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Radio-Internet: Chip Keister, M.D., N5RTF
MediShare: Arnold Kalan, M.D., WB6OJB
News Editor: Warren Brown, M.D., KD4GUA



A non-profit Corporation, founded in 1965, privately supported for the public good and dedicated to the advancement of Medicine through Amateur Radio.

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P.O. Box 127, Indian Rocks Beach, FL., 33785-0127

THE WORLD IS QUIETLY GETTING BETTER

FOR MOST OF HISTORY HUMANITY LIVED ON THE BRINK OF STARVATION. 40 YEARS AGO NEARLY HALF THE WORLD LIVED IN "EXTREME POVERTY," TODAY THAT NUMBER HAS DROPPED TO 8.6%

The world got better last year and is getting even better this year. Poverty around the world is plummeting; half the world is now middle class or rich; and illiteracy, disease and deadly violence are receding.

For most of recorded history humanity lived on the brink of starvation. As recently as 1980 nearly half the world lived in "extreme poverty," that is, consuming less than the basic necessities which the World Bank values at \$1.90 a day in 2011 dollars, adjusted from the differing costs of goods and services between countries.

"Our World in Data," a website that tracks the evolution of human welfare over the past few centuries reports how much better life has become in just the past few decades. Child mortality, illiteracy and deaths from violence has all plummeted and life expectancy has gone up.

Are we getting spoiled?



April 27, 2019, Saturday, St. Petersburg, FL...The MARCO group taken on the roof of the Salvador Dali Museum. This museum is different from any other you may have visited. It allows you to step inside a painting wearing a Virtual Reality headset...

LATE BREAKING NEWS

MARCO President Jay Garlitz reports our QSO totals are in from the April 28-May 6th DXpedition to the Caribbean on and off the Carnival liner Miracle....V31D, (Belize), 115; HQ9D (Roatan Island, Honduras) 122; ZF2D (Grand Cayman Island), 315—Best of all, a great time was had by all.

No on-ship operation were performed other than 2m HT use. The bonding experience was invaluable and the publicity generated could be a boom to membership growth. Tampa time was used for arrivals and departures in each port and it was hustle all the way except between ports.

Belize HQ9D was a short operation at a lodge 35 minutes from port operating less than 3 hours.

NEED CATEGORY I CME?

Go to www.mpmcme.org enter; go to "medical surgical archives" and a list will pop up...pick the lecture you want (includes mandatory ones) & when completed take the simple test and submit it to "Lee" for accreditation.

(Txn to Morton Plant Hospital, Clearwater, Florida, an associate of the University of South Florida medical school.)

The world first eradicated smallpox in 1980. It could soon eradicate a few more diseases: 2016 saw just 46 new cases of paralytic polio recorded in 2012, and there were just 25 new infections of Guinea worm, a painful and disabling parasite infection.

Much of the decline in poverty happened in China, where per-person income has risen 25-fold since China's then leader Deng Xisoping inaugurated its economic reforms in 1978. India's economy is now growing faster than China's.

Allow the growth to continue long enough, and something else momentous happens. As of September 2018, half the world—3.8 billion—is middle class or rich. Middle class is defined as consuming between \$11 and \$110 dollars a day in 2011 dollars adjusted for varying costs between countries.

WRITE TO US!
 We welcome your comments.
 Mail to Marco, P.O. Box 127,
 Indian Rocks, FL,
 33785. Email to
 warren.brown1924@gmail.com
 Letters may be edited for
 brevity & clarity.

MARCO NET SCHEDULE

<u>DAY</u>	<u>EASTERN</u>	<u>FREQ.</u>	<u>NET CONTROLS</u>
Any Day	On the Hour	14.342	Hailing Frequency
Sunday	10:30 a.m. Eastern	14.140	CW Net, Chip, N5RTF
Sunday	11 a.m. Eastern	14.342	Warren, KD4GUA
	(Alternate <u>confidential</u> Grand Rounds frequency— on or about 14.344 or as announced on the air.)		

**MARCO'S CW
 NET IS NOW
 CALLED THE
 "Bob Morgan
 Memorial
 Net"**
 Sundays, 10:30 am,
 14.140 MHz

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MARCO Grand Rounds is held Sunday at 11 a.m. Eastern Time; 10 a.m. Central; 9 a.m. Mountain, and 8 a.m. Pacific Coast time on 14.342. You qualify for one hour Category II CME credit with your check-in.

households devote ever more of their incomes to discretionary items such as motorcycles, refrigerators, movies or vacations. This all leads to a big jump in happiness and much grater demands on governments to deliver affordable housing, education, health care and safety.

If the world is getting so much better, why dose everyone seem so miserable? Perhaps because in the U.S., life is improving more slowly than in poorer counties and in some places it is getting worse. Yet, for most Americans, life is getting better. Median incomes are rising, average health is improving and violent crime, divorce and teen pregnancies are trending down.

Perhaps it also feels irresponsible to celebrate the many ways the world is quietly getting better because it distracts from the fight against things that are loudly getting worse; polarized and authoritarian politics, deadly opioids, nuclear proliferation, and changing climate—a consequence of all those new middle-class entrants burning fossil fuels.

Yet, obsessing over such perils is how we'll likely solve them. Take climate change: Public concern over this is rising in the wake of wildfires and floods...wait and see.

The problems the world faces are far smaller than, those it has already overcome.

(The above are excerpts from Greg Ip's fine article which appeared in the Jan. 3, 2019 edition of the Wall Street Journal.)

VIEWPOINT of A 26-YEAR OLD.

We live in the most privileged time in the most prosperous nation and we've become completely blind to it. We are so well off here that our poverty line begins 31 times above the global average. Virtually no one in the U.S. is considered poor by global standards. Yet, in a time where we can order a product off Amazon with one click and have it at our doorstep the next day, we are unappreciative, unsatisfied and ungrateful.

The USA has lifted more people out of abject poverty, spread more freedom and democracy, and has created more innovation in technology and medicine than any other nation in human history. Not only that but our citizens continually break world records with charitable donations, We have the strongest purchasing power on earth, and we encompass 25% of the world's GDP. However, these universal truths don't seem to matter.

We have people who are dying to get into our country. People around the world destitute and truly impoverished. Yet we have a young generation convinced they've never seen prosperity. Why? The answer is my generation has ONLY seen prosperity. We have no contrast. We didn't live in the great depression, or live through two world wars, or see the rise and fall of communism. We didn't know what it's like not to live without the internet, without cars without smartphones. We don't have a lack of prosperity problem. We have an ungratefulness problem, and its spreading.

My generation is becoming the largest adult bloc in the country. We have a future to continue to propel ourselves forward. Or, we can regress into the past only to have to repeat the same hurdles again simply because we have limited knowledge of those obstructions. We must study the past to understand the future—that is history.

(Excerpts from "Profound thoughts from an insightful millennial," by Alyssa Ahlgren, (Age 26).



Dr. Etsu Takada JA0BXP and Hiroko at the 2019 MARCO Annual meeting in Tampa on April 26th. Doctor Takada has been a member of MARCO for over 50 years and is one of four Japanese members of MARCO.

SOLAR STORMS

It's happened before and it could happen again. Roughly 2,700 years ago, an unusually powerful solar storm swept past the Earth, Though it had little to no impact on people in that long ago, pre-industrial and pre-tech Earth, such an event today would cause widespread power outages along with potentially disastrous communication and navigation failures.

The solar storm, which was in 660 B.C. was about 10 times stronger than any known event in the past 70 years. A solar storm of that strength would be a threat to modern society in terms of communication and navigation systems, space technologies and commercial aircraft operations. Scientists studied ancient ice in Greenland to uncover clues about previous solar storms. Looking at ice cores that dated as far back as 100,000 years, researchers found radioactive isotopes that indicted a very powerful solar storm 2,700 years ago. If that solar storm had occurred today, it could have had severe effects.

Two examples of recent severe solar storms that caused extensive power outages took place in Quebec in 1989 and Malmo, Sweden in 2003. Solar storms are made up of high energy particles unleashed from the sun by explosions on the stars surface. These types of storms are part of what's known as space weather, when energy that blasts off from the sun interacts with the Earth's atmosphere and geomagnetic field. Separate but related space phenomena are known as geomagnetic storms. The only visible effect down here on Earth from space weather is typically the aurora borealis, or northern lights, across Canada and the northern U.S.

