



Marty Klein: Celebrating 50 Years of Underwater Discoveries (1968-2018)

January 24, 2018 marks the 50th Anniversary of Klein Marine Systems. MIT Graduate Marty Klein, founder of the company, is recognized as the “Father of Side Scan Sonar”. Marty sold the company in 1989 and today spends most of his time contributing to the MIT Sea Grant Program, the MIT Museum, The Marine Advanced Technology Education (MATE) ROV Competition, The Massachusetts High School Science Fair, the NOAA Stellwagen Bank National Marine Sanctuary Advisory Council and the Advisory Council of Underwater Archaeology.



In a recent conversation we asked Marty which are the greatest wreck discoveries done with side scan sonar.

“Titanic is the obvious first expedition that comes to mind, probably the most publicized discovery ever. The most important recent, by

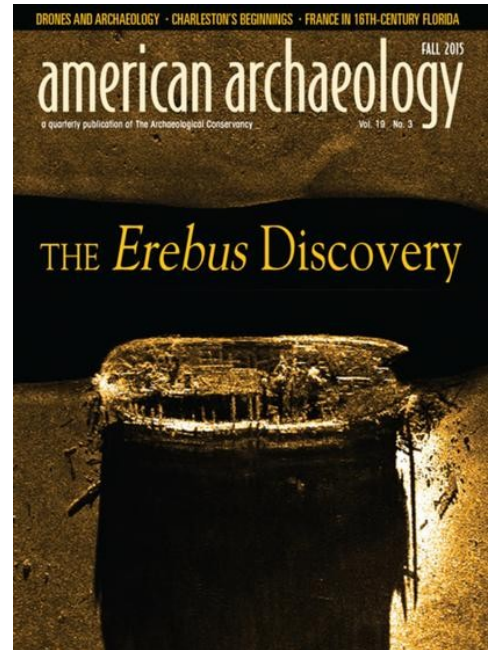
historical relevance, is certainly the *Erebus* discovery.”

[In 1845, explorer Sir John Franklin set sail from England with two ships, *HMS Erebus* and *HMS Terror*, in search of a Northwest Passage across what is now Canada's Arctic. The ships and crews vanished and dozens of search expeditions set sail to try to find them. A breakthrough was made in September 2014 when an expedition led by Parks Canada discovered the wreck of *HMS Erebus*, in the south of King William Island in Nunavut (1)].

“We must mention the discovery of the wreck of the *Hamilton and Scourge*, in Lake Ontario. Again a ship the Canadian Government found in 1975 with a Klein.” [On Aug 8, 1813 the *Hamilton* and her fellow



The crew who found the *Erebus* proudly posing with the Klein 3000 used for the survey



Scourge were about to leave to confront a British-Canadian squadron of six ships when a sudden squall blew across the lake and caught both ships beam on, capsizing. 53 hands died, 19 survived. This was the largest single loss of life on the Great Lakes in the War of 1812]



“We should also emphasize the incredible work that Joe Zarzynski has done in Lake George and Lake Champlain. One of the expeditions with Vince Capone, for example, led to the discovery of the wreck of the Land Tortoise *Radeau*, a seven side gun platform warship built in 1758, the oldest intact warship in North America”

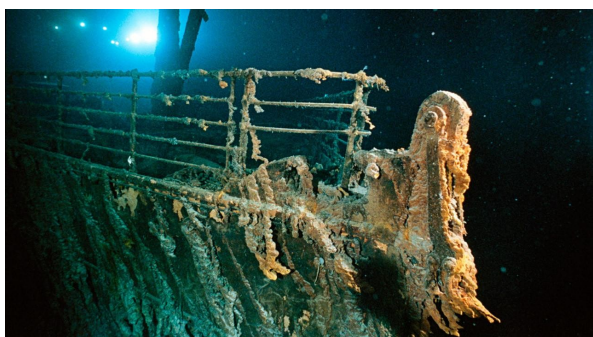
Marty, I read Ballard's books on Titanic, but I found no mention of Klein. I know however that a Klein Side Scan Sonar was installed on the Argo towed vehicle.

“Ballard and I go back many years. He was actually at Loch Ness with me on one of the trips to study the Loch. But we've been friends for a long time and I have great admiration for him. He was one of the first customers for our Klein Smartfish® a modular full-ocean-depth towed ocean survey platform. For the Titanic expedition he mounted the side scan on the Argo vehicle. Bob invited me on the trip but for personal reasons I was not able to go. So I sent Terry Snyder, one of our best technicians.

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The *Titanic* expedition was a joint project with Bob Ballard / WHOI and the French IFREMER Institute. IFREMER went first with their own side scan sonar but they failed to find the wreck. Then the WHOI ship *Knorr* began their search with Argo and our Klein side scan sonar. There are various versions of the story of the moments of discovery and what I know mostly comes from the Knorr captain and others on board.

