# K9YA Telegraph

Robert F. Heytow Memorial Radio Club

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## Nice Adventures

### Nice, But Often Not So Grand

**Philip Cala-Lazar, K9PL**

Not all adventures where amateur radio served a communications role were grand. Judging by *QST*'s "Finding the Expeditions" column, published sporadically during the late 1920s and early 1930s, some of these opportunities were little more than private pleasure yacht cruises while others were major scientific, engineering and cartographic ventures. It is clear from the adventurers' objectives that the world was still a very big and often uncharted place during the first third of the 20th century.

These cruises, flights and treks frequently had a licensed amateur radio operator (sometimes a yacht's owner) accompanying the venture to provide amateur radio and cross-radio service QSOs. For some operations amateur radio was the primary communications resource, for others it offered fallback and "recreational" communications.

Also found in *QST*'s listings are private and government-sponsored scientific projects mostly forgotten today by all but specialists. Here are some glimpses derived from selected "Finding the Expeditions" columns.

**_QST_, December 1929**

Cableship USAT *Dellwood*, WUAJ: *On world cruise in Mid-Atlantic QRD* London when worked by W6CUH, 500-cycle note*. Departing Seattle, *Dellwood* visited Great Britain via the Panama Canal to load supplies of cable for Manila, Philippines. Enroute, the vessel visited ports in Algeria, India and Singapore and transited the Suez Canal. (*QRD: I am bound for..., from *The Radio Amateur's Handbook*, 1927.)

In 1923 the transport steamship *Dellwood* (3,923 tons, 320.7 feet in length, 46 foot beam, 24.5 foot draft and powered by an 1,800 horsepower triple-expansion engine) underwent conversion to a cableship for the U.S. Army. The first cableship to eventually carry sonar, the vessel served both before and during WWII. During her career she laid cable off America's northwest coast, Alaska and the Philippines.

In 1923 the *Dellwood* laid a cable succeeding the "first commercially successful radiotelephone circuit," the "famous 'talk bridge' between Avalon, Catalina Island and San Pedro, Calif." Until engineers devised a method to scramble radiotelephone conversations, they "were audible to every amateur who cared to listen." The abandoned radiotelephone frequency was reassigned to broadcast use.

> *"…audible to every amateur…"*

In 1927 the *Dellwood* replaced the cable between Seattle and Alaska after a killer whale attacked and severed the line. The 28-foot, 20-ton whale chewed through a cable composed of "gutta-percha and heavy iron armor" in "eight places." Entangled, the cetacean did not survive its cable encounter.

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### Inside This Issue...




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# Slow Scan Television

***Paul W. Ross, W3FIS***

Philo T. Farnsworth

Long ago, and far away, I worked for RCA's Sarnoff Laboratories where they developed, among other things, commercial color television. That was to the NTSC standard, which we not quite jokingly called, "Never Twice the Same Color."

Amateur television was a distant dream, and we were only beginning to think of the possibilities of modern computer systems. It is said that Isaac Asimov, renowned science fiction writer, was concerned not that there would be too many computers, but too few. Little did he know...

I am sure everybody reading this understands the basics of analog television, where the image is scanned, and alternate lines interlaced to form the picture. Color information is "piggybacked" with a couple of tricks, as the eye doesn't need complete color information to perceive a colored image.

There are active amateur television groups in major metropolitan areas. Most activity is on our 70 cm band. Check your current ARRL repeater directory for a fairly complete list of ATV sites to explore that technology.

Unfortunately, the laws of physics and information theory can't be repealed. Higher resolution, color quality and frame rate call for more bandwidth. Data compression, as used in the new digital television systems helps, but that is a topic for another day.

In television's earliest days mechanical scanning systems were used. Baird in the United Kingdom, and others, pioneered these techniques. They transmitted and received fairly crude images on the HF bands now used for amateur radio. With the HF bands' propagation issues and the desire for increased resolution, TV quickly moved to the VHF, and later, UHF regions.

It was soon realized something better than mechanical scanners were needed. The rush was on, wth Vladimir Zworykin at RCA, and Philo Farnsworth's work on the image dissector tube leading the way. Television systems then relied on rotating disks with lenses arranged in a spiral pattern, the Nipkow disk, to scan an image and produce a corresponding signal. Farnsworth recognized that obtaining a satisfactory image using the Nipkow disk was not mechanically feasible, only a fully electronic scanning system could effectively produce an image for broadcast.

