# K9YA Telegraph

Robert F. Heytow Memorial Radio Club

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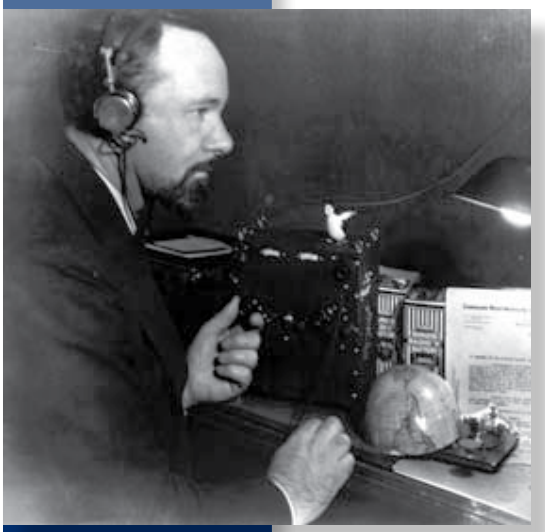

## Nautilus to the Pole

### *No, Not that Nautilus*

***Philip Cala-Lazar, K9PL***

Our last few forays into amateur radio and exploration were airborne, through desert and mountain pass, and over the bounding main, this one is under the sea. By 1931 Sir George Hubert Wilkins (1888-1958) was a celebrated explorer. His exploits led him to the Canadian Arctic, a trans-Arctic crossing and northern Australia. Now his most audacious endeavor was an under the ice attempt on the North Pole in an expedition financed by Wilkins himself, private individuals, scientific research institutions and the Hearst Corporation. The submarine for this arduous journey, leased from the United States Shipping Board for one dollar per annum, was the U.S. Navy's decommissioned WWI veteran *O-12* (SS-73).

*"Twenty Thousand Leagues Under the Sea"*

In 1926 Sir Hubert and pilot Carl E. Eielson successfully traversed the North Pole in a Fokker monoplane. That expedition, too, depended upon amateur radio operators to monitor their operating frequencies and to relay their communiqués (in strictest confidence) to the North American Newspaper Alliance in New York City.

The *O-12*, now *Nautilus*, constructed in 1916 by the Lake Torpedo Boat Company of Bridgeport, Conn. was 175 ft. in. length, 16 ft. 7 in. beam, 13 ft. 11 in. draft, displaced 491 tons surfaced (556 tons submerged) and was heavily modified for its Arctic voyage.

To accomplish Sir Wilkins' meteorological, hydrological and oceanographic goals inventor Simon Lake (founder of the Lake Torpedo Boat Company) designed a number of modifications for the *Nautilus* (and selected its new name). *Popular Science* magazine noted a number of changes of special interest. These included: "a unique ice saw, or drill… The device will bore a man-sized hole upward through thirteen feet of ice." The ice saw will permit the sub's crew to exit for "observations, or in emergency, through a telescoping 'escape tube.'" Another addition to the *Nautilus* was two 1,000,000 candlepower "electric headlights." This provision "…will cast beams of light nearly 100 feet ahead of the vessel."

Jean Jules Verne, grandson of Jules Verne the author of *Twenty Thousand Leagues Under the Sea*, was heralded as planning to travel as a passenger aboard the *Nautilus*. Indeed, he was present at its launch, but his name disappears from subsequent news items.

One of the odder bits of news associated with the expedition was its opportunity to test a new theory about the earth's interior. Dr. Richard O. Meents, "former professor of geology at Southern Methodist University," and author of *The Earth-Oceanic Circulatory Law and its Derivatives*, posited that, "… sounding should reveal a great bottomless hole of funnel shape beneath the Pole." Dr. Meents asserted that from a "…similar hole at the South Pole, water

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### Inside This Issue...