When will the next storm occur? Impossible to tell at this time...perhaps with the new solar orbiting satellites we will be able to be pre-warned so as to shut down sensitive grids, satellites etc.

MINUTES OF THE 2019 MARCO MEETING 3

TAMPA, FLORIDA, APRIL 27TH.

Attendees: Bruce Small, KM2L, Etsuo Takada JA0BXP, Jeff Wolf K6JW, Chip Keister N5RTF, Warren Brown KD4GUA, Joe Breault WB2MXJ, Chuck Lind N8CL, Bob Conder K4RLC, Mike McGirt K9AJ, Barry Rabin, WB1FFI, Keith Adams N3IM, Mary Favaro AE4BX, Jay Garlitz AA4FL

Meeting called to order by AA4FL at 9:29 am.

STANDING REPORTS:

President's report AA4FL: Moment of silence for those who have been lost in the past year.

K9AJ gave report on attending Rich's K9QA funeral. Update on the optional DX cruise to follow this business meeting.

Secretary report WB2MXJ: 135 dues paying members, 10 honorary members, 79 dues expired 1-3.5 years, 12 expressed interest in joining.

Treasurer's report N8CL: Converted to the Bank of America account from Wells Fargo. The accounts are not interest bearing. AA4FL clarified that MediShare is not a separate 501c3, it is part of MARCO, and inherits MARCO's 501c3. There is a philanthropy subaccount set up as a separate checking account (MediShare, scholarships, other charitable projects where donations are deposited) and an administration subaccount (deposit dues for administrative costs). Signatories at treasurer, secretary & president.

Re: philanthropy subaccount: Recall that in a prior year the \$18,000 for the sale of the Medishare url was sent to the philanthropy account. 4/1/18 opening balance of \$21,339.04. Donations (\$315.00) minus service fees (\$82.78) and minor adjustments in transfer from Wells Fargo's old account leaves a 3/31/19 closing balance of \$21,766.26.

Re: administrative subaccount: 4/1/18 opening balance of \$4,655.18. After transfer from old Wells Fargo account, dues income (\$2,527.94) minor adjustments, QST Ad payment (\$524.50), Web hosting payment (\$244.18) and Aether potage payment (\$700.00) the 3/31/19 balance is \$6,779.19. Note that April annual meeting not yet charged are typically in the \$2,500-\$3,000 range. The current annual expenses exceed dues income.

MOTION: Distribute philanthropy funds as follows: \$10,000 for scholarships (\$1,000 per year), \$6,000 for MediShare, \$5,766.26 that will be available for other projects. Motion was made by AE4BX, seconded by N3IM, and it was approved.

Philanthropy/MediShare report AA4FL: donations limited—see above treasurer report. Donations may at times be specified for scholarships or to MediShare or are sometimes directed to specific projects. Generally, donations should be sent to secretary, or new donation button (but that has to be redirected to projects account, not administrative account). Paypal payment dues invoices were asked about, discussed, and how the updates occur was reviewed by WB2MXJ. Ideally members can pay dues via Paypal when the annual dues invoices are issued each January. If paying by check, clarification asked for about best method of check payment.

MOTION: Checks should be sent to the secretary—motioned by K6JW seconded by N3IM and approved. Secretary will record and update the membership and PayPal dues databases, and then forward checks to the treasurer.

Discussed: Amazon button on website to get monies to our funds when members use to buy things from Amazon they are buying anyway; also advertising on the website as a potential source of funds. AA4FL will ask KT8E about those possibilities.

Website report by Dave KT8E via email: For my webmaster report, I'm happy to announce the addition of a PayPal DONATE button for MediShare on both the MARCO home page and the MediShare page (snapshot below): I've tested it by making a MediShare contribution in memory of Dr. Lochner.

Aether & Grand Rounds report KD4GUA: NL costs \$250 normally per issue to publish but the printer is donating it, so it is free, just postage costs now. Big thank-you to the printer will be sent by the president. CME discussed as explained in the NL. President will develop a publicity and GR committee (initial members WB9EDP, N5AN, KM2L) to figure out GR alternate week GRs speaker. Warren suggests ragchew 15 minutes before the GR so spot is not used by others—will put in newsletter. N3IM stressed importance of hard copy NL for hamfests. Blast email to all when the NL comes out was recommended, but how to do this easily may be an issue—



WB2MSJ will discuss with NT8E.

OLD BUSINESS: Scholarship update—\$18,000 inflow from MediShare url sale report: \$2,000 already sent to scholarships, time to do the \$2,000 again. We sent 2 organizations \$1,000 each in the past for two 2 year funding of a MARCO scholarship for ham radio operators interested in a health profession: Thru ARRL \$500, ARRL decides who based on MARCO criteria.

MOTION: K6JW motion, seconded by AE4BX and approved to renew the \$1,000 annual funding to each of the above organizations for these scholarships (total of \$2,000/2 year period) when it becomes due for renewal until the original \$10,000 appropriated for this, as detailed in the motion under the treasurer's report is used up. As \$2,000 was spent in the past 2 years, this provides funding for the next 8 years.

NEW BUSINESS: There have been 2 donations to a K9QA (the late Dr. Richard Lochner) scholarship to a deserving student in his local area. Should MARCO add \$500 to this fund in his memory?

MOTION: Motion by KD4GUA seconded by AE4BX, and approved for board to donate \$500 one time in towards the scholarship in his memory in his local area. This comes out of the above \$5766 for special projects noted above in the treasurer's report. Discussed: Dues membership structure in the bylaws and potential growth. Members aging. Many new members will be ancillary personnel in health care. Shrinking membership numbers. Dues not enough to cover costs of annual business meeting plus other recurring costs. Pros and cons of multiple different membership approaches discussed without clear consensus. One suggestion: Go to \$35/year or \$100 3 years for full members and sustaining members for \$75/yr., \$200/3 years. Query: will this develop a class structure based on economic stratification? Query: better to have just Regular (full) & Associate (inc student) members. Discussion of pros and cons of concept of sustaining membership. Grandfather current honorary members and eliminate the category recommended. Keep student membership and let it be free. Given lack of consensus after much discussion, a president's committee will be formed to come up with a recommendation on bylaws changes & membership dues. Members will be K6JW, N5RTF, N3IM and AA4FL. Committee to send its proposal to the board to review and the board will send its recommendation to the membership to vote on. The committee will also consider other bylaw changes, including whether there should be international and Canadian at large directors. New trustee of WB5D is K6JW, see <https://wireless2.fcc.gov/UlsApp/UlsSearch/license.jsp?licKey=2626644>.

Special events using WB5D were discussed.

Directors reviewed. MARCO bylaws state the directors at Large are meant to be the last 5 past presidents. Formal voting today only for those positions where there is an open position, namely area 1. It was also discussed that the intention is for the Officers and Directors to be the governance body for MARCO, so if someone cannot come to most of the annual meetings, then their governance contributions is limited or nil, and replacement who can fully share in governance should be explored.

1=Open, proposed K1DCA. **MOTION** for K1DCA as area 1 director made by WB1FFI, seconded by N3IM, approved by board.

No other motion for changes at this time. Some discussion about changes to be made in directors at next year's annual meeting at Hamvention 2020, but will defer to next year's meeting.

Currently the list is: 1—open; 2—WB1FFI; 3—N3IM; 4—AE4BX; 5—KD5BQK; 6—N6DMV; 7—KA7LOT; 8—W8CRK; 9—WA9HIR; 0—K0FS.

Directors at large—the last 5 past presidents.

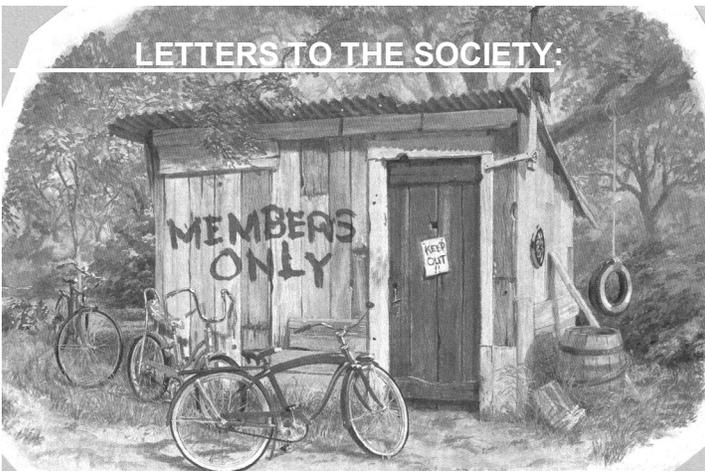
Discussed: Perhaps the regional directors can assist contacting members who are past due in dues in their area? AA4FL said he will send letters to those with dues expired with cc to regional directors, secretary will provide mailing labels.

