

Before the Mast in the Ketch *Atlantis*

William B. Cooper

The ketch Atlantis was the original sea-going research vessel of the Woods Hole Oceanographic Institution (WHOI). Henry Bigelow, the first director, chose the Boston firm of Owens and Minot to design her. In 1930, Burmeister-Wain Ltd. of Copenhagen, Denmark, started construction.

Atlantis was launched in 1931 and sailed across the Atlantic to begin the work for which she had been designed.

At the time, she was the largest ketch in the world. Her sail area was 6,957 square feet divided into four sails: jib of 982 square feet, forestaysail (jumbo) of 775 square feet, mainsail of 3280 square feet and mizzen of 1920 square feet. Her length overall was 142 feet 9 inches; her beam was 28 feet; she drew 16 feet.

Crewmen who joined the Atlantis in the 1930s and 40s brought the strong traditions of the merchant marine to the new demands of oceanographic research. Mr. Cooper describes some of the crewmen he sailed with in the 1940s, especially the men on the SOFAR voyage in 1945.



Author Bill Cooper aboard *Atlantis* in St. George, Bermuda, ca. 1945.
Courtesy Bill Cooper.

Atlantis had returned to the Woods Hole Oceanographic Institution from Lake Charles, LA, about two weeks before that day in August 1944 when I walked down the Fisheries wharf to see her close up for the first time. I was 17 years old.

John Churchill, Assistant to WHOI's director, Columbus O'Donnell Iselin, had hired me the day before after a few brief questions. His final question was what experience I had had. I told him I had four months' service on a 45 foot gaff-rigged schooner as 'the boy' under a yacht captain. "That will do," said Mr. Churchill. "Report to the captain of the *Atlantis*, you are hired as ordinary seaman."



Atlantis at the fitting out dock in Copenhagen, April 1931.
Courtesy WHOI.



Atlantis' maiden voyage, docking at Woods Hole, August 31, 1931. Courtesy WHOI.

I had an "identification card" issued by the captain of the Port of Woods Hole, and it seemed that was all that was necessary.

The man who did all the work to issue that card to me was Coast Guard Yeoman First Class Bob Pratt; he later became sexton of St. Barnabas Church in Falmouth. In those days he always wore the undress blue uniform when he walked into the village.

How simple everything was then! I was really surprised when he sent me to *Atlantis*. I thought, for sure, I would be sent to one of the smaller boats. I found out later there had been two other ordinary seamen in the two weeks preceding me, but they left because they did not like the old bo'sun and cared even less for the acting chief mate, Mr. Mandly. Mr. Mandly treated every ordinary seaman as he had been treated in the 1890s when he was young 50 years earlier.

Atlantis was laying port-side to the wharf. One of the first things that caught my eye as I walked toward the ship were the two whaleboats. This was the first time I had ever seen the real thing and I thought they were beautiful. There was no one in sight on deck; the only activity was the sound of the exhaust of the single cylinder diesel generator. I might have looked aloft, but not yet with the eye of a seaman. Besides, there was too much on deck to fascinate me. *Atlantis* was in every sense a deepwater ship, a type I'd never seen close up

before. Fifty years ago one could experience the feeling of a deepwater ship if one were to visit the Danish training ship *Danmark* or the *Horst Vessel* before she became the *Eagle* or most certainly the beautiful Portuguese bark *Sagres* and the *Atlantis*.

What was it about these deepwater vessels? The spars painted buff, the color so beloved by the old seamen, wooden decks—there is nothing like wooden decks—the teak cap rail on the bulwarks, the varnished teak wheelhouse of practical and pleasing design, the varnished teak companionways and other bright work, the beautifully shaped ventilators with their bright red mouths, the ship bell mounted at the base of the mainmast, the beautiful whaleboats with davits and rope boat falls, the canvas buckets handsewn with sennet work never seen today, the pleasing rhythmic beat of the single cylinder generator (one could sleep right alongside it), the shrouds coated with white lead, terminating in turnbuckles which the sailors had covered in tailored canvas boots and painted gray, all the lines of rigging neatly coiled on the pin rails, her ensign proudly flying from a proper stern staff. All these things made up a deepwater vessel.

Atlantis looked, smelled and was a true deepwater vessel. Even the men serving in her, although few in number, were all deepwater men. This was how I saw her as a 17 year old boy whose dreams of going to sea were about to be fulfilled.

After a while, Captain Lambert Knight arrived, took me aboard and turned me over to the bo'sun. The mate, Mr. Harry Mandly, was on vacation. The bo'sun wasted no time, but forthwith introduced me to a bucket of "soojee" and had me wash out the cold storage box in the galley. For lunch he took me up to the Oceanographic Mess to sign me in, but not before we first stopped at the "Rendezvous" (where the Black Duck is now). He ordered for us at the bar, "One bottle Budweiser and a Coca-Cola for the boy."

The bo'sun, Ernest Siversen, who had said very little to me prior to this, began to make small talk after he had a few sips of his beer. He spoke with an accent that was, at first, difficult for me to understand. His first bit

of advice as we sat at the bar— something I had never experienced before—was “never buy drinks for the house and never accept drinks that way. Always go ‘dutch treat.’”

Although I did not realize it at the time, Ernest Siverson, a Swede, was my first introduction to that most excellent breed of seaman, a “squarehead.” Squarehead was a complimentary term for the Scandinavian veterans of the old square-riggers; they were seamen in the classic sense of the word. Ernest Siverson was a true old shell-back (an experienced seaman), a real Cape Horn sailor.

Return from The Tongue of the Ocean

The next year *Atlantis* cruised to the “Tongue of the Ocean” returning early in July 1945. We had been gone a little over two months. On this cruise we had four squareheads including the chief mate, Nels Nordquist. The rest of the crew were technicians from WHOI who stood watches on the way down and back. I always remember the Tongue of the Ocean as a very pleasant cruise. Susan Schlee mentioned this cruise in her book on the *Atlantis*, “On Almost Any Wind,” but failed to note that Dr. Paul Fye, later to become the director of WHOI, was chief scientist and that Lt. j.g. Paul Ferris Smith was the Navy’s liaison officer on that cruise.

We left Bermuda bound for Woods Hole and had three days of very bad overcast, so bad that neither the captain nor the second mate (a superb navigator) could take a sight with the sextant. As we were approaching Nantucket Shoals, a thick fog set in. By dead reckoning they thought we were off Nomans. I give Captain Knight credit for realizing the fact that most of the time you are not where you think you are. With thick fog and night coming on he decided to anchor since we were well on soundings. This was also easy because we had a small anchor that attached to the main trawling winch wire. This was the same gear we had used to anchor in 1000 feet or so in the Tongue of the Ocean off Nassau.

We stayed anchored all night long and well into the morning while the fog held. In the morning, Chief Harold Backus rigged a line to fish and caught a large hammerhead shark. To clear the shark from the line, the chief went below and brought his shotgun on deck. He



Henry Lambert Knight was one of the crew when Columbus Iselin brought the ketch *Atlantis* from Copenhagen to Woods Hole in 1931. In 1944 he became master of the *Atlantis* and served in that capacity until 1946 when he retired. Courtesy WHOI.

fired two shots right into the shark. These shots attracted a boat nearby that was sword-fishing. This boat was owned by Bill Hand of New Bedford, a well-known naval architect and, incidentally, a friend of Captain Knight. Mr. Hand gave us a bearing for the Nomans Hooter. We weighed anchor and proceeded in.

I only relate this to show that we could have just as easily been on the back side of Nantucket, and if we had gone aground there it could have been disastrous.

Navigation off the coast in summer time is child’s play compared to what it can be in the winter, especially in



Chief Harold Backus standing by generator in engine room of *Atlantis*, ca. 1945. Photo by David Owen. Courtesy WHOI.

a nor'east snowstorm. Captain Knight told us that most vessels are wrecked because the vessel is not where the master or mates think it is. In 1945, only the Navy had Loran and radar. Most merchant ships had, at best, a gyro compass.

After a brief stay in Woods Hole, we sailed again with a minimum crew for New London to go into shipyard at Electric Boat, then building submarines for the war effort.

Sailing from Woods Hole to New London

We left Woods Hole late in the afternoon, bound for the Underwater Sound Laboratory in New London expecting a fair tide through the Race, the entrance to Long Island Sound.

As we proceeded down Vineyard Sound, in a pleasant SW wind, a real summer day, Captain Knight told the bo'sun that he wanted to set all sail once clear of Gay Head. Looking back, I am sure the "old man" had faith in his squarehead able-bodied seamen (ABs) and the bo'sun to handle *Atlantis* under sail, but his two mates and two of the ABs were not familiar with the ship nor with her gear. *Atlantis* might have been rigged as a yacht, but her gear was heavy and it required some training and experience to handle it. Setting all sail in these conditions (a 15 knot SW wind, easy sailing conditions for *Atlantis*) was probably just what the green officers and crew needed. His three experienced ABs and his bo'sun could handle the vessel under all conditions anyway.

Atlantis was operated in "deepwater style," not in the informal style of a fishing schooner. This required an exact procedure in issuing orders, acknowledging orders and the various customs, such as "Heave way on the jib halyard jig," "vast heaving," "make fast, up behind," "all fast." It was a seaman's vocabulary that all seamen understood. A jig, for instance, is tackle on a line. We always addressed the officers as "Mr." and we always said "Sir." We did not associate or fraternize with the officers in any way. Most of the time we only spoke when spoken to.

Discipline was maintained usually by the physical force of the officers. In no time during my years on *Atlantis*, was there ever an instance when one or both officers

would not have been able to overcome any breach of discipline by the threat or use of physical force.

Once when we were about to sail from St. George, Bermuda, Norwegian Nels, who was in the second mate's watch, had had quite a lot to drink and was acting up. He was on the dock letting go most of the lines when he suddenly decided he was going to stay ashore. Second Mate Dan Clark got a line around him quickly and then asked Captain Knight as the ship was about to move away from the wharf, "Do you want him to come?" "Yes," replied the captain. Second Mate Clark took a firm hold of the line and let Nels know, "You come on board or I'll pull you off the dock and drag you out in the harbor as long as it is necessary." Nels got the message and booze or no booze, he meekly jumped on board. He could not swim, and really had great respect for the second mate. Nothing more was said.

One problem that the new men had (excluding the squareheads) was understanding the bo'sun when he was excited. Then his orders were almost untranslatable, and only the squareheads seemed to know intuitively what the order was. One day Captain Knight said to me, after watching the bo'sun give me a hard time, "I put you in Ernest's watch because you are the only one who can understand him and can translate the order when he gets excited." I had been with the bo'sun for a year by then and was able to understand him most of the time.

The bo'sun always demanded orders to be obeyed with "a jump" as the saying went, and not questioned in the slightest. The squarehead sailors did this and they were always a pleasure to be with on deck, handling sail or any type of gear. They seemed to know what to do at all times and did it smartly. The American sailor wants to question everything, to see if it was the way he would do it before "jumping to the call." This was certainly true of me until I learned my lesson.

It was a pleasant sail beating down Block Island Sound into the August night in 1945. We tacked ship a few times even in the dark; this was easy to do because at that time the watches had not been set. There were enough bodies to do the work of handling the multitude

of lines controlling the various sails. The bo'sun's watch, which included Don Fay and myself, took care of the forestaysail (jumbo) and jib. The term "jumbo" was of fishermen origin, but seemed to stick as it was easier for the bo'sun and the other squareheads to say "Yumbo" than "forestaysail." So it was "Yumbo and Yib."

Captain Knight must have felt confident with the mostly squarehead crew to handle *Atlantis*, as we carried on under full sail well into the night. About midnight, we were off the Race at the entrance to Long Island Sound. The order came for "All hands stand by to come about." Don Fay and I went to our stations near the jumbo and jib. Don was 35 years old at the time.

When tacking a vessel the size and type of *Atlantis* a procedure must be followed, especially in any kind of a sea. The jib and jumbo must be kept aback to help the vessel's head come around and to keep the jib and jumbo from unnecessary slatting or shaking which can damage the sails, particularly the stitching.

In the process of tacking at night, with the generator running, it was difficult to hear the order of "hard lee." We were very attentive, however, and could see and feel the vessel swinging through the eye of the wind. I vaguely remember seeing the Race light and thinking at the time, "this is fun, we are going to sail through the Race."

The jumbo boom had a large line about one and one-half inches in diameter, attached to the inboard end which the bo'sun called the "bowline." This line normally kept the 18 feet long boom from jumping up and down or working in a seaway. It was also used to hold the jumbo to weather when hove-to or when tacking ship, as in this case. Otherwise, the jumbo boom sheet was on a traveler and was self-tacking.

After the order to "stand by to come about" was given, there were a number of things to get ready. First, the preventor, or running backstays on the leeward side had to be readied and cleared, the runner hook released from its holding position near the lower shrouds, hauled aft and hooked in place. The runner was attached to a jig affair. Then the main boom topping lifts (there were two on each side of the main boom) had to be sweated up so the boom sheets could clear



Second Mate Don Fay and Second Engineer Hans Cook aboard *Atlantis*. Don Fay sitting on control for main trawl winch. Early 1947. Courtesy WHOI.

the boom crotch on the upper lab and the life raft stored there. Boom tackles had to be slacked away, ready for easy running, and the main boom "bowline" had to be let go. The funnel had to be lowered. The jumbo boom topping lift had to be taken up so that the jumbo boom could clear the "Charlie Noble" (smoke pipe for the galley stove.)

