</td>
<td>55°55’n / 09°47’e</td>
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<th><strong>Position</strong></th>
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<tbody>
<tr>
<td>U-2544</td>
<td>Type XXI</td>
<td>56°06’n / 10°27’e</td>
<td>1952</td>
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</tbody>
</table>
U-2544 was scuttled on May 5th east-south-east of Aarhus, in position 56°06’ n, 10°27’ e. It was broken up and raised in 1952 by the grab-dredger *Kirsten Jensen* on behalf of Karl Henry Andersen and scrapped on Masnedø.

Many of the scuttled submarines that were scrapped can be identified in the *U-Boot-Archiv Möltenort* based on their final position. The document on the left is a (very short) testimony from crewmember *Obermaschinist* August Maassen which states:

„Kurz vor Kriegsende auslaufen von Kiel. Nach der Kapitulation in Aarhus Dänemark selbstversenkt."

Professional dredger Peter Madsen from Århus who was also among the first to conduct demolitions of submarines in Flensburger Förde, is supposed to have salvaged 4.

### Storebælt (near Omø)

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th>Position</th>
<th>Salvage Year</th>
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</thead>
<tbody>
<tr>
<td>U-2503</td>
<td>Type XXI</td>
<td>55°09’ n / 11°08’e</td>
<td>1950</td>
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Like many other submarines U-2503 was heading towards Norway in the last days of the war, when it was attacked May 3rd when it was caught on the surface by RAF near Omø Light Tower in Storebælt. It was hit by at least one rocket, which caused severe damage and killed several of the crew. U-2503 was beached off Omø and the surviving crew disembarked. The next day the wreck was blown up.

### Sydfynsk Øhav (near Ærø)

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<th>Position</th>
<th>Salvage Year</th>
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</thead>
<tbody>
<tr>
<td>U-2538</td>
<td>Type XXI</td>
<td>54°53’n / 10°15’e</td>
<td>1950</td>
</tr>
</tbody>
</table>

U-2538 was scuttled on May 8th, 1945 near Marstal south of Ærø. The wreck was raised by Svitzer in 1950 and scrapped at Masnedø.

### Lillebælt (near Fredericia)

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<th>Name</th>
<th>Type</th>
<th>Position</th>
<th>Salvage Year</th>
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<tr>
<td>U-2338</td>
<td>Type XXIII</td>
<td>55°34’n / 09°49’e</td>
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U-2338 was attacked and sunk in Lillebælt by RAF aircraft on May 4th, 1945. It was the only type XXIII to be sunk by the enemy. There were 12 dead and one survivor. It was raised in 1952 by the salvage company Svitzer on behalf of Karl Henry Andersen and was scrapped at his junkyard on Masnedø.
The submarine U-2365 was raised in September of 1956 by the newly formed German Federal Navy, the Bundesmarine (which today is called Deutsche Marine) and commissioned as U-Hai (S 170), under the command of Kaptlt. Walter Ehrhardt (the former commander of U-1016 in the Kriegsmarine) where she served ten years until 1966 when she sank on Dogger Bank in the North Sea during a storm. Of the twenty men strong crew there was only one survivor. U-Hai (S 170) was raised again just five days later and was finally scrapped. This is one example where the post-war German state has raised WWII German submarines in Danish waters. Another possible example is the Wilhelm Bauer (see below).

U-2365 was scuttled on May 8th in what was then international waters. As far as I have been able to read or hear, this operation was not conducted in coordination with Danish authorities, but maybe it was, and it was just kept secret. It was a quick operation, and Germany had just entered NATO (in 1955) so they were now officially our allies in the cold war, and besides the position was still international waters in 1956.

U-2367 - the sister-ship of U-2365 - was raised in August of 1956 near Schleimünde a month before U-2365 and commissioned as U-Hecht (S 171) in October of 1957 under Kptlt. Hans-Heinrich Hass (former commander of U-2324 in the Kriegsmarine). U-Hecht was decommissioned in 1968, so U-Hai would probably have been decommissioned at the same time had it not sunk before. Both submarines functioned as training vessels for the Bundesmarine.

The famous submarine Wilhelm Bauer (formerly the U-2540 type XXI) was also raised (June 1957) by the Bundesmarine. The U-2540 was scuttled May 4th, 1945 near the lightship in Flensburger Förde. It functioned as a research ship until 1980 and was transferred to the Deutsches Schifffahrtsmuseum at Bremerhaven in 1984 where it has been since. The reason I bring the Wilhelm Bauer up here, is because I have been unable to find the exact position it was raised, so it seems possible to me that it was actually located in the Danish half of Flensborg Fjord. There were many submarines scuttled in Flensburger Förde and no one really know exactly where or on which side of the border.

The Golden Age

The focus on salvage merely for valuable metals changed in 1958 when the wreck of U-843 (type IXC/40) was raised near Læsø by the Norwegian salvage contractor Ejnar Høving and transported Sweden. The U-843 submarine was heading back to Germany from the Far East and contained extremely valuable cargo which German archives indicate contained 110 ton of tungsten in the keel, 10 ton of natural rubber, 300 kilos other resources and almost 500 kilos of kinin and 500 kilos of opium. The submarine was attacked and sunk by Allied aircraft on April 9th, 1945 leaving 44 dead and 12 survivors. (Schmidt, 1991) (Duve, 2016)
U-843 was scrapped in Gothenburg and the dead crewmen were identified by German representatives of the Volksbund Deutscher Kriegsgräberfürsorge and buried in Sweden. The raising of U-843 left a lot of Danes feeling like they had been cheated of their prize, because there were many interests that had begun to investigate the possibility of raising it. Because there was so much money involved there have been a lot of lawsuits following the raising, and many divers and salvagers have made claims on part of the financial profits from the endeavour. The reason it is included here, is because it influenced the Danish approach and because there have been many claims that U-834 was in Danish waters (so the position is incorrect). In 1959 Danish Professor of Law Max Sørensen made a notice concerning the issue which read:


Professor Sørensen's viewpoint referenced above has been very influential and still seems to be the viewpoint of contemporary Danish authorities, and it was certainly still the viewpoint in 1993 when the question of ownership was brought up again.

From this point onwards searching after submarines became a quest to find Nazi-treasure, and myths started to circulate about The Golden Submarine that was supposedly filled with Nazi gold. In particular U-534 (which was the same type as U-843) was rumoured to be the submarine that was transporting Nazi-gold out of Germany in the last days of the war. (Duve, 2016)

One of the Divers that invested the most time and energy in the search for U-534 was Åge Jensen. He had actively been searching for the wreck since the seventies. In 1976 sports divers from the Randers-based diving club Poseidon discovered a submarine and for a long time Åge Jensen and many others claimed they had discovered the final position of U-534, but this was in fact the much smaller U-251 (type VIIc). The divers had immediately applied for a permission to raise the wreck, upon which Farvandsdirektoratet conducted a survey and officially concluded that it was in fact U-251. Of course, there was also an economic benefit in perpetuating the idea that it was U-534 because reporters would buy photographs of the wreck and pay to
be a part of the excursions to the dive site. The sports divers got the permission in 1977, but it was not the permission they had hoped to receive, because the conditions of it meant they would not be allowed to keep anything from the wreck (like cargo) which was not a part of the vessel itself. (Bech, 2010)

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In May of 1977 the Germans (BRD) made a formal inquiry to the Danish Foreign Ministry to inform them and recommend, that the salvage permit should be annulled and that the submarine should be left in place so as not to disturb the peace of the grave. The Danish Foreign Ministry responded that the submarine belonged to Denmark because it was located in waters under Danish jurisdiction, but then did subsequently forbid any intrusion into the wreck, and when Farvandsdirektoratet discovered that many items had been removed from the wreck they demanded that they were handed over or the salvage permission would be revoked. But the harsh conditions of the salvage permit were enough to keep the U-251 in situ and in October of 1977 the permission expired and in 1978 Danish Navy divers sealed the entrance to the submarine.

In June 1986 Åge Jensen and Steen Johannsen (a diver and friend of Åge) finally discovered the real U-534 and as soon as they came ashore, they applied for a salvage permit. The news about the discovery was spread and the craziest theories started to emerge about the history and contents of the submarine. Åge and Steen temporarily ended their friendship, and Åge applied for a salvage permit again by himself. The permission was eventually granted, but not before 1990 and the conditions of the salvage permit were even harsher than they were for the U-251 back in 1977. Farvandsvæsnet stated that the legalities of the submarine were covered by Strandingsloven, that U-534 was an ownerless ship and as such it belonged to the Danish state.

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After many attempts to change the conditions of the permit and finding sponsors to finance the raising Åge negotiated a deal that was acceptable to his new sponsor Carsten Ree, who was willing to invest the millions it would take to raise U-534. The actual raising would be carried out by the Dutch company Smit Tak. The German Embassy in Copenhagen sent a written notice to the Department of Foreign Affairs and tried to prevent the raising as they had done with U-251 by claiming that it was German property and the salvage would be a violation of German ownership, but this request was refused by the department because U-534 was legally considered an ownerless vessel by Danish law. (Bech, 2010)
After the submarine was raised it became apparent (if it was not already) that there was no gold on board, and the plans for the curation of the vessel fell apart as well. None of the Danish cities that had initially given interest in housing the submarine wanted it anymore, and the submarine was placed temporarily in Greenå.

Demolitions experts carefully handled the munitions and found the inner parts of the torpedo warheads were still completely dry and functional (photo on the left). The torpedoes and other explosives were destroyed in a controlled demolition as sea. The prime state of the explosives perfectly illustrates, that Søfartsstyrelsen are not just overreacting when they voice their concern over anything that has to do with the wrecks of military vessels.

Åge and Sten today readily admit that the handling of the wreck once it was raised was a bit careless, and they both believe that many of the people who helped clean the submarine probably helped themselves to a souvenir (which Otto Uldum would likely find a bit ironic).

Four containers filled with mud (30 ton) dredged from the interior of the submarine were sold to an Antiquities dealer from Ebeltoft and he sifted the mud for contents and found numerous items (bottles of aftershave, buttons, sunglasses, gasmasks, chess pieces, clothing etc.) but nothing of any real monetary value. The items were later rebought by Carsten Ree and became part of the exhibition in Liverpool.

U-534 was eventually left in the care of the Warship Preservation Trust in Birkenhead (near Liverpool), and transported there in 1996. The Warship Preservation Trust took the submarine on loan for 1 euro per sold ticket for a period of four years. The museum closed in 2006 and in 2007 the Merseytravel transit authority bought the submarine for 1 Euro and cut it into five pieces and put it display at the Woodside Ferry Terminal where the exhibition U-Boat Story was opened in 2009. The photo on the left is U-534 at Greenå.

Slots- og Kulturstyrelsen
The legislation governing artefacts from Denmark’s past can be historically traced all the way back to Jyske Lov dating from 1241 in which it states that, should a man find gold or silver while ploughing then this belongs to the crown. Heritage concerns about our cultural heritage were probably not the reason behind this law, but it does show that people have been aware of artefacts from our past for a long time.
Today our cultural heritage is overseen and managed by Slots- og Kulturstyrelsen, and the legal basis for this management is called the Consolidated act of Museums (*Museumsloven*) from 2002. The purposes of this law are numerous:

- To promote the activities and cooperation of museums with a view to safeguarding Denmark’s cultural and natural heritage and ensure access to and knowledge about this heritage and its interaction with the world around us.
- To ensure the performance of tasks relating to walls of stone and earth as well as ancient relics or monuments.
- The Act apply to museums owned by the state under the Ministry of Culture and to museums receiving state subsidies pursuant to the Act (there are 43 state subsidised museums in Denmark).

Today all archaeological findings (not just gold and silver), whether at sea or on land, is legally the property of the Danish State. There is a reward or finder’s fee for anyone who discovers an artefact. Since the state as a default legally owns all the archaeological findings, individuals who discover “heritage” objects, will receive a (symbolic) reward from the state, through either The Museum of Natural History (*Danekræ*) or the National Museum (*Danefæ*) for their discoveries.

If, however, the discovery occurs during a survey or another project financed by the state this fee is forfeit. The exact amount of the finder’s fee is determined by either the National Museum or Museum of Natural History respectively, but some of the people I have interviewed suggest that it is too symbolic, which can lead to different kinds of fraud with the artefacts.

**Maritime Regions**

Denmark is divided into regions, each with its own territorial responsibility, and the responsibility of Maritime Archaeology falls under one of the Museums in each of these regions.

