



Episode 12, USS Thresher, New York, New Jersey and Massachusetts

Gwen Wright: Our first story examines some once classified documents and the sinking of the Cold War's most elusive predator. In the summer of 1960, during a climate of mounting political paranoia, the Navy launched a new nuclear attack submarine called the Thresher. Named after a shark known for its strength and superior swimming, she was a cutting edge war machine built for many purposes, including hunting and destroying Soviet submarines. On April 10th, 1963, the pride of the submarine fleet dove into the North Atlantic for a deep sea trial. She would never return. At a depth of more than 1,200 feet the submarine mysteriously lost control killing all 129 men on board. Even today, the exact cause of the disaster remains unclear. More than 40 years after the tragedy, a man from Chicopee, Massachusetts, has found a file of yellowing diagrams and documents that may contain information about the once secret submarine. I'm Gwendolyn Wright and I'm about to meet Peter Stone and take a look at these intriguing documents.

Peter Stone: Pleasure to meet you. Come inside.

Gwen: Thank you. How did you come to find these documents?

Peter: Uh, well, we bought this house from my great uncle Leonard's estate. When we were going through some of the belongings in the basements, we found this folder in one of the dresser drawers.

Gwen: Peter has done some research. He tells me SSN 593 is the Navy's designation for the USS Thresher.

Peter: I know that it sunk and nobody's quite certain as to why, but it still lays at the bottom of the ocean.

Gwen: Well, it must have been somewhat surprising to stumble upon some material about a nuclear submarine in your basement.

Peter: I was a little shocked.

Gwen: His great uncle, Leonard Morgan, had worked as a civilian at the Portsmouth Naval Yard. But he was a private man, unmarried and tight lipped to family and friends about his work.

Peter: He told me he was an electrician when I was growing up, but...

Gwen: He wasn't just screwing in light bulbs. Morgan died in 2005, and the discovery of these documents has sparked his grand nephew's imagination. Tell me, what would you like for me to find out about these documents?



Peter: Well, first of all I'd like to know what my uncle Leonard had to do with the construction of the Thresher. And also, there's so much secrecy about what happened to the Thresher, I'd like to know what the true story is.

Gwen: Well, I may have a challenge ahead of me, given military secrecy, but I'll see what I can find out. Well, we do have a clear sense of dates here. 1957, 1958, 1959. That's the height of the Cold War; the arms race between the U.S. and the Soviet Union. It was a time of tangible fear about the dangers of nuclear war and of extreme secrecy surrounding our military operations. There's something handwritten here... "Code 1500 has ordered that all power distribution plans be classified confidential. Please govern yourselves accordingly." So, their fear is about security, national security. I'm in a quandary. The documents appear to be talking about the submarine's electrical systems. I'd be surprised if these documents were still restricted after almost half a century. But I don't want to divulge national secrets on primetime television. My first efforts to get some information about Morgan or the documents run into an obstacle. The Navy won't participate in our investigation. This is discouraging: "After a final review, the Navy has decided to decline participation in the episode of **History Detectives** due to the sensitive nature of the loss of the Thresher." It also means I can't get information from the Portsmouth Naval Yard about Morgan's employment. Well, thank you very much. Goodbye. Hans Kristenson of the Nuclear Information Project at the Federation of American Scientists is an expert on nuclear submarines. I'd emailed him the documents earlier. It's been more than 40 years since the Thresher was lost. Why would they still be so concerned? He's not surprised the Navy won't participate. He says they routinely decline to discuss sensitive matters. And the loss of a nuclear submarine certainly qualifies as sensitive.

Hans Kristenson: The nuclear powered submarine is one of the most secret corners of the Navy's operation. And, of course, this is a secrecy tradition that dates back to the very beginning of the nuclear era. It's a very closed culture. The submarine service is called the Silent Service, and for good reason.

Gwen: I'm especially curious on this document here, the crew training.

Hans: Yeah.

Gwen: It says at the bottom that "Code 1500 has this classified confidential". Hans explains that "confidential" is one of the lowest levels of classification. Code 1500 refers to the Navy's nuclear propulsion division. But there are no details of reactor design in the documents. And because the Thresher class no longer exists, the papers aren't important to submarine systems today. Yet a generation ago, the Thresher was on the cutting edge of submarine technology.

