

## OFFICIAL

PROGRAMMES
or

## THE BRITISH BROADCASTING COMPANY.

For the Week Commencing SUNDAY, JANUARY 20th.

## LONDON <br> ABERDEEN <br> CARDIFF <br> GLASGOW <br> BIRMINGHAM <br> MANCHESTER <br> BOURNEMOUTH NEWCASTLE

## SRECIAL CONTENTS

WHY WE CHANGED THE WAVE-LENGTHS. By P.P. Eckersley, Chief Engineer of the B.B.C

## THE SAVOY DANCE BANDS

By the Leader of the Savoy Orpheans.
HOW I RELAYED AMERICA. By A. G. D. West.

THE FIRST FRANCO-BRITISH BROADCAST. By C. A. Lewis.

THE STORY OF "KATHLEEN MAVOURNEEN."
THE CHILDREN'S CORNER
LETTERS FROM LISTENERS.

## WHAT'S IN THE AIR?

## The Church and Broadcasting.

By J. C. W. REITH, Managing Director of the B.B.C.

CUCH great interest was aroused by the recent broadeast of Evensong from St. Martin's-in-the-Fields, and such exceptional appreciation expressed, that we are endeavouring to make arrangements for the regular transmission of a complete service, acceptable to all denominations, probably once a month to start with. It is hoped that a suitable service can be provided in each town. rather than that one should be simultaneotaly broadeast.

The matter is being discussied with the Advisory Committee on which practically all the Churches are represonted. It is, of course, a delicate subject, and one of no small difficulty. Our gratitude is due to the Vicar of St. Martin's for his co-operation in the initial venture. It has not passed without some unfounded eriticism being directed against himself. His broadmindedness and enthusiasm misst, however, have bronght their own reward in the letters and mesages of appretiation with which be has been practically overwhelmed.

Mnyy months ago, when we were ansious to broadeast a certain service of sreat public interest, the objection which cansed the refusal was that it was unfitting that a saered service should be received in any sort of place and under any sort of circnmstances. It is difficult to follow flus The nature of the servico cannot be projudiced by any irreverenoe in roception, and one would have imagined that those to Whose care is committed such responsibilities wonta welcome the opportunity of extending the influence of their beneficent activities into quarters otherwise inaccessible. Nothing bat good can result.

The other objection one hears is that people will be kept from going to church if they can
hear a whole service in their own homes, Even if this he so, one can only judge on final results. and these are sumely not dependent on attendanco figares. Few achievements have produced ao mach appreciation, and it conies particularly from those who are mable to atiend church at all,

This week we send relections from the aperas Tristan and Isolde" "S Siegfried, " and "Hansel and Gretel." We are also going to try in London the effect of a regular short reading from famous poets. In the recent interview published iu "The Eadio Times," Mr. A. S. M. Hutchinson made a suggestion to this cffect. We lave done aomething in the same line alreariy, and we should like to know if it is aceeptable now. All stations will be putting in this feature on trial at an carly date. Some already hare it.

The new studio at 21.0 is in operation. It has four times the eapacity of the old one, and "dampinz" is only carried out to abont a quarke of the extent. From this room prae tically-nil the musical tranmonssions will take place-tocat and instromeutal. Much larger orcheatras ean be aceommodated, and, as has beyt provert in the experimental broadeaste from it, there is a mone natural eflect conveyed by the limited eelos.

In a few months it may be possible to use the two stadioe at the same time on different wave tiefigthe, We have at last secured permfision to proceed with the erection of the new transmitting station, the site of which was approved by the Postmaster-General over six months ago. The delay was due to the difticulty of gotting the plans and the site passed by the local authorities
(Continued orestraf in col. 3.)

## Readers' Own Humour.

## Funny Stories Told by Listeners.

$\mathrm{I}^{\mathrm{N}}$N recent issues of The Radio Times readers were asked to send accounts of funny things they had scen and heard in connection with wireless. This week we print a further seleetion, for which payment will be made :

A little girl was travelling in a crowded compartment of a local train the other day when her excited chattering provoked a severe reprimand from her mother

I won't be quiet," replied the child, decisively; "daddy isn't "listening' now 1 "H. Whemles, Wenvoe, near Cardiff.

## Encore !

A typical collier had been invited to listen for the flirst time. At the conclusion of a dance played by the Savoy Havana Band he applauded loudly and remarled: "Wind it upagain, guv nor ! Let's ave that one again!" -J. Woob, Norton Canes, near Cannock, Staffs.

While we were listening the other evening, I noticed my little boy looking vory earnestly at my valve set.
As he evidently had something at the back of his mind, I said: "Studying it out, Brian ?"
"I was just wondering," he answered, "if I put the aorial wire where the earth wire is, and the earth wire where the aerial is, would the words come through backwards?" F. Sugabtr, East Boldon, near Neweastle-onTyne.
A loud-speaker in a shop window had attracted a large crowd of pedestrians. One girl pointed innocently to a sign which read ${ }^{\text {th }}$ accumulators
charged," and said, rather nervously, to her friend: "Does that mean that they charge people who gather around to listen ? "-W. H. Skinner, Londont, S.W.
My little girl happened to wake up the other night just as I was delightedly listening to America. Her tphones, which atways hany at her bedside, were immediately clapped to ber cars and she was told that America wae speaking.

After a moment, she said, with a bewikiered look on her face : "Mummy, is there a war on in America ?"-Mris. Robsete, London, W.
A wircless enthusiast invited his brother who lives in a wild part of the country, to Isten. When the Savoy Orpheuns were playing, the latter was handed the headphones. When the music was over, he heard a clapping noise which he thought was someone smacking the "orphans"! So, forgetting himself completely, he slouted into the 'phone: "Leave the kids alone ! They were playing their best!' -G. Youse, Seaton Burn.
Walking near a hospital with a friend not long ago, I remarked on the sweet, heavy odour wafted from some of the windows
"All hospitals smell like that," stid my friend. "What's the reason ?"

Oh," I replied, "chloroform, or ether, I suppose."

T'm sure it must be choloroform," retumed my friend, seriously, "for I've never noticed the slightest smell when broadeasting is going on, and ether is what they make wireless wave. out of."-W. I. Bamber, London, S.E.

## What's in the Air?

(Continued from the prections page.)
By the end of January the antomatic time sigmalling from the Royal Olservatory will. we expect, be in operation. The success and the enormous interest, evoked by the broadeasting of Big Ben from all our station has eet us investigating the possibility of weular transmissions of this method of time-keeping ns well. So we may have the scientific and the romantio both.

I am asked to exprest the gratifudo of tho Programme Staff, the Enckes aad Aunts and Amouncers in particular, for the most linit and almost embarrassing manner in which gifts of ail kind+ were showerod on them at Christmas time. The Aberdeen Station Direotor kept is record of these tokens of geod-will. and forwarded the list to Head Office. Our Mr. Smith. Press Representative-happily restored to us after his Parliamentary ventures-ieived upon this, presumably with a view to using it to advantage if ever he hears aspersions cast on the generosity of Abedorians again- he hails from those parts. Perlaps as \& guide to local acceptability of programmes this eriterion may compare with the more naturnl one of licence issues. If other Station Hirectors desire to vie with Aberdeen, they had bettgr communicate with Mr. Amith at once.

By the time these words eppear in print Parliament will have been formally opened by His Mejesty the King. The speech from the Throne will either have been broadcast, or it will not have been broadeast. Thisis of course, a platitude. But there is oceasionaily a great deal behind even a platitude, and we must leave it at that for the time being.

## A Famous Irish Song.

## The Story of "Kathleen Mavourneen." By A. B. Cooper.

"KITHLEEN MAVOURNEEN " is regarded by many as the greatest of all Jrish songs. Its charming words, so truly lyrical, were written by an Irish woman, and its equally charming and fitting air by an Englishman.

Mavourneen," of course, is not the surname of the fair Kathleen, as some suppose, but simply means "Darling." Thus the title of the song, in plain English, is "Kathleen my Darling." But was there ever a real Kathleen, as there was a real Annie Laurie, and a real "Pretty Jane" \& I fear no one will ever know, for our information concerning Mrs. Julia Crawford, who wrote the verces, is of the seantiest.

## A Little Known Poetess.

Mrs. Crawford was born in County Cavan, but her family removed to England when she was young, and she lived the greater part of her life in Wiltshire. Nevertheless, she nover seems to liave lost her deep attachment to her native Erin, for she wrote many songs, and they are almost all Irish songs. In the year 1840, in fact, she published a volume of Irish songs, set to musie by Frederick Nicholls Crouch, which included the famous "Kathleen Mavourneen," whieh had originally appeared, as had most of the others, in a magazine conducted by that famous novelist of the sea, Captain Marryat.

Like a good many other composers of good masie, F. N. Grouch seems to have got more hicks than ha'pence from life.

One can form a mental picture of the way the great song came fo him. It was on the banks of the Tamar, in Devon. That was before the railroad ran into all the nooks and corners of
the land, and, as he was a commercial traveller at the time, fravelling for a Cornhilt firm who were metal brokers, he was riding on horzekack.