The specific museums who are overseeing the maritime archaeological surveys and excavations and managing the cultural heritage in the five maritime regions of Denmark are:

- Langelands Museum (Fyn and Southeast Jutland)
- Vikingeskibsmuseet (Sjælland and Bornholm)
- Moesgaard Museum (Eastern Jutland)
- Nordjyllands Kystmuseum (Northern Jutland)
- Thorsminde Strandingsmuseum (Western Jutland)

Langelands Museum (led by Otto Uldum), has the maritime archaeological responsibility for the waters surrounding the island of Fyn, and the eastern coast of Jutland from the German border to Vejle Fjord (not including). This means that all maritime archaeological findings in this region, is the responsibility of the Langelands Museum, but the matter of setting the finder’s fee still falls under either the Museum of Natural History or the National Museum.

Even though Langelands Museum (or one of the other local museums) manages the archaeological activities in the region, the main responsibility for all archaeological activity falls under the Minister of Culture, who
has the final say. The Minister can decide in case of dispute between museums, or in order to make sure that international guidelines are upheld. This means that even though Otto Uldum is the curator and manager of the maritime cultural heritage in the region of “his” museum, he still must answer to the Minister of Culture and must report all archaeological findings to either the Museum of Natural History or the National Museum. In the case of an archaeological survey or excavation in their region the responsibility belongs to Langelands Museum.

There are some specific paragraphs in museumsloven that apply to specifically maritime archaeology, such as the age of wrecks. In this case the Consolidated act of Museums specify that a wreck must be assumed to be at least 100 years old, before it can be considered as cultural heritage (Danefæ).

Also, there is a specification that if the wreck is found in the exclusive economic zone (outside of 24 nautical miles) it is regarded as being outside Danish waters as regards Danish legislation.

§ 28 a. Fund af fortidsminder, herunder vrag af skibe, skibsladninger og dele fra sådanne skibsvrag, der må antages at være gået tabt for mere end 100 år siden, ajort på den dybe havbund, jf. stk. 2, af danske statsborgere eller af et dansk indregistreret fartøj, tilhører den danske stat, medmindre andre lande eller private kan bevise deres ejendomsret.

The last part here, which states that wrecks (actually anything deemed cultural heritage) found outside the contiguous zone by Danes or Danish vessels belong to Denmark, unless another country or private interest can prove ownership, is very interesting. Because, as I read this, if a German submarine wreck become cultural heritage and is then henceforth protected by this law, then German authorities can seek to prove their ownership which they could try to do by referring to international law.

Why they would do this is another question, because today Germany prefers that their wrecks are left in place undisturbed, especially if there were sailors that drowned, which is what the legal protection is meant to ensure in the first place. The only instance where it would become an issue is if Danish archaeologist would want to raise the wreck.

Stk. 2. Ved den dybe havbund forstås den havbund og dennes undergrund, der ligger uden for grænserne for national jurisdiktion.

§ 29 g. Der må ikke foretages ændringer i tilstanden af fortidsminder på havbunden, hvis de befinder sig i territorialfarvandet eller på kontinentalsoklen, dog ikke ud over 24 sømil fra de basislinjer, hvorfra bredden af det ydre territorialfarvand måles.

Stk. 2. Der må ikke foretages ændringer i tilstanden af vrag af skibe eller skibsladninger, der må antages at være gået tabt for mere end 100 år siden, hvis de befinder sig i de områder, der er nævnt i stk. 1, i vandløb eller i søer.

Stk. 3. Kulturministeren kan bestemme, at vrag af skibe eller andre fartøjer, der er gået tabt for mindre end 100 år siden, skal være omfattet af bestemmelsen i stk. 2.

It is this final part of the law (stk. 3) that Slots- og Kulturstyrelsen has now decided to use more extensively than they have done before. I have talked with Torben Malm, the head of the maritime department of Slots- og Kulturstyrelsen, and he explained to me that when they are only just working on this now, it is because they had previously interpreted this part of the law differently, in another way, from what they do now. This information was a bit complicated to comprehend for me as a layman, but basically from what I heard him say, they previously considered it necessary to make an executive order (bekendtgørelse) where the Minister
lays down a law, where the rules are about how one should act vis-à-vis a specific wreck, whereas now they interpret the law in such a way that they can just issue instructions or guidelines (vejledninger) on which specific wrecks are henceforth considered of special interest, instead of making a specific new ruling.

**Special Interest Wrecks**

Torben Malm and his department is in fact the authority on this matter of maritime cultural heritage, and legally they represent the Cultural Minister. Maritime archaeologist and former SDU student Kasper Sparvath has been tasked with figuring out which criteria should be considered.

So, in order to select which wrecks are interesting enough to be considered of special interest a wreck should fulfil one or more of the following three criteria:

- **Historical:** The wreck should have the potential to inform us of the past. A special focus is placed on the wrecks research potential, it’s potential as a museum exhibit and the potential to function as a dive experience for sports divers.

  Kasper Sparvath told me in writing that although we do not operate with the terms of war grave or peace of the grave in Denmark, if there were people that drowned or were killed in the event of the sinking, then this fact would be considered here under this criterion since that would be an important part of the wrecks history.

- **Type:** This criterion takes the technological importance into consideration, and again there is a special focus on the research potential. This criterion considers any special innovative characteristics of the wreck’s construction or of its armament.

- **Cargo:** This wreck has a cargo with a special value for the cultural heritage. In this consideration special focus is put on the size/amount of the cargo, its character, its condition and its history.

I have been informed that they are currently operating with a list of wrecks which includes about 100 wrecks (more than 100 actually), but since they have only just started this work, it will be a while before they are done. Unfortunately, I have not been able to obtain the list of wrecks being looked at, because Kasper Sparvath is on leave and will not be back before this thesis is handed in, but I questioned Torben Malm specifically as to whether any submarines were included. He did not remember specifically, but according to him, there will never be given permission to raise another submarine in Denmark again, nor would anyone get permission to collect souvenirs from one, if he had anything to say about it (which he does).

**Søfartsstyrelsen**

Just like with our laws concerning our cultural heritage, laws concerning salvage and beaching have a long history in Denmark, dating back to at least the middle ages. With Strandingloven from 1895 Salvage Corporations were established on a regional basis, and this law still form the basis of the rules that govern salvage in Denmark, but of course today it has many amendments.

The law specifically states in § 6 that the Danish authorities have the right to remove any wreck that is considered a danger or hindrance to ship traffic or fishing. This was practised a lot in the first couple of years after the Second World War, and although it says that the owner should be notified and asked if they wish to salvage the wrecks themselves I am not really sure the Germans were consulted that much on the process, but on the other hand it goes on to state in § 7 that the owners are financially responsible for any expenses sustained connected with the removal, and I do not think the Germans ever paid anything for it either, so.
§ 6. Når et skib er sunket eller strandet i de i § 2 nævnte farvande under sådanne omstændigheder, at vraget er til fare eller væsentlig ulempe for skibsart eller fiskeri, foranstalter Forsvarsministeriet, så snart det er kommet til kundskab om sådant skibsforlis, vraget afmærket, såfremt dette anses nødvendigt, og vedkommende private ikke alt har foretaget sådan afmærkning. Ministeriet retter derhos forespørgsel til ejeren eller dennes repræsentant eller den til vraget berettigede om, hvorvidt der af vedkommende vil blive gjort børgningsforsøg over for vraget. Samtidig med denne forespørgsel tilkendegives det den eller de vedkommende, hvilken vanddybde over vraget der skal tilvejebringes, og inden hvilken frist vraget skal være uskadeliggjort.

If anyone wishes to either salvage from or collect souvenirs from a wreck, they must apply to Søfartsstyrelsen for permission. I have spoken briefly with Jan Ole Anker from Søfartsstyrelsen about the process involved and what considerations they normally take. He informed me, that upon receiving such a request, they would always consult with Slots- og Kulturstyrelsen, if they had any suspicion at all that the wreck in question had any historical significance, and if it was a military vessel, they would also always consult with minørkorpsen (a military corps that deals with explosives) and hear if they considered it safe, or if the military should be involved in the raising and disposing of any explosives. During the raising of U-534 the torpedoes that were still onboard were found to be in surprisingly good (and dangerous) condition.

To Søfartsstyrelsen the primary concern as far as wrecks are concerned is the safety of shipping and fishing (and diving), and everything else is not their consideration, but as mentioned, the do consult Slots- og Kulturstyrelsen, if there are any doubts, and they follow the guideline presented by Slots- og Kulturstyrelsen. As an example, on their homepage where you apply for permission to collect souvenirs it is clearly stated that some wrecks younger than 100 years can also be considered historically significant.

Der gives kun i særlige tilfælde tilladelse til at bjælge vrag, der er beskyttet af museumsloven. Loven omfatter alle vrag, der er forlist for mere end 100 år siden, eller vrag som Kulturstyrelsen har vurderet, har en særlig historisk betydning.

The statement above concerns salvage, but the same general disclaimer is made in connection to souvenirs. Furthermore, in the application the diver must state the purpose of collecting the souvenir and explain where it will be kept or exhibited. The diver is expressly forbidden to sell the souvenir and it is required that he gives a detailed description of the wreck and its exact position.

Regarding any diplomatic issues with foreign wrecks, Jan said that these were dealt with on a case by case basis, but as for the question of ownership of a German military wreck, anything in Danish waters is considered Danish property, as far as he was concerned. I must absolutely state here, that this should not be considered an official Danish position, since I have not been able to get one from neither Torben Malm or Jan Ole Anker, and both indirectly informed me that obtaining one would actually require an answer from a Minister, something which would take a long while, and so I never actually tried to get one.

Bundesamt für zentrale Dienste und offene Vermögensfragen

In Germany there are two bureaus that handle lost and found German property, the Bundesanstalt für Immobilienaufgaben (BIMA) and the Bundesamt für zentrale Dienste und offene Vermögensfragen (BADV). BIMA is the legal owner and administrator of state property, including former property like e.g. wrecks, so when a lost WWII bomber or other state vessel is discovered in Germany this is the authority you would have to notify, and then they (as the legal owner) would have to make a decision as to what should happen with it.
However, this only applies to property (vessels or objects) found in Germany or in German territorial waters. For wrecks located abroad, a different bureau is responsible and assumes legal ownership. This institution is called BADV. The man in charge of BADV is Herr Harald König, and he was very friendly and willing to answer any questions I asked of him, but I had to be very specific and give him all the details about the U-3523 before he could give me a precise answer as regards the German position on ownership, so I sent him the part of this thesis called The Nollau Group, where I detailed the last movements of U-3523 and three other submarines, and his answer is based on that information (and I suppose he has his own information as well).

The reason I say this is naturally that if there is any fault in his answer, it should then be absolutely clear that it is my responsibility.

„In Rechtsnachfolge des ehemaligen Deutschen Reiches sieht sich die Bundesrepublik Deutschland grundsätzlich als Eigentümerin u. a. von ehemals reichseigenen Schiff- oder Flugzeugwracks. Dies schließt jedoch - in Einzelfällen - nicht aus, dass es sich unter Umständen um Kriegsbeute und damit Eigentum des ausländischen Staates handeln kann, auf dessen Gebiet sich die Rüstungsgegenstände befinden.“

The Federal Republic of Germany views itself as and is considered a successor state to all the former German States, so they regard any property of these States to be the property of the modern Germany. However, I believe this only applies to German property that was lost in action. If the submarine was first captured and then lost, it is property of the nation it was captured by.

Furthermore, Herr König specifies that a local law could supplant this ownership if it was put in place as is the case in e.g. Norway. I really regret that I did not also ask Herr König about the many submarines that were scuttled at the end of the Second World War in Danish waters, because I wonder what this act of abandonment means as regards the ownership. On the issue of war graves Herr König refers to international law, and specifically refers to an American law:


The agreement Herr König refers to is an agreement between the Governments of France, Germany, Japan, Russian Federation, Spain, United Kingdom and the United States of America. The part that deals with Germany states:

**Germany:** „Under international law, warships and other vessels or aircraft owned or operated by a State and used only on government non-commercial service ("State vessels and aircraft") continue to enjoy sovereign immunity after sinking, wherever they are located. The Federal Republic of Germany also retains ownership of any German State vessel or aircraft owned by it or the German Reich at the time of its sinking. Further, many sunken warships and aircraft are maritime graves, which have to be respected. No intrusive action may be taken in relation to German State vessels or aircraft without the express consent of the German Government." Source: Communication from the German Foreign Ministry, October 30, 2003.