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# Lifelong Radio Jamboree

***Clifford R. Williams, W2CRW***

Cliff, W2CRW, Holding His Best Friends QSL Card

It was customary on Saturday evenings for my parents and aunt and uncle to have a pinochle tournament at the dining room table. Cigarette and pipe smoke quickly filled the room, as the shuffling and dealing of cards went on and on way past midnight. During the entire event, they had a portable radio on and tuned to a semi-static laden CFRB out of Toronto. My uncle often said: "The news coverage is better out of Canada!" In the living room, the black & white television set turned on, so they wouldn't miss their beloved Lawrence Welk Show while they played cards. I endured the popping bubbles, the static from the radio, and the thick smoke only to get my hands on some of that homemade oven-roasted Chex & Planter's Peanuts party mix… and the cheese and crackers, of course! I remember hearing someone at the table saying: "Ya know, you could pick up allot more stations on that radio if you hooked up an outdoor wire antenna."

*"Radio Heaven!"*

It wasn't long after that card game, back in the early 60s, when my father turned that radio over to me. It was labeled *Globemaster*, and had a couple of mysterious shortwave bands along with the standard AM/FM bands. It had a nice telescopic antenna and a large tuning knob. I took it upon myself to run a length of small gauge copper wire from my bedroom window, diagonally across the backyard, to the rear peak of the garage roof. Of course, I was only able to tune in AM stations and wondered what all those other weird sounding voices and signals were. Some sounded like a roaring airplane engines or even a music box of some type. One thing was for sure, the CHU time standard signal from Barrhaven, Ontario was always there and came booming into Rochester, NY. That station was the first one to respond to my "snail mail" signal report by sending me a QSL card. My exciting radio and geography journey had begun!

My logbook started to get some impressive entries: HCJB in Quito, Ecuador; Radio Nederland in Hilversum, Holland; Radio RSA in Johannesburg, South Africa; and Radio Praha in Prague, Czechoslovakia just to name a few. The QSL cards would arrive with unique and colorful designs and have exotic stamps from around the world.

My father saw how much I enjoyed shortwave listening, and one day surprised me when he took me downtown to the Rochester Radio Supply Store on W. Main Street.

Up on the second floor was "Radio Heaven!" I stood there totally enthralled with all the shiny CW keyers and radios on display, while my father asked the old timer behind the counter: "Can you please recommend a shortwave receiver for my son?" I never thought I would be walking out of that store carrying a brand new Hallicrafters S-108. It even had a bandwidth knob for more selective tuning and a pitch control so I could start listening to single-sideband stations and also start learning the Morse code. (Thanks again, Dad!)

Well, after that, the logbook took off like a rocket as I navigated the world almost every night after dinner. On the weekends I would stay up all night slowly and methodically tuning across all the bands hoping to pull in another

The Primitive Radio Shack with the New Hallicrafters S-108 Receiver (1963)

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distant station. Radio Sofia, Bulgaria hosted a month-long contest for SWL'ers who faithful listened to their broadcasts. I won two bottles of Bulgarian wine, even though I was only 12 years old at the time.

SSB and CW Ham radio signals were finally discernable. I began to learn more about them as I monitored QSOs from near and far. The book, *So You Want to be A Ham* was now in the bookcase in my primitive "radio shack." I saved up money I had earned from my afternoon newspaper route and bought a "Learn Morse Code" record album and built a code practice oscillator. Throughout my high school years the sound of ditties filled our house.

I joined a Radio Explorer Scout Troop run by some local hams. They had built a large green mobile trailer and filled it with CB and ham radios. The outside of the trailer had several eye-catching Emergency Radio and ham radio emblems. We went on a few field trips and learned how to set up portable antennas and generators; what great fun we had listening and learning all about the hobby of amateur radio. I'll never forget our participation in a massive Scout Jamboree held inside the old War Memorial.