AA4FL discussed the next annual meeting, and plans to have it at Hamvention, Xenia/Dayton (May 15-17, 2020) rather than HamCation, Orlando (Feb 7-9, 2020). He is planning on having MARCO booths at both sites in 2020.

AA4FL discussed a DX Committee to explore possible DX vacation rentals that have stations & antenna set up. Anyone interested in planning or participating should contact him. N5RTF encouraged all to support the CW net before GR at 14.140.

Adjourned at 11:50 am.

LETTERS TO THE SOCIETY:



Paul Lukas, Torrance CA., reports springtime cracks are opening in the Earth's magnetic field with solar winds pouring in to energize magnetic unrest resulting in our latest propagation failures. You can sign up for *Space Weather Alerts* and get an instant text message when magnetic cracks form.

Marcia Lochner, Knox, IN, *XYL* of Marco's immediate Past-President Dr. Richard Lochner reported the passing of her husband on March 28th. Rich had been a vibrant part of MARCO and served as our President with honor and compassion. His friendly voice will be missed on the airways.

Dr. Roger Higley, W8CRK, Cincinnati, Ohio, (RHigley599@aol.com) writes on March 27, *"I am sorry to tell you that my wife passed away last week, however that makes me free to attend Dayton this year. What I need to know is where are the MARCO members staying. And is any body looking for a room mate?"* Roger has been informed to contact Marco President Jay, as the answer is still in flux.



MARCO AD IN QST MAGAZINE

Club/Hamfests/Nets

FRIEND OF BILL W?? 12:30 pm Eastern: HAAM Net Sat 14.290, Sun 14.340 and Mon-Fri 14.316 <http://www.qsl.net/haam/>

MARCO Medical Amateur Radio Council. Professionals enjoying ham radio. Free newsletter & info. WB2MXJ@arrl.net

EDITOR'S NOTE: Walter Winchell began broadcasting in 1933 to an audience of 25 million people. The Winchell style was unmistakable. He talked rapidly at 197 words per minute..the voice was high-pitched and not pleasant to the ear; but it was distinctive. The staccato quality made every item compelling. He claimed he talked so fast because if he talked more slowly people would find out what he was saying...he began his radio program with a series of dots and dashes operating the key himself. Telegraphers throughout the country complained that what Winchell tapped out made no sense. He realized he hadn't the faintest knowledge of Morse code but he refused to have an experienced telegrapher provide the sound effects for him. He wrote like a man honking in a traffic jam.



What was the U.S. national anthem before 1931? A. "My Country 'Tis of Thee" ...it is actually sung to the same melody as -God Save the Queen," the British national anthem.

Historically, as a society's income increases, so does its height. Not any more! For more than 200 years American's towered over everyone else. During the Revolutionary War, U.S. soldiers were 2 inches taller than the British and in WW II they were 2 inches taller than the Germans. But today everyone else on the planet looks up to the Dutch who are on average 6' 1" males and 5' 7" females. The average American male (*black & white*) is now 5' 10" and 5'5" for the female. (*Asians and Hispanics, who would make Americans' appear even shorter are excluded to better illustrate how the U.S. compares with Western Europeans.*) In the U.S. the average net-adjusted household income is \$44,049/year. In the Netherlands, the average is \$28,783. The variation in height apparently depends on differences in nutrition, health care and spending and not net income. If you go to the doctor regularly, you're likely to live longer and likely to become taller.

Heart attack rates drop by 1/3... Since the 1990s, the number of seniors who suffered a heart attack has dropped dramatically. Results due to adoption of healthy eating & exercise habits along with rapid procedures to open blocked arteries along with ASA and statins.

Are eggs healthy? Another challenge warning *"eggs can kill!"* This latest 2018 report followed nearly 30,000 Chinese participants for an average of 17 years revealing an 2.2% greater risk of CV disease. However, eggs are often eaten with bacon, sausages, burgers so it is impossible to disentangle these effects with eggs on CV risks. Best to limit 3 eggs per week..

"A blindfolded monkey throwing darts at a papers financial page could select a portfolio that would do just as well as one carefully selected by the experts." Wall Street experts tried it...guess who won? The monkeys by 27%. The experiment was run by newspaper columnists over one year and was reported in the May 6th edition of the Wall Street Journal. The winner was *"Paychex"* picked by the monkeys.

The original name of the city of Atlanta was "Terminus." The original name of the city of Toronto, (Canada) was *-York."*

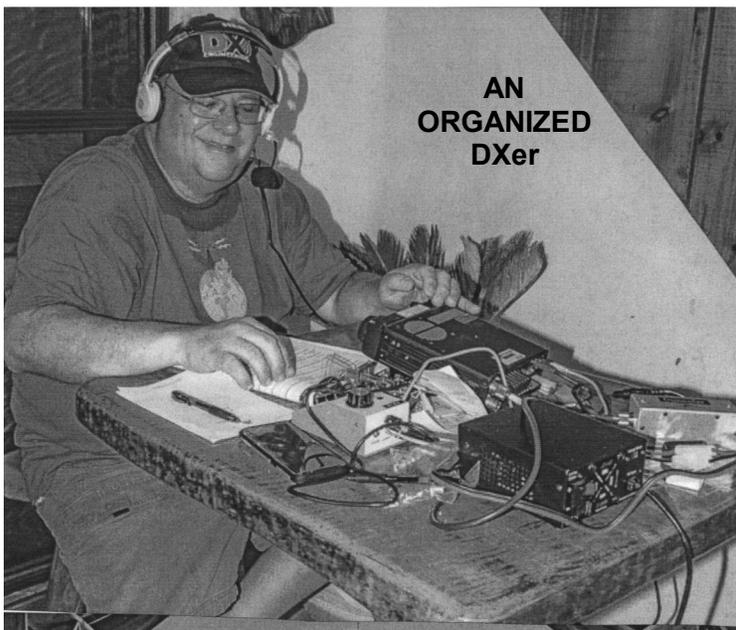
In ancient times, Roman physicians placed a symbol, Rx at the head of a *-recipio* (prescription) for medicine. The symbol was an abbreviation representing a prayer to the god Jupiter and Jove for a speedy recovery of the patient. Down through the ages it has remained as the *-Superscription,"* reminding the mortal physician of the guiding hand that often helps to write for the needs of others.

Is lower systolic blood pressure associated with better outcomes in elderly patients who take antihypertension medications? A. In a small cohort study of patients older than 85, lower systolic blood pressure during treatment with antihypertensive medicine is associated with higher death rates and greater cognitive decline!

It has been found that about 1/3 of patients receiving uterine artery embolization for fibroids require surgical treatment within two years AND non-opioid medications are at least as effective as opioid Medicaid tons for improving pain-related function in persons with chronic back, knee, or hip pain.

PAST PRESIDENTS OF MARDO

Marco organized in late 1965



AN ORGANIZED DXer

William Sprague MD	1966	WA6CRN
Charles Gray MD	1967	WA1FMY
Jack London MD	1968	K2JVA
Charles Samuelson	1969	K8WYP
Anson Hyde MD	1970	K4EK
J. Stanley Karp MD	1971	KT1V
Earl Weston MD	1972	W8BXO
Walter Shriner	1974	W9CBG
J. Charlie Jordan, Jr. MD	1976	K4IEP
Fred Williams MD	1978	WA4EFX
Donald Ore DDS	1980	KJ9B
Christine Haycock MD	1982	WB2YBA
Merve Grossman MD	1983	K6CY
Richard Doncasty MD	1984	WB3AJC
Frederick Simowitz	1986	K0FS
Ed Briner DDS	1988	WA3TVG
Edward Ludin MD	1990	K2UK
Robin Staebler MD	1992	K3FP
Polycarp Gadegbeku MD	1994	KZ4P
Ira Wexler MD	1996	W3HEF
Robert Currier MD	1998	WB5D
Bruce Small MD	2000	KM2L
Keith Adams MD	2002	N4AN
T. "Chip Keister MD	2004	N5RTF
Arnold Kalan MD	2006	WB6OJB
Harry Przekop PA-C	2008	WB9EDP
Linda Krasowski RN	2010	KE5BQK
Mary Favaro MD	2012	AE4BX
Jeff Wolf MD	2014	K6JW
Richard Lochner MD	2016	K9CIV (Now K8QA)
Jay Garlitz DDS	2018	AAFL



54 YEARS

MARIJUANA FOR DOGS & CATS?