Although Denmark does not respect the concept of war graves (or maritime graves as it is called above), I do think that in some cases the authorities in Denmark have shown that they respect the German wishes as regards non-intrusion in a wreck that contains the remains of the dead crewmen.
As an example of this the U-251 (which was sunk on April 19th, 1945 in Kattegat South-west of Anholt by enemy aircraft) still contain the remains of 39 dead crewmen (there were four survivors). This submarine is now a popular and regularly dived site (it is located at roughly 32 meters depth) and it has been sealed several times by the Danish authorities, by both welding and with cement, to prevent intrusion from sports divers into the wreck. It is unfortunate that the popularity of the wreck required this measure, but I do think it shows some good will towards Germany in this sensitive matter.

**Otto Uldum**

As full disclosure I must first state that Otto Uldum (after I had contacted him regarding another issue) was the person who suggested the broad topic (wrecks from World War II) for my thesis. This is also one of the reasons that I decided to interview him on his opinion on the matter. Another reason he is relevant to the topic, which I only discovered later, was that Otto has been very vocal on this issue for many years, so he is exactly the right person for me to interview. Otto Uldum is the curator at Langelands Museum, he has a M. A. in Prehistoric Archaeology, Maritime Archaeology and Media from Copenhagen University.

To maritime archaeologist Otto Uldum, military wrecks, regardless of their age, are important cultural heritage primarily because they can be used as archaeological sources to understand our history just like any other archaeological source. He does not believe, that just because a wreck is from a time period with plenty of written sources, like World War II, that the archaeological sources should somehow become less relevant or important. He references museumloven and its talk about heritage sites, but my understanding, from listening to him, is that the most important thing to him about the wrecks (but not the only one) are their potential to teach us about our past and less so issues of a more strictly war memorial or heritage nature.

“Selvfølgelig er det kulturarv altså, men det er jo - først og fremmest er det jo en arkæologisk kilde, og det er jo det, som vi er sat i verden for at beskytte. Men taler selvfølgelig om, altså det er jo en museumlov som skal beskytte fortidsminder, men der er jo ikke nogen definition af, hvad et fortidsminde i virkeligheden er altså, så der står jo ikke nogen steder i loven, at et yngre skibsvrag ikke også skulle være kulturarv.”
What we can really learn from these wrecks, he argues, though they are relatively young, are often the exact same things we can learn from much older wooden ships, things like what precisely happened in the event that led to the sinking, what was life like on board the vessel during its use, how where the many different small rooms utilized by the crew etc. But on the other hand, the specific details about the construction of the ship is not really that important in this type of archaeology, because usually there are many written sources that detail this, but these other questions are not really mentioned in the literary sources.

“… hvis man vil studere sådan et mikrokosmos som livet ombord på et krigsskib, så leder man jo fuldstændig forgæves i de store historiske kilder, det står der jo ikke noget som helst om ... Og alle de her små ting og sager om, hvordan man indordnede sig, og indrettede sig, det kan man altså med arkæologien udforske, og det kan man ikke med historiske kilder. ”

And then Otto raises the point about the difference between historical sources and archaeological sources. Where historical sources are often biased in their very nature, archaeological sources are neutral, but they can of course be (some would argue that they are always) interpreted in a biased way.

“I hvert fald vil du nødvendigvis få en anden mulighed med arkæologiske kilder, som man ikke har med historiske kilder, altså igen fordi arkæologien er jo den skinbarlige sandhed, og historiske kilder det er bare løgn og latin, så derfor kan man sige, at historiske kilder de fortæller noget om hvordan tingene muligvis kunne have været, i bedste fald, men arkæologiske kilder de kan nærmest ikke lyve...”

The above quote is certainly “tongue in cheek” but does illustrate the difference between using shipwrecks as archaeological sources vs. looking at technical drawings. As an example, the U-534 had a Schnorchel fitted in 1944 following which exhaust gases leaked into the boat and several crew members collapsed, and this would not appear in the technical drawings from Deutsche Werft AG. Instead, repairs, maintenance and on-duty fixes can be studied through archaeology.

Overall Otto thinks that it is unfortunate, that museumsloven specify which age a given wreck should have before it is considered cultural heritage, although of course he does not believe all ship wrecks should be protected cultural heritage, he does believe that age alone is not, or should not be, what determines the archaeological value of any given wreck.

“Så man kan sige, det eneste der står noget om, det er jo, at man betragter et vrag som historisk, og det jo selvfølgelig en lidt ulykkelig omstændighed, at der er nævnt et årstal i den sammenhæng. Det har man jo så erfaringsmæssigt set sig lidt blind på. At der nu står, at et vrag skal være gået ned for mere end 100 år siden for at være et historisk skibsvrag, og dermed nyde en eller anden nærmere bestemt beskyttelse, det er selvfølgelig uheldigt ikke, men til gengæld står der jo så også, at andre vrag kan nyde præcis den samme beskyttelse hvis det er det man beslutter ... Så allerede der er der jo i loven levnet en mulighed for at betragte yngre vrag også som lige så værdifulde som kulturav eller som fortidsminder.”

What Otto Uldum refers to in the quote above is the possibility, specified within in the law, of granting shipwrecks that are younger than 100 years protected status because they are perceived as historically significant. Otto has himself been involved in a case concerning World War II wrecks located in the waters between Fyn and Langeland which is within the maritime area he oversees as curator at Langelands Museum. The law states that the Minister of Culture can decide if a wreck (or just cargo or just a part of a wreck; anything really) should be covered by the provisions (the legal protection) of the law even if it was lost less than 100 years ago. This would of course cover wrecks from the Second World War. But are WWII German ships really important enough to be considered Special Interest Wrecks and Danish cultural heritage?
"Ja det mener jeg det er fordi det er en arkæologisk kilde stadigvæk og det der betyder noget er hvor gik skibet ned altså hvilken historisk sammenhæng betingedde at det vrag det ligger her, så det at skibet er udgået fra en tysk havn og var under tysk ejerskab og kommando på det tidspunkt det gik ned, det er jo bare en del af historien, kan man sige, men selvfølgelig er det jo dansk domæne og dansk fortidsmindeforvaltning, hvis det er et tysk vrag, det er der jo ikke nogen tvivl om."

That a submarine or other shipwreck happens to be made in Germany does not in his view reduce its importance as Danish cultural heritage, because its value as an archaeological source is the same, and besides one could add that World War II is very much a part of Danish history. So, to Otto, what constitutes Danish cultural heritage is anything in Danish territorial waters, regardless of its origin that has an important historical significance, which to him means all military vessels and ships that were sunk as part of a military engagement.

Here I should perhaps have asked Otto, if he also believes that German wrecks in Danish territorial waters can be considered both German cultural heritage at the same time as Danish, but I forgot to do so. He does seem very protective of the cultural heritage in his charge (as he should be), but I do not think he would oppose working with e.g. German archaeologist on a survey in Denmark, just as long as everyone involved is clear on who has the final responsibility (and that would be him).

"Vi har jo selvfølgelig et dansk søterritorium og der er loven jo fuldstændig klar. Alt hvad der ligger på den, det er under dansk jurisdiktion, og sådan er det jo også i andre lande. Så man kan jo ikke sådan ekspropriere sig ind på andre landes territoriale farvande på den måde der, så det er der jo ikke nogen tvivl om, at selvfølgelig er det dansk kulturarv."

Surprisingly to me, the current integrity or state of a wreck is not really that important to Otto when he considers if the wreck should be considered valuable as a source or not, though he acknowledges that degradation could be so advanced that using it as a source would be difficult. He argues that new technology has made it possible to gain knowledge from things that were not seen as worthwhile to examine earlier.

"Og det flytter sig jo hele tiden. Så derfor så kan man jo ikke bare arbitrære til en eller anden grænse for det heller. Fordi der vil jo alt afhængig af metode og teknik, kunne hentes data ud af forskellige levn til forskellige tider."

This argument is really important, I think, because not only is new technology (and public access to it) allowing us to learn more, it is also giving us access to and allowing us to discover more wrecks or prehistoric settlements with every year and perhaps the sheer amount is sometimes a bit overwhelming to the archaeologists who have to work with it all. But from a certain point of view this is also unfortunate, because if this protection was implemented to include every military wreck, I suspect a lot of divers would collect their souvenirs anyway, they would just be doing it illegally. This is something I think Otto agrees with, but because he as an archaeologist cannot help but to see every military wreck as significant archaeological sources (and I agree that they are – or can be), he is not really willing to perhaps admit that some of the wrecks are more interesting than others, even to an archaeologist.

What makes military vessels of special interest to Otto as an archaeologist is because they are immediately placed in time in a specific context. If Otto had his way, all military wrecks would be given protected status. This would make it impossible to get a permission to collect souvenirs from these wrecks, a practice which Otto thinks causes a lot of damage. As an example, he mentions World War I wrecks which are protected due to their age today, but from which souvenirs were legally collected not that many years ago.
“... nu er vi jo derhenne hvor skibsvrag fra 1. Verdenskrig allesammen er ældre end 100 år. Altså, men der har vi jo haft, der har vi sløges med indtil for ganske nyligt at de var yngre end 100 år, jeg har også siger hvor folk har søgt om souvenir tilladelse på skibe fra 1. Verdenskrig, og har fået det, og har været særdeles hårdhændede ved dem.”

This is probably not the kind of permission (but I forgot to ask which specific permission it was) Gert Normann Andersen mentioned in the interview I made with him, where he explains the hassle he felt he had to deal with, and which in the end meant he did not acquire the special WWI cannon he wanted for his Sea War Museum, because the wreck became protected cultural heritage due to age (and Otto Uldum would probably say that this was a good outcome). It is more likely that Gert Normann Andersen applied for the salvage permit, because (if one wanted to follow the guidelines) this would be required to remove the cannon, it being a fixture of the hull and not a loose item.

Regarding the question on granting permission for collecting souvenirs Otto is disappointed that the regional museums are no longer consulted on this. Today, if there is any questions or uncertainty at Søfartsstyrelsen, this issue is resolved by Slots- og Kulturstyrelsen. Otto says that previously they would get about 5 – 10 request a year at Langelands Museum, but he has no idea what the amount was or currently is nationally. He also argues that such a permit though very limited in its wording is sometimes used as a carte blanche to destroy wrecks and commit (what he calls) large scale looting.

“Der er selvfølgelig nogen, som også indsender en ansøgning om souvenir optagningstilladelse, og så går ned og plukker hele skibet, og tror at de med den, har ret til det. Det er der da garanteret også eksempler på. Men det er jo ikke noget de fortæller os om. Og i øvrigt så er der jo heller ikke nogen former for forpligtelser knyttet til den souveniroptagningstilladelse, den får du jo bare, og du skal ikke dokumentere noget som helst, med at få den, og når du har afsluttet din souveniroptagelse, så har du ikke nogen forpligtelser, det kunne man jo starte med i hvert fald.”

In my interview with Åge Jensen and Stig Thornsohn, we discussed these permits and they talk about the way the permits to collect souvenirs can be interpreted to mean many things, that there is a lot of leeway involved, which seems to confirm Otto’s suspicion that permits for souvenir collections are sometimes abused to do and remove more than this kind of permission was intended for. Otto would prefer if souvenirs where not removed at all but failing that he thinks that the parties involved should be required to first inform the authorities about exactly what they wish to collect, and then afterwards document exactly what they in fact removed. A bit like in Sweden perhaps, which I also discuss in the part of my interview with Åge and Stig, but although they apparently share some ideas here, this is only superficially so, since Otto would only allow a very restrictive use of souvenir collection, in fact not at all in the case of sunken warships since they would all be legally protected.

“... så skal man have en lille ting til kaminhylden. Det er jo overhovedet ikke det der foregår, de her vrag de bliver fuldstændig splittet ad ... man trækker en stålvejer igennem sådan et vrag for at åbne det, og tingene de ligger jo og flyder rundt på havbunden, og så er det jo bare at plukke op. Det er den trafik der foregår, det er noget vi ved, så hvad skal man sige... Alle de regler der handler om souvenir tilladelse, de er ikke relevante for diskussionen om, hvad det er der foregår på krigsvragene...”