The Farnsworth versus RCA patent hassles are too painful to relate, but Zworykin's Iconoscope system finally prevailed. For what it is worth, I once sat at lunch with Dr. Zworykin. In this thick Slavic accent, he opined that in some ways he wished he had not invented television. He said the best part was the on-off switch. That works for me— sometimes.

*"QSOs do get a little strange!"*

As the 1930s ended, a number of commercial stations were on the air, generally in the 350-scan line resolution range. Putting that incredibly interesting history aside, what can we do if we constrain our television efforts to:

- Modest bandwidths–voice bandwidths or less.
- Single Sideband transmission. We have really good off-the-shelf technology here.
- Readily available computers. Everybody has a couple.
- Simple computer-to-transceiver interfaces. We have discussed this topic in prior articles on amateur digital communications.

If we accept these constraints, it changes the whole calculus of the problem. We now find ourselves with the possibility of "slow scan" television systems within reach of most hams.

Instead of full motion, we find the following.

- Single frame transmissions–QSOs do get a little strange!

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• Error detection and correction is possible.

• Line-by-line synchronism can overcome some of the noise and QSB problems on HF.

• Color–RGB, or simple black and white images are easily done.

The solution is highly software dependent, so experimentation is convenient. High-reliability digital modes, such as current TV systems are possible.

So, how is it done? An amateur SSTV signal consists of a constant amplitude audio tone, varying only in frequency. A very basic explanation is high tones for bright areas and low tones for dark areas. Typically, successive lines are sent as a line sequential RGB image. There are many SSTV transmission modes, but the main two beginning operators need concern themselves with are Scottie-1 and Martin-1.

Scottie-1 is the most popular mode of transmission in the United States while Martin-1 seems favored in Europe. Secondary consideration should be given to Scottie-2 and Martin-2, speeded up versions of S1 and M1, and used mainly on VHF and UHF repeaters to shorten transmission times. Some resolution and picture clarity is sacrificed in favor of a shorter duty cycle, but this may be necessary as most FM transceivers are not designed for 100 percent duty cycle and some don't provide for reducing power.

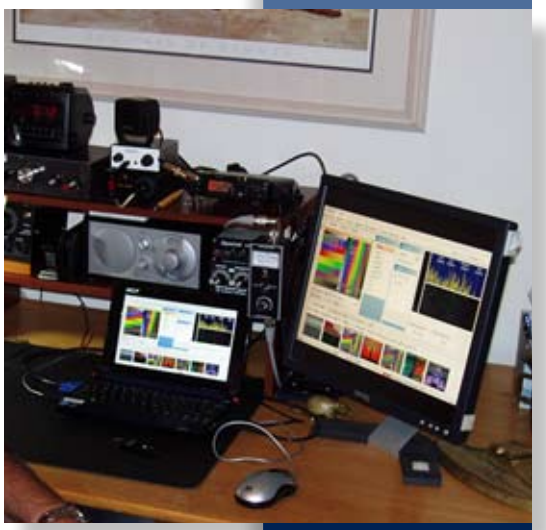
After an extended session, my FT-817ND is warm to the touch, even on HF! Be warned! It is probably wise to cut back the power level, as a SSTV signal is a quite high duty cycle, equivalent to "key down." Do not use any sort of speech processing option.

The transceiver used for SSTV should be stable. Most SSTV programs have AFC built in, and will track the signal over a limited range. Some transceivers have a temperature compensated oscillator, but I have not found that necessary once the rig has warmed up and stabilized.

Any modern computer will work nicely. I found with digital and SSTV modes I could pretty well "sink" my CPU. I finally went to a dedicated Acer Aspire One net book for digital and SSTV operation. In addition, it is a nice computer for travel and field use with the FT-817ND.

There are many programs for SSTV. I admit to only having used the SSTV component of Ham Radio Deluxe and Digital Master 780, and a program called MMSSTV. Both are shareware, and run with equal ease. Everyone seems to have a favorite.

Next, we need an interface to connect the computer sound card to the rig. I took the "chicken" way out and got a Tigertronics SignalLink USB interface. The necessary cable comes with the kit. I had it up and running in about 15 minutes and most of that time was scrounging through my toolbox for tweezers to install the appropriate jumpers. You can "roll your own," but if you live in a rural area like me, parts generally have to be mail ordered, so "buy" was the path of least resistance for me. I also use it for digital modes such as BPSK-31, Olivia and Feld Hell.



