



ARASWF

Newsletter



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**Next Meeting will be held on April 26th
2011 at 7.00pm at the Red Cross, Naples!**

From the President's Shack

Well it is about that time of the year. Field Day is coming June 25th and 26th. Please make plans to help out. Frank W4RBW is getting everything setup for the members. Please let him know if you can help. He will need people to setup and tear down, people to mind the radios, and he needs someone to take care of the food. We will need people at 8am on Saturday for setup. It is a long twenty-four hours but the more people that get involved, the easier it is on all.

Last Friday I did get a call from Bruce Eby about the tower in the Village Plaza. He said at this time they wouldn't make a commitment either way. We will have to wait and see. I don't think we will get the tower.

We have to talk about any other Special Event station that we want to put on the air. The Florida QSO Party is coming up April 30th and May 1st. If you get on at home, turn your points in for the Club. I hope we can make a showing. We have to talk about the tower at the Red Cross Building. Jim von Rintein said he would like to see a tower go up.

See you at the Meeting April 26th !

73 George AA4GT

Meeting Minutes

In the absence of our esteemed Secretary, Frank (W4RBW) kindly jotted down some minutes and they appear below. Thanks Frank!

Meeting was called to order at 6:58 Pm on March 22, 2011 by George Tomlinson; AA4GT

Officers report;

Secretary report; None

Treasurer Report; Joe Goggin; K9KNW As of 3-22 2011 \$3,970.95

June Field day report Frank Halas; W4RBW to meet with Tim Wallen; KC4SSD and A.D Randolph; K4ADR out at Georges Tomlinson residence to look at a possibility of using the screened in area for the June 25 and 26 for field day. (Forgot the other two couple who showed up at the site when we finished up) It was decided that we would contact the American Red Cross for their facilities, which were open for those dates, June 25 and 26

Discussion on the March 26th. Field day and it was decided that it was a go for Oil well Park A trailer and generator will be provided by A.D. Randolph along with two radios. Each person who will be attending bring your own drink and sandwiches. Tim Wallen will get a port-a-potty delivered.

May 28TH. date was discussed as when we would have the Keewadin field day trip. (not sure of date)

Harry Sevush KD4JMV reported on the packet net and Echo Link activities with the 2 meter repeater.

Continued discussion on what to do with the tower on Davis Blvd and the possible use of the tower out in Immokalee was further discussed and there is still some open issues that need to be further looked into. What was interesting was ground rod on the tower R55 on Davis Blvd. is down around 80 feet. Owner of the shopping center now owns the tower.

QCWA will meet on April 14th. At 12 noon at Lely Manor and those who plan to attend please contact Richard Pettijohn; WOMIA must need reservations to attend lunch.

Our Next meeting will be April 26th. And the topic will be about the Battleship New Jersey by Joe Krammer. NJ2BB

Tonight presentation was given by Joe Goggin; K9KNW on a very interesting topic called EME Better known as Earth Moon Earth transmission. His discussion was on antenna polarization with transmitting and receiving antennas with regards how it worked with relationship to where they were located with respect to the surface on earth. Both operators need to realize antenna orientation and Faraday rotation which may have an effect on signals transmitted and the returned signals being received. Also need much transmitting power like 1000 watts into a good antenna system losses of 250 dB can be expected for the signal returning at the receiving antenna. A tracking system should be incorporated to track the movement of the moon. And possible transmissions may last only in seconds to 15-20 minutes depending where the moon in relation to transmitting antenna and the receiving antenna on the Earth. Some individuals have been known to use cross polarized Yagi Antennas and in one case a 36 foot dish antenna was shown as a way to establish EME communications. Question and Answer period followed presentation.

No old business

No new business

Meeting adjourned at 8:45 PM

New Members

None this month

News Items

From George (AA4GT)

Foggy Oil Well Park

The fog was thick on the way to Oil Well Park. Some of the members arrived around 9am. We started to setup two stations. The first station was 17 meters. We started out with a few good contacts and then the band went south. We had 7 contacts on 17 meters. We tried CW but did not get one contact. The second station started up and it was on 20 meters and they did 9 contacts on 20 meters. Then on 15 meters they had 15 contacts.

Some of the Country's were Germany, Slovenia, Belgium, Pakistan, Slovak Rep, Finland, Sweden, Spain, Moldova, Portugal, Sweden. Morocco and Bonaire, Curacao. For only 31 contacts, that was a good list of country's. We did a lot of sitting around and talking. We had more contacts talking. Hi Hi.

AD and his crew checked out the equipment on the trailer. We left the park around 3 pm or after. We all had fun and that is what it is all about.