At some point early on, my father, who had been a Chief Yeoman in the U.S. Navy during WWII, told me that "Navy life wasn't so bad, son! Consider joining the Navy and become a Radioman." That sure sounded intriguing to me, but a fairly new rating had been created called Communications Technician with several sub divisions performing different Top Secret functions. By expressing my interests in listening to shortwave radio and learning the Morse code to the recruiter and by my favorable boot camp test scores, I ended up being selected and perfectly suited for the CT rate. Indeed, it was a perfect match and one that I will always be thankful for.

*"I owe a lot to SWL!"*

Little did I know six years previously that I would become a Communications Technician (T-Branch), operating highly sophisticated radio equipment, both at sea as well as on shore. It was hard to believe that shortwave listening was a major part of my job in the Navy. Training at NCTC Pensacola, Florida and SIGINT School at Ft. Devens, Massachusetts, produced many talented operators. Those strange radio signals I heard when I was younger were no longer a mystery. We could identify every mode of transmission.

While I was stationed at NSGA Bremerhaven, I buckled down and studied for my amateur radio test, and in the spring of 1971, a fellow CT named Mark Brown (WA3GON) administered the written and Morse test. A few weeks later I was able to officially operate the base ARC station. It was equipped with a handsome row of Collins radio gear. While living in the old army barracks there, I enjoyed building a Heathkit SB-101 Transceiver and matching power supply. Mark helped me test and properly align it once the kit was completed. It was a very rewarding and great learning experience. I'd hang a wire out of my third floor window and listen to shortwave when we weren't out having a good time drinking Lowenbrau, eating great German food and/or having a bowling tournament. Once in a while, we got to go on R&R and travel around Europe.

**Back Home From the Navy and On-The-Air!**

During a wonderful trip to go sightseeing in Amsterdam, Holland, the train slowed down to pull into another stop along the way. As soon as I saw the sign [HILVERSUM] all of the great shortwave listening I had enjoyed over the years brought a big smile to my face. I never dreamt that one day I would indeed actually be in the country of Holland, much less in Hilversum. I quietly spent the rest of the train ride reminiscing about SWL, and puffing on my favorite meerschaum pipe.

I owe a lot to SWL! It also led me to a lucrative technical civilian career trouble-shooting and repairing high-powered RF amplifiers and generators that were/are used in "Over the Horizon" U.S. military radar missile defense systems. But now, I once again enjoy a peaceful evening tuning across the shortwave bands and also having a nice "rag-chew" with fellow hams. If you are a shortwave listener and you happen to stumble upon my signal, I will always confirm your written report by sending you one of my QSL cards… just like hundreds of friendly hams did for me 50 years ago. Long live the great hobby of Shortwave Listening!

73 Cliff Williams – SWL Registrar

www.swl-registry.com

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# Cryptography

## Part II

**Paul W. Ross, W3FIS**


In this, the second part of our series on cryptography, I discuss some of the other interesting aspects of security, such as password protection, physical security and secure network protocols. Having some sort of encryption scheme is only part of the solution.

Let's recap some of the critical items we've discussed thus far on cryptography issues:

- Secure access is obtained my means of a key or password. Exchange of keys or passwords in a secure manner is a potential problem. A key or password is a "small secret" used to hide "large secrets," and therefore is vulnerable to attack.
- Encryption of a file or message is by means of a secure encryption algorithm, depending on, among other things, the integrity of the key.
- In "split key" or public/private key systems, such as is used in the RSA algorithm, the security is substantially enhanced. However, we still have an authentication problem – does the "public" key really belong to who we think it does?

## The Cost

Unlike the old west, there is no "free lunch" in cryptography matters. Any measure we use, such as passwords or encryption, has a cost, either in the form of increased complexity, more computer resources, or reduced throughput of data.

In a previous life, I did a lot of computer related consulting, as well as teaching computer science. I was approached by a client who insisted on absolute security for his critical business records: "No ifs, ands, or buts." Fine, I said, but what are you willing to expend in increased complexity, new software and training for your personnel? The response was "not much." That pretty well brought that consulting project to a quick end!