We did all this in the dark at midnight without any deck lights or spreader lights to help us. There must have been some moon, however, as I don't remember it being all that dark. Don Fay and I were on the leeward side near the main rigging at this time. We had sweated up the jumbo boom topping lift, taken a strain on the leeward lazy jacks, helped the ABs handling the main-sail gear to attach the leeward backstay runner hook (it would become the weather backstay as soon as we changed

tacks) and then straightened out some of the lines as the vessel began to change tacks. Don Fay told me later he had no idea what we were doing at that time.

The bo'sun was standing by watching everything. As the bow passed through the eye of the wind, the jib and jumbo came aback. It was exciting, we were tacking right near the Race. I was coiling one of the lines, probably the jumbo boom topping lift, when the bo'sun gave the order, "Let go yib sheets, let go the bowline." Fay let the jib sheet go; my job was the jumbo boom line. I was just about to get the coil of rope on the belaying pin, when the order to "let go the bowline" was given. "Just a minute" said I as I was finishing my coil. I was looking out of the corner of my eye. "I had time" so I thought. The bo'sun came over very quickly and belted me with his fist and knocked me down, aft on the deck, and without a word, cast off the jumbo boom bowline.

Now that *Atlantis* was tacked over, we had enough to keep us busy trimming sheets; I forgot all about the blow I had received. I'd heard enough about sailing ships to know that this could happen. Don Fay was appalled by the bo'sun's action. The next day, after Don Fay told him what had happened, Willie Gustavesen laughed and said to me, "Now you know to 'yump' when an order is given." I never spoke back to the bo'sun again.

We lowered all sail off the mouth of New London harbor and proceeded under power to the Underwater Sound Lab Pier where we arrived in the wee hours of the morning.

Atlantis, a sailing vessel, looked completely out of place and time lying next to the outfitting dock, surrounded by all the submarines in the water and those under construction on the ways.

We were hauled on a large marine railway where the hull was painted Navy gray and the red copper bottom paint was replaced by black anti-fouling paint, exactly the same colors used on the submarines. *Atlantis* carried a large black boot top for the rest of her service at WHOI. While we were in shipyard here we learned of the first atomic bomb dropped on Japan.

After being launched, *Atlantis* returned to the outfitting dock, where some damage to the starboard quarter and bulkhead rail and the teak cap rail were repaired. The damage had occurred when the fleet tug *Carib* had come alongside to give us fresh water while we were at anchor in the Tongue of the Ocean. There had been a good swell running and she had hit us along the starboard quarter. Chief Mate Nordquist had protested the tug coming alongside, because it was too rough, and had refused to stay on deck. Mr. Nordquist had been proved right. As soon as *Carib* had been secured, she began to pound into *Atlantis*' starboard quarter. The jerk on a mooring line had pulled the bronze main sheet bollard clear off the deck and shot it overboard as if it were a cannon ball. We had cut *Carib*'s mooring lines after that. This had been difficult to do, even with axes. The mooring lines were about three inches in diameter, were made of coir and had wire strands laid in the rope strands.

To do the repair work necessary to the hull plating, the deck in the wheelhouse was removed. The men who worked on *Atlantis* at Electric Boat were real craftsmen. In short order all the steel work was straightened out and repaired as good as new, teak rail cap and all. (Electric Boat had plenty of teak, as the submarine decks were teak.) After the new fir decking was laid in the wheelhouse, Captain Knight decided that since it looked so good we would scrub it to keep it bright rather than paint it as before.

With still a minimum crew, using mess boys as seamen to help us with mooring lines we set sail for Woods Hole in mid-August.

Heaving-To and the Bo'sun's Story

During the evening watch while hove-to, we were only required to have one man on watch at a time. One beautiful evening while I was on deck with the bo'sun, who was very relaxed, he began to explain the principles of heaving-to.

The bo'sun on *Atlantis* in 1945 was a squarehead named Ernest Siversen. He was about 65 years old and had spent 50 years or more at sea. All the old sailors and officers had a great deal of respect for him. When I first came aboard *Atlantis* in early August 1944, Chief Engi-

neer Backus gave me this advice: "Mind you now, listen to Ernest for he is a real deepwater man from out of the past and he can teach you a great deal." I don't believe there was anything about the ship he did not know.

I served as ordinary seaman under Ernest for a total of two years. At times he would be very hard on me, correcting my every action, but he constantly taught me the seaman-like way things should be done, whether it was making fast to a cleat, the proper lead of mooring lines, the proper way to make fast the main halyard, how to make a sailor's clothesline, rope yarn grommets, or how to sew canvas.

He would not normally give me a long discourse or explanation. I usually had to ask questions continuously to keep the conversation going. However, this evening, he began to explain in simple terms how a ketch such as *Atlantis* was hove-to and how it was different from a schooner.

Atlantis was always hove-to with mizzen sheeted in hard, helm turned to weather, and the forestaysail (jumbo) hauled tight to weather to offset the thrust of the rudder. In really bad weather she would be hove-to under the mizzen trysail only, with the helm to weather. If it were blowing "as hard as ever it could blow," she would be hove-to under bare poles and helm to weather. Under these conditions, she would lay between 45 and 90 degrees to wind and sea (four to seven points.)

Chief Backus told me that during the hurricanes he experienced in *Atlantis* at sea, they had hove-to on the port tack. The reason for this was that in the full strength of wind even under bare poles *Atlantis* would lay down with her deck half under water. If hove-to on the starboard tack, this condition could swamp the whaleboats which were nested on the port side. But we always felt pretty safe whenever hove-to. *Atlantis* could ride out most anything like a duck. She seemed to rise to an oncoming sea and rarely if ever took any water on board.

The ketch is without doubt one of the best rigs to heave-to and can also set many different sail combinations. This is probably the reason *Atlantis* was designed as a

ketch. Oceanographic research required her to heave-to a great deal.

Ernest said that in heavy weather a square-rigged ship could be hove-to with a "goose winged" fore or main topsail, even sometimes with a tarpaulin lashed in the weather mizzen rigging. He thought *Atlantis* should have been a three-masted schooner instead of a ketch. She would have been much easier to handle with that rig.

Ernest certainly told me more than I could digest at the time. When I asked him a question about schooners, he said he had experience in small schooners, as he served in the Boston Pilot Schooner *Columbia* when he was young. He first came to the U.S. in early spring 1898, when he was 18 years old.

In New York City, he and a friend deserted the German bark they had been serving in, intending to get a job on one of the big American yachts. They boarded a train in New York and went to Boston, to a sailor's boarding house where jobs for seamen on yachts and other vessels were posted. Together Ernest and his chum signed on the Boston Pilot Schooner *Columbia* which looked very small to Ernest after the big German four-masted bark from which he had deserted.

Columbia was one of a few vessels Ernest served in that he ever mentioned by name to me. He said he liked *Columbia* very much, the food was good and he began to learn English. As a pilot boat out of Boston, she was hove-to a great deal of the time, and as a schooner she could be hove-to in many different ways. On board her, Ernest learned the principles and tricks involved.

When I asked him why he left her, he said he did not like the idea of "winter" in a small vessel in the North Atlantic. Therefore, about the middle of November in 1898 he left *Columbia* and shipped out on an American square-rigged ship, bound for Shanghai, China, loaded with case oil (kerosene in five gallon cans).

His friend stayed on *Columbia*, and Ernest never saw him again. Many years later I discovered that The Boston Pilot Schooner *Columbia* was lost off Scituate with all hands during the great Portland Gale of late November 1898.

Ernest was born in Sweden about 1880. Once he went to sea, he never went home again. This was common of many of the older squarehead seamen. He never said anything about his childhood or his home, and very little that was pleasant about his early years at sea.

He shipped out in 1894 as a boy of 14 on a German four-masted bark. Life was very hard for boys on German ships in those days. He told me that they were told only twice the names and locations of the many halyards, braces, lifts, buntlines etc. For instance, the rule for the location of the belaying pins of the various rigging was "the higher up the further outboard, and the higher up the further aft." The officers kicked and beat you if you had not learned after being told twice. This action encouraged one to learn quickly.

On his first voyage, the bark rounded the Horn, from east to west, in the dead of winter. For him at that young age, it was a living hell. All this time, as a boy, he was constantly being harassed by the officers and senior crew members. One thing that really stood out in his memory was that he had to polish the second mate's sea boots. The leather sea boots of that period were generally coated with mutton tallow to keep them waterproof. Polishing them must have been almost impossible.

In early 1946, when *Atlantis* was in Cuba, I spent some time helping Ernest Siversen, who was now a sailmaker, with some canvas work. He had just finished telling me a yarn about a ship he served in, when innocently I said to him, "It must have been exciting sailing on those big square-rigged ships, around the Horn, when you were young."

This statement brought him up all standing, "Exciting" he said, looking at me with fire in his eyes, "You tink it was exciting? I tell you now, iff I had a son, I would rather kill him myself then see him suffer the vey I did on dose god-dam ships!"

That, for me, ended the romance of the legendary square-riggers.

The Second Mate—"Nulli Secundi"

AB Willie, the bo'sun and I were in the process of cleaning the muck and debris from the bilge pump rose

box (or strum box, the strainer for the bilge pump) under the heel of the mizzen mast. Rather it was I down in the bilge with the older men looking on waiting for me to pass the bucket. I heard the second mate's voice, talking to Willie, but I could not hear what was being said. After the second mate left, Willie said to the bo'sun, "Yesus, Ernest, dis ship is getting yust like a f—g lime yuicer, we got a cook who vants to starve us and now the second mate says 'Vill you please come on deck.'"

The term "limejuicer" that Willie used refers to the old British sailing ships, famous to the old sailors for the god-awful food and the polite officers—"starvation and ease." Ernest had also sailed on American ships where the food was good, but the officers were buckos with "a belaying pin in each sea boot."

The captain and his two officers had decided to end all speculation and actually measure the height of the main mast. Somewhere they found a tape to do it with. We were to rig the bo'sun's chair on the main gantline which ran through a block almost at the truck (top) of the mast. Since junior men were always sent aloft, I was the one to be put in the chair. Because I was going so high aloft, the bo'sun gave me a brass whistle, "blow one to heave away, blow one to stop, and blow two to lower." Simple and foolproof.

It was the responsibility of the man using the bo'sun's chair to make the gantline fast. Ernest, the bo'sun, and Mr. Harry Mandly, acting chief mate at the time, showed me how it was done the previous year with a double sheet-bend, then undid the knot and let me tie it myself. After all these years, I can still hear Mr. Mandly saying, "Don't be so cheap with the length of the end; your life depends upon it." No shackle was used and the man using the chair always secured it himself.

The main gantline was then led through a snatch block by the main rigging and on aft to the winch controlled by Willie G. With measuring tape in hand I was hoisted aloft. I had been aloft quite a few times in the past, so the experience was not new to me and, at that time, I had no fear of height. When I reached the point where



Main mast of *Atlantis* before being stepped at the yard in Copenhagen. Courtesy WHOI.

the gantline knot in the sling of the chair was as high as it could go, almost two-blocked with the main gantline block, I blew one long blast on the whistle as a signal to stop.

I could see immediately that I could not reach the truck of the mast with the measuring tape without standing up in the chair! It would have been a little tricky for me to climb out of the chair and still hold on to the tape. Looking back 50 years I can't imagine sending an 18 year old boy to do that kind of a job. On the other hand, at that time the government was drafting 18 year olds to fight and die in the infantry and taking 17 year olds to serve in the Navy.

The second mate, Mr. Clark, was standing near the bow and must have seen my problem. He started to climb up the rungs on the mast, and it seemed that in no time, he was standing on the upper spreader, about 100 feet up in the air but still below me. Now I could talk to him. I told him I was not able to reach the truck

of the mast without standing up. He said to wait a bit and he would come up and help me.

While I was wondering what he could possibly do, since the mast rungs did not go any higher, he reached out for the rope part of the main halyard and the single part of the starboard lazy jack. Hand over hand on these two lines alone, he hauled himself up the last forty feet, almost to the very top of the aft side of the mast. He then placed one foot on each side of the main halyard cheek block shells, which were wide enough for him to stand on, leaned over the main truck from aft to forward and looked down on me! Dumbfounded at that demonstration of agility, I passed him the end of the tape which he placed at the truck. The measurement we learned later was 138 feet from the deck, 147 feet from the waterline. "Stay there a minute," he then said, and immediately swung about the mast to the forward side and lowered himself down by whatever ropes he could grasp to the level of my bo'sun's chair. He then placed one foot on the chair either side of me and held on to the gantline. I blew two long blasts on the whistle to lower and down we went to the deck. I doubt the second mate spoke more than a dozen words the whole time.

While disconnecting the bo'sun's chair from the gantline, I asked the bo'sun, "Ernest, did you see the second mate climb from the second spreader to the main truck?" "Ya" answered the bo'sun, then added, "I knew he was a gentleman but now it looks like he's a sailor too."

Many years were to pass before I realized the real depth of that compliment given by that shellback to the much younger Dan Clark. Squarehead sailors rarely if ever complimented anyone. They expected that everything would be done well at all times. That was what you were getting paid for, was it not? "You call yourself a seaman, don't you?"

With the crew in the fo'c'sle all in place, we had a bo'sun, five able seamen and one ordinary seaman, that was me. This was the only voyage I ever made on *Atlantis* with five ABs in the fo'c'sle. The usual ratio was half and half, or usually more ordinary seamen than ABs. A year later, in September of 1946, when I was 19, I was the only AB. All the rest of the crew were ordinaries.

