

WIRELESS CLUB REPORTS

penditure (stationery, postages, club furniture, etc.), £25 8s. 0½d.; balance in hand, £9 7s. 5½d.; total, £34 15s. 6d.

The Treasurer stated that an anonymous letter had been received that day, in which £1 was enclosed. The Society was in a sound position, having in hand a good balance. When the subscriptions for the ensuing year came in, the Society would be able to cover all expenses for the ensuing year, and also have money enough to purchase various necessities for the installation at its headquarters.

The Chairman extended thanks to all who had very kindly given gifts in various ways to the Society.

The following gentlemen were elected as officers for the coming year:—President, Mr. A. S. Black, A.M.I.E.E.; Vice-President, Colonel A. D. Lomas; Chairman, Mr. R. Wilde; Hon. Secretary, Mr. H. Sutton; Hon. Treasurer, Mr. R. W. Brown; Committee, Mr. G. H. Hanley and Mr. E. R. W. Field; Librarian, Mr. A. E. Lomas.

Particulars as to membership may be had on application to the Secretary, Mr. H. Sutton, 68B, Marshside Road, Southport.

The Gloucester Wireless and Scientific Society.

(Affiliated with the Wireless Society of London.)

A Lecture and Demonstration was given before the above Society, at the Science Laboratory of Sir Thomas Rich's School, Gloucester, on the evening of December 1st, Mr. E. F. Price, B.A. (the Headmaster) presiding.

Mr. F. J. Freeman, B.Sc. (President) gave the Lecture—which was on the lines of a popular exposition of the main principles of wireless. By means of various instruments he explained some of the first principles and gradually led up to the wireless receiving set itself (a four-valve amplifying set.) On this set signals were received, and by means of resonance magnifiers fitted to Brown's telephones, some of the large European stations were made audible to an audience of about 80 persons. Some of the press news was taken down by the Secretary and Mr Sandoe, and written on the blackboard as a sample of the kind of messages sent out.

A meeting of the Society was held on December 16th at headquarters.

The evening was spent in the examination of instruments brought forward by various members. A very neatly arranged set, belonging to Mr. G. T. Peck, was exhibited, with which some excellent signals were received on the Club's aerial. The Secretary had a small 600-metre C.W. and telephony transmitting set on view.

The New Year session will open on January 20th, 1921, and on this date the first lecture of a series, forming an outline of the course for the P.M.G. Wireless Certificate, will be given.

Meetings are held fortnightly, and all information concerning the Club, can be obtained on application to the Hon. Secretary, Mr. J. J. Pittman, 1, Jersey Road, Gloucester.

Cambridge University Wireless Society.

(Affiliated with the Wireless Society of London.)

This Society has recently been formed under the

presidency of Mr. E. J. E. Hubbard, of Jesus College.

Membership is confined to Undergraduate members of the University. Senior residents, however, are eligible to become honorary members.

To date there are thirty-six members and six honorary members.

The first meeting was held on October 31st, 1920, when Colonel Stratton gave a highly interesting lecture upon the development of wireless in the B.E.F.

At subsequent meetings the following Papers were read:—"Duplex Telephony in Aircraft" (on November 15th), read by Mr. Wynn (late of Biggin Hill); "A Homemade 4-Valve Receiver" (on November 29th), read by the President, and followed by a general discussion.

The following is a list of officers:—

Vice-Presidents, Prof. Sir Ernest Rutherford, F.R.S., and Colonel F. J. M. Stratton, D.S.O., R.E.; Secretary, Mr. C. C. A. Hines (Gonville and Caius College); Hon. Treasurer, Mr. F. P. Burch (Gonville and Caius College); Representative Member of the Wireless Society of London, Mr. N. C. B. Carrick (Jesus College).

Efforts are being made to secure premises for the Society, but owing to the crowded state of the University, considerable difficulty is being experienced. It is hoped that next term will see a large increase in the membership. Anyone interested should apply to the Hon. Secretary, Mr. C. C. A. Hines, 13, Park Parade, Cambridge, from whom full particulars may be obtained.

The Wireless Society of Hull and District.

(Affiliated with the Wireless Society of London.)