In Portland, Ore., a Mrs. Thompson's 14-year-old cat, Myla had been howling every night for the past four months. It started when her other cat, Dudley, died in December. *"They were very close, we were getting no sleep! Even after visits to the vet along with medicine to clear any physical issues, the nightly wailing persisted.* Three weeks ago, Ms. Thompson attended a presentation on CBD (cannabidiol) at a local pet store and decided to give it a trial. Now, she adds a few drops of CBD oil to Myla's cat treat each night before bedtime. The upshot: Myla either sleeps through the night or wakes up once. *"It's a huge improvement"* she says.

Veterinarians cautions that research on CBD in veterinary patients is thin and there are still a lot of unknowns, from dosing information to types of condition that may benefit. *"A lot of the information we have is anecdotal,"* says Gail Golab, veterinarian. She adds that though she is not aware of significant adverse reactions from CBD. We're not just assuming a product is safe because we haven't heard differently," she says.

The legal landscape for CBD products is complicated. Hemp, a member of the cannabis family from which CBD is derived, got a huge boost in December, when President Trump signed a new \$867 billion farm bill that removed it from a list of federally controlled substances. The FDA still says CBD products cannot be sold in dietary supplements or added to food—including for pets—that is sold between states. But states have a patchwork of regulations that some have interpreted as opening the door. The FDA's own Q&A on CBD says: *"Is it legal for me to sell CBD products? It depends, among other things, on the intended use of the product and how it is labeled and marketed.*

CBD pet products are typically found outside of the mainstream chains, whether on-line or in independent pet stores. Bow Wow Meow in San Francisco carries about 12 CBD products from pet-friendly peanut butter to biscuits.

Some of the bigger chains, which don't currently carry CBD products are waiting and watching for now.

(Information for the above was taken from Anna Marie Chaker's fine article in the May7th WSJ.)

Q. Before alarm clocks, how did the English and Irish people get to work on time?

A. A person banged on your door in the morning and was called a "knocker-up" or "knocker-upper." The profession lasted until the 1920s.

THE QUIET SUN MAY GET EVEN QUIETER?

HF DXers and VHF enthusiasts want to know when the next solar cycle (25) will start, and how strong it will be. In 2018, there were more than 200 days when no sunspots were seen on the sun, and 2019 will likely be even worse.

In March 2019, a panel of solar experts was convened by NASA to discuss and develop a consensus forecast for Solar Cycle 25. Currently, we are in the minimum of Solar Cycle 24, which had a double peak in 2011 and 2014. At the peaks, worldwide F2 propagation appeared on 50 MHz. From Hawaii, KH7Y and N0JKH6 made along-path contacts to southern Europe on 6 meters in March 2014 at Solar Cycle 24s peak. Strong aurora openings let 144 and 222 MHz operators complete long-distance contacts. Overall, though, Solar Cycle 24 was a weak cycle and worse than forecast.

BROADCASTING:

Broadcasting is defined as "one-way transmissions intended for reception by the general public." Broadcasting of bulletins solely of interest to radio Amateurs is permitted. Note that transmission of music on ham radio bands is strictly forbidden. Radio control emergency communications and bulletins for Amateurs and Morse code practice are NOT considered to be broadcasting. Remember to identify your station when transmitting every ten minutes

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Jay Garlitz, AA4F

Thank you to members who attended Marco's annual meeting in Tampa. Our annual meeting returns to HamVention next year in the Xenia/Dayton area. In Florida we missed the physical presence of recently departed Immediate Past President Richard Lochner and surviving wife Marcia. Richard was a leader, friend, Marco family member, an MD dedicated to patient care, and ham who enjoyed the hobby of amateur radio.



Let's join me in memorializing Richard and honoring past secretary Marcia, by making donations toward a 2020 Rich Lochner MD 2020 scholarship for a student in the Knox Indiana area, or to our MediShare fund.

The Marco post-meeting DX cruise was an enjoyable and interesting experience. Our members that attended had a wonderful time. Taking radio equipment off a cruise ship that is transporting you to port by tender to set up two portable HF stations is a challenge. Doing all that work to operate for 3-5 hours is not a DX expedition but an adventure! Hopefully Marco will get much PR for the effort and it will serve the long term good and growth of the organization through the many friends made and exposure to the ham radio community. Now more hams know of Marco, a group with members in health related fields that couple their hobby with professional camaraderie.

There are a number of DX destinations with fully equipped stations to rent that accommodate groups of 4-10 that are perfect for spouses as well. Please let me know if you have an interest in joining a Marco group of a authentic DX trip for members and spouses. For those of you in deed restricted communities who cannot erect towers at home or put up adequate antenna it is an excellent way to enjoy DXing ham radio, and Marco!

WB5D is our Marco club call. One topic discussed at the Annual Meeting was having on the air special activities using our call. There is much potential for this to stimulate interest in Marco. Check out our QRZ page to see the ham radio information for our group. I have asked for a committee to be formed for those interested in hosting these events under the purview of trustee Jeff Wolf K6JW.

Medishare was an important topic at the annual meeting. There are funds available to support projects related to health care and ham radio. In recent years the need in the Caribbean basin for emergency communication to assist with health and welfare has been in the forefront. Wouldn't it be nice to couple a DX adventures with funding or participating with some Medicare ham radio related projects or volunteer care in those same countries?

Members have graciously responded to my Aether columns with input and offers of participation. Do not hesitate volunteering to serve on Marco committees such as the annual meeting, MediShare, Grand Round's of the Air, WB5D operating events, or an interest of serving on our Board of Directors. My e-mail address is jay.aaf@gmail.com

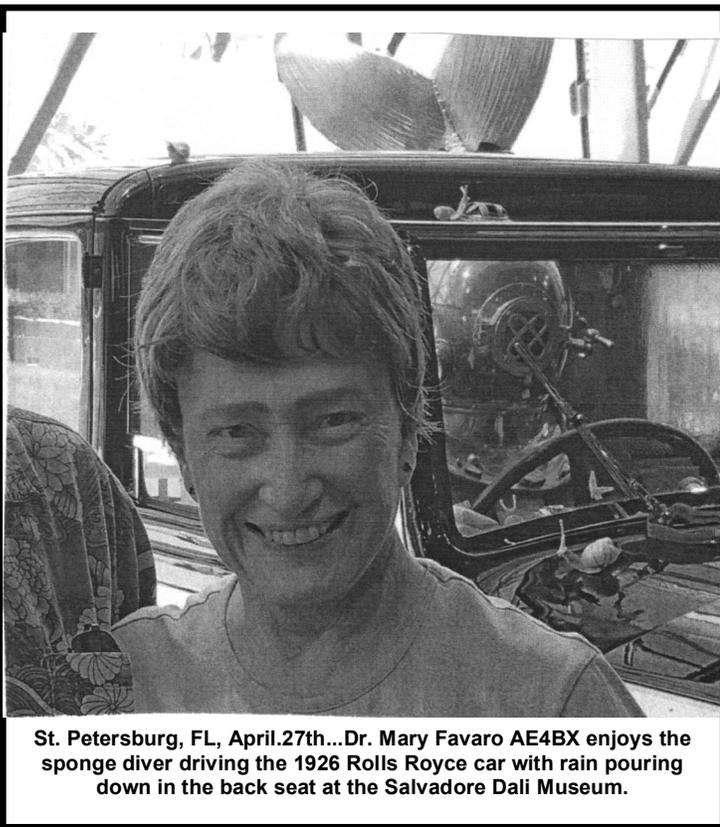
Yours in dedication to MARCO,

Jay.

WARNING FROM POLICE

Beware of paper on the back window of your car as this is the latest way to do carjacking.

