

Wireless Club Reports

NOTE.—Under this heading the Editor will be pleased to give publication to reports of the meetings of Wireless Clubs and Societies. Such reports should be submitted without covering letter in the exact form in which they are to appear and as concise as possible, the Editor reserving the right to edit and curtail the reports if necessary. The Editor will be pleased to consider for publication papers of unusual or special interest read before Societies.

Wireless Society of London.

The 41st General Meeting of the Society was held on Wednesday, November 23rd, at 6 p.m., at the Institution of Electrical Engineers, the Chairman, Mr. Frank Hope-Jones, in the chair. After the minutes of the previous meeting had been read by the Secretary and confirmed by the meeting, the Chairman said:—

Before I call upon the lecturer there is a little business to transact. In the first place, I must apologise on Dr. Erskine Murray's behalf for his absence through ill health, combined with great pressure of official duties. Then I have to announce that there are three Societies who have applied for affiliation and the Committee has granted it in all cases:—The Cowes Wireless Society, Isle of Wight; The Leeds Wireless Society and the Oldham Lyceum Wireless Society. There is one new member for ballot to-night, whose name you will find upon the seats, and those papers will be collected at the end of the meeting.

I wish to remind you that this is the last meeting before the Annual General Meeting, always held, according to our Constitution, in the month of December. Our meetings, of course, now are uniformly on the fourth Wednesday of each month. The December meeting falls just after Christmas. At that meeting it is our duty to elect officers for the coming year and to elect members to replace those who are compulsorily retired. Now it will be the duty of the Committee to put before you, by post, fully a fortnight before that meeting, in the notice calling that meeting, their proposals for the following vacancies of the Officers of Committee. I wish to remind you that our constitution is a democratic one and that we would like the general body of members themselves to suggest candidates for election on the Committee. It is opportune that I should remind you of this now because any such proposals must be put in writing and handed to the Secretary in good time before that notice comes out, a fortnight before the December meeting. In order to enable you to make some suggestions, I should give you now the Committee's proposals for the personnel of the Society for the coming year.

I think I should announce, first of all, that in place of our President, who has served us so well, we have been fortunate in securing the promise of Admiral Sir Henry Jackson, F.R.S., etc., who will become our President for the following year, for election by you. (*Applause.*) Of course, Dr. Erskine Murray becomes a past President, and as such we retain his services on the Committee as a Vice-President. We have asked Major Basil Binyon, formerly Vice-Chairman, to become Acting Vice-President. He will remain in that capacity with Mr. Klein. The Committee have asked me to remain as Chairman. (*Applause.*) These are only the suggestions of your Committee for you to vary in any way you like, providing

your suggestions are put in writing in time for the Secretary to transmit them to other members for their consideration before the Annual General Meeting in December. As Vice-Chairman, the Committee propose in place of Major Basil Binyon, who becomes a Vice-President, Mr. Maurice Child. Mr. Child, I would remind you, is the one member of your Committee who has retired by rotation, and we retain his services by asking him to become Vice-Chairman. Mr. G. P. Mair will remain in the same capacity, and with regard to the Committee, we have two vacancies, one to replace Mr. Maurice Child, as previously explained, and one who neither you or the Committee have filled. There has been a vacancy on the Committee. With respect to these two vacancies on the Committee, your Committee have two to propose, and they are Mr. Phillips and Mr. Rupert Carpenter. These matters are your own affair and it is for you to avail yourselves of your privileges.

I have to inform you that we have a distinguished visitor here to-night, a very welcome one, Mr. P. F. Godley, of the American Radio Relay League, who arrived in this country from the States yesterday. He, as you know, is over here officially, for the well known Society which concerns itself mostly in the organisation of transmissions on the other side of the Atlantic, and he is over here in order to see if he cannot hear his friends across the Atlantic, where we have so far failed to do so. I hope the time will permit of his telling us of the aims and objects of his Society and what he has come to do on this side.

I have nothing more to say now except that as many of us desire to go to the Society of Arts after this meeting, where our former President and our permanent Past President is Chairman this year for Professor Fleming's Lecture, we are anxious to get through our business quickly, so without further words I will call on Mr. Leslie Miller to give us his paper on "Loose Contact Thermal Telephone Receivers." (*Applause.*)

(*For full report of this paper and discussion see next issue of THE WIRELESS WORLD.*)

At the conclusion of the discussion the Chairman said: I shall be very glad if Mr. P. F. Godley will be good enough to give us a few words on the many subjects which are of mutual interest to us on both sides of the Atlantic. (*Lowland continued applause.*)

Mr. P. F. Godley.

