



Mid-Atlantic Amateur Radio Club

www.marc-radio.org

P.O. BOX 557
EAGLEVILLE, PA
19408

REMARCS

Next Club Meeting: September 27 at 7:30 PM

SEPTEMBER/OCTOBER 2016

Presidents Message

Greetings once again!

Now that the heat of summer has hopefully passed, we're ready to settle in to the fall and winter seasons, bringing drier weather and increased activity on the lower bands. MARC has had a very active summer, with a successful Field Day operation, and a successful Hamfest. And we've all been enjoying the improved coverage of our 147.060 MHz repeater, thanks to antenna upgrades made over the summer – try it out if you haven't recently!

After 20 years as our Hamfest Captain, Mike Pilotti, KF3CD, will be stepping down from this role. Given the amount of work involved in planning the Hamfest, we are planning to have a team to coordinate next year's efforts. I would like to thank Mike for all his efforts over the years, as the Hamfest is one of the club's most significant public events, as well as a great fundraiser for club needs.

Over the next few months, we will be engaging in several new endeavors. In partnership with our monthly meeting hosts, the Newtown Public Library, MARC will be conducting public outreach activities; look for those to take shape in the next few months. We are exploring the possibility of a club picnic and on-air operating event. MARC will also be expanding its reach on social media in the near future, with increased activity on Facebook, and elsewhere as interests determine.

At the most recent Board meeting it was decided to raise dues for the upcoming year to \$20 (Family and Associate members will remain at \$5 each). Our dues had been at \$15 – well below the rates of other clubs in the area – for longer than any of us could remember, and in the meantime our operating expenses have increased, and we would like to ensure MARC's good financial health for the foreseeable future.

Finally, I'd like to remind you of our upcoming Holiday Party in December, which will also serve as our 40th anniversary celebration. Here's to hoping MARC's second forty years are at least as good as its first forty years!

73 de Jeremy N2ZLQ

VOX

MARC's own Rich Russo KB3VZL, had an article published on page 36 in the August issue of QST magazine titled "Convert an Aviation Headset for Amateur Radio Use." Rich also had an item published in the September issue of QST in Hints & Kinks, on page 64, "Mag Mount for A Mag Mount." Nice job Rich!

Rich is also MARC's Program Chairman. Thanks to Rich, we have had and continue to have, many excellent presentations at MARC meetings. Rich is always looking for program ideas and folks to make presentations at our monthly meetings.

Please let Rich know if you would like to make a presentation or know of someone who would be willing to do so.

Wednesday night Oct. 5th from 9 to 10 PM, The CW (Verizon Channels 16 and 516, Xfinity Channels 13 and 811) debuts the new series FREQUENCY, which will prominently feature ham radio and stars Peyton List, Riley Smith and Mekhi Phifer. You can see the trailer here: <https://www.youtube.com/watch?v=BL8Rl2n2C6Y>

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- 10-12- The Man Before Marconi: Dr. Mahlon Loomis



Despite less than perfect weather, many folks braved the drizzle to attend MARC's hamfest. Fortunately, we had no downpours or significant rain but the misty weather persisted for most of the morning. The weather did not seem to keep people away and attendance and our net profit was on par with most recent years. However, I feel we had a serious shortage of labor help this year, compared to past years, but with your help, we are going to improve on that for next year.

We had a record number of doorprizes to give away, thanks to Dieter Hauer's work to obtain some excellent items from Yaesu and Icom. This kept our PA announcer Bob Lees unusually busy on the mic and no doubt, many hamfest attendees left happy with a door prize.

A big thank you to the following MARC members that helped at the hamfest:

Bob Palin N3JIZ, Ned Smith WQ3Z, Jim Goldman W3JG, Todd Tew K1TEW, Bob Lees W3ZQN, Lou Ruh WX3I, Dieter Hauer K3DK, Michael Lebrun N3OMR, Jim Smith K3RTU, Dennis Silage K3DS, Dennis DeMarco KA3QOT, Dick Stewart K3ITH, Jeremy Carlo N2ZLQ, Jim Weiler AB3OM, Josy Malebranche WQ3E, Ron Kenwood W3ZV and Sal Marandola NC3U.

A VERY SPECIAL THANK YOU to Ned Smith WQ3Z and Bob Palin N3JIZ! Ned has been working tirelessly every year at the MARC hamfests since 1981. Wow! That's 36 years! And Bob has been working continually at every MARC hamfest for the past 26 years *AND* both Bob and Ned have worked at every Kimberton Fair since we started our agreement with the fire co over 10 years ago! This year, Ned also jumped in at the last minute to work an additional shift at the fair on Friday evening, when he heard late Friday afternoon on one of our repeaters, that one of our volunteers unexpectedly could not make it! Thank you Bob and Ned for your outstanding dedication and service to the club!