73 George AA4GT

from Fred (FF4MJJ)

Here is the link to the DSTAR calculator to connect to DSTAR if you have the radio or dongle. Ours is easy. Just follows the directions below.

<http://www.dstarinfo.com/>

Programming for talking local on KG4NBB (port DV C)

YOUR:: CQCQCQ

RPT1: KG4NBB ■ C

RPT2:

Set Radio To:

"■" represents a space

Programming for talking local on KG4NBB (port DV B)

YOUR:: CQCQCQ

RPT1: KG4NBB ■ B

RPT2:

Set Radio To:

"■" represents a space

George's Station AA4GT !



From Bill (K2ZEL)

SURFACE MOUNT TECHNOLOGY (SMT) AND Surface Mount Devices (SMD)

The phrase, "Surface Mount Technology" (SMT), is among the more popular phrases when discussing the construction/ fabrication of the electronic equipment that we currently use in our avocation as communicators. The current generation of amateur/ MARS operators don't realize that SMT with associated construction techniques formed the foundations of our hobby in developing the equipment that we use today (now I am showing my age and will continue to do so throughout this introduction). SMT can be defined as the technique(s) used to attach a device or devices to a surface while a surface mount device (SMD is a component that has been designed to mount on an appropriate surface (i.e. a printed circuit board).

The first SMT applications were called "breadboards" as that was the most commonly available surface on which one could construct a working radio (either receiver or transmitter) for testing, experimenting or using as a hobbyist. In fact the first commercial radio receiver that was in my home as child was built on a breadboard and enclosed in a metal case with a myriad of knobs that came out the front and antenna connectors on the rear. There was also a plug for connecting the batteries or a power supply on the rear. (It was a Philco). As a school boy I was able to salvage components from discarded radios as people opted for newer technology was marketed. These components along with "oatmeal boxes" (for coils) and my classes in science and "shop" (now tech ed) formed many pleasant hours of experimenting.

As formed metal (Aluminium) chassis boxes replaced the "breadboards" as the surface on which to mount components broader experimenting was possible. My personal involvement at this stage was interrupted by the event known as WW II, when I enlisted in the Navy. As the war was winding down I was selected to attend the EE&RM school in training as an RT. This school was the first phase of two schools for training of radio technicians for the fleet. This rate was the precursor of the current electronics technician. In this school our daily routine was four hours daily in basic theory and four hours daily in the laboratory applying the morning studies practically. After the first month we were introduced to the newer concept of the breadboard. We each had a metal chassis, 9" x 12", on which we built individual circuits which were the blocks that eventually became a superhetrodyne receiver. The first block was the power supply, followed an audio amplifier, RF detectors, RF amplifier, if amplifier, and local oscillator. When it was all completed the final receiver had to work and had to be properly aligned to complete the school.

This experience combining the theory with the analysis of each of the circuit blocks provided a good basic understanding of the electronic device. I have continued the practice in understanding electronic equipment, computers, and the interfaces used as a communicator. SMT as electronics moved from vacuum tubes as the active devices in a circuit to the solid state devices; transistors and integrated circuits and has become more sophisticated new style breadboards began to appear in the market; perforated blank surface boards for wire wrap, blank single sided with pads and buses for mounting TTH(through the hole) components, and solder-less protoboards with accompanying TTH boards with the same pads as the protoboard. Today there are available evaluation kits and boards for the newest SMD components. These are made available to experimenters and engineers alike for learning what one might use the devices in the electronic devices that we use in our hobby.

Surface Mount Devices are components that have been specifically designed to be mounted on a surface in the fabrication of electronic equipment. Over the years the SMD has evolved from tube sockets of Bakelite with tabs radiating from the socket for connections to the large scale integrated devices with many tabs to solder to the appropriate circuit board. Today the various components are fabricated with small tabs radiating from the body of the component.

The components have been miniaturized in overall size that requires the user to learn new techniques in preparing the circuit boards, the placement of the component, and the soldering of the component into the project. The new SMT coupled with the new SMD components are, not only, the rage today but will continue to dominate the fabrication of all electronic devices that we use. Therefore if you wish to stay or become current you need to start tinkering with these devices. At present the writer would appreciate possible ideas for a rudimentary device which could serve as both a useful adjunct to your station and would provide a learning platform for members of our group.

Pass along your suggestions and we will begin a "Tinkerer's Forum" to work with this material.

From George (AA4GT)

The International Amateur Radio Union

(IARU), and its member societies representing over 150 countries around the world, will celebrate World Amateur Radio Day on April 18. The theme for this year's celebration is "Amateur Radio: The first technology-based social network."