At a meeting of the Society, recently held at the Marlborough Room, Metropole (Mr. G. Strong presiding), Mr. Hy. Strong read his promised Paper on "Valves," including some twenty-five drawings of curves, characteristics, and circuits. Three different ways in which the valve can be utilised in wireless work were described by the lecturer.

A vote of thanks was proposed by Mr. Featherstone, seconded by Mr. Jephcott, and carried unanimously.

Hon. Secretary, Mr. J. Jephcott, 79, Freehold Street, Hull.

Derby Wireless Club.

(Affiliated with the Wireless Society of London.)

An interesting paper was recently given, by Mr. Lowe, on "Detectors," and on December 1st Mr. A. N. McInnes, B.A., read a Paper on "Inductance and Capacity," which was followed by a discussion.

Hon. Sec., Mr. W. Remrose, Littleover Hill, Derby.

Bradford Wireless Society.

(Affiliated with the Wireless Society of London.)

A meeting of the Society was held on December 3rd, the chair being taken by the Vice-President. Following the signing and accepting of the minutes, one new member was elected.

A very neat set, belonging to one of the members, Mr. Brarber, who was unfortunately away on business, was exhibited.

Connected with an L.F. amplifier this set gave exceptionally good results.

The Secretary would be pleased to hear from

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The Club welcomes enquiries from persons interested in the progress of the science, whether experienced or not. Details as to membership may be obtained from the Hon. Secretary, Mr. V. Palmer, Manor House, Maxton, Dover.

The North London Wireless Association.
(Affiliated with the Wireless Society of London.)

The eighteenth meeting of the Association was held on Friday, April 8th, 1921, the President in the chair. After the minutes of the previous meeting had been read and confirmed, Captain W. R. H. Tingey was called upon to give the first of his series of lectures, the subject being "The Electron Theory." Captain Tingey commenced by saying that the old theory of the existence of about eighty elements, of which the smallest part that could exist alone was an atom, had been overthrown by the proof of what is generally known as the "Electron Theory."

Following his lecture Captain Tingey asked for any questions, the result of which being many requests for information.

The subject, which is a very complex one, was explained with great simplicity and with several touches of humour, which made a pleasant evening pass all too quickly. The Association is looking forward eagerly to the next lecture on the relation between the aether and the electron.

The Association's first field day was held at Cuffley on the 23rd April. The Postmaster-General's necessary permission has been obtained.

The Association's membership is rapidly increasing, but there is still room for more. All enquiries will be answered by the Hon. Secretary, Mr. J. W. S. Prior, c/o Superintendent, Peabody Buildings, Essex Road, N.1.

Glasgow and District Radio Club.
(Affiliated with the Wireless Society of London.)

The usual fortnightly meeting was held on Wednesday, March 30th, at the Club room.

After the confirmation of minutes of the previous meeting the Secretary read some correspondence relating to the Club's demonstration of wireless apparatus, arranged for April 13th.

Mr. T. Senior then favoured the members with a discourse on "Aerials." Mr. Senior was well qualified to speak on this subject having had about 10 years' practical experience in the erecting and fitting out of wireless telegraph stations. The various types of aerials in general use were illustrated by blackboard diagrams, and the advantages and disadvantages of each were emphasised.

The different kinds of wire which could be used. ohmic resistance, skin effect of high-frequency currents, the necessity of good joints for efficiency, were dealt with in turn and fully explained.

The most effective methods of insulation, the necessity for preventing swaying of the aerial wires, and the vexed problem of whether the free ends should be joined or left open, were discussed.

Mr. Senior then answered numerous questions on aerial problems to the satisfaction of those members who asked them. To judge by some of the queries it would appear that a few members have had sleepless nights worrying over their "best arrangement of wires."

The lecturer was accorded a hearty vote of thanks.

The members of Glasgow and District Radio Club always thought that their organisation was fairly well known, locally at any rate, but it came as a surprise to them to hear that the Hon. Secretary had received a letter from a Russian gentleman in Rue de Brousse, Pera, Constantinople.

If any of our local friends desire particulars of the Club they may obtain all information from the Hon. Secretary, Robert Carlisle, 40, Walton Street, Shawlands, Glasgow.

Cambridge University Wireless Society.