W3FIS's SSTV Station

For images, troll the Internet for stock photos, use a scanner, or put your digital camera to work. A web camera (now often built in to laptops) does the trick for "on the spot" photos of you or your shack. Highly detailed images are not a good thing. Look for good, colorful, screen-filling images.

*"…BPSK-31, Olivia and Feld Hell."*

Where do we look for a SSTV image? The best place to find activity is probably 20-meters at 14.230 MHz. Just plant yourself there and see what happens. I run my receiver overnight, and it is quite remarkable what is stored in the log by morning. Activity picks up on 20-meters in the afternoon. With nothing more than a "long wire" in the attic (deed restrictions!), I have copied a few European stations, and many up and down the east coast of the United States.

SSTV is like any other mode in that it has its own unique operating practices and etiquette. It is a good idea to do a bit of careful listening and watching to see how a QSO is conducted. Since images can take a minute or so to send, you do not want to "jump into" the middle of a QSO. I also take advantage of QRZ.COM to look up calls and give a signal report, or send an image to someone via e-mail, if I'm not able to raise them. ■

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# Antenna Adjectives—Words Aplenty

## *Hats Off to George Carlin!*

***Rick Hiller, W5RH***

There are as many different antenna designs as there are past issues of your favorite monthly ham magazine. Said in jest, but pretty much true. Look at your stockpile of old *QST* or *CQ* magazines lying in the corner. There are at least one, if not more, antenna write-ups each month and this has been going on since the beginning of Ham Time. What this shows is that, antennas have always been a cornerstone of ham interest and ingenuity.

Have you ever thought about it? I mean, REALLY thought about it? The number of different antenna types, that is. Take a minute and think of the ham antenna lineup and the offerings available. It is quite the selection of commercial and build-able designs. Generating, literally, a plethora of modifiers in an adjective junkie's comfort zone.

To get started, there are VHF, UHF and HF antennas. There are also directional, omni-directional, rotatable, stackable, phase-able and parasitic antennas. Then there are mobile, base, fixed and portable antennas. We are just getting started: top-loaded, end-loaded, center-loaded and base-loaded antennas, shortened, extended, bent and folded antennas, center-fed, end-fed, off-center fed, current fed, voltage fed, coaxial fed and open wire fed antennas, vertical, horizontal, tilted and sloping antennas, circular, square, collinear and loop antennas, tower mounted, ground mounted and elevated antennas, curtain, bazooka, dish, helix, bowtie, turnstile, slot and fractal antennas, uni, mono, single, bi, di, dual, tri, quad and multi antennas, H, J, L, T, U, V and X antennas, ¼λ, ½λ, 5/8λ and 1λ antennas, square, rectangular, cubical, triangular, diamond, rhombic, zigzag, and delta antennas, G5RV, W8JK, ZL, Maxon, Beverage, Bruce, Serb, Franklin, Marconi, Hertz, Ewe, birdcage, spider, hens, Swiss, cobra, snake, EDZ, flag, pennant, screwdriver, standing wave, traveling wave, terminated, un-terminated–you get the idea.

*"We are just getting started…"*

The list isn't endless, but it would take you quite some-time to design and build all the antenna types listed. Speaking of that, why not then, a new award: *Worked All Antennas*? Start by getting out and reviewing all of those old ham radio rags in the hall closet. (Finally, a reason for you to have kept them all of these years.) You will have a new and very interesting ham radio project, plus a cleaner closet, for which your wife will love you. Sounds like a win-win situation all around. ■

## Cub Reporter–You!

GREAT CAESAR'S GHOST! Budding Jimmy Olsens and Lois Lanes needed. *The Daily Planet*, aka, *K9YA Telegraph*, seeks articles. See your words and photos disseminated worldwide! Cub reporter? No problem, your copy will be emendated by the *K9YA Telegraph*'s crack team of editors. Stop the presses!

http://k9ya.org/write_for_us.htm


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# Clues and Kinks for the Radio Ham



## Number 73 - Effective Shack Cleaning

**Bob Cashdollar, NR8U**

An Amateur Radio Operator writes in:

*Dear Clues and Kinks, my wife left me because I spent too much time on the radio. Do you think a Kenwood sounds better than a Yaesu with the processor turned up full blast? Please advise.*

Well, the first thing is you obviously weren't paying attention to either your wife or our topic.

Our subject is cleaning out the shack, but hopefully without the aid of lawyers. But since you took the time to write us, we'll pass along some shack cleaning hints anyway.