The actions he describes here is very destructive indeed, and seems far removed from the mere collection of souvenirs, but maybe this is done legally with a souvenir permit, as Åge and Stig imply? From all the people I have talked with, apart maybe from Torben Malm (but I cannot say this since, I did not ask him about this specifically), none of them seem to really believe that any legal protection of wrecks would deter the sports divers from collecting souvenirs, but maybe limiting which wrecks are available for this practice, and then
specifying exactly what kind of items can be removed and then requiring documentation of what is collected, could limit the worst kind of abuse which Otto mentions. He says that he knows the relevant authorities, meaning Søfartsstyrelsen, is aware of the destruction, but that they do not care because cultural heritage is not what they are responsible for, since that is not really their domain. The authorities that are responsible (or should be) are the museums and the Cultural Minister, who as of this writing is Mette Bock from Liberal Alliance although this critique is probably not directed specifically at her but more at the department in general.

"altså det er jo, forskellige hensyn, altså de [Søfartsstyrelsen] er ikke sat i verden for at passe på de ting der, så det kan de jo sådan set være ligeglade med, det er jo sådan set heller ikke dem der er ansvarlige for, at tingene ikke går til, det er museerne der er ansvarlige for det og kulturministeren. Det må man jo så sige at museerne og kulturministeren, slet ikke har løftet den opgave"

Otto Uldum does not believe that the people who would wantonly ruin ships for their contents would even bother with obtaining a permission, as these people are not simple sports divers. But again, referencing my interview with Åge and Stig, if a simple permission to collect souvenirs can be negotiated and expanded upon, maybe the relevant authority to negotiate this permission with is not (should not be) Søfartsstyrelsen. As mentioned previously Otto is aware that some people interpret a permission to collect souvenirs to take what they want, but this is still not as destructive a behaviour as what he is talking about here. This behaviour can probably only be prevented by enforcing the laws and patrolling the seas, which would then involve Søfartsstyrelsen.

I asked Otto how he would feel about collaborating with private interest like sports divers about exhibiting items they had removed from wrecks, as Stig and Åge suggested, and he was very much opposed to idea because he would be against any removal of items in situ from a wreck. But when I challenged the thought a bit and mentioned that sometimes fishing destroys wrecks as well, he softened somewhat on the issue, but only in so far as it could be proven and documented that the items where no longer in situ when removed.

"... men så tag løsfundende, hvis du kan påvise, at det er flået ud af sin oprindelige sammenhæng. Men så skal vi jo have dokumentation for det. Det får vi jo også fra amatørrækologerne på land. De giver jo en nøjagtig position for de detektorfund, de har gjort, taget med GPS og det ene og det andet og fotoer, det er jo meget nøjagtigt det alt sammen. Og noget tilsvarende må jo så også gælde til søs."

Having the perspective that Otto has on these wrecks, that their value is primarily of an archaeological nature and not some sort of a memorial, one could perhaps argue that removal of larger fixed objects like a specific cannon, if this operation is well documented, proves less of a problem than the removal of smaller and loose objects (the kind of things one would typically collect as a souvenir), since the items collected as souvenirs are the exact items an archaeologist like Otto would use to examine everyday life on board a ship.

Large scale collaboration with private interests, like e.g. Gert Normann Andersen, is not really something Otto considers possible, except in cases where legal matters like the responsibility and ownership is firmly established from the start, and then only if the museums would ultimately be in control. They sometimes work with amateurs at land and even (but rarely) at sea as well.

But usually the amateur archaeologist they work with at sea (divers), are people who are interested in the stone-age settlements, and they have a different mentality and understanding of their responsibility than the sports divers who are interested in diving on shipwrecks. But other than that, he argues that you cannot really compare land-based and maritime amateur archaeologist, the mentality is simply too different. Sports divers do not approach the museums like amateur archaeologist do, and even though his museum have
approached the sports divers many times and through many years, this has not really been a worthwhile endeavour in this regard, since even though they have spent a lot of resources and organised excursions to stone-age settlements and wrecks only a mere handful of the participants have stayed in contact with the museum afterwards.

If before the interview I had the preconceived notion (and I did) that metal ships from World War II where perhaps seen as less important to archaeologists that e.g. earlier wooden ships or stone-age settlements, then Otto could put this thought firmly to rest, at least as far as he is concerned. And I probably should have guessed as much from all the news articles I have read. But Otto explains that when it comes to the maritime cultural heritage there is not an official national strategy or direction, so this means that each museum have to figure this out for themselves, which I take to mean, since archaeologist are only human so their interest will vary, that maybe this could be the case in other regions of Denmark.

”...men vi har ikke en national strategi, så vi har ikke på samme måde som på land Jordarksæologi mulighed for at slå op hvad Slots- og Kulturstyrelsen mener er væsentligt. Så det kan vi ikke sige der med deres vægt, så derfor må vi jo bare selv sige det. Og jeg siger bare som museumsarkæolog, at der er jo ikke nogen perioder som vi nedarbejder og bortprioriterer, vi undersøger det hele, det er klart, altså det kommer an på kvaliteten af de enkelte fortidsminder...

So perhaps a national strategy for the management of maritime cultural heritage is what is needed, and maybe the work currently being undertaken at Slots- og Kulturstyrelsen is a step in this direction. Otto suggest that the very idea of prioritising certain archaeological periods at sea like you could do in land-based archaeology would be misplaced because the two situations are nothing like each other. The available information about the maritime territory, he argues, is much smaller than on land, and what is documented and known was learned mostly in the eighties and nineties and would serve as a poor foundation for both management and research strategies, which again means, that prioritising between sites based on age becomes absurd. So, a comparable situation with land-based archaeology just does not exist.

Asked about the subject of collaboration with private interests, Otto has difficulty finding a situation where this would work. He suggest that perhaps if something has gone terribly wrong for whom ever got the permission to raise or salvage something, if their project have failed, and basically he just does not like the idea of distributing what he sees as our common cultural heritage about to private interests, and he sees no purpose in raising e.g. a submarine like U-534 without any archaeologically scientific purpose. And in that case, he argues, the archaeologist are the best people to handle the operation, because they know how to manage, research and preserve since this is their forte, and the reason the museums do not do it is, because the cost involved is so high, and also because the wrecks would be perfectly fine where they are if people would just leave alone, he does not consider the issue of corrosion to be that big of a problem. It must be stated, here that the maritime area Otto manages is a very different nature that e.g. the North Sea, so he is probably correct as far as this area is concerned. As far as Otto is concerned, divers pose the biggest threat to the wrecks ahead of fishermen and nature.

”...alså man kan så spørge, kan der da ikke komme noget ud af det? Som så har en arkæologisk relevans? Jo det kan da godt være, men det er jo ikke noget museerne kan tage ansvar for! Og når de ikke styre den proces, så kan man så bare, hvad skal man sige, som museumsmand se til og håbe det bedste, fordi det er jo ikke noget, vi vil være ansvarende for, eller have nogen råderet over, så derfor kan vi selvfølgelig ikke engagere os i det...”

So, Otto does not want to take responsibility for something he does have control of, and this sounds like a very reasonable thing to say. He also does not like the idea of private actors in the archaeological sphere in
general, because he believes this should be a job for the public museums, and he points out that this is in fact also what the law states, that the cultural heritage should be managed by the public museums, because in this way the research done will also be in the public domain – because then we all own it. He further mentions that they also have a curative responsibility to maintain everything in their collection, but this responsibility is something that Gert Normann Andersen’s Sea War Museum also adheres to, as far as I know they also cannot sell or dispose of artefacts in their care. Unfortunately, I did not question Otto any further about the Sea War Museum.

Gert Normann Andersen

Gert started diving in the sixties and was part of the group that started the sports diving club Delfinen in Holstebro, his hometown. After having served in the military he signed on as a volunteer for two more years in order to become eligible for the expensive education as a deep-sea diver. In 1971 he graduated as a deep-sea diver from Søværnets Dykkerskole, and in 1972 he started his own company, then named Jydsk Dykkerfirma but today the very successful company carries the more international name JD-Contractor A/S. (Jakobsen, 2012)

Over the years Gert has conducted many expeditions with JD-Contractor’s ships and he has located many wrecks from both World Wars. It was on one these expeditions that the position of what is now assumed to be U-3523 was found. I had the great pleasure of being invited as a guest on the latest expedition with one of my fellow students from SDU and on the way home I got to do my interview with Gert. The goal of the expedition was the discovery of the Polish WWII submarine the ORP Orzel, but unfortunately, we did not find it.

Gert was also very involved with the creation of Strandingsmuseet in Thorsminde and in 2012 he worked professionally in Femern Bælt on the largest maritime archaeological excavation in Denmark to date along with Jørgen Dencker, who incidentally was also a guest on the expedition that I was on.

But his greatest achievement, in my opinion, is the Sea War Museum Jutland in Thyborøn, which he opened in 2015. It is focussed on World War I and especially on the Battle of Jutland, which took place during World War I (31st of May, 1916) and right next to the museum lies the Jutland Memorial Park, which commemorates
all the dead sailors from both sides. When he introduced his museum, he insisted that it was in fact, despite its name, a peace museum because it exposes the visitor to the horrors of war, and so it does.

When I asked him, what was the reason for all of this, mainly self-financed, work he responded that he is primarily motivated by curiosity, that and a love of history. When I asked him specifically as to why he conducted these expeditions, like the one we had just finished in search of the ORP Orzel, he says that one of the reasons is because before long it will all be gone because of the nature of the North Sea. He also wished to document the gradual decay of the wrecks by systematically revisiting wrecks to see how time and the elements have corrupted the hulls.

“I Østersøen lever de meget længere, fordi der er goede bevaringsforhold, men i Nordsøen bliver alt ødelagt ude. Det er et spørgsmål om tid, så eksisterer det ikke mere. Selv de store krigsskibe bliver brudt ned. Og det vil sådan et projekt beskrive, hvordan vragene forsvinder i Nordsøen. Og så er det jo oplagt, at når vi har registrering, så kan vi følge, når de har den alder, hvad er der tilbage? Ud om 10 eller 20 år til de samme vrag og scanne dem igen og så se forskellen, hvad er der sket siden sidst?”

This focus on the nature transforms is probably what puts Gert Normann Andersen most at odds with the archaeological community. As he sees it, legally protecting and leaving wrecks in situ means leaving them to be destroyed.

When U-3523 was discovered Gert said that he expected it would become recognized as a German war grave, which I found a bit odd, since this concept is not really used in Denmark. When asked about it whether he would personally support a legislation like the German on this issue Gert says that he would, but with the caveat that museums (and I suspect he includes private museums here) would still be allowed to collect things in order to communicate and educate about the history.

“Det kan man godt med visse forbehold fordi, som jeg siger, alle vragene i Nordsøen forsvinder fuldstændig, og dermed forsvinder historien også ... altså dem der vil ud at bjærge metal og ting og sager, og tager op for profits skyld, de skal ikke have lov at bjærge de vrag. De skal have lov at ligge i fred sådan set. Men hvis der er museer, der skal illustrere historien, så er det jo vigtigt man gør det, for så er det jo genstande, så de museer skal have lov at tage udvalgte ting op sådan set for at fortælle historien, efter min mening.”

It seems to me as if, while Gert does indeed respect the aspect of sanctity of the grave, he does not really support the idea of turning the wrecks themselves into some sort of memorial sites. Mostly because he believes the history and memory is better told and preserved if select artefacts from the wrecks are exhibited in museums. Besides, he argues that given time nothing will remain of the bodies, not even the skeletons, so it is not much of a grave. And here one could add that in Denmark today, graves on land (meaning coffins in cemeteries) are usually only preserved for 20 years and in Germany this Ruhefrist is only between 6 and 15 years depending on the age of the deceased and which of the German states the grave is located in.

“Kun det der ligger begravet dybt nede i havbunden, der kan være knogler tilbage, og det vi finder, når vi finder en marine fra Første Verdenskrig eller Anden Verdenskrig, det vi finder tilbage, det er hans sko eller støvler, læder, bælter, resten det er væk.”

Having read a bit about Gert Normann Andersen, I know that he has seen up close and personally the very real danger involved with working at sea, and JD-Contractor A/S has also been involved in the retrieval of the dead bodies of drowned sailors in the past. He knows the importance of this to the relatives of the deceased and what it means for them to find closure to their loss. He explains that they do not wish to hurt the feelings of relatives, so even though it would be perfectly legal to salvage from wrecks in the extended economic zone, they refrain from doing this, meaning that if a wreck is considered a war grave by German (or English)
authorities, they will not collect anything from the wreck, but in any case they primarily survey and document. Gert did just that in 2002 when they discovered and surveyed the World War I submarine U-59 by Horns Rev in collaboration with Strandingsmuseet - when U-59 hit a mine in May 1917 there were 33 casualties and four survivors.

