

# Transatlantic Tests

## MR. PAUL F. GODLEY'S OWN ACCOUNT OF HIS EXPERIENCES

**A**T the time this is written there are some 30 or 40 American amateurs in an exceedingly pleasant frame of mind because of the fact that it has finally been possible for them to accomplish something about which they have been dreaming for years, viz., the "pushing" of their small power signals across the some 3,000 odd miles which separates them from their British cousins.

### INAUGURATION OF THE TESTS.

The chain of events spreading over something like a year which led directly to the Transatlantic Transmission Tests just finished, are more or less familiar to all readers of *The Wireless World* and will not be reviewed here. But it would no doubt be of interest to recount briefly the following facts:— That the American Radio Relay League which represents American amateur thought with regard to long distance operation held their first National Convention in Chicago during September of this year; that delegates from all sections of the United States were present, some of them having travelled 2,000 miles; that there was a total attendance at [this Convention of something like 1,800 delegates and that the numbers who viewed the radio equipment on exhibition in one of Chicago's largest showplaces ran into thousands. This Convention covered a period of five days during which time business meetings, technical meetings and meetings open for general discussion had very full programmes. Needless to say there was a great deal of "rag chewing" regarding this, that and the other thing and the Transatlantic Tests of last February no doubt came up for their share of the discussion. Considerable speculation was rife at this time as to whether the failure of the previous Tests lay with British equipment, the British amateur's lack of knowledge concerning short wave operation, or whether the British amateurs were totally ineligible to the "order of the boiled owl," and finally in Executive Session the Board of Direction of the American Radio Relay League decided it would be a good plan to delegate some American amateur to proceed to Britain for the period of the Transatlantic Tests, which had already been arranged to take place during the latter part of this year. In making this decision they were firmly convinced that if the Tests failed the question would be settled once and for all, as to whether it was possible to get their small signals across

the Atlantic and that the sending of an amateur to England from America would create vastly more enthusiasm for the Tests on the part of the British amateurs than any other procedure possible.

### SELECTION OF A U.S. AMATEUR FOR ENGLAND.

Although on the programme of events at the National Convention above-mentioned, it was impossible for me to attend owing to illness, and I was greatly surprised to receive a request from the Board of Direction of the Relay League asking me to act as their representative in England during these Tests. I was not in the least hesitant about accepting and immediately began to look forward to some very interesting and pleasant experiences and to make preparations in the way of getting out my old gear of one sort and another, in order that it might be well "tuned up" for the job. American amateurs with the better transmitters were also busily engaged getting their outfits into ship-shape condition and at this time a great many strange and amusing conversations reached my ears.

### PRELIMINARY TESTS IN AMERICA.

The preliminary tests which were designed to eliminate those stations which lacked proper signalling range have been previously described, in brief at least, in various publications. Needless to say during these tests I did a great deal of listening and got my first thrill as I heard district after district from one end of the land to the other come in on their transmission schedules with clock-like precision, and realised the tremendous enthusiasm which was swaying the radio experimenter in the United States. During these initial Tests the star station upon which I worked was SZA located in Roswell, New Mexico, some 1,500 miles overland, which seemed to be working more or less consistently on 325 metres and who performed many rather interesting and encouraging "stunts" for me, among which was the operation of relays, telegraph sounders, etc. The interference at all times on most amateur wavelengths is such that it is rather difficult to get signals from extreme distances, so that even at the time of sailing there was no definite assurance at all that it would be possible to complete successfully the mission on which I was setting out. Plans were made to arrange test apparatus on board the *Aquitania* on which vessel I sailed, but were given up entirely after I had witnessed the volume of traffic which



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the *Aquitania's* men were called upon to handle.

