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

THE MIX OF GUT BACTERIA CAN AFFECT YOUR WEIGHT

FARMERS HAVE BEEN GIVING ANTIBIOTICS TO LIVESTOCK & POULTRY SINCE THE 1950S BECAUSE IT MAKES THEM GROW FATTER.

(Presented on Marco Grand Rounds, Nov 23, 2014)

Researchers at Cornell have identified a family of microbes called *Christensenellaceae* that appear to help people stay lean—and having an abundance of them, or not, is strongly genetic.

It may be possible to have the Christensenellaceae clan adopt you. Mice that received transplants of the bacteria gained less weight than untreated mice eating the same diet. The study was published in the journal *Cell* in November.

There has been an explosion of research into how bacteria affect human health and body weight is one of the most intriguing areas. There is growing speculation that rising rates of obesity may be due in part to increased use of antibiotics, which may be wiping out bacteria that help humans convert food into energy efficiently.

Babies are born without any bacteria and eventually play host to approximately 100 trillion of the tiny organisms, which outnumber human cells by about tenfold. Bacteria coat every inch of skin, the mouth, the nose, the ears, the genitals and particularly the gastrointestinal track. They not only digest food and help fight off invaders, but also produce vitamins and chemicals that help regulate the immune system. Metabolism—even mood.

"In the past, the main bacteria we saw were the nasty guys, the ones that kill you. We haven't been looking at the thousands of nice guys that help us and keep us thin," says a genetic epidemiologist.

This *microbiome*, as it is called, has evolved along with humans, and even small disruptions have been implicated in a long list of health problems, including obesity, diabetes, high blood pressure, abnormal cholesterol, belly fat, cancer and atherosclerosis, or plaque buildup in the arteries.

The field is booming, in part because scientists are now able to identify and count bacteria more easily, using gene analysis, in stool, saliva, and other samples. The collections can provide a bonanza of information about how complex and different human bacteria communities are.

Introducing bacteria into mice raised to be virtually germ-free has allowed scientists to demonstrate not correlations, but actual cause and effect.

It has been known for decades that gut bacteria affects weight in animals. Studies have shown that giving low-dose penicillin to mice for just four weeks early in life makes them obese later in life—even when their gut bacteria appeared to be normal.

The proliferation of antibiotics, antibacterial soaps and other products isn't just creating some resistant strains, but decimating the bacteria population that humans have evolved with. The type of bacteria that helps regulate appetite is disappearing from human GI tracts. The *Helicobacter pylori* is notorious for causing peptic ulcers, but studies show that it also helps regulate *ghrelin*, the hormone that increases appetite. Without *H. Pylori* to keep *ghrelin* in check, humans may miss the natural signals that tell them to stop eating. Yet only about 6% of U.S. children harbor the



Microbiologist Rob Knight, center, with colleagues sampling oral bacteria from a graduate student at the Knight Lab at the University of Colorado at Boulder (American Gut Project)

DID YOU MISS GRAND ROUNDS?

If you did, you can listen on
<http://www.reliastream.com/cast/start/tkeister>
& notify warren.brown7@aol.com for Cat. II CME credit.

LATE BREAKING NEWS

2015 Annual Meeting Friday, March 20 through Saturday March 21st. Attendees should arrive the day prior and depart on Sunday March 22nd. A block of rooms has been reserved at the Crowne Plaza Redondo Beach Hotel. Price, \$169/night. The hotel is located a short cab ride 7 miles south of L.A. International and is adjacent to the King Harbor Marina and Torrance Beach, a scenic location with a number of easily accessible restaurants and delightful beach walkways, *The Strand*. Hotel address is 300 N. Harbor Dr., Redondo Beach, CA 90277.

For reservations, go to *Marco Annual Meeting*. Enter check-in-out dates...then on room rates and the room block should come up. For phone reservations, call 310 318 8888 or 800 368 9760 and ask for the Marco rate or give the code "MA9."

The business meeting will be held on Friday morning. Friday afternoon will be free time and a list of activities will be provided in your *goodie bag* upon arrival. On Saturday, all attendees are invited to a guided tour of the Nethercuff Museum, a spectacular facility displaying a collection of vintage automobiles, antique musical instruments and other valuable items. Should be FUN TIME!

Dayton HamVention: 4 badges & 1 parking pass ordered. The booth is ready. Block of rooms available at Clarion Inn, Rockridge Rd., Englewood, Ohio, 937 832 1234. tell them you are Marco

ATTENTION: Members outside the USA should make dues payments in U.S. Currency

WRITE TO US!
 We welcome your comments.
 Mail to Marco, P.O. Box 127,
 Indian Rocks, FL,
 33785. Email to
 Warren.brown7@aol.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 confidential 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

Page 2

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.

bacteria in measurable amounts.

Americans today have only about two-thirds the number of bacterial species of a native tribesman in the Amazon who has been exposed to fewer antibiotics.

Studies have shown that in mice altering gut bacteria alone can change body weight, regardless of diet and exercise levels. In a study published in Science last year, researchers at Washington University in St. Louis harvested gut bacteria from four sets of identical mice twins in which one was lean and one was obese, and transplanted them into mice that were raised germ-free. Within weeks, the mice matched with obese donors became obese, while those with lean donors stayed lean—despite eating the same low-fat food.

The new Cornell study is one of the first to show that genetics plays a role in the bacteria that regulate weight gain.

Scientists analyzed stool samples from nearly 1,000 people ages 23 to 86, including 416 pairs of twins. Levels of the little-known Christensenellaceae bacteria were more similar in the identical twin pairs than the fraternal pairs, indicating genetics have a strong influence. The Christensenellaceae were more abundant in the lean twins than the obese twins.

The researchers transplanted the bacteria into germ-free mice, which weighed significantly less than untreated mice after 21 days.

As of now, scientists don't know how Christensenellaceae affects human metabolism or even how it is inherited. The speculation is that human genes affect which bacteria flourish and which dwindle—much like seeds fare better or worse in different soil.

Next, the Cornell researchers plan to give the Christensenellaceae bacteria to mice orally rather than in a fecal transplant and study how long the effect lasts, which could pave the way for a human probiotic version.

More research into the role bacteria play in health is under way as part of the Human Microbiome Project at the National Institutes of Health. "We are just at the very beginning of this field," says the program director.

One study is tracking how stresses such as a divorce, job loss or a bout of the flu may alter the gut bacteria in people who are pre-diabetic and possibly trigger full-blown Type II diabetes.

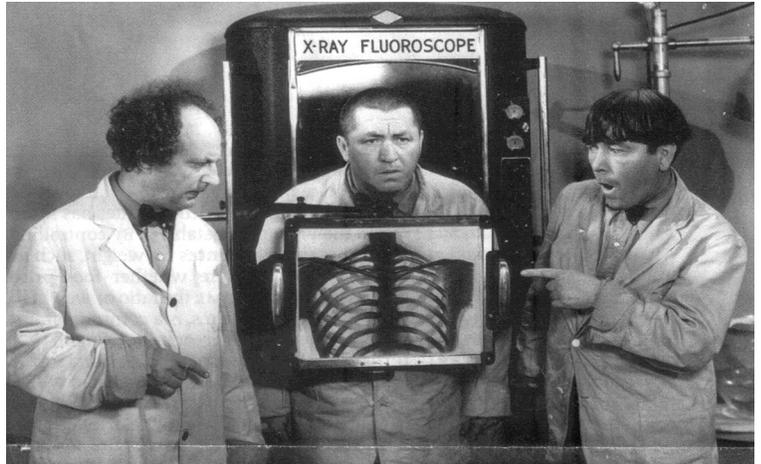
Scientists are also hoping to learn more about human bacteria through crowd sourcing. To date, about 7,000 people have sent stool or saliva samples to the American Gut Project, based at the University of Colorado, along with information about their diet, health and lifestyle habits. For \$99 and up, donors get a statistical profile of their microbiome—and researchers get a wealth of data to explore.

We're finding that the microbiome is affected not just by age and antibiotics, but how many plants you eat, how much alcohol you drink, how much you exercise and how much average sleep you get.

A British project version began in October. Some volunteers are joining pilot studies to see how much they can alter their gut bacteria by changing their diet for three days. "I did one eating masses of unprocessed cheese," says Dr. Spector, who founded *British Gut*. It didn't change his bacteria significantly, he says, "but it put me off cheese for a bit."