"Men grunden til vi også respekterer det med krigsgrave, det er fordi, vi vil ikke sære nogen. Rent juridisk der er der ingen der kan forbyde os at tage ud og bjærgé hvad som helst op udenfor 24 sømil. Men det vil vi jo ikke gøre, hvis der er nogen, der bliver kede af det eller sure ... så vil vi ikke støde nogen, det er der ingen grund til."

In 2011 in another case involving submarines, Gert raised the conning tower of what he believed to be the Kaiserliche Marines UC-30 which sank in April of 1917 with its entire crew of 26, but when they cleaned the conning tower they discovered that it was made of bronze (which only the British used) and from the markings on it they could identify that it was in fact the British HMS E-50 which capsized in February of 1918 with its crew of 31 men (the real UC-30 was discovered in 2016 by JD-Contractor A/S).

The fact that Gert wanted to raise the conning tower of what he believed to be UC-30 perhaps helps explain what he considers a grave when he says that he does not wish to disturb the peace of the grave, since the wreck of UC-30 is considered the final resting place of most of its crew. As Gert sees it, the tower had already become detached from the hull and was seriously damaged, probably through heavy fishing gear, and would not have contained any dead crewmembers, so raising this part of the wreck is not disturbing the grave. This is not exactly the way the German and British view this, but it must be stated that after the British were informed they did give him permission to display the tower at his Sea War Museum where it today serves as a sort of memorial with a plaque next to it honouring the fallen, as well as part of the general exhibit that helps to illustrate the history of the sea war.

Sports divers

He agrees with everyone else I have spoken with, that the sports divers (in general) do not care at all about disturbing the peace of the grave, but their actions do not concern him that much since he thinks that they do not really do that much harm.

“Sportsdykkere - det er peanuts, det de tager op. Sportsdykkere det de tager op, mange gange der redder de tingene fra tilintetgørelse, men derfor skal det ikke være legal, at man bare tager ud og bjærgé op, det mener jeg ikke det skal være.”

So even though he does not want sports divers to collect souvenirs without the required permits, to him the real threat to the maritime cultural heritage is the sea – specifically the North Sea. As was mentioned above he has begun systematically recording the corrosion of wrecks, and he mentions SM U-59, which sank in May 1917, as an example of how fast this deterioration is. This wreck which was almost fully intact was only just
discovered in 2002, and Gert say that in less than 10 years the corrosion was apparent and furthermore he argues that all the submarine wrecks from the First World War, at least in The North Sea, will soon be gone.

“Vi har været tilbage på ubåden U-59 f.eks. og flere andre vrag ... og der kan vi se, hvor meget der sker. U-59 er en Første Verdenskrigs ubåd, og der var trykskroget helt fuldstændig lukket og intakt, der var ingen hul i overhovedet. Det er der i dag. Der er simpeltimen huller ind i trykskroget.”

Although the submarines from the First World War are now legally protected cultural heritage, they are very much still endangered, and if we wish to preserve some of the history, we must salvage from them soon. Gert explains that the natural environment in the North Sea, is not the only threat, the trawl fishing also does irreparable damage to even large metal wrecks like submarines.

“Den helt store synder, hvis vi tager Nordsøen, det er de store bølger, der kører ude i havene, der tager helt ned i bunden på 50 meter vand, smadrer vragene, og så er der salt og vand der får der får det til at ruste og korrugere meget hurtigt. Der er pælørme, der æder alt træværk. Det gør de på under 20 år, så er træskibe spist fuldstændig op. Og endelig så kommer der trawlere, der har mellem 3-5000 Hestekræfter, de kommer med deres store bukke og jernkæder på havbunden, så tager de det sidste.”

Although World War I is Gert Normann Andersens main interest, as well as the focus of his Sea War Museum, he does agree very much with the idea that military wrecks from World War II is also our Danish cultural heritage, even if the ships are not Danish, and he does not subscribe to the official legislation, that wrecks have to be 100 years old before being legally protected. In this sense, I think he would welcome the initiative from Slots- og Kulturstyrelsen.

He mentions a disagreement he once had with them years ago about SM U-20 because they had given salvage rights to the wreck. Although he protested and said that this wreck was historically very significant, they replied that they had no other option, because the wreck was not yet 100 years old. Luckily Gert knew the salvager and convinced him not to salvage it. With this experience in mind, Gert clearly does not sympathize with the view that age alone should determine a wrecks value as regards cultural heritage, and he gives another much more recent example of a wreck that he believes should be protected:


Although it is clear what he means, MS Estonia is perhaps not the best example since it is not in Danish waters, but there have been other ship disasters where the same reasoning could apply. Instead of age alone being the deciding factor, he believes that each wreck should be looked at individually and judged for its historical importance regardless of its age, so unsurprisingly when I then ask how many of the WWII wrecks he thinks should be protected, he answers that he would have to look at each case separately, and to him the question of whether there were any casualties or not would become important in that decision. He really would not mind much if historically unimportant wrecks older than 100 years were salvaged for any bulk cargo which would not be interesting to any museum. A lot of what motivates this viewpoint is informed by his experiences with the people that visit his museum.

“Det er det efterkommere spørger til, men der er også en anden vinkel, der kommer mange op til vores museum de kommer op for at se et eller andet, deres forfædre har gået med fra den og den ubåd, UC-30 f.eks. ved Blåvand dernede.”
So in his experience, the descendants of the different crews yearn to see actual artefacts from the ships of their forefathers, and I suppose this is a very common and human interest, that we would like to look at something that can connect us not just with the general past, but directly and personally with our fathers or grandfathers.

“... der kommer efterkommere op, og kan ikke forstå, vi ikke har dem på museet, når vi har fundet dem, de kommer op for at se en ting, fra den ubåd deres forfædre ligger i, og det kan de ikke, men der skal være den der ventil, nogen kan få lov at bjælge udvalgte ting op for at illustrere og for at fortælle historien ... vi skal ikke begynde at sprænge eller grave i en ubåd for at få noget op, men kanonen, der bare står ovenpå til at tage af, det forstyrer ikke nogen gravfred, men der er man helt firkantet. Den er over 100 år - det rører vi ikke ved.”

Although Gert does not really mind if sports divers collects souvenirs from wrecks, a case of what Gert would clearly call theft and totally unacceptable, was presented to us on the expedition by Tomasz Stachura, a guest from Poland (this expedition was his eighth in search for the ORP Orzel). This case involved the removal of several fixed items, like e.g. the rudder, from the wreck of SS General von Steuben (sunk in February 1945 an estimated 4,500 people drowned in this event). The SS Steuben wreck is considered protected cultural heritage in Poland but is located outside of 24 nautical miles from Polish shore so is outside the Polish jurisdiction, if the perpetrators are not bound by Polish law.

In the photographs on the left, taken on the bridge of the SS Steuben, you can compare the state of wreck the in 2005 and the current situation (2018). This is taken from the right wing of the bridge where today only the fastening screws remain after the engine telegraph of the right engine was unfastened and removed. The report from Baltitech documents the removal of other items in a similar way, and both Gert and I were dismayed to hear that the Poles who discovered the theft suspect a Dane of being behind it.

On the other hand, Gert also has his quarrels with the way the legal protection of wrecks works in Denmark, especially if they keep him from raising and exhibiting exciting things in his museum, things which he feels are missing in the museum’s collection.


It really pains Gert that the cannon from UC-30 will soon be lost forever, either due to corrosion or a fisherman’s trawl, because he believes that it would serve the public interests better if the cannon was restored and exhibited, and I must say that in this specific case I kind of agree with him. It does not really matter to me that his Sea War Museum is a private museum, since apparently no other state funded museum
is interested in or willing to raise the cannon, but because the Sea War Museum tells a unique story unlike any other museum in Denmark, the cannon would fit perfectly here.

“... det er et privat museum under kategorien privat. Vi har de samme paragraffer som de andre, vi må ikke sælge tingene, og vi må ikke udfase tingene, vi skal bevare historien, det er vores fornemmeste paragraf. Man burde klappe I sine hænder over at nogen vil tage sig af det og gøre det, og bevare det for eftertiden. Men det gør man ikke. Det er firkantede regler. Det der er mest grotesk er, at vi søgte inden det var 100 år gammelt...”

Other transforms

On the one hand Gert is a private collector who has chosen to share his personal collection with the public, but at the same time his museum operates on the same conditions as any other museum and it has done some really interesting and ground-breaking work and often collaborated with archaeologists from our neighbouring countries. To name just a few, Maritime Archaeologist Innes McCartney from Bournemouth University has been on several expeditions with Gert and has written several books about wrecks from WWI based in part on these, and David Gregory from Nationalmuseet (department of conservation and natural science) has worked with the Sea War Museum since 2017 and has studied, among other things, the chemical and biological degradation of archaeological material in the sea to understand how wreck sites evolve.

This work, the results of which Gert keeps referencing during the interview, should affect heritage management strategies in the future, maybe not just in Denmark but in many other countries as well. David Gregory is currently analysing multibeam data from around 450 shipwrecks located in the North Sea (from the Sea War Museums database – the world’s largest collection of shipwrecks in the North Sea), all of which have been registered and examined by the Sea War Museum. All this data is entered into a geographic information system (GIS), which also contains information on a wide range of chemical and physical conditions in the sea, including temperature, currents and much more.

The result will be a database that can be used to monitor which conditions govern the degradation processes in the North Sea, including how quickly this degradation occurs under the given conditions of each wreck. The data will then be used to build a computer model that can be used to predict future degradation of wrecks and other archaeological material and the finally, using this model they can then more confidently advise on future management strategies, including e.g. the conservation of important shipwrecks. David Gregory has also worked with Gert to explore how human activities such as fishing and wreckage affects the conservation wrecks in the North Sea. This fascinating work has been partly sponsored by Kulturministeriets Forskningsudvalg with D.kr. 763,000,- and hopefully the result will impact future management strategies in a positive way, and who knows, maybe Gert will be able to convince Slots- og Kulturstyrelsen, that in some cases (like maybe with the UC-30) a responsible management strategy requires raising wrecks or parts of wrecks in order to protect them. When asked about what the degradation process of U-3523 is, which is in Skagerrak and not the North Sea, so one could hope the degradation was milder, Gert was very pessimistic, and said that it would corrode quickly as well. The core of his argument is, that one must distinguish between the North Sea (and Skagerrak) and the Baltic Sea not just in the case of wrecks of wooden ships (because of shipworm) but also with the wrecks of metal ships.

I also asked Gert about what he thinks can be done, if anything, to prevent cases like the theft from the SS Steuben, and perhaps engage the sports diving community in the future, and he suggest that you must engage them and teach them to differentiate between their findings. Perhaps it is not really that problematic if divers collect souvenirs, but on the other hand, when they find something really special, they should know better and leave it alone.
"... men hvis de finder noget unikt, nu fandt vi det vrag ved Aggersund. Aggersund skibet fra år 1100 komplet nede på havbunden der skal man ikke starte med at tage noget op, der skal man have den der fornemmelse for, hvov her er sgu noget særligt, vi skal passe på, og vi skal værne om, derfor skal vi motivere de folk, de skal være opmærksomme på, at hvis de finder noget særligt, passer de på og værner om det. Det er den motivation du skal give folk samtidig."

This reminds me of the conversation I had with Otto Uldum, where he took a far less positive view of the possibility of reaching out to the sports divers, having had what he considered many failures, or at least not that much was gained, doing just that. I know from my conversation with Åge and Stig, that both they and Gert sometimes act as judges in shows where sports divers present different things they have collected, and perhaps this is the sort of engagement that would be necessary, but at the same time I think this would be one step too far, that it would be anathema to someone like Otto Uldum. In fact, I suspect he would not even attend such a show.