Be sure to read Michael Lebrun's excellent story on page 8, about working at the fair. If you have worked at the fair before, you have probably made some of the same interesting observations that Michael did! And if you have never volunteered to work at the fair, maybe his story will inspire you to sign up to help next year!?

73 de Mike Pilotti, KF3CD



MARC Info

wb3joe@marc-radio.org
<http://www.marc-radio.org>

MEMBERSHIP MEETINGS:

4th Tuesdays of the month at 7:30 PM
(Doors open at 7:00 PM) at The Newtown Public Library,
201 Bishop Hollow Rd. in Newtown Square.

BOARD MEETINGS:

2nd Tuesdays of even months, 7:00 PM
Paoli Hospital, Willistown Meeting Room, Paoli, PA.
Members may attend as observers.

WB3JOE REPEATERS:

(CTCSS or PL = 131.8 hz)
145.130 - / 147.060 + / 147.360 + / 224.420 - / 224.5 -
/ 445.675 - / 444.050 -
The 145.13 and 147.06 2-meter repeaters are linked. The
147.36 MHz, the 224.50 MHz and the 444.050 MHz
repeaters are linked.

WEBMASTER:

Dennis Silage K3DS
k3ds@marc-radio.org
610-353-4829

2-METER NETS:

Club Net, Wednesdays, 8:30 PM

These nets occur on linked 145.13 - / 147.06 + Repeaters

NET MANAGER: Todd Tew, K1TEW

NET CONTROL OP: Todd Tew, K1TEW

DUES:

\$15 Full (licensed Amateurs)
\$5 Associate (unlicensed persons)
Family rate \$5/ham - after first member
pays full dues

NEWSLETTER:

The REMARCS editor is Mike, KF3CD. Do you have something to contribute to REMARCS? Please let Mike know by sending an e-mail to kf3cd@arrl.net.



Saturday, Sept. 10 @ 9 AM
 MARC Breakfast
 Country Squire Diner in Broomall

Tuesday, Sept. 27 @ 7:30 PM
 Club Meeting- Oscilloscopes and Spectral Analysis,
 George Riveria

Saturday, October 8 @ 9 AM
 MARC Breakfast
 Country Squire Diner in Broomall

Tuesday, October 25 @ 6 PM
 MARC Board Meeting
 Newtown Public Library

Tuesday, October 25 @ 7:30 PM
 Home Brew Night
 Rich Russo, KB3VZL

Saturday, November 5
 VE Test Session
 Lower Providence Township Building
 in Eagleville. To register, contact Dick Stewart
 at k3ith@verizon.net

Visit the calendar on the MARC website for details and for
 events beyond September.

HAM RADIO TOMBSTONE
 Charles Jacob Affelder, N3AYU
 August 15, 1915 – January 10, 1994

This interesting tombstone is located in Chesterton Cemetery in
 Chesterton, Indiana. Charles Affelder had been a ham operator
 since 1933 and held several patents for improvements to the
 microphone, memorialized in stone on his marker. Affelder worked
 for KDKA in Pittsburgh and for the Voice of America as an
 engineer. His tombstone is a tribute to his love of radio, to which
 he dedicated so much of his life and career.



Charles in his shack in 1989



Charles with wife Mary in 1949

MARC Board of Directors 2016 – 2017

PRESIDENT
 Jeremy Carlo N2ZLQ
n2zlg@marc-radio.org 917-612-2163

VICE PRESIDENT
 Rich Russo KB3VZL
kb3vzl@marc-radio.org 610-539-2999

SECRETARY
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wx3i@marc-radio.org 610-630-9146

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n3jiz@marc-radio.org 610-687-4587

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k3ds@marc-radio.org 610-353-4829

MEMBERSHIP SERVICES CHAIRMAN
 Chris Ruhl N3GBJ
n3gbj@marc-radio.org 484-494-7572

PUBLIC RELATIONS CHAIRMAN
 Jim Biddle W3DCL
w3dcl@marc-radio.org 610-353-0880

PROGRAM CHAIRMAN
 Richard Russo KB3VZL
kb3vzl@marc-radio.org 610-539-2999

MEMBERS-AT-LARGE
 To 9/30/2016 - Doug Wilkens NE3U
ne3u@marc-radio.org 610-692-6819

To 9/30/2016 - Jim Smith K3RTU
k3rtu@marc-radio.org 610-494-5897

CALLSIGN TRUSTEES
 WB3JOE- Dennis Silage K3DS
k3ds@marc-radio.org 610-353-4829

W3NWA- Dieter Hauer K3DK
k3dk@marc-radio.org 610-489-1920

BOARD MINUTES

August 23, 2016

In attendance: Jeremy Carlo N2ZLQ, Doug Wilkens NE3U, Jim Smith K3RTU, Dennis Silage K3DS, Lou Ruh WX3I, Michael Lebrun N3OMR