Most microbiologists say the legions of yogurts, smoothies, supplements and other products paced with "probiotics" on the market are probably harmless, but largely untested and unregulated with little evidence to back up the claims.

(Information for the above was taken from Melinda Beck's fine article in the October Wall St. Journal)



Researchers tracking the missing bacteria.

Smart-phone raises your I.Q.? A Univ. of Missouri study found that people who didn't have their smartphones with them had elevated heart rate, blood pressure and anxiety, as well as poorer cognitive performance. The scientists say that smartphones can become an extension of their owner and when the phone's not around people feel a loss of self.

GUT BACTERIA PLAY A ROLE IN THESE AILMENTS:

- | | |
|-----------------------------|----------------------------|
| Acid Reflux | Diabetes |
| Allergies | High Blood Pressure |
| Atherosclerosis | Inflammation |
| Asthma | Obesity |
| Autoimmune disorders | Peptic Ulcer |
| Celiac disease | Ulcerative colitis |
| Crohn's disease | |

THE MOST COMMON BACTERIA

- Bifidobacteria** is transferred in breast milk and may prevent tumors.
- Christensenella** guards against obesity and runs in families.
- Helicobacter pylori** causes peptic ulcers but helps regulate appetite.
- Escherichia coli** produces vitamin K but can cause severe illness.
- Clostridium difficile** causes colitis, diarrhea and can be deadly.
- Staphylococcus aureus** causes boils, MRSA and is drug-resistant.
- Pseudomonas aeruginosa** causes ear, eye infections & can spread in hospitals

RESISTANT Clostridium-Difficile RESPONDING TO FECAL TRANSPLANTS

Clearwater, Florida, Oct. 2014...Several patients resistant to Flagyl and Vancomycin drugs have been successfully treated for "C-Dif" with fecal rectal transplants at the Morton Plant Hospital, a clinical branch of the University of South Florida Medical School. "The resistant cases responded dramatically using members of the immediate families as donors.

Studies are underway the Mass General using encapsulated oral doses. (A study previously reported in *Aether* of fecal transplants from lean mice to obese mice resulted in the obese mice losing weight. It was suggested that some organisms have a higher potential for utilizing calories than others.)

In 1960 *Time* ran a cover story asking: *is God Dead?* Many have accepted the cultural narrative that he's obsolete—that as science progresses, there is less need for a "God" to explain the universe. Yet it turns out that the rumors of God's death were premature. More amazing is that the relatively recent case for his existence comes from a surprising place—science itself.



Here's the story: The same year *Time* featured the now-famous headline, the astronomer Carl Sagan announced there were two important criteria for a planet to support life: The right kind of star, and a planet the right distance from that star. Given the roughly octillion—1 followed by 24 zeros—planets in the universe, there should have been about septillion—1 followed by 21 zeros—planets capable of supporting life.

With such spectacular odds, the Search for Extraterrestrial intelligence, a large, expensive collection of private and publicly funded projects launched in the 1960s, was sure to turn up something soon. Scientists listened with a vast radio telescopic network for signals that resembled coded intelligence and were not merely random. But as years passed, the silence from the rest of the universe was deafening. Congress defunded SETI in 1993, but the search continues with private funds. As of 2014, researchers have discovered precisely nothing.

What happened? As our knowledge of the universe increased, it became clear that there were far more factors necessary for life than Sagan supposed. His two parameters grew to 10 and then 20 and then 50, and so the number of potentially life-supporting planets decreased accordingly. The number dropped to a few thousand planets and kept on plummeting.

Even SETI proponents acknowledged the problem. Peter Schenkel wrote in a 2006 piece for *Skeptical Inquirer* magazine, "In light of new findings and insights, it seems appropriate to put excessive euphoria to rest... We should quietly admit that the early estimates... may no longer be tenable."

As factors continued to be discovered, the number of possible planets hit zero, and kept going. In other words, the odds turned against any planet in the universe supporting life, including this one. Probability said that even we shouldn't be here.

Today there are more than 200 known parameters necessary for a planet to support life—every single one of which must be perfectly met, or the whole thing falls apart. Without a massive planet like Jupiter nearby, whose gravity will draw away asteroids, a thousand times as many would hit Earth's surface. The odds against life in the universe are simply astonishing.

Yet here we are, not only existing, but talking about existing. What can account for it? Can every one of those many parameters have been perfected by accident? At what point is it fair to admit that science suggest that we cannot be the result of random forces? Doesn't assuming that an intelligence created these perfect conditions require far less faith than believing that a life-sustaining Earth just happened to beat the inconceivable odds to come into being?

There's more. The fine-tuning necessary for life to exist on a planet is nothing compared with the fine-tuning required for the universe to exist at all. For example, astrophysicists now know that the values of the four fundamental forces—gravity, the electromagnetic force, and the "strong" and "weak" nuclear forces—were determined less than one millionth of a second after the big bang. Alter any one value and the universe could not exist. For instance, if the ratio between the nuclear strong force and the electromagnetic force had been off by the tiniest fraction of the tiniest fraction—by even one part in 100,000,000,000,000—then no stars could have ever formed at all. Feel free to gulp.

Multiply that single parameter by all the other necessary conditions, and the odds against the universe existing are so heart-stoppingly astronomical that the notion that it all "just happened" defies common sense. It would be like tossing a coin and having it come up heads 10 quintillion times in a row. Really?

Chances are you have heard about stem cells—they have been in the news for years. But did you know that stem cells are being used right now to treat debilitating lung diseases? Sufferers of diseases like COPD and pulmonary fibrosis are receiving life changing stem cell treatments that just a few short years ago had not yet been thought of as possible.

With further advancements in the study of stem cells, the question is posed: are stem cells the next penicillin? Stem Cells and penicillin both come from humble beginnings, they are both used to treat life-threatening conditions, and just like penicillin, stem cell biologists have won Nobel Prizes due to the practical uses of their discoveries.

Consider the history of penicillin. Originally discovered in 1928 by the Scottish biologist, Sir Alex Fleming, the full potential of the medication was not seen until its wide use in WW II. It wasn't until 1945, 17 years after its discovery, that Sir Fleming received the Nobel Prize.

Stem cells have also been studied extensively over time and have crept into the national dialogue as a buzz-word, particularly the stem cells found in fetuses. However, the actual stem cells that are now being used to treat diseases in the U.S. and the same cells that warranted the 2012 Nobel Prize in Medicine, are adult stem cells. This type of stem cell is found in fully developed individuals and flourish in all people, regardless of age or health.

Most cells found in the body have developed into a specific type of cell, like a skin cell or a brain cell. At the turn of the 20th century, biologists discovered that some cells that reside in the body have not yet been assigned as a certain type of cell. **Stem cells are simply blank cells standing by to meet your body's needs.** The use of these cells to treat diseases traces back to 1968 when the first bone marrow transplant was performed. The result of placing healthy stem cells into a sick individual's body is the creation of healthy blood cells that are not infected with the disease. In turn, these cells replace the diseased ones and start to heal the patient.

Today a clinic called the *Lung Institute* is using adult stem cells harvested from the patient's own fat, blood or bone marrow to provide similar healing results for people with lung diseases. Their website, www.lunginstitute.com states that they have treated over 500 patients to date. The doctor gives the patient a growth factor that multiplies the stem cells into millions of healthy cells before extracting the stem cells from the patient, then they separate the cells and reintroduce them into the patient's body. The result is that the healthy cells replace the damaged ones found in the lungs. Not only can this slow the progression of the disease, but it also works to restore lung function.

Just as penicillin was recognized by the scientists that awarded the Nobel Prize, so have stem cell developments. If the number of people who have already been successfully treated with stem cells is any indication of the future, then it will undoubtedly be heralded as one of the ground-breaking medical technologies of its time.

(Information for the above was taken from David Ebner's fine article which appeared in the Jan. 6th 2015 edition of the Tampa Bay Time.)

