the Photographers' Formulary
Preserving the 19th Century Alternative Processes

Alfred Scott McLaren: Uncommon Man in Uncharted Waters

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The Captain Meets Santa at the North Pole
Credit: United States Navy

In this Issue

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Editor's Note:
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Cold War politics were hot and heavy in 1970. Only a few years earlier JFK faced off with Nikita Khrushchev over Russia's installation of ballistic missiles in Cuba. The world came to the edge of nuclear war during six harrowing days of brinkmanship between the grizzled Russian dictator and the still-neophyte American president.

Queenfish's Arctic Track - 1970
Credit: New York Times

By 1970 America was up to its eyeballs in Viet Nam. More than half a million G.I.s were boiling in tropical jungles, fighting seemingly invisible Viet Cong and dying by the thousands in what must surely have been America's most unpopular war.

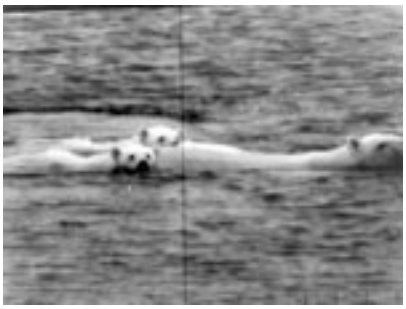
Below the world's oceans another war raged for control of the seas. Nuclear powered submarines capable of remaining submerged for months at a time, and able to travel for tens of thousands of miles without refueling, were prowling oceans at depths unheard of only a few years before.

As part of this Cold War, Captain Alfred McLaren commanded the *USS Queenfish* on a mission to travel beneath the ice to the North Pole, then to survey the uncharted waters of the Siberian Continental Shelf. The trip to the North Pole, tracing the path of the *USS Nautilus'* voyage of twelve years before, was an important objective in itself, but the harrowing part of the journey was yet to come.

McLaren was thirty eight years old, a seasoned submariner, and a budding expert in Arctic underwater exploration. He had been a junior officer aboard the *USS Seadragon* on a previous mission to map an underwater Northwest Passage through the Canadian Arctic islands, so the territory wasn't completely unknown to him.

The concept of the North Pole as a stationary destination in the land of ice and snow is misguided. Magnetic compasses don't work at the Pole, the Global Positioning Systems, or GPS's we carry on our SmartPhones weren't even invented in 1970, and clear nights for navigation

Queenfish Surfaces at the North Pole
Credit: United States Navy



Polar Bears photographed through the Queenfish's Periscope
Credit: United States Navy

by the stars are few and far between. This translates to: the North Pole is a difficult place to find.

The North Pole is an imaginary point at the top of the globe where the sun is above the horizon twenty four hours a day for six months of the year, and below the horizon (and in darkness) for the other six months of the year. The ocean floor at the Pole is almost 15,000 feet beneath a thick layer of ice.

It was into this world Captain McLaren and his crew descended in July 1970. They travelled first from home port in Pearl Harbor to Seattle to stock up with food enough for months at sea, and to load special equipment essential to their mission: to go where no man had gone before.

Imagine locking yourself inside a high speed steel cigar, with no windows to see what is coming, or what may have just passed by.

Capt. McLaren and Crewman by the Sail of the Queenfish
Credit: United States Navy

Put that cigar in high gear and drive blind at almost 25 miles an hour for hundreds of miles. Then travel submerged for more than a month in a world trapped a few feet below a layer of ice sometimes many meters thick, sometimes only a few feet above an ocean floor whose terrain you can visualize only by watching tracings on the glowing screen of an oscilloscope.

The first part of the *Queenfish's* mission was to retrace the path of the *USS Nautilus* as it had traveled to and under the North Pole. During her historic voyage in 1958, she had measured the thickness of the ice along her route. The *Queenfish* took the same route to make comparison

Capt. McLaren on the Periscope
Credit: United States Navy

measurements to determine if the Arctic Ocean ice pack was getting thinner in response to global warming.

Capt. McLaren and his crew made thousands of analog measurements, which were recorded on rolls of paper for later comparison with those made by *Nautilus*. But because the modern digital computer had yet to be developed, the rolls remained in storage until 1983 when McLaren began to manually digitize both sets of data and do a comparative analysis as part of his Ph.D. dissertation at the University of Colorado at Boulder.

Underside of the Ice Pack
Credit: United States Navy

He had previously earned an M.Phil. in Polar Studies from Cambridge University (Peterhouse), England, and an M.S. in International Affairs from George Washington University.

The results of the study were important. McLaren's comparison showed a decrease of seven-tenths of a meter, or more than twenty inches loss of Arctic Ocean ice thickness in only twelve years.