## Compesed on the Impulse.

He had lately seen Mrs. Crawford, and had obtained her permission to set her lovely words to music, and one can imagine the impulee seizing him as he jogged along, his alighting and sitting by the river side, and crooning to himself the famous words :-
Kathleen Mavourneen, the grey dawn is breaking,
The horn of the hunter is heard on the hill; The lark froin her bright wing the light dew is shaking,
Kathleen Mavourneen-what ! slumbering still !
Oh, hast thou forgotten how soon we must sever :
Oh, hast thou forgotten this day we must part ?
It may be for years, and it mey be for ever, Oh, why art thou silent, thou voice of my heart ?

Kathleen Mavourneen! Awake from thy slumbers,
The blue mountains glow in the sun's golden light,
Ah, where is the spell that once hung on thy numbers ?
Arise in thy beauty, thou star of my night.
Mavourncen, Mavourneen, my sad tears are falling,
To think that from Erin and thee I must part
It may be for years, and it may be for over,
Then why art thou silent, thou voice of my beart ?

We have mixed a little imaginative recon struction with the incident, but we have Crouch's own account of the composition of the song.
"The words," he says, "instantly attracted my attention by their purity of style and dietion. I sought out the anthoress, and obtained her permission to set them to musie, Leaving London as traveller for a Comhill firm, whilst prosecuting my journey towards SaKlash, I jotted down the melody on the historio banke of the Tamar.

## Succumbed to Fascination.

On arrival at Plymouth, I wrote out a fair copy of the song and sang it to Mrs. Rowe, the wife of a music publisher of that town. The melody so captivated her and others who heard it that I wan earnestly solicited to give it for the first time in public at her husband's opening concert of the season. But certain reasons obliged me to dectine the honour.

I returned to rest at my hotel, and, rising early next morning and opening my window, what was my surprise to see, on a hoarding right opposite, a large placard on which was printed in the largest and boldest type: T. Nicholls Crouch, from London, will sing at P. E. Rowe's Concert "Kathleen Mavourneen," for one night only '!

Amazed and confuned at sueh an unwarrantable and unauthorized amouncement, I hurriedly completed my toilet, took my breakfast, and ruslied off to Mr. Rowe's warehonke. But, despite my reluctance, and overcome by the entreaties of the fascinating Mrs. Rowe, I appeared and sang the song, to a crowded audience, with tho most enthusiastio applause."
Perhaps, like many another man of geniss, Cronch had not a good head for business, for he parted with the copyright of "Kathleen Mavourneen" for £10,
["Kathleen Mavourneen"3 will be sung by Miss Margery Phillips at London Station on Sunday afternoon, January 20th.]

## Learning By Wireless When Asleep.

## Remarkable Experiments on the Sub-conscious Mind.

DR. H. GERNSBACK, writing some years ago in Science and Inention, pointed out that there-was every probability that the human mind could be reached while a person was asleep, and suggested that a machine might be used for educational purposes during this period.
To many people, this suggestion first appeared fantastio, but the reasoning was so good that experiments have since been made to test the possibility of teaching by wireless while the pupil is asleep.
It is now well known that what is commonly termed the sub-conscious nind never sleeps.
The seb-consciolus mind, or, more accurately, the unconscious mind, is recognised to be the tore-house of our memories, Without this store-house it would be impossible for us to nccomplish or control anytbing, as it furnishes us with the information-the data based on experience, which guides our actions.

## The Part of You That Never Rests.

Our memory has been described as the most wonderful filing system that is known, and enables us to perform the greatest portion of our daily acts without any conscious effort. In sleep our memories are alive and sctive, whilst, apparently, the higher faculties of the mind are dormsat. Dr. Gernsback, in his article, based his suggestion on the knowledge that the sub-conscions mind never sleeps. The problem, he stated, was to devise an instrument which would rouse the snb-conscions mind and make it function during the sleeping period. The article attracted the attention of Mr. J. N. Phinney, described as the chief Radio man of the United States Navy, who, as a result, began a series of experiments at the U.SA. Naval Station of Pensacoia, Flonida.

## Tried on a Doctor.

In a recent issue of the Public Ledger, of Philadelphia, Mr. Phinney is reported to have declared that he had conclusively proved from actual results obtained that many difficult subjects can be easily learned while asleep. "I have become firmly convinced," he said, "from these observations that, aseminent psychologists state, a part of the human brain continues to function while the body and the unconscious brain remnin dormant, and that the device explained by Science and Invextion, therefore, will do its work. This system was first tried on a doetor. About a vear ago, twelve medical officers of the U.S. Navy started our flight course. They were to qualify as pilots, taking all ground school subjects, including radio. One, who was a noted specialist in paycholofy, expreseed a willingness to try my method, after I had explained the foregoing ideas.

## An All Night "Sitting,"

I equipped his bedroom with a key and the regular aviation radio telephone head set, and myself and assistants sent radio code to him all night. We started at 10.30 p.m. He had copied with pencil about 30 minutes and then retired, dropping asleep about an hour later. Ho had acquired a speed of fifteen cipher groups per minute in class, but had never copied plain English words or sentences.
"In the morning he was able to copy radio with much greater casc, and while no defnite test was made to establish the exact amount of gain, he expressed himself as entirely convinced of the practicability of the iden, and the result of his report, maturally, yained me the coteted opportunity to conduct further experiments with official sanction.
"I was also assured that, if further experi-
ments were equally successful in demonstrating my claims, a request would be granted for the special antomatic kending apparatus I had so long desired in order to inoorporate my' 'Learn while you sleep' method of instruction here.

## Wonderful Results.

It was now proposed to develop my system as a very material aid to the present system. Our prescribed syllabus of instruction covers a period of twenty-one weeks, and the student is required to make a predetermined rate of progrees week by week in order to remain in the class. Those students whose rate of progress had been consistently unsatisfactory for some time, and who would, therefore, have been dropped from the class within the week, were told something of my suecessful experiences with my 'Learn While You Sleep' system. Naturally, theyjumped at the chance. Seventeen students volunteered for this experiment with the following results the next day. (1) One of the reventeen copied five words faster than he had ever been able to copy previonsly ; (2) Four copied two words faster, and one nearly two words faster; (3) Three copied one word faster and oup only half a word faster.

The Instructors derive some amusement to compensate for their loss of time and sleep in watching the facial contortions, restlessness and muttering caused by the induced dreams of the students. Firrors and erratie sending cause restlessness and muttered protests. Stoppage of sending when changing operators will aroase them.

This system is now being tried out on officers of the class just started under much more favourable conditions, real beds replacing the wooden benches and tables. Students are no longer confined to inst-chance tests,"

## How it is Done.

The method of teaching is quite simple, and has been described by Dr. Gernisback himself.

An ordinary phonograph would, of course, not do. There would be too many grating, jarring noises which would distraet the sleeper's attention. We must have a mechanism that is soft in action, gives no extraneous noisess, and will not wake up the sleeper. We have such an apparatus in existence to-day-the telographone.


BROADCASTING MADAME BUTTERFLY.
Voice in 'phones (interpolating opera): Butterfly has just eatered."

Its action is based on a steel wire, which is fed across and very near to the poles of an eleetro magnet; the magnet is polarized by currents derived from a telephone, and the wire is polarized thereby in an afmost infinite number of exactly corresponding poles. On moving same wire in front of the same or another magnet, the induced telephome currents are made to act on a transmitter. The telephone receiver has the message repeated in it from the transmitter without any grating or jarring noise.

## From History to Romance.

"By means of a loud-talking or amplifying arrangement, the voice or sound may be amplified to a loud enough degree so that it will make a lasting impression on the sleeper.

The machine contains a number of reels, each of which has enough wire to last for about one hour of contimuous service. Each reel comes into position automatically as soon as it is 'played'; thus eight reels will give the sleeper enough material for a whole night's worl:.

Whether he wishes to be entertained, or whether he wishes to learn, depends upon him self. It probably would not do to learn history foreight hours at astreteh, for the mind probably would not absorb it all. So we might switch from history to romance, then we might have a concert for an hour to gef accustomed to the music of the latest opera, then switch back to mathematics, if necessary, and arrange the programme as we may see fit, and so as to suit our own individual taste."

## Effects on the Sleeper

Describing the effect upon the pupil, Dr Gernsback says:

At the first attempt, the sleeper probably would wake up startled becanse he was not accustomed to it. It probably wonld take a week before he could accustom himself to wear a headgear attached to his head by means of a heavy rubber band and before he could submit to the annoyance of it as well.

After he became accustomed to the headgear, as well as to the unfamiliar noises, it is very probable that his sub-conscions self would take note of what was going on while he slept. Thus, were it music, or the apolen voice, it seems alnost certain that in time a lasting impression would be made upon the brainthrough the auditory nerves.

It world be a matter of edincation. Prob. ably, for the first few months not mueh im. pression would be made upon the sub-conscione self ; but by and by, the hearing sense would be sharpened to such an extent that the impression would not only reach the brain centre, but wonld be so permanent that the hearer gefting up in the morning would remember something of the nightly procedure.