Long before the Internet and smart phones, Amateur Radio operators, often called "hams," have been talking, texting and sharing for decades. But unlike those commercial services, Amateur Radio continues to attract people world-wide by providing international communications for free. And because it does not need pre-established supporting infrastructure, these radio-savvy "amateurs" can reach out to friends in every corner of the world – and into space too.

Amateur Radio operators have been the leaders in developing many of today's modern electronic and communications marvels. Today the citizens of Earth think of "wireless" as being the ubiquitous cellular phone – only made possible because of the pioneering work in radio technologies first explored by these "amateurs". Many of our leading electrical engineers draw from their practical experiences as Amateur Radio operators as they continue to develop applications blending computers and radios. Ham Radio operators may be "amateur" because they are unpaid volunteers, but their skills and contributions to the world are of the highest order. Calling, texting or even using old Morse code on the Amateur shortwave bands can result in chatting with other radio amateurs across town or far across the oceans. While hams have repeatedly been in the news for their life-saving communications services in disasters, a large part of their activities is the excitement and joy of contacting distant and remote areas of the world, learning directly about each others' regions and lives and trying different ways to make radio contacts around the world. Since 1925, the IARU has been instrumental in coordinating and representing Amateur Radio to the world.

United States Early Radio History ((c)Thomas H. White) – a series of articles (continued)

(Click the hyperlinks for further reading)

Part 4 – Early Radio Industry Development (1897 - 1914)

As with most innovations, radio began with a series of incremental scientific discoveries and technical refinements, which eventually led to the development of commercial applications. But profits were slow in coming, and for many years the largest U.S. radio firms were better known for their fraudulent stock selling practices than for their financial viability.

EARLY U.S. EXPERIMENTATION AND DEVELOPMENT

In 1895, Guglielmo Marconi became the first person to successfully demonstrate the controlled transmission and reception of long range radio signals. But once the details of his advances became widely known, a large number of competitors sprang up on both sides of the Atlantic, many of whom developed important refinements of their own.

Scientists in the United States were particularly intrigued by reports of Marconi's advances. A short notice in the January 23, 1897 *Scientific American*, [Telegraphy Without Wires](#), stated that "a young Italian, a Mr. Marconi" had recently demonstrated to the London Post Office the ability to transmit radio signals across three-quarters of a mile (one kilometer), and that "if the invention was what he believed it to be, our mariners would have been given a new sense and a new friend which would make navigation infinitely easier and safer than it now was". (The May 14, 1898 issue of the same magazine, in a short note titled [Wireless Telegraphy](#), repeated a completely unfounded rumor that Marconi had lost his financial backers, because "the syndicate which kept it going for over a year has arrived at the conclusion that there is no money in it".) A few months later, the May 26, 1897 New York *Times* [Topics of the Times-- Marconi Extract](#) reported that "English electricians, particularly those connected with the army and navy, are much interested in the Marconi system of telegraphy without wires" as the inventor had now increased the signaling range to two or three miles (five kilometers), with expectations of developing even greater ranges. At a December 15, 1897 meeting in New York City, W. J. Clarke gave "an exhibition of the Marconi apparatus" consisting of a spark-gap transmitter and a coherer receiver, reported in the [Wireless Telegraphy](#) section of the 1897 edition of *Transactions of the American Institute of Electrical Engineers*. Two years later the Institute returned to the topic at a November 22, 1899 gathering, as reported in [Possibilities of Wireless Telegraphy \(New York Meeting\)](#) from the 1899 edition of organization's *Transactions*. However, by now Marconi's work was better understood, and this time the participants, with much stronger electrical engineering backgrounds than the self-taught Marconi, identified certain inefficiencies and errors in Marconi's approach. Although the coherer receiver had sometimes been referred to as a "marvelously sensitive electric eye", Reginald Fessenden, a professor at the Western University of Pennsylvania, reviewed his experiments using detectors that were far more sensitive and reliable, and reported measurements which disputed Marconi's assertion that the range of radio signals was proportional to the product of the heights of the sending and receiving antennas. And although the Marconi companies would long promote the supposed superiority of the "whip-crack" effect of spark transmitters, Michael Pupin, a Columbia University professor, expressed his belief that spark transmitters were inherently inefficient, and suggested that an ideal transmitter would create undamped "oscillations in a wire without a spark-gap", outlining basic ideas which would eventually be incorporated in far more efficient

continuous-wave transmitters.