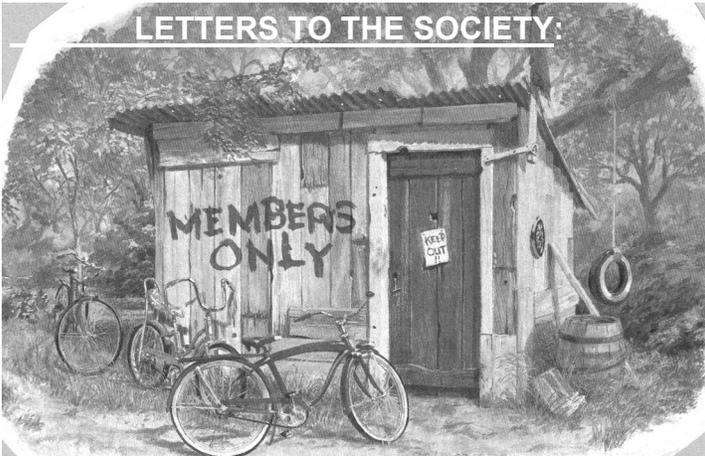
Fred Hoyle, the astronomer who coined the term "big bang," said that his atheism was "greatly shaken" at these developments. He later wrote that "a common sense interpretation of the facts suggests that a super-intellect has monkeyed with the physics, as well as with chemistry and biology... The numbers one calculates from the facts seem to me so overwhelming as to put this conclusion almost beyond question."

Theoretical physicist Paul Davies has said "the appearance of design is overwhelming" and Oxford professor Dr. John Lennox has said "the more we get to know about our universe, the more the hypothesis that there is a Creator... gains in credibility as the best explanation of why we are here."

The greatest miracle of all time, without any close seconds, is the universe. It is the miracle of all miracles, one that ineluctably points with the combined brightness of every star to something—or Someone—beyond itself.

Excerpts taken from Eric Metaxas fine book, "Miracles: What They Are, Why They Happen, and How They Can Change Your Life" (Dutton Adult, 2014)

LETTERS TO THE SOCIETY:



Kudos from: **Max Holland, W4MEA**, Tennessee, Mary Favaro, AE4BX, Myrtle Beach, SC.

From **Harry Przekop WB9EDP, Chicago**, "Trying to get radio gear up where you can hear me and check in again. To all a Happy New Year...For your information, *Noreen Cat*, she was the radio cat whenever I checked into the net, she was there next to me. A cat that loved to listen to the net. She died of degenerative spinal cord disease at 22 years of age, much like Bob Morgan's cat *Bowser* was a Marco fan. Died 6 January 2015, 7:16 pm. There is much to say as to companion animals that are always happy to see us and do not judge us."

Arnold Kalan WB6OJB, Pacific Palisades, CA, answers Harry, "Good hearing from you Harry. Happy New Year to you. Sorry about your companion. My advice: Go to the shelter and get another cat."

Jim Adams, K4JWA, West Virginia, responds, "So sorry to hear about your cat. I understand how much company and companionship they bring. We have two, *Katie and Tiger*. They are part of the family. *Tiger* sometimes jumps up on the desk for attention. I agree, get another cat. (Ed. Note: Harry is a Past President of Marco.)

Since Danny W4DAN recently left the Secretary-Treasury position members have become confused as to whom they should send their annual dues. MARCO now has separate Secretary (Marcia Lochner) and Treasurer (Mary Favaro). You should send your dues to Marcia and she will forward them to Mary. Mary will then notify Arnold Kalan concerning MediShare donations. Simple as X-Y-Q.

George Mortimer N7NLN, Tucson, AZ, is one of the confused. "Mort" as he likes to go by writes: "I have been an associate member since the early 1990s. This year it is time for me to renew my membership and send in my dues. All I need is the mailing address for dues payment or Penpal address. As I recall from on the air Paypal is now the preferred way to transmit funds. Thanks for all your hard work. Mort. **Bruce KM2L**, answered Mort's plea: "We have had much discussion of Paypal, but haven't implemented it as far as I know. Membership renewal information is on page 12 of the Marco Newsletter *Aether*. Your check to MARCO should go to Marcia Lochner at 1635 N. US Highway 35, Know, IN 46534. (Ed. Note: We have trouble picking up Mort's signal on Grand Rounds as he is a Ranger in the Grand Canyon.)

"TEX" BENEKE WAS A HAM

Band Leader **Gordon L. "Tex" Beneke**, 86, K0HWY (Advanced Class) died 30 May 2000 in Costa Mesa, CA. Born in Ft. Worth, TX., he lived much of his life in St. Louis where he got his ham call sign. He joined the Glenn Miller band in 1938 as a tenor sax player and vocalist and took over the orchestra after Miller's plane disappeared during WW II. He is remembered for his most famous hits, "Chattanooga Choo-Choo," "I Gotta girl in Kalamazoo," and "Don't Sit Under the Apple Tree."

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.



The "Woodpecker" is back....only this time it is the "Canadian" variety. This radar can see much further than VHF or UHF which is limited to line of sight. The RADAR like signal has been noted of late on or about 1910 and 3250 at around 22:50 UTC time. It is a high frequency surface-wave radar system developed by Raytheon Canada. It is intended to detect ships up to 200 miles from a country's coast to protect against terrorists. It is located at Hartlen Point, near Halifax. ARRL has been made aware of the interference that this signal is causing to amateurs. Meanwhile, the "Russian Woodpecker" has reappeared, only this time in the form of a film depicting the tale of Chernobyl which will be shown at the Sundance Film Festival in Park City, Utah in January 2015. The Russian Woodpecker, called *Podsolnuch*, over-the-horizon radar, is being set-up in the Crimea. It will be able to monitor surface vessels and aircraft 450 km away and can simultaneously detect, track and identify up to 300 surface and up to 100 aerial targets. More problems!

Among the first "Germans" captured at Normandy were several Koreans. They had been forced to fight for the Germans after being captured by the Japanese by the Russians and then captured from the Russians by the Germans. Most don't realize that Germans manning the barricades at Normandy numbered less than 500 at the time of the invasion. Additional reinforcements later arrived.

At the time of Pearl Harbor, the top US Navy command was called CINCUS (pronounced "sink us"); The shoulder patch of the US Army's 45th Infantry division was the *swastika*, and Hitler's private train was named "Amerika." All three were soon changed for PR purposes.

Why does the Navy football team have a goat for a mascot? Goats have been welcomed aboard ships for many years for practical purposes. Since ships spent months at sea, the crews needed a source for fresh dairy products, meat, leather and fiber. Goats offered advantages over cows. They required less space and goat's were sure-footed, better suited for rough seas. A half-ton cow being tossed around could be dangerous!

If you've seen the 1990 film "Memphis Belle," you know the story of the B-17 and her trusty crew, the first heavy bomber of WW II to complete 25 missions and return home. It's a stirring tale but it isn't true. Memphis Belle was not the first to complete the required number of missions. A B-24 named "Hot Stuff" flew her 25th mission on 7 Feb. 1943, three-and-a-half months before Memphis Belle. The bomber crashed in Iceland 3 May 1943. Capt. Robt. Shannon (pilot) had completed his tour and was flying home. Lt Gen. Frank Andrews had taken the place of the co-pilot when it crashed in bad weather. 14 of the 15 on board were killed including Gen. Andrews. In 1948, the Air Force base in Washington DC was named after him.

Doing what you like is freedom. Liking what you do is happiness. Love people who make you laugh, it's the thing that most people like the most. It cures a multitude of ills. It's the most important thing in a person.

Live your life and forget your age!

THEY SHOT THE WRONG MAN ?

5

Brush away the cobwebs and try and remember Yugoslavian history—was General Tito or General Draza Mihailovich the good guy in World War II? Tito died a natural death in 1970; Mihailovich was shot by firing squad in 1946....but wait, wasn't Mihailovich the good guy?

In a relatively new book *The Forgotten 500* (ISBN: 978-0-451-22495-80) by Gregory Freeman the problem is clarified.

Mihailovich fought the German invaders in the mountains and was democratic Serbian Orthodox Christian; Tito was communist and fought the Germans on the coast and was Croatian Roman Catholic. Mihailovich believed in hit and run guerrilla tactics whereas Tito believed in a more frontal assault program to rid the Nazis.

Mihailovich and his **Chetniks** thought that any outright uprising was without gain and would bring disproportionately great sacrifices. He was not able to convince the Communist **Partisans** that an open fight could have only one result, namely the annihilation of the population.