You walk across the parking lot, unlock your car and get inside. You start the engine and shift into reverse. When you look into the rear-view mirror to backup you notice a piece of paper stuck to the middle of the rear window. So you shift into Park, unlock your doors and jump out to remove that paper that is obstructing your view. When you reach the back of your car, that is when the car-jackers appear, jump into your car and take off. So now the car-jacker has your car, your home address, your money and your keys. Your home and your whole identity are now compromised.



St. Petersburg, FL, April.27th...Dr. Mary Favaro AE4BX enjoys the sponge diver driving the 1926 Rolls Royce car with rain pouring down in the back seat at the Salvadore Dali Museum.

EXCERPTS OF MARCO DX CRUISE NEWS

Excerpts from President Garlitz's article on the internet

Four ports of call were made by the Carnival "Miracle" and it was a miracle we were able to get through the logistics needed to operate DX on land in three ports during the April 28-May 6, 2019 time period.

Twelve cruise cabins occupied by fifteen hams and nine spouses embarked with all the documentation needed to hold special operating events in Belize as V31D, at Roatan Isle in Honduras as HQ9D and on Grand Cayman as ZF2D. All we needed was kismet that local plans, the weather, customs, cruise ship tenders, propagation, security, getting back on ship in time for departure, and if Murphy would cooperate. With the cruise ship only being in port 7-9 hrs. in each location, and when debarkation/embarcation, tender time, transport to operating location, and station, set up/breakdown was factored in that meant only 3-5 hours of radio operation at each special event location!

V31D (Belize) was activated at a rental unit about 8 miles north of port up the coast. The station was set-up on the rooftop under cover of a three story building with dipoles gently sloping down to trees. Our co-hosts were a former mayor of Belize City (Zenaída Moya) and a former jet pilot (Raymond Shepherd) and they were of great help. Ropes were pre-positioned in the trees for antenna support. We made 114 QSO's with hams in 19 countries. Propagation was poor.

HQ9D (Roatan, Honduras) was a short operation. The QTH was a Lodge 35 minutes from port. Propagation was better and afforded us 122 contacts in 6 countries.

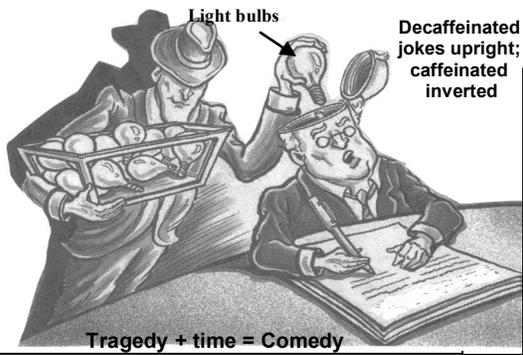
ZF2D was a much different operation. We had the use of the guest station of the Cayman Radio Club ZF1EJ. After four hours of operation with three units we made 315 QSO's in 24 countries. Phil ZF1PB and John ZF1DJ spent the day with us.

With the experience of planning these expeditions one fact is abundantly clear. It is much better to fly to a Caribbean DX location and rent a super station. HQ9X is available on Roatan and sleeps ten. With these and more DX turn-key rentals available there are still opportunities for us Oms, OBs and YLs to take MARCO DX trips.

Q. Modern humans first appeared about 200,000 years ago. How much of what took place from then to now is recorded as written history?

A. The 1st known writing only appeared about 6,000 years ago. That means 97% of our history was never recorded.

LIGHTEN UP...



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Too Young yet too old... When asked if she was covered by Medicare, she replied, No, I'm too young for Medicare and too old for Men-to-care.

Being economical is just a way of spending money without getting any fun out of it.

A lady in her later years made the statement: "I only feel young now when I am in an antique store."

WATCH IT!!! Those who build a trap for others usually stumble into it themselves.

A mother is driving a little girl to her friend's house... Mommy, the little girl asks, how old are you? Honey, you are not supposed to ask a lady her age, it's not polite. OK, the girl says, How much do you weigh? Now really, those are personal questions and are really none of your business. Undaunted, the little girl asks, Why did you and daddy get a divorce? The exasperated mother walks away as the two friends begin to play. My Mom won't tell me anything about her, the little girl says to her friend. Well, says the friend, all you need to do is look at her drivers license—it has everything on it. Later that night the little girl says to her mother, I know how old you are, you're 32. The mother is surprised and asks, How did you find that out? Also know that you weigh 140 pounds and I know why you and daddy got a divorce. Oh really? And why is that? Because you got an F in sex.

What are the parts of the body? A. The body is consisted into 3 parts—the brainium, the borax and the abdominal cavity. The brainium contains the brain, the borax contains the heart and lungs and the abdominal cavity contains the five bowels, A,E,I,O & U.

Q. What does varicose mean? A. Nearby.

It's been so long since I've had sex, I've forgotten who ties up whom. Joan Rivers.

When you are dissatisfied and would like to go back to youth, think of Algebra!

Sex at age 70 is like trying to shoot pool with a rope!

I decided to change calling the bathroom the John and re-named it the Jim. I feel so much better saying I went to the Jim this morning.

When a man opens a car door for his wife, it's either a new car or a new wife.

Lawyers believe a person is innocent until proven broke

Customer: My keyboard is not working anymore. Tech Support: Are you sure it's plugged into the computer? Customer: No, I can't get behind the computer. Customer Support: Pick up your keyboard and walk 10 paces back. Customer: OK. Tech Support: Did the keyboard come with you? Customer: Yes. Tech Support: That means the keyboard is not plugged in.

Just a little different... A little boy looks beneath his diaper and says to the little girl, Do you have one of these? The little girl looks beneath her diaper and says, No, but Mother says as long as I have one of these I can get all of those I want.

Why do women live longer than men? Because women aren't married to women.

MEMORIES OF YEARS AGO IN MARCO

Our History Book

Fifteen years ago in Marco

June 2004... "Eat all you want and not gain weight?" That was the headlines of Aether. Bulemics claim this while colonologists advocated "High Colonics." It was a time when the "South Beach Diet," "Atkins Diet," and "low carb diets" came into vogue.

2004 was also the year we changed the logo of Marco to the antenna on top of the Earth's sphere and took the Bob Carrier call sign "WB5D," as the Marco call sign.

Ten years ago in Marco

June 2009... This is the year we met in Chicago and visited the Fermi Lab courtesy of Marco President Harry Przekop. We also visited the U-505, German captured submarine and met with former U-boat ham spy Erich Gimpel who was visiting Chicago from South America where he had taken up residence. Jeff Wolf K6JW's article "Remote Operation of an Amateur Radio Station" was featured in Aether.

Five years ago in Marco

June 2014... President Mary Favaro AE4BX handed the President's gavel over to Jeff Wolf K6JW. Mary became the new treasurer and Richard Lochner K9CIV was elected "President-elect." Marcia Lochner became the new assistant secretary.

One of the highlights of the convention was the meeting of Dr. David Birnbaum K2LYV of Tampa, FL., with his look-a-like Dr. Bruce Small KM2L of Clarence, N.Y. Both are about the same age with the same mustache, glasses and voice.

Nikola Tesla's "Death Ray" was discussed along with an article explaining how we get nicer with age.

TESLA'S DEATH RAY

New York times, July 11, 1937... Nikola Tesla, father of AC current announced a new invention which he said, he considered the most important of the 700 made by him so far.

He has perfected a method and apparatus, Dr. Tesla said in an interview at the Hotel New Yorker, which will send concentrated beams of particles through the free air, of such tremendous energy that they will bring down a fleet of 10,000 enemy airplanes at a distance of 250 miles from a defending nation's border and will cause armies of millions to drop dead in their tracks.

Chicago Times, Aug. 10, 1986... There are indications that Nikola Tesla discovered many of the devices which the U.S. is seeking to develop and build for the Pentagon's controversial Star Wars antimissile defense system. Of interest is a widely reported April 9, 1984, event in which at least four airline pilots reported seeing an eruption near Japan that appeared to be a nuclear explosion cloud that billowed to a height of 60,000 feet and a width of 200 miles within just two minutes and enveloped their aircraft. In late July the Cox News Service reported that all four of these planes had been examined at Anchorage, Alaska, and were found to be free of radiation despite the fact that they had flown through the mysterious cloud in question. Such clouds could form if someone were attempting to implement Tesla's plans for broadcasting energy by "creating resonances inside the earth's ionospheric cavity" calculated in Colorado Springs during 1899 experiments by the electrical genius.