Three meetings were held during the Lent Term. The first took place on January 30th, in Mr. Beale's rooms, in Trinity College. Mr. Beale described and demonstrated a three-valve amplifier, a universal tuner and various other instruments of his own design and manufacture.

The other two meetings, to which all members of the University were invited, were held in the Engineering Laboratories, by kind permission of Professor Inglis. At the first of the above, held on February 7th, Admiral Sir Henry Jackson delivered a Paper entitled "The Educational Value of the Study of Wireless." At the conclusion of the lecture Professor Sir Ernest Rutherford, in proposing a vote of thanks to the lecturer, made a strong appeal to all scientific members of the University to take an intelligent interest in wireless. Eighty members and visitors were present.

The third meeting was held on February 28th, Major H. P. T. Lefroy, D.S.O., R.E., delivering a lecture on Wired Wireless. Sixty members and visitors were present.

The Society has been fortunate in obtaining, also due to the generosity of Professor Inglis, an excellent room in the New Engineering Laboratory, and it is hoped that next term an aerial and instruments will be forthcoming.

The Hon. Secretary, C. C. A. Hines, 13, Park Parade, Cambridge, will be pleased to supply full particulars of the Society to intending members on application. Subscription, 2s. per term.

Plymouth Wireless Society.

At the Plymouth Technical College on Friday, April 15th, 1921, Mr. S. H. Day related to a well-attended meeting of the above Society his experience connected with Wireless Telegraphy while serving in H.M. Navy during the War.

Mr. W. J. Lewarn occupied the Chair. After describing briefly the various methods used for transmission and reception, the different aerials used, etc., he went on to explain more fully the methods used for transmission and reception adopted aboard submarines when submerged.

He concluded by detailing some thrilling experiences in the battle of Jutland, and while serving on mine sweepers.

Everyone present thoroughly appreciated the lecture, and a vote of thanks was passed to Mr. Day.

An opportunity occurred to members of the Society to grasp fully the practical side of aerial fixing on Saturday, April 16th, when a field day was held at Devonport.

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Mr. A. E. Greenslade, a member who received them, is going to tell us how he did it.

The Wireless World tells us that Mr. Godley, the American who came over specially to show the British amateur how to receive Americanese, was successful in receiving several complete messages and parts of a great many others.

He went to Ardrossan, near Glasgow, and there erected his station with an aerial 350 ft. long, absolutely directional with America.

We, who have to pick up signals and a living in London, have to be content by official regulation with 100 ft., pointing any old way the house faces, and yet we have done it.

If legend is to be relied upon, Scotland is not the sort of place to go to pick things up, wireless signals perhaps excepted. An unsympathetic London coroner's jury returned a verdict of death from natural causes on the Scotsman who stopped to pick up a sixpence in the roadway at the Mansion House.

We are not entitled yet to claim that our man is the only Londoner to pick up those American signals, but he is the only one we know, and we behave accordingly. We feel a little bit like the child who saw an Italian workman chip a piece of coloured tessera to make it fit into the design he was working out and charged him with not playing the rules of the game.

What would we not have done with 850 ft. of aerial and a kilowatt to chase up and down it?

Cambridge University Wireless Society.*

Proceedings for the Michaelmas term, 1921.

At the Second Annual General Meeting held on October 9th the following officers were elected for the year 1921-22:—

President, Mr. E. J. E. Hubbard (Jesus); *Hon. Secretary*, Mr. D. A. L. Wade (Clare); *Hon. Treasurer*, Mr. J. E. Gardner (Peterhouse).

The annual subscription was fixed at 5s. per annum, with an additional 2s. per term for the use of the Society's room and aerial.

On October 16th a meeting was held in Trinity College when Mr. A. S. Brereton described and demonstrated a five-valve receiver of his own manufacture.

On October 24th a meeting was held in the Engineering Laboratories when Mr. L. B. Turner, M.A., M.I.E.E., was unanimously elected a Vice-President of the Society.

The President then called upon Capt. H. de A. Donisthorpe to deliver a paper entitled "The Effect of a Magnetic Field on Thermionic Valves." The lecturer proceeded to describe the effect on the anode current of a triode when subjected to a magnetic field, and gave a demonstration showing how this effect could be used to increase the efficiency of a receiver. He then described experiments he had made in an endeavour to apply this effect to telephone transmission.