- 1) Minutes of June 14, 2016 Board Meeting approved
- 2) Treasurer's Report from Lou
 - a. Current account balance - \$8944.97 (\$2040 from hamfest)
 - b. Paid membership status – 86 members paid
- 3) **Hamfest**
 - a. Mike Pilotti has indicated a desire to step back from Hamfest planning. Tentative names for a replacement committee: Brian Kelly, Todd Tew, Michael Lebrun, Doug Wilkens.
 - b. It is crucial that we have enough help on the day of the Hamfest and the day before. Despite numerous recruitment efforts, we had minimal help this year. Replacing Mike Pilotti with a committee should make it more manageable to plan the event. See names in 3a.
 - c. Picking a date for 2017 Hamfest – settled on Saturday, July 8, 2017.
- 4) **REMARCS Newsletter**
 - a. Mike Pilotti will be stepping down from the newsletter later this year. Ideas for replacements? The preference is to eliminate the newsletter and use Facebook to provide info in its place. We will consider the idea again at Oct. meeting.
- 5) **Club Dues**
 - a. Club dues have been set at \$15 for a very long time. Is it time to consider a dues increase, given increases in operating costs, trends in membership and hamfest income? Board approved an increase to \$20 per member, keeping \$5 per member for additional family members and Associate membership.
- 6) **Storage / Status of Field Day Equipment**
 - a. Need to find a permanent home for FD equipment. Jeff De Konty will store the equipment. Board gave approval for purchase of additional storage bins up to \$100 if necessary.
 - b. Jim Foster, K3JNF, and Jeff DeKonty, AB3WM, would like to conduct an inventory of all Field Day related equipment owned by the club one day this fall. Jeremy Carlo will coordinate this with the board.
- 7) **Elections 2016** – Rich Russo, KB3VZL, has agreed to head the Nominations Committee. No change, notices will be sent via email.
- 8) **Donation to Lower Providence FD** – Board approved \$100 to be paid by Lou Ruh.
- 9) **Reservation of FD site for 2017** – Jeremy will reserve the site for 2017.
- 10) **Possibilities for Outreach activities**
 - a. Arlene from the Newtown Square Library has suggested that we hold some sort of outreach event at the Library. Dennis Silage will conduct a “Marconi Challenge” for kids 10-14 on a Saturday to be determined at the library this fall. Arrangements to be made with library director.
 - b. Michael Lebrun, N3OMR, has suggested that we could have a small-scale outdoor operating activity, perhaps as a “mini Field Day.” Is this something worth considering? Settled on the possibility of holding a picnic at Ridley Creek Park in the fall. Date to be determined.
 - c. Jeff DeKonty, AB3WM, has proposed establishing a Facebook Group for MARC members to remain in touch and socialize with one another. Facebook to replace newsletter if approved at fall meeting. Need to appoint authorized admins. See 4 above.
- 11) **Holiday Party/40th Anniversary**
 - i. Update from Dennis: Date set as Dec. 10, 2016. Dennis will visit Uno management to finalize details.
- 12) **Newtown Square Repeater Upgrade** – working well, new antenna installed, 100W amplifier putting out +/- 75W. Good coverage.
- 13) **Upcoming General Meeting Programs**
 - a. Schedule for 2016
 - i. September George Riveria – Oscilloscopes
 - ii. October – Rich Russo (KB3VZL) Home Brew
 - iii. November – Elections – Need presentation (possibility for WT Jones, TBD)
 - iv. December – Holiday Party / 40th Anniversary
- 14) **Board Meetings** – shall we continue at the Library, or revert to the Paoli Hospital in October? October 11 Board meeting will be at Paoli at 7:00 PM. Discussed possibility of reducing number of meetings to quarterly at Paoli. Dennis Silage will contact Jim Biddle to determine contact to renew our reservation for the room.
- 15) **Old Business:** none
- 16) **New Business:** none



A big thank you to the following MARC members that generously gave their time to collect parking donations at The Kimberton Fair! Special thanks to Dieter Hauer and Ned Smith, who both worked 2 shifts!

Allan Glaser AB3FN, Bob Palin N3JIZ, Dieter Hauer K3DK, Jim Smith K3RTU, Michael Lebrun N3OMR, Doug Wilkens NE3U, Jim Foster W3JNF, Jim Smith K3RTU, Ned Smith WQ3Z, Jeff DeKonty AB3WM, Karen Bellamy KC3ACM, Ron Bellamy KC3ACL and Jim Upson K3JRU.