(Tesla just won't go away)

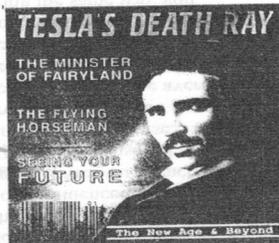
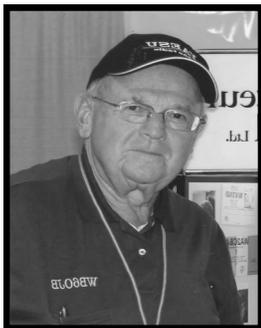
MediShare News

Arnold Kalan, WB6OJB, Director

The forest fires in California came within miles of our home and brushed the entrance to my son's house but we have successfully survived the worst.

We had a very nice donation of \$100 in memory of Marilyn and Bob Carrier.

All donations to MEDISHARE are tax deductible and I still have some MARCO stickers available.



CME RANKINGS, May 6, 2019 BOB CURRIER MARCO GRAND ROUNDS OF THE AIR. (Corrections to Marco)

14.342, Sundays, 11 am Eastern, One Hour Cat. II CME

CALL	HRS.	NAME	QTH
KD4GUA	14	Warren	Largo, FL/
KNOS	14	Dave	Virginia
KC9CS	14	Bill	Seminole, FL
NU4DO	14	Norm	Largo, FL
WB9EDP	13	Harry	Batavia, IL
N4TSC	13	Jerry	Boca Raton, FL.
W1RDJ	13	Doug	Cape Cod, Mass.
K6GZ	13	Bill	Hysteria, CA
N6MV	12	Paul	Torrance, CA
WB6OJB	12	Arnold	Pac. Pal., CA
N5RTF	12	Chip	New Orleans, LA
N2JBA	12	Ed	Amenia, N.Y.
N3IM	11	Keith	Mill Hall, PA
KE5SZA	11	John	Marietta, OK
KM2L	11	Bruce	Clarence, N.Y.
NOARN	11	Carl	Denver, CO.
W6NYJ	10	Art	Beverly Hills, CA
N5AN	9	Bud	Lafayette, LA
N2OJD	9	Mark	Sidney, Ohio
KC9ARP	9	Michalin	Batavia, IL
W4RLC	9	Bob	Raleigh, NC
K6JW	9	Jeff	Palos Verdes, CA
N4MKT	8	Larry	The Villages, FL
K8QA	8	Rich	Knox, IN.
WB1FFi	8	Barry	Syracuse, N.Y.
KE8GA	8	George	North Carolina
W8LJZ	8	Jim	Detroit, MI
N9RIV	7	Bill	Danville, IL.
WA3QWA	7	Mark	Chesapeake VA
KD5QHV	7	Bernie	El Paso, TX
KK1Y	6	Art	Seminole, FL
N8CL	6	Chuck	Albany, N.Y.
AA4FL	5	Jay	Hawthorne, FL.
WA1HGY	4	Ted	Mass.
W4DAN	3	Danny	Cleveland, TN
WA1EXE	3	Mark	Cape Cod, Mass.
W8CRK	3	Roger	Cincinnati, Ohio
KB5BQK	2	Linda	El Paso, TX
WB9GET	1	Keith	Springfield, PA.

YEAR	TOTAL CHECK-INS	AVERAGE PER SUNDAY
1998	694	14.46
1999	766	15.95
2000	1,035	20.29
2001	1153	22.60
2002	1383	26.15
2003	1489	28.63
2004	1534	29.50
2005	1517	29.17
2006	1531 (one extra Sunday)	28.89
2007	1591 (one extra Sunday)	30.02
2008	1524 (Only 46 nets)	33.14
2009	1533 (46 nets)	33.32
2010	1591 (44 nets)	36.22
2011	1514 (44 nets)	34.41
2012	1602 (44 nets)	36.41
2013*	1400 (44 nets) (New Freq)	31.82
2014 (Year of Terrorist)	1756 (47 nets)	37.36
2015	1722 (49 nets)	35.14
2016	1687 (46 nets)	36.67
2017	1536 (46 nets)	34.13
2018	1500 (43 nets)	34.88
2019	503 (14 nets)	35.90

Record number of stations checked-in was 51, on Feb. 24, 2013

LITTLE KNOWN FACTS:

Andrew Jackson, the 7th President of the U.S. died in 1845. At his funeral, Jackson's pet parrot was taken outside...Why?

A. It kept swearing.

Who said, "Her hair glistened in the rain like a nose hair after a sneeze. (Could be the nose man, Jimmy Durante?)

EXERPTS FROM ARRL'S CEO...

Howard E Michel WB2ITX

A long time ago as a junior officer in the US Air Force I learned about the four important parts of effective communications: the speaker, the listener, the medium, and the message. The speaker needs to tailor the content of the message into the language the listener understands, and deliver the message in a way that the listener can absorb. Effective communications is two-way. The speaker needs to be listening for feedback on how the message is being received.

So who is ham radio's average likely mentor—the one that will pass this hobby along? The average ARRL member is a 68-year-old white male who could be viewed on a two-dimensional grid—communications to technology, hobby to service. I described groupings of hams—guardians, technologists and the “ready” who enjoy public service. I assert that your own view of Amateur Radio is influenced by where you are on that grid and your path through that grid. (Are you a teacher?)

54% of our current members have an Extra class license, 31% have a General-class license and 15% have a Technician class license. But the pool of non-member amateurs is very different. They, too, are generally white males, but younger in a category we call “rookies,” the average age is 52. In terms of license class, 75% are Techs, while 7% are Extras and 18% have General-class licenses. (The potential teachers.)

If you're a longtime experienced ham, you can't expect “rookies,” young adults, and kids to respond to mentoring the same way you responded 40 years ago.

To put this into ham terms, you are the transmitter and mentee is the receiver. If you approach mentoring that way you were mentored all those years ago, you'll have a frequency mismatch with your mentee. You'll be transmitting on 80 meters, while they're listening on 2 meters.

So now what? PODCAST...bi-weekly information and advice for those just starting their journey into Amateur Radio. **HAM RADIO VIDEO...**a new video that explains the varied elements of this hobby to non-hams. **MAXIM LEARNING LAB...**a series of videos that will cover a wide range of topics for a wide range of the radio demographic. **LEARNING TRACKS...**four of them, with four lessons in each—in the *Lifelong Learning Initiative project being undertaken at ARRL*. (All being developed to make you a “senior rookie.”)

I challenge you to start a conversation with a rookie ham or no-ham teenager, and help them discover their path through the two-dimensional communications-to-technology, hobby-to-service grid. I invite your comments at wb2itx@arrl.org.

THE COMING OF THE TRULY WIRELESS WORLD

Excerpts from Steve Ford WB8IMY, fine article in the May 2019 QST.

In consumer tech circles it seems as though all you hear about lately is fifth-generation wireless technology, better known as 5G.

As our world becomes almost entirely wireless, Amateur Radio may become a fertile training ground for RF engineers. Hams working with Mesh technology, such as those who participate in AREDN, may be able to repurpose 5G devices for ultra-high-speed data networking, especially for public service applications.

5G will make it even easier to operate amateur stations by remote control from almost anywhere in the world. This could be a boom for amateurs living with antenna restrictions.

On the down side...Amateur Radio interference to 5G devices and vice versa may become an increasing problem. Corporations will be harvesting microwave spectrum at voracious rates. It is going to be difficult to preserve our allocations above 70 cm. against such an onslaught.

5G providers are building hardened installations designed to survive hurricanes, tornadoes, fires, earthquakes etc. The installations have independent power sources and redundant hardware. This means that hams may not be needed as often when disasters strike, perhaps with the exceptions of hams who've invested in microwave Mesh technology and who understand how to deploy it effectively.

In ancient China, doctors only got paid if the patient got better....AND, the doctor had to pay any patients who got worse.

**CARCINOID**

As presented on MARCO Grand Rounds of the Air, May 12, 2019

Carcinoid tumors are rare, slow growing tumors that originate in the cells of the neuroendocrine system that were first described in 1907.