While the only "land" at the Pole is thousands of feet below the ocean's surface, it is possible to find breaks or open areas in the ice mass, called *polynyas*. With care it's possible for a submarine to creep to the surface inside the polynya, but even a minor error of judgment exposes the submarine and its crew to a damaging collision with the ice above.

The ice mass at the top of the world is always on the move. Howling winds cause the ice to drift, moving the opening of the polynya away from the submarine. While special ice detectors allow the crew of the submarine to "see" the ice above, and to gauge its thickness, the detectors don't always

Capt. McLaren with Flag of Hawaii
Credit: United States Navy

MIR Submersible
Photo Credit: Alfred S. McLaren

give a complete "picture." As a result, special care has to be taken when a submarine makes its ascent into an open water polynya.

On August 5, 1970 the *Queenfish* crept upward into a polynya only yards from the geographic North Pole. She carried flags from every state except Mississippi, (it disappeared enroute the North Pole). Members of the crew were photographed at the pole with their state flag. The flags were later presented by a *Queenfish* crewmember to the governor of each state.

As interesting as it may have been to visit the geographic North Pole, *Queenfish* had only begun her epic journey. Diving back beneath the surface, McLaren and his crew headed south for the Siberian Continental Shelf, severing all communication with the outside world as they prepared to "map" the ocean floor bordering a decidedly hostile Soviet Union.

Titanic Captain's Sea Cabin Bath
Photo Credit: Alfred S. McLaren

Over nearly the next three weeks *Queenfish* glided slowly along, taking thousands of depth soundings and creating an encyclopedia of information forming the world's first comprehensive hydrographic survey of the Siberian Continental Shelf. The information was of considerable importance for a United States of America embroiled in a Cold War with Russia. Bound by orders not to approach closer than the twelve mile limit then accepted according to International Law, *Queenfish* still found itself hemmed in by ice above and ocean bottom below.

Bow of RMS Titanic
Photo Credit: Alfred S. McLaren

One time McLaren was called to the "Conn," or the control room of the submarine, to help extricate *Queenfish* from what he describes as an "ice garage," or a dead end with no path out except the way it had come in. A harrowing hour later, during which crewmembers were ordered not to move from their places to avoid disturbing the critical center of balance, *Queenfish* was able to "back out" of the icy dead end and return to relative safety.

Much of the story of the Siberian survey will remain untold for many more years, but what McLaren and crew are able to talk about is an experience as dangerous and daring as a climbing of Mt. Everest. Many other Cold War missions followed, and remain shrouded in similar mystery. McLaren has done

RMS Titanic - 1912
Wikipedia

a masterful job of telling what he can about the mission in his book, "*Unknown Waters*." It's available on Amazon.

When McLaren retired from the US Navy in 1981, now an acknowledged expert of the Arctic underwater world, his explorations of Neptune's domain had just begun. In 1999 and 2003 he took part in dives on the *RMS Titanic*. Using the same manned Russian *MIR* submersibles in James Cameron's epic film, McLaren was part of a three man crew who attempted to gain more information on just how *Titanic* went to her death more than 12,000 feet beneath the North Atlantic over 300 nautical miles south of St. John's, Newfoundland.

McLaren describes the pressure vessel, or workspace of the Finnish-built *MIR* as a little more than 78" in diameter. It was a large, hollow, metal sphere with sufficiently thick steel walls built to withstand the

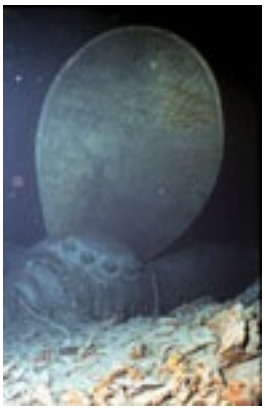
Officers' Quarters Cabin Window on the Bridge Deck
Photo Credit: Alfred S. McLaren

One of Titanic's Two Engines (Height of a 3 Story Building)
Photo Credit: Alfred S. McLaren

incredible pressures encountered at deep ocean depths. Cramped, in an initially uncomfortably warm atmosphere on the surface, the internal temperature dropped to near freezing at deep depth. The *MIR* pilot and two observers remained in contact with their surface ship tender via underwater telephone. McLaren says the communications were surprisingly good.

Hundreds, if not thousands of hours of video have been made of *Titanic's* debris field. James Cameron's *Titanic* reflects the intense public interest in what must be history's most famous shipwreck. Someone once said the only shipwreck better known might have been Noah's Ark.

Following the discovery of *Titanic* on the ocean floor over three hundred miles south of Newfoundland by Dr. Robert Ballard of Woods Hole Oceanographic Institute in 1985, treasure hunters dreamed



Titanic Port Propeller
Photo Credit: Alfred S. McLaren

of locating things such as the ship's safe in which valuables of wealthy passengers might have been stowed. Short of diamonds and pearls, however, early expeditions to the bottom of the ocean brought back artifacts such as ship's silverware and dishes, passengers' boots, and small articles taken from the ship itself.