VE Testing

July 9, 2016 MARC Hamfest VE Test Session results:

Technician earned = 3, General earned = 2, Extra earned = 0, Passed an element but did not upgrade = 0

Did not pass an element = 2, Total candidates served = 7, Total elements administered = 8

The following successful candidates gave permission for their names to be published in REMARCS:

Steven Thompson	No Call	Wayne, PA	Technician
Matthew Matosky	No Call	Douglassville, PA	Technician
William King	KB3PHM	Jeffersonville, PA	General
David Wertz	No Call	Tyrone, PA	General
Merrick Hall	No Call	Norristown, PA	Technician

The following 10 VE's took part in the hamfest test session: Dick K3ITH, Bob W3ZQN, Dennis K3DS, Jeremy N2ZLQ, Jim AB3OM, Josy WQ3E, Michael N3OMR, Ron W3ZV, Sal NC3U, and Todd K1TEW.

August 6, 2016 MARC VE Test Session results, held at the Lower Providence Township Building in Eagleville

Technician earned = 3, General earned = 0, Extra earned = 0, Passed an element but did not upgrade = 0, Did not pass an element = 1, Total candidates served = 4, Total elements administered = 5

The following successful candidates gave permission for their names to be published in REMARCS:

Mason Hall- No Call- Norristown, PA- Technician

Bill Braak- No Call- East Norriton, PA- Technician

Gnana Sunil- No Call- Norristown, PA- Technician

The following 8 VE's took part in this session: Dick K3ITH, Doug NE3U, Jim AB3OM, Josy WQ3E, Ned Smith WQ3Z, Ron W3ZV, Jeff AB3WM, and Todd K1TEW. Our next MARC VE Test Session will be held on Saturday, November 5, 2016 at the Lower Providence Township Building in Eagleville, PA.

Thank you and 73,

Dick Stewart, K3ITH
MARC VE Liaison
k3ith@verizon.net

Amateur Adventures by Kevin Perrot, K3NTD

Hirohito arrives in Williamsburg VA. 10-1-75

At the time Emperor Hirohito arrived in Williamsburg VA, I was in contact with Jun JA2BJW in Shizuoka, Japan, south of Tokyo on the Pacific Ocean. This area has been continually inhabited since 400 BC, enjoying a mild somewhat tropical climate where it seldom freezes. This prefecture is home to snow covered, Mount Fuji at 3,776 meter (12,395'). It is an extinct volcano. Ironically, his town's name translates to 'calm hills', which were anything but calm during the eruptions of long ago.

It was a coincidence that I actually was having a QSO with a Japanese station at the exact time the Emperor Hirohito was visiting Williamsburg, VA about 300 miles south of me. Radio conditions were not the best but we made a go of it. To commemorate our QSO I sent an original copy of this front page story in the New York Times to Jun, along with my QSL card. A fortnight later I received a letter from Jun with his QSL card. He was very impressed with his own copy of the New York Times describing this historical event. He enlarged on the visit indicating that his Emperor met with General MacArthur's widow. In turn he sent me a copy of the Mainichi Weekly describing the event. He also thanked me for a new county in his hunt for the USCA award. He was up to 141 counties at that time. This was truly a historic amateur adventure.

73 Kevin K3NTD

ACCIDENT REPORT

This is an oldie but goodie. A ham was injured while working on his tower and he had to fill out an insurance claim. The insurance company contacted him and asked for more information. This was his response:

"I am writing in response to your request for additional information, for block number 3 of the accident reporting form. I put 'poor planning' as the cause of my accident. You said in your letter that I should explain more fully and I trust the following detail will be sufficient. I am an amateur radio operator and on the day of the accident, I was working alone on the top section of my new 80-foot tower. When I had completed my work, I discovered that I had, over the course of several trips up the tower, brought up about 300 pounds of tools and spare hardware. Rather than carry the now unneeded tools and material down by hand, I decided to lower the items down in a small barrel by using the pulley attached to the gin pole at the top of the tower. Securing the rope at ground level, I went to the top of the tower and loaded the tools and material into the barrel. Then I went back to the ground and untied the rope, holding it tightly to ensure a slow decent of the 300 pounds of tools."

"You will note in block number 11 of the accident reporting form that I weigh only 155 pounds. Due to my surprise of being jerked off the ground so suddenly, I lost my presence of mind and forgot to let go of the rope. Needless to say, I proceeded at a rather rapid rate of speed up the side of the tower. In the vicinity of the 40-foot level, I met the barrel coming down. This explains my fractured skull and broken collarbone. Slowed only slightly, I continued my rapid ascent, not stopping until the fingers of my right hand were two knuckles deep into the pulley. Fortunately, by this time, I had regained my presence of mind and was able to hold onto the rope in spite of my pain. At approximately the same time, however, the barrel of tools hit the ground and the bottom fell out of the barrel."