### ARRIVAL IN ENGLAND.

And so, after a six day voyage I landed in England in an alternately confident and panicky mental state. I began to meet the various notables in and around London. I consider it of extreme fortune that it was possible for me to attend the meeting of the Wireless Society of London and later to hear Dr. Fleming's remarkable lecture at the Royal Society of Arts on the evening of my first day and to meet and chat with such men as Senatore Marconi, Admiral Sir Henry Jackson, President Elect of the Wireless Society of London, Mr. Campbell Swinton, Past President of the Wireless Society of London, Prof. G. W. O. Howe, and Mr. E. H. Shaughnessy of the Wireless Section, G.P.O., Mr. F. Hope-Jones, Chairman of the Wireless Society of London, and many others. At about this time it began to dawn on me that I was getting many times more attention than I had expected; as far as I could see British hospitality had been by no means sufficiently well advertised; and that I was not to have nearly enough time to talk with all the various men in and around London with whom I decided that I wished to talk. I also gathered from the sly glances here and there that the majority of the British amateurs had been unable to decide at that time whether I was a plain "nut," to use American parlance, or whether I really was confident of my ability to get signals, and I understand since that I was not far wrong.

### PRELIMINARY TESTS AT WEMBLEY.

Preliminary arrangements for operation permit, etc., having been completed, initial tests with the equipment which I brought with me were instituted at the station of Mr. Frank Phillips at Wembley Park, and after four or five nights, ending usually about 4.30 in the morning I was greatly discouraged on account of the presence of vast numbers of harmonics from single circuit tube transmitters and the Poulsen arc, as well as by the strange actions of atmospherics—atmospheric conditions of a type which I had never before encountered. During the winter time in America atmospherics are at a minimum and quite uniform in their habits and, altogether, rather considerate. At Wembley Park I found them suddenly increasing during certain short periods of the night and suddenly decreasing to appear again in another quarter and in a new form. Five nights of this sort of thing was quite enough and I came to the firm conclusion that the vicinity of London, even Southern England for that matter, was no place for me, and immediately arranged to proceed to Scotland, having previously chosen Ardrossan as a location, providing conditions near London did not warrant location there.

### DEPARTURE FOR SCOTLAND.

Immediately this decision became known wild tales of all sorts began to pour in as to the terrible Scotch climate—the rains, the mists, the chill temperatures, to say nothing of the resulting ill effects which I was assured one would most certainly be unable to dodge. Even taking all of this with a good bit of salt, I was not sure that I

looked forward to the trip into the Scotch "wilds" with any particular pleasure, particularly in view of the fact that even after having been in England a week I had been unable to find a sufficiently warm spot, and I understand that various honourable gentlemen who extended their hospitality are still complaining considerably as to the size of their gas bills. I can only say that I have no apologies to make.

The trip from London to Ardrossan was made *via* Aberdeen and Glasgow—Aberdeen having been included in order that I might get first hand information concerning the reception of radio telephone transmissions from America last year. On arriving in Glasgow I find myself in great fortune because there I meet Messrs. Sutherland and Carswell of the Marconi International Marine Communication Co., Ltd., who as far as results were concerned, seem to own and operate the better part of Scotland, for, everything which I seemed to require in the way of material and equipment, accessories and assistance were produced in a very magic fashion with a minimum of delay and I found myself transplanted to Ardrossan with Mr. Wood, Town Clerk, the Police Sergeant, and several other worthy citizens enlisted in my cause, the result being that only a few hours after reaching Ardrossan the tent in which the work was done was going up and the equipment for the antenna being distributed over the ground (of course one must admit that the unusual efforts on the part of these Scotch people were quite in order. It takes a great deal to offset the effects of Scotland's December weather.)

Mr. D. E. Pearson, Inspector of the Marconi International Marine Communication Co., Ltd., assisted me throughout the tests and I have a great respect for his ability as an operator, and for the courage—courage is the word—which he displayed in sitting up night after night in a leaky tent with high winds blowing and heavy rains falling—nothing but an occasional "wee drap" and a more or less unreliable three-ha-penny oil stove to keep him warm.