As fascinating as those articles might be, they quickly became the topic of anger and derision. Likening the efforts to recover such memorabilia for purposes of sale as grave robbing, an international hue and cry quickly led to a *taboo* on further salvage

Entrance to First Class Gymnasium
Photo Credit: Alfred S. McLaren

efforts, especially if the goal was for purposes of selling the artifacts for their unique value.

Captain McLaren's two dives to Titanic were limited to visual surveys of the hull and the debris field. No one has yet been able to answer with certainty exactly how the ship went down, why it broke in two, or why it sank only hours after colliding with an iceberg on a moonless night.

On its maiden voyage from Southampton, England to New York City, and attempting to set a speed record for the trans-Atlantic crossing, *Titanic* was "flying blind." There was no such thing as radar. Though in the eyes of her owner, White Star Lines of New York,

Titanic Starboard Anchor
Photo Credit: Alfred S. McLaren

Titanic was unsinkable, two lookouts in the Crows Nest spotted the iceberg only minutes before collision; not enough time for one of the world's largest ships of its day to change course and avoid a fatal collision with an iceberg.

So, instead of a tumultuous welcome in New York Harbor, *Titanic* went to the bottom, taking with her more than 1500 passengers and crew. Of the 700 survivors, none would have dreamed their lives would change forever only four days after leaving Southampton, and bare hours before their planned arrival.

As a footnote, Titanic's sister ship, *HMHS Britannic,* would be launched the following year, 1913. Then came World War I and Britannic was pressed into service as a hospital ship by the Royal Navy. In November 1916 *Britannic* struck a mine as she sailed the Mediterranean Sea off the coast of the Greek Isles. She went down in less than four hours, but with a loss of only thirty lives.

Collapsed Forward Mast that Carried the Crows Nest
Photo Credit: Alfred S. McLaren

German Battleship Bismarck
Photo Credit: Blohm and Voss

The German Battleship Bismarck

World War II began long before America joined it in December 1941. After years of preparation, Germany invaded Poland in 1939. In September 1940 the London Blitz began, a campaign calculated by Hitler to bring England to its knees and cede Europe to the German *anschullus*, or annexation. Londoners, however, had different dreams for their nation and their freedom, and in one of the war's great feats, held out against German pattern bombing, V-2 rocket attacks, and the attempt to bomb and starve them into starvation and surrender.

Though not successful in its *blitzkrieg* against the English, the German High Command had plans, well developed, for the conquest of Europe. The German army rolled across Europe and into North Africa in tanks and armored vehicles, while the *Luftwaffe*, or air force, took to the skies with its speedy and deadly Messerschmitt fighter planes.

Part of Forward Superstructure - Port Side
Photo Credit: Alfred S. McLaren

Still up for grabs was control of the high seas. Germany controlled little of the coastline of Europe. Britannia, with its powerful navy, ruled the waves. Part of Hitler's grand strategy was to conquer England and rule the world, and to do it, Germany had to overpower the British navy as well as control the skies.

As part of a massive buildup of its navy, Germany commissioned construction of the *Bismarck*, a WWII equivalent of Star War's *Death Star.* The *Bismarck* was a very large, fast, and extremely powerful battleship. He was the

McLaren Boarding MIR Submersible for 2001 Bismarck Dive
Photo Credit: Alfred S. McLaren

biggest warship in the German fleet. Weighing more than 50,000 tons and capable of speeds more than 30 knots, he was commissioned and put into service in the fall of 1940. Hitler's vision was to use *Bismarck* to destroy British convoys in the Atlantic as part of his overall effort to bring Great Britain to its knees.

It takes a while for a crew to work out the kinks and to learn a new ship. *Bismarck* was no exception. Training began in late 1940, and after some modifications to his hull and his steering *Bismarck* was ready to be unleashed on the world.

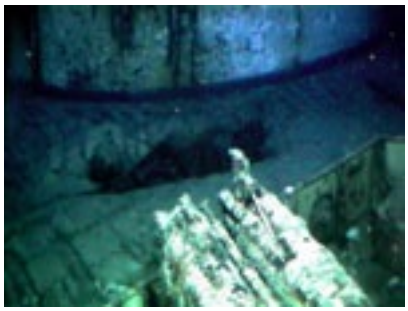
*Bismarc*k received a visit and inspection by Hitler in early May, days before he departed on his first convoy raiding mission. Then,

Bow of the Bismarck
Photo Credit: Alfred S. McLaren

with a crew of more than 2200, and armament sufficient to take on the British navy, *Bismarck* and the battlecruiser *Prinz Eugen* headed for the North Atlantic.

