The Greatest of All Amateurs

By Hiram Percy Maxim

I HAD the great good fortune the other evening to meet the greatest of all radio amateurs. The occasion was a memorable one. Through the courtesy of the Radio Corporation of America I and some fifty others sat down to dinner with him at the Ritz-Carlton Hotel in New York City. I had never seen him before. Few of us American amateurs had even seen him. The dinner was given in his honor. It was one of the most pleasant dinners I have ever attended, and every one of us A. R. R. L. people would have thoroughly enjoyed it could we all have been present. It would be a pity to allow such an event to pass down into history and not be recorded, and I am going to tell about it.

—Photo by Kadel & Herbert

It seemed to me that most of the men who had distinguished themselves directly or indirectly in radio either were present or sent regrets that they could not attend. As I sat there and looked about and recognized the different famous men, I thought that there was probably more radio brains per square inch present than had ever gathered before. The toastmaster was Mr. Young, Chairman of the Board of the Radio Corporation. He arose after the dinner and said that he was not going to call upon any one who knew anything about radio. Unless he adhered to this rule he warned us that we would be there for a couple of days. He said it would bar him from calling upon Dr. Pupin of Columbia University, Mr. Alexanderson, Mr. Colpitts, Commander Hooper of the U.S. Navy, and fellows, he included Mr. Maxim, of the American Radio Relay League, and Mr. Paul Godley of the same organization. He referred to the American amateur as one of the greatest forces in radio to-day, and put into actual words all of the things we have struggled so many years to accomplish. It certainly was a great pleasure to see that we American amateurs had been successful in getting over the fine things that we stand for. It proved that good Americanism, honorable dealing with our fellows, straightforward methods, dignity, and good fellowship will win in the end every time. I glanced at "Paragon Paul" as Mr. Young paid the American amateur his compliments, and was deeply pleased to see the famous Godley smile slowly spread over the entire countenance. Our Paul caught the spirit of the thing, too.

Many national characters who might pass as not knowing anything about the technical side of radio spoke, although how Mr. Nally, president of the Radio Corporation, got by is open to suspicion, and his eloquent words of appreciation of what the Greatest of All Amateurs had done for humanity were tremendously impressive. Several speakers mentioned the personality of the guest of honor. It was worth special mention, for both Mr. Godley and I know what was meant. Overtopping all the wonderful work this fine gentleman has done in radio, stands his lovable and modest personality. Again it emphasized the queer fact that radio begets fine personalities. It seems to do something to a man to bring out the human side of him.

Presently the dinner and the speeches were over. Dr. Alfred Goldsmith was good enough to think of us and he secured an autographed dinner card and gave it to me. The little act was deeply appreciated, and I later gave the precious paper to Mr.

Warner, and it will hang upon the wall of The American Radio Relay League headquarters for many years, I hope. Then I had a few words with the Greatest of All Amateurs. I told him I wished I might convey to him the inspiration he had been to thousands of young Americans. His reply was characteristic of him. He said, *"And I wish, Mr. Maxim, I might convey to them the inspiration they have been to me!"*

There is your message, fellow American amateurs. It comes direct and first-handed from Guglielmo Marconi, a good fellow, animated by precisely the same thoughts and aspirations that animate us, a real dyed-in-the-wool brass pounder, a knight of the dot and dash, and the Greatest of All Amateurs.

[Editor's Note—Mr. Marconi in his address before a joint meeting of the A.I.E.E. and the I.R.E. told of many new developments of great interest to amateurs.

In England, he said, a large amount of investigation had been carried out in recent years on the efficiency of valve transmitting circuits and the radiation efficiency of aerial circuits, so that now it is possible to obtain in commercial work an efficiency from the anode input of the tubes to the aerial of seventy per cent, and an efficiency of radiation into space (of the antenna current) as high as fifty per cent; that is, an efficiency from the power input to the actual radiation into space of about thirty-five per cent; and this on waves as long as 20,000 meters, which have been notoriously inefficient as regards actual radiation. He did not disclose the methods used to secure this increase in efficiency but said that in short-wave stations it was hardly worth the extra expense involved, probably because of the natural greater radiation efficiency of the higher frequencies.

Tuned amplifiers, both radio and audio frequency, Mr. Marconi said were of the greatest technical interest. Quite amazing results could be had when the proper care was taken in the design of air-core h.f. transformers to keep electrostatic coupling between the windings to a minumum and to provide an impedance in the primary equal to the internal plate-to-filament resistance of the tube. The same idea is applicable to iron-core audio transformers, but an iron magnetic shunt is necessary between the windings to sufficiently loosen the coupling. between the primary and secondary circuits.

Mr. Marconi has a fascination in the transmission effects to be encountered in Antipodal regions. The ease which signals can now be received on the opposite of the globe from the transmitter show there is something to the idea of the waves traveling around the earth by various routes and reuniting near the Antipodes. He told of recent scientific expeditions to points near the Antipodes of various high-powered stations, particularly an expedition to South America which made numerous observations on the signals of NPO, Cavite, on the other side of the globe. Received on a loop direction finder (unilateral) it was not particularly surprising to find that in such a location (within 2000 miles of the Antipodes) the constancy of direction was not maintained and the signals often would change direction, sometimes coming from a direction which indicated they preferred to travel a distance of 14,000 miles rather than come by the shortest route. Sometimes during the unstable periods when the direction was shifting the signals would arrive by two or more routes and, altho quite steady and normal when received on the one-way loop, would interfere with each other when received on a simple vertical aerial in such a way as to produce slow beats resembling Morse letters transmitted very slowly!

Mr. Marconi then told of the very remarkable work done by Mr. C. S. Franklin, of the British Marconi Company, in phone operation on waves under 15 meters in length. Tube transmitters are used, with reflectors at both the transmitter and receiver. The reflectors provide about 200 times the energy that would be received without them, and seem completely to have eliminated fading, which might be expected to be so severe at such wave lengths as to make operation impossible. In order to take advantage of these benefits a very short wave must be used, as a reflector (particularly a revolving one) represents serious constructional difficulties for long waves. The lecture-room set demonstrated by Mr. Marconi used a wave length of *one meter* and was so extremely directional that a very small revolution of the reflector completely eliminated the signal at the receiver. The reflectors consist of a number of vertical conductors of a height of 1.5 wave lengths arranged on a cylindrical parabolic curve with the aerial in the focal line. A telephone circuit over 97 miles between London and Birmingham is providing good clear speech at all times on a wave length of 15 meters by virtue of such reflectors. The aerial itself in this case is somewhat over a half wave length long. The radiation efficiency at such small wave lengths is amazing high, about 300 watts being actually radiated into space from an anode input of 700 watts.—K.B.W.]