I am pleased to be with you this evening, but I want to warn you that you will find that I am by no means a distinguished visitor, although I feel I am quite a welcome one. I want to take advantage of this opportunity to thank the members of the organisation whom I have met for the very kind co-operation that they have offered to me. Perhaps some of you have not heard what my aims are, and may be, that you would be glad to listen to them. Briefly, to begin with, I might outline how this visit has come about. Last year,

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as perhaps you will remember, an attempt was made on the part of some American amateurs to communicate with their cousins, as they speak of those in Britain, and as the preparations were hurried, we thought that they did not stand the chance of getting across that we might have stood otherwise. I presume it is rather difficult for British amateurs to realise the great enthusiasm which is displayed in America for amateur radio work. There are at present a quarter of a million people who actually operate some kind of radio equipment, and as a result of that, we have managed with quite a little jockeying to put ourselves in a position where we get almost anything we ask for. If it were not for the fact that some very distinguished members of the Post Office Organisation are present, it might be that I should speak a little more plainly on the subject than I do under the circumstances.

Mr. E. H. Shaughnessy.

I should like you to say exactly what you feel. I should like to warn you that we are very hard-skinned in the Post Office. (*Applause.*)

Mr. P. F. Godley.

I have already been warned.

At least the amateur radio in America is a real wonderful thing, not only from the point of view of education, but from the point that it really knits us closer together than anything else of which we know. At the present time some of the largest organisations, the General Electric Company and the Westinghouse Company, are installing in our principal cities, broadcasting radiophone stations, and at this moment there are daily concerts: about every other day, gramophone concerts and operas, the artists performing before the microphone. Sundays, most anyone within range of one of these stations has the privilege of listening to a sermon from some of our best pastors in the country, together with the music by the choir, and an organ solo: and that thing is only starting. The Radio Corporation is now proposing that a suitable telephone installation be installed in the House of Parliament in Washington, so that the country may listen in to any debates of importance and any speeches by the President, and they will become available to anyone, regardless of their location. It does not seem at all unreasonable to believe that within the next two or three years this may come about, and you can realise what a wonderful impetus it will give to amateur radio work in America.

My visit here at this time is concerned with the Radio League work. The American Radio League numbers about 15,000 men, all of whom have transmitters of some type, spark, C.W., or telephony. These men have banded themselves into a relay organisation. They have laid out in definite form certain traffic routes and branches to the main traffic routes, and messages of a strictly personal nature are broadcasted across the country any time of the night. One can get them at 5 or 6 in the morning, and often hear many people who have been at it all night. Of course, they cannot do it every night in the week, but they do it some nights. These relay routes enable the transmission of personal messages from coast to coast, and from the Canadian border to the Mexican border. The

Canadians, too, are taking part in this work, and there are some amateur Canadian stations which operate over very large distances. Another thing which will possibly be of interest and which may be surprising to you, is that the amateur station of 1 kW. and 25 per cent. efficiency between the input and the antenna is in communication every night during the cooler weather with points up to 700 and 800 miles distant without any difficulty, principally all over the land, and it is quite frequent that stations on the Pacific coast communicate directly with stations on the Atlantic coast. The principal difficulty there is the interference. With some 15,000 or 20,000 transmitters, you can imagine what the conditions are like, so that the average distances over which communication is carried on may then more likely be some 300 or 400 miles, and after 10 p.m. at night communication over larger distances takes place. The local communication all takes place prior to 10 p.m., subsequent to 10 p.m. is the time allotted for long distance work.

In the preliminary tests which were carried out last month with a view to selecting those stations best fitted to take part in the Transatlantic experiments, we had one station located in Georgia, using three vacuum tubes, who was reported very loud at a distance of 2,450 miles. We have another station in Chicago, with 1 kW. input, 500 cycles spark, who has been reported as having been got in Bordeaux, France. Another station in a small town (I have forgotten the name of it at the moment) in New Mexico, very close to the Mexican border and east of the Rocky Mountains, for five nights in succession, operated a 4 ohm telegraph sender in my station, which is 15 miles west of New York City, all of this work being done on inputs below 1 kW. Several radio men whom I have met since reaching England have rather been inclined to smile at our optimism in hoping to be able to hear signals on this side: these three estimates which I have given you will give some indication as to why we are optimistic. We should really like to be able to get several stations, and I shall be very glad if we do. Your Honourable Chairman, I fear, impressed you with the fact that we have a feeling that in having sent a man over here we will get signals. We sincerely hope so. We do not think we can show you how to do it, but we want you to get the proper idea. We have admiration for the accomplishments which Englishmen are responsible for and I feel sure that there is no one of us in America who feels that we can tell you anything about how to do it. All we hope is to create an interest in the subject.

As to the attitude of your Post Office Department, it is a deplorable one. I fully appreciate, I believe, their attitude in the matter, and I do not know that I can say I blame them particularly, but I do at least hope that a time will come when amateur radio will be viewed in Europe in the same light as it is now viewed in America.

It has occurred to me, in talking with several of your men, that it would be a great deal better for you if you could be allowed to operate, or rather if you chose to operate, as far as you are now allowed to do, on a shorter wavelength, rather than on those wavelengths in the vicinity now considered useful by your Post Office Department and by the

Navy and by your Air Ministry. If we in America were given our choice between 150 metres and 1,000, without any hesitation we should choose 150 metres, for the reason that when one uses small power one has far greater hopes of being able to travel greater distances on shorter wavelengths than on higher wavelengths.