Washing the Deck

The main and poop decks on *Atlantis* were wood. The first job we had on the 8-12 watch each day was to order "water on the hose" from the engine room and wash and wet the decks down. This was a case of just wetting the decks, not necessarily washing under pressure with salt water.

Atlantis had a 3" diameter rubber fire hose that was kept coiled on deck, on the port side of the engine room fiddley. This hose was always hooked up, but a "request" had to be made to the engine room for water before the pump would be turned on and salt water discharged. This hose fulfilled two purposes, fire hose and deck hose. In case of fire, there was a bronze nozzle always kept on the end of the hose. Under full force, the water pressure on the deck hose was about 50 pounds per square inch.

We removed the bronze nozzle from the end of the hose while washing down the decks and replaced it again afterward. The bo'sun was very fussy about keeping the decks with enough moisture on them. He did not let them dry out. The bo'sun told me that wooden decks need to be "vet down once a day in summer weather" and morning and night if in the tropics. "If you don't do dis, dey dries out and in the first bad veather you get leaks."

I never forgot this advice, but after 1946, I never saw it practiced in *Atlantis* in my remaining time aboard her.

Holystones—Over the Side

It had been the practice in the years before the war to keep these decks well scrubbed with a block of pumice attached to a handle, using a liberal amount of water. These tools were known to the sailors as holystones. There were smaller pieces of pumice, about the size of a small brick, used for hand scrubbing in tight areas, called bibles.

Holystoning the deck was usually reserved for rainy days, when no other deck work was possible. The old sailors hated this work. AB Willie G. had spent time holystoning decks in *Atlantis* on the voyage he made in the 1930s.

In 1945, a few days after Willie and Ernest G. came on board in Woods Hole, they had reason to go to the paint locker in the stern. This locker was in a separate watertight compartment, with its own trunk hatch and watertight cover that could be dogged down at sea. Willie took me with him and sent me down "in that glory hole, because you know what's there." While I was below in the paint locker, I had to move some paints and equipment to get at what was needed. Some of the things I moved were the holystones with handles. Willie spotted them immediately.

"Does that f—g mate from Maine know these are here?"

"Not that I know of," says I.

Then, looking at his brother, Ernest, he warned him to keep a sharp lookout for the mates. Willie then told me to pass up the holystones one at a time. As I did so, I heard the splash of each one going over the side. Four holystones, four splashes.

Willie then asked, "Are there any bibles?" At first I did not know what he meant. He explained that they would be the size of a brick. I found them and they followed the others over the side.

He said the last time he was in *Atlantis*, he did all the holystoning under that mate, Kelly, that he ever intended to do. He was not going to take any chances, that the mate from Maine would discover the holystones and have us at it.

(Captain Richard Harding, holder of an unlimited Master's License in steam and in sail, served in *Atlantis* in 1941 as a young boy. When I told him this story, he said, "You did not get them all. There were even smaller holystones than the bibles called "prayer books" for use under cleats and other narrow places.)

The Wheelhouse Deck

When the new deck was installed in the wheelhouse in 1945, Captain Knight decided he wanted it kept bright or scrubbed. To comply with this order, the bo'sun gave me the job to be done every day, if possible. On the Bermuda cruise my watch mate, Don Fay, usually took the first watch at the wheel. This allowed me to wash the deck and then scrub the wheelhouse deck.

With a bucket of salt water from over the side, I would wet the deck and scrub it with a bristle brush. No one ever asked why I did not use a holystone. Of course we had none since Willy G. had thrown them all over the side in Woods Hole. After scrubbing I swabbed the deck as dry as I could.

All the time the scrubbing was taking place, Fay would be performing a balancing act, standing to one side with as little of his feet on the deck as possible and steering the ship at the same time. All this was done under the watchful eye of the bo'sun.

Don Fay had a lot of gear, shoes, shirts, pants and sweaters, that were GI issue that he had acquired from a Liberty ship he had served in. The ship had been bombed and some of the cargo damaged and condemned. Don Fay told me the crew picked through whatever the Army did not take and found many pieces of clothing and shoes in good condition. He gave me a number of pieces of this clothing and also a pair of GI shoes with the smooth leather on the inside and the rough or suede outside. I loved those shoes; with the smooth leather inside I could wear them with my bare feet and get them on and off very easily.

The decks were getting very hot now and the pitch (tar) in the seams began to boil in the midday sun. This precluded walking in bare feet. I wore the GI shoes on watch and when I was at the wheel I would take them off and place them outside the wheelhouse door. I did everything I could to keep the wheelhouse deck clean.

The bo'sun did not take kindly to the sight of my two "gun boats" (as he called them) outside the wheelhouse door. He ordered me to place one shoe on either side of the wheelhouse (one port and the other starboard) to "trim ship" he explained in a rather serious tone. Thereafter, whenever I had the wheel watch, I placed one shoe either side of the wheelhouse, before I relieved the wheel. One time Captain Knight, sitting on the settee, watched as I placed one shoe on each side of the wheelhouse before relieving the wheel. After everyone else was out of the wheelhouse, he asked me "Why the hell did you do that?" "Ernest ordered me to stow them

that way to trim ship," I answered. The captain said nothing, but smiled and shook his head.

Chief Engineer Backus, would usually pay a visit to the wheelhouse about mid-watch in the mornings and again in the evenings. He wore an old pair of shoes with leather soles and heels that looked to me as if they had been soaked in a bucket of diesel oil for six months. The leather soles and heels resisted the rot of diesel oil which easily destroyed rubber. They looked far worse then they were. Nevertheless, I was upset every time I saw those shoes make contact with the scrubbed wheelhouse decks. This would be at the time when the deck had just dried and looked its best.

Regardless of how I felt, I could say nothing. Chief Engineer Backus was a senior officer, and I was only an ordinary seaman. I reasoned if I said anything sassy to the chief about his shoes, the bo'sun might get after me so I kept my mouth shut. Besides, I liked Chief Backus, he was a real professional and I loved to hear the stories he would tell the captain and bo'sun during his daily visits to the wheelhouse.

Fresh Water

Atlantis carried about 9000 gallons of fresh or potable water in six separate tanks. The fresh water tanks were steel with a cement lining. When away from Woods Hole, Chief Backus was very fussy where we took on water. He seemed to know the quality of fresh water in every port we entered. The fresh water system was pressurized and delivered water to all the heads and galley. In 1945, we did not have hot water piped to any of the heads.

One of my jobs as an ordinary seaman, was to sound the fresh water tanks every day and note the condition of each tank on a blackboard located near the passageway by the sail locker. I reported to Chief Engineer Backus for this job.

To sound, I used a length of cod line with a small weight and a piece of blue carpenter's chalk. The line was knotted in four sections: 1/4, 1/2, 3/4, Full. I would rub the cod line with the chalk and sound the tank. The fresh water would wash off the chalk and thereby show the amount of water in the tank. The

sounding and filling pipe plates for the forward tanks were located on the deck in the main saloon. The after tank fill and sounding plates were on the main deck aft, near the poop. These tanks could not be sounded if there were any slop of salt water on the deck.

This was one job that I had as an ordinary seaman, along with filling the fresh water tanks in Woods Hole, that I never saw given to any other ordinary seaman at a later date. I did not mind the daily sounding of the tanks. It kept me busy and I had interaction with Chief Backus, with whom I got along very well. He treated me more as an apprentice, as in a British ship, than as an ordinary seaman.

In my time in *Atlantis*, we were never at sea much longer than a month; therefore I never experienced any water rationing. Then again, we in the fo'c'sle did not waste our fresh water.

Keeping Clean

In 1945, *Atlantis* had no shower or tub in the crew's head, nor in any of the heads for that matter. The crew's head contained two sinks for washing and a large set tub for scrubbing our clothes.

The deck in the head sloped aft and was tiled with small black and white squares. It was watertight with a scupper on the after outboard end. This scupper readily drained all the water out of the head into a sump tank located below aft of the engine room.

Actually we could wash the head out with a fire hose if it was necessary. With a squarehead crew in the fo'c'sle, it was never necessary, the head was kept spotlessly clean by the ordinary seamen. AB Willie Gustavesen would check the condition of the head each time after I cleaned it. We took pride that the crew's head was the cleanest by far on the ship.

To take a bath, we would draw about two quarts of hot water from the galley and place this water in a 12 quart galvanized bucket. With a squarehead crew, and for a long time after, each member of the crew, fo'c'sle and mess boys, had his own bucket. These buckets were stored stacked and lashed (in heavy weather) on the aft

and inboard bulkheads of the crew's head. No one touched anyone else's bucket.

We would stand in the middle of the head with the bucket of hot water and wash with a cloth dipped in the bucket. The old sailors called this "a whore's bath in a bucket." How they bathed abaft the mast, I have no idea.

When the bath was finished, we washed clothes with whatever hot water was left over. To wash our clothes we used old-fashioned yellow soap, Fels Naphtha. Dungarees or khaki pants would be placed on the deck in the head and scrubbed with a stiff bristle brush. In the tropic weather of the SOFAR cruise, we wore very few clothes, so keeping them clean was easy.

We normally got a change of sheets and towels about every two weeks from the linen locker. However, the squarehead sailors would not hesitate to wash their sheets or other linen if they thought it necessary. They were much fussier about these things than the average American seaman.

It was not very difficult to wash our clothes, but we did have to work at it. *Atlantis'* pressurized water system gave us fresh water on tap in the sinks in the crew's head that was tepid enough to wash in in the tropics, but in the cold winter in the North Atlantic it was another story. We had to get hot water from a large kettle kept on the back of the galley stove. We could draw out a quart or two with the permission of the cook, and then replace it with cold water. Two quarts of hot water was usually enough to do any personal washing in the sink in the head. We always tried to wash some piece of clothing, mostly socks and underwear, in the used water. The clothes were always rinsed in cold water.

Sailor's Clothesline

Every man forward, including the mess boys, had his own clothesline. This was a very special piece of gear. The bo'sun taught me how to make it up and I, in turn, taught it to the mess boys and the two "Yankee" ABs—Fay and Remsen. When we see an old photograph of wash day on the old ships and particularly the "Limey" men-o-war, this was the clothesline they used. I never saw this simple rig in any book on seamanship or rope work.



Sailor's clothesline, strung between davits, ca. 1945. Courtesy WHOI.

You made it by taking a piece of 9 thread 5/16 inch manila, although in 1945 it was probably sisal, about four fathoms (24 feet long) and unlaying one strand the whole length, removing the strand completely. Now you had a two-stranded piece of rope. To attach the clothes, you let the clothesline hang slack while inserting each item into the strands of the rope, just as if using ties or clothespins. When all clothes were in place, you hauled tight on the line and made fast.

We secured our clotheslines any place we could—between shrouds or boat davits, to mast rungs or to the sea gantline, etc. In any kind of a breeze, the clothes would soon be dry.

I honestly believe the clothes themselves would blow to tatters before they could let go from the two-stranded line. It was a simple, economical, foolproof and effective old-fashioned idea.

Felix Comes Aboard

For me, August 1995 had one thing very much in common with August 1945. The hurricane of 1995 and the little black kitten of 1945 both had the same name. When we arrived in New London for the second time, it was Aug. 12 or 13 in 1945 and the war was winding down. The pier where *Atlantis* lay at the Underwater Sound Lab, right next door to Fort Trumbull, seemed deserted. I remember a large steam yacht laying next to

us and the Navy crew stripping the wartime gray paint off the bright work prior to returning the yacht to her owner.

We loaded wire, which I assumed was for the hydrophone, and also received on board two Navy radio operators who were wearing WAVE dungarees. The pants were very broad in the seats, with straight legs, very different from the regular Navy dungarees. With the war coming to an end, the supply department wanted to deplete its excess stock of female uniforms. The radio operators were subjected to a lot of teasing because of this odd-looking apparel so different from the bell bottom dungarees worn by the rest of the sailors.

The Navy radio operators were really nice fellows and we got along with them very well. They berthed aft and messed with the officers and scientists in the main saloon, and they never ventured into the crew's quarters. Also on board at this time, were three scientists or technicians, Stanley Bergstrom, Alan Woodcock and Joe Worzell.

The Underwater Sound Lab and Fort Trumbull are on the New London side of the Thames River, so in the evening practically all hands went ashore to visit the city. I went with the mess boys, Bob Metell and Bill Shannon, they being my own age and we did not nor could not visit the bars with the rest of the crew.

When the mess boys and I returned to *Atlantis*, the guard at the gate asked us if we wanted a kitten. The little black kitten had been hanging around the gate house and he wanted someone to take it.

There was a coal dust base on the ground and the kitten looked as though the dust was ground into his coat. We took it back to the vessel, fed it some canned milk and placed it on a folded towel in a corner in the mess boys' small cabin. After finishing his milk, the kitten went to sleep and slept through the night, well into the next morning. We did not tell anyone we had the black kitten on board.

While we were preparing to get underway for sea the following morning, with all hands on deck, the kitten suddenly appeared in the fo'c'sle companionway. How



Felix on one of his favorite perches, 1945. Photo by Don Fay. Courtesy Bill Cooper.

he ever climbed the ladder, I never knew. When the bo'sun saw him, he said "You cannot keep him," and proceeded to place the kitten on the pier. One of the mess boys placed a small dish of milk on the pier, which kept the kitten occupied for a few minutes.

The tide was low, and, as I remember, the top of the pier was a few feet below the bulwark cap rail of *Atlantis*. We were laying port side to, with the bow toward shore. About the time when all lines were let go and hauled aboard, I heard the engine room telegraph ring the order for "slow astern." I ran over to the side of the ship, outboard between the bulwark rail and the bow of the whaleboats—no one saw me—for a last look at the kitten.