In the middle of the night the French team was on watch in the instrument room operating the sonar and video equipment. Ballard had learned from previous expeditions that when large ships implode on the way to the seabed they often create a huge debris field, and he alerted the crew to be looking for such a field. In the middle of the night anomalies began to show up on the side scan sonar. The captain was notified to steer toward these and the TV screen captured a clear picture of what appeared to be a boiler. Later the hull was found. Ballard was summoned to the cabin and was able to make the exciting pro-



nouncement that the *Titanic* had been found. When I heard on the radio that the ship had been found I drove down to Woods Hole to greet the *Knorr* when she arrived. There were hundreds of people there including reporters from all over the world. There were a lot of people shuffling for stories and publicity. Terry Snyder gave me a sonar record of the find of the ship, but because the Argo vehicle is not very steady at low tow speeds the record was not that impressive. I had dreamt about something with the masts standing like many of our other shipwreck finds, but this was not to be. Most of the publicity was centered around Ballard and the boiler picture, but I am still very proud of the part we played in the great discovery.

You, a scientist, bring up the Loch Ness Monster frequently.

“The world is still fascinated by monsters. There are many ancient charts and many of those charts will show a monster on the ocean surface. I want to share with you this funny story. When I founded Klein Associates, one of my friends and mentors was a man named Robert Rines, a well-known patent attorney in Boston. Well it turns out he had an obsession with the Loch Ness monster. I'm a bit of a skeptical character but he invited me in 1970 to go with him to Loch Ness as he was going to have an expedition. One of his clients was a company called International Flavors and Fragrances, a company specialized in artificial flavors and he had them make something like a sex lure concoction that was going to attract the monster. So I went with him to Loch Ness and his hope was to bring underwater cameras. He had a special camera and strobe light from Professor Harold Edgerton of MIT who was my old professor and a pioneer in underwater photography. Bob asked me if I could bring the sonar and see what I could do. So I went along with our original Klein MK 300 system. People had been to the Loch with sonars before and had seen blobs on the paper, but it was not clear whether we were seeing ship motion or target motion. I decided to fix our sonar on a tripod on the shore looking out into the Loch. We did pick up a variety of large moving targets

but were never able to classify what these were. Although we never found “Nessie” we did make a number of important discoveries in the Loch. One of these was a Wellington twin-engine bomber that had gone down in World War II. One day we were back home reviewing hours of sonar charts when we saw an image that looked like a twin-engine aircraft. A friend at Loch Ness told us that he heard a Catalina (PBY) had gone down years ago, so we announced we had possibly found a PBY. Two years later I returned to the Loch with a more advanced side scan and with Tom Cummings and Garry Kozak. We obtained a better sonar records of the aircraft and Tom, an airplane history buff, noted that it looked like a Wellington. We gave the information and location to Herriott-Watt University in Edinburgh. They returned with an ROV and determined that it was indeed “R-for-Robert”, a Wellington. The plane was later raised and brought to the Brooklands Museum where it continues to be restored.

Erebus and Terror were recently discovered. Is a Viking ship the next big thing?

There are things to be found in the ocean. There is this cliché that the ocean is three quarters of the earth and that only this much has been explored. And so there are things just waiting to be found, and some of them are going to be found by accident. I used to joke with my old professor Edgerton about that we're going to find a Viking ship in Boston Harbor one day. So I still owe my old professor that Viking ship. So one of these days out of the blue we will find ships where they are not supposed to be. I feel certain there are. It was possible there were good sailors long before Columbus. We're going to stumble on a ship like a Chinese ship or a Polynesian ship or a Viking ship and it is going to be where it's not supposed to be. It will change the picture of world history, and I expect Klein will be a part of it.”

Why are you so passionate about maritime archeology?

“Right from the beginning of my sonar career I have had a chance to know and work with some of the greatest marine archaeologists and to help find many ships including ancient ones and deep ones. I began to learn about the real value of our underwater cultural resources. There is still to this day a tremendous fight over who owns things in the ocean. There are treasure hunters who are just out for treasures. There are “salvors” or “salvaging companies” - it's a little different than treasure hunting - and then there are marine archaeologists. I know them all and I find it sad that they hate each other. I've tried over the years to be some kind of a peacemaker but my heart is very much with the archaeologists because of the history and the real value of these ships is not a trinket. A shipwreck is a time capsule of history. When a ship goes down it is an instant in history whereas anything on land - and there are ancient sites on land all over - they have been touched, there have been people who have lived there, they have covered over. A shipwreck is the way the world was in that second in time. And so it's a time capsule, very priceless”

What is something that makes you proud?

“There's plenty of competition in side scan sonar. There are much cheaper ones and much more expensive ones. But in the history of this field when somebody really had to find something they turned to Klein: they did it with the Space Shuttles Challenger and *Columbia* and with a number of things you don't ever hear about with the Navy. Yes, when they really had to find it they turned to us and many of these stories will never be told.”

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KLEIN MARINE SYSTEMS

EXPEDITIONARY NOTES

(1) <https://www.pc.gc.ca/en/culture/franklin>

(2) <https://lifesahuman.com/2014/arts-culture/history/2014-victoria-strait-expedition-finding-franklins-hms-erebus-part-2/>