Hans: The Thresher was supposed to be able to sail faster dive deeper, be quieter than any other submarine, etc. And it was, you know, really sort of an icon of winning the race against the Soviets in those days.



Gwen: Hans explains how the nuclear era for submarines began in 1955 with the launch of the world's first submarine powered with a nuclear reactor, the USS Nautilus.

Hans: Conventional power of submarines, they have a limitation that you have to get up to the surface and recharge your batteries.

Gwen: The so called father of the nuclear navy, Admiral Hyman Rickover, understood that nuclear reactors allowed submarines to stay submerged almost indefinitely.

Hans: But also, the Thresher was the first....

Gwen: Though Hans isn't an engineer, he says our documents appear to have something to do with crew training.

Hans: Now in this particular training document, it's a rundown, basically of the layout of the electrical system on the submarine.

Gwen: It seems that many of the families of the 129 men who died on the Thresher remain in touch through an online community called the Thresher Base. Well, it's a long shot, but it's worth a try. Maybe someone there knew Leonard Morgan. Lori Arsenault's father, Tilmon Arsenault, had been a chief engineman on the Thresher. She was only eight when the phone rang on April 10th, 1963.

Lori: I was sitting on the bottom bunk of the bunk bed with my brother watching television. The phone was ringing. Someone was trying to get in touch with my mother and she rushed home. And by the time she came in the door, we all made the connection and just huddled in the kitchen and cried. The Thresher Base is instrumental in pulling the families together, keeping us together, inviting us to the memorial service each year.

Gwen: My investigation is focused on a man named Leonard Morgan. Is there a chance that you met him at some point? He died a few years ago, but did he come to any of the memorial services?

Lori: No. There are so many names and so many people. I meet new people every year. No, I don't remember him.

Gwen: I don't learn anything more about Leonard Morgan. But Lori gives me an intimate perspective on the loyalty and loss she lives with. She shares a letter from Admiral Rickover that her mother had received. "Dear Mrs. Arsenault. I wish to express my sympathy for the loss of your husband. His performance in the nuclear program reflects credit on himself, his family and the naval service. Although there is nothing we can do at a time like this, I do hope you will find some comfort in the knowledge that he served his country well." Oh, that's



well put. Some of my earlier phone calls have paid off. Although he won't discuss classified information, of course, a former captain on the submarine, John McNish, has agreed to meet aboard the USS Ling, a retired World War II submarine.

Captain McNish: This is the torpedo room and crew's berthing area.

Gwen: So Captain McNish, you served on the Thresher, didn't you?

Captain McNish: Yes, I did. I was on from about 1960 through 1962. I brought some pictures of both the launching and the commissioning.

Gwen: Oh, wonderful. Oh that must have been you? About that time?

Captain McNish: It is. My family. That was probably taken in Portsmouth, New Hampshire.

Gwen: So, this was the launching ceremony? The first time it goes out to the water?

Captain McNish: Correct.

Gwen: And all of you were on deck. And so here's the commissioning crew. And here you are. Now, most of these men must have been on the ship when she went down, were they?

Captain McNish: Yes, a good deal of them. Most of them were. There were a few transferred off, but I was very, very close to the majority of the crew that was on the ship... and is still on the ship.

Gwen: Following the disaster, the Navy and Congress each conducted formal investigations. McNish summarizes what the authorities now believe happened that day.

Captain McNish: They were doing deep dive testing, and that is you deliberately go to a depth and hold at that depth while all the systems are checked.

Gwen: As the Thresher dove deep beneath the North Atlantic, investigators believe a pipe, which had been joined without welding, burst.

Captain McNish: There was a fairly significant seawater rupture of some sort.

Gwen: Pipe of some sort?



Captain McNish: Probably a pipe in the engine room created a major shorting and shutting down of the electrical system. And when that shuts down, it shuts down the reactor to make the reactor safe. They lost all power.

Gwen: Without power, the ship couldn't surface. As she sank lower, the pressure of the surrounding water eventually crushed the vessel.

Captain McNish: They weren't able to blow the ballast tank and the ship was then lost...