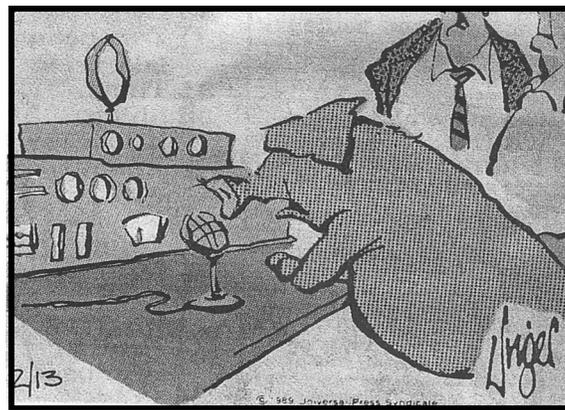
The Communist activity led to primitive German expeditions in the region of Serbia, where Mihailovich operated that led to the deaths of 78,000 Serbians between the ages of 16 and 50. And German reprisals (*100 Yugoslavs murdered for each German*) weren't Mihailovich's only concern. Tito was committing his own crimes against the people of Yugoslavia in his quest for a Communist state.

With each incident, Mihailovich's resolve grew and the picture became clearer to him. The Communists were no better than the Nazis. Though Tito and the Partisan leaders were staunch Communists and planned a Soviet-style postwar government that would gift wrap the Kingdom of Yugoslavia for the Soviets, many of those joining the Partisan movement had no such dreams. Some were pro-Communist, but many didn't care one way or the other. Many joined the Partisan effort because Tito made it clear he was anti-German. He would have been pro-anything to the people who wanted the Germans out. Mihailovich and Tito waged a brutal Civil War and Tito won. England and the U.S. didn't really know who was the good guy? Take your pick! 500 downed WW II Allied airman saved by Mihailovich's instigated airlift pick-up—~~the~~ the Soviets picked Tito.

The British picked Tito and told Mihailovich to go to Tito's H.Q. and submit to him. The British position was influenced in part by reports from Randolph Churchill, Winston Churchill's son, who was at Tito's H.Q. as the principal British liaison to Tito. It was well known by the OSS working with Tito's partisans that Randolph Churchill was uniformly seen as a bad-tempered spoiled rich boy with a serious drinking problem. Apparently, his main function was to send reports directly from Tito to his father, mostly reports of the Partisan's glorious victories over the Germans that the younger Churchill made no attempt to verify.

It would be decades before Mihailovich's suspicions about a Communist plot to besmirch his reputation with the British was confirmed. Not until 1997 would the world understand that the switch of allegiance was orchestrated largely by a Soviet operative who convinced the British that Mihailovich could not be trusted. Communist moles had infiltrated both the OSS and the British SOE, working to besmirch the name of Mihailovich to promote the postwar communization of Yugoslavia under Tito. In 1997 newly declassified secret reports on one of the most controversial British undercover operations of WW II showed a Soviet spy was responsible for the British switching support to Tito, his name was James Klugmann, a confirmed Soviet mole.

Reports sent by Klugmann, who was closely associated with the infamous British traitors known as the *Cambridge Five*, for the first time confirmed that he was principally responsible for sabotaging the Mihailovich supply operation and for keeping London information about how much Mihailovich forces were fighting the Germans and how much success they were having. The Cambridge Five was a ring of British spies who passed information to the Soviets. Members included Kim Philby, Guy Burgess, Anthony Blunt, Donald Maclean—all high ranking members of the government and secret agents.



WHY AMATEUR RADIO OPERATORS ARE CALLED HAMS

The first wireless operators were *landline telegraphers* who left their offices to go to sea or to man the coastal stations. They brought with them their language and much of the tradition of their older profession—*telegraphers*.

In those early days every station occupied the whole spectrum with its broad spark signal. Government stations, ships, coastal stations and the increasingly numerous amateur operators all competed for time and signal supremacy in each other's receivers. Many of the amateur stations were very powerful. Two amateurs working each other across town, could effectively jam all the other operations in the area. Frustrated commercial operators would refer to the ham radio interference by calling them "hams." Amateurs, possibly unfamiliar with the real meaning of the term, picked it up and applied it to themselves. As the years advanced, the original meaning has completely disappeared.

Throughout the history of amateur radio, amateur radio enthusiasts have made significant contributions to science, engineering, industry, and social services. Research by amateur radio operators has founded new industries, built economies, empowered nations, and saved lives in times of emergency.

Amateur radio came into being after radio waves were proven to exist by Heinrich Hertz in 1888 and were adapted into a communication system in the 1890s by the Italian inventor Guglielmo Marconi. In the late 19th century there had been amateur *wired* telegraphers setting up their own interconnected telegraphic system. Following Marconi's success, many people began experimenting with this new form of "*wireless telegraphy*."

In 1908, students at Columbia Univ. formed the first radio club which is still in existence. A rapid expansion and even "*mania*" for amateur radio then took place by 1910 which led to a wide spread problem of inadvertent and even malicious radio interference with commercial and military radio systems. In 1912 after *RMS Titanic* sank, the Congress passed the Radio Act of 1912 which restricted private stations to wavelengths of 200 meters or shorter. These "short wave" frequencies were then generally considered useless.

During WW I and WW II amateur radio ceased to exist. In 1923, the first transatlantic two-way contact occurred between an American amateur and a French amateur. By 1933 single-sideband voice experiments succeeded which became popular in the 1950s. Today, there are over 700,000 American hams enjoying a hobby that resembles on-the-air fishing for unknown voices throughout the world.

WHY NOT SEND A HAM FRIEND

A MEMBERSHIP IN MARCO

NOT RESTRICTED TO MEDICS. ANY HAM WHO IS A POTENTIAL PATIENT IS ELIGIBLE.

Keep MARCO vibrating!

WHY EVERYTHING YOU KNOW ABOUT AGING IS WRONG !

6

Excerpts from Anne Tergesen's fine article in the WSJ, Dec. 1, 2014

Most researchers are finding that as people get older, friendships, creativity and satisfaction with life all can flourish.

Everyone knows that as we age, our minds and bodies decline—and life inevitably becomes less satisfying and enjoyable. Everyone knows that cognitive decline is inevitable...everyone knows that as we get older, we become less productive at work. **Everyone, it seems, is wrong.**

Contrary to the stereotype of later life as a time of loneliness, depression and decline, a growing body of scientific research shows that, in many ways, life gets better as we get older. In fact, a growing body of evidence indicates that our moods and overall sense of well-being improve with age; Friendships tend to grow more intimate, too, as older adults priorities what matters most to them.

Academics have found that knowledge and certain types of intelligence continues to develop in ways that can even offset age-related declines in the brain's ability to process new information and reason abstractly. Expertise deepens, which can enhance productivity and creativity. Some go as far as to say that wisdom—defined, in part, as the ability to resolve conflicts by seeing problems from multiple perspectives—flourishes.

To be sure, growing older has its share of challenges. Some people don't age as well as others. And especially at advanced ages, chronic conditions including diabetes, hypertension and dementia become increasingly more common and can take a toll on mental, and physical health.

Still, those who fall into the stereotype of being depressed, cranky, irritable and obsessed with their alimentary canal constitute no more than 10% of the older population says a scientist at the National Institute of Health. The other 90% of the population isn't like that at all.

Here are six prevalent myths about aging—along with recent research that dispels common misconceptions.

Myth No. 1, Depression is more prevalent in old age...It's easy to assume that old age would be a depressing time of life. After all, as health declines and friends and relatives become disabled and die, it can be hard to maintain a positive outlook.

But research indicates that emotional well-being improves until the 70s, when it levels off. Even centenarians *"report overall high levels of well-being,"* according to a 2014 study by researchers at Stanford.

"Contrary to the popular view that youth is the best time of life, the peak of emotional life may not occur until well into the seventh decade," one professor says.

The study concludes that older adults focus on positive rather than negative emotions, memories and stimuli.

Myth No. 2. Cognitive decline is inevitable...As we age, our brains undergo structural changes. Certain regions, including the prefrontal cortex, shrink. And the neurons that carry messages become less efficient. As a result, concentration and memory slip and around age 30, scores on tests of abstract reasoning and novel problem-solving begin to decline.

Like an older computer, an older brain typically take longer to process and retrieve information from its crowded memory. But recent discoveries also indicate that —barring dementia—older adults perform better in the real world than they do on cognitive tests.

The good news is recent experiments show that certain activities appear to enhance cognitive function and perhaps, slow age-related cognitive declines. Compared with peers who performed word puzzles or engaged in social activities and other tasks that required no new skills, those learning new skills showed greater improvement in memory with some also showing improvement in processing speed. Thus proving that older adults who learn challenging new skills tap more diffuse brain circuits and pathways to compensate for age-related deficits.