I happened to be talking the matter over with Mr. Coursey and Mr. Phillips this afternoon, and I pointed out that the efficiency of the antenna of the New Brunswick Station of the Radio Corporation is a little under 4 per cent, whereas the efficiency of many of our amateur antennas as radiated will run as high as 60 to 65 per cent. The radiation at the New Brunswick station at the present time is something like 600 amperes, the antenna resistance is $\frac{1}{2}$ ohm, you have a total of 180,000 watts in the antenna, but only 4 per cent of that is radiated. We figured it out this afternoon that that would be 7.2 kW. Let us estimate that we have an amateur station with say 6/10ths kW. in the antenna with an efficiency of 60 per cent, you have quite a considerable amount of power radiated, something like 0.36 kW., which is quite comparable with the 7 kW. actually radiated by the 300 kW. Marconi station. We try to keep our antenna efficiency high, and are very pleased to be able to communicate over large distances.

Thank you very kindly. (*Loud and continued applause.*)

The Chairman.

Gentlemen, I have to announce that the candidate for ballot, Mr. Clarence S. Goode, has been duly elected to membership. The meeting is now closed.

The meeting adjourned at 7.20 p.m.

Wireless and Experimental Association.

(*Affiliated with the Wireless Society of London.*)

At the meeting of the Wireless and Experimental Association at Peckham, on November 9th, the Secretary gave a few practical hints on the erection of wireless masts, emphasising the general suitability and availability of straight grained two inch by two inch deal or pine. Nicely planed and with the sharp edges removed and given three coats of good paint, such a pole with proper staying with No. 20 bronze wire would withstand any gale we are likely to get in England, or at least in the neighbourhood of London, and might be thrust 50 feet up into the ether and still look workmanlike.

One of the members reported receiving the new American station at Arlington.

A letter was read from another member, Mr. Sam Middleton, of old telegraph repute, promising a complete set of coils for the Club's installation.

Discussion arose on the question of the provision of battery power for the Club's set, and Messrs. Mitchell, of Rye Lane, offered a loan at any time required at most advantageous terms, and the offer was accepted with a vote of thanks.

Not alone pure wireless matters occupy the attention of the members of the Wireless and Experimental Association, as is indicated by their title, and it was quite in accordance with the fitness of things that they were treated, on October 26th, to a digest of Sir W. A. Tilden's paper on "Chemical Discovery and Invention in the 20th Century."

A member, Mr. Arthur H. Bird, essayed the difficult task of summarising the illustrations—original, and he ably acquitted himself of the task.

Mr. Kloots continued his lecture on A.C. transformer design.

At the meeting of the Wireless and Experimental Association at the Central Hall, Peckham, on Wednesday, November 16th, Messrs. Bird and Newson, members, demonstrated the use of the Redwood Viscometer. As use of oil plays a part in air experimental work, the exposition of the apparatus was well received. For the benefit of the elementary members the use of headgear receivers of various resistances as well as telephone transformers was fully explained by the Secretary, who also gave a description, with sketches of the covering of fine wires with silk and cotton. It is hoped to arrange a Saturday visit to a wire insulating works in the near future. The Chairman, Mr. Knight, extended for one week the competition for the best description of a transmitting circuit shown on the board, and Mr. Voigt discoursed on various diagrams of capacity reaction circuits. A short question as to whether, with a three-plate condenser, if the middle plate changed its relative position to the other two the capacity was altered, was also dealt with by Mr. Voigt.

Hon. Secretary, Mr. G. Sutton, A.M.I.E.E.
18, Melford Road, S.E.22.

Sheffield and District Wireless Society.

(*Affiliated with the Wireless Society of London.*)

A meeting of the above Society was held on October 21st, at the Department of Applied Science, The University, George Square, Sheffield. Professor Crapper, the Society's new President, was in the chair. A very interesting and valuable lecture was given by Mr. C. Handford, B.Met., on "Comparative Amplification."

The paper first dealt with the relative advantages of High and Low Frequency Amplification, and then went on to deal with the various circuits employed for H.F. amplification, showing how they were all developed from one fundamental idea, and to what extent this relationship was retained in the evolved circuits.

The lecture was well illustrated by lantern slides showing the circuits' arrangement for obtaining the various results. A lively discussion followed, and a hearty vote of thanks was awarded to Mr. Handford for his careful research work necessary to verify his results.

Leicestershire Radio Society.

(*Affiliated with the Wireless Society of London.*)

A General Meeting of the Society was held on October 10th, at headquarters, the Vaughan College, Mr. C. T. Atkinson, President, in the chair.

Amongst the business items were two admissions and nominations for election of officers for 1922. The President announced that the first of informal meetings arranged two weeks after each general meeting would occur on November 24th.

The lecturer for the evening was E. Masters, Esq., whose lecture, entitled "The Modern Electron Theory," aroused very keen interest. Although this subject was rather technical and deeply involved it proved engrossing, and elicited many questions