An expansive review in the May 7, 1899 *New York Times*, [Future of Wireless Telegraphy](#), looked optimistically at the prospects for radio technology, predicting that, once a few technical obstacles were overcome, "no prudent man will try to set limits to the development of wireless telegraphy", including the possibility that "All the nations of the earth would be put upon terms of intimacy and men would be stunned by the tremendous volume of news and information that would ceaselessly pour in upon them". An article in the February 21, 1903 issue of *Harper's Weekly Magazine*, [American Wireless Telegraphy](#), profiled Lee DeForest and Reginald Fessenden, who would be the two most prominent researchers in the United States during the first decade of the 1900s. (It was, however, a bit of a misnomer for this article to describe Fessenden's work as a "system of wholly American origin", because he was actually born in Canada.) A more technical overview of the industry, by William Maver, Jr., appeared in the August, 1904 *The American Monthly Review of Reviews*: [Wireless Telegraphy To-day](#). Eugene P. Lyle, Jr.'s [The Advance of "Wireless"](#), from the January, 1905 issue of *World's Work*, gave readers a comprehensive look at the still developing industry, including various participants, government activities, outstanding technical issues, and radio's applications in such things as commercial shipboard use and military adaptations. The author also speculated about future developments, including the possibility that someday "a lone ranch man in Arizona might set up a pocket-receiver and learn the latest news", and that "millions of such little receivers" might eventually come into use.

EARLY COMMERCIAL DEVELOPMENT

Unlike the telephone, which was quickly adopted for business and home use, it took many years before radio's financial returns would match its great potential. In the United States, this resulted in a series of companies which sold stock at vastly inflated prices, backed mostly by vastly inflated visions of the companies' profits. [Industry Comments](#) appearing in 1901 issues of *Western Electrician* warned that the radio "field is still so uncertain that investors, remembering the liquid-air fiasco, should relinquish their money only after assuring themselves that display advertisements and glowing prospectuses are based on sound common sense". [Wireless Telegraphy Stock](#), in the November 30, 1901 *Electrical Review*, noted the high prices already being paid for stock in companies with minimal assets and limited prospects, and opined that "The American public is to-day very much the same as it was when the late illustrious P. T. Barnum made his discovery that it liked to be fooled." In the November, 1904 issue of *The Electrical Age*, [Wireless Telegraph Earnings](#) warned that, even though "alluring" advertisements promoting stock sales continued to appear in the daily newspapers, there still was no reason to believe that the operations of any of the U.S. radio companies were even remotely profitable.

WIRELESS POWER DISTRIBUTION EXPERIMENTATION

Radio's many accomplishments led to speculation about future developments. Since information

and sound could now be transmitted without wires, the next question was whether wires could also be dispensed with when distributing power. A short notice in the September 12, 1902 *The Electrician*, [Wireless Transmission of Power](#), reported a \$3,000 prize would be offered at the upcoming Saint Louis World's Fair, for the successful transmission of sufficient energy to power an air-ship motor. However, no one at the Fair appears to have made any attempt to claim this prize. In the June 8, 1907 *Electrical Review*, [Wireless Power For Ships](#) noted that "prophesies have been made by visionaries" that someday steamships would be replaced by electrically-powered vessels, and further reported that Sir Hugh Bell, president of the British Iron and Steel Institute, was predicting that some day wireless signals would power the ships. Although dubious about the practicality of this idea, the magazine did allow that "theoretically, such a thing is not impossible". In the mid-1890s, Guglielmo Marconi, ignoring conventional wisdom, had discovered how to signal over long distances using radio waves. In the October, 1912 *Technical World Magazine*, [Marconi's Plans for the World](#) by Ivan Narodny reported that the inventor was now predicting another world-changing advance -- using radio waves to transmit power, heat, and lighting -- although again conventional wisdom said this was impossible. But if realized, wireless power distribution potentially would have a wide-ranging impact, because, in Marconi's words, "The main trouble with all the today's economic friction is that the energy can be owned by certain privileged individuals, who use it for their own selfish ends but not for the benefit of humanity", however, "As soon as the use of wireless energy becomes universal it will necessarily sweep out all the present privileged corporations of power and create a semi-socialistic state of affairs." Two years later, the April, 1914 *Electrical Experimenter* reported that [Marconi Lights a Lamp Six Miles Away](#), although this claim was not universally accepted.