Myth No. 3, Older workers are less productive...Workers 55 or older make up 22% of the U.S. labor force, up from 12% in 1992. But thanks in part to stereotypes that portray older workers as less adaptable than their younger colleagues, they are widely assumed to be less productive.

In fact, the vast majority of academic studies shows *"virtually no relationship between age and job performance."*

In jobs that require experience some studies show that older adults have a performance edge Economists at the Max Planck Institute for Social Law, examined the number and severity of errors 3,800 workers made on an assembly line from 2003 to 2006. The economists determined that over that four year period, the older worker committed slightly fewer severe errors, while the younger workers severe error rates edged up.

Myth No. 4, Loneliness is more likely...Older adults typically report better mar-

riages, more supportive friendships, less conflict with children and sibling and closer ties with members of their social networks than younger adults. And older adults have a higher rate of close ties than younger people and fewer problematic relationships that cause them distress.

Myth No. 5, Creativity declines with age...Creativity has long been seen as the province of the young. But academic studies that date as far back as the 19th century pinpoint midlife as the time when artists and scholars are most prolific. Creativity tends to peak earlier in fields such as pure math and theoretical physics, where breakthroughs typically hinge on problem-solving skills that are sharpest in one's 20s. In fields that require accumulated knowledge, creative peaks typically occur later. Historians and philosophers, for example, may reach their peak output when they are in their 60s

Creative genius clusters into two categories: conceptual artists, who tend to do their best work in their 20s and 30s, and experienced artists, who often need a few more decade to reach full potential.

People who are creative in older age aren't anomalies. Mark Twain, Frank Lloyd Wright, Robert Frost and Virginia Woolf are just a few of the artists who did their greatest work in their 40s, 50s, and 60s. These artists rely on wisdom which increases with age.

Myth No. 6, More exercise is better...When it comes to improving health and longevity, exercise is key. But a growing number of studies show that more exercise may not always be better.

You get to a point of diminishing returns. In a study to be published in November 2014, 1,098 joggers and 3,950 non-joggers from 2001 to 2013; all were part of the Copenhagen City Heart Study underway since 1976. Overall, the runners in the study lived longer than the non-runners: 6.2 years longer for the men and 5.6 years longer for the women.

But the new study discovered that those who ran more than four hours a week at a fast pace—of 7 mph lost much if not all of the longevity benefits.

The group that saw the biggest improvements? Those who jogged from one to 2.4 hours weekly at 5 to 7 mph and took at least two days off from vigorous exercise per week.

Other studies have come to similar conclusions. In research published this year, scientists at institutions including Iowa State University, found that the death rate for runners is 30% to 45% below that for non-runners. But the mortality benefits were similar for all runners even those who ran five to 10 minutes a day at speeds of 6 mph or less. Fairly modest doses of running proved benefits as great as a lot of running.

One doctor believes that long-term strenuous endurance exercise may cause *"overuse injury"* to the heart. His recommendation: stick to a moderate cardiovascular workout of no more than 30 miles a week or 50 to 60 minutes of vagarious exercise a day and take at least one day off each week. You don't need to run a marathon.

STATISTICS

**57% of those 18-64 expect memory loss when older.
25% of those over 65 experienced modest memory loss**

**45% of those 18-64 thought they would be unable to drive
14% of those over 65 are unable to drive**

**29% of those 18- 64 thought they would become lonely.
17% of those over 65 experienced loneliness.**

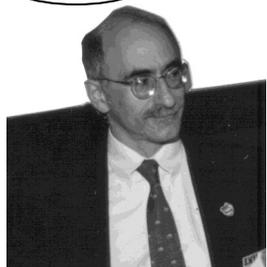
**24% of those 18-64 thought they would be a burden when older
10% of those over 65 reported being a burden to their families.**

**29% of those 18-64 felt they would not be needed when older.
9% of those over 65 felt they were not needed.**

**34% of those 18-64 felt they would be sexually inactive.
21% of those over 65 complained of being sexually inactive.**

If you fit into one of the above categories advise Marco and we will print the results.

Hello, I'm Bruce



MEMORIES OF YEARS AGO

IN MARCO

Our History Book

Bruce Small, KM2L

Marco Webmaster

25 YEARS AGO IN MARCO

The December 1989-January 1990 MARCO Newsletter promised that the 1990 Dayton meeting would be the best

yet.

The National Practitioner Data Bank was set to begin operation soon, and this issue carried a lengthy description of how it would work (Hint: *Not well*).

Ed WA3TVG apologized for the lateness of the issue, but he had been laid low by a bug. In his editorial he reflected back on the previous ten years of the organization and wondered whether it would still be alive ten years later (Hint: *Yes!*)

We welcomed a great many new members including Charles W8CCK, Stephen KA3ULK, William WB3GYA/5, Edmond V31CB/6Y, Frank AL7CA, Alexander K2DOX, Peter (no call), Harold K7SMY, Mary Alice N9GAA, Norman NV8G, Clayton KA1PLX, Philip N4WKK, Grover N4SMT, Eduardo WA2JXI, Franklin WS0W, Jan N6MFI, Morris W2NXS, Kenneth W0ZQJ and Alan WA1KYT.

TWENTY YEARS AGO IN MARCO

Ed Briner WA3TVG was still the Editor of the Dec. 1994 Newsletter and was still worried about MARCO's well-being. In the front-page editorial he expressed the fear that unless the membership became more active, MARCO would die as a group. Ed also promised a new printed membership directory in early 1995.

This issue carried a profile of Earl Weston (*Doc in Detroit*) W8BXO and his wife Roxie, reprinted from 14 MHz Net News.

President Poly Gadegboku thanked the Community United Church of Christ in Reading, Pa for a generous donation to the MARCO Foundation.

Sister Alverna O'Laughlin WA0SGJ wrote an appreciation of MARCO member Dave Justis KNOS. Dave had devoted a great deal of time and effort in support of the Courage Handi-Ham system. Sister Alverna's article originally appeared in World Radio and was reprinted in the Newsletter.

FIFTEEN YEARS AGO IN MARCO

In the December 1999 MARCO Newsletter, Editor Ed WA3TVG warned us all to prepare for Y2K!

Smitty W6CS followed up on the previous month's discussion of the greatest inventions of the century. Continued nominations ranged from tongue-in-cheek to serious and included the triple blade razor (W6CS), the off switch (K3IK), the light bulb, telephone, TV and computer. (N3IM), talking movies and color TV (W6CS) and the airplane and safe drinking water KQ4IC.

The November 1999 Newsletter had been delivered by email as well as in printed version. This seemed to kick up quite a storm at the time and the experiment was dropped.

Warren KD4GUA reviewed the treatment of localized prostate cancer. We added new member, Angelo WA2NNA and Samuel ZS5KB.

TEN YEARS AGO IN MARCO

In the February 2005 MARCO Newsletter, Warren, KD4GUA unraveled "*The Mystery of Sleep*," discussing the meaning of dreams, whether we dream in color and how much sleep we require.

MediShare Director Bill Stenberg N5QF reminisced about how his interest in electronics was stimulated and nurtured as a child. It all started with a rare transistor radio that his father had brought home from the Korean War.

Dick Doncaster WB3AJC also told the story of his start in amateur radio. In his case, he was disabled for two years after a terrible skiing accident in 1968. Ham radio friends rescue him from a terminal case of cabin fever by coaxing him to become licensed.