In order to effectively clean your shack, you will need to assemble several basic items. First on your list should be a shovel. If you have any money left after your wife's lawyers get done with you, you need to purchase a shovel with as large a blade as you can possible lift. If you have already met the people from Smith, Smith and Wesson attorneys at law, then a snow shovel will do as a substitute.

The second item on your list should be a shop vacuum. The kind you need should be able to suck up small chunks of concrete. Again, if it comes down to eating or getting a shop vac; isn't your neighbor or soon to be ex-brother-in-law always bragging about the horsepower of their Tornado 150 Super Duper 55 gallon shop vac? Tell either one you want to try it out because you're thinking of buying one soon. If worse comes to worse, and it will, if your xyl's lawyers have anything to do with it, you can always sell it on eBay®. Just tell your neighbor/ex-brother-in-law a one-armed man burgled your house and you didn't get a good look at him as he was dragging it out the door.

Now that you have assembled your equipment, by whatever means, it's time for you to get to work. The first order of business is to take whatever shovel you managed to scrounge and start scraping the shack floor. You'll need to be able to stand upright, without holding on to something, while you clean the rest of the shack and digging down to the original floor is a good place to start. One of the problems with this method is what you'll uncover as you dig down. Old magazines, lost screwdrivers with screws, the dupe sheet from the 1978 ARRL DX phone contest, the cat's last six fur balls, old pizza boxes with something green in them; but don't be deterred. As they say, "Rome was not built by Greeks." (I don't know what that means either.)

NR8U's Shack Before AND After Cleaning

When you finally get the floor clean enough that you can see the tiles are really white and you have stopped gagging, its time to bring in the vacuum. For safety sake, it would be wise to ban the kids, pets, and anyone else dear to you from the room. Grasping the open end of the hose firmly, sort of like how a fireman holds the end of a fire hose, push the start button. Passing the open end of the hose across the operating desk and then over the radio equipment will provide several benefits.

All those lost screws, nuts, and bolts from the last time you took the radio/computer/whatever apart will be immediately wiped off the operating desk. If you forgot to take the logbook off the desk, look at it this way, you always were going to log everything by computer anyway. If you accidentally pass the hose over the computer keyboard, you can probably find a cheap replacement at your local Goodwill/Salvation Army store.

Passing the hose across the front of your new Ocean-Hopper 1000 DOA mega-buck transceiver you will find out right away what knobs are loose. Rather than cry over lost knobs, think of it this way; if the knob was loose and you didn't know it you probably didn't need it anyway.

This method of cleaning the operating position will also reveal any loose electrical connections you hurriedly made during that last attempt to contact that Eskimo kayak mobile off the coast of Ecuador. The shower of sparks can be very entertaining provided you're not holding a hose with a metal end.

So, there you have it. Your newly clean shack will give you a new found sense of pride and enable you to operate your station at peak efficiency, provided you get to keep the radio equipment in the divorce settlement. As we say here at CLUES AND KINKS: "A clean shack or a clean mind, take your pick." ■



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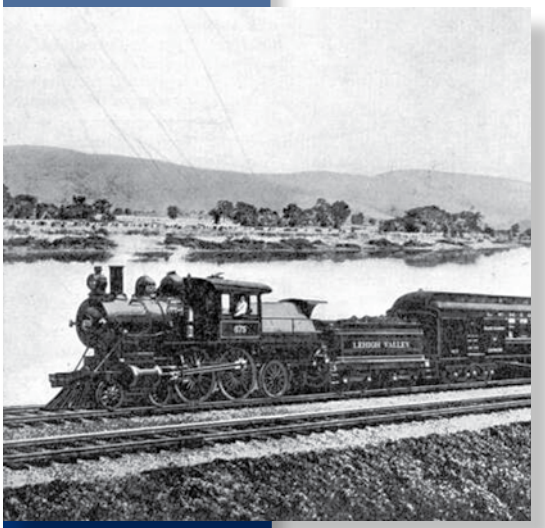
# Bill Little, W2OJJ (SK)

***Chris Johnson, WA2ZDY/4***



In September 1974 a 12-year-old kid saw the antennas in the backyard and knocked on the front door of 76-year-old Bill Little, W2OJJ, in Fords, New Jersey. Before he left Bill's house that afternoon, that 12-year-old pain in the neck had a fair idea what ham radio was and knew he wanted in.