## Learning Automatically.

Every time you see a typewriter, you write aboolutely unconsoionsly, or, rather, automatically. The expert typist does not have to stop to think of each key when writing, It is done antomatically, and she pays not the slightest attention to the keyboard while writing. It is a habit formed by long experience. It miny be that the same thing will be true of sub-conscious learming while you sleep."

Whether this method of teaching will ever be adopted is a matter for speculation. It is certainly an ingenious suggestion, and while the ultimate use of wireless cannot yet be known, it is interesting to note the kind of experiments that are being undertaken across the Athantic, regarding its educational value.

The 1924 Model

SUPERFIVE
All Stations on a Loud Speaker with perfect reproduction, strength and selectivity.
Two H.F., one H.F. Rect., and two L.F. Power Valves, ANY COMBINATION OR NUMBER OF VALVES.
In lock-up oak cabinet, as illustratod, including sipecial valves, 120 V.H.T, and coils covering all British stations.

$$
\begin{aligned}
& \text { £56: 5: } 5 \text {. } \\
& \text { Othar seds of Coils at extra charge. Ask for } \\
& \text { Superfite Pamuphtc. } \\
& \text { We manofacture Valve Sets- } 1,2,3,4 \text { and } \\
& \text { S Valves also an excellent Crystal Set. }
\end{aligned}
$$ Scall for our Naw Components Lith-Five on Request.



Ofices \& Skowrooms ( Opon 8 to 7 ; Saturdays 8 to 1 ):92, QUEEN ST., HAMMERSMITH, LONDON, W.6. FEW AGENCIES STILL OPEN.

## TUDOR

RADIO RECEIVERS

## GUARANTEE

When using Three or Four Valves and when working under normal conditions :-

## Loud Speaker Reception of

All B.B.C. Stations and Paris, Independently. A Demonstration will prove it. PRICES:-
including H.T. Batteres and Royalties:-
Cabinet 4 -valve $£ 45 \quad 0$ pen 4 -valve $£ 30$ " 3 " $£ 39$, 3 „ £20 Apply for full parliculars of all models post MORE \& MORISON
10, Heddon St., Regent St., W.

## Hänsel and Gretel.

## Next Saturday's Covent Garden Opera, described by Percy A. Scholes.

HUMPERDINCK was the composer of Hänal and Gretel. He died a couplo of years ago, at the ago of sixty-seven. Hiasel and Grefel was first performed just thirty years since, and it at once became popular all over Earope and in America. People love the simple, pleasant old fairy story, the old folk-melodies that constantly creep into the music, and the Transformation Scene in Act 11.
This opera is, of course, a special favourite with children, who next Saturday will have a strong claim on the family head-phones, and as only Acts I. and II. are to be broadcast, the performance need not keep them up so very late.
The synopsis given below has been arranged in such a way that if it is kept before the eyes whilst the opera is being performed, the listener will have a fairly good idea of what is happening on the stage.
As each character enters for the first time, his or her name is given in capitals.

## Act 1.

Scene I. At Howe.-In a poor room the boy HÄN8EL (pronounced Hensel ; Mezzo-Soprano) and the girl GRETEL (pronounced Graytel; Soprano) are seen. They complain of hunger.

O Gret, it would be such a treat
If we had somsething nico to eat,
Eggs and butter and suet paste,
Ive almost fongotton how they taste.
So sings Hinsel, and Gretel tries to elieer him by showing lim a jug of milk, out of which their mother, when she returns, will make a blanc-mange. Hänsel cannot wait. Ho begins to taste it.

Gretel then tries to keep her troublesomo young brother out of mischief by giving him a dancing lesson, and the children sing as they dance.
Scene 2.-The fun gets noisier, aud then, when it is at its height, in eomes the MOTHER (Contralto), whereupon-sudden quiet! She scolds the children for neglecting their work, and, in her anger, accidentally overturns the jug of milk which was to have provided thie family supper.

Weary and distracted, she drives the children out to gather wild strawberries, and, with a prayer for help, drops asleep, exhausted.
Scene 3.-A gay song is heard, and there enters the FATHER (Baritone). The Mother awakes and expreeses her discouragement ; the Father goes on merrily singing, and at last shows the cause of his happincse. He has sold the brooms he had made, and bought ham and butter and flour and sansages and vegetables and teasuch provision as the cottage has not seen for many a long day.
Then the Father asks where the ebildrex are, and on fearning thit they have (so near nightfall!) gone into the forest, he is alarmed. He talks, shuddering, of magic, and sings an eerie song of a "gobbling ogress," who lures children and bakes them in her oven.
With a cry, the Mother, wrought up by this narrative, rushes out of the door to ssve ber children, and the Father follows.

## Act II.

Scene I. The Forest, Sunset. - The children are seen, Gretel making a garland of wild roses, Hänscl looking for strawberries. Gretel sings a quiet song, "There stands a little man in the wood alone." Hansel takes up the garland,
and crowns her as Queen of the Wood. He, courtier-like, presents her with his basket of strawberries; they both begin to eat. The Cuckoo is heard, and the childron sing an old song about him.

A friendly quarrel arises. Hinael smatches the basket and finishes off the strawberries, Gretel, horror-struek, reproaches him. It begins to grow dark.

Soon the light has quite gone. The childisen are frightened. They see faces grinning from every tree. Hansel calls, and ceho answers. The children erouch together.

Soune 2. The SANDMAN (Soprano) quietly ereeps to the children, singing his song. He strews sand in their eyes. Half asleep, they sing their evening prayer :-

When at night I go to sleep
Fourteen angels wateh do keep.
Then they fall into slumber, locked in one another's arns. The stage is now completely dark.

Sceme 3. A Scene withoult Words, but with Music.-A light shines through the mist, which rolls toget her into the form of a staincaso, down which are seen descending FOURTEEN ANGELA, two and two. They place themselves around the children, and move in a stately dance. The Curtain falls.

## Act III.

As this Act is not to be broadcast it need not he here desseribed. Most people know Grimm's Fairy Toles, and will remember all about the horrible Witch with her house made of sweetmeats, her capture of the two children, the danger they ran of being made into gingerbread, their happy escape, and their joy as they used the magio sijns learnt from the Witch to release the crowd of other boys aud giris whom the Witch had taken prisoner.
In listening to Hansel and Gretel, use one ear forthe vocal parts and the other forthe orchestral accompaniment. The latter is woven together out of lovely folk-tumes and other melodies, much as a Wagner orchostral seore is woven out of his "Leading Motifs." The tranalation of the libretto used by the B.N.O.C., and quated in the present article, is that of the late Constance Bache.
(Acts One and Two of this cpera will be broadeast to all stations on Saturday, January 26th.]

## Wireless <br> Wisdom.

"Cberais scenes in the theatre are so extraordinary that they may even be true-truth being strunger than fiction."-Arcmmand HidDox.

Continuous novelty joined with improvement is the life-blood of a nation."-THy Rr. Hos. Sir Wibiam Buli, Bart, M.P.
"Rasmonatios under grave ills is only a virtue where these difficulties cannot be re-moved."-Rrv, H. Ansons,
"We all know by experience that we are much happier when wo aro being kind."E. Kay Robissos.

Huyour is not opposed fo seriousness but to dullness."-Rev. G. W. Kentr.

## Why We Changed Wave-Lengths.

By P. P. Eckersley, Chief Engineer of the B.B.C.

$Y^{E}$ES, why did you bother?" exclaims the
disgruntled listener. "Why, indeed?" says someone who has heard nothing since. Let me try to explain.
The list as it was first presented was as follow: :

| London |
| :---: |
| Bournemonth |
| Cardiff |
| Birmingham |
| A berdeen. |
| Manchester |
| Newoastle |
| laggo |

Now, in general, places dose together geographically were a great distance apart in wave-length. Birmingham and Cardiff close together, but forty metres apart. Glasgow and Manchester a long way apart- 20 metres. The list is not perfect, because the jamming situation also came in. Birmingham is our only inland station, and therefore it was possible to put it near the jamming. Aberdeen is a constal atation, but there is not a great movement of ships in its vicinity. The shorter wavelengths are more casily shielded by hills-hence Cardiff on 4.35 metres, London a short wave Bournemouth was chosen to be least jammed. and was placed between 350 and 450 . None of the scheme was perfect, but it was thought that, by a further separation of stations and by the choiec as above, the service as a whole would be largely benefited.

## A Word to London's Crystal Users.

London was put down at the bottom to give it freedom on one side- to prevent it, in fact. being sandwiched between other stations.
What happened
London-a chorus of complaint from (mostly) erystal users that London was too weak to hear. Onee and for all, dear crystal users, London was just as strong, and if yon had wed a series condenser, I think you would not have complained. I was frankly amazed that a $3 \frac{1}{2}$ per cent. change in wave-length should have so serionsly upset so many sets. The next complaints came from London listeners at a distance, complaining that there was far more jamming on 350 metres. Now, I had some investigations made last summer in various localities, atid reports showed that 362 and 350 made practically no difference. Is it that other stations have grown up, or was it that the sets were not so efficient on 350? At any rate, the complaints were so numerous as to make us realize they were serious and no idle chatter.