A general discussion ensued, and the meeting concluded with a hearty vote of thanks to Capt. Donisthorpe.

On November 6th, a meeting was held in St. John's College, when Mr. E. V. Appleton read a paper entitled "A Difficulty in Retro-active Reception."

The lecturer described some investigations he had carried out in conjunction with Dr. B. van der Pol into the phenomenon of backlash in starting and stopping oscillations in a triode.

He showed that this phenomenon was explained by taking proper account of the shape of the characteristic, and pointed out its bearing on how close one could approach to the oscillating condition when receiving spark or telephony.

A discussion ensued, and the meeting concluded with a hearty vote of thanks to Mr. Appleton for his interesting and instructive paper.

On November 20th, Capt. P. P. Eckersley, of the Marconi Company, delivered a paper before the Society entitled "Wireless on Aircraft."

The lecturer commenced by making some general remarks about telephony on aircraft, and then went on to describe the sets designed for civil aviation purposes by the Marconi Company, and also the ground station at Croydon. He concluded by briefly describing the earth screen invented by his brother in use at Carnarvon and Croydon, and a simple and ingenious method of measuring high frequency resistances.

Altogether a highly interesting and instructive discourse, which was much appreciated by the Society.

On December 4th, the President gave a description and demonstration of his recording apparatus. He started by recalling the principles of the Turner relay, described the different methods of quenching the oscillations, and several other minor points about the connections. He then explained the moving iron polarised relay which he had made, and proceeded to apply it to a printer and a 4 volt indicating lamp. A tape was printed during the demonstration and passed round for inspection. The meeting concluded with a discussion.

The membership of the Society now amounts to approximately seventy.

Hon. Secretary, Mr. D. Wade, Castle Lodge, Saffron Walden.

The Leeds and District Amateur Wireless Society.*

Hon. Secretary, Mr. D. E. Pettigrew, 37, Mexborough Avenue, Chapeltown Road, Leeds.

A General Meeting was held on December 23rd at the Leeds University, there being a good attendance. Mr. R. E. Timms (Hon. Treasurer) officiated at the buzzer owing to the absence of all Morse instructors. At 8 p.m. Mr. G. P. Kendall, B.Sc. (Vice-President), took the chair and called upon the Hon. Secretary to discharge certain business. This having been carried out, the Chairman called upon the Hon. Secretary again, this time to deliver a paper on "The Post Office Wireless Service." The lecturer commenced by briefly outlining P.O. wireless work from an historical standpoint and showed how the original "plain aerial" sets had been supplanted by rotary and quenched spark sets, continuous wave arc and valve transmitters. The coastal wireless service to ships was examined and "commercial procedure" briefly explained. A description of the Niton station followed, the working of the transmitter and receiver being explained both verbally and with the aid of blackboard diagrams. Devizes, Caister,

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. An Asterisk denotes affiliation with the Wireless Society of London.

The Leeds and District Amateur Wireless Society.*

Hon. Secretary, Mr. D. E. Pettigrew, 37, Mexborough Avenue, Chapeltown Road, Leeds.

A General Meeting was held at the Leeds University on Friday, February 10th. The Morse class was held as usual under the direction of Mr. P. Cockroft.

At 8 p.m. Mr. A. M. Bage (Vice-President) took the Chair, and announced that it was proposed to initiate an "Exchange and Mart" in connection with the Society, particulars of which were being drawn up.

The Chairman then called upon Mr. H. F. Yardley to deliver a paper on "Valve Transmitting Apparatus." Mr. Yardley (who operates 2NA and 2NB) commenced by explaining the method of transmission of damped and undamped waves, mentioning some of the relative advantages and disadvantages of such transmissions. He then explained very clearly and concisely, how continuous waves may be modulated by audio frequency currents for the transmission of telephony. With the aid of diagrams numerous types of valve transmitters were described. Characteristic curves, reaction principles, and the H.T. anode supply were considered. The lecturer then proceeded to describe his transmitter of telegraphy and telephony, the principal components of the set being on view. The very neat and compact set was greatly admired, and undoubtedly inspired some of those persons present to apply to the P.M.G. at once for a licence for transmission. Mr. Yardley dwelt upon the method he had adopted for obtaining 2,000 volts D.C. from the 220 volt 50 cycle lighting mains. By means of a transformer with centre tap to secondary, and two Cossor rectifying valves in parallel, full wave rectification is attained. The pulsating D.C. is "smoothed out" with chokes and condensers before being applied to the anodes of the transmitting valves. Filament current is obtained from another secondary winding of the transformer at 3 to 10 volts 50 cycles. The transmitting valves are Marconi-Osram and Mullard types. The A.T.I. is of the variometer pattern, duo-lateral coils being used in series, and mounted upon a holder as often used for receiving. Reaction is obtained from a third duo-lateral coil.