Atlantis started to move slowly away from the pier. For some reason I leaned down and scooped up the kitten. Most of the crew and the bo'sun were working near the open sail locker hatch, stowing away the mooring lines.

One of the mess boys, Bob Metell, was standing near by. I quickly passed the kitten to him, and he in turn took the critter below, apparently without anyone seeing us.

Atlantis moved slowly out of New London harbor under power while everything was being secured for

sea. The crew was completely sober, as were the officers, so there were enough hands to make easy work.

When we reached the mouth of the harbor, we had a breather when we could look around or "sight see" as the bo'sun would say, before we would do the last task: unship and secure the port anchor for sea. About this time the kitten again came up the ladder of the fo'c'sle companionway and sat down right alongside the bo'sun, who was standing and looking aft. When the bo'sun saw him, I thought "Oh God, what now?" I was sure he would pick up the kitten and throw him over the side. I was ready to dive in after him. It went through my mind, "They would have to pick me up."

The worst expected did not happen.

"Vell," said the bo'sun, looking at the kitten, "I thought I put dot cat ashore, but he must have come back on board." Looking directly at me he said, "You can keep him, but he has to sleep vid the mess boys." The mess boys were the lowest in rank on board, but had their own little cabin aft of the galley on the port side.

In a few days time, the kitten took to the sea like an old salt. He cleaned himself up, got in a lot of sleep, and after he had gotten "the wrinkles out of his belly" he decided it was time to look around and explore his new home.

On the kitten's first visit to the fo'c'sle, it was decided by the senior AB, Willie Gustavesen, that he had to have a name. Charlie Remsen wanted to call him "Blackie." I suggested "Felix." After a moment's reflection, Willie announced in a voice packed with authority, "His name iss Felix." That settled it, although Charlie continued to call him "Blackie."

The little kitten proved to be a very intelligent and beautiful angora cat. We never had to housebreak him. He used the waterways near the scuppers at the break of the poop deck. (Fifty years later, former Second Mate Dan Clark is still amazed that the kitten learned this on his own.) He told me recently, "I can still see him now, sitting over the scupper and jumping out of the way when the ship rolled down until the water forced air up the scupper; he would move back into position as

soon as the ship started rolling back the other way." Felix's cleanliness endeared him to the squarehead crew also.

For now, Felix seemed content to sleep with the mess boys. He soon found the officer's companionway ladder closer to the scuppers (his latrine), and no longer climbed the fo'c'sle ladder. Eight months later, in April 1946, when we were underway from Guantanamo Bay, Cuba, I was at the wheel at 6 am. I heard Captain Gilbert Oakley tell the mess boy who brought him his morning coffee, "Don, don't make up my berth too early. Felix is sleeping in it and I don't want him disturbed." In eight months time Felix went through all the berths in the fo'c'sle, slept with the first and second mates and finally ended up with the captain. He never slept with the scientists, the cooks, or the engineers.

To Bermuda

Once we cleared New London Harbor, we set mizzen and jibs and proceeded down the Long Island Sound through the Race. When off Montauk Point, we set the mainsail to the freshening SW breeze.

All hands must have been on deck at this time, as I remember being able to watch the whole procedure. Captain Knight was forward observing the mainsail slatting and snapping in the breeze as it was slowly hoisted. He told me to go over and look aloft over the mainsail. The sight astounded me. The mainmast was twisting, bending and shaking like a piece of spaghetti. This was the first time I had ever been able to look aloft when the main was being set.

All the spars on *Atlantis* were made of wood. Both the main mast and the mizzen mast were made from knot-free riff grain Douglas Fir, called Oregon Pine in Europe. They were of hollow octagon construction, made of eight pieces rounded on the outside and glued together with casein glue. Casein glue required perfect joints as the glue itself lacked strength. With the epoxy glues used today, seams can be as much as 1/4 inch wide without harm.

The main mast was 154 feet long and rose about 138 feet above the deck; the mizzen mast was 119 feet long and rose 109 feet above the deck. The main boom was



Crew aboard *Atlantis* working on mizzen. Ca. 1947. Courtesy WHOI.

about 57 feet long and quite beamy. The mizzen boom was 45 feet long and extended well over the stern.

Carrying all sail, we set course for Bermuda on that lovely summer day. The watches were set and the ship's routine begun. V-J Day came a day or two after we departed New London; it was just an ordinary day at sea for us.

The weather for the leg to Bermuda continued warm and sunny. Nothing like the usual heavy overcast that is normally found in crossing the Gulf Stream. Nevertheless, through some fault in navigation, we missed the island and had to spend a day or so steaming back to it.

Captain Knight was furious that we had missed Bermuda and blamed the chief mate who was doing the navigating. His officer's excuse was that the only sight he could take was Polaris and he could not see Polaris.

Navigation 1945

All things considered, navigation in 1945 in *Atlantis* was not the most accurate. This is a hard point for me to get across to people today. In the days before the gyro compass, radar, Loran C and GPS (Global Positioning Systems), complete reliance had to be placed on the magnetic compass. All navigation was done with this compass. In a steel ship many factors could have a magnetic effect upon the compass, including, believe it or not, the direction the vessel faced while under construction. Any magnetic compass always had to be placed as far as possible from the strong magnetic effects of the steel hull.

Atlantis had two magnetic compasses, the standard compass for the navigator and the steering compass inside the wheelhouse for the helmsman. Our steering compass was a Kelvin-White spherical model about 8" in diameter. It was lit by a small light, the only light in the wheelhouse at night. We steered using points, not

degrees. Mr. Wilfred White himself came aboard to make the initial corrections to the compass in July 1945 when *Atlantis* was in Vineyard Sound. I was at the wheel swinging the ship to various points as part of this process when I heard Mr. White tell Captain Knight that our spherical compass was the first one that they had ever sold.

The standard compass was the compass used for all navigating work. It had to be placed in a position to take the sun's azimuth (bearing) and the pelorus bearings which were used for coastal navigation. In most ships the best location for the standard compass was as high as possible on top of the wheelhouse or bridge to be relatively free of magnetic disturbances. Ours was mounted outside on the top of the chart house in a beautiful teak and brass binnacle with an iron ball on each side to compensate for magnetic interference from the ship and its equipment.

Because the standard compass was the primary compass of the vessel, all courses and bearings were taken from it. Corrections and adjustments had to be made to the compass quite often. This was accomplished by taking azimuth bearings of the sun and comparing them to the Nautical Almanac listing for the date, latitude and time of day.

For celestial navigation, the captain and the chief mate each had his own sextant. The ship also had one. There were two chronometers mounted on the chart table. Since they were able to get wireless time checks from the Naval Observatory, it was quite easy to check the accuracy of these.

There was a small radio direction finder mounted in the wheelhouse, an advanced instrument for the time. No one trusted the RDF, maybe because they were not sure how to use it or maybe because of the cowboy music that could often be heard coming from it. This was quite different from the automatic RDF of twenty or thirty years later.

Atlantis did have a fine deep sea fathometer which showed how deep the ocean was and when we passed the 100 fathom curve and went into shallower water. She also had a patent log.



Wheel and compass in wheelhouse of *Atlantis*, 1945.
Courtesy Bill Cooper.

The Taffrail or Patent Log

Speed was measured in knots by the distance run in an hour as recorded by the patent log. One knot equals one nautical mile (6080 feet) per hour. On the *Atlantis*, the patent log was mounted into slotted bronze castings on both port and starboard bulwark rails just aft of the wheelhouse door.

The patent log was a round cylinder about five inches in diameter and perhaps four inches long. The face had two or three dials that showed a vessel's speed in knots and tenths of knots. Attached to the log itself, with a piece of stiffly tarred sennet and coxcombing-served rope, was a large iron wheel about eight or nine inches in diameter called the governor. The log line ran from the governor to the rotor. The rotor was a metal device tapered to a sharp point forward, where the log line attached, going back to form four metal fins with a spiral shape which measured about four inches in diameter. The log line itself was a tightly braided rope, similar to a sash cord but larger in diameter, about 50 fathoms (300 feet) in length. A saying went, "that ship passed close enough astern to cut our log line."

As the vessel moved through the water, the rotor was twisted or turned. This twist was transferred back along the log line and through the governor, which acted as a flywheel, to the recording patent log. The short name for this whole piece of equipment, log, governor, log line and rotor was the "taffrail log." The registered distance was recorded every hour in the ship's log.

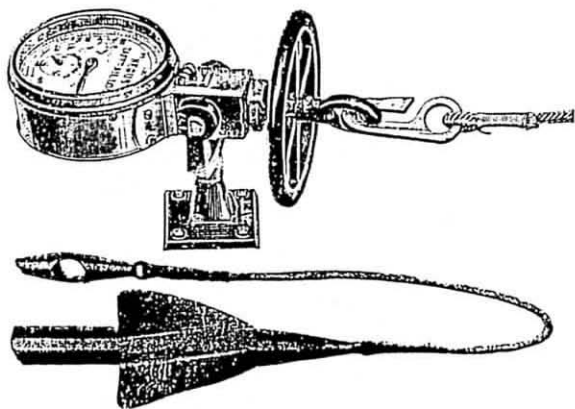
If *Atlantis* were moving at a slow speed or if she were bucking a head sea, the governor would spin quite slowly. The greater the speed, however, the faster the governor would spin so that at 10 or 11 knots it would be fairly humming. If the leeward wheelhouse door was open, the man at the wheel could easily see and hear the log. The mental game would be to try and guess the exact speed the *Atlantis* was making by listening to the spinning governor.

The rotor was hauled aboard at least at the change of every watch and checked for any weed or other debris that might have attached itself to the rotor, impeding its rotation and speed. In areas of much weed, such as

the Gulf Stream or the Sargasso Sea, the rotor might have to be cleared every hour, at the change of the wheel watch. Until the installation of the Pit-o-Meter Log in late 1947, I spent a great deal of time overhauling and clearing weeds from the rotor of the taffrail log.

Whenever we tacked ship and the leeward side became the weather side, we had to transfer the log to the new leeward side. Under the bo'sun we never took any chances at losing the log line and rotor. When changing the log from one side to the other, we hauled the log line in and rotor aboard and then when reattached to the governor, we payed everything out again on the leeward side. The log would give different readings when fitted to the weather side or the leeward side. There was some theory about how fast the water passed the hull on the weather and lee sides that was supposed to explain this difference.

Captain Knight, being an old time sailor, paid a great deal of attention to the taffrail log. Before the war and the invention of the pit log, the only device to measure distance run and speed was the patent log. Steamers measured speed by revolutions of the propeller, but this was not always accurate because the speed of the vessel over the bottom could be different with the same revs, depending on whether the ship was bucking the sea or running with it.



Patent log recording device and rotator. Courtesy Bill Cooper.

Breaking Out the Flags

When we arrived off St. George, Bermuda, we hove-to to await the pilot. At this time we hoisted the code flag "G" (George in those days) which meant "I require a pilot" to the lower spreader. We were about to begin hoisting the British Merchant flag to the second spreader about 100 feet above the deck when the bo'sun decided to give me a lesson in how to hoist a "made up" signal flag and how to "break it out" when it had reached the peak.

To do this, we carefully folded the flag and then rolled it up into a tight cylinder. We wrapped the made up cylinder tightly with the flag halyard. The bight of the standing or lower part of the halyard was placed under the turns, after we made sure that the cloth cylinder was right side up. Then we hoisted this made up flag aloft all the way, until it was two blocked, and made the hauling part of the halyard fast. A sharp pull on the lower or standing part of the halyard would break it out into an instant bloom.

Continuing with this lesson: after the pilot boat hove in view, we lowered "G" and made up flag "H" for "pilot on board" and hoisted it in place on the lower spreader, ready to break out when the pilot came up the ladder and stepped on deck.

The bo'sun was quite relaxed and patiently explained the breaking out of the flags to me. He said on a large yacht lying in a harbor where the yacht club fired morning and sunset guns, the flags were always broken out. When the morning gun was fired at 8 am, the national ensign was slowly hoisted to the peak. When the ensign was peaked, all other flags: owner's, yacht club, jack, etc. were broken out. The national ensign was never broken out, but was always hoisted flying as a point of honor.

St. George

The first time I had ever seen Bermuda had been in late June of 1945. *Atlantis* was returning from the Tongue of the Ocean cruise and we put into Bermuda on the way home. As we waited for the pilot boat to come out, the chief mate, at that time, Nels Nordquist, looking at the island, said to the men forward, "Dis place iss yust like Limeyland (England) boys. If you

screws up and goes to yail here, you stays there, no matter who you iss." I guess that was a warning.

In Bermuda of 1945, there were no automobiles allowed. The only motorized vehicles I remember were some jeeps and trucks belonging to the British Army or Navy. St. George Harbor was full of large wooden sea-going tugs, laying to the mooring buoys. None of these tugs seemed to be manned. The rumor was that they were completed too late for the "D-Day" invasion. The bo'sun insisted the tugs were West Coast built—"too much vood for East Coast."

Almost as soon as *Atlantis* was secure to the wharf, AB Willie G. speaking for the crew, went to see the cook, who they called "Portagee Yoe." Cooks were hard to come by in 1945. I believe this fellow came from a New Bedford fishing boat. The squareheads did not like his cooking nor the dirtiness of the galley. Willie G. told him to pack his bag and go ashore, and if he refused, they would throw him ashore and his gear after him. Willie and Ernest G. were two "tough hombres" and the cook had no choice. He appealed to Captain Knight, but found the captain sympathetic to the squareheads. "Portagee Yoe" left us in St. George. We acquired a Bermudan in place of "Yoe" but nothing improved.