## Cardiff's Grumble.

From Cardiff-Jamming! Jamming ! Jamming! Not a letter in favour of the change.
So we tried again, and changed London back to its original, and Cardiff was swopped back to its usual. This made it imperative to change Neweastle, and Neweastle went to 435 . Result -Iondon happy, Cardiff moderately happy but now (too late, alas !) lots of letters from Cardiff saving that 435 was their right wave; although the jamming was certainly bad, the signal in the shielded areas was very much louder.
Most serious, however, and the reason that weighed with me most strongly, came the news that listeners in Wilts and Oxfordshire, accustomed to rely on Cardiff, couldn't hear anything for the harmonics of Ieafeld when the waveIength was above 350.
Now Neweastlo's turn came, and they yelled at me with a stentorian voice to "for goodness"
sake" (as someone wrote and splitione of the longest infinitives on record), "put it back to 400 again-the jamming was awful on 435 ." With a deep sigh we obeyed, sandwiching Manchester in at 375
So now they stand as follows :-

| dif | 350 |
| :---: | :---: |
| London | 365 |
| Manchester | 375 |
| Bournemouth | 385 |
| Newcastle | 400 |
| Glasgow | 420 |
| Birmingham | 475 |
| Aberdeen | 495 |

and all the stations nearest together are nearest in wave-length, and all the short waves are used in the hilly districts; London is sandwiched, and they are too close ! But obyiously the ideals I set out to fulfil did not take sufficient account of the jamming situation, which is apparently the controlling factor.

## Suggestions Wanted.

Sometimes I wish I had the job of a thindclass boiler-washer on- a power scheme for supplying one house in the smallest village in Rutland with electric light-then I bet the bally boiler wouldn't wash !
I really am very sorry to have disturbed you so. You may say I ought to have investigated further before making such drastic changes; but, truly, it is a little difficult to assess jamming in every locality-qui sercuse saccuse-but you are happy now, and I think we have, by an uncomfortable experiment, found the best compromise.
I like to feel that you and I make experiments and that, although I don't know you all personally, we still co-operate. Let us continue, thes, to experiment, and when you have sugges. tions for improvements, grouses, and so on, let's have it out.

## Be Constructive !

Talking of grouses, I wonder if some of you complainers will realize this. Criticiem for criticism's sake does you no good, and does me no good-it is so easy to write: " Dear Sir,Your show is rotten from A to $Z$, and you are the quintessence of rottermens," and then not kign it or give address ; but it does help so little. Please don't think I get a lot of such letters, but oh! I do get some, and they make me very umbappy. I love a good argument, and my best friends are those who have hit out at me. Remember, we can never improve unless you criticize, but let it be constructive, or it is no good. "It is easy to destroy, but difficult to build." Let no one think we are afraid of criticism (or even abuse !). We can only live by your co-operation, so talk to us like a Dutch uncle when you see faults.

## The Way to Advance.

Experiment-the only way to advance ! Whenever someone gets an idea and asks my advice, I always advise them to "try it." Who knows but that in the trying some new, interesting fact may not be brought to light?
A road looks inviting-who knows but round the corner the dust and the heat will be forgotten in a view of mountain lake and hill undreamed of standing here :
So forgive my experiment.

IT is reported that a mother, while listening in Manchester, was able to recognize the voice of her son as he sang songs in Pittslurg, U.S.A., 3,800 miles away,

THE MAGAZINE FOR THE WOMAN AT HOME


THE ACID TEST
by
STEPHEN McKENNA

AND OTHER FICTION BY
MAY SINCLAIR KATHARINE TYNAN
J. D. BERESFORD KATHLEEN BONHAM

AND NUMEROUS OTHER CON. TRIBUTIONS OF INTEREST AND VALUE TO ALL WOMEN

IN THE FEBRUARY
NUMBER OF THE

## HOME MAGAZINE

ON SALE EVERYWHERE 1/-

## 

Derided by Accident.


I ISTMNERS who have heard Miss Julis larkins? clever child impersonations all admit that they are is nearly perfect as possible. Indeed, before she became a wireless artiste, crities said of her that one had only to close one's eyes during her performance to imagine that' a little child was actually speaking. Miss Larkins, who is an Australian, Mss Jolis habkiss who is an Austratian,
began her professional
career as a high soprano, and it was quite by career as a high soprano, and it was quite by
accident that she decided to become a child impersonator.

While spending a week-end with some friends in the country, she happened to play with their large family of children and pretended that she herself was a child. Her friends were so struck with her imitations that they advised her to become a child impersonator professionally, which she did with great suecess.

## He Had Enough at Home.

MISS LARKINS told me of an amusing experience she had while appearing for a season in Scotland. A certain man used to come regularly to the concerts, but. whenever she appeared to do her turn, he used to get up and walk out and come back again when she had finished. She naturally thought that he did not like her performance, but one day the was introduced to him and asked him why he always avoided her turn.
"Don't you think that my impersonations are good " "she inquired.
"Oh, yes," he replied, "they are too good."
"Too good ? Then why do you always go out ? ${ }^{\text {" }}$
"Well, you see," he answered, "I have a big family of children at home, and their tiresome ways get on my nervis, and when I go to a show, I like to forget them."

## Actor and Vocalist.



3he, 8 ybyey Resayt
$\mathrm{T}^{\mathrm{B}}$ HE broadeasting of plays has received a great success in the hands of Mr. Sydney Rnasell, whose dramatic company is well known in Birmingham. Mr. Ruseell is now associated in the minds of many with operatio and musieal ventures, but before he took up an operatic career ho had already cestablished a position for himself as an actor. Ho has played leading retes with Mr. Cyril Maude and the late Mr. Lewis Waller, and he was also for some time a member of the celebrated E. H. Sothern and Julia Marlowe organization in America.
In the British National Opera Company's productions he has made great hits with many of his character sketches.

## Worth a Great Deal.

MR. RUSSELL tells a funny story about a shortsighted old woman who was fussing about in the shop of an antique dealer's.
"How much is that Japanese idol worththe one over there by the door ?" she asked the assistant.
"It's worth a very great deal, madam," was the reply. "It's the proprictor."
$\mathrm{M}^{\text {R. GEORGE HEWSON, who broadeasts }}$ from Glasgow Station, has been relating to me some of his experiences while he was a member of Miss Lona Ashwell's concort party in France during the war.

After finishing a show," he says, "I was fitting with some of the boys when one of them produced a picee of musio he had "inherited from is German, with a request that I would give him an idea of the ture. I obliged on the hanjo, much to the amazement of one of his friends, who exclaimed:- Great Scott! Faney being able to play German music !’ He thought it was written in the German language!

## Soubrette and Soprano.

$B^{E}$EFORE taking up singing seriously, Miss Florence Macdonsld Henry, who is to appear at Manchester Station this week, was a soubrette in an amateur concert party, and thereby hangs an amusing story.

One of her admirens, who was more enthusiastic than well-informed, on hearing a girl friend boasting of the ligh notes which she herself could king, mmarked: "Have you heard Miss Henry sing ?"
"No," was the reply. "Is she a soprano ?"
"A soprano ! " echoed Miss Henry's admirer, in disguat. "No, she's a soubrette, and that's mueh higher than a soprano."

## A Ruse That Worked Too Well.


$\mathrm{M}^{\text {R. wilue rotse, }}$ the entertainer and cohcert party producer, who is to broadcast from London on Thursday this week, tells me the following amusing story :-

A certain working man who lived on the side of the road facing cast, was much troubled each morning by the sun pouring in at the window and waking him earlier than he wished. He tried many deviees to stop the glare from coming in, but all in vain. At last be decided to blacken the window entirely. The first morning after he had done this, he woke up and looked at his watch and suid: " Ab , another half-hour !" and went to sleep again. He woke again and looked at his watch and said: "Ah, another ten minates !" and went to sleep onee more. The third time he wokelooked at the time-dashed out of bed-dressed hurriedly-rushed out and met his foreman.
"Sorry Pm late, sir," he exclaimed.
"Late!" shouted the foreman. "Where were you on Monday and Tuesday ?"

## "Sacked " for Cyoling.

$A$WIRELESS artiste with interesting family connections is Mr. Tom Copeland, who sings at London Station, for he is a son of the champion ploughman of Scotland and a consin of the famous Piper Findlater, V.C. Mr. Copeland was the organist at a Presbyterian church, in Dufftown, when only fifteen, "but," be tells me, "I got the sack for cyeling on Sunday-and deserved it. I played ${ }^{4}$ When the Weary Seeking Rest' covered with mud, having fallen off my bicyele before the morning service, Result-the order of the boot !"

In 1920, Mr. Copeland toured Africa, and he gave over a thousand concerts for the troops during the war. In the spring lie is to tour Canada, Halifax, and Vancouver, and he will be much missed by listeners during his absence,
 BOURNEMOUTHS popular tenar, Mr. Sidney Waller, does nots in the least mind telling a story against himself, and the relates an amusing incident that oceurred when he was singing at an Army cancort during the war. After he had sung one song, a vaice from the back of the hall called out: "Chuck the bounder off $1: \quad$ ImmeMr. Bidver Wslun bounder off 1. Imme-
diately the Padre got up
and demanded an apology, kaying that otherand demanded an apology, kaying that other-
wine, he would stop the concert. As no one came forward, he was just about to pronounce the concert at an end, when a Scotsman in the audience shouted at the top of his voice: "I dinna ken who ealled the singer a bounder, what I would like to know is, who called the bounder a singer ?"