FINAL CME RANKINGS, 2014

BOB CURRIER MARCO GRAND ROUNDS OF THE AIR

14.342, Sundays, 11 a.m. Eastern, One Hour Cat. II CME

CALL HRS NAME QTH
Because of poor propagation we may have missed you—please correct by sending to wahrenbrown@aol.com

KD4GUA	47	Warren	Largo, FL
KC9CS	46	Bill	Largo, FL
NU4DO	45	Norm	Largo, FL
N5RTF	44	Chip	New Orleans, LA
N6DMV	43	Paul	Torrance, CA
KM2L	43	Bruce	Clarence, NY
W1BEW	42	Bobbie	Tennessee
WB6OJB	42	Arnold	Pac. Pal. CA
N4TSC	41	Jerry	Boca Raton, FL
WB1FFI	41	Barry	Syracuse, NY
KNOS	41	Dave	Virginia
N2JBA	40	Ed	Amenia, NY
KK1Y	39	Art	Seminole, FL
N4MKT	37	Larry	The Villages, FL
K9CIV	35	Rich	Knox, IN
K4JWA	34	Jim	W. Virginia
KD8IPW	34	Mary	W. Virginia
KD5QHV	32	Bernie	El Paso, TX
N5AN	31	Bud	Lafayette, LA
WA1EXA	31	Mark	Cape Cod, Mass.
K6JW	30	Jeff	Palos Verdes, CA
KE5SZA	30	John	Marietta, OK
WA9HIR	30	Bill	Berwyn, IL
W4DAN	29	Danny	Cleveland, TN
W2PAT	28	Marv	South Carolina
W4MEA	28	Max	Hixson, TN
N9YZM	27	Mike	Crystal lake, IL
W6NYJ	27	Art	Beverly Hills, CA
K4RLC	25	Bob	Raleigh, NC
N4DOV	24	David	Ft. Lauderdale, FL
N9RIV	23	Bill	Danville, IL
K3IK	23	Ian	Shavertown, PA.
KG6DQF	23	Glen	Palo Alto, CA
W2MXJ	22	Joe	New Orleans, LA
K0FS	22	Fred	St. Louis, MO
W8LJZ	21	Jim	Detroit, MI
N9GJ	21	Greg	Cleveland, TN
KE5BQK	21	Linda	El Paso, TX
KB5FLA	20	Rich	Arkansas
N20JD	20	Mark	Sidney, Ohio
W0RPH	18	Tom	Denver, CO
WA3QWA	17	Mark	Chesapeake, VA
W1RDJ	16	Doug	Cape Cod, Mass.
AE4BX	15	Mary	Myrtle Beach, SC
N9GOC	15	Pat	Champagne, IL
W9JPN	13	Wally	Champagne, IL
N7NLN	13	Mort (George)	Grand Canyon, AZ
W4TX	13	Elbert	Mississippi
WB9EDP	11	Harry	Chicago, IL
W1HGY	11	Ted	Massachusetts.

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 (Year of Terrorist)
2014	1756 (47 nets)	37.36

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

*This was the year we had to change frequency due to the terrorist, thus losing a lot of stations in the freq. shift.

On July 22, 2014, the FCC issued a “willful and repeated violation of Section 333 of the Communications Act and of Sections 97.101(d) and 97.119(a) of the Amateur Service rules by causing intentional interference to licensed radio operations and failing to transmit his assigned call sign” to MARCO’s “terrorist, {“ Michael Guernsey KZ80 (ex-ND8V) of Parchment, Michigan, proposing to fine him \$22,000. The FCC said the evidence indicted that the transmissions at issue were aimed at interfering with other radio amateurs with whom Guernsey “had long-standing and well-documented disputes” that had spilled over onto the air.

The FCC responded in March 2015 to “several complaints of intentional interference” on (and about) 14.313 MHz and Commission agents used radio direction-finding techniques to pin down the transmission sources.

The enforcement Bureau had warned Guernsey in the past regarding interference to other radio operators. Guernsey’s case is still pending.
(The above was sent to Bill Otten, KC9CS, Largo, FL. Jan. 14, 2014, who forwarded it to Aether. This is a repeat of an earlier bulletin in Aether—apparently Guernsey hasn’t capitulated. He has been under surveillance since about 2003. This forced our move to 14.342.)

MONSTERS, Fact or Fiction?

BIGFOOT...Location: Northern California & Western states.

WHAT IT MIGHT BE: Ape or hoaxes, 4-8’ tall, harmless. Also seen in Florida, Ohio, Okalahoma and Texas.

SEA SERPENTS...Location: Atlantic & Pacific & Great Lakes.

WHAT IT MIGHT BE: Whales, Oarfish, sharks, driftwood.. A 60’ servent was seen in San Francisco Bay in 1985.

JERSEY DEVIL...Location: New Jersey Pine Barrens.

WHAT IT MIGHT BE: Has the head of a goat, small arms with claws, batlike wings, horns, hooves and a bloodcurdling scream.” Seen in NJ since 1960s. **WHAT IT MIGHT BE:** Folklore, humans.

THE MONTAUK MONSTER...Location: Montauk, Long Island, N.Y. **WHAT IT MIGHT BE:** A raccoon, dog, cat or rodent. The Montauk Monster was found dead on a beach in July 2008.

THUNDERBIRD...Location: Western U.S. The Thunderbird was seen as battling the enemies of humanity and creating lightning storms by flapping its wings.

Other “Monsters,” the Loch Ness monster in Scotland and the Bermuda Triangle (rogue waves?), werewolves, vampires, zombies, flying saucers, mummies and gargoyles. **If you have any information pertaining to these monsters please advise.**

WHAT WERE THEIR NAMES BEFORE ?

There once was a man named “Pancake.” He changed his name to “Smith.” **Samuel Goldfish**, the MGM boss, changed his to “**Goldwyn.**” **Judy Garland** was originally Frances Ethel Milne Gumm as was **Joan Rivers** “Joan Alexandra Molinsky.”

Stan Laurel, the comedian was originally “Arthur Stanly Jefferson.” **Betty Grable** was Elizabeth Grasl; **Cary Grant** was Archibald Alexander Leach. **Julie Andrews** was Julia Wells; **Lucille Ball** was Dianne Belmont and **Tony Bennett** was Antonio Benedetto. **Richard Burton** was Richard Jenkins, Jr. **Bill Clinton** was William Jefferson Blythe IV.

How about **Doris Day**—her original name was Doris Von Kappelhoff and **Phyllis Diller** was Phyllis Driver. **Kirk Douglas** has a winner, Issur Danielovich Demsky and **President Gerald Ford’s** birth-name was Leslie Lynch King, Jr. **Engelbert Humperdinck** was Arnold Dorsey and **Larry King** was Larry Zeiger.

Madonna’s real name is Madonna Louise Ciccone and **Walter Matthau** had a winner, “Walter Matuschanskuyasky.” How about **Rudolph Valentino**—his name was originally “Rudolpho d’Antonguolla.” **Natalie Wood’s** name was Natasha Gunlin.

Don’t like your name? CHANGE IT. Maybe you will become famous.

I hope you had a happy and healthy holiday session and that the new year is off to a great start for you. Personally, I’m looking forward to an enjoyable year for MARCO.

In March, we’ll be having our annual meeting here on the left coast. Full details (*or as many as I can currently share*) are available on the MARCO website, with the latest updates being posted both on the meeting website at <http://www.spacebraid.com/MARCO.html> and periodically on the MARCO reflector. Most folks will arrive in L. A. on Thursday, 19 March. We’ll gather informally at the hotel and grab dinner somewhere close, probably across the street at one of the nearby restaurants. Our meeting will begin at 0830 on Friday morning, the 20th, at the Western Museum of Flight in nearby Torrance. The afternoon will be free. A special activity is planned for Saturday during the day (details on the meeting website and, of course, we’ll have our banquet on Saturday night at a location to be announced later. Most folks will probably head home on Sunday, the 21st, but a few will be staying in the L.A. area for a few extra days of visits and sightseeing. If you haven’t yet reserved your room but plan on staying at the hotel, please do so now, while at the time of this writing, rooms are still available at the meeting rate.

In May, some of us will be attending the Dayton Hamvention, where we’ll have our usual convention booth. Again, we have a block of rooms reserved, so if you plan on staying here, please make your reservation while a few rooms are still available.

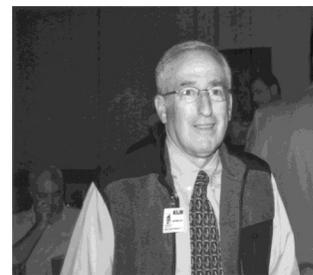
I hope everyone got the goodies he/she wanted for the holidays. In my case, my station is pretty much complete, although, I’m saving myself for Dayton and..maybe..a new Bengali paddle? Some of you may know the sage of my failure to buy the Begali paddle of my choice at last year’s Hamvention, when on inspection the one I wanted turned out to have a damaged finish. It was the only one they had in a sealed box, so they offered me the demo paddle which at first they said they’d discount but then changed their mind. As a result, I walked away. Well, maybe I’ll look again at their offerings this year.

As we begin the new year, I’d like to thank the Board for its support last year. In particular, I’d like to acknowledge Warren, KD4GUA, whose editing of the newsletter is superb and whose single-handed effort in producing the weekend programs for MARCO’s Grand Rounds of the air, and serving at net control, go above and beyond. Warren, You’re a treasure.