Actually, that brings us to the heart of this discussion. Up to this point, I have suggested that security and encryption issues are primarily ones of technical considerations. Give us a more complex key, a more secure encryption process, make a system for secure key exchange, and we have kept all the bad guys at bay! Not so!

## Human Element

How many of us have left the key to our house under the doormat for the dog walker? What about going off with your car door unlocked because we were in too much of a hurry to lock the door? We have just compromised a fairly secure system by inaction or laziness on our part. Interestingly enough, most security problems are caused not by a lack of a secure system, but by simply failing to use that system. Further, since fallible people use these systems, the results are generally no better than the people using them. If you don't properly use the tools at your disposal to protect critical and important material, you have wasted your efforts.

> *"…look for patterns in things."*

The classic case of breaking the German Enigma and Japanese Orange and Purple Codes are in part due to laziness on the users—sending known material on an encrypted link. An even more interesting example is shown in the classic World War II movie *Midway*, at the decryption and intercept center in Hawaii, we are shown a scene in the bunker. They send a fake message *in the clear* a about water distillation equipment failure at Midway Island. Then, they monitor Japanese transmissions and determine the encode for Midway Island, letting us anticipate and counter the attack.

For what it is worth, my daughter' tuba teacher was stationed at that facility. A true hero, in my opinion. People with mathematical and music abilities were used, as they were, by profession, trained to look for patterns in things.

The security issue is not helped by the fact that most systems "out of the box," are set with standard passwords. For example, those nice adjustable combination locks from the hardware store or the "V" chip on your

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television set come with a standard initial code. If you don't change it from this default value, then a few seconds of guessing will allow the most intellectually challenged thief to break into the system.

At least, change your passwords from the initial values – to something easy for you to remember, but not something that is easily guessed, such as your dog's name, or your favorite beer! Social security numbers, telephone numbers, birth or anniversary dates, or house numbers are especially bad choices. If someone knows a little bit about you, then your security can be quickly compromised.

Now that I've convinced you that you have to actually use a security system, be it passwords, or encryption, for it to be of value, what about the "people" factor?

Paranoia is your friend and absolute trust is your enemy. However, the world doesn't work very well if we go under the assumption that every encounter is a potentially dishonest one. Some measure of trust is necessary. However, with trust comes risk. What is appropriate is a "risk analysis" – what penalty will we incur, or what harm will come to us if this trust is betrayed?

If it is a produce stand by the side of the road, as is common here in "slower lower Delaware," then we are at risk for as much money as we are willing to leave in the box, or the vegetables on display, or both. Would we do this in other situations – perhaps yes, perhaps no? It depends on the level of risk or loss we are willing to accept. Keep in mind that a "no risk" situation is likely to be either impossible, or more costly than we will tolerate.

Things can still go wrong, and will. Just think in advance what might happen, and just how it will effect you operations. A little caution and planning go a long way to prevent disasters. ■

*Dr. Ross holds a B.E, M.E., and D.E. from Yale University in electrical engineering.*

*Over his career, he has been employed as a research engineer for RCA, a computer center director at Franklin & Marshall College, and most recently, as a professor in the Department of Computer Science at Millersville University. He retired with emeritus status in 2000. He is the author or co-author of some 40 papers and books in a wide variety of technical areas, primarily dealing with computer science.*

*Since retirement, Dr. Ross has been a regular contributor of a monthly technical column in Lancaster Business2Business, and writes when the spirit moves him, as "The Day Tripper" for a travel column for the Coastal Point newspaper in Ocean View, Delaware.*

# CW, The Fun Mode

## A New, Free, Brochure for Clubs


The staff at the *K9YA Telegraph* is pleased to announce its new publication *CW, The Fun Mode*.

*CW, The Fun Mode* is a three-fold, full-color, brochure targeted at newly licensed and upgraded amateur radio operators. The brochure highlights the many joys and advantages of Morse operation and suggests routes to its acquisition.