Like most cells of the body, G.I. system neuroendocrine cells sometimes undergo changes that cause them to grow too much and form tumors. These tumors are known as neuroendocrine tumors. The most common are the carcinoids. There are 3 main areas of origin: foregut carcinoid tumors start in the lungs, bronchi or stomach; midgut carcinoid tumors start in the small intestine, appendix or proximal large bowel; and hindgut carcinoid tumors start in the distal colon or rectum

The appendix is the site of 12% of tumors usually in the 40-50 age group; the rectum, 26%, mostly in the 60 age group; the small intestines 25% mostly in the 60-70 age group; the bronchi, lungs & trachea, mostly in the 50 age group and the colon, 7% mostly in the 70+ age group. Pernicious anemia and ulcerative colitis patients have a high propensity to form carcinoid tumors.

Carcinoid tumors pose a diagnostic challenge because they often are asymptomatic—they hide! The prevalence in the U.S. is estimated to be 2-5 cases per 100,000. It is more common in females and Afro-Americans. Because many carcinoid tumors are less active their true prevalence may be higher. Recent data reveals an overall increase in incidence over the past 30 years, with 67% of patients having a 5-year survival rate regardless of the site of the tumor. Prognosis varies widely depending on the location and stage of the tumor. The disease today is considered to be more aggressive and to have a worse prognosis than was previously thought.

Many carcinoids are found during surgery for other reasons, usually an appendectomy or acute pancreatitis laparotomy. But also for bowel obstruction or diseases of the female reproductive tract. If there are symptoms they are vague, non-specific and organ-related, causing long delays in diagnosis. The average time from symptoms onset to diagnosis has shrunk from 9 years to 5 years! Symptoms range from mild abdominal discomfort to intermittent intestinal obstruction. These tumors characteristically present at age 50 to 60. Patients with Pernicious Anemia are at high risk for gastric carcinoid, being 1500 times that of the general population. Lung lesions often appear as coin lesions on chest x-ray.

Carcinoid syndrome...a carcinoid tumor often is only considered after the onset of carcinoid syndrome, which typically does not occur until the tumor has metastasized to the lungs or liver. The damaged liver from metastatic lesions prevents the breakdown of the tumor-secreting products. These include flushing in the upper part of the body, itching, salivation, facial edema, lacrimation, abdominal cramps, hypotension, bronchospasm, telangiectasia and right sided heart failure. Symptoms often are precipitated by exertion or by eating or drinking items high in tyramine (blue cheeses, chocolate or alcohol especially red wine.)

Diagnosis...if suspected measure the urinary excretion of 5-HiAA and serum chromogranin A levels. . CT and MRI may be helpful.

Treatment...Options include surgery, chemo and radiation with somatostatin analogues such as Sandostatin or alpha-interferon.

Prognosis: Most with carcinoid seek treatment for metastatic disease. Gastric carcinoids and those originating in the rectum are much less likely to metastasize than are those which come from the small bowel or colon. Those without symptoms have a better survival than those with the carcinoid syndrome. Of those with the carcinoid syndrome 1/2 will die with tricuspid insufficiency. For tumors of the appendix, size is the most important factor. Lesions less than 2 cm. which constitute the majority, seldom metastasize. Mets are found in 50% of those larger than 3 cm.

- Q. **How long can you survive with nothing to eat?** A. It depends on each person, but usually you can survive about a month as long as you have water to drink.
- Q. **How many days can you go without sleep?** A. Each person's limit for sleeplessness is different, but experts say about 11 days.



TIMELINE OF THE STATUE OF LIBERTY

- 1667...**Isaac Bedloe, a Dutch colonist, obtains a colonial land grant for a small island later known as Bedloe's Island.
- 1794...**After the American Revolution, federal dollars are appropriated to construct fortifications on Bedloe's Island.
- 1807...**The U.S. Army begins construction of a star-shaped fort on Bedloe's Island.
- 1865...**Edouard de Laboulaye proposes that France give the U.S. a statue representing liberty for its centennial.
- 1870...**Frederic Auguste Bartholdi becomes the sculptor of the Statue of Liberty.
- 1884...**The Statue is completed in France.
- 1885...**Joseph Pulitzer leads a fundraising campaign that raises over \$100,000 to build the pedestal for the Statue. On June 17th the Statue arrives in New York and is placed in storage for a year while the pedestal is completed.
- 1886...**The Statue's pedestal is completed and the task of reassembling the Statue begins. On Oct. 28th, the Statue is formally unveiled at the dedication ceremony on Bedloe's Island. One million people turn out for New York City's first ticker tape parade.
- 1903...**Words from Emma Lazarus' poem "The New Colossus" are added to the base of the Statue, "...Give me your tired, your poor..."
- 1956...**Bedloe's Island is renamed "Liberty Island" by a joint resolution in Congress and signed into law by President Eisenhower.
- 1965...**President Johnson signs a Presidential Proclamation, adding Ellis Island to the National Park Service, under the administration of the Statue of Liberty National Monument.
- 1982...**President Reagan appoints Lee Iacocca to head a private foundation, later known as The Statue of Liberty-Ellis Island Foundation, to restore the Statue of Liberty.
- 1984...**Restoration of the Statue begins.
- 1986...**Renovation of the Statue is completed. During July 4th Liberty Weekend, President Reagan relights the Statue's torch and the Statue reopens, including the Statue's Museum in the pedestal.
- 2004...**The inside of the pedestal reopens to the public after having been closed since Sept. 11, 2001., following work by the Statue of Liberty-Ellis Island Foundation and the National Park Service.
- 2016...**The Statue of Liberty-Ellis Island Foundation broke ground on a new Statue of Liberty Museum
- 2018...**Liberty's original torch is carefully transported across the island, from its former place in the Statue's base to its new home in the Statue of Liberty Museum.
- 2019...**The new Statue of Liberty Museum will open.

Columbus, Ohio...Researchers at The Ohio State University College of Medicine have developed a novel stroke therapy that, when tested in mice and dogs, has proven superior to the standard of care now offered to patients with strokes.

"We have shown that our drug, which is completely reversible, opens up a blocked blood vessel better than the "clot buster" drug called tPA, which is the only drug used in strokes today. This may result in the first new drug in more than 20 years to treat patients with stroke," said lead researcher Dr. Shahis Nimjee, an endovascular neurosurgeon at Ohio State Wexner Medical Center's Comprehensive Stroke Center.

Stroke happens when blood flow to the brain stops. Within minutes, brain cells begin to die. There are two kinds of strokes. The more common kind, ischemic stroke, is caused by a blood clot that blocks or plugs a blood vessel in the brain. Hemorrhagic stroke is caused by a blood vessel that breaks. And bleeds into the brain. "Mini-strokes," or transient ischemic attacks (TIAs), occur when the blood supply to the brain is briefly interrupted.

"Each year, there are about 660,000 strokes in the USA. Only about 10% of these will receive treatment such as tPA. Ohio State is leading the way in developing this new therapy, which appears to be more robust and safer because it can be reversed. Ultimately, this innovative discovery may someday increase the number of patients who can receive acute stroke treatment," said Dr. K. Craig Kent, Dean of the College of Medicine.

Current therapies cause significant hemorrhage without available reversing agents. This research focuses on aptamers, which are oligonucleotide or peptid molecules that bind to a specific target molecule. Knowing that von Willebrand Factor (VWF) plays a central role in thrombosis, researchers developed an RNA aptamer that inhibits VWF, and an antidote oligonucleotide that reverses its activity.

PEARL NUGGETS...

If you look through a pinhole in a piece of cardboard without glasses, and can read the newsprint you couldn't read normally without glasses you don't need cataract surgery. 20/20 pinhole indicates you have a refractive error. However 95% of people over 65 will develop cataracts.

Your hair grows 25 feet during a life time. Your fingernails grow 1/8 inch/month or 1 mm every 10 days and your outer skin changes every 27 days.

Your nose uses one nostril for breathing for 90 minutes and then switches to the other nostril. Dogs and cats blink 2 X/minute; humans up to 24X/minute.

From flies to elephants, the female lives longer...1/3 of all 75 year olds have gallstones.

The word "doctor" come from the Latin "docere," to teach."

Daily requirements: Cholesterol 300 mg (if you don't get enough you will turn into a bowl of jello since cholesterol is needed to build cell walls—and hormones); calories, 2000; Sodium 1100-3300 mg.

Raw carrots, onions, apples and garlic raise the HDL cholesterol .