At the close of Mr. Yardley's address, the Chairman declared the discussion open. Many interesting points were raised as the discussion proceeded, the subject of modulation transformers being very thoroughly analysed. At the cessation of the discussion a hearty vote of thanks was accorded to Mr. Yardley. The proceedings then terminated.

Cambridge University Wireless Society.*

On Monday, January 25th, a meeting of the Society was held when Mr. F. S. Thompson (Peterhouse) delivered a lecture entitled "A 120-Watt Valve Transmitter" in which he ably described the Army 120-watt continuous wave

set and gave some account of his experiences in handling it. A number of questions were asked at the end of the lecture, and the meeting concluded with a vote of thanks to the lecturer proposed by the President.

On Wednesday, February 3th, Professor R. Whiddington, of Leeds University, read a paper before the Society entitled "Wireless Circuits in Minute Physical Measurements." In the unavoidable absence of the President, Mr. N. C. B. Carrick presided. The lecturer with the aid of lantern slides described his ultra-micrometer which makes use of the change of frequency in an oscillatory circuit due to minute movements of the flakes of a condenser. By this means movements up to one two-hundred millionths of an inch could be detected.

He then proceeded to point out how this instrument might be applied to measure physical quantities hitherto undeterminable to such a degree of accuracy. At the conclusion of his paper, Professor Whiddington answered a number of questions put to him by members, and the meeting concluded with a vote of thanks proposed by Mr. Turner (Vice-President).

On Monday, February 13th, Mr. L. B. Turner delivered a lecture before the Society entitled "Reception Experiences, Cairo, September, '21" in which he described some of the experiments he had carried out in connection with the Cairo station of the Imperial Wireless Chain. These experiments, which were primarily carried out with a view to the elimination of atmospheric disturbances, had led him to the conclusion that the use of short waves in this case was justified and that the solution of the problem of atmospheric lay not so much in the type of aerial employed, but rather in the introduction of some limiting device in the receiving circuit. He described some interesting experiments for cutting out atmospheric by direction-finding methods.

At the conclusion, Mr. E. E. Moulton proposed a vote of thanks to Mr. Turner for his interesting and instructive lecture and pointed out the need for research in determining the intensities of wireless signals at a distance from a station.

The Society now has a membership of approximately 80.

Hon. Secretary, Mr. D. A. L. Wade, 16, Trumpington Street, Cambridge.

Newcastle and District Amateur Wireless Association.*

Hon. Secretary, Mr. Colin Bain, 51, Grainger Street, Newcastle-on-Tyne.

On Thursday, February 16th, the members of the Society paid a visit to the offices of the Radio Communication Co., in response to an invitation given by the agents (Messrs. Marley and White). Everyone was highly delighted with the apparatus which was demonstrated, and fully described to them, by the company engineers.

The arrangements have been completed for

Wireless Club Reports

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Correspondence with Clubs should be addressed to the Secretaries direct in every case unless otherwise stated.

Cambridge University Wireless Society.*

Hon. Secretary, Mr. J. B. Hickman, 4, Rose Crescent, Cambridge.

On November 6th a paper was read to the Society by Flight Lieut. de Burgh, R.F.A., who dealt with the various methods of radio-goniometry. He described the loop, Bellini Tosi and the unilateral systems of direction finding, and also gave an account of directional work in connection with aircraft. The meeting closed with a discussion and a very hearty vote of thanks was passed to the lecturer.

On November 13th, Lieut. G. W. N. Cobbold, M.A., of the Signals Experimental Establishment, Woolwich, lectured to the Society. His paper was a description of a method of measurement of the constants of an aerial, i.e., capacity, inductance and resistance. At the conclusion of the lecture this apparatus was shown working, and the constants of the small laboratory aerial were found.