After he paid off "Portagee Yoe," Captain Knight came to the fo'c'sle with a bottle of whiskey to give all hands a drink. No other captain I ever served under had the relationship with the crew that Captain Knight had with the squareheads in the SOFAR cruise of 1945. He seemed very fond of them and enjoyed their company. They were all seamen of the old school. I remember that they would tease the captain at times, saying that he was not really an AB on a square-rigger, but "yust super cargo" along for the ride. Captain Knight was not vain as a seaman, and he took it all in good spirit.

That evening all hands went ashore to the White Horse Tavern, except for myself and the two mess boys. We were too young. That did not bother us. We went swimming instead. We went over the side and practiced jumping off the bow wearing old-fashioned cork life preservers that we had to hold down when we hit the water. Afterward we went ashore to get some Bermuda

ice cream. I remember it was rather bland compared with what we were used to.

One afternoon, the mess boys and I rented bicycles from a shop across from the wharf where *Atlantis* was laying. The owner of the shop remembered *Atlantis* favorably from before the war, and did not require any deposit from us. The bicycles were three-speed Raleighs. We had never seen anything like them. We rode the bikes all over St. George town and since there were no cars it was lots of fun.

We were moving pretty fast down one of the hills when we were stopped by a constable for speeding. We were exceeding the speed limit in a 15 mph zone. He said he would "let us off this time, but see that it does not happen again." Remembering what Chief Nordquist had told us two months before, about "Limeyland and yail," we were very careful after that. We rode at the slow pace of the Bermudans and even walked the bikes up hill the way they did instead of riding as we normally would. The Bermudans told us "only Yanks ride bicycles up hill."

The Bicycle Chase

About 50 years later, I was discussing the slow pace of Bermuda in 1945 with former Second Mate Dan Clark. He told me a story I had forgotten over the years.

It seems that the two young officers ("yust kids," the older squareheads called them) decided to visit Hamilton for the evening night life, there being none in St. George. They rented two bicycles in St. George so they would be able to get back from Hamilton later that night.

There was a train (one or two cars) that ran between St. George and Hamilton. The old timers called it the "Toonerville Trolley." If you were going to Hamilton, you could load your bike on the outside platform and ride the train. The train ride was a scenic run through the back areas of Bermuda and, as I remember, went past many interesting small farms.

Second Mate Clark and First Mate Jennings had a wonderful evening in the night clubs of Hamilton. At this time in 1945 there were no tourists to speak of. The war had only been over for a short time.

At one night club there was sort of a victory celebration in progress and Dan Clark told me they were displaying all the Allied flags. These consisted of British, American, French and the flag of the Soviet Union. The Americans who knew anything about the Soviets at that time had no great love for them, especially if they had served on convoy duty to Murmansk.

Mr. Clark and Mr. Jennings decided they did not like the Soviet flag hanging there, so they stole it from the bar. The chase began.

They ran out of the night club with the Red flag, jumped on their bicycles, which they had left outside, and rode away. The people in the night club were all yelling and were heard by a constable with a bicycle nearby.

Dan Clark, remembering back 50 years, laughed as he recounted the scene. He and George Jennings were husky and strong, and were riding away being chased by the Bermudan constable, on a bicycle, blowing his whistle. In time, he was joined by other constables.

They rode madly through the empty streets of Hamilton, trying to get their bearings for St. George (no street lights once clear of the main drag), all the while being chased by a posse of police on bicycles. It was a good thing that the younger, stronger and, above all, the Yankee legs outpaced the slower-moving Bermudans, or *Atlantis* would have sailed minus two officers.

Neither Mr. Clark or Mr. Jennings had heard Chief Mate Nordquist's warning.

Queen Anne Scotch

At some point, ABs Willie and Ernest Gustavesen, Don Fay and Norwegian Nels got the idea to secure a case of bonded liquor while we were in Bermuda. This could not be done without the captain's permission. Only the captain could order from the bonded warehouse and only he could receive the bonded, tax-free liquor on board, one half hour or so before sailing.

Willie G. got on very well with Captain Knight. They were both square-rigger men and may have been shipmates in the past. Willie went aft to see the captain.

Captain Knight gave permission for one case of bonded liquor for the gang in the fo'c'sle and agreed to make an advance on the sailors' wages to pay for it. Sailors always try to get an advance on their wages when in port. We came home from one three month voyage to Cuba when one of the men had no pay coming, but actually owed the ship money!

Now they had to decide just what kind of liquor they would buy. Ernest, the bo'sun, only said that he did not want them to buy any "cheap rot gut." I was only eighteen and knew nothing about the subject. The discussion about the different types and brand names were one part of my fo'c'sle education.

The older, senior men made the decision, although they accepted input from the younger ABs. Scotch was the liquor of choice, supposedly because it did not cause hangovers. They settled on Queen Anne Scotch.

The next day, before the case of scotch arrived aboard, Willie informed me that the crew was in complete agreement with the captain's request that I store the twelve bottles of Queen Anne in my foot locker and issue them to the crew when requested.

After we sailed from St. George, I went aft to take possession of the case of scotch. At that time the captain told me I was to issue one fifth every two days, and maybe one extra on special occasions. I packed the twelve bottles in my foot locker, padding them from each other with my spare clothing.

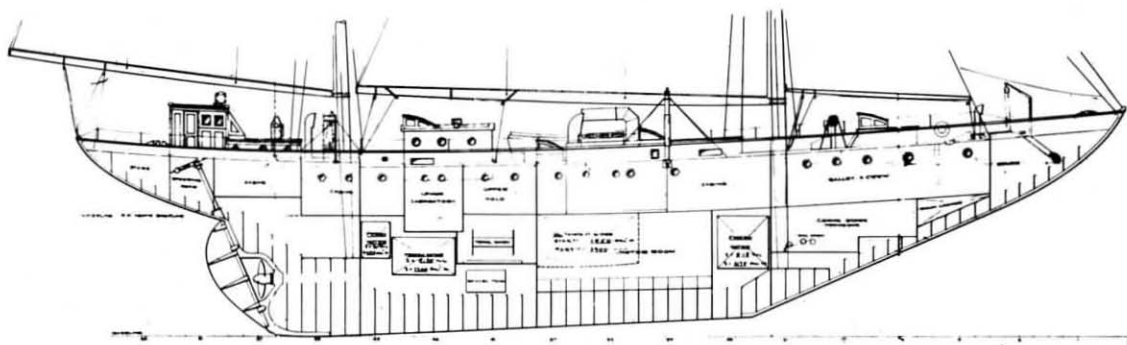
Our foot lockers were basically settees by each double set of pipe berths, each locker about one and one-half feet wide and two feet long. The tops hinged up for access and there was no way to lock them. Actually, anyone could have opened the top at any time. Of course, no one ever did. The system of honor and respect for other's gear in the fo'c'sle was in force and observed by all. Even when I once refused to issue an extra bottle when it had been requested, the code was not violated.

When I think about this today, 50 years later, I find it amazing no one ever touched the liquor without my permission. Four of these men were old enough to be my father, and the bo'sun old enough to be my grandfather. The remaining ABs, Don Fay and Charlie Remsen, were my seniors by 17 years and eight years, respectively.

The squareheads and the other ABs handled their liquor very well with a fifth every two days. I gave them the bottle at 7 bells in the afternoon watch (3:30 pm) just before the change of the second mate's watch to the first mate's watch. This time was also the start of the daily cribbage game.

Outward Bound from Bermuda

We left St. George, Bermuda, without any other incident and with all hands on board—no one left in jail. As soon as we dropped off the pilot we were able to set all sail and proceed on course SSE. It was beautiful summer weather. The old sailors called it "flying fish weather."



Outboard profile of Atlantis. Courtesy WHOI.

We fell immediately into our sea routine, watch following watch. I was in the 8-12 watch: 8 am to 12 noon, and 8 pm to midnight. The 8-12 am was really the captain's watch, but was stood for him by the bo'sun. For me this meant that I was under the bo'sun's critical eye for eight hours each day. What was worse, I was the only ordinary seaman on board, the only one for him to harass.

A Snake Would Break His Back

Standing wheel watches at night seemed hard for me at that young age. We stood two one hour watches on the wheel between 8 pm and midnight, alternating between one hour wheel, one hour lookout, one hour wheel and one hour lookout.

Atlantis steered very easily when under power in a fairly calm sea. "One-half spoke of the wheel," the bo'sun would say, meaning to move the king spoke just the distance between one spoke either side of center. The king spoke is the one that is at the top when the rudder is exactly amidships. On *Atlantis*, as on many ships, it could be distinguished from the other spokes even in the dark by its turkshead knot.

During the night watches, the bo'sun would take the reading of the taffrail log as soon as the wheelhouse clock started striking the hour bells. In that way he could get an accurate reading of the distance traveled in one hour. He would have an idea of how far off course we had wandered, or if the helmsman was steering a straight course. He would also tell Don Fay and

me which one of us steered the straightest or best, according to the distance run.

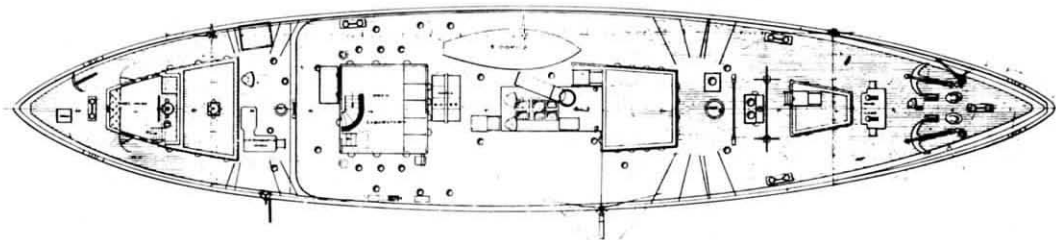
The wheelhouse was located right over the propeller, which caused a slight vibration in the steering compass. I found this very mesmerizing at times and sometimes lost positive control of *Atlantis* and might wander off course a half point or so. The anxious effort to get the ship back on course always seemed to result in overcorrection, and although these actions would be small, the bo'sun never failed to notice them.

He kept a sharp lookout and always seemed to have a star sighted to the forward part of the main rigging as a point of reference. If he noticed any deviation in course, he then studied the wake. If there was any bio-luminescence, he could see the wake of the propeller clearly.

Just about the time I would have her quieted down and back on course, he would come in the wheelhouse and comment on my performance, "A snake would break his back to follow you."

One loses all track of time at sea, usually after about two weeks or so. Watch runs into watch and the time flows together, especially if it is not punctuated by bad weather. For us, the beautiful trade wind weather continued, the sun was shining every day, and it was very warm.

In 1945, there was an invisible barrier between the men before the mast and those aft, especially in the scientific party. The older seamen had nothing to do with the scientists. The bo'sun called all technicians "rah-rah boys." However, he got on well with Al Woodcock and



Deck plan of *Atlantis*. Courtesy WHOI.

was always respectful to any chief scientist, if we had one on board, such as Dr. Fye, Dr. Ewing and Dr. Stetson. He may have had a vague idea of what they were doing, but that was all.

The young ABs on this cruise, Don Fay and Charlie Remsen, certainly had more interest and curiosity than the older men. As mess boys, Bob Metell and Bill Shannon had social contact with the scientists and technicians, and we three young men were not as keenly aware of this invisible barrier. We visited the deck laboratory and if it were interesting to us, we would stay and watch and ask questions, although we might not have understood the answers.

SOFAR—Sound Fixing and Ranging

During the war, there were many new words added to the seaman's vocabulary—words such as loran, radar, sonar and sofar. The apparatus these words described all worked on radio waves or sound waves.

It was Stan Bergstrom who first explained the SOFAR operation to the mess boys and myself on the 1945 cruise. As I remember, this is how he explained it: An aircraft would carry a small bomb on board that could be dropped or set off with a hydrostatic charge if the plane were to crash into the ocean. The sound waves produced by the explosion could be picked up by hydrophones located in deep water along the coast. If there were two or more hydrophone locations, one could get triangular bearings on the downed aircraft.

Stan said we were to proceed to a point in mid-ocean, anchor to remain stationary, and lower a hydrophone to the proper depth. A destroyer escort (DE) would be cruising off the coast of Africa, near Dakar, and would drop bombs at specified times. Sound waves travel slowly in water as compared to radio waves in the air. After the DE dropped the bomb, it would take approximately one half hour for the sound to reach us.

The Navy radio operators were aboard to maintain contact with the DE to set up the schedule of bomb dropping times. In the daytime, *Atlantis* wireless did not have range enough to reach Africa. We could only communicate with the DE at night when the wireless waves could be bounced off the higher ionosphere.

One time, Stan Bergstrom told us that a bomb would be dropped about 2 am and if we came to the deck lab he would let us listen to the sound. If I remember correctly, he had an amplifier rigged up with a speaker which enabled us to hear the sound coming from the bomb dropped by the DE off Dakar. It sounded to me like a marble rolling down the stairs and it seemed that we could hear the sound coming and then going away.

I was an AB in Sept. 1946, on cruise #143, during which the objective was to find the depth of the natural sound or SOFAR channel in the water between Bermuda and Puerto Rico. We spent over two months making a number of runs between these points. We made many hydrographic stations, sending Nansen bottles to various depths and taking BT (bathythermograph) readings every half hour or so.