Bill first got on the air in 1914 as a 16-year-old in Perth Amboy, New Jersey. He told of making Leyden jar condensers from canning jars and tin foil, "borrowing" the motor from his mother's washing machine for his rotary spark gap, and working DX as far as New Brunswick, New Jersey–ten miles away. It always seemed to me that 16-year-old Bill Little had a great time with the newfangled thing called wireless back in the day.

As far as I know, he had no license until he was issued W2OJJ in 1941–just in time for the World War II shutdown of ham radio. To earn a paycheck, Bill had been a telegrapher on the Lehigh Valley Railroad starting in 1912 when he was 14 years old. His father, also a railroad man, had passed away so Bill worked to help support his family. Because he was a landline telegrapher as well as a ham, Bill knew both Morse codes.

When World War II came along, Bill was drafted–at age 44. Instead of going to the induction center, he went to 90 Church Street in New York City where the Navy had a communications center. When he told them he was a ham and railroad telegrapher, the navy signed him up as a radioman on the spot.

I remember Bill telling me he copied five letter code groups on the mill at 32 words-per-minute for the duration of the war. Only at the end of the war did he learn he'd been copying casualty lists. That was always a sobering thought.

As hams returned to the air, so did W2OJJ. Bill operated AM and CW in about equal parts as far as I can tell. I know he built Heath gear when they started making ham kits. An Apache was one I heard about a lot. His knowledge of the Apache would come in handy when I had one 20+ years later.

The start of my ham education was helping him with his antennas. Despite his age, Bill could go up and down his tower and ladders to the roof with ease. From him I learned to tie knots, to do wireman's splices and to solder under the worst conditions out in the weather. When we were done though, his antennas were in fine shape.

He made me learn both International and American Morse codes and how to copy from a sounder as well as a speaker. I had no idea all but the International code was "extra." All I knew was this old man said I needed to learn it for the ham radio license I wanted more every day. Bill also gave me a license manual and taught me about basic electricity. Along the way I also learned how to operate his station: a Collins 75S-3B, Heath SB-400 and dipoles.

*"…just LISTEN…"*

Most importantly I learned to listen, both on the bands to pick out the weak ones and to avoid interfering with others, but also to just LISTEN, a skill a lot of 12 and 13 year olds don't do well with. I remember so many different pieces of advice I got where Bill would say, "One day you'll look back and say, 'That old Billy Little knew what he was talking about.'" Bill, you were so right, and many times I tell my own kids the same thing!

In time I passed the five word-per-minute test Bill sent on his trusty J-38. I stumbled, but he never wavered. When Bill said I'd copied 25 characters in a row that meant I'd done it. Not 24, 25. He was that kind of honest, and after all, he'd been teaching me to be a good ham. Good hams followed the rules and KNEW their stuff. Published question pools and the lawless 80s were things of the future.

*Continued - Bill Little on Page 8*

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After an intervening sale (1932) and repurchase by the U.S. Army, the *Dellwood* was lost in Massacre Bay, Attu Island, Alaska, with no fatalities on July 19, 1943.

**_QST_, April 1930**
Pilot South American Good Will Flight, and Stinson Plane 4876, W2XBQ. "Trip from New York through Colombia, Ecuador, Peru, Chile, Argentina and Brazil to map a safe land-plane airway and to demonstrate utility of airplane radio over distances in excess of 4000 miles." Operator was the celebrated radio columnist, author and engineer, Zeh Bouck, W2PI. (See: *K9YA Telegraph*, November 2005.)

**_QST_, April 1930**
*International Pacific Highway Pathfinding Tour (Mexico and Central America). Sponsor, the Automobile Club of Southern California. Freq. 7320 kc., Call Signal: IPH. This expedition is exploring and mapping the jungle and expects to return in June. After schedules with Los Angeles at 6 a.m. and 6 p.m. P.S.T., IPH1 will CQ for general amateur contact. Operator, B.E. Sandham of W6EQF.*

**Chicago Daily Tribune, March 17, 1931**
INTER-AMERICAN HIGHWAY PARLEY OPENS IN PANAMA

3,500 Mile Road expected to Lure Tourists

President Alfaro of Panama welcomed delegates of the Inter-American Highway Commission to Panama City. Here they will continue planning for a highway expected to extend from Laredo, Texas to Panama City and eventually join New York with Buenos Aires.