Åge Jensen and Stig Thornsohn

The Danish public has followed Dynamit Åge and Indianer Stig’s adventures on television in their quest to raise money for their next big submarine endeavour, the raising of U-2359. The raising of this submarine is technically outside the scope of this thesis, since it is (apparently – but the exact position is still secret) located in Swedish waters, but in any case, a lot of the different troubles and legalities remain the same. The submarine was discovered in 2008 by the diver Allan Greisen, and had been actively searched after for a long time. The necessary permits have been obtained in Sweden where, as Stig puts it, they have a better approach to these things than in Denmark, in that they stay out of the matter and if someone (Germany in this case) have a problem they have to settle it with Åge and Stig in court.
They were both very welcoming and friendly to talk with and interview, even though I sort of represent what they have often found themselves in opposition with. Maybe the fact that I am still a student, and so maybe not entirely entrenched on one side of the debate, or maybe because I do not really represent an official organisation (though I was always aware in my behaviour that I do represent SDU). In the end I suppose they are both just very enthusiastic and friendly persons who enjoy sharing and talking about something they are both really passionate about. Who wouldn’t be?

One of the first things I asked the duo was, why on earth they wanted to raise U-2359? To Åge and Stig, what makes submarines interesting in particular, is that they are built to last, in comparison with the flimsy materials of e.g. contemporary aircraft, so they are less prone to degradation and more intact than many other wrecks (German submarines were built to withstand ambient pressure of a depth 100 meters lower than their operational depth as a standard practise). The history of the Second World War is something that interest a lot of people, not just divers, so that part of the answer was expected, but another thing Åge mentions, when asked why on earth one would contemplate raising a submarine, that I never would have guessed at or even considered is the *Kinder Surprise* aspect of a submarine. Or as Forest Gump would put it “You never know what you’re going to get”. Åge explains:

“Og særdeles i ubåde, som er det eneste, man ikke kan finde ud af, hvad der er i, før de kommer op - jo, hvis der er noget at flugte, ting der er væk, værdier eller én eller anden mærkelig ting, der er fragtet ud af Tyskland, særligt i ubåde - det er jo ikke flyvemaskiner eller alt muligt andet, vel? De bliver skudt ned over landevejene.”

He describes the mystery of a submarine; you cannot really be certain what it contains until it is raised. I think this aspect is poignant and indicates an optimism that is admirable, if not perhaps entirely realistic regarding the inner contains of the U-2359. But it is an important part of what motivates them I think, the spirit of adventure. More importantly I think this aspect could have also motivated the quest to raise U-534, because as much writing and talk as there were about the valuable contents of U-534 (in particular gold) before it was raised, with the time invested and the amount of research they had both done prior the raising, they should have known that the chances of finding such treasure was slim at the least, and yet the dream remains.

“Hvis du finder en ubåd dernede, kan du bare glo på den, du kan ikke se hvad der er indeni den, men finder du et stort krigsvar, som vi snakkede om før, så vil du kunne se lasten. En ubåd den skal op, og vi ser hvad der er i den, ikke? Det er spændende til aller sidste sekund.”

Åge and Stig are both very knowledgeable on the topic of the Second World War, especially the maritime part, and have both done a lot of research, just like any historian or maritime archaeologist would do, but what really puts them at odds with maritime archaeologist, is that they want to raise the artefacts, were most maritime archaeologists would rather leave them be *in situ*. Another thing of course is the question of ownership of the raised artefacts, be they smaller objects or an entire submarine.

Their argument, which somewhat corresponds with that of Gert Normann Andersen, is that the museums and archaeologist that represents them, wants to leave the wrecks for posterity, but that this is not really possible at sea, because they either become entirely covered in the sediments, at which point no one will see them. Here it is clear to me, that Åge know and present the viewpoint of the diving community when he says:

“... jeg ved godt, at mange museer synes, det skal blive dernede til eftertiden - jamen der er jo ikke noget eftertid, så bliver det bare mudret til, og så er slet ingen der ser det.”
Their argument specifically puts the museum going public at odds with the diving community, which Åge knows intimately, but the wrecks being covered in sediment is not really something an archaeologist would mind at all, in fact they would probably welcome it. But Åge’s main field of operation in this matter is not the North Sea like Gert Normann Andersen, so the degradation of the wrecks, is perhaps not the most important aspect to him, though he does acknowledge it several times during the interview.

When asked on their viewpoint on what constitutes our underwater cultural heritage, they surprise me in a way, by indirectly agreeing with the archaeologist Otto Uldum. Stig at first flat out agrees with the sentiment, that wrecks from the Second World War is cultural heritage, but he also clearly objects to the notion that a certain age, be it 100 years or a specific date like prior to 1850, should decide what is and is not cultural heritage. Stig argues that anything that is historically important should be considered cultural heritage:

“Jo, det er kulturarv, det er pointen, alt er kulturarv. Alt det er kulturarv, og det der er spørgsmålet er, hvem forvalter kulturarven, det gør myndighederne, hvordan gør de det, af helvedes til.”

He further argues that the authorities (I suspect he means Slots- og Kulturstyrelsen) should adopt a more nuanced viewpoint of the matter, like they have, something they could perhaps help them achieve. However, I am not entirely sure either Åge or Stig would agree with the result of what that nuanced approach would mean to them, since the wrecks would then be legally protected (but not protected from the environment) and so would effectively be of the table for private entrepreneurs like them. This position is in line with my preconceived expectations which were loosely based on Habermas’ ideas about the legitimation crisis of the governmental system, which in this case is represented by Slots- og Kulturstyrelsen. It should be noted that specifically Åge and Stig’s actions do not really constitute an existential crisis to the system, since they abide by the rules, although they certainly disagree with them, and “sometimes challenge them” as Stig puts it. But I think they represent the legitimacy crisis anyway, since many people do not abide by the rules.

They also briefly address something which I had also suspected prior to the interview could be grounds for dismay with the current situation, namely that historically the wrecks of submarines have been treated rather nonchalant and harvested for their scrap value, and even the Germans, who claim they are very serious about war graves, have raised submarines and reused them (this history is covered in a separate part of my thesis). Åge describes the rules they must abide by as unfair given that other actors do not abide, and Stig agrees:

“Uagtet de tyskere har så hævet en 10-12 ubåde fyldt med lig og sprængt dem i stumper og stykker, det gør ikke noget, når de selv gør det ... Man kan ikke regne med, hvad de siger, når de selv gør det, så må de godt.”

To follow up, Stig argues that the bureaucrats do not even know how to properly administer their own rules, something which Otto Uldum would probably agree with them on, though in his case not because of incompetence but because of the way the different bureaus are organized in an organizational hierarchy. Interestingly, Torben Malm from Slots- og Kulturstyrelsen readily admits, that the way they have hitherto been treating the legislation was wrong, but now they have adopted a new approach to the legislation.

“... inkonsekvenserne er larmende, og det er den så blandt andet, fordi der er for mange af de der Djøfere [a derogatory term for bureaucrats] og arkeologer, og museumsfolk der sidder derinde, og er bureaukratiske forvaltere af nogle regelsæt som de ikke forstår, og vi har lagt arm med dem rigtig mange gange, fordi hvis der er noget, der er dybere end 3-4 meter, så er det sådan nogle som os, og erhvervsdykkerne de skal have fat på, de har ingen der er er uddannet til det, men de har mange meninger om det.”

Stig argues, that if there is something that is located deeper than 3 – 4 meters, then they (Åge and Stig) are the real experts and not the bureaucrats, since the bureaucrats, as he calls them, are not educated enough to dive that deep. Here is probably were I disagree with Åge and Stig the most, since I have talked with both
Torben Malm from Slots- og Kulturstyrelsen and Otto Uldum from Langelands Museum, and I know they are both also competent divers. This does not mean that they have the same very high expertise as Åge Jensen or Gert Normann Andersen when it comes to raising sunken vessels, of course not this is not their job, and they certainly do not have access to the same advanced equipment that Gert Normann Andersen or many other private interest have, Otto Uldum even admits as much, but to say that they do not know what they are doing or that they cannot dive is incorrect, and perhaps hyperbole on Stig’s part. But this statement does show the frustration they both have with the legislation and authorities.

Another point that was raised, and one which Gert Norman Andersen also mentions, is that the museums do not actually, in their view, protect what they perceive to be cultural heritage. Interestingly in the last couple of years the focus of Nationalmuseet and Krigsmuseet (formerly two different museums Orlovsmuseet and Tøjhsmuseet it is now one museum) has been on public communication and exhibitions more than research. This probably has as much to do with limited budgets, but from the many articles I have read on the subject, there also seems to be an ideological difference with the new leadership that favours the number of visitors to the detriment of the strictly more research oriented and curative role of a museum.

I will touch a bit on this subject more in the part with Gert Normann Andersen, since his Sea War Museum contrast with the more family friendly approach of Krigsmuseet, but this ideological debate is deep and outside the focus of this thesis. But the other main point Stig and Åge raise deserve mention, namely that museums have a habit of disposing of what they consider surplus items (often items there are multiple of) through destruction, instead of either giving them away for free or selling them on the market. One such instance stood out to Åge, who really knows the market value of WW2 militaria.

“...vi behøver ikke gå længere end til nationalmuseet, de har jo så frygteligt meget imod, at folk går og hæver noget derude, og det skal gennem museet, og det skal en hel masse, du behøver ikke gå længere end til foråret sidste år [2018], hvor de havde en stor udsendelse derovrefra, hvor der var en masse flotte skibskanoner, de ikke havde plads til. De blev skåret i tusind stykker og smidt væk. Så de skal altså ikke gå og gabe op om, at vi skal aflvere til dem.”

The wanton destruction of items in curative care, or a necessary reduction of inventory perhaps, who really knows? Personally, I see the point they make, and it does make the discussion interesting. Often the argument in favour of destroying the items are that they serve no aesthetical, research or communicative purpose, but could one not apply the argument often used in favour of in situ preservation here, that in the future with the supposedly much more advanced (and probably cheaper) technology there is still much we can learn from the artefacts? I think so. The aesthetical argument is not only very subjective but is based solely on our contemporary observations, and is certain to change in the very near future and the destruction of items simply because they are numerous, like certain stone-age tools, remove what is perhaps the single most important thing about them, that they were numerous. An exhibit could never fully truthfully display tools in the stone-age without at the same time showing which tools were very common, and which were exceptionally rare.

When I bring up the list of approximately 100 wrecks that Slots- og Kulturstyrelsen is currently working on, they are both a bit mystified. What does it mean? From my interpretation of the interview, Stig and Åge are not totally opposed to the idea of protecting certain wrecks, but Stig correctly states that legally protecting a wreck and preserving a wreck are not the same thing, one costs money, and Åge suggests that probably Slots- og Kulturstyrelsen does not even know where many of the wrecks are located. They argue, that if certain wrecks are historically significant, and they agree as much, why not work with them to help bring them to the public (and here I assume they mostly mean select artefacts not just entire wrecks)?
“... det er en forlængelse af UNESCO-konventionen, hvor man siger det er bedre tingene bliver dernede og går til, end at de kommer op, og så kaller de det fredning ... dette her er administrativt benspænd uden hjerne ... hvorfor ikke gå den anden vej og sige, er disse her interessante for historien, er de væsentlige for vores kulturarv ... så sige at hvis dette er kulturarv og fredningsværdigt, så lad os gøre noget ved det. I stedet for at lave et papirstempel og sidde på deres kontor og drikke deres te.”

Small time divers

Another point he makes, one which they apparently fully agree with Otto Uldum on, is whether legally protecting a wreck would deter sports divers from looting the wrecks. Stig does not think it would have any effect at all, at least not on this group, but Åge differentiates what the sports divers do, from what they are doing themselves, both in scale and aim.

“Sportsdykkere - det er begrænset hvad de laver - de går ned og piller et koøje op og sådan lidt, det er jo ikke noget. Det vi laver, er kommercielt, hvor vi piller ting og sager op, store ting som sportsdykkerne ikke kan, for det koster en masse penge, og det de går og laver, siger de nok ikke til myndighederne...”

Whereas Åge and Stig consider themselves commercial contractors, the sports divers are just small-time enthusiasts who sometimes collect souvenirs, and Åge does not really consider them to be much of a problem. Of course, he does not regard their own large-scale business problematic either because they abide by the rules. Stig continues the argument, saying that even though they legally protect the wrecks, from his experience there will not be any enforcement of the rules. Here he contrasts the way the underwater cultural heritage is managed in Sweden with how it is managed in Denmark. Sweden, he argues, is much more active and engaging in the enforcement of their policy:

“... men hele pointen er den svenske kystbevogn, de passer på deres grænser, og de kommer ud og spørger, og vi melder ind, når vi er i deres farvand, de overflyver os med det samme, eller sender ud. Vi kender dem, og Åge har i et meget længere liv end mit haft fantastisk god kontakt til dem. De ved hvad vi laver. Vi gør det vi gør med respekt, og de [Slots- og Kulturstyrelsen og Søfartsstyrelsen i Denmark] kan frede alt det de vil, men der er jo ikke nogen, der vil håndhæve, den lovgivning de kommer med.”