"Devoid of the weight of the tools, the barrel now weighed approximately 20 pounds. I refer you again to my weight in block number 11. As you might imagine, I began a rapid descent down the side of the tower. In the vicinity of the 40-foot level, I met the barrel coming up. This accounts for the two fractured ankles, and the lacerations of my legs and lower body. The encounter with the barrel slowed me enough to lessen my injuries when I fell onto the pile of tools and, fortunately, only three vertebrae were cracked. I am sorry to report, however, that as I lay there on the tools, in pain, unable to stand and watching the empty barrel 80 feet above me, I again lost my presence of mind. I let go of the rope..."

How I Became a Ham by Andrew Pavlin, KA2DDO

Andrew KA2DDO started playing with electronics when he was very young, spending his allowance at the local hardware store for batteries and wire and what-not, upgrading to a Radio Shack 50-in-1 electronics kit soon afterwards. His stepfather, a union electrician, was all in favor of improving his stepson's learning, so when he took a B&H home-study electronics course, the son ended up doing most of the assembly and lab work, up to building a Heathkit GR-2000 color TV set.

When looking at colleges, KA2DDO's favorite choice had both an amateur radio club and a broadcast FM station on campus, so he signed up for an introductory ham course taught by newspaper columnist WA2PUU (yes, the Syracuse Post-Standard newspaper actually had a ham radio column among its features) and earned his Novice license in 1978. The summer of 1979, in preparation to head off to college, he sat before the FCC and upgraded to Technician and earned his 1st Class Commercial Radiotelephone Operator's license as well. Alas, KA2DDO never got to spend any time at the college ham club, since they were located at the very top of the hillside the college was built along (great for radio, lousy for his poor aching feet), so his ham license sat idle while he worked at the broadcast station, and remained that way (due to the old FCC regs saying Technicians could only work VHF and up) until 1993, when he changed jobs and moved to Ithaca, NY. There, he joined the Tompkins County Amateur Radio Club, acquired a HTX-202 2-meter HT and a used Heath HW24 mobile rig, discovered the joy of working public service events, and then took the bigger step of becoming a volunteer firefighter and EMT. He continued in the fire service with amateur radio as a secondary hobby through two more job moves that brought him to Pennsylvania.

After bouncing through a couple of rentals that did not allow ham radio antennas, he was living in Valley Forge Towers on the 13th floor when 9/11 occurred; he said "the *** with the lease restrictions", dug his radios out of storage, and started working from the balcony with mag-mount antennas that evening. After finally purchasing his home in Berwyn, he put up some permanent VHF/UHF antennas, joined MARC, and upgraded to Extra class once the code requirement was dropped. Upon finding out that it was too far to reach the fire station in time to respond as a volunteer (it's very embarrassing to get to the station when the fire trucks are coming back), he joined the Chester County ARES/RACES organization as a way to continue being an emergency responder.

KA2DDO's present ham equipment is spread all over the place; he doesn't have a "shack" per se, but works from wherever he can set up: in the house, in the car, or on field operations like Field Day and the MS 150. His current rigs include a Kenwood TM-D710 and a TH-D72A (the latter actually won as a door prize at the 2011 ARRL/TAPR Digital Communications Conference), the old Heath HW24, an Alinco DR135 dedicated to APRS, an Icom IC-7100, and his original Novice rig of a Heathkit SB303 and SB401 pair. He works public service and ARES/RACES events with MARC and CCAR, and is the author of the APRS program YAAC ("Yet Another APRS Client").



Andrew operating Mobile APRS using his YAAC Program

HAMFEST 2016





**My Day (Evening) at the Kimberton Fair
Michael Lebrun, N3OMR**

On July 29, I volunteered to help at the Kimberton Fair. I arrived at approximately 4:30 PM to give me time to get a cold beverage in anticipation of my 5:00 PM scheduled start. Doug Wilkens was already there and we were soon joined by Dieter Hauer and Ned Smith. This was my first time doing this and I will do it again. The entire experience was a wonderful study in human psychology and behavior.

Our assignment was a simple one. We formed a line down the access drive and collected donations in buckets. The spacing between us allowed for collecting from multiple cars simultaneously and for quick clearance of traffic to the parking areas. Soon, however, we observed that traffic was backing up in both directions on 113 and the fire police decided to open a second lane for collection. We now found ourselves dispersed and collecting along both sides of the access drive and managed to keep traffic moving relatively quickly. But that wasn't what I enjoyed the most. The people driving in provided the greatest entertainment and lesson in human nature. Quite simply, donations were whatever folks wanted to throw in the bucket. Soon, I observed a general pattern. Mind you, this did not apply to most but there was a significant degree of consistency as follows:

- People who donated \$1 often made sure the bill was folded very small, so as to hide its denomination.
- People who gave \$5 and especially \$20 made sure the bill was nicely open so as to expose its denomination.
- People who donated coins made sure to keep a clenched fist so that it would be difficult to see how much they were donating as the coins tumbled in the bucket and promptly hid under the bills. I did observe that someone dropped in only a penny. Hard to believe!
- Some folks asked how much parking was and, when told they could decide whatever they wanted to donate, said thank you, rolled up their window, and went to park without giving so much as a penny.
- There were the folks who claimed to have no money. They must have thought I was born yesterday. You come to a fair to ride and eat and you did not bring any money? Sure, drive on in, parking is on the right.
- Last, there were those who simply kept their windows up, refrained from making eye contact, and drove right past me.