All this was actually for a rocket range survey. Those of us who shipped before the mast had no idea what the whole cruise was for. We certainly knew nothing about a rocket range. I only found out about this when I read it in Susan Schlee's book "On Almost Any Wind" almost forty years later.

On cruise #143, there were four of us in the crew who had been on the original SOFAR cruise in 1945: Don Fay, now second mate, Chief Engineer Backus, Assistant Engineer Hans Cook and myself.

I do not remember making any hydrographic stations on the way out from Bermuda on the 1945 SOFAR cruise, although they made BT casts every half hour or so. One of the technicians would place a Secchi disk (a weighted white disk) on the BT wire and lower it down until it could not be seen any longer. I think we could still see the white disk at over a 100 feet deep in the water, demonstrating plainly how clear the water was.

After a day or so the wind died down completely. We had a destination, so proceeded under power through a flat calm sea of the most beautiful blue, a sea that seemed to grow thicker with weed with each mile traveled. Soon there seemed to be acres of weed as far as the eye could see—to the horizon all around.

Occasionally a flying fish would break the surface, fly along and drop back in to the ocean again, hopefully escaping its pursuer. One night, I believe during the second mate's watch, a flying fish came crashing aboard near the break of the poop deck. Felix, the kitten, happened to be near by and was pretty excited by it. He was too small to tackle the lively fish, but with the help of the mate he enjoyed his first feast of flying fish. After this incident, he took station aft many nights in hope of another late meal landing on the deck.

Mid-Ocean Fishing

A short time after we hove-to, we began to notice a small species of fish swimming around the hull, just below the water line. The crew called them "rudder fish." From somewhere some small fish hooks and lines appeared, the hooks were baited and we started hand-lining over the side.

We caught enough fish the first day for all hands to enjoy them for supper. Everyone seemed surprised that there were any fish here in the middle of the ocean. A day or two later sharks appeared, accompanied by their pilot fish. This was certainly unexpected by the older sailors. No one in the crew had ever been hove-to in one spot in the ocean before for so long a period of time. No one had observed marine life in mid-ocean and no one thought any existed.

The older men in the crew decided they wanted to catch a shark. We had shark hooks, with chain leaders, in the fore peak. They baited a couple of hooks with a piece of bad meat from the galley and lowered them over the side. Eventually they caught their shark. I remember it was a pretty large one and the men were not able to haul it aboard. Somehow or other they managed to get a line hitched around the shark's tail. Since they were on the starboard side amidships, they were able to use the electric winch and the cargo boom attached to the mizzen mast to get it aboard.

The shark was still alive when landed on deck. The squareheads attacked it with boat hatchets, the big fire axes and their sheath knives. Deepwater sailors had an absolute hatred of sharks. Fifty years later, former Second Mate Clark said to me, "I cannot forget, after all

these years, the unbelievable frenzy with which those squareheads attacked that shark."

Sharks are not easy to kill, so the process took some time. The squareheads then cut out some steaks and had the cook serve them up for supper that evening. I declined the shark steak.

"Hurricane Yoe"

We were really in the middle of the hurricane season on the SOFAR cruise, but we in the fo'c'sle did not give any thought to that. Hurricanes were not forecast then as they are now. It was only through wireless reports of storms from other ships that one would know of an approaching storm.

When we left Bermuda, Captain Knight knew, of course, that we were heading into "hurricane country" at the height of the season. I don't know how much he discussed this matter with his two officers, but I heard him talk about hurricanes with Chief Backus. I had also noticed while polishing brass in the chart room, a copy of Bowditch opened to the part titled "Cyclones in the Northern Hemisphere."

Just after breakfast on about the third day out of Bermuda, we were informed by the bo'sun that all hands would turn out to remove, examine and repack storm sails in the sail locker. The sea was still flat calm, beautiful "flying fish" weather.

The main hatch on deck over the sail locker was opened and the made up sails were hauled on deck. This was a job for all hands. Looking back 50 years, I think this was a proper procedure for the captain to have ordered. But it was quite a job.

Atlantis' sails were all very heavy #00 duck and made up deepwater style, which meant they were not folded in any way. Instead they were made up loosely, in sort of a long roll, tied at regular intervals with rope yarns, with the head, tack and clew cringles readily exposed.

The sail locker was full of sail: jibs, jumbo, and a number of trysails for both main and mizzen. Neither of our officers had any idea what was in there. The sails were passed up one at a time through the open hatch and laid out on deck running forward on the starboard side.

At the time we were not privy to what they were examining or why.

The squareheads who had done this kind of work many times in the past called it "sail drill." We hauled out one flax canvas main trysail with hand-sewn seams and the most beautiful leather and grommet work for the various cringles. The bo'sun said he believed this trysail came from *Yankee*, one of the J boats, the beautiful 110 foot long America's Cup contenders of the 30s. There were also a couple of mizzen trysails.

It was hard, heavy work in the hot sun, shifting the sails out of the locker, cutting all the rope yarn lashings, pulling everything apart and examining it. Then the process was reversed. All had to be tied up again and the sail, with all hands hauling, dragged forward out of the way, for now. We knocked off for dinner at noon and took up the work afterwards.

The squarehead crew began to rebel at this exhausting sail drill. They called Captain Knight "Hurricane Yoe" with AB Willie G. saying, "You would tink dis was a f—g Yay boat vid all dis sail drill." But, following the old rule of a sailing ship, "Grumble you may but go you must," the work continued on.

As the afternoon wore on, we began to restow the sails in the locker, keeping the ones that might be needed on the top. I was in the sail locker during the stow which was being directed by Chief Mate Jennings. After the last sails had been passed down and the hatch covers replaced, Mr. Jennings asked me if this was a "Queen Anne Day." I said no, that yesterday had been. He told me to issue an extra bottle at eight bells (4 pm) which accordingly I did. I enjoyed telling AB Willie G. as he came off watch that the order for the extra bottle was given by the "f—g mate from Maine."

The next day we got out all the covers that were available: the whaleboat covers, all ventilator covers and the companionway covers. All these were hand sewn canvas, made up before the war and painted brown. Captain Knight, in his discussion with the bo'sun, was much concerned with the ventilator covers. They only covered the mouth of the vents and would not be strong enough to keep a sea out. We did have wooden plugs

for the vent pipes after their cowl were removed, but no canvas covers to go over these. The canvas covers for these plugs would not be made until September 1946, a full year later.

I realized much later the depth of the captain's concern, that it was necessary to secure and make as watertight as possible every deck opening. A prudent seaman like Captain Knight would have this all completed long before it became necessary. The schooner *Vema* had almost foundered in a hurricane in the North Atlantic in 1933 because she took in a great deal of water through various deck openings which were below the water when she was layed over by the force of the wind.

Vema was a 202' three-masted schooner originally built for the movie star, Barbara Hutton. James Barker, *Vema's* captain in 1933, had been master of many British Cape Horners and had 50 years of experience at sea. It apparently did not occur to him or the officers that when the wind in *Vema's* spars and rigging layed her over 35 to 40 degrees and her deck went under, there were a lot of vent pipes, etc. that were open to the sea. The bilge pumps could not handle the amount of water pouring in. The vents that were under water could not be reached. The crew had to tear open much fine joiner work down below to get at the pipes and vents from inside and try to plug them. Captain Barker told *Vema's* owner after the storm that he believed if the hurricane had lasted another hour or two, the ship would have foundered.

In the 50s, Dr. Maurice Ewing became the director of Lamont Geological Observatory, the sea-going arm of Columbia University, and *Vema* became Lamont's research vessel.

On the 1945 SOFAR cruise from Bermuda in *Atlantis*, we had the hard work of sail drill but fortunately no hurricane.

Anchoring in Mid-Ocean

After about four days steaming (running under power) from Bermuda, we reached the position where *Atlantis* was to anchor for her SOFAR station. The ocean was still flat calm and the water was a beautiful cobalt blue,

which the mess boys and I never got tired of looking at.

Atlantis' anchor was a Danforth type weighing about 200 pounds. It had a short length of chain running to an iron ball weighing about 500 pounds and then a longer length of chain about 100 feet. The 5/8" wire cable from the main trawl winch on *Atlantis* was attached to the end of that chain. This cable was specifically made for oceanographic research by U.S. Steel out of plow steel. It was about five miles long and tapered toward the outboard end to reduce its weight.

This was basically the same rig we had used a few months before when we anchored in about 1200 feet of water in the Tongue of the Ocean in the Bahamas. The difficulty of getting this anchor rig over the side lay in the fact that the lead block attached to the bow galleys, although very large in diameter, was made for the 5/8" trawl wire only. Getting all this gear ready took about three or four hours.

The Danforth anchor with its accompanying iron ball and chain had to be lowered first. To do this, Second Mate Clark led the bitter end of the chain to the forward starboard mooring bitts. The anchor chain was made fast with a rope strap, then it and the ball were hoisted over the bow with the anchor davit. When all was clear, the strap was cut. The fall into the sea of the anchor, ball and length of chain were snubbed up by the second mate on the bitts.

I was standing by in the fo'c'sle companionway, well out of the way, when I observed the second mate snub the fall of the anchor, ball and chain. The bitts seemed to rise about two inches into the air when the shock of the falling weight reached them. A messenger line was then rigged from the bronze nigger head on the hydrographic winch and used to lower the rest of the chain still on deck until the strain was taken by the 5/8" trawl wire. Then the rope messenger was cut free. The trawl wire fed up from its spool in the winch room below, just aft of the engine room, and was payed out forward along the starboard side of the ship.

The trawl winch was a very large affair, with controls on deck. The main engine generated the power neces-

sary to operate its DC electric motor. This motor did not free wheel when used for lowering wire, but ran in reverse. After a few thousand feet were payed out, the wire was as taut as an iron rod and hung from the lead block in the galleys completely vertically. The weight of the wire at the bow block was about 5.4 tons. A dynamometer on the shiv paying out the wire recorded the increasing tension on the wire until the anchor reached the bottom.

The depth of the ocean at this spot was 3,060 fathoms, a number branded in my memory. The distance in land miles was 3.48 miles.

The bo'sun sent me to the fore peak to get the black cloth anchor ball, the daytime signal for a vessel at anchor. When the anchor was on the bottom, or "vessel anchored in 3,060 fathoms," we hoisted this ball to the second spreader.

We were an incredible sight in 1945: a sailing vessel—the largest ketch in the world—anchored in mid-ocean in over 3000 fathoms, 660 miles SSE of Bermuda. To our knowledge, this was the deepest any ship had been anchored to the bottom.

To the men in the fo'c'sle, it was reason enough to "splice the main brace" and accordingly I issued an extra bottle of Queen Anne scotch when requested to do so.

In the morning the day after we anchored, we saw a steamer hull down on the horizon in the SW quadrant. She seemed to be heading in our direction. In due time, she passed close by us, and we could see that she was flying the "Red Duster" (British Red Ensign). She was a British ship with passengers lining the rails on her starboard side. *Atlantis* had the black anchor ball hoisted to the second spreader, and we wondered if she believed we were really anchored. She inquired through a megaphone, "Are you all right?"

Captain Knight called me aft and after he made a quick check in the International Book of Signals, he told me to get the signal flags "How" and "Dog" and break them out on the lower spreader of the main mast. "How Dog" meant "engaged in submarine survey work, keep clear."

She was the only ship we saw from the time we left Bermuda to the time we returned.

Swimming Over the Side in Mid-Ocean

After we were anchored, AB Charlie Remsen made a request to the chief mate, George Jennings, who in turn received permission from the captain for us to go swimming over the side of the ship.

We secured the pilot boarding ladder, a rope ladder, to the bulwark rail amidships. This ladder reached all the way down the side to the waterline.

The two mess boys, Charlie Remsen, some of the scientific party and I all went swimming in the beautiful, clear blue water of the mid-ocean. I can remember swimming a distance from *Atlantis*, diving under water and getting the sight of the whole underwater shape of the ship, as if I were looking at a model in a case. I could see every detail of the hull perfectly. Also, since it was the first time I had ever been swimming in mid-ocean, it gave me a strange feeling to realize the bottom was three and a half miles below.

Only the younger members of the crew went swimming. The squarehead sailors thought we were crazy. No one ever swam off a square-rigged ship at sea. Chief Engineer Backus told me in no uncertain terms that if it had been up to him, he would not have allowed it. I knew at the time that none of the old-time seamen could swim a stroke, not even the bo'sun who had been going to sea for over 50 years.

In 1944, Chief Mate Mandly had told me that if he and I were both forced into the water because of a foundering vessel, he would die much easier than I because he never learned to swim. He claimed that I would struggle and suffer much longer because I could swim. Mr. Mandly was over 65 years old at the time and had been to sea since 1890, over 50 years. He was one of the last whaling captains to sail out of New Bedford.

I realized in later years that the philosophy expounded by Mr. Mandly was held by many old-time sailors. "If you can't swim, you will die easily." The men who went to sea in the sailing ships accepted the fact that they

could drown at any time. If one fell over the side, the chances of being recovered were very slim, at best.

Anchor Cable Parts

At the time we dropped the anchor, there was not much of a swell running. Nevertheless the strain on the tension gauge was almost at the limit. During the 8-12 watch the first night we were anchored, Captain Knight checked the wire cable and the strain gauge constantly. The wire ran out from below to a lead block on deck and then to the block in the gallows frame as if it were a stiff rod.

Atlantis pitched up and down on this wire. The wire in the water never moved at all. Captain Knight would pay out wire to minimize wear on the area at the fairlead block on the bow gallows. I doubt he slept very much the first night, constantly checking the gallows block and the condition of the anchor wire with a flashlight. (He had a large five cell light at the time.)