Marconi wasn't the only person investigating "wireless power". [Tesla's Latest Wonder](#), from the November 13, 1898 issue of the *San Francisco Call*, reported Nikola Tesla's claim of being able to "transmit almost any amount of power almost any distance without wires, and without loss". The 1912 edition of A.P. Morgan's [Wireless Telegraphy and Telephony Simply Explained \(Tesla extract\)](#) reported on his ongoing experimentation, which, according to the inventor, promised to one day "send the power of Niagara, which alone might be made to supply a fifth of all the power in the United States, and the energy of Victoria to the ends of the earth with little loss." An even more expansive review of Tesla's ideas about [Wireless Power](#) appeared in the March 3, 1912 issue of the *New-York Tribune Sunday Magazine*, which included the sweeping announcement that "Professor Tesla has perfected a practical system of wireless power distribution. And the universal application of the wireless transmission of energy will speedily solve vast and far reaching problems in commerce and the industries, and will eventually revolutionize the whole structure of the world's social and political economy." (In contrast to Marconi, Tesla's "wireless power" approach did not involve radio waves -- instead, he proposed to use the Earth as a giant electrical condenser, to distribute alternating current.) In the early 1910s there was great skepticism within the scientific community about the practicality of both Marconi's and Tesla's "wireless power" ideas, and in the words of A.P. Morgan, "Only the future knows". With "the future" having subsequently arrived, we now know the skeptics were right, and neither approach proved practical. Marconi did little further investigation of wireless power transmission, although at an October 17, 1927 meeting of the American Institute of Electrical Engineers the inventor stated that "I hope I shall not be thought too visionary if I say that it

may perhaps be possible that some day electromagnetic waves may also be used for the transmission of power, should we succeed in perfecting devices for projecting the radiation in parallel beams in such a manner as to minimize their dispersion and diffusion into space." Tesla, however, continued to do extensive, although unsuccessful, experimental work. His later efforts were centered at a facility constructed at Shoreham, New York, that was never fully completed -- the symbolic end came with the dynamiting of the Shoreham tower, reported in the September, 1917 issue of *The Electrical Experimenter*: [U. S. Blows Up Tesla Radio Tower](#). Tesla became increasingly embittered because most of the scientific community refused to accept his ideas about the nature of light and electromagnetic radiation. (He was one of the few to dispute that Hertz's experiments had proved Maxwell's hypothesis that radio-waves were composed of transverse radiation). In the May, 1919 *Electrical Experimenter*, Tesla claimed that [The True Wireless](#) would use his method of producing electrical currents through the Earth, and "Properly constructed, my system is safe against static and other interference and the amount of energy which may be transmitted is billions of times greater than with the Hertzian".

INDUSTRY EXCESSES

In this less regulated era, the first decade of the 1900s saw extensive stock promotion fraud, especially among radio stocks. The trend started with the American Wireless Telephone and Telegraph Company, and a florid [advertisement for its Federal Wireless subsidiary](#), which appeared in the financial section of the October 27, 1901 *Washington Times*, set the tone for the next decade, proclaiming "Don't Delay. The Opportunity is Yours. Will You Grasp It?" An [advertisement for the parent company](#), appearing in the November 3rd edition of the same newspaper, was no more restrained, enticing investors to purchase the "best promising Industrial stock of the age". (Interestingly, while the parent company's advertisement stressed the revenues that it would receive by the sub-companies, the Federal sub-company stated: "No other company receives one dollar from the immense earning capacity of this company."). Ten years of financial advice, appearing in [The Medical World](#) from 1902 through 1912, repeatedly -- and not always successfully -- warned physicians about the dangers of investing in radio stocks promoted by unscrupulous sales agents. In early 1904 the successor to the American Wireless Telephone and Telegraph Company was taken over by the only slightly less shady American DeForest Wireless Telegraph Company, which continued the stock promoting excesses, as an advertisement appearing in the June 16, 1904 issue of *The New-York Tribune* exhorted unwary investors to purchase American DeForest stock, because "[For every \\$100 invested, it will return thousands](#)". In late 1906 American DeForest was reorganized as United Wireless, but the unrestrained promotion continued apace, as a [United Wireless Advertisement](#) promoting the company's stock that appeared in the April 21, 1907 *The San Francisco Call* helpfully pictured the large pile of money that purchasers would no doubt accumulate because "shares of the United Wireless Telegraph Company are the nest eggs of fortune".

As this all was going on, reporter Frank Fayant, who was in the middle of writing a multi-part series about stock fraud -- *Fools and Their Money* -- stumbled across the shenanigans going on in radio stocks. The result was a two-part exposé, *The Wireless Telegraph Bubble*, which details the sorry state of much of the U.S. radio industry during its first decade -- [Fools and Their](#)

[Money/The Wireless Telegraph Bubble](#), *Success Magazine*, January, 1907 through July, 1907. Fayant's article included one hopeful note -- "A Westerner, with western ideas of common honesty, some months ago acquired a very large interest in American De Forest, and he has been trying to bring order out of chaos." However, if this was a reference to new United Wireless president Christopher Columbus Wilson, the assessment would prove to be wildly optimistic. [To Holders of United Wireless Telegraph Company Stock](#), from the November, 1908 issue of United Wireless' *The Aerogram*, reviewed the company's new officers and directors, and stockholders would take little solace that the company treasurer -- Wilson's nephew -- was described as a "clean, clear-cut, able and conscientious young man".