Despite the above remarks, I was astounded by the generosity of most. The buckets were full again just moments after their content was collected by the fire department. We must have collected several thousand dollars.

We were so busy that it was difficult to find time for a break but we took turns and it all worked out. We had been given tickets with which to redeem meals and drinks. When my turn came, since I am on a diet (yeah, right), I went for two hot dogs, a meatball sandwich, and two cokes in the course of my stay.

It was fun! I hope next year we can have more of our club members join us. Despite having my left arm/shoulder in a sling for a good portion of the night, I managed to get through until about 9:15 PM. I wish I could have stayed for the 10 PM fireworks which I believe were postponed from Thursday because of rain but that was not to be. All the running and activity of the evening finally took their toll on my new shoulder and, with permission from the fair's officials, I returned home.

I'll be there again next year!

73 de Michael Lebrun, N3OMR

The Man Before Marconi

A Biography of Dr. Mahlon Loomis

BY JOSEPH R. LEBO,* W2OEU

THE story of a successful failure is embodied in the life of Dr. Mahlon Loomis who was born in Fulton County, New York, in 1826. His temporal span of sixty years marks an epoch in a series of events each building on the other so logically that they could interestingly be made into a movie "natural."

Little is known about the early life of Dr. Loomis save that in his youth the family moved to Virginia. One fact stands out. People said that as a youngster, "He was always inventin' things." The compliment was confirmed in later years.

In September, 1848, Loomis traveled to Cleveland to study dentistry under a local practitioner. The following winter he taught school in Cuyahoga County, Ohio, for sixty-five dollars, board and washing. By the summer of 1849 he knew enough dentistry to tour the neighboring counties and earn fifty dollars per month, a considerable sum near the half mark of the nineteenth century. Later he returned to Virginia and continued his practice.

The inventing virus of his early days could not be arrested. He patented a mineral-plate (kaolin) process for making artificial teeth in 1854. He also received a patent for his invention in England.

Lincoln was already in the White House when Mahlon Loomis turned his attention to electricity. He was trying to force the growth of plants by burying metal plates connected to batteries. Loomis wanted to dispense with batteries. He reasoned that electrical charges—static electricity in the air—might be utilized. By means of kites carrying metal wires, he observed that electrical charges could be obtained from the atmosphere. The attempt to use this natural source of electricity to replace batteries in order to make plants grow failed. But the experiment had borne fruit.

Loomis had come upon a startling discovery! Whenever a kite wire was sent aloft in one region, a flow of electricity to ground could be detected in another kite wire some distance away! And

* 43 W. 84 St., New York 24, N. Y.

the galvanometer proved it. Instantly the full meaning of his discovery and its implications captured the imagination of the New York-born dentist. He quickly discerned that telegraphy without wires was a distinct possibility.

But this kindly man was without adequate funds to develop fully the secret revealed to him by Nature. Loomis sought to interest people in his invention to acquire the necessary financial

support. But imagine trying to convince people then that air could be a carrier for electrical impulses when such persons had been only recently converted, with difficulty, to the wired telegraph! People were incredulous and the inventor became the butt of ridicule and coarse humor.

Skeptics had to be convinced. The patient, tireless dentist managed to scrape together enough money to conduct an experiment. In 1868 (or 1866) Loomis, in the presence of scientists and others, communicated between two mountain spurs in the Blue Ridges of West Virginia, some eighteen miles apart. On each of the peaks he set up kites attached to wires and connected to the ground through galvanometers. The operators of each party were provided with telescopes so that each could sight the other's station. Loomis produced electrical discharges when he touched his kite wire to the ground, but had no means of detecting them except for the galvanometer at the far point which deflected to indicate a passage of current. He had sent out true radio waves and it was the first time that such signals had been transmitted over a distance without wires!

Scientists began to interest themselves in the field as yet unnamed radio. They confirmed the report of Loomis and looked upon his work with mixed interest. Some of them may have known that a Scotchman, James Bowman Lindsay, between 1844 and 1853 sent wireless messages short distances with the aid of batteries. Also that Professor Joseph Henry in 1842 had demonstrated the flow of electrical currents. Hence to them Loomis was confirming what they already knew. But the discoveries of Dr. Mahlon Loomis were



From "The Descendants of Joseph Loomis in America"

DR. MAHLON LOOMIS
1826-1886

independently made and without knowledge of either man or his works.