## "Some" Golfer.

MISS RACHEL, HUNT, the contralto in the Manchester Station Opera Company, is also an exeellent golfer. She was golfing on one occasion with a friend who was very inexperienced at the game and who completely missed his first drive.
To bide her mirth, Miss Hunt had to turn her hack, and when she looked round, she found that he was attempting the drive at his ball, which was about a foot in front of the line of the tins.
"Surely, you know," she said, "that you must not drive from in front of the tims $y^{\prime \prime}$
"Oh, yes, I know that," he ruplied, lugubriously, "but I am now taking my fifth!"

Gloomy on Purpose.

$\mathrm{M}^{15}$
SCOONARIORIE whose solos and Mr. Edwa Hivets with much liked by Boumemouth listencrs, tells me the following amusing incident. "While waiting for my proofs at a photographer's", shet says, "I was looking through some photos and came aoross a remarkably solemn-looking man. Tuming to the photographer, I said:
This man has a strong face; but how terribly gloomy he looks.'

Yes," he answered, 'but that photograph is to be used as a business advertisement.
"' But arrely'. I said, 'it would be better for his business if he didn't look so glum ?'
'Oh, no,' was the reply. 'Who'd employ a grinning undertaker?

## A Wireless Wedding.

$\mathrm{A}^{\mathrm{x}}$V event of interest to listeners in the Manchester area took place on Christmas Eve last, when Mr. K. A. Wright and Miss Jessie Cormack were quietly married at St. Cuthbert's Church, Sheffield.
Mr. Wright's work as Director of the Manchester Station in the early months of 1923 is wellknown, but perhaps the children will be most interested to know that Uncle Humpty Dumpty's bride was "The Cloud Lady" who played to them so often in the Kiddies' Corner at $2 Z Y$.
Mr. Wright is now Assistant Director of the London Station.

WIRELESS PROGRAMME-SUNDAY ( m m 2mat)

The letters "S.B." printed in italics in these Programmes signify a Simultaneous Broadcast from the station mentioned.

LONDON.
Organ Recital,
relayed from the Concert Hall of the National Institute for the Blind,
Great Portland Street.
At the Orgon : WILLIAM WOLSTENHOLME, 3.0.

Choral Song and Fugue ..................Wealey Offertoire in E Flat ......................Guimay
Fugne in G (a la Gigue), ..............Bach
MARGERY PHILLIPS (Contralto).
"Golden Light" (Agnus Dei) .......... Bizet
"Bois Epais"
"Ave Maria" ".......................Schubert
"La Précieuse" ….......Conperin-Erciater
WHLLIAM ANDERSON (Bass).
"Bedouin Love Song ". ..................Pinzuti
*The Lute Player *. ......................A A itaen
Bohèmesque in $G$ (in $15 / 8$ time)
Allegretto in F
Scherzo in $F$ Wolatentotme
Finale in B Flat $\begin{aligned} & \text { Margery Phillips. }\end{aligned}$
"Kathloen Mavourneen " ................ Crouch
"Botterfly Wings" ........Montague Philleps
"Easter Hymo " Frank: Brifge Constance Izard.
Romance from Concerto ............ Wi ieniaicakz Slavonie Dance in G Minor ...Deorak-Kreister Minnet in F

Willian Anderson.
"In Cellar Cool" ................Old German
"" The Tale of the Toby Jug ".......... Citioron
"Hope the Hornblower" ............... Jretanif The Oxgan.
Improvisation.
Allegre cantabile and toccata from Symplony No .2 .................................W Idor 5:0.-Cliose down.
5.0 .530 Anmouncer: R. F. Palmer. from Cardiff.

Sunday Evening.
8.J0.-Hvmn : "The Churclr's One Foundation,"
DR. LAVINGTON HART, Principal of the Anglo-Chimese College of Tientsin. Beligions Address.
Hvmn: "At Even ere the Sun was Set."
9.0 BRITISH COMPOSERS NIGHT.
S.B. from Cardiff.

TIME SIGNAL Followed by AND GENERAE NEWS BULLETIN. S.B. to Oardiy.

Anouncer: C. A. Lewis.
BIRMINGHAM.
3.0-5.0.-ORGAN RECTTAL. S.E. from Lon-5.0.5.30,-CH1LDREN'S CORNER, S.B. from Cardiff.
8.30. STATION ORCHESTRA
under the direction of Joseph Lewis.
Overture. "Coriolanus" ............Beethoven
EMTLY BROEGHTON (Soprano).
Recit., "There Were Shepherds
Recit, " La, the Angel of the Lord"
Recit., "And Suddenly"
Emily Broughton and Station Repertory Cla
"Glory to God " (" The Messiah") ...Handel
THE REV. T. E TITMUSS (Baptist
Church, Spring Hill). Heligious Address. Emily Broughton and Cherus.
Aria and Chorus, "Rejoice Greatly" ("The Messiah ") .................................... Handet
9.10.
Symphony, ${ }^{\text {Orchestra. }}$ Pastorale No. 6 "...Beethoren
(a) "Country Dance"; (b) "The Storm";
(c) "After the Storm.

Entr'acte, "Rigodon de Dardanns " Bamean Suite, "Three African Dances" ......... 1 hng (a) "Call to the Feast"; (b) "Luletas Dance"; (c) "Warriors' Dance." 10.0.-NEWS relayed from London.
Local News and Weather Forecast. 10.15. - Close down.

Announcer : Percy Edgar.
BOURNEMOUTH.
3.0.5.0.-ORGAN RECITAL. S.B. from London.
5.0.5.30.-OHILDREN'S CORNER. S.B. from Cardiff.
8.30. THE WILTON AINSLEY

$$
\begin{aligned}
& \text { QUARTETTE. } \\
& \text { RITA BAMBERG........ Violin. }
\end{aligned}
$$

DOROTHY PAICE ......... Violin.
DOREIE EDGE ........... 'Cello.
"Ave Maria" .............................. Gounod 8.40 .

RICHMOND HILL CONGREGATIONAL CHERCH CHOIR
Conductor: Enos Wetkins, F.R.C.O., A.R.C.M. Hymn, "Jesn, Lover of My Sont"... Parry
8.45.-THE REV. JAMES O'CONNELLL. Re. ligious Address.
9.0 .

Choir.
"By Babylon's Wave $\qquad$
9.10

Light in Darkness Quartette.
$\qquad$ Gounod
" S
H Lerd Somerset O. Humoresque .............................. Widor 9.25. Dorrie Edge (Solo 'Cello). 9.35. Bercense" Fita Bamberg (Solo Violin). Godard - Chanson et Pavane,

Quartette. Couperin 9.45 :

Selection, " Lilac Time" .............
10.0.-NEWS. Relayed from London. focal News and Weather Porecast. 10.15.-Close down.

Annotincer: W. R. Keene.
CARDIFF.
3.0.5.0--ORGAN RECITAL. S.B. from 5.0-5.30.-CHHLDREN'S CORNER. S.B. to all Stations.
8.15. ALBANY ROAD BAPTIST CHOIR. Conduetor: Mr. W, Billirough.
Hymin, "O Lord Who Formedst Me to Wear" Antbem, "Fierce Rared the Tempest"
THE REV. J. SANSAM ILES, Pastor of Albany Road Raptist Church, Religious Addreas.
Hymn. "Father, Who Aet Alone Our Helper and Our Stay" (Tane, "Raleigh") Prout British Composers' Night.
S.B. to London.

STATION SYMPHONY ORCHESTRA.
Conductor: OLIVER RAYMOND.
Vocalist : GILEERT BAIEEY.
9.0.-Introductory Chat.
I.-" Impressions of a Windy Day" Malcolm Sargeant (Repeated by request.)

| WAVE-LENGTHS AND CALL SIGNS. |  |
| :---: | :---: |
| LONDON (2LO) - - 365 | 365 Metres |
| ABERDEEN (2BD) - 495 | 495 |
| BIRMINGHAM (5IT) - 475 | 475 |
| BOURNEMOUTH (6BM) 385 | ) 385 |
| CARDIFF (5WA) - - 350 | 350 |
| GLASGOW (5SC) - - 420 | 420 |
| MANCHESTER (2ZY)- 375 | 375 |
| NEWCASTLE (5NO) - 400 | 400 |

II.-(a) Miniature Fantasy for Strings
(i) Eugéne Gaossens
III. (b) "Puck's Minuet" Herbert Hovells IV Songs (selected).

V Gintap Ilodst
V.-Oriental Suite, ${ }^{\text {W }}$ Beni Mora Gustav Holst
VI.-Songs (selected).