*CW, The Fun Mode* features a cartoon by *K9YA Telegraph* cartoonist Dick Sylvan, W9CBT, and offers a selection of notable CW quotations.

*CW, The Fun Mode* is available, free, to clubs and individuals. The brochure includes a space for clubs to add their own contact information

*CW, The Fun Mode* may be downloaded at:

http://www.k9ya.org/downloads/K9YA-CW%20Brochure.pdf

## Ham History

DICK SYLVAN, W9CBT


LEARN CODE THE EASY WAY
WITH THE INSTRUCTOGRAPH

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continually gushes…" The water between the two poles is supplied by "Huge conduits in the earth's interior… [that] feed these openings, and are in turn fed by leaks in the ocean deeps of the Atlantic and Pacific."

Ray Meyers, W3AJZ

*Nautilus*'s on-air operating schedule was printed in the July and August 1931 issues of *QST*. Ray Meyers (1895-1985), W3AJZ, chief radio officer, "…will CQ for amateurs nightly at 2100 or 9 p.m. E.S.T. on most suitable frequency designating band for answers…" It was also revealed that Hearst traffic-handling station KUP in San Francisco worked alternate hours with WRH in New York.

The January 1932 issue of *QST* features a long, chatty letter from Ray writing that he regrets not being able to work more hams from WSEA using the sub's 200-watt MOPA (Master Oscillator, Power Amplifier) transmitter. He explains his first duty was to his employer so the lion's share of radio work was with the Hearst-controlled American Radio News Corporation's specially constructed station, WRH.

One of the operators who succeeded in working the *Nautilus* was W8AXV, in Ohio, who worked WSEA crossband on April 10: WSEA on 5,525 kc and W8AXV on 3,500 kc.

**U.S. DEPARTMENT OF COMMERCE**

**RADIO DIVISION**

**RADIO SERVICE BULLETIN**

**ISSUED MONTHLY**

**Washington, March 31, 1931—No. 168**

*Vessel, Nautilus; Station, K7XI; Frequency in kilocycles, meters in parentheses, 6,100 (49.18), 9,540 (31.48), 11,710 (25.62), 15,160 (19.789), 17,780 (16.873); Power (watts), 200; Owner Trans-Arctic Submarine Expedition (Inc.).*

The best band from the Arctic? Meyers found it to be 36-meters, "there was always someone on 36, and plenty of stations to QSO should one fail." In addition, the band's proximity to 40-meters made it useful for emergency communications with hams if needed.

**New York Times, March 23, 1931**

**SUBMARINE BOUND FOR THE ARCTIC HERE ON FIRST LEG OF TRIP**

The crew's journey launched inauspiciously: "Tragedy accompanied the first move of Sir Hubert Wilkins's polar-bound submarine Nautilus yesterday when the craft's quartermaster and assistant radio engineer, Willard I. Grimmer of 17 Arch Street, Philadelphia, fell overboard and was drowned after the undersea craft had entered New York harbor."

*"…the weirdest devices ever…"*

**Chicago Daily Tribune, June 5, 1931**

**Wilkins Is Off for North Pole in Submarine**

Headed for the North Pole *Nautilus* departs Provincetown, Mass. with a 20-man crew commanded by Capt. Sloan Danenhower. The submarine is outfitted with a number of "the weirdest devices ever shipped under the heading of marine equipment." The submarine is equipped with sled-like runners atop her hull to enable her

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***Commercial land stations, alphabetically, by names of stations*—Continued**

| Name of vessels | Call signal | Rates, all services (cents) | Service | Hours | Owners | Message accounts settled by— |
|---|---|---|---|---|---|---|
| Hussar | WCEQ | 8 | PG | X | Edward F. Hutton | R. M. O. A. |
| Illinois | WCEI | 8 | PG | X | Red Diamond Trawling Corp. | Do. |
| Maine | WCER | 8 | PG | X | do | Do. |
| Nautilus (RC) | WSEA | | P | X | U. S. Shipping Board | Trans-Arctic Submarine Expedition (Inc.) |