### LOCATION OF A SITE AND SELECTION OF STATION.

After spending several hours in an attempt to locate a site on the beach which was fairly suitable to our purpose the attempt was finally given up and a site chosen in a grass covered field which had been freely treated with a sprinkling of seaweed. Darkness was approaching when the erection of the tent began. Heavy rain was falling and a decidedly disagreeable gusty wind blowing. About the time we thought our tent was well up a gust of wind came along, caught it, and wrecked the entire structure, boxes, gear and one man underneath. This was my first taste of Scotch weather and being wet to the skin the misfortune discouraged further attempt at work that night (December 6th.) Pearson took advantage of the decision, and went to Glasgow to get a supply of dry clothing, whereas I proceeded to the hotel and after having had what seemed to me to be a very scanty feed, not being used to Scotland's high teas, I rigged up a small low temperature Western electric tube, fed both filament and anode from small dry batteries,

threw a wire about 60 ft. in length into the top of a neighbouring tree, grounded to the gaspipe and with various odd pieces of apparatus which had still to be transferred to the scene of operations, I listened to ships signals and the very healthy static. The static was what worried me and I spent a rather restless night freely punctuated with dreams concerning the wonderful signals which I was not getting.

The following day, having enlisted additional labour, things were going in proper style, a line was laid out something under 1,300 ft. in length and 10 poles equally separated were planted, each pole being 12 ft. above ground and carrying a standard B.P.O. pattern insulator. A phosphor bronze wire was then run the entire length of the line and grounded through a variable non-inductive resistance, the ground plate itself taking the form of several short lengths of iron piping buried some 6 ft. in the earth at which depth we found the hole filled with water. In the meantime the tent had been erected, the side walls put on and a few floor boards spread underneath. A table was made from two trestles and four lengths of rough-sawed pine. The gear was unpacked carefully wiped free of water, of which all held plenty, and next given a general "once over" for broken or misplaced parts. A second bundle of iron piping was thrown into the "burn" which ran directly at the back of the tent and just over a stone wall. Again darkness had fallen it being nearly 6 p.m. and again we returned to Ardrossan about  $1\frac{1}{2}$  mile distant through the rain to get a bit of food and some rest before tackling the night's job, and this having been effected we found ourselves again in the 12 ft. by 18 ft. tent having brought with us sandwiches and coffee.

Without single exception all valves, accessories and gear were found to be in first-class condition, nothing broken, nothing out of order which was quite contrary to what I expected. By 11.30 p.m. the 3,000 metre amplifier was going and FL (Paris) was picked up with no antenna connections. In completing our setting up Paris time signals were missed but POZ (Nauen) served as a check on our timepieces at midnight. After time signals a short piece of wire was thrown into a tree for use in adjusting to short wavelengths and it was only a matter of moments before we were listening to a bedlam of 600 metre stations which were used for preliminary adjustment of all gearing for maximum sensitivity. By 1 a.m. we were feeling for short wave signals and picking up harmonics from what proved to be Poldhu spark as well as many other high power C.W. stations, although the harmonics were decidedly less severe than near London excepting that of Clifden (Ireland) which was very strong and later proved to be quite bothersome.

#### SOME PERSONAL IMPRESSIONS.

The things which have impressed me most as a result of my visit to the British Isles are chronologically, first, the unusual and totally unexpected efforts on the part of British radio men to assist me in every way. This not only applies to amateur wireless circles but to commercial and government circles as well. Messrs. Bradfield and Allen, joint managers of Marconi's

Wireless Telegraph Company, Ltd., have shown particular favour in smoothing the way for me everywhere, by the offer of assistance and equipment of every imaginable kind. Mr. Otto Rochs, traffic manager of the above-mentioned Company, has taken a particularly keen interest in the programme, and has been most untiring in his efforts to do all within his power to ensure a successful daily report reaching American amateurs, and it develops that these reports went gratis. Mr. H. J. Round and his staff extended every courtesy during a visit to Chelmsford, offering any information or equipment at their disposal, while Mr. W. K. Wissenden and other officials of the British Post Office, have been exceedingly kind in going considerably out of their way in order that these experiments may be carried out with true American freedom. Needless to say members of the amateur fraternity have given a great deal of their time and have gone to considerable expense in order that we might be successful, and nothing has pleased me more than to note the real interest taken in the project by all British amateurs whom I have met and I am keenly appreciative of the many courtesies extended to American amateurs through myself, such as the memorable little informal dinner to which I was invited on the evening of the day of my arrival.