[How About Wireless?](#), from the August 31, 1907 *Electrical World*, featured an impatient reviewer noting that "behind all the dubious experiments and more dubious financing lies something that the world really needs" and although, as "one of the biggest things of the new century... some day wireless telegraphy will come into its own", until then "the period of exploitation seems indefinitely prolonged, and the procrastination grows tiresome". And in the December, 1907 issue of *The World's Work*, [Transatlantic Marconigrams Now and Hereafter \(Stock fraud extract\)](#), cataloged the ongoing excesses, noting that "The time may come when the wireless will become suitable for consideration by investors. It will not come until some strong, clean, honest financial interests take charge and utterly eliminate the miserable, fraudulent, unwholesome methods that have marked the whole market history of these issues." But a year later, the inflated claims in promotional articles, such as Robert Matthews' assertion that the "The wireless telegraph is here, real, virile, expanding." in [American Development of the Wireless Telegraph](#) from the November, 1908 issue of United Wireless' *The Aerogram*, showed that the stock promotion schemes were continuing unabated. Selected articles from the [May, 1909 issue of Wireless](#), a promotional broadsheet issued by The New York Selling Agency, exhorted the unwary that "You should buy *United Wireless now--without delay*, because *now is your opportunity*", due to the fact that "When the 'speculative' investors begin to fully understand and appreciate the wireless situation, *United stock* will undoubtedly be snapped up at whatever price is asked for it and will start bounding upward to quickly sell at big figures, the size of which would now seem impossible."

UNITED WIRELESS PROSECUTION

In the 1909 edition of *Operator's Wireless Telegraph and Telephone Hand-book*, Victor H. Laughter [lamented the current state of the industry](#), but felt that radio's bright future was assured, predicting "It will only be a matter of time before all the 'get rich quick' wireless concerns will be forced out of existence", even as calls for action started to appear, with [Wireless Stockholders Protest Against Management](#), from *Telephony's* July 10, 1909 issue, reporting on a brewing revolt by United Wireless investors. Finally, the federal government moved to shut down what it called "one of the most gigantic schemes to defraud investors that has ever been unearthed in this country", and arrested the principal United Wireless officers, as reported in [Government Raids United Wireless](#), *New York Times*, June 16, 1910. A few weeks later, the August 4th issue of the newspaper announced the indictment of the United Wireless defendants, plus the marriage of the 64-year-old company President to his 18-year-old

secretary, as an odd mixture of social and criminal news was documented in [Wireless Man Weds Day He's Indicted](#). C. M. Keys' [The Get-Rich-Quick Game](#), which appeared in March, 1911 issue of *The World's Work*, reviewed assorted financial schemes, and included in its "Arrested by Government on Charges of Fraud" list were the "Officers of the United Wireless Company". (This action, while welcome, seemed overdue, as the author noted "this [United Wireless] fraud was so patent that it has been a four-years' marvel to me how it could be carried on so long without someone stopping it.") Commenting on the seemingly endless list of victims, Keys closed pessimistically with "It seems quite hopeless, this article. When a patent and above-board swindle like the United Wireless sells stocks to 28,000 people... how may one hope to stop the pillage?" But progress was being made against the United Wireless frauds, and a story on the front page of the May 30, 1911 *New York Times* reported that [Five Wireless Men Are Found Guilty](#), with the prosecuting attorney celebrating that "For once a lot of crooks are going to jail after being convicted at their own expense." One of these crooks was George Parker, United's Western Sales Agent, based in Seattle, Washington -- articles in the [1907 and 1910 issues of Portland, Oregon newspapers](#) chronicled his exploits, as he issued "masterpieces of extravagant statements, of frenzied visions of the countless millions to be earned by his company". Company president Wilson did not survive his sentence at the Atlanta federal prison -- the August 27, 1912 *New York Times* carried the notice that [C. C. Wilson is Dead in Prison](#).

In addition to stock fraud, United Wireless was also guilty of extensive patent infringement. It was sued by the Marconi company, and had no defense. Receivers appointed to oversee United Wireless' financial affairs entered into negotiations with Marconi for the company to be taken over, and a short time later the settlement was reported in [United Wireless Arrangements / Wireless Suit Settled](#) in the March 26, 1912 *Wall Street Journal*, with the final details reported by [Wireless Liquidating Co.](#) from the paper's October 1, 1912 issue.