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"to slide along under the ice." There are also shock absorbers projecting from the *Nautilus*'s bow to fend off damage from "undersea obstacle[s]"

**Chicago Daily Tribune, June 6, 1931**

**SUBMARINE OUT AT SEA ON WAY TO ARCTIC BASE**

All is well as *Nautilus* plods the Atlantic on her way to the expedition's Spitsbergen, Norway base. Reported by the U.S. Coast Guard from a radiogram received from the sub, she is off Cape Cod, having made only 70 miles in the first 10 hours of her 3,500-mile journey north. Time to her first waypoint, Land's End, U.K., was expected to occupy nine days. Carrying fuel sufficient for 5,000 miles and food supplies to last "eighteen months or more," Wilkins believes he has well prepared for the voyage.

**Chicago Daily Tribune, June 15, 1931**

**WILKINS' POLAR SUB IN DISTRESS; TIED TO WARSHIP**

Stranded in rough seas, its engines disabled, 1,000 miles off the coast of France, the USS *Wyoming* (BB-32) tows *Nautilus* to Queenstown (Cobh), Northern Ireland as the USS *Arkansas* (BB-33) accompanies. First to hear the sub's distress signals were the liners SS *America* and SS *Independence Hall* and were relayed to WRH in New York City. The two U.S. warships, on a training mission, were only 50 miles from the sub's stated position when ordered to her aid by Admiral Claude O. Bloch. Running off rapidly depleting batteries, its transmitter progressively rendered inoperative, WSEA was reduced to mostly monitoring by the end of its rescue mission. At five knots towing speed it will take an estimated seven and a half days for her to arrive in Queenstown. From Queenstown *Nautilus* disembarked for Davenport, England where she underwent a lengthy period of repairs before departing for Bergen, Norway.

*"…Nautilus plods the Atlantic…"*

**Chicago Daily Tribune, August 6, 1931**

**Submarine Nautilus Sails from Bergen on Polar Trip**

Wilkins and crew depart Bergen bound for Spitsbergen via Tromsoe. The *Nautilus* was scheduled to refuel in Tromsoe and King's Bay. Her destination is the "ice barrier," a ten-day voyage.

**Chicago Daily Tribune, August 12, 1931**

**NAUTILUS DRIFTS HELPLESSLY FOR SEVERAL HOURS**

The trip to Spitsbergen is beset with mechanical problems as *Nautilus* loses headway for several hours. Finally, on August 19, contact with the ice barrier was made when a crewmember stepped on to an ice floe.

August 22, after skirting the ice pack for a few days a suitable location was found for the sub's first dive under the ice pack. It was then discovered *Nautilus*'s diving rudders (hydroplanes) were missing. Therefore, scientific investigations were limited to the ice pack's surface. Wilkins, determined to fulfill his objective of investigations under the ice, devised a work around for the missing diving rudders. Using a combination of flooding the ballast tanks and adjusting the sub's trim he managed to eventually get her under a reported three-foot thick ice floe–becoming the first submarine to operate under the polar ice cap. *Nautilus* eventually approached within 350 miles of the North Pole.

**Chicago Daily Tribune, September 4, 1931**

**FEAR FOR SAFETY OF NAUTILUS; BIG RADIO HUNT ON**

Four days having passed since their last contact with *Nautilus*, authorities "… instructed all amateur radio operators to try to establish communication with the submarine." The captain of the Norwegian collier *Ingerte* reported weak signals too faint to copy believed emanating from the sub's portable transmitter. The portable transmitter was used when the *Nautilus*'s crew was working on the ice's surface.

Soviet Ships Hunt Sub

As Soviet ships joined the hunt for Sir Wilkins and crew, Russian amateur radio operators, too, were "… urged to listen for signals from the submarine."