Second; the most discouraging conditions under which (from the American point of view) British amateurs are forced to work. By this I mean their confinement to a power (input) of 10 watts and the illegality (as I understand it) of any exchange of communication relative to things which have no connection with any "tests" which are being carried out; and the great number of harmonics which fly around from various European stations. Of the 600 metre stations, FFU and FFH are particularly bothersome both in the vicinity of London and further north. Harmonics from the single circuit valve transmitter at Devizes are also numerous. The "hash" from Leaffield's arc renders many small bands of waves totally useless; Poldhu is also a serious offender by re-radiation on about 225 metres, while all of the ships which carry the valve sets have harmonics swinging in and out as they work on their 2,000 odd metre wave. Clifden, and Eiffel Tower and several other arc stations which I was unable to identify were also bothersome in all localities where I listened, but the worst offender of the lot was some C.W. station which transmits high speed and from which I counted up to the 39th harmonic.

Third; that although British amateurs seem to have been given the choice between a 180 metre wave and 1,000 metre wave, they have chosen the latter. To anyone who studies the matter it must be quite apparent that antenna efficiencies on this longer wavelength are far lower than those possible on the shorter; that where restrictions impose the use of small powers it should be desirable to get a very maximum of efficiency out of every single piece of gear which goes to make up the whole; an experienced man will also remember that short waves notoriously cover far greater distances under night-time conditions (that time when the average amateur is working with his gear) than do longer wave signals.

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Fourth; the greatest hospitality was shown me on every occasion during my stay in Scotland, and unexpected and flattering interest was displayed in all that we were doing while offers of assistance were endless. A very enjoyable entertainment was provided on one occasion in Scotland as a break to the monotony.

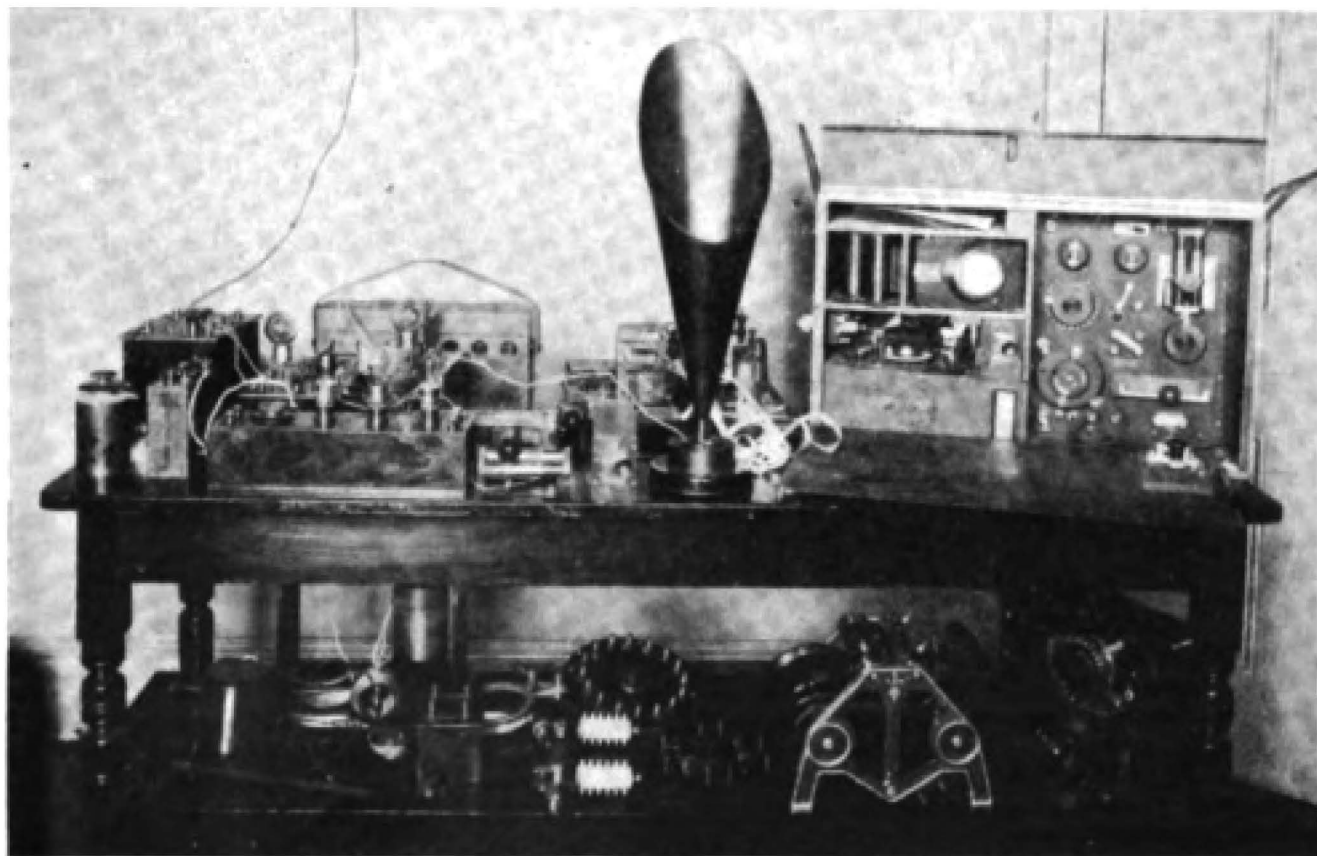
And, finally, the terrible bundles of weather which the British Weather Bureau dispenses, to say nothing of the atmospherics of which there seems to be an abundant supply.