That’s it for this column. Until next time, be safe, be happy and get on the air 73\

JW

Static Electricity was the first kind of electricity to be discovered. The conservation of charge states that electric charge is neither created nor destroyed. The total amount of electric charge in the Universe remains constant. **Electromagnetism** is the relationship between **electricity & magnetism**. Electric currents can produce magnetic fields and magnetic fields can produce electric currents.



Trans fats are a type of unsaturated fats which are uncommon in nature but can be created artificially.

Fats contain long hydrocarbon chains, which can either be unsaturated, i.e., have double bonds, or saturated, i.e. have no double bonds. In nature, unsaturated fatty acids generally have *cis* (as opposed to *trans*) configurations. In food production, liquid ***cis*-unsaturated fats** such as vegetable oils are hydrogenated to produce saturated fats, which have more desirable physical properties, they melt at a desirable temperature and they are more liquid at room temperature.

Although *trans* fats are edible, consumption of them has shown to increase the risk of coronary heart disease in part by raising levels of the LDL bad cholesterol and lowering levels of the HDL good cholesterol, increasing triglycerides in the blood and promoting systemic inflammation.

Trans fats occur naturally in trace amounts in meat and dairy products from ruminants (*animals that chew grass*). Natural and artificial *trans* fats are chemically different, but there is no scientific consensus about differences in their health effects. Two Canadian studies have shown that the natural *trans* fat vaccenic acid, found in beef and dairy products, could actually be beneficial compared to hydrogenated vegetable shortening, or a mixture of pork lard and soy fat. by lowering total and LDL cholesterol and triglyceride levels. A study by the US Dept. of Agriculture showed that vaccenic acid raises both HDL and LDL cholesterol, whereas industrial *trans* fats only raise LDL without any beneficial effect on HDL. In lack of recognized evidence and scientific agreement, nutritionists consider all *trans* fats as equally harmful for health and recommend that consumption of *trans* fats be reduced to trace amounts.

HISTORY...Nobel laureate Paul Sabatier worked in the late 1890s to develop the chemistry of hydrogenation, which enabled the margarine, oil hydrogenation, and synthetic methanol industries to exist. In 1909, Procter & Gamble acquired the US rights to the hydrogenation patent and in 1911 they began marketing the first hydrogenated shortening, ***Crisco*** (*composed largely of partially hydrogenated cottonseed oil*).

Prior to 1910, dietary fats consisted primarily of butterfat, beef tallow, and lard. In the early 20th century, soybeans began to be imported into the US as a source of protein; soybean oil was a by-product. What to do with that oil became an issue. At the same time, there was not enough butterfat available for consumers. The method of hydrogenating fat and turning a liquid fat into a solid one had been discovered, and now the ingredients (*soybeans*) and the “need (*shortage of butter*) were there. Later, the means for storage, the *refrigerator*, was a factor in *trans* fat development. The fat industry found that hydrogenated fats provided some special features to margarines, which allowed margarine, unlike butter, to be taken out of the refrigerator and immediately spread on bread. Margarine made from hydrogenated soybean oil began to replace butterfat. Hydrogenated fat such as *Crisco* and *Spry*, sold to replace butter and lard in the baking of bread, pies, cookies and cakes began in the 1920s.

Production of hydrogenated fats increased steadily until the 1960s, as processed vegetable fats replaced animal fats in the US. At first, the argument was a financial one due to lower costs; advocates also said that the unsaturated *trans* fats of margarine were healthier than the saturated fats of butter. As early as 1956 there were suggestions in the scientific literature that *trans* fats could be a cause of the large increase in coronary artery disease but after three decades the concerns were still largely unaddressed. In fact, by the 1980s, fats of animal origin had become one of the greatest concerns of dieticians and McDonalds was urged to switch to vegetable oils. The result was an almost overnight switch by most fast-food outlets to switch to *trans* fats to cook their French fries.

Studies in the early 1990s, however, brought renewed scrutiny and confirmation of the negative health impact of trans fats. In 1994, it was estimated that trans fats caused 20,000 deaths annually in the US from heart disease.

In January 2007, faced with the prospect of an outright ban on the sale of their product, *Crisco* was reformulated to meet the US FDA definition of “*zero grams trans fat per serving (less than .5 grams per serving size)*” by boosting the saturation and then diluting the resulting solid fat with unsaturated vegetable oils.

CHEMISTRY...In chemistry, *trans fat* is a fat molecule that contains one or more double bonds in *trans* geometric configuration. A double

bond may exhibit one of two possible configurations, *trans* or *cis*. In *trans* configuration, the carbon chain extends from opposite sides of the double bond, whereas in *cis* configuration, the carbon chain extends from the same side of the double bond. The *trans* molecule is a straighter molecule. The *cis* molecule is bent.

Fatty acids are characterized as either saturated or unsaturated based on the presence of double bonds in its structure. If the molecule contains no double bonds, it is said to be saturated, otherwise, it is unsaturated to some degree. (*Refer to your Organic chemistry book.*)

Hydrogenation of an unsaturated fatty acid refers to the addition of hydrogen atoms to the acid, causing double bonds to become single ones, as carbon atoms acquire new hydrogen partners (to maintain four bond per carbon atom).

A type of *trans* fat occurs naturally in the milk and body fat of ruminants (*cattle and sheep*) at a level of 2-5% of total fat.

Partially hydrogenated oils have been used in food for many reasons. Partial hydrogenation increases product shelf life and decreases refrigeration requirements.

Trans fat behaves like saturated fat by raising the level of LDL, but, unlike saturated fat, it has the additional effect of decreasing levels of HDL. It also increases the C-reactive protein (CRP) level which indicates increased inflammatory effect in the body.

On July 11, 2003, the FDA issued a regulation requiring manufacturers to list *trans* fat on the Nutrition Facts panel of foods and dietary supplements. However, *trans* fat levels of less than .5 grams per serving can be listed as 0 grams *trans* fat on the food label but not when ordering bulk supplies like food for schools or churches. Critics have expressed concern that the .5 gram per serving threshold is too high to refer to a food as free of *trans* fat.

IT IS NOT WHO IS RIGHT IT IS WHAT IS RIGHT

The top scientist guiding the US government’s nutrition recommendations made an admission in September that would surprise most Americans. Low fat diets are probably not a good idea. It was a rare public acknowledgment conceding the failure of the basic principle behind 35 years of official American nutrition advice.

The Dietary Guidelines for Americans—jointly published by the US Dept. of Agriculture and the Dept. of Health & Human Services every five years—have had a profound influence on the foods American produce and consume. Since 1980 they have urged us to cut back on fat, especially the saturated kind found mainly in animal foods such as red meat, butter and cheese. Instead Americans were told that 60% of their calories should come from carbohydrate-rich foods like pasta, bread, and potatoes. And on the whole, we have dutifully complied.

By the turn of the millennium, however, clinical trials were showing that a low-fat regime neither improved our health nor slimmed our waistlines. Consequently, in 2000 the Dietary Guidelines committee started to tiptoe away from the low-fat diet, and by 2010 its members had backed off any mention of limits on total fat.

Yet most Americans are still actively trying to avoid fat, according to a recent Gallup poll. They are not aware of the USDA’s crucial about-face because the agency hasn’t publicized the changes. Perhaps it did not want to be held responsible for the consequences of a quarter-century of misguided advice, especially since many experts now believe the increase in carbohydrates that authorities recommended has contributed to our obesity and diabetes epidemics. (Remember the successes of the Atkins Diet?)

The most hopeful path lies in a different direction: An enormous trove of research over the past decade has shown that a low-carbohydrate regime consistently outperforms any other diet in improving health.

Rates of obesity in the US started climbing dramatically right around 1980, the very year in which the Dietary Guidelines were first introduced.

More than three decades later, more of the same advice can only be expected to produce similarly dismal health outcomes. And the cost, in human and dollar terms, will continue to be catastrophic.

These are compelling reasons for Congress to ask the USDA and HHS to reconstitute the Dietary Guidelines committee so that its members represent the full range of expert opinion. The committee should then be mandated to fundamentally reassess the Guidelines’ basic assumptions, based on the best and most current science. These measures would give millions of Americans a fighting chance in their battle against obesity, diabetes and heart disease—and at last start to reverse the ill effects of our misguided Dietary Guidelines.

(Information for above was taken from Nina Teicholz’s article in the WSJ, Oct. 29, 2014.)