On November 20th, Mr. T. Hollingworth, M.A., Peterhouse, of the National Physical Laboratory, Teddington, gave a most interesting lecture. The substance of his discourse was "The Application of Theory to Radio Practice." To some his remarks seemed rather pessimistic. He pointed out that although the pure mathematics and what it showed was always right, yet there were limits to the function of the mathematician. There were constants that were not constant, and other factors that might be put down and solved in a differential equation, yet actually in practice the result might be very far removed from what the theory would indicate. Pure mathematics gave the law, but the quantitative result could often not be obtained with any degree of accuracy. So the practical working had to be associated carefully with what the theory would show. The theoretical side must always be borne in mind, but its limitations must be intelligently noted, or there would be serious discrepancy.

The Thames Valley Radio and Physical Association.*

Hon. Secretary, Mr. Eric A. Rogers, 17, Leinster Avenue, East Sheen, S.W.14.

A meeting was held at the headquarters of the Association on January 4th, 1923, with Mr. C. Appleton-Smith in the chair. The minutes of the previous meeting being confirmed, the Chairman called upon Mr. Jocelyne to give his lecture on "Induction." With a series of experiments and liberal blackboard sketches, the lecture proved both interesting and instructive. At the end of the lecture questions were answered by Mr. Jocelyne, and a vote of thanks was accorded him for his work.

The Chairman then read out the list of dates on which the Technical Committee is to give

Radio concerts to local hospitals, and the members were also informed of the lectures arranged for January and February. On this occasion ten new members were passed for membership, and 23 members and eight visitors were present.

On January 18th, Mr. Dowse will lecture on "Sound," and an exhibition of members' sets will be held on January 25th, 1923.

Leeds and District Amateur Wireless Society.*

Hon. Secretary, Mr. D. E. Pettigrew, 37, Mexborough Avenue, Chapeltown Road, Leeds.

A general meeting was held at the Grammar School on January 5th, Mr. W. G. Marshall being in the chair. The minutes of the previous meeting having been accepted and other business discharged, the Chairman called upon Mr. T. Brown Thomson to lecture upon the "Transmission of Photographs by Wireless."

The lecturer sketched the methods that have been used since 1847, paying particular attention to the efforts of Knudsen in 1908. Mr. Thomson expressed his belief that it would soon be possible to transmit an ordinary negative without the use of special plates, and advocated the use of undamped waves for such a transmission. Various methods of transmission using spark, arc, or valve were briefly considered, and arrangement of receiving apparatus examined.

A valuable discussion arose after the conclusion of the lecturer's remarks, there being some very original but quite practical remarks put forward. Synchronisation again received close discussion. The problems of atmospheric disturbances and harmonics of GBL were touched upon, but soon abandoned as they tended to dishearten the meeting.

Mr. Thomson was heartily thanked for his paper, and the meeting closed after Mr. J. O'Donohoe had been elected Chairman for the next meeting.

Stoke-on-Trent Wireless and Experimental Society.*

Hon. Secretary, Mr. F. T. Jones, 360, Cobridge Road, Hanley.

A meeting of the Society was held at the Y.M.C.A., Hanley, on Thursday, January 4th, under the Chairmanship of Mr. Bew. After the ordinary business of the meeting was concluded a lecture was delivered by Mr. R. W. Steel, on "Sources of Electric Current." In the opening portion of his address he explained the nature of electricity by means of the Electron theory, and then proceeded to describe the various methods of producing electricity, classifying them under four main headings: Frictional, Chemical, Thermal and Dynamical.

A series of lectures has been arranged to take place on alternate Thursdays, the next of which will be given on Thursday, January 18th, by Mr. L. F. Fogarty (Treasurer, Radio Society of Great Britain), on "Rectifiers."

Numerous thermionic valve circuits were given, followed by a description of the functioning of the various electrical circuits involved. Particularly of interest was the description of a four-valve circuit (1-V-2) which is, perhaps, the ideal arrangement for loud speaker work in Blackpool.

Hon. Sec., B. D. Taylor, 58, Regent Road, Blackpool.