The mountain experiment confirmed the full implications of his discovery. Now he realized and hoped that telegraphy without wires could be made a quick, cheap means of communication without the necessity of constantly repairing wires downed by storms or marauding Indians. Mahlon Loomis also spoke of utilizing this new means of telegraphy as a safety device for inter-train communication.

But this newfangled idea brought forth no financial angels. In desperation Dr. Loomis turned to Congress for \$50,000 in order to continue further experimentation. It was his plan to go to two high points in the Rocky Mountains and establish stations between Mt. Hood and Mt. Shasta.

In January, 1869, Senator Sumner of Massachusetts introduced a bill in answer to Loomis's petition for financial aid. The petitioner had hoped that the bill would be sent to the Committee on Appropriations; instead it was relegated to the Committee on Patents. No action was forthcoming at that session of Congress.

The bill introduced by the Massachusetts senator roused the New York and Massachusetts press to a high pitch of skepticism and disapproval. However, the newspapers in the nation's capital were on the whole friendly to Loomis. One journal pleaded, ". . . We hope that American pride will not suffer it [Loomis's discovery] to pass out of our hands, and the credit and honor be reaped by others." How prophetic!

The American discoverer of wireless a few months later traveled to New York where he was able to interest favorably a capitalist named Austin Day and others in supporting his venture to the Rocky Mountains. He was elated at this promise of financial relief. Plans were taking form to go westward when a group of speculators in New York succeeded in advancing the price of gold, thereby creating a disastrous panic on September 24, 1869. The day became historically known as Black Friday. This debacle involved Loomis's patrons in losses so serious they were compelled to withdraw their promise of financial aid. It was also a dark day for the hopeful inventor. He returned to Washington to resume practice. But not for one moment had the persevering inventor abandoned his great enterprise.

The Senate had remained indifferent to the inventor's appeal for funds. All that had transpired in that august body with regard to his petition was its transference to the Committee on Appropriations in March, 1870, following a request by Senator Pomeroy.

Dr. Loomis rightly concluded that if Congress would not advance money for further experimentation, it would certainly grant him a charter to continue work and also to sell stock. So in July, 1870, Congressman Bingham introduced H.R.

• This inspiring article on Dr. Mahlon Loomis is based on research done by W2OEU while a GI student at Columbia University. Radio amateurs, pioneers in their own right, will be quick to recognize and appreciate the early work of this overlooked but noble American.

2390 to incorporate the Loomis Aerial Telegraph Company with the right to capitalize not in excess of two million dollars. But this bill hardly fared better than the Senate's disinclination to comply with the request initiated by Senator Sumner. America was then going through the period that followed the Civil War and was primarily concerned with reconstruction. Imagine Loomis watching the spectacle of his cherished dream roving from committee to committee.

Just as with the atomic bomb, the "mad dreamer" was called upon to show that his invention worked on water too. About 1870 Loomis communicated between two ships two miles apart on Chesapeake Bay. This experiment was rewarded with jeers, ridicule and haughty laughter by those who were determined to remain unconvinced. But the stalwart man maintained his composure and was even more convinced that his discovery was highly practicable.

By 1871 Congress still had taken no action to grant Loomis a charter of incorporation. But he still sought financial aid. A group of Chicago capitalists interested themselves in the doctor's work and communicated that information to him. Dr. Loomis hurried to the Windy City. Yes, the Chicago financiers agreed to underwrite for \$20,000 the venture to the Rocky Mountains in order that Loomis could erect the stations, pay his workers, and maintain his family while away. Plans were immediately undertaken to make the project a reality. Suddenly on October 8, 1871, the great Chicago Fire unleashed its fury. The backers of Dr. Loomis were burned out. Brokenhearted, he returned to Washington.

Finally in May, 1872, the bill to incorporate the Loomis Aerial Telegraph Company reached the floor of the House of Representatives. Many congressmen were either indifferent to the proposal or amused by the thought of granting a charter to a "crazy inventor" with a still crazier scheme.

Congressman Conger of Michigan rose to champion Loomis and the bill. In a flourish of masterful oratory, only too prophetic, he cajoled and shamed the House membership into action. The House reluctantly voted and the bill was defeated because of the absence of a quorum, although a majority favored it. However, the bill automatically came up on the calendar the next day and was passed.

Loomis hoped that the Senate would act before the summer adjournment. But fate decreed

otherwise. Only one joyous note entered into the long, waiting weeks. In July, 1872, the first radio patent issued in the United States, bearing number 129,971 and titled "Improvement in Telegraphing," was granted to Mahlon Loomis of Washington, D. C. Hardly a soul recognized or appreciated the contents of that piece of paper.