Upon my arrival in London from Scotland I have seen some of the reports which have reached British headquarters, and they show that many British amateurs have been successful in their reception. This is very pleasing to me because at the back of all the American plans for transatlantic transmission tests lurks the fond hope that before long it will be possible for British and American amateurs to communicate successfully at more or less frequent intervals. The part which British amateurs have played in these transmission tests has accomplished far more in the way of the creation of enthusiasm for this sort of thing than any other thing could have accomplished. American amateurs—all stations—are transmitting every night, day in and day out. What British amateurs heard during the week of the tests they may hear again and again throughout the coming season, providing they listen with sufficient patience, and, what is a most significant thing, one of the stations heard

from America is a station which I know very well and which was using an output of only 20 watts which means an input of about 40. Should British amateurs be allowed the use of 50 watts input the more or less frequent interchange of signals mentioned above would be looked forward to with a deal of anticipation on both sides of the Atlantic. We in America are getting much benefit both in a business way and in the way of pleasure as a result of the liberal radio policies there. It is quite a common thing to read in the daily paper of some unusual procedure in the way of radio telephony or telegraphy, such for example as the "evening hour story for children" as broadcasted by the stations of the Westinghouse Electric and Manufacturing Company, or such as the "Wireless Church" with its 20,000 or 30,000 auditors each Sunday morning. Is it hopeless to presume that sooner or later Europe may follow with similar programmes? Most certainly it is to be expected that within the next few months many British amateurs will have reported picking up the radio-telephone concerts now being broadcasted by various medium power stations in the States. One such report has already come to hand as I leave. At any rate, American amateurs will watch British amateur progress henceforth with an interest that is far more real than it has ever been in the past. British amateurs have proven their mettle and there are many who, at this moment, are being joyously welcomed into the glorious order of the "Hard Boiled Ham."

(IN THE NEXT ISSUE A DESCRIPTION OF MR. GODLEY'S STATION WILL BE PUBLISHED, WITH PHOTOGRAPHS AND DIAGRAMS.)

### A Provincial Club Set.



*Apparatus of the Wireless Society of East Dorsetshire.*