Cambridge University Wireless Society.*
Members of this Society are able to look back on a very active winter session, just concluded. Eight lectures have been delivered, all by well-known authorities, and a wide range of subjects related to wireless has been covered. Among those who have honoured the Society with lectures are Captain P. P. Eckersley, Dr. R. L. Smith Rose, Dr. R. V. Appleton and Capt. A. G. D. West. A number of informal meetings have also been held and four parties have visited B.I.O.

Hon. Sec., H. G. MacColl, University Engineering Laboratories, Cambridge.

Wimbledon Radio Society.*
The "Works" Committee have been exceptionally busy on the Society's receiver, which now, as the result of their efforts, is nearing completion.

Mr. Stokes, the Secretary, recently demonstrated a remarkably neat crystal receiver, in appearance and size similar to an ordinary shrouded transformer, which gave excellent results over a wide tuning range. A one-valve receiver such which all the B.B.C. stations could be received has also been working on the Society's aerial.

The annual general meeting of the Society will be held at Headquarters, The Red Cross Hall, 59, Church Road, Wimbledon, S.W.19, on Friday, April 25th next, to receive the Hon. Secretary's and the Hon. Treasurer's reports, and for the election of officers for 1924.

Ast. Hon. Sec., R. G. West, "Bonchurch," 4 Ryfold Road, Wimbledon Park, S.W.19

Barnet and District Radio Society.*
Mr. Philip R. Coursey, Hon. Secretary of the Radio Society of Great Britain, visited the Society on the occasion of the last bi-monthly meeting, and delighted the members with a highly interesting lecture on "Condensers."

Mr. Coursey described in detail the manufacture and use of condensers, from the small mica dielectric fixed condensers and air dielectric variable condensers, used in reception, to the huge condensers employed in high power transmitting stations, and in the overhead power lines on the Continent. Nearly one hundred slides were shown on the screen, illustrating the processes of manufacture at the well known Dubilier Condenser works at Shepherd's Bush. Starting at the mica mines in India, the pictures took the audience through the various shops in the condenser works. The splitting and cutting of the mica, the tests applied to it, and its assembly with the other component parts to form the finished article, provided a really instructive story. Mr. Coursey's detailed description of the methods employed, rendered the evening as profitable as a personally conducted tour through the actual works. The final slides depicted the aerial and apparatus at 6XX, the famous transatlantic transmitting station of the Radio Society of Great Britain.

Hon. Sec., J. Nokes, "Sunnyside," Scapillon Road, Barnet.

Tottenham Wireless Society.*
On Wednesday, April 9th, Mr. Vickery showed members' grid leaks and condensers. He is the fortunate possessor of a

"megger" and by means of this instrument showed whether components were faulty or not. His demonstration was preceded by a description of various standard variable leaks. An ingenious and efficient variable leak designed by Mr. Vickery was much admired.

Hon. Sec., S. J. Glyde, 137, Winchelsea Road, Bruce Grove, Tottenham, N.17.

The Belyedera, Erith and District Radio and Scientific Society.

Disappointment on Friday, April 11th, at the inability through indisposition of Mr. C. Morriss to give his lecture on "Elimination of Interference in Wireless Reception" was in a measure compensated for by a very able lecture given by Mr. G. R. Harbottle, on "Transmission Systems and the Electric Light Cable." Mr. Harbottle traced the development of the modern system of power transmission from the old two-wire and balanced three-wire direct current systems of about thirty years ago, to the highly efficient alternating current systems that obtain to-day. He explained in general terms the construction of electric light cables from the drawing of the copper wire from the ingot through the stages of conductor, insulation and protection, and briefly outlined their electrical characteristics.

A most interesting discussion followed on the economic use of the super tension cable applied to modern conditions of working.

The Secretary reported that The British Broadcasting Company had given permission to members to visit the London Broadcasting Station.

Hon. Sec., S. G. Meadows, 110, Bexley Road, Erith, Kent.

The Clapham Wireless Society.

The rules of this new Society have now been approved, and several additions have been made to the membership.

Crystal detector testing took place at the last meeting of the Society, conducted by Mr. W. Brierley.

Hon. Sec., M. F. Cooke, 13, Fitzwilliam Road, Clapham, S.W.4.

Sydenham and Forest Hill Radio Society.