Åge supports this and follows up that:

“De har det ikke som svenskerne - de har et skib der sejler rundt overalt, og søger efter vrag - danskerne har ingenting. De har ikke en skid.”

To this one could perhaps argue that in Denmark we have dedicate private people who does just that, people like Gert Normann Andersen. And Åge and Stig themselves do the same, except they do not share their positions or finds with the public but instead keep them secret. But essentially, I agree that this is not the same situation. This question about knowing the exact position of a wreck brings forth an interesting dilemma, and even though I do not believe Slots- og Kulturstyrelsen wants to grant Special Interests wreck status to any wrecks that they do not yet know where is actually located, Stig certainly thinks that this would be a futile endeavour:

“Men igen, det kommer an på hvad fredningen handler om. Hvis det er at udstikke dykkerforbud, har det ikke noget med fredning at gøre så kaller man det bare noget andet, end det det er, og så behøver vi ikke at forholde os til det, ikke forholde os til de ansøgninger om det ene eller andet. Hvad vil de så gøre med alle de vrag. de ikke har positionerne på?”

Even though they apparently do not really have much faith in the effectiveness in the proposed new list of special interest wrecks Slots- og Kulturstyrelsen is working on, nevertheless Stig and Åge would not mind
being consulted in the matter either, although they do not really think anyone will listen to what they have to say. Stig proposes that they could make a list of wrecks themselves with perhaps 8 – 10 suggestions of special interest wrecks, but not just for legal protection – something would have to be done to either raise either the entire wreck or parts of the cargo to effectively preserve them for posterity. They both generally just do not support the idea of leaving wrecks undisturbed in situ at all:

“... jeg er sikker på, vi kunne komme med et oplæg på en 8-10 vrag - de her er bevaringsværdige. Bevaringsværdige - dvs. enten så skal vi hive dem op som de er, eller vi skal hente nogle laster med eksempler for eftertiden. Den dialog bliver spændende at få. Det er ikke et spørgsmål om, at vi skal frede det og lade det ligge.”

Stig explain all the frustrating diplomatic work that had to done prior to the raising of U-534, with talking with the German embassy directly, because the Danish authorities did not recognise that the Germans had any right to object, and the German authority would not recognise that the Danish authorities had any right to do what they did. He was only able to navigate between the two sides because he was just “a long-haired hippie academic” which made it easier. In the end the Germans compromised but insisted that they would have an official observer present at the salvage operation, which they got.

As to what their ideal legislation would look like, they again point to the Swedish legislation as something worth emulating. Åge and Stig do not complain if certain objects are seized by the authorities, because they belong in a museum. Their argument is, that people should get paid for the things they find, and not just a symbolic amount like a small reward either. This viewpoint is not a surprise, because as they say, they are professionals who, though perhaps driven by the adventure and their interest in history, do it as a way of living. Stig argues that the Danish rules have the unintended consequence that seemingly many treasures are found and sold in the Baltics. What he means is that items found in Denmark are not reported found here, but instead reported in the Baltics.

“Derfor vil du opdage, at der er ganske mange fritidsskatte, der bliver fundet og solgt i Baltikum... dvs. hvis de er fundet her; så er de ikke fundet her...”

This viewpoint is perhaps what separates Åge and Stig most from someone like Otto Uldum (and indeed every archaeologist in Denmark probably), who strongly believes that any items with any cultural heritage value either at land or under water is a common good that should be administered by the relevant authorities. In this line of reasoning a small finder’s fee is not unreasonable, because the item itself does not belong to the finder (except in certain situations) but is instead the property of the state. Personally I also support this viewpoint, but this does not mean that the rules as they are, though obviously well intended, are necessarily good, because if the legislation is generally seen as unfair, and by generally, I mean by the very people they directly affect and not society as a whole, you get the unintended consequences referred to above. No man will follow a law perceived unjust, at least not if said law is not also heavily enforced, which they are not in Denmark as it is now. The relevant law regarding maritime finds is Museumsloven.

§28 Stk. 5. Den, der optager genstande, som tilhører staten [meaning artefacts from wrecks that are more than 100 years old], og den, der får en sådan genstand i sin besiddelse, skal straks afleverede genstanden til kulturministeren. Kulturministeren fordeler sådanne genstande mellem relevante museer. Den, der har foretaget optagningen, har ikke krav på bjærgeløn, men kulturministeren kan udbetale en godtgørelse til den pågældende.

Stig also mentions an incident that occurred following the broadcast of their television program Jagten på havbundens hemmeligheder which he feels show the biased unfairness they are often treated with by the
archaeological community. Although they had all the relevant permits (how they interpret those permits are discussed below) they were publicly accused in the newspaper Politiken of treasure hunting by maritime archaeologist. The whole matter was eventually resolved in Pressenævnet. The entire verdict is really detailed, but a relevant quote below show that Politiken did in fact not do their job adequately in their cover of the story. Specifically, Åge and Stig were not asked to comment on the issue.


It was proven that they did not abuse our cultural heritage (as it is defined by the law) and Torben Malm from Slots- og Kulturstyrelsen even had to specify that Åge and Stig did in fact have the correct permits. The reason I include the above quote from pressenævnet is because I believe many disagreements (certainly not all) could be resolved if people would just communicate with each other sometimes, instead of just assuming the worst of each other.

**Bending the rules**

When asked how they interpret Søfartsstyrelsens different permits Åge and Stig say that the salvage permit is really clear, in that it allows you to do and salvage basically anything you want, however they do admit that the permit to collect souvenirs leaves some room for interpretation, in fact one could argue a very wide room for interpretation it would seem:

"Jamen en bjergningstilladelse - så må de hive op, hvad de vil. Der er ikke noget, der er ikke noget - du har en tilladelse, men du må ikke tage det og det og det - der er ikke noget løft over ... [and then continuing on with the souvenir permits] altå den der er rimelig klar. At du må tage løsdel op. Og så er den rimelig uklar, fordi den forklarer ikke, hvad en løsdel er. Så vi plejer at gøre det, også fordi vi igennem mange år har haft god kontakt til dem, som eksempelvis da vi arbejdede på Gitano, eller i forbindelse med udsendelserne her [the television show], så siger vi: vi går efter det og det, og så siger der: jamen hvis det er løsdele, så siger vi: jamen det ligger nok ikke alt sammen frit på havbunden, så er det så inden for en eller anden rimelighedsgrænse, du kan jo gå ind og sige, vi vil gerne have en bjergningstilladelse, og løfte vraget som vi gør med 2359, eller du kan gå ind og sige at vi vil gerne sprænge i det, og så skal vi så, så er der nogle krav til områdinger, fordi så er der, vi må gerne nedsprænge... [but they are not allowed to reduce water depth and thereby hinder ship traffic]"

I think this quote above shows clearly, that the souvenir permits can be, and are, interpreted in a very wide sense. But of course, if the party of interests that obtain the permit specify to Søfartsstyrelsen exactly what they wish to do with it, as Åge and Stig say they in fact do (and this is also required in the application), and they still gain the permit, then using this leeway in the rules is not something that should be held against Åge and Stig, this criticism should rather be addressed at the relevant authorities that issue said permits, and because they only follow the rules they are given, then ultimately the criticism should be addressed at the rules themselves.

Therefore, I think that maybe outsourcing the responsibility regarding cultural heritage decisions concerning souvenir permits to make it less centralized with the regional museums would help stem some of the archaeological criticism. I think Otto Uldum would like to have that responsibility again, even if it means more
work for him. On the other hand, if Slots- og Kulturstyrelsen decides that a wreck is not historically or culturally significant enough to outright deny giving a permission for collecting souvenirs, in the belief that the recipients will necessarily abide by the most austere literal wording of the rules, it should be specified to Søfartsstyrelsen, so that they do not afterwards make allowances or give leeway in the permits which was not intended by Slots- og Kulturstyrelsen.

To recap, if Søfartsstyrelsen upon gaining a request to do X asks Slots- og Kulturstyrelsen, whether a ship should be exempt from X and are told, no doing X is fine, they should not then proceed to agree with the supplicants to really do X Y and Z. I think that the problem here is that Søfartsstyrelsen really do not have any responsibility regarding cultural heritage apart from sometimes asking Slots- og Kulturstyrelsen when they think there could be an issue. As I explain in the part about Søfartsstyrelsen, they have a lot of responsibilities, literally matters of life and death, so something as irrelevant (to them) as heritage is probably more of a nuisance. That is why the prime importance to them when granting permissions is safety.

Another aspect we briefly touch upon in the interview, is the question of pollution from submarine wrecks and the price tag it carries. The U-864 which was discovered in 2003 near Bergen has in the last decade (at least) been leaking mercury into the sea, and the Norwegian government has, as of 2015, after considering a raising decided to entomb the submarine with sand and concrete. Stig argues that if the Germans want to claim ownership of one submarine, they should also be responsible (economically) for cleaning up the mess in Bergen. I asked Herr König about this specific case, because I thought it was a reasonable argument Stig made, but it turns out that a few years after World War II Norway made legislation that seized enemy vessels, and as Herr König said, local laws would supersede a German claim.

„Hinsichtlich der im 2. Weltkrieg in norwegischen Gewässern gesunkenen (deutschen) Kriegsschiffe besteht die Besonderheit, dass diese durch (norwegisches) Gesetz Nr. 4 über Feindgut (Lov om fiendegods o.a.) vom 22. März 1946 beschlagnahmt und durch den norwegischen Staat in Gestalt des Zentralamts für Feind-eigentum übernommen wurden“

Åge and Stig are not entirely against letting the Germans have their submarine or any other vessel once it is raised, but then they would have to pay some kind of salvage fee to compensate them for their work, which also seems reasonable, except that the Germans do not really want the submarine to be raised in the first place, although in this specific case Åge and Stig do claim they have proof that the submarine does not contain any dead sailors (Stig has found photographs and film showing the crew in the water prior to the sinking) so the peace of the grave would not apply here:

“Vi har sagt, det må I gerne, men stadigvæk så kan I så betale os, hvis I vil have ubåden, så må I bare betale - vi vil gerne have den op og have fortalt historien. I princippet kan de også fortælle den i Tyskland, det er bedst hvis den bliver i Danmark - ikke i England igen, men så må de bare betale os for det arbejdevi har lavet, og hvis de så tror, de kan vinde en retssag et eller andet sted, så kom an!”

What Stig is referencing here is probably Sølovens § 446 Kriterier ved fastsættelse af bjærgelønnen – that salvors should be compensated for their work based on a long list of criteria that includes obvious things like the value of what is salvaged, but also takes into account the time and money spent by the salvager and the danger involved in the operation. One particularly amusing criterion, given the type and age of the wrecks in question, is the one mentioning how fast assistance was given by the salvager.

§ 446. Bjærgeløn skal fastsættes med henblik på at opmuntre til bjærgning, idet følgende kriterier skal tages i betragtning:

a) Det bjærgedes værdi.
b) Den dygtighed og de anstrengelser, som bjærgeren har udvist for at forhindre eller begrænse miljøskade.

c) I hvor høj grad bjærgningen er lykkedes.

d) Farens karakter og grad.

e) Den dygtighed og de anstrengelser, som bjærgeren har udvist for at bjærgne fartøjet, andre genstande og menneskeliv.

f) Den tid, bjærgeren har anvendt, samt hans omkostninger og tab.

g) Risikoen for at pådrage sig erstatningsansvar samt anden risiko for bjærgeren eller dennes udstyr.

h) Hvor hurtigt bistanden blev ydet.

i) Tilgængelighed og anvendelse af fartøjer eller andet udstyr beregnet til brug for bjærgninger.

j) Beredskab, effektivitet og værdi af bjægerens udstyr.

But there is also a specific rule that specifies the cases where a salvage bonus would be void which expressly state, that if the owner has directly requested that a wreck (or cargo) is not salvage, then the salvager has no legal right to claim this. So, the way I read this, if a German authority could prove ownership, perhaps by pointing to international law, and they specifically request that a wreck should be left alone, then the Germans would not be required to pay for the salvage, but would presumably still take ownership of the wreck. But I am not a lawyer, and so I fully admit that this is much more complicated.