After sinking the pride of the British Royal Navy, the battle cruiser *HMS Hood*, it was only a matter of days before *Bismarck* was spotted by an Allied air patrol. The *Hood* had gone down with 1415 men, leaving only three survivors, prompting England's prime minister, Winston Churchill to roar, "*I don't care how you do it, you must sink the Bismarck*!" Sixteen ships of the British fleet were diverted to begin a search for Bismarck.

Still flush from the victory of sinking *HMS Hood,* Bismarck and the *Prinz Eugen* played hide and seek with the Royal Navy, only to be spotted about 400 miles off the coast of France. *Bismarck*, heading toward France for repair of battle damage, was finally relocated and attacked by Swordfish torpedo planes from HMS *Ark Royal.*



Hole in Main Deck Forward from British 15" Shell
Credit: Alfred S. McLaren

Superstructure Deck, Forward and above P-1, and two AA Mounts, 2002
Photo Credit: Alfred S. McLaren

During a final air strike a torpedo hit Bismarck's rudder. The ability to steer was lost and the battleship became a sitting duck. But he was a tough bird, and though sorely wounded was thought by many to have been able to survive even a direct attack

On May 27, 1941, instead of allowing *Bismarck* to be captured, and the pride of the German navy to be towed to England in ignominy,

Bismarck 105 mm AA Mount, Starboard Side
Photo Credit: Alfred S. McLaren

Bismarck's crew ignited scuttle charges, or explosives placed inside the hull, to sink him. Only 115 of his crew survived. The *Bismarck* was history.

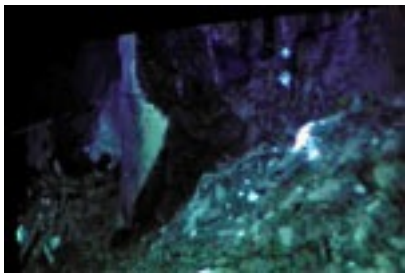
Bismarck's location remained a mystery until 1989 when he was discovered nearly intact on the ocean floor of the Atlantic, again by explorer, Dr. Robert Ballard. Ballard, using an unmanned submersible, the *Argos*, made multiple dives to the *Bismarck* in his resting place almost 16,000 feet below the surface.

Nazi Germany's pride and joy remained undisturbed until 2001 and 2002 when Captain McLaren as a crewmember made the first manned dives to the *Bismarck*. Using the Russian *MIR* submersible, McLaren was part of a team that made an extensive HD television and photographic survey, carefully documenting the condition of *Bismarck*, revealing the damage to his hull caused by Allied shelling and torpedoes. McLaren took along his Canon camera and Tamron wide angle lens and took numerous photographs as the *MIR* slowly cruised above and around the wreck.

Though the British navy had long claimed that they sank the *Bismarck*, Capt. McLaren concluded that *Bismarck* went to the bottom as a direct result of his being scuttled by the crew to prevent capture. The photographs shown here are part of McLaren's visual and photographic survey.

Unlike *Titanic,* no one has attempted to recover artifacts from *Bismarck* because it is a war memorial. *Bismarck's* final resting place is thus regarded and respected as the final resting place and watery gravesite for his crew. As McLaren notes, the boot pictured *here* is the silent eulogy to the more than 2000 men who lost their lives in the sinking of the *Bismarck*, whether by guns of battle or explosives in scuttling.

One of Several Hundred Sailor's Boots
Photo Credit: Alfred S. McLaren



Bismarck Starboard Rudder (torpedo hit)
Photo Credit: Alfred S. McLaren

Bismarck Secondary Battery Mount P-3
Photo Credit: Alfred S. McLaren

Alfred Scott McLaren

Fred McLaren enters the hatch of the SAS Aviator submersible
Photo Credit: Alfred S. McLaren

Upon completion of his Ph.D. in 1986, McLaren became a research and teaching professor at the University of Colorado, followed by an adjunct professorship at the Lamont-Doherty Earth Observatory at Columbia University, and publisher of the weekly magazine *Science News.*

McLaren is President Emeritus of The Explorers Club, founded in 1904 to promote scientific exploration and field research. He is a Fellow of the Explorers Club and was recipient of the *Lowell Thomas Medal* in 2001 for “Ocean exploration.” He received its highest honor, the *Explorers Club Medal*, in 2012 for “Exploration of the entire Siberian Continental Shelf and contributions to Arctic and deep sea science."

Captain McLaren is a Fellow of the Arctic Institute of North America,

Currently a deep sea explorer and scientist,, he is a Director of Sub Aviator Systems, LLC and Senior Pilot of the SAS Aviator submersible.

A veteran of more than 20 Cold War submarine operations, Captain McLaren’s awards, as a Cold War submarine captain, include the Distinguished Service Medal, the nation's highest peacetime award; two Legions of Merit and four Navy Unit Citations.

The SAS Aviator submersible
Photo Credit: Alfred S. McLaren

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