VI1.-Symphonic Variations, ". Three Blind (Repeated by request.)
NEWS, \&,B. from Lomdon.
Announcer: A. Corbett-Smith.
MANCHESTER.
3.0-5.0,-ORGAN RECITAL. S.B. from London,
5.0-5.30.-CHILDREN'S CORNER. S.B. froin Cardiff.
8.0.-SIDNEY 6, HONEY: Talk to Young People. THE VERY REV. MONSIGNOR F. GONNE, M.A., Principal of St. Bede's College. Relimous Address.
8.45. EMIIY SEDDON (Soprano).
"Elizabeth's Prayer" (" Tannhaiser ")
"Solveig's Song" ........................... Fricg AMY BUXTON NOWELL (Elocationist).
Four Salt-Water Balleds ............... Masefield
HARRY HOPEWEHL, (Raritone),
Recitation and Air, "The Lord Worketh
Wonders" H............................ Hoidel
Air, "How Willing My Paternal Love" Hondel
How
SAMUEL SPURGEON (Solo Violin).
Hungarian Rhapsody ......... .......... Honser
Landonderry Air ........ G. O'Gonnor Morris
Ombra mai fo ............................ Hundel
"From Mighty Kings He Took the Spoils"
Amy Buxton Nowell.
Seleeted Songs.
Harry Hopell
Harry Hopewell.
"Like as the Hart" …............... Allitsen
An Old Sacred Lullaby .................. Carner
Samuel Spurgeon.
Romance in F ......................... Beethoven
Serenata Amonose ...................... Bece 10.0.-NEW8. Relayed from London.
10.15. -Close down.

Announcer: Victor Smythe.
NEWOASTLE.
3.0.5.0.-ORGAN RECILAL. S.B. from Lon-5.0-5.30.-CHILDREN'S CORNER. S.B. from Cardiff:
8.30. WHLLTAM LAWS' TRIO.
 R.L.C.W, MALE QUARTETTE

Break, Break, Break, on The Cold Grey
Stones
Hymn, "When the Shades of Bvening Fall"
8.45.-THE REV. W. A. S. KENNEDV, of All

Saints Church, Gosforth. Religious Address.
9.0. ${ }^{\text {H }}$ Wuartette.

Hymn, "When the Weary Seeking Rest"
"Hallelujah" ........ ................. Handel
0.15 A Wet Sheet and a flowing Sea "...Iloyd
"Andante Cantabile con Variazione"
9.25. Quartette.
"O Father Whose Almighty Power" Hondel "Comrades" Song of Hope" ............ Adan LESONIE STORM AND WILLLAM LAWS "Allegretto" ................................ Mosart
Minuet .................................................. Handel
9.45. Quartette.
"Nowic All Powerfol $\qquad$
10.0.-NEWS relayed from Londou.

Local News and Weather Forecast. 10.15.-Glase down.

Announcer :
C. K. Parsons.

## BROADCASTING OF GRAND OPERAS.

The best way to enjoy the Broadcasting of a Grand Opera is to have the vocal score in front of you and follow the music being performed -you then get the maximum of enjoyment. Purchase your scores NOW, Vocal or Piano, from
G. RICORDI \& CO. (The Largest Operatic Music Publishers), 283, Regent Street, London. Publishers of the three greatest popular song successes of the day,
KEEP ON NEVER MINDING (Ross): EVERY HOUR I WANT YOU (Chapman); BENEATH THY WINDOW (O Sole Moo) (Capua).

This is the ar mann comas ant set for you!
A set that picks up messages from any British
station and gives Loud speaker reproductions of AbLation and gives lond speaker reproductions of
roo-mile messages set that is simple, compact roo-mile messages-a set that is simple, compact
and 100\% eficient-the ACME 3 -Valve 566 . Method i 1 H. P, amplifier, it rectifier, it .F
 actace from rectifying valve is coupled to anode
of first salve. Only one iron-cured transformer. In mahogany cabinet, price $\mathbf{5 1 9 / 1 9} \mathbf{0}$. including royalties, of complete with all 219 ISOSories $\mathbf{2 2 5}$. Read about this set and others, crystal and valve in the Acme catalogue, which also gives full particulars of many intereatin

## The Acme Production Co., Ltd.,

Smethwick, Birmingham.


> .

## 

Glasgow, Mon., Ord Dec.t 1923

The British L.M. Ericsson
Mfg. Co., Ltd., London-
Dear Sirs. - It may be of interest to Dear Sirs. It may lost night on my inyour aerial, with one of your new door aerial, I was able to tame out Glasgow e within four miles from the Glasgow e within Station, and get on Broadcasting Station, and London
direct to Bournemouth and direct to Bournem as to enable me to with such strength as to speaker. switch it through lo tod performance consider this a very socle clear from any as if was practically local station. Yours faithfully, A.B.


## Glasgow cutout at 4 miles

 and Bournemouth received on a LoudspeakerTHIS elimination of powerful local broadcast and reception at loudspeaker strength of a distant station is the ordinary performance of Ericsson Multivalve Receivers.
The whole secret lies in the use of extremely selective loose-coupled circuits and the utmost reactance permitted by the P.M.G.
Tuning on these Receivers is vernier in its closenessThis feature allows the utmost strength of reception of the broadcast programmes.
These receivers are most moderate in price, beautifully made and robustly built.

Write us today for our
Fully Illustrated Lists.
The British L.M. Ericsson Mfg. Co. Ltd.
International Buildings,
Kingsway, London, W.C.2.
MANCHESTER:19, Bridge Street, Deanscate. NOTTINCHAM: W. T. Furs \& Co., Traffic Street. BIRMINGHAM I 14-15, Snow filial. CoLChESTER 1212,
High Street. SCOTLAND: High Street. SCOTLAND:
Malcolm Brelacns, 57, Robertson Street, Gas sow. N.E. ENGLAND:
Withers Ho Miburn Ho., Newcastle-en-Tyse.

## Buy

British Goods Only.

Selling Depots:

Telegraph Training College Ltd. Morse House, Earl's Court, S.W.
Telephone: Western 2696. Established 25 Yean OFFICIALLY RECOGNISED DY THE WAR OFFICE THE ROYAL AR FORCE

## CABLE AND WIRELESS TELEGRAPHY.

PARE TS DESIRO S of placing their sons in either of the above Services and of affording P. them the best training fepfities should apply for particularly Courses and wee method r of antine excellent prospects to youths from 16 years of age and upward, mod the College has exelusive facilities oof obtaining posts for qualified students in the leading Cable Comptikes-at,
 and with ultima
Managers, etc.
In the Wireless Telegraph Service the commencing salary at the proverit time is about £90 per menam, plus free maintenance on board Ship, which makes the total eqmumeration approx
 Certificate of Proficiency are nominated by the Cries
Ponitiona are also available in tho Royal! Air Fores.

No Correspondence Classes or Branches.
S $p \mu / \bar{p}$ for Prospectus to:-
Telegraph Training College Ltd.

No Correspondence Classes or Branches.
THE SECRETARY (Dept.R.T) 262 , Earl's Court Rows, Earl's Court, London, S.W.5.

## WIRELESS PROGRAMME-MONDAY (far $1 \mathrm{llt)}$.

The letters "S.B." printed in italics in these Programmes signify a Simultaneous Broadcast from the station mentioned.

## LONDON.

3.30-4.30--Concert : The Wireless Trio and Sanders Warrea (Baritone).
5.0.-WOMEN'S HOUR : Ariel's Society Gossip. Story, "A Gift of the Gods," by C. Romauné-Jamen.
5.30.-CHILDREN'S STORTES: " Salo at the Zoo," by E. W. Lewis, "Jack Hardy," Chap. 18, Part I., hy Herbert Strang. 6.15.-Boys' Brigade News.
6.25-7.0.-Interval.
7.0.-TIME SIGNAI, AND 1st GENERAL

NEWS BULLEETIN. S.B. to all Stations. JOHN STRACHEY the B.B.C. Literary Critie) : "Weekly Book Talk." S.B. to afl Stations.
Local News and Weather Forecast.
7.30. POPULAR CONCERT
S.B. to all Stations execpt Cardiff. ORCHESTRA.
Conducted by L. STANTON JEFEERIES,
Overture, "The Areadians" ... Monckton
Valse, "Santiago" ..................... Corbin
Intermezzo ................... Eofcridge.Taylor
JOHN COLLINSON (Teaor) with Orchestra. Questa o Quella" ("Rigoletto") ... Verdi Ah, Moon of My Delight " ("Persian Garden"।

## Orchestra.

Seleetions, "The Catche of the Season"
Three Dances, "Henry VIII" Hoines
A Comedian and a Baritone will Aiermem A Comedian and a Baritone will Argue. Orchestra.
Fantasia on Melodies from "Faust " (iownod Two Entr'actes, "Bells of St. Malo" Kimmer Fox-trot, "I Lille serehade d Amour Bem John Collinson.
Thecause' Somewhere Macushla
Macusha" ". Voice is Culling" Mormurnate
15.-MR. E. ABNOLD WARD, B.SC., on What is Economies?" S.B. to all Stations except Cardiff.
9.30.-TIME SIONAL, AND 2ND GENERAL,

NEWS BULLETIN. S.B. to all Stations.
Local News and Weather Forecast.
Lotal News and Weather Forecast.
9.45. Orchestra.
Selection, "Florodora"
Stuart
$A^{\prime}$ Comedian and a Baritone will resume their Argament.

Orehestro.
Mélodie Plaintive
Ketelbey
Swedish Coronation March
Siendacu
10.30.- Close down.

> Announcer: R. F. Palmer.

## BIRMINGHAM.

3.30-4.30.-Panal Rimmer's Orchestra, relayed from Lozells Picture House
5.0.-WOMEN'S CORNER.
5.30.-Agricultural Weather Forecast,

KIDDIES' CORNER.
6.45.- Boys ${ }^{\text {a }}$ Brigade News.
7.0.-NEWS. S.I. trom London.

JOHN STRACHEY. S.B. from London. Local News and Weather Forecast.
7.30.-POPULAR CONCERT, S.B. from

Loudon.
9.15.-MR. E. ARNOLD WARD. S.B. from London.
9.30,-NEWS. S.B. from Lemdon.
9.45.-POPULAR CONCERT (Contd.) S.B
from London.
10.30.-Close down.

Annotucer: H. Cecil Pearson.

## BOURNEMOUTH.

3.45.-Concert: The "6BM
4.45.-WOMEN'S HOER.
5.15-KIDDIES HOUR.
6.0.-Boys' Brigade News.
6.15.- Scholars Half-Hour: G. Guest, B.A. J.P. "The Bad Old Times."
7.0.-NEWS. S.B. from London.

JOHN STRACHEY. S.B. from fiendon.
Local News and Weather Forecast.
7.30-POPUEAR CONCERT, S. $B$. from

Loadon.
9.15.-MR. E. ARNOLD WARD. S.B. from

Lemilom.
9.30.-NEWS. S.B. from London.
9.45.-POPULAR CONCERT (Contd.). S.B.
from Lomdom.
10.30.-Close down.

## Announcer: W. R. Keene.

## CARDIFF.

3.30-4.30.-Falkman and his Orchestra relayed from the Capitol Cinemi.
5.0.-" SWA'S" "FIVE O'CLOCKS " : "Mr. Everyman," Talks to Women, Vocal and Instrumental Artisteś, and the Station Orchestra. Weather Forecast.
5.45.-THE HOUR OF THE "KIDDIE: WINKS.
6.45.-Boys' Brigade News.

## IMPORTANT TO READERS,

"The Radio Times," the official organ of the Brilish Broadoasting Company, LId.. is concerned solely with broadcasting programmes and the lechnical problems relating to their transmission.
Technical inquiries dealing with the reception of breadeast telephony, sach as the types of sets to be employed, cte., ete., should NOT be addressed to "The Radio Times.". Letters from Readers concerning the Programmes and their transwiesion are weleomed.
LETTERS FOR THE EDITOR should be addreesed to "The Radro Tumes," 8-11, Soathamptou Street, Sirand, IV.C.2.
LETTERS FOR THE B.B.C. should

```
be sent to 2. Savoy HIU. W.C.2.
```

The B.B.O. wishes to announce i that the pianos used in the daily transmissions from all their stations are of the following well-known makes : BROADWOOD, STEINWAY, WEBER.

[^0]Aunouncer: I. IS, Page.

## MANCHESTER.

3.30-4.30.-Concert by the "2ZX " Orchestra.
5.0.-MAINLY FEMININE.
5.25.-Farmers' Weather Forecast.
5.30.-CHILDREN'S HOUR.
6.35.-Boys' Brigade News,
6.40, MR. FRANCIS J. STAFFOID, M.A.,
M.Ed. French Talk,
7.0.-NEWS, S.B. from London.

JOHN ETRACHEY, S.B. from London.
Local Nows and Weather Forecast,
7.30--POPULAR CONCERT, S. 1 . from Lon-
9.15.-MR. E. ARNOLD WABD. S.B. from 2.15.-ndon.
9.30.-NEWS. S.B. from Lendon.
9.45.-POPULAR CONCERT (Contd.), 8.13 . from London.
10.30.-Close down.

Atnouncer: Sidney G. Honey,

## NEWCASTLE.

3.45.-Concert : Edythe Elven (Soprano), S. W. Barry (Solo Violin).
4.35.-WOMEN'S HOUR.
5.15- - CHILDREN'S HOUR.
6.0.-Scholars' Half-Hour ; Mr. A. W. Dakers, B.A. Talk on "Stories of the Nations-

Sparticns the Slave"
6.30.-Boys' Birigade News.
6.45.-Farmers' Corner.
7.0,-NEW8. 8.B. trom London.

JOHN STRACHEX. S.B. from Loxdor.
Local News and Weathes Forccast.
7.30-POPULAR CONCERT. 8.B. from London.
9.15.-MR. E. ARNOLD WABD. S.B. from

London.
9.30.-NEWS, S.B. fromi London.
9.45.-POPUEAR CONCERT (Contd.): $8 . B$.
from Loxdon.
10.30.-Close down.

Announcer : E. L. Odhams.



# Western Electric LOUD SPEAKERS 

MAKERS OF OVER HALF THE WORLD'S TELEPHONES

## WIRELESS PROGRAMME-TUESDAY (ㄱ.m 2nad $)$

The letters "S.B." printed in italics in these Programmes signify a Simultaneous Broadcast from the station mentioned.

## LONDON.

3.30-4.30.-Consert : The Wireless Trio and May Adams (Soprano).
5.0.-WOMEN'S HOOR : " The Professional Woman's Furnishing" (No. 3), by Mr8. Gordon Stables. "A Prison Wardress at Work," by Constance Coventry
5.30--CHILDREN'S sTORIES: Aunt Pris cilla on "Winter Sports." London Walks, Piccadilly and St. James'," by Violet M. Methley.
6.15-7.0-IntervaL.
7.0-TIME SIGNAL, AND ist GENERAL

NEWS BULLETIN. S.B. to all Stations.
Local News and Weather Forecast.
THE RT. HON. VISCOENT CHELMS FORD, P.C, K.C.M.G., etc., Ex-Viceroy of India: An Appeal on Behalf of the British Empire Leprosy Relief Association.
7.30. THE ROOSTERS' CONCERT PARTY, S.B. to Bournemoult.

1. The Roosters acgain break their shell.
2. Concerted, "I want a Girl" The Roosters
3. Tenor Solo, "In Love" Arthur Mackness 4. Humorous Song, "Tuneful Tradesmen"
4. Concerted,"Gutter Merchanta
5. Vocal Duet, "Parted

Arthar Mackness and Septimus Hunt. 7. Character Studies from Dickens

Percy Merriman
8. Song at the Piano, "You Never Know
9. Baritone Solo, "Why Shouldn't I

Septimas Hunt
10. A Pirate Trio ........ Arthur Mackness

William Mack and Percy Merrimat
8.30.-Capt, P. P. ECKERSLEY; " Technical Topics." S,B. to other Stations.
8.45.-" Thistan AND ISOLDE," Act II (Wagner), velayed from The Royal Operi Honse, Covent Garden. S.B. to all Stationa
9.45.-TIME SIGNAL, AND 2ND GENERAL NEWS BCLLETIN. S.B. to all Stations.
Local News and Weather Forecast.
10.0.-THE SAVOY ORPHEANS AND SAVOY HAVANA BANDS relayed from the Savoy Hotel, London. S.B. to other Stations.
11.0.-Clase down.

Announcer : J. S. Dodgson.

## BIRMINGHAM.

3.30-4.30--Georgina Tanner (Mezzo-Soprano) in a Recital of French Songs.
Paul Rimmer's Orchestra relayed from Lozells Picture-House.
5.0.-WOMEN'S CORNER.
5.30.-Agricultural Weather Forecast.

KIDDIES' CORNER.
7.0.-NEWS. S.B. from London.

Local News and Weather Forecnst,
7.15. THE GREYS' CONCERT PARTY.

Opening Choras,."An Introduction:"
LEONARD BROWN and CHRISSIE STODDARD : Duet, " A Night in Venice"

Lutantoni ERNEST JONES + Solo Banjoist " Songs ERNEST JI ONES : Solo Banjoist, "A Sum-
mer Idyll "...................... Kirby, M.S. "A Black Coquette "............... Grimahan Leonard Brown: Tenor Songs, "She is Far From the Land " …................ Lambert "Trottin' to the Fair" ............ Stonford PERCY OWENS and some Wittycisms. The Greys: Concerted Item, "Song Salad

Nickson

Chrissie Stoddard: Songs, "The Last Fairing " ................................ Martix The Greys: An Interrupted Monologue,

Hongroise No. $2^{\prime \prime}$...................... Liezt
The Greys : Burlesque, "On Election Day
8.30--CAPT. P. P. ECKERSLEY. S.B. from London.
8.45.-" TRISTAN AND ISOLDE," Act II S.B. from London.
9.45.-NEWS. S.B. from London.
10.0.-THE SAVOY BANDS. S.B. from Lomdon.
11.0.-Close down.

Announcer : H. Cecil Pearson.

## BOURNEMOUTH.

3.45.-Concert: Allan Franklin (Solo Piano), H. J. Sherring (Solo Banjo), Rutland Osborne (Entertainer).
4.45.-WOMEN's HOUR,
5.15.-KIDDIE8' HOER.
6.15, -Scholars' Half-Hour, Eustace Naslı B.W.S., "Appreciation of Pictures.
7.0.-NEWS, S.B. from London.

Local News and Weather Forecast.
J. C. B. CARTRR, B.A., on MSir Arthar Conan Doyle and his Works.'
7.30-THE ROOSTEKS CONCERT PARTY S.B. fram Lowdon.
8.30.-CAPT. I. P. ECKERSLEY. S.B. from London.
8.45.- - TRISTAN AND ISOLDE," Act II S.R. from London.
9.45.-NEWS. S.B. from Londow.
10.0.-THE SAVOY BANDS. S.E. from Lon don.
11.0.- Close down.

Announcer: Ian Oliphant.

## CARDIFF.

3.30-4.30.-Falkman and his Orchestra relayed from the Capitol Cineola.
5.0.- "5WA's" "FIVE O'CLOCK8," "Mr Ever rman," Talks to Women, Vocal and In strumental Artistes, the Station Orchestra. Weather Forecast.
, 45.-THE HOUR OF THE 4 KIDDIE WINKS.
7.0.-NEWS. S.B, from LoNdon.

Local News.
$7.15,-\mathrm{MR} . \mathrm{RICHARD}$ TRESEDER, F.R.H.S. Chat on "Gardening."

### 7.30. Literary Night.

Conducted; with a critical commentary, by ME. B. P. B. MAIS.
THE ROMANTIC REVIVAL OF ENGLISH POETRY:

## ALTERATIONS TO PROGRAMMES, Etc.

AS THE RADIO TIMES EOes to press many days in advance of the date of publication, it sometimes happens that the B.B.C. finds it necessary to make alterations or additions to programmes, etc.s after THE RADIO TIMES has finally gone to press.

Eecitals in illustration by KATE SAWLEE and CYRIL ESTCOURT.
Songs of the Period by
Songs of the Period by
GWLADYS PARTRIDGE.
8.45.-" TRISTAN AND ISOLDE," Act II.
S.B. from London.
9.45.-NEWS. S.B. from Lowdon.
10.0-LITERARY NIGHT (Contd.).
10.30.-Close dowii

Announcer : A. Corbett-Smith

## MANCHESTER.

3.50-4.30.-Coneert by the " 2 ZY " Trio.
5.0.-MAINLY FEMININE, including Mrs. Stanlev Edwards on " Home Life in Uganda."
5.25.- Farmers' Weather Forecast.
5.30--CHILDREN'S HOUR,
7.0.-NEWS. S.B, from London.

Local News and Weather Forecast.
7.15.7.45,-Interval:
7.45 THE "2ZY" ORCHESTRA.

March, "Florentiner" .....................Fincle Intermezzo, "Fairy Drearns " .............. W ood Belection, "Kissing Time" ...............Caryll

KLINTON SHEPHERD (Baritone).
Bedouin Love Song" ......................Pinsuti
Bedouin Love song ........................nsut
Mate o Minoth
"Mate o Mine" W, H, PIER on "Why We Laugh.
8.3

The TV Klinton Shepherd.
Foe Watchman ...........................Squire
45.-" TRISTAN AND ISOLDE," Act
S.B. from London
9.45.-NEWS. S.B. from London
10.0.-THE SAVOX BANDS. S.B. from Londom
11.0.-Close down.

Announcer: Dan Godfrey, Jur.

## NEWCASTLE.

3.45.-Concert: Madame. Aleo Thomson's Quartette.
4.45,-WOMEN'S HOUR.
5.15.-CHILDREN'S HOUR.
6.0.-Scholars' Half-Hour: Mr. F. J. Duffy, Talk on "Literary Appreciation.
6.45.-Farmers' Corner.
7.0.-NEWS. S.B. from London,

Local News and Weather Forecast.
7.20.-MR. J. KENMIR on "Association Football
7.35. THE WIRELESS ORCHESTRA.

March, "Tyneside Songs " ............... Crosse
Overture, Norma 45 IOHN COLPUHOUN (Baritone) Ifellom
7.45. JOHN COLQUHOUN (Baritone). Brel
"The Toreador " ("Carmen") ......... Bizel "The Toreador" (" Carmen ") ..........Bree
"Golden Vanity" 7.55. MADAME ALEC THOMSON'S

QUARTETTE.
"As Then the Tulip" ..............Lchmanan "True Love" (" The Cingalee ")...Atonckiton 8.5. Orchestra.

Valse. "Amoretten Tanze" ..............Gung't
8.15.
8.15. VI BEAN (Contralto).
"How Can I Comfort Thee?"

Now Sleep the Crimson Partal and Hardy 8.25 8.25, Orchestra.
"A Musical Jigsaw" .......................Aston
8.45-- TRISTAN AND 18OLDE, ${ }^{\text {A }}$ Act 11 . S.B. from Liondon
9.45.-NEWS, S.E. from London.
10.0. Orchestra.

Selection. "Merrie England" .........Germon
10.10 Vi Bean.
${ }^{4}$ Melisarde
Vi Bean.
Rosebnds
10.20. On the Banks of Allan Water "
arr. Thonpson
"Quarrelling " Orchestra. ........ Thompson
10.30 .
Selection, " Welsh Songs" ........Myddleton
Selection, "Welsh Songs" ........M Maddeton
10.40 .-Close down.
Announcer : R. C. Pritt.

## The name "Marconi"

On June 2, 1896, with Senatore Marconi's application for the first British Wireless Patent-the famous No. 12039 -Wireless first became an established practical fact. To the world in 1896 Wireless meant Marconi

The name "Marconi" is as inseparably bound up with Wireless to-day. To the listener-in in 1924, Broadcasting means the Marconiphone.

Because it sums up more than a quarter of a century of tireless experiment and research, because it embodies all the inventive genius and the unmatched resources of the Marconi Company, the Marconiphone is the Wireless Receiver on which you can always rely. Nothing short of technical perfection is worthy of the great name it bears.

## Manooniphone



Ask your dealer for full particulars of the various Marconiphone models. In case of difficulty apply to:-

## WIRELESS PROGRAMME-WEDNESDAY (ㄴ.. 2 ra . $)$

The letters "S.B." printed in italics in these Programmes signify a Simultaneous Broadcast from the station mentioned.

## LONDON.

3.30-4.30.-Concert The Wireless Trio and William Cox (Baritone),
5,0. WOBIEN's HOUR
Wedding Bills," by Florencding Bells and chester.
5.30.-CHILDREN'S STORIES. Orchestra. Encle Jeff's Tall on the Orchestra.
6.40.-M. E M. STEPHAN : French Talk, La Hepubhique et la Democzatis Frangaise. S.B. To other Nation.
7.0.-TIME SIGNAL, AND 18 T GENERAL. NEWS BELLETIN. S.B. to all Stations. ARCHIBALD HADDON (the B.B.C. Dramatie Critic). it News and Views of the Tic Oritic)
Theatre." News and 8. io all Sfations.
Local News and Weather Forecast.
7.30,

BAND OF H.M. GRENADIER GEARDS.
By permission of Col. B. N. Sergison Broole,
C.M.G.. D.S.O

Director of Music: LIEUT G, MLLLER, I.R.A.M.

Quick March, "Victoris" ........... Von Blon Overture. "The Flying Dutehman " Wagner Derry Tune
English Morris Dance "Shepherd's Hey"
FRANCIS MORES (African Baritone).
Negro Spirituals, "Li'l David Play on yo' Harp.
Nobody Knows de Trouble I See."
arr. Burleigh
GEORGE BLACKMORE will tall-and sing a little.
GRENADIER GUARDS BAND.
Largo and Scherzo from "The New World Symphony " . ........................... Dvorak Dtect for Oboe and Clarinet, "Villanelle"
Era Dell Aequa (Band Sergt. J. Harker, Oboe; Sergt. D. Mathews, Clarinet).
Negro Spirituals, "Go Down, Moses." Swing Low, Sweet Chariot."
Suite de Ballet, "Sylvia" ${ }^{\text {Grend............ Dclibea }}$
Song, "O Flower Divine ".............. Daydn Wood
(Soloist : Musn. W. West).
Invidental Music to " Rtop Flirting
Daly, Lannin and Gerstuein.
9.15,-MR. G. COLVILLE, Secretary to the Institnte of Chartered Accountants, on " How to Become an Accourtant.
9.30.-TIME SIGNAL. AND 2ND GENERAE. NEWS BULLETIN, S. $A$, to all stations.
Local News and Weather Forecast.
9.45. Greuadier Guards Band.

Fantasie, "The Evolution of Dixie ". .. Lake Duet for Euphonium and Cornet, "A Night in Venice" .......................... Lucantoni (Band Sergt. A. J. Cobb, Euphonium; Musn. IV. West, Cornet.)

Francis Mores.
Diatect Songs, "Carry Me Back