Gwen: I'm sorry. Captain McNish had spent months at the naval yard before the ship had been commissioned. He never knew Leonard Morgan, he says, but our documents look familiar. Do you have a sense of what might have been the rank and the background, the job of this Leonard Morgan, from what you can see here?

Captain McNish: They're all related to the power distributions systems.

Gwen: Which, therefore, was the nuclear system, so he would have had some training that way?

Captain McNish: Would have had to have had some training with the nuclear systems, yes.

Gwen: He explains the civilians such as Morgan, who built the submarine, helped train crew members about the inner workings of the ship.

Captain McNish: These are very similar to the documents or pieces of paper we would have used in our training. It looks like he was a participant, very integral participant in the developing of the ship.

Gwen: Although I'm still not exactly sure where Leonard Morgan fit in, I have a better understanding about our documents. But another question is haunting me. The Thresher had been powered by a nuclear reactor, which sank 220 miles off the coast of New England. Could it be leaking radiation into the surrounding ocean?

Gwen: Admiral Mooney, very nice to meet you. Retired Admiral Brad Mooney explains how in the months after the disaster he attempted to find out what had sunk the ship and whether the Thresher remained a danger. He'd piloted the Trieste II, an underwater gondola or search vessel.

Admiral Mooney: There it is. This is the gondola where the men are. You see there's a tube from up here where the people go down through a hatch into the gondola.



Gwen: The search for the Thresher was dangerous and difficult. Mooney and his crew descended over 8,000 feet; that's equivalent to six and a half times the height of the Empire State Building, hunting several square miles of ocean floor in a tiny, cramped vessel.

Admiral Mooney: The sphere has a six foot inside diameter. And then around us, we're wrapped up with all this electronic gear that's inside the sphere and an opening so that you can see out a window in the forward part of it. And there were three people in there. If you want to do more than scratch your nose, you all have to decide you're going to do it simultaneously. It gets real chummy.

Gwen: An earlier search had found some debris, but not the Thresher and its all important nuclear reactor. This time they hit the jackpot.

Admiral Mooney: The hull had actually dug a hole ...It had spiraled down so the location of it was sort of inside something like a sandpit and it was snug up against one side of the sandpit and the other side of the hull was wide open, so we followed the debris and then, fortunately, landed on the hull.

Gwen: What was the fate of the Thresher's reactor? Was it leaking radioactivity?

Admiral Mooney: We, of course, were loaded with radiometers and decimeters and there was none.

Gwen: Does the Navy continue to check about radioactive leakage?

Admiral Mooney: Yes. Periodically they go out and test it. And there's still zero radiation in the area.

Gwen: Now I'm doing an investigation about a fellow who worked on the Thresher. I'm not quite sure what his job was, but if you could take a look at these plans that I have and just let me know what your take on them is.

Admiral Mooney: Okay. Yeah, these are Portsmouth Naval Shipyard plans and they are the Thresher. That's true. They're electrical diagrams. I knew this guy.

Gwen: Seems I've gotten very lucky indeed. What Admiral Mooney tells me will give Peter a very personal account of his uncle's work on the USS Thresher. I tell Peter what the Navy believes happened to the Thresher. But it wasn't until I'd shown all the documents to Admiral Mooney that I'd gotten hard information about his uncle's work.

Admiral Mooney: Leonard Morgan. He roomed at my aunt's home for about 20 years. A friend of mine, John Higgins at the Portsmouth Naval Shipyard now, his dad worked at the shipyard on a mockup of Thresher. And



Leonard Morgan used to help him in the making of this mockup so the mockup would be exactly like Thresher's electrical system. Amazing! Amazing.

Gwen: Admiral Mooney confirmed that Leonard Morgan had been an integral member of a civilian team with the naval yard when the ship was being built. He'd designed mockups of the electrical system and would have had an intimate knowledge of some of the submarine's most vital components.

Peter: Wow. That's...that's amazing.

Gwen: Peter, does this give you any new insights into your great uncle Leonard?

Peter: Absolutely. At the beginning of all this I had thought that my great uncle was an electrician. Then finding out that he's a nuclear electric engineer and, even more so, he was working on something so pivotal. Something that was so revolutionary is just mind blowing. And to think that I found this in just a dusty drawer in the basement.