A 75 year old woman went to the doctor for a checkup. The doctor told her she needed more CV activity and recommended that she engage in sexual activity three times a week. A bit embarrassed, she said to the doctor, "Please tell my husband." The doctor went into the waiting room and told the husband that his wife needed sexual activity 3X a week. The 80-year-old husband replied, "Which days?" The doctor answered, "Monday, Wednesday and Friday would be ideal." The husband said, "Can bring her Monday and Wednesday, but on Fridays I golf so she'll have to take the bus."



British Post Office engineers inspect Guglielmo Marconi's wireless telegraphy (radio) equipment in 1897.

The idea of wireless communication predates the discovery of radio with experiments in wireless telegraphy via inductive and capacitive induction and transmission through the ground, water, and even train tracks from the 1830s on. James Clerk Maxwell showed in theoretical and mathematical form in 1864 that electromagnetic waves could propagate through free space. It is likely that the first intentional trans-

mission of a signal by means of electromagnetic waves was performed in an experiment by David Edward Hughes around 1880, although this was considered to be induction at the time. In 1880, Heinrich Rudolf Hertz was able to conclusively prove transmitted airborne electromagnetic waves in an experiment confirming Maxwell's theory of electromagnetism.

After the discovery of these Hertzian waves (it would take almost 20 years for the term radio to be universally adopted for this type of electromagnetic radiation.) Many scientists experimented with wireless transmission, some trying to develop a system of communication, some intentionally using these new Hertzian waves, some not. Maxwell's theory showing that light and Hertzian electromagnetic waves were the same phenomenon at different wavelengths led Maxwellian scientists such as John Perry, Frederick Thomas Trouton and Alexander Trotter to assume they would be analogous to optical signaling and the Serbian-American engineer Nikola Tesla to consider them relatively useless for communication since light could not transmit further than line of sight. In 1892 the physicist William Crookes wrote on the possibilities of wireless telegraphy based on Hertzian wave and in 1893 Tesla proposed a system for transmitting intelligence and wireless power using the earth as the medium. Others, such as Amos Dolbear, Sir Oliver Lodge, Reginald Fessenden, and Alexander Popov were involved in the development of components and theory involved with the transmission and reception of electromagnetic waves for their own theoretical work or as a potential means of communication.

19th Century... The meaning and usage of the word radio has developed in parallel with developments within the field of communications and can be seen to have three distinct phases; electromagnetic waves and experimentation; wireless communication and technical development; and radio broadcasting and commercialization. In a 1864 presentation published in 1865, James Clerk Maxwell proposed his theories and mathematical proofs on electromagnetism that showed that light and their phenomenon were all types of electromagnetic waves propagating through free space.

In 1886-88 Heinrich Rudolf Hertz conducted a series of experiments that proved the existence of Maxwell's electromagnetic waves, using a frequency in what would later be called the radio spectrum. Many individuals—inventors, engineers, developers and businessmen—constructed systems based on their own understanding of these and other phenomenon, some predating Maxwell and Hertz's discoveries. This wireless telegraphy and radio wave-based systems can be attribute to multiple inventors. Development from a lab demonstration to a commercial entity spanned several decades and required the efforts of many.

In 1878, David E. Hughes noticed that sparks could be heard in a telephone receiver when experimenting with his carbon microphone. He developed this carbon-based detector further and eventually could detect signals over a few hundred yards. He demonstrated his discovery to the Royal Society in 1880, but was told it was merely induction, and therefore he abandoned further research. Thomas Edison came across the electromagnetic phenomenon while experimenting with a telegraph at Menlo Park. He noted an unexplained transmission effect while experimenting with a telegraph. He referred to this as etheric force in an announcement on November 28, 1875. Elihu Thomson published his findings on Edison's new force, again attributing it to induction, an expla-

nation that Edison accepted. Edison would go on the next year to take out U.S. Patent 465, 971 on a system of electrical wireless communication between ships based on electrostatic coupling using the water and elevated terminals. Although this was not a radio system, the Marconi Company would purchase the rights in 1903 to protect them legally from lawsuits.

Between 1886 and 1888 Heinrich Rudolf Hertz published the results of his experiments where he was able to transmit electromagnetic waves (radio waves) through the air, proving Maxwell's electromagnetic theory. Early on after their discovery, radio waves were referred to as Hertzian waves. Between 1890 and 1892 physicist such as John Perry, Frederic Thomas Trouton and William Crookes proposed electromagnetic or Hertzian waves as a navigation aid or means of communication, with Crookes writing on the possibilities of wireless telegraphy based on Hertzian waves in 1892.

After learning of Hertz demonstrations of wireless transmission, inventor Nikola Tesla began developing his own system based on Hertz and Maxwell's ideas, primarily as a means of wireless lighting and power distribution. Tesla concluding that Hertz had not demonstrated airborne electromagnetic waves (radio transmission) went on to develop a system based on what he thought was the primary conductor, the earth. In 1893 demonstrations of his ideas, in St. Louis MO and at the Franklin Institute in Philadelphia, Tesla proposed this wireless power technology could also incorporate a system for the telecommunication of information.

In a lecture on the work of Hertz, shortly after his death, Prof. Oliver Lodge and Alexander Muirhead demonstrated wireless signaling using Hertzian (radio) waves in the lecture theater of the Oxford University Museum of Natural History on Aug. 14, 1894. During the demonstration a radio signal was sent from the neighboring Clarendon lab building, and received by apparatus in the lecture theater.

Building on the work of Lodge, the Indian Bengal Jag Bose ignited gunpowder and rang a bell at a distance using millimeter range wavelength microwaves in a Nov. 1894 public demonstration and wrote, The invisible light can easily pass through brick walls, buildings etc. Therefore messages can be transmitted by means of it without the mediation of wires. At that time, the word coherer coined by Lodge, was used in the English-speaking world for Hertzian wave receivers or detectors. The journal Electrician commented on Bose's coherer (Dec. 1895). Should Prof. Bose succeed in perfecting and patenting his Coherer, we may in time see the whole system of coast lighting throughout the navigable world revolutionized by an Indian Bengal scientist working single handed in our Presidency College Lab. Bose planned to perfect his coherer but never thought of patenting it.

In 1895, conducting experiments along the lines of Hertz's research, Alex Stepaovich Popov built his first radio receiver, which contained a coherer.

In 1894 the young Italian Guglielmo Marconi began working on the idea of building a commercial wireless-telegraph system based on the use of Hertzian waves, a line of inquiry that he noted other inventors did not seem to be pursuing. Marconi read through the literature and used the ideas of others who were experimenting with radio waves but did a great deal to develop devices such as portable transmitters and receiver systems that could work over long distances turning what was essentially a lab experiment into a useful communicant system. By Aug. 1895, Marconi was field testing his system but even with improvements he was only able to transmit up to one-half mile, a distance Lodge had predicted in 1894 as the maximum transmission distance for radio waves. Marconi raised the height of his antenna and hit upon the idea of grounding his transmitter and receiver. With these improvements the system was capable of transmitting signals up to 2 miles and over hills. Marconi's experimental apparatus proved to be the first engineering complete, commercially successful radio transmission system. Marconi's apparatus is also credited for saving the 700 people that survived the tragic Titanic disaster.

In 1896, Marconi was awarded British patent, the first patent ever issued for Hertzian wave (radio wave) base wireless telegraphic system. In 1898, he established a radio station on the Isle of Wight, England. Marconi opened his wireless factory in the former silk works at Chelmsford, England in 1898, employing around 60 people.

(Continued next issue)

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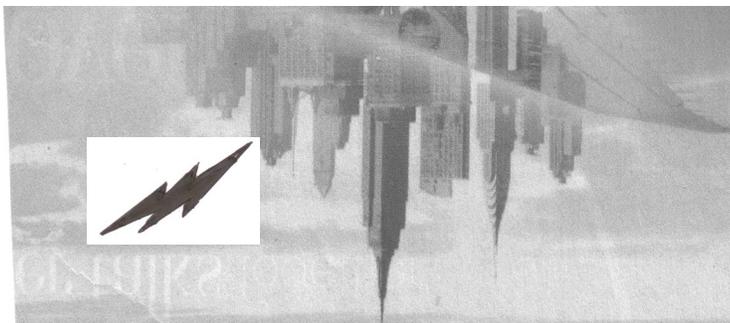
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