CONTINENTAL WIRELESS PROSECUTION

A second major company to face Federal prosecution for stock fraud was the Continental Wireless Telegraph & Telephone Company, which most prominently included A. Frederick Collins. In the April 17, 1909 *New York Times*, [Wireless 'Phones in Use](#) had made the dubious claim that a commercial wireless telephone service between Portland, Maine and nearby islands had been established by Collins. In response to a query about Continental Wireless appearing in *Pearson's Magazine's* January, 1911 [Question Box For Investors](#), "Mrs. F. G." was bluntly warned that "Wireless stocks are not safe investments" -- meanwhile, [Postal Raids Show Vast Stock Frauds](#), on the front page of the November 22, 1910 *New York Times*, announced that "Officers of Burr Bros. and Continental Wireless Co. Arrested in War on Swindling Concerns" as part of a major sweep against financial fraud, which was followed by further arrests, reported in [Wireless Promoter Held](#) from the January 12, 1911 issue of the newspaper. The September 17, 1912 *Wall Street Journal* reported the arraignment of the four [Continental Wireless Case](#) defendants, with their trial start reviewed in [Say Wireless Had a Wire](#) from the November 16, 1912 *New York Times*, and their sentencing reported in [Continental Wireless Case](#) from the *Wall Street Journal* for January 11, 1913.

THE RADIO TELEPHONE COMPANY PROSECUTION

A couple months after being unceremoniously expelled from American DeForest, Lee DeForest in early 1907 formed the Radio Telephone Company, headquartered in New York City. This firm was one of the pioneers in promoting full-audio radio transmissions, in contrast to the Morse code telegraphy that had dominated the airwaves to date. DeForest employed his recently invented Audion vacuum-tubes as detectors in the company's receivers. However, it was not yet known that, properly engineered, vacuum-tubes could also be used for radio transmissions, so for audio transmissions the company generally employed arc-transmitters, saving money by not paying Valdemar Poulsen the royalties due him for his controlling patents of the technology. Although many of the Radio Telephone Company's activities were legitimate, these commonly did not produce enough revenue to pay all the bills, especially because large sums were being siphoned off from stock sales by company insiders. (This latter group did not include DeForest, although he was guilty of being oblivious to the rot around him, even after being warned by such persons as his then-wife, Nora Blatch.) The high point of the company's fortunes came fairly early in its corporate life, when, less than a year after its formation, the U.S. Navy purchased twenty-eight arc-transmitter radiotelephone sets, to be used for the world-wide voyage of the "Great White Fleet". The short-range sets were tested for their utility in tactical signaling, their use reviewed in [Wireless Telephones Make Battleship Fleet One Gigantic Chain](#), from the December 29, 1907 *Washington Times Magazine*. Despite the positive note of this article, the tests actually showed that the technology had not yet advanced to the point that it was reliable enough for regular use.

Included in the fleet review was DeForest's claim that "it is a technical and scientific possibility in the near future for the transmission of the human voice from America to Europe", a promotional theme that, although never realized, would continue to play a prominent part in company literature. In the August 31, 1908 issue of *The Evening World*, ["Hello, Paris!" "Hello, New York!" Without Wire Next Year is Definite Promise of the Wizard of Aerial Telephony](#) proclaimed once again that a transatlantic radiotelephone link was imminent, and that "in a year... this connection will be completed". (Ignoring abundant evidence to the contrary, DeForest also proclaimed himself "inventor of the wireless telephone" -- later in life his self-appointed status would become even more grandiose, as he titled his autobiography "Father of Radio".) In [Hello! Paris](#), from May 19, 1909 issue of the *Bend (Oregon) Bulletin*, a fevered imagination described a supposedly upcoming gala society luncheon in New York, where portable wireless telephones would be given out as party favors, and "a message of President Taft to President Fallieres of France" would be radio-telephoned by "Nora Blatch DeForest in the Metropolitan tower... to a fair daughter of France" located at the Eiffel Tower. However, the "definite promise" of transatlantic operations was no closer to realization. Still, hope -- and stock promotion activities -- sprang eternal, and [Wireless to Span the Ocean](#), from the November 28, 1909 *New-York Daily Tribune*, claimed that a link from New York to Paris would be set up shortly, and operations would commence with a "great official ceremony", as "President Taft will touch a gold key in the Washington station; the click will be heard in the Metropolitan Life station, where Dr. De Forest will be stationed at the key. The apparatus will

already be attuned with the Eiffel Tower apparatus. The inventor will then start the electric waves across the ocean at the rate of 186,000 miles a second, bearing the greetings of the President of the United States to the President of France".