On Monday evening, March 17th, Mr. J. G. Barrett, a lecturer from the South London League of Radio Societies, dealt very ably with the subject of "Cabinet Work for Wireless Sets."

The lecturer first described the various joints used in cabinet work, such as the butt, the mitre, the tongue and groove, and the dovetail. Following this he gave some useful tips with regard to the selection of woods, and the use of tools and home-made appliances, and concluded a very interesting and instructive lecture with some remarks on staining and polishing.

As Mr. Barrett was unavoidably called away somewhat early in the evening, the Chairman invited discussion on general wireless topics, and a very interesting and informal hour was spent in this way. Capt. Huss gave some particulars of an "extraordinary protuberance" which has been noticed on his house, and stated that it was a novel aerial which he had recently put into use. Mr. Cox gave a résumé of a recent lecture on dull emitter valves given before the I.E.E. and Mr. Robartes gave a modified ultra audio circuit, which gave particularly good results on continental and long distance telephony.

Hon. Sec., M. E. Hampshire, 139, Sydenham Road, Sydenham, S.E.26.

Dulwich and District Wireless and Experimental Association.

A very interesting paper on the design and construction of the Cossor valve, which was kindly lent by Messrs. The Cossor Valve Co., Ltd., was read by Mr. Bartlett on March 31st. This firm also lent the Association the use of a set of lantern slides illustrating the paper. An interesting discussion ensued.

On Monday, April 7th, Mr. Skinner, a member of the Association, gave an able lecture on "Television," which was followed by a lively debate.

The Association is desirous of increasing its membership, and all enquiries should be addressed to the Hon. Sec., Harrie King, 2, Henslowe Road, East Dulwich, S.E.22.

FORTHCOMING EVENTS.

WEDNESDAY, APRIL 30th.

Radio Society of Great Britain. Ordinary General Meeting. At 6 p.m. At the Institution of Electrical Engineers. Lecture: "Faithful Reproduction by Broadcast." By Captain P. P. Eckersley.

Edinburgh and District Radio Society. At 8 p.m. At 117, George Street. Lecture: "Stationary Waves." By Mr. W. Anderson, M.A., F.R.S.E.

Clapham Park Wireless and Scientific Society. At 8 p.m. At 67, Balham High Road. Lecture: "H.F. Amplification." By Mr. A. D. Cowper, M.Sc., A.I.C.

North Middlesex Wireless Club. At 8.30 p.m. At the Shaftesbury Hall, Bowes Park, N. Lecture: "Crystals used in Wireless Reception." By Mr. A. V. Ballhatchet.

THURSDAY, MAY 1st.

Blackpool and Fylde Wireless Society. Lecture: "Natural Detectors." By Mr. W. Shuttlebotham, F.R.S.E.

FRIDAY, MAY 2nd.

Radio Society of Great Britain (Transmitter and Relay Section). At 6.30 p.m. At the Institution of Electrical Engineers. A Discussion will be opened by Captain P. P. Eckersley.

Sheffield and District Wireless Society. At 7.30 p.m. At the Department of Applied Science, St. George's Square. Lecture: "Reflex Circuits." By Mr. L. Johnson.

Leeds Radio Society. At 7.30 p.m. At Woodhouse Lane U.M. Schools. Lecture: "A Frame Aerial Receiving Set." By Mr. J. Croysdale.

SATURDAY, MAY 3rd.

Bristol and District Radio Society. At 8 p.m. At the Y.M.C.A. Hall, St. James' Square, Bristol. Address by Captain P. P. Eckersley (Chief Engineer of the B.B.C.). Chair will be taken by the Rt. Hon. The Lord Mayor.

MONDAY, MAY 5th.

Ipswich and District Radio Society. At 55, Fournereau Road. Open night.

Hornsey and District Radio Society. At Queen's Hotel, Broadway, Crouch End, N.8. General Discussion and Questions.

Kingston and District Radio Society. Lecture: "The Importance of Esperanto as a Factor in Modern Life." By Mr. Montague Butler.

WEDNESDAY, MAY 7th.

Institution of Electrical Engineers (Wireless Section). At 6 p.m. At Savoy Place, W.C.2. Lecture: "Faithful Reproduction in Radio Telephony." By Mr. L. C. Pocock, Associate Member.