BACKGROUND: At a recent Marco meeting in Myrtle Beach, SC., Wayne Rosenfield, K1WDR came to the Aether News Editor with a wonderful story of the heroism by a ham operator named Capt. Kurt Carlsen W2ZXM of the “*Flying Enterprise*,” a ship caught in a hurricane in the North Atlantic in 1951. Ironically, the News Editor, at the time, was a Navy medical officer aboard the USNS General Leroy Eltinge that stood by to possibly rescue passengers aboard that very ship. On top of that, the News Editor’s “Elmer” was a South African ham, Olliver Pierce WU4i, who at that time was corresponding by radio with Carlsen. Below, is this wonderful story, “*Simple Courage*,” written by Frank Delaney, ISBN 1-4000-6524-0, available at Amazon.com

In late December 1951, Capt. Kurt Carlsen, 37, had run into a hurricane off the South English coast aboard his cargo vessel *Flying Enterprise*. The Captain ordered “abandon ship” and a line was passed from a rescue lifeboat and passengers and crew were ordered to jump into the raging waters with lifelines attached, but the Captain remained on board. Prior, by the time she was ready to return to New York from Hamburg, *Flying Enterprise* was loaded with consignments of which have contributed to the half century of questions hanging over her—just why did *Flying Enterprise* become a mystery ship and why did her Captain refuse to leave his ship. The ship left Hamburg on Dec. 21, 1951 for New York and the unexpected. A storm soon arose and in the midst of the storm the *Flying Enterprise* snapped open amidships and was quickly strapped and cemented back in place. Meanwhile the storm raged....a huge wave finally sent the ship listing 25 degrees on the left side....

After his bleak survey of his chances up above on the weather deck, Captain Carlsen clambered back down the sloping, rolling levels of his afflicted ship. He lurched his way to the radio shack and dictated a signal to David Greene, the *Flying Enterprise* radio officer: “*Encountering severe hurricane, position 49-20 north; 17-20 west, situation grave, 30-degree port list*”—the subsequent heaves had not kicked in—“*and just drifting. Ships in vicinity please indicate. Signed Master.*” Greene sent this with the “XXX” international prefix indicating “urgent.”

It was 25 past noon GMT, 25 minutes past 11 on the ship, a quarter of an hour after the wave hit. The stinging edge of a rain shower passed over and Greene went to work. He knew that whatever the urgency, it would take some time before the necessary relay stations picked up his message and passed it on.

The day and the events now took on a long, slow darkening. As the radio officer began to call for help, Carlsen looked over the ship again and finalized his grave strategy. He had to assume the toughest possible scenario—of everyone jumping into the sea—because he had no certainty as to whether he could use his own port lifeboat. It had not been taken out of commission, as had the starboard boat, but he suspected that once he began to commission it, the metal davits that lowered it would hammer down on the heads of anyone trying to get into the boat. If he took a chance and hung it out unmanned, the sea would surely drive it back against the side of the ship.

Those who observed Carlsen said that he exhibited no anxiety, no haste, no fever, no excitability, no distress; he spoke clear, simple words and maintained an unworried expression. Already he had made the decision not to ring an alarm bell; now, he ordered Michael Staikoff to find the chief mate and the chief steward and relay orders to them—that each passenger should fetch from their ruined cabins such warm clothing as they could still use, and then be issued life jackets. Next the passengers must congregate in the starboard corridor of the accommodation block, the highest indoor part of the ship at that time.

When Staikoff found Frank Bartak, the chief mate, in the passageway outside the wheelhouse, he also found a passenger badgering Bartak. Nikolai Bunjakowski, an awkward man about whom nobody knew much, had two conflicting listings in the passenger manifest: “*German*” and “*Stateless*.” Insofar as anyone could see, he had either been friendly with or had befriended Mrs. Nina Dannheister from Hamburg, the oldest of the women passengers, and he had also taken a shine to Mrs. Dannheister’s small white dog.

Now Bunjakowski sought reassurance from the chief mate, and Bartak tried to sooth him. Stikoff, seeing Bunjakowski’s agitation, did not want the passenger to hear Carlsen’s orders, with their evident urgency, so he

eased Bartak away. Bartak then began to act on the orders relayed from Carlsen.

At least one member of the crew had anticipated the captain. Ross Thomas, the chief steward, had already prepared the life vests—“so I

could have them ready within a split second,” he said. In anticipation, of the captain’s need for calm, the steward hadn’t yet shown the life vests to the passengers.

In due course, however, crew members began to help the passengers put on the flotation vests. At the same time, with as much tact and calm as they could muster, they passed on an even more dismaying order: “*Vacate all cabins.*” If the sea decided to take the ship down soon, a swift escape from the cabins could prove impossible.

In some ways, though, the order came as a relief. Shipboard life had already been significantly unpleasant for days, when the second wave hit, most of the people had been huddled in bed, in nightwear and overcoats, seasick, miserable and scared. Now the sea came into their rooms and soaked everything they owned.

Leanne Muller described the circumstances: “*The ship was rolling very heavily and she took one roll and stayed over on her side. Then a man had us put on life jackets. Then we had to go to the floor of the ship.*” Her crawl along the floor of her cabin took her into the long corridor. “*We were all in our night clothes and a man fetched us some blankets to put over us. My father was able to go into the room and fetch a coat and a pair of pants for me—we were just sitting there.*”

Carlsen had now obtained from his passengers what he needed in order to try to save them: assembly in one place, with easy access to a deck to get them off fast. All ten passengers crowded obediently on the floor of that corridor, as close as they could get to the outside doors.

Such an experience: cold, frightened, severely uncomfortable. No matter how they wished to sit, they would tilt sharply down on the steep list of the decks. Leanne Muller, at that moment, “*felt tremendous respect for my parents and brother. They were not panicked. And the waves were so high. It was so horribly wet and dark.*”

Presently, Carlsen himself arrived and told everyone to be calm. Help had been summoned, he said, and they must conserve energy in case they had to swim. This assembly took place on Friday afternoon and the passengers, who had boarded so hopefully in Hamburg, sat there all evening and all night, huddled together in groups.

They endured the noise of the waves lashing the decks. They endured nauseating uncertainty each time the ship wallowed or rolled. They endured the terror of the lights going out. They endured minute after minute of total, icy, wet darkness—and their ordeal would last for 26 hours to come.

Carlsen’s crew did their best. The chief steward, Ross Thomas, said, “*We had blankets and things there and wrapped them as warm as we possibly could.*”

Twenty minutes after David Greene sent the distress signal, his first acknowledgment came through—from a U.S. Navy vessel, *General A. W. Greely*. She said she was making no more than four knots because of the appalling weather and therefore could be, she feared, as much as 24 hours from *Flying Enterprise*. *Greely* was a big, 13,000-ton troopship, 500’ long, 70’ wide named after an American Civil War veteran. (*Aether’s editor was then on a similar troopship, having left Bremerhaven for New York.*)

Next, a freighter out of Savannah, *SS. Southland*, received *Flying Enterprise’s* distress call. Fifty minutes later, the British ship *Sherborne* called *Flying Enterprise* to say that she was coming and would Carlsens ship please respond. Greene sent the original distress message out again, this time changing it from “XXX” to “SOS” which left no doubt in anyone’s mind, anywhere, as to *Flying Enterprise’s* plight.

Other ship’s then responded: the Norwegian *S.S. Westfal*, *S.S. Norse Moutain* and the British ship *War Hawk*—all steaming to the vicinity to aid in the rescue.



(Continued next edition)

NEW FACES* for MARCO & RENEWALS, as of Jan. 6, 2015

- Rowland, Carlyle N0ARN
- Shatz, Arnold, N6HC
- Wolf, Jeff, K6JW
- Peterson, Gary N0ZOD
- Piccirilli, Alex NV2Y
- Sharp, Jacob W6DUH
- Brewer, Tom W0RPH
- Barry, Rabin WB1FFI
- Savage, Kathleen KB1LPW
- Lind, Charles N8CL
- Patterson, James W8LJZ
- O'Conner, J. T. KE5SZA
- Wolfla, Lyman H. K9LJ
- Hoening, Judith N3MBW
- Hoeing, Eugene N3HG
- Brusoe, Terry K8IB
- Thompson, Robt. WD8ING
- Reichman, Robt. WA3IHW
- Small, Bruce KM2L
- Laughlin, Darrell,* W8EYE
- McNew, Wm. N9RIV



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