The northern route of the highway was to extend from Fairbanks, Alaska to the Panama Canal. As projected, it would replace the Pacific Highway that ran from the "Canadian boundary through the states of Washington, Oregon, and California for some distance into Mexico**."**

Bertram Sandham, W6EQF/ex-6DR, of Los Angeles accompanied the expedition, and as Clinton DeSoto put it, "…sweated and bounced in a Ford touring car on a motorized expedition breaking the international 'highway' from Los Angeles to central Mexico and later to El Salvador."

*QST* for May 1931, carried W2CCD's report that the International Pacific Highway Expedition was "coming through very regularly and strong (R7 to 8) on the East Coast" on the "7000-kc. band… with a 240-cycle note." Checking in from the American Midwest, W9GHI states he worked the expedition at "7 p.m. C.S.T." when it was in "southern Mexico." *More reports would be appreciated.*

**_QST_, August 1930**
*Mopelia*: Count Felix von Luckner (1881-1966) aboard his yacht *Mopelia* (ex-*Vaterland*), DA1V, a four-masted schooner, on a West Indies summer cruise with a "… party of fifty American boys. J. Pascal Operator." Von Luckner offered "…a cup to be awarded to the amateur operator who gives the best communication service to and from the *Mopelia* during this course."

Zeh Bouck, W2PI

During the interwar period von Luckner toured the world as a figure of intrigue and controversy. In WWI as commander of the German raider *Seeadler* (*Sea Eagle*), a 245-foot, three-masted, full-rigged bark, he won grudging respect for sparing the lives of crew and passengers, even as he and his crew captured and sunk 16 Allied vessels. Indeed, only one life was reported lost resulting from his depredations.

*"Fleeing the flames…"*

**Chicago Daily Tribune, July 1, 1930**
Fire on Luckner Yacht Forces Women to Flee

Visiting New York while "anchored in the Hudson at 79th street," a fire erupted in the *Mopelia*'s galley. Fleeing the flames in their "night dresses" were Countess von Luckner and Mrs. Herman Ibbekan, wife of *Mopelia*'s captain. Damages were estimated at $5,000. Did the Caribbean cruise ever take place? Considering the lead-time to place the *QST* article, unlikely.

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Continued - Bill Little from Page 6

Bill taught me to be patient, to follow directions and to follow through. Even though he pushed me to do things not required, like learning American Morse, I'm glad he did. I got to work the old landline telegraphers with their American Morse nets on 80-meters. From them the traditional values of ham radio were reinforced each time I worked them. Of course, Bill consistently kept reminding me of how hams should act also. And the work he made me do for my license made sure I never took it for granted. He must have understood well Thomas Paine's philosophy: "What we obtain too cheap, we esteem too lightly."

I remember working with him on a solid-state Heath general coverage receiver. He didn't know a whole lot about solid-state, but he had the patience to follow that manual, checking off each step, until it was done. And know what? It worked the first time he plugged it in. Yes, success is an excellent teacher of patience.

I can't say Bill taught me a lot about troubleshooting or what really went on inside my rig. He did teach me how to learn, how to think, and how to methodically step through a problem. So while I learned most of my electronic theory elsewhere, Bill taught me the most important lesson a new ham can learn: how to be a good ham.

Bill's other passion was music. He had learned to play the violin, to "scratch on the fiddle" as he said his father called it, during his childhood. In the days of vaudeville he played in the orchestra pits of various local theaters. By the time I knew him he had stopped that but he still practiced almost daily and, to my untrained ears, could play quite well. He also taught himself to play the piano and obtained a small electric piano.

When classical concerts were televised on PBS, Bill followed the score. I learned of musicians like Itzhak Perlman, Yo Yo Ma, and Pinky Zuckerman. It would be years before I appreciated this classical exposure, but sure enough, years later I would thank Bill for broadening that horizon for me too.

For extra cash to supplement his railroad pension, Bill repaired string instruments and rehaired bows. It was an unusual day when one walked into Bill's parlor and there weren't a dozen fiddles and bows hanging from a wire strung across the room. Talk about patience, rehairing a bow took lots of it!

Bill Little became SK in February 1985. It's hard for me to realize I only knew him a little over ten years. He was like a father, or maybe a grandfather I didn't have in my young life. It's difficult for me to comprehend that more than half my life has passed since I last received his wise counsel. But I continue to benefit from it daily.

Thank you Bill, one day we'll meet again on the other side. ■

Continued - Nice Adventures from Page 7

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*Dellwood* photo: University of Washington

## Ham Quips

DICK SYLVAN, W9CBT


HAM SIGNAGE

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