§ 450. Stk. 2. Der er ikke ret til bjærgeløn eller særligt vederlag for bistand, der er ydet mod et udtrykkeligt og beføjet forbud fra ejer, reder eller skibsfører. Tilsvarende gælder for bistand, der er ydet mod et udtrykkeligt og beføjet forbud fra ejeren af andre genstande i fare, som ikke er eller har været om bord på fartøjet.

I also asked Herr König to comment on this plan to raise the U-2359 by the same people who raised U-534, but to his knowledge their request to get a salvage permit for the undertaken was rejected by the Swedish authorities.

„Nach meinem Kenntnisstand wurde in Schweden die Bergung des gesunkenen U-Bootes U-2359 beantragt, aber von den schwedischen Behörden abgelehnt.“

I guess we will have to wait and see. Åge said they would raise U-2359 this summer (2019), so we will find out soon enough.

**Flemming Hansen**

When I interviewed Åge and Sten, I was told by them that Flemming Hansen from Fredericia has a lot of knowledge about this topic, as well as papers and photograph related to the raising of U-534 and about submarines in general. I contacted Flemming, and he has been very helpful to me and enlightened me on many issues, especially having to do with the history of salvage and the fate of the German submarine wrecks in Denmark after the war. He was also very helpful with acquiring and interpreting the enigma messages, and I do not think there is any one person in the country that have a more comprehensive knowledge on this specific topic. A friend of his, Carsten Petersen from Århus is very knowledgeable about everything that has
to do with WWII aviation in Denmark, and he supplied the RAF Operations Records that describe the English attacks in May 1945.

Flemming has worked with both Gert Normann Andersen as well as Åge Jensen and Stig Thornsohn before, and for a short time he even worked with some of the records (paper documents) obtained from U-534 where he helped sort, scan and laminate the material. He has also photographed between 12,000 and 14,000 German WWII war graves on different cemeteries all over Denmark, and today the only graves he is missing are the ones on Bornholm (he does all of this work to help a friend). Although he is neither sports diver, historian or archaeologist himself, he is very interested in the history and fate of the wrecks from the Second World War and has even written a book about the topic (though not about submarines) and has also assisted many other authors in their work.

Exactly because he is not a sports diver and has never seen any of the wrecks in situ, I thought it would be interesting to hear his opinion about the question of whether the WWII submarines should be raised or not. First, regarding the U-3523 he believes that this specific submarine should be left alone, mostly because it contains the remains of dead crewmen, but also because U-3523 is the same type of submarine (XXI) as the Wilhelm Bauer (formerly U-2540) currently in Alten Hafen in Bremerhaven, so this type is already available to experience to those who are really interested in submarines, like him. For the same reason, it would instead be welcome to him if Åge and Stig raise the U-2359 because this a type (VIIC) which is not represented anywhere in the World. But other than that, he would not mind if people like Åge and Stig raise a submarine provided that they do it properly and take good care of the contents. He admits that there were made mistakes in the handling of U-534, but one could hope the Åge and Stig have learned from those mistakes. I also asked Flemming about the likelihood of an unlocated submarine still in Høruphav, and he thought it was indeed possible, but he suggests in that case it would probably be a type XXIII and not a Seehund.
Flemming has a sombre attitude to the issue of “peace of the grave” and say that he disapproves when people remove body parts, like e.g. skulls, but other than that, he does not mind if divers collect small loose objects as souvenirs. He does not like it or condone when divers remove other items from wreck, except for the ship bell and the building plates, since these can identify the wreck but these findings should then be made public and the objects in question should be preserved and treated with respect, so they do not deteriorate further.

And of course, he is very much against the idea of wholesale destruction of wrecks for their contents, the practise that Otto Uldum describes. He compares the approach of the Danish maritime authorities with that of the Germans, and say that from his experience the Germans are a lot more active and engaging with divers in their waters, and that perhaps if there were more money available in Denmark this could also be done here.

Analysis and Conclusion
The main reason I made the two case studies of U-534 and U-3523 was because I wanted to compare them with each other, to see if there was anything that made each of them special. It has been mentioned to me more than once that U-3523 is not that important or culturally significant, because the Wilhelm Bauer already exists and they are both type XXI submarines, but when the U-534 (type IXC/40) was raised the U-505 (type IXC) was already a museum ship, and although they are not the exact same type of submarine, I think the restorations and moderations done on the Wilhelm Bauer and the fact that it has been used for a long time by the Bundesmarine after World War II makes it a sufficiently different kind of submarine from the U-3523 which, if it was made into a museum ship would be in “mint-condition” so to say, straight out of the Second World War, and all the U-3523’s contemporary artefacts could be exhibited along with it. That is a big difference for an archaeologist that does not focus only on technological developments and human ingenuity. This is the kind of artefacts an archaeologist like Otto Uldum would like to survey, because as he says, the technological advances from the Second World War can be pretty much studied from literary sources alone.

Neither U-534 or U-3523 had particularly interesting careers, U-534 only went on three patrols and one of those was a training exercise, and it never even sunk an enemy vessel. U-3523 went on no patrols at all. The type of submarine that U-534 can be said to represent is the more interesting type historically because it represents the long-range submarines that had an impact on the history of World War II because of the longer service and larger number, but U-3523 can be seen as the more technologically important, because it represents such a big step forward in submarine technology that it fundamentally changed how submarines operated.

Even though U-534 and U-3523 went on their last mission together and suffered the same fate by being bombed by the British, there is one big difference in their stories. There were many survivors from U-534 who could afterwards relate their stories about the last voyage to posterity, and the wreck was empty of dead sailors, which the U-3523 is not. Having spoken with especially Gert and really thought about it, I really do not think a ship that is considered a war grave by so many people should be turned into an exhibition.

The interest of the stakeholders
After having spoken with all the stakeholders (as defined by me) in the German submarines in Danish waters, the many different answers and perspectives have given rise to many thoughts and allowed me to draw some conclusions.

Sports divers
Regarding the impact of sports divers, I have noticed that the people who represent an institution (apart from Søfartsstyrelsen) see sports divers as having a worse impact, than the people who only represent
themselves. Torben Malm from Slots- og Kulturstyrelsen, who is himself a recreational diver, bemoaned the pillaging and Otto Uldum did as well. Herr König did not say much about that issue, but since BADV considers German military wrecks German property, he would likely view it as theft, and as mentioned elsewhere the Germans have voiced precisely that opinion before. On the other hand, Gert Normann Andersen, Åge Jensen, Stig Thornsohn and even the non-diving Flemming Hansen do not view the practise of collecting souvenirs as being that harmful, when it is done within certain guidelines and limitations. I think this dichotomy is interesting, because it divides so clearly between the private stakeholders and official stakeholders, that it is almost like different sides in a political debate.

Special Interest Wrecks

Everyone I talked with seemed to support the work Slots- og Kulturstyrelsen is conducting now, looking at what wrecks are particularly interesting and then making a list of around 100 wrecks that are to be considered of special interest, which will then be legally protected by the same guidelines that protect wrecks that are more than 100 years old. The stakeholders all agree, with no exceptions, that there are many wrecks, that are younger than 100 years, that are important to our cultural heritage.

However, Åge Jensen and Stig Thornsohn argued that maybe the list should be shorter, and the interesting wrecks should not just be protected, but something from those wrecks should be raised and exhibited in a museum and not just left to disappear. They even suggested that they could probably supply the positions on a couple of wrecks that would be interesting to Slots- og Kulturstyrelsen, but they would not do so if the wrecks would then just be left alone.

Gert Normann Andersen also thinks that just legally protecting wrecks is dooming them to destruction (at least in the North Sea). Perhaps the list of wrecks that are considered important enough to be legally protected should be cross referenced with Gert’s database of the corrosion of wrecks in the North Sea, so archaeologist could focus on the wrecks that are endangered the most. U-3523 (though in Skagerrak) would probably qualify if Slots- og Kulturstyrelsen considers U-3523 of special interest. I think Gert would appreciate the steps Slots- og Kulturstyrelsen is taking, because they are looking at the wrecks systematically on a case by case basis, which is the approach Gert said one should do. However, I do not think Slots- og Kulturstyrelsen would take it as far as Gert would and also look at the currently protected wrecks on a case by case basis to see if some of those are actually not important enough to be protected.

Otto Uldum also thought that what Slots- og Kulturstyrelsen is doing now is a good step in the right direction, but he would of course rather have a wider list with protection of all military wrecks.

Based on those responses, which are in general positive, I think it is safe to say that everyone thinks more should be done to protect out maritime cultural heritage from World War II, and that Slots- og Kulturstyrelsen is taking a good approach. If the number of special interest wrecks should be slightly bigger or slightly smaller is not really that important for the idea of the general concept.

Ideas and suggestions

Regarding the permissions to collect souvenirs, I think the practise involved in the issuing of permits needs to be tightened to ensure that behaviour, which can be seen as abuse, does not occur, or at least does not then occur completely legally. As the managers of the maritime cultural heritage, the regional museums who are in the specific area in which a permission to collect souvenirs or salvage is sought, should be the institution with which Søfartsstyrelsen should consult regarding said permits, as they were in the past, and furthermore, the regional museums should also be the institution accepting or denying any possible deviance from the standard as it pertains to the permissions. This means that any discussion about what or how many
objects can or cannot be removed from a wreck, will be made with an institution which have the management of our maritime cultural heritage as its primary responsibility, instead of with an institution which does not have this as their primary objective.

If for some reason the applicant for a permission wishes to consult directly with Slots- og Kulturstyrelsen instead of with the local museums, this should probably also be a possibility. The reason I say this, is because since we are all humans, we are also all biased in our views, especially our views of our fellow human beings, and this option could minimalize that any personal grudges or idiosyncrasies kept the applicant from being treated in a fair and equal way. It must be remembered that the applicant by his very action of applying for a permit is trying to stay within the law, so his request should always be treated in fair way.

With regards to the German claim to ownership of sunken German state vessels, I think that if Denmark does not recognize that ownership, because by Danish law they are now clearly abandoned, this will continue to cause problems for the German sensitivity regarding their war graves. In the case of U-3523, this submarine, which is the grave of 58 German sailors, was only recently discovered. Since the submarine has been lost since World War II until 2018 how could the Germans possibly have tried to claim it before?

If the abandonment clause is the reason for the Danish stance on ownership (as Professor of Law Max Sørensen said already back in 1959), then maybe if a German bureau i.e. BADV took a more pro-active role and immediately claimed ownership of the wreck of U-3523, would Denmark then have to acknowledge that ownership?

But I think this would probably be a costly endeavour, because if the Germans then took no actions to salvage the wreck themselves, it would eventually again be considered abandoned by Danish law. But, being no expert on law, this is just speculation on my part. What I do think is, that if Germany was more pro-active, and actually visited and surveyed the wrecks they consider war graves, then it would send a clear signal to the Danish authorities, who actually would rather avoid hurting the German sensibilities if they could, but are bound by law as much as we all are.

In the case of U-3523 perhaps it would even be a waste of time, because none of the people I have spoken with, who are the people that have an even remotely possible change of raising the U-3523, even seemed to care that much about it. Gert Normann Andersen said U-3523 was not that interesting to him and way too expensive to raise, and besides he does consider it a war grave himself so would not touch it. And Åge and Stig who have already raised one submarine and have been in the process of raising yet another for some years now, did not really care that much about it either. They are completely focussed on their own submarine U-2359 (type XXIII), because that type is much more interesting to them than the XXI type.

Permission to raise U-251 (type VIIIC) was actually granted once (but under extremely harsh conditions), so maybe this submarine could again be looked at by potential salvagers. This type of submarine is probably the most famous type at all because it is the type that was used in Das Boot (U-96). There are no museum submarines of this exact same type, but the U-995 (a type VIIIC/41) is museum ship at the Marine-Ehrenmal in Laboe (near Kiel). However, Torben Malm from Slots- og Kulturstyrelsen told me that no one would ever be allowed to raise another submarine in Denmark, and here I think he specifically refers to private stakeholders and not archaeologist. And with U-251 being such a popular dive site, this probably annoy a lot of sports divers.
Litterature


**Other sources**

• Interview with Otto Uldum from Langelands Museum - March 14th, 2019

• Interview with Gert Normann Andersen from JD-Contractors A/S - March 22nd, 2019

• Interview with Åge Jensen and Stig Thornsohn – April 8th, 2019