**Chicago Daily Tribune, September 5, 1931**

**Nautilus Safe in Arctic; Wilkins Radios 'All's O.K.'**

Both the Meteorological Institute at Tromsoe and the vessel *Fridtjof Nansen* report radio signals from Sir

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Hubert aboard *Nautilus*. He says, "All O.K." However, he refuses to state the sub's current location.

**Chicago Daily Tribune, September 30, 1931**

**WILKINS GRANTED PERMIT BY U.S. TO SINK NAUTILUS**

The shipping board gives Sir Hubert leave to scuttle the *Nautilus*. The report reveals Wilkins had three weeks earlier sought permission to sink the trouble bedeviled submersible as "…he considered it dangerous to attempt to return the submarine to America under her own power." U.S. Secretary of the Navy Charles Francis Adams III said "…he could see no objection from a navy standpoint to sinking the vessel in deep water." The U.S. Navy sank the *Nautilus* November 20, 1931 in a Norwegian fjord near Bergen–she settled on the seabed at 1,138 ft.

**Chicago Daily Tribune, October 6, 1931**

**11 MEMBERS OF NAUTILUS CREW BACK IN GOTHAM**

In New York following an anxious 11-month journey in northern seas, some of *Nautilus*'s occasionally "grumbling" crew said that despite all the problems encountered, cold, sickness and many breakdowns in mechanical equipment, they would do it again aboard a "better submarine." It was not in the cards for that *Nautilus* crew; not until August 3, 1958 did the first ship successfully cross the North Pole and this time it was a nuclear submarine, the USS *Nautilus* (SSN-571).

## Ray Meyers

Ray Meyers was a true amateur radio pioneer. Born in 1895, he was first licensed in 1912. After military service in WWI, he embarked upon a successful career in what would become the communications industry. His name often appeared in the pages of *QST* and other amateur radio publications. Among his other services to the community he served as director of the ARRL Southwestern Division, president of the Amateur Radio News Service and was a member of the President's Committee on the Employment of the Handicapped. Ray received many prestigious honors; in 1966, as W6MLZ, he received the International Institute of Communications' Columbus Gold Medal Award presented in Genoa, Italy. He was the first American to receive the award and was honored for his work in "…the teaching of radio telecommunications techniques to the physically disabled people through his international network of handicapped amateur radio operators, created and sponsored by him." In 1959 Meyers founded the International Handicapped Network.

Ray Meyers was a member (#186) and executive secretary of the Old Old Timers Club, as well as an active member and officer in many other ham radio clubs. He received the Veteran Wireless Operators Association's gold medal for his part in the rescue of the *Nautilus*'s crew.

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*QST*, July 1931, Aug. 1931, Jan. 1932, Dec. 1966, Nov. 1967, Sep. 1969, Mar. 1985

*Two Hundred Meters and Down: The Story of Amateur Radio*, Clinton B. DeSoto, The American Radio Relay League, Inc., 1936

U.S. Department of Commerce, Radio Division, Radio Service Bulletin, Washington, March 31, 1931—No. 168

Photos courtesy of Ohio State University

## 73s

From the *K9YA Telegraph*'s Department of the More Things Change: *QST*, May 1931: "Strays" admonishes operators who add the "…superfluous 's'…" to 73 making it "'Best regardss' – whatever that means…" Further, "If a 'best' is placed before '73' it becomes 'Best best regards,' and 'Best 73's' will give 'Best best regardss…'" Their advice, "Stick to a plain '73' and you will not go wrong."

## Call for Articles

Have a story to share? An experience to relate? Some gear to review? A technical tip to dispense? Feeling didactic or pedantic? Write it up, add a couple of appropriate photographs and send them off to the *K9YA Telegraph*. Hams worldwide will thank you, and so will we.

Here's the place to start:

http://www.k9ya.org/write_for_us.htm

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