The next day a bit of the trade wind came up with the sun, and after that more ocean swells. *Atlantis* began to jump more and more around her anchor cable. Captain Knight now began to worry that the wire cable might part. He continued to order more wire payed out to reduce chafe. The measuring device for the strain gauge was bottoming out. I don't remember any discussion of what would happen if the wire parted on deck. We probably believed that the wire would part down near the ocean bottom. We, in the fo'c'sle, did not give any of this much attention.

The Navy radio operators had made contact with the destroyer escort off Dakar on the wireless the previous night to let her know we were on station and the tests were to begin. That evening between 5 pm and 6 pm all hands were below having supper. As we were anchored in mid-ocean, there was no need for a wheel watch and a lookout was not necessary every minute. Therefore, all fo'c'sle hands were below. The swell had increased a good deal during the day, but still one could not call it rough.

Suddenly, in the midst of our evening meal, we heard a big bang, like a small explosion and then a whirling sound as if many wires were spinning around rapidly

hitting the deck and wheelhouse sides. The anchor wire had parted. As luck would have it, no one was on deck at the time.

Most wire rope used on yachts today is pre-formed, meaning the wire rope is made up. The strands are twisted and formed before the rope is laid up; therefore, when modern wire is cut it does not unlay.

The 5/8" trawl wire *Atlantis* used was not pre-formed, so if one were to cut it for any reason, it would be necessary to first put a good seizing on each side of the proposed cut. When the trawl wire parted under great strain, one strand let go first, followed in rapid order by the other five. The strands spun around madly in a radius of 10 or 15 feet. If anyone had happened to be near, he would have been cut up seriously, if not cut in half. As much as he did not want to see the anchor cable fail, Captain Knight was extremely happy it parted when it did with all hands safe below.

We immediately set the mizzen and jumbo and hove-to on the starboard tack. Many years later, I realized why we always hove-to on the starboard tack. This tack gave us right-of-way over all vessels.

The Whaleboats

Chief Engineer Backus told me that *Atlantis* originally carried dories. He had talked with Dr. Bigelow about them once. Chief Backus did not think the dory a suitable life boat for *Atlantis* which cruised well outside the normal shipping lanes. Dr. Bigelow agreed with him and the result was the two whaleboats ordered from Beetle.

These boats were built by the Charles Beetle Co. of New Bedford in the early 1930s. The story goes that they were the last boats built before a fire at Beetle's yard destroyed the old patterns.

These whaleboats were all lapstrake or clinker planked, not the usual whaleboat construction of smooth planking with batten seams like the Woods Hole Spritsail boat, *Spy*. Except for this, all other details seemed to be the same as a regular whaleboat.

The whaleboats were painted Kirby's "French gray" inside and out, with varnished gunwales and chocks.

In 1945, the bottoms were painted Marblehead Anti-fouling Green.

As I remember, the #1 boat was 23 feet overall and #2 boat was 28 feet overall. The #1 boat nested inside #2 boat. I have seen a photo of #1 being carried swung out in the davits, with the pudding boom in place, while *Atlantis* was under full sail. We never carried the whaleboat swung out in davits under sail at any time I knew of. We did keep the whaleboat in davits with the pudding boom in place when we were at anchor at sea.

The smaller #1 boat was rigged out with a centerboard and rudder (as all whaleboats were), and sloop-rigged



View of a whaleboat aboard *Atlantis*. October 1945. Photo by Don Fay. Courtesy Bill Cooper.

with a standing lug mainsail and the jib set flying. (Not attached to a headstay.) The mast in this boat was free standing without headstay or shrouds. The #1 boat had some really fancy sennet and coxcombing work for fender and gunwale guard. I always believed this work was done by the old whalerman, Second Mate Harry Mandly. I had many pleasant sails in her. She had a number of canvas sand bags for shifting ballast, but they were rarely carried at any time I sailed in this boat.

The larger #2 boat was ketch rigged with standing lug sails and jib set flying. The mainsail in this boat was loose-footed, but the mizzen was rigged with a boom. This boat could sail very fast with the wind free. I believe this #2 boat was Captain Knight's favorite. Captain Knight seemed to really appreciate these boats more than any other master I served under, and certainly more than the officers, with the exception of Harry Mandly. When work was slack, Mr. Mandly always would have us "mix up a bucket of soojee and wash out the whaleboats." We washed and cleaned them quite frequently.

In the fall of 1945, under Captain Knight's orders, I helped the bo'sun hand sew a new boat cover, as the previous one was beginning to wear out. We covered the boats in the fall and winter of 1945-1946, but I never saw the cover used again during my time on the *Atlantis*.

The whaleboats were life boats and as such carried emergency containers of food and fresh water. Before 1945, the emergency water was carried in wooden water beakers made by Beetle and also each boat carried two wooden buckets. In the spring of 1945, just before the Tongue of the Ocean cruise, a new young second mate named Mr. Christopher proceeded to throw all the wooden beakers, buckets and canvas covered cases of emergency rations out of the boats and on to the deck. This gear did not meet wartime requirements for emergency equipment in life boats. We replaced it with metal tins of fresh water and foodstuffs and galvanized iron pails. Mr. Christopher did allow me to keep a wooden bucket with the name *Atlantis* branded into the bottom. I still have it.

Mid-Ocean and the Bahama Dinghy

Atlantis carried a 12 foot dinghy of Bahamas model on top of the deckhouse over the main saloon.

The day after we anchored, Al Woodcock asked to have the dinghy launched for an experiment he wanted to conduct. He planned to row the dinghy about a mile or so away from *Atlantis*, beam to the sea or swells we had at the time, to set out a row of red colored bottles. He hoped to locate the areas of the recirculation of the cold bottom water and the warm surface water. At least that was the way I understood it.

We launched the dinghy, many hands making an easy job of it, and I was ordered to accompany Al Woodcock. As I look at the photo of us in the dinghy 50 years later, I am amazed at our foolishness.

We had nothing but one pair of oars and a small wood bailing dish. We did not have life jackets, no flares, no flag, no reserve fresh water and no clothing except what we had on. I wore only a pair of shorts and nothing to protect my head. We were in mid-ocean, well south of Bermuda, in mid-August. I don't know why we did not suffer more from exposure to the sun. I believe now, for us to be in this small boat, considering the sea that was running, was a very dangerous operation. I was too young and inexperienced to know any better. Al Woodcock and the officers should have.

Al Woodcock was at the oars as we rowed away from *Atlantis* for a mile or so, while I dropped the red colored



Bahama dinghy on SOFAR Cruise in mid-Atlantic. Al Woodcock rowing, Bill Cooper in stern, August 1945. Photo by Don Fay. Courtesy Bill Cooper.

bottles whenever he said, "drop." In the swell running, we would be one minute in the valley of the sea with walls of water all around us, and in the next, as we rose to the crest, we could get a glimpse of *Atlantis* in the distance.

He explained to me what he was trying to find out. If the circulation theory worked as expected, the bottles would line up perpendicular to the send of the sea. Apparently this would be where the surface water was going down.

As I looked astern at all the bottles we dropped, there did not appear to me to be any line-up. The bottles seemed to be spread all over the place.

The look-out aboard the *Atlantis* had a difficult time keeping track of us in the swells. Captain Knight decided that #1 whaleboat should be launched under the command of the second mate, with two men, to sail back and forth on patrol near our dinghy. The crew in the whaleboat with Second Mate Clark was Don Fay and Charlie Remsen.

How I envied the men in the whaleboat, and how beautiful she looked to my young eyes, dancing over the sea.

At the end of the day, after we hauled the dinghy aboard, all hands would haul the whaleboat back on board *Atlantis*. This gave us great practice handling the boat in the davits with a good size swell running. If you were in the whaleboat alongside *Atlantis* with a sea running, you would be looking at the deck of the ship and then in the next instant, looking up at the turn of the bilge.

Here I learned about the real purpose of the "sea painter" and the "frapping line." The long sea painter (about 50 to 60 feet) gave enough slack so the whaleboat could lay away somewhat from the side of *Atlantis* while the falls were being readied. The "frapping lines" were around the boat falls (or tackle) to hold them in snug so the boat did not swing out and then crash back into the side of the vessel.

The automatic releasing hooks attached to the boat falls had lanyards attached which were fed through the lifting eye in the boat. The trick was to get both falls hooked in with the boat on the top of the swell, and then all hands heave away quickly. The two men in the boat

had to heave down on that part of the fall that would help compensate for their weight in the boat. Boat falls or tackle were made of the finest four-strand manila which made them less liable to kink.

At cocktail time on the first day when we had hauled the whaleboat back aboard with a good swell running, Norwegian Nels asked me a question, "Vat iss dot line called that we rigged to hold the lifeboat falls close to the ships side, so she don't sving vay out and smack back into us?"

Of course, I didn't know the answer. I realized, even then, that he was asking this to "put me in my place." Nels proceeded to tell me in his Norwegian accent, while sipping his Queen Anne, that "it vas a frapping line." The big schooners had dead eyes and lanyards securing the standing rigging. In calm weather when there was a sea running, it was necessary to tighten the shrouds by tying them together near the hounds (where the shrouds come together near the top of the mast) to keep the spars from "yumping out." The term for this was "frapping the rigging." I never forgot what a frapping line was nor how to use it.

The bo'sun and the squarehead ABs seemed quite proficient at launching and hauling the whaleboat on the davits. Since at this time we had had a good deal of practice, we never had any trouble and did not damage the boat in the least. The second mate added quite a bit of "beef" to the boat falls, so even though it was all "Norwegian steam," with all hands on the falls of both davits, we got the boat up very easily. The dinghy was hoisted in and out with the cargo boom on the mizzen mast.

After the second day of being in the dinghy with Al Woodcock, I was bored with the inactivity of just dropping a bottle whenever I was told to. He would not let me row. He insisted on doing all the rowing, saying that we had to keep a certain course in the troughs across the sea. It was easier for him to do this himself, rather than to constantly try to tell me what direction to go, if I were rowing.

That evening I talked my watch partner, Don Fay, into trading places with me. Since Don had been in the

whaleboat, that's where I would be the next day, so I thought. In the morning, I told the bo'sun and Al Woodcock I did not want to go again in the dinghy. The bo'sun was somewhat taken aback at my impudence and wanted to report the matter to the mate. Al Woodcock was against that; he wanted a volunteer and he gladly accepted Don Fay in my place.

Right after the whaleboat was launched, the bo'sun told Norwegian Nels to go with the second mate and to me he said sternly, "Mix up a bucket of soojee." He gave me punishment duty—"Soojee the bulwarks." That was the end of my small boat duty.

Soojee-Moojee

The most distasteful order to be given a sailor was to "mix up a bucket of soojee." The word "soojee" apparently comes from the Japanese "soji" meaning to clean. "Soojee-moojee," as the old sailors called it, was a bucket of hot (if available) water with a good charge of sal-soda thrown in.

Sal-soda was a strong detergent much in use 50 or more years ago. A strong mix of sal-soda in the water seemed potent enough to remove the skin from one's hands. This mix was used for washing paint work. It was a nasty job given mostly to ordinary seamen and ABs of lesser standing. The mess boys only washed the galley and their own cabin. If any soojee work was needed in the engine room area, the engineers did that. In 1945, I never saw the squarehead seamen soojeeing.

The rivet heads in *Atlantis* were plentiful on all exposed steel work, and they were a pain to wash around. Worse still was down below where the exposed steel plates were covered with ground cork. The ground cork was worked into a compound, troweled over the steel plate and then painted. The purpose was to retard condensation in cold weather. This stuff was almost impossible to wash properly with a soojee rag.

It seemed to me that soojee work on deck was given as a sort of punishment. If the weather was too wet, the mate would give the order to "mix up a bucket of soojee" and wash the bulwarks and deckhouse sides, wearing seaboots and oilskins, if necessary. This would

be mainly to keep the sailors busy as "idle hands will do the work of the devil."

A Piece of the *Titanic*

The older ABs, Karl Johnson and the French Canadian called "Frenchie," played cribbage every evening before turning in, using a cribbage board belonging to Frenchie. It was larger than the ordinary boards that I had seen and was a beautiful piece of dark polished mahogany.

One evening, before the game, I had a chance to examine the cribbage board carefully. On the bottom was cut in the date 1912. Frenchie noticed my interest in the board, and told me it was a piece of furniture from the *Titanic*.

The *Titanic*! Good God, I had grown up hearing stories about the *Titanic*. When I was a small boy living in New York City, my father took me aboard her sister ship, the *Olympic*. I remember him telling me, "This is what the *Titanic* looked like." I could not imagine that a ship that size could sink! I always had a feeling of romance for the big trans-Atlantic liners I used to see so often.

A few years before, I had been chums with a boy whose mother kept a scrapbook of all the newspaper clippings of the *Titanic* disaster, a book his mother let us look at many times. Here now, 33 years after her sinking, in the fo'c'sle of the *Atlantis*, I was holding a piece of *Titanic* in my hands! What a strange feeling!

I asked Frenchie how he came by this piece of wood, and he told me he was serving in a Canadian cable ship (years later I learned she was the *MacKay-Bennett*) in 1912 when the *Titanic* foundered. His ship was sent out into the area of the wreck to recover the many bodies still floating around in lifejackets. When they arrived near the scene of the sinking, the sea was covered with floating wreckage, as well as bodies. The ship launched two boats to pick up the dead and Frenchie was sent in one of the boats.