Severe financial trouble, caused by inferior equipment combined with stock promotion shenanigans, eventually drained the life from the company. Facing collapse, a reorganization combined the Radio Telephone Company with numerous other small firms of dubious character, under a new holding company, the North American Wireless Corporation, also of dubious character. A write-up appearing in the Seattle, Washington section of the May 21, 1910 *The Mercantile and Financial Times* reviewed the [Big Wireless Merger](#) which created North American Wireless, rashly predicting that "The North American company has a wonderfully bright future before it and we predict that the price of its shares will steadily and consistently advance". The article carried the standard byline of "Staff Correspondence" -- in truth the features in this notorious "journal" were produced and paid for by the companies being promoted. The May 8, 1910 *Salt Lake City Herald-Republican* featured a full page advertisement about the "enormous earning powers" of the [North American Wireless Corporation](#), claiming numerous imminent money-making advances, including a national radiotelegraph service which would charge a fraction of the amount of a regular wire telegram. Also in this advertisement, an exuberant statement appearing above Lee DeForest's signature opened with a familiar theme -- "I feel certain that within a short time we will be able to be in wireless communication between our station on top of the Metropolitan Tower in New York and the Eiffel Tower in Paris."

Federal prosecutors continued to investigate dubious stock promotion practices, and in its December, 1911 issue, *Modern Electrics* reported in Twelfth [Anniversary of Wireless](#) that although some within the industry had used radio "as a tool for extorting money from thousands of victims", a "purification" was now taking place. In the November 25, 1911 *Telephony*, the unfolding troubles of James Dunlop Smith, former president of the Radio Telephone Company, and a number of his business associates, were reported in [Wireless Telephone Promoter Arrested](#). A few months later it was [Lee De Forest Under Arrest](#), as reported in the March 28, 1912 *Atlanta Constitution*. DeForest was eventually acquitted on all the counts except one, which the divided jury couldn't agree upon, and was never retried on this final count. However, three others were convicted, and the North American Wireless Corporation and its subsidiaries were effectively shut down, although DeForest would later revive the Radio Telephone Company.

During the trial, according to DeForest's autobiography, the prosecuting attorney made special note of the fact that "De Forest has said in many newspapers, and over his signature, that it would be possible to transmit the human voice across the Atlantic before many years!" (It is likely DeForest rewrote this statement somewhat, as the issue was not that he had been saying transatlantic transmissions would be achieved "before many years", but that *for* many years he had been making an unachievable claim of imminent fulfillment). The main reason DeForest brought up this episode is because in 1915 AT&T did successfully transmit the human voice by radio to the Eiffel Tower station, although this voice originated at the Navy's station, NAA, in Arlington, Virginia. Despite being completely uninvolved with the effort, DeForest claimed this

validated his long unattained statements. However, instead of using arc-transmitters and crude Audion receivers, AT&T achieved success due to skilled engineering far beyond the talents of DeForest, resulting in the development of efficient vacuum-tube radios and receivers.

INDUSTRY RE-ALIGNMENT

During 1912, *Munsey's Magazine* carried a regular column, "Financial Department", written by John Grant Dater. An entry in the June issue, [Wireless and Worthless](#), answered inquiries from nervous investors about their holdings in Continental Wireless and North American Wireless. Noting that "more men are now in prison or under indictment for selling stock in wireless telephone and telegraph companies than is the case with any other line of industrial promotions of which I have knowledge", Dater concluded that "these various arrests and indictments have terminated the career of all these companies. The stocks are regarded as of no value whatever". (Additional details about the resulting prosecutions and bankruptcies are documented in entries from various editions of the [Marvyn Scudder Manual of Extinct or Obsolete Companies](#).)

With the elimination of three major fraudulent U.S. radio firms, the field was cleared for legitimate companies. And with its takeover of the United Wireless assets, the American branch of Marconi Wireless was now by far the largest radio company in the United States, a status it would hold until after World War One. For some, however, the prospects for the radio industry were still in doubt. A somber analysis appeared in the March, 1914 *Technical World Magazine*, as George H. Cushing reviewed the still shaky finances of the various companies, and in [Wireless' Fate](#) speculated about the next fifteen years. Cushing's predictions were profoundly pessimistic, suggesting that the private radio companies would find that "a new method of carrying messages does not, of itself, create messages to be sent", and they would prove incapable of competing with the established land telegraph lines and international cables. Finding themselves unable to "find a new use for a new tool", the radio companies were seemingly doomed to eventual failure, which would lead to a government takeover of the industry.

(continued next month)

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