In January, 1873, the Senate undertook to consider the bill to incorporate the Loomis Aerial Telegraph Company. Skeptical members with due dignity saw little merit in granting the charter to promote a wild idea still in an experimental stage.

"States' rights" argument blocked the fondly-cherished project during the first day's consideration. It seemed a staggering blow to Loomis who reeled but did not fall. Senator Anthony, in support of the Loomis bill, advised the Senate to follow an American poet's advice by quoting:

"But sneer not thou at those who rise to loftier illusions."
"Great truths are oft," the Sage replies, "foreshadowed by delusions."

The next day, as if some miraculous transformation had taken place, all objections of the previous day were suddenly withdrawn. At the conclusion of the roll call the vote was yeas 29, nays 12, absent 33. President Grant signed the bill.

Dr. Loomis, now armed with a patent and a Congressional charter, sought investors. But capital was not forthcoming. Every hope and aspiration seemed to turn into a daily repetition of Black Friday. Dark clouds were gathering over the nation. Undaunted, Loomis strove to make the charter an effective instrument.

The year 1873 looms ominous in American financial history. Debtors struggled desperately to obtain money. The pandemonium which followed is indescribable. At the end of 12 months 89 railroads had defaulted on bonds; there were more than 5000 commercial failures.

Can you picture Dr. Loomis holding the patent in one hand and the charter in the other, while all around him the financial structure was collapsing? The frenzy of speculation was reaping doom everywhere.

Loomis was steeped in gloom but not defeated. People would not buy stock. The charter for which he had valiantly struggled remained just a piece of paper.

Almost to the end of his days the mind of Mahlon Loomis remained active and creative. A patent for a convertible valise was issued to him in May, 1881. In November of the same year he received another patent for a cuff-and-collar fastening. A fourth patent for an electrical-thermostat improvement was granted to him in March, 1886.

The prophet without honor spent his declining years on a farm. Before Dr. Loomis passed away in October, 1886, this man of sanguine temperament declared, "I know that I am by some, even

many, regarded as a crank — by some perhaps as a fool — for allowing myself, to the sacrifice of material advantages, to abandon a lucrative profession and pursue this *ignis fatuus*, but I know that I am right, and if the present generation live long enough their opinions will be changed — and their wonder will be that they did not perceive it before. I shall never see it perfected — but it will be, and others will have the honor of the discovery."

Perhaps Loomis rather than Marconi would have been known as the father of radio had he the coherer detector which was brought out by Professor Edward Branley of the Catholic University of Paris in 1890.

Dr. Mahlon Loomis deserves a place in the hearts and minds of all Americans. Some day, some place, a fitting monument will be erected to him and no better tribute than the words of his brother, Judge Loomis, should be appropriately inscribed thereon:

"... He wanted mankind to enjoy the fruits of his discoveries, maintaining that it would be the means of establishing a brotherhood among the nations and races that nothing else could accomplish; and would give to the children of men grander and truer conceptions of Deity, than now prevailed."

HAMFEST CALENDAR

CALIFORNIA — You have a "sked" with W6OT at 12 noon on Saturday, August 7th. The Oakland Radio Club (W6OT) is holding its annual get-together on this date, which will consist of a Field Day at Camp Padre, Charles Lee Tilden Park, in the Oakland-Berkeley hills, and a banquet in the evening at the Scottish Rite Temple on Lake Merritt, Oakland. There'll be games, swimming, movies and numerous special doings for XYs, Ys and Jr. Ops. So bring the family, a picnic lunch, and have the time of your life during the afternoon, a good feed at the banquet in the evening. Registration starts at Tilden Park at 10 a.m., and is \$3.65 per adult, \$1.75 per child, including banquet. Pre-registration tickets are available from club members, radio-supply houses, E. R. Leach, W6OLL, 15808 Via Alamitos, San Lorenzo, Calif., or D. A. Wright, 63 Chelton Lane, Oakland 11, Calif.

INDIANA — The Indiana Radio Club Council is sponsoring a Ham Picnic at Mounds State Park, Anderson, Indiana, on Sunday, August 8th. Festivities start at 10 a.m. For further information write Ted Clifton, W9SWH, Route 1, Coldwater Road, Fort Wayne 8, Indiana.

PENNA. — The South Hills Brass Pounders & Modulators of Pittsburgh will hamfest at Spreading Oaks Grove, South Park, on Sunday, August 1st, starting at 1:00 p.m. Registration is \$2.00 and includes a good box lunch. For advance information contact Secy. Charles Schuler, W3MHQ, 2944 Spring St., Pittsburgh 10, Penna.

Strays

Physician and dentist radio amateurs interested in the formation of a national social organization are requested to contact W4GJW, Arthur W. Woods, M.D., 411 Woodward Bldg., Birmingham, Ala. A roster of calls and organizational notes will be published in GE XRay News.