He told me they picked up bodies and looked for identification. Those with identification were placed in the hold of the cable ship. The ones without identification were sewed in a hammock shroud, weighted and buried

at sea. When I asked him how many bodies they had recovered, he said "hundreds."

All this was very disagreeable work and the men did not like it. They found if they came across a corpse with no identification they could take off the life jacket and the body would sink into the sea. They did this in the boat he was in.

While in one area of wreckage to pick up a body, Frenchie saw a nice piece of mahogany floating right next to the boat. He fished it out of the water and placed it in the bottom of the boat.

Time for the cribbage game arrived. The story ended.

None of us in the fo'c'sle of *Atlantis* in 1945 could possibly have imagined what would happen forty years later: That a research ship from the Woods Hole Oceanographic would locate and photograph the wreck of *Titanic* in the ocean depths. It would seem even more fantastic to us that the same small institution, that very few people even knew about in 1945, would send a deep diving submarine down the following year to land on *Titanic's* forward deck!

The artifacts since recovered from the *Titanic* wreck make Frenchie's cribbage board seem very insignificant now, but to me in 1945, it was a magical piece of wood.

Homeward Bound

We finally left our ocean station and got underway for home. We stopped at St. George, Bermuda again and probably took on fresh water and fuel.

The only good sailing breeze we encountered was after we left Bermuda and picked up a fair, fresh SW wind. We carried full sail and *Atlantis* was probably making an easy ten or eleven knots. I can guess this speed now, from observations I made after the accurate Pit-o-Meter log was installed in 1947. I don't think we ever really got an accurate reading of speed with the old taffrail log in the Gulf Stream region because of all the fouling with weed. At over eleven knots, the bow wave of *Atlantis* began to be quite noticeable, and if we reached thirteen knots or so, it became a constant roar.

Atlantis's hull was double-ended with an overhanging or canoe stern which seemed to be very popular in the 1930s. The bo'sun always said, "Dis ship's bow iss too full for any speed," and, "Dis ship vas built vid a light-ship bow and not built to sail fast." Even if this was true, she could sail up to eleven knots easily. Her beam was not too great for her length and she was by all accounts a splendid sea boat if not driven too hard.

Atlantis was romping along at a good clip for home. So good, that a happy Chief Backus said to mess boy Bob Metell and myself, "The Woods Hole girls have hold of the towline, boys." All well and good thought Bob and I, but we hoped that the Quissett girls had hold of the towline too.

Chief Backus also gave us an old sailing ship saying:
When Bermuda you do pass, watch out for
Cape Hatteras.

If at Hatteras, all is well, watch that Cape Cod
doesn't give you hell.

The bo'sun always seemed to be in a happy mood the last few days before we reached Woods Hole. Just before going below, at the end of the watch at midnight, he sang one of his favorite ditties. Looking out to sea, he sang as the ship rolled along steadily for home:

Everyone marries but me,
The dogs and the cats,
The mice and the rats
And the fishes that live in the sea.

Return to Woods Hole

We arrived in Woods Hole about the second week of September 1945 and tied up at the Fisheries wharf which was still a shambles from the 1944 hurricane.

The wartime atmosphere was still prevalent with Navy crash boats moored to the old town wharf, joined occasionally by a "Fairmile" subchaser. The Army also had 63-foot crash boats in the area. These boats were to serve the planes that came from Otis Flying Field at the Camp Edwards base. Whenever these boats layed in Woods Hole overnight, they tied up alongside *Atlantis*.

That fall, starting about the first of October, we began a series of short cruises out to the Continental Shelf at

the 100 fathom curve. These cruises had something to do with the transmission of sound through the Gulf Stream. The warm water apparently diminished the sound waves that passed through them. We worked with a large Navy converted diesel yacht named *Mentor*. This vessel supposedly had been built for Major Fleischman of Fleischman's Yeast, just before the war. She was quite a handsome vessel, but the weather conditions off shore in the fall of the year were a bit rough on her and on her crew. She was equipped with loran and radar, however.

Second Mate Clark left *Atlantis* sometime about mid-October, I am sure to the regret of the men forward, and his replacement arrived shortly after. I was working on the deck early one afternoon when I happened to look out into the street between the Fisheries buildings. I caught sight of a large, rugged man walking toward the dock where *Atlantis* lay.

He had the same gait as Ernest, the bo'sun, so I supposed he was a seaman, "by the cut of his jib," as the old sailors would say. I could see that he was a squarehead, a Swede in fact. When he came near he asked me if the captain was aboard. I met him at the gangway and escorted him through the wheelhouse to the captain's cabin, just off the chartroom. As I left the chartroom and climbed the steps to the wheelhouse, I heard the newcomer say to Captain Knight, "I was the new Second Mate, my name is Arvid Karlson."

Arvid Karlson was born in 1891 and was 54 years old when he joined *Atlantis* as second mate. From his stories we learned that he was orphaned at a very young age and went to sea about age fourteen, serving first in Baltic schooners. Later he served in German square-rigged ships of the famous "Flying P" line owned by Laeisz and all starting with that letter. *Peking* in South Street Seaport in New York City is a former Laeisz ship. These ships were big Cape Horners, sailing between Hamburg and the west coast of Chile, returning home loaded with nitrates. This was before the first world war.

In the spring of 1946, Arvid Karlson became the chief mate of *Atlantis* and served in this position for about eight years until he was promoted to Master of the ketch *Caryn*.



Arvid Karlson joined *Atlantis* as second mate in 1945, was promoted to chief mate in 1946. He became Master of the ketch *Caryn* in 1954. Photo by Jan Hahn. Courtesy WHOI.

Change of Command

While we were lying in Woods Hole one evening early in December 1945, one of the fo'c'sle men came below and said, "I just saw Captain Knight throw his hat overboard from the bow." We did not understand what that was all about.

The next day we were informed that Lambert Knight was replaced as master by Gilbert Oakley, ex-commander USCG. Lambert Knight would now sail as chief mate. (It was said that the *Oceanographic* was the Harvard Yacht Club. Captain Oakley was a Harvard man, Lambert Knight had attended Princeton.)

That evening Captain Oakley paid a visit to the fo'c'sle and introduced himself. In a short speech he said that

the pay rate would be standardized at \$150.00 per month for Ordinary and \$175.00 for AB. He told me that I would receive a \$50.00 per month raise immediately. I liked this man, though by his demeanor we knew there was no doubt he was the master.

My pay was now \$150.00 per month, pretty good when you consider I also got room and board. Technicians ashore at WHOI received \$100.00–\$120.00 per month without room and board. In 1945, seamen were well paid.

Felix's Heavy Weather Berth

In December 1945, the new master, Captain Gilbert Oakley, was driving the "old girl" pretty hard in some real rough weather. It was nearing Christmas and Captain Oakley wanted to finish our work and be in Woods Hole in plenty of time for the Christmas holidays. He had been master of a converted trawler in the Coast Guard and had two years' experience on the Greenland Patrol in the North Atlantic, summer and winter. The weather we were experiencing did not faze him in the least.

He ordered everything well secured and battened down forward, full speed ahead, and "bring the lookouts aft." This latter order made Captain Oakley the hero of the men before the mast. Coming aft away from the wind, spray and crashing seas made our life on lookout in the bitter cold a lot more pleasant. When salt water freezes to your oilskins, you know it is cold.

The fo'c'sle in *Atlantis* was a bad place to be in rough weather, particularly if we were driving and plunging into the sea. In rough weather Felix never slept in the fo'c'sle. He had many other places he could sleep further aft, where the motion was not half so bad.

It was at this time that I first saw Felix in his rough weather berth. The dining table in the main saloon of *Atlantis* was long enough to seat six men on a side. It was a swinging or gimbaled table with brackets at each end which formed the legs. The table top was attached to these brackets with pins. This arrangement allowed the top to tip from side to side, remaining level even when the ship rolled.

In order for all this to work, there was a counterweight hanging from the brackets and running the length of

the table just clear of the deck. This counterweight was a U-shaped piece of channel iron six or seven inches wide and filled with lead so that its top was a flat, smooth surface. The heavy lead counterweight kept the table steady even when the ship was driving ahead in rough weather. When the ship was rolling, it always looked as if the table were swinging wildly, when in reality the table was very steady and instead it was the ship that was moving about the table.

Once during a particularly rough period I was relieved from wheel watch at 8 am and started forward to the fo'c'sle. We had permission, when relieved from watch in rough weather, to pass forward below in the ship. We could go through the scientists' area, the officers' quarters and the main saloon. We had strict orders, however, to remove our hats before entering the main saloon.

I entered the saloon at a time when the ship was heeling well to starboard, but also moving about a great deal from the send of the sea. As the lead weight in the bottom of the gimbal table swung well out, I caught sight of Felix also seeming to fly through the air. He was fast asleep on the top of the counterweight which, in reality, was almost stationary while *Atlantis* was violently gyrating around him. Here he was in his "rough weather berth."

When I told the men forward where Felix was sacked out, they all laughed, including old Ernest who said, "Dot cat might yust as well be sleeping under an apple tree, as far as he is concerned." According to the bo'sun, "The best cure for seasickness is fifteen minutes under an apple tree."

Felix Goes Missing

In the windy, squally weather we were continuously working with the sails, setting them whenever underway or taking them in to heave-to when necessary. If we were working forward and it was not too wet, Felix would sometimes come and play with us, as young cats will. Many times he would climb on to the jib as it lay on deck prior to being furled, or dart in and out of its folds of heavy canvas just after we had hove-to.

He was doing this one evening while we were trying to furl the jib. This was a heavy job for two of us, and we

did not have any time to play around with him. After we had the gaskets around the jib, pounding it down with our fists to get as tight a furl as possible, we hoisted the clew high enough to clear the jib from the deck. When the job was finished, we got a chance to look around and saw no sign of Felix. We guessed he was disgusted because we did not want to play, and must have gone aft or below.

That evening we did not see Felix anywhere, but we did not worry because we did not always know where he might be sleeping. As we were going on watch the following morning, Willie had Felix's breakfast ready and asked if we had seen him. Felix usually bugged Willie as he came off the 4 to 8 watch, wanting breakfast, but, "Oh well, he is probably asleep somewhere aft."

Noontime came and still no sign of Felix. Willie began to be concerned and the watch below started to comb



View along starboard side aboard Atlantis under full sail.
Photo by Don Fay. Courtesy WHOI.

the ship. There was no sign of Felix. It had been quite rough during the night and we began to believe he might have been washed over the side somehow. We often wondered why he hadn't fallen overboard before this. Toward evening, when he did not appear for his food, the squareheads in particular became very quiet. By morning of the next day, with no sign of Felix, we knew the worst must have happened. Felix was lost at sea.

After 8 bells that morning, the captain ordered us to set the jib. We lowered the jib on to the deck to get at the gaskets and untied them, feeling sad as it was here that we had last seen Felix. With one man on the halyard winch below, the sail began to rise slowly. As the head went up the stay, a heavy part of the sail unfolded,

and lo and behold! back from the dead tumbled out Felix!

He had been furled up in the sail for a day and a half.

I picked him up, carried him over to the fo'c'sle companionway and hollered below, "Willie, here is Felix returned from the dead, and hungry as hell."

End of an Era

We received a Navy surplus loran set on board *Atlantis* in early December 1945. The ship's 110 volt DC power service was wrong for the loran. An inverter was installed aft in the chartroom to supply it with AC current. The early loran sets were difficult to operate. The system required lining up the slave station with a master station and reading off the measurements from the scope itself. There was no digital readout. At first Captain Oakley was the only one who could operate it. The loran, however, was a tremendous aid in coastal navigation.

Helped by the loran, Captain Oakley drove *Atlantis* relentlessly through the miserable weather. To our great surprise and joy we finished our work and arrived in Woods Hole a few days before Christmas. The crew was all given leave for the holiday.

Since January 1945, *Atlantis* had had two masters, five chief mates, three second mates and two bo'suns. Only Don Fay and I remained of the men before the mast. The old-timers, mainly the squarehead seamen, were

gone. These were men who had been trained in sailing ships on the hard voyages across the North Atlantic in winter and around Cape Horn, men who had sailed in the big schooners, the large racing yachts of the past, including the magnificent J boats of the 1930s. These seamen would never again occupy the fo'c'sle. Much younger and far less professional men would replace them. With the end of 1945, a new era began for *Atlantis*.

William B. Cooper was born in Brooklyn, NY, and came to Quisset Harbor in 1944 on the schooner yacht *Secochet* owned by John Peterson. He joined the original WHOI vessel *Atlantis* in August of 1944 and served on her as ordinary seaman and able seaman for four years.

Pursuing a vocation in boatbuilding and design for the next 17 years, he worked in several boatyards. These included Luder's Marine construction in Stamford, CT, for two years where he was a marine draftsman. In 1966 he worked in the mold loft at Minneford's in City Island, NY, during the construction of the America's cup defender, *Intrepid*. Since that time, Bill Cooper has had his own shop on Sippewissett Road, doing design, building and repair of all types of boats and yachts, including the replica gold cup racer *Miss Columbia*.

Bill wrote "*Atlantis and the Hurricane of 1944*" for *Woods Hole Reflections* in 1983. Besides keeping his hand in the boat business, he spends his semi-retirement pursuing his interests in nautical history and constitutional law.



Scientists and crew aboard *Atlantis* in October 1946. Bill Cooper, John White, Dick Seiwel, Frank Mather, Arvid Karlson and others. Photo by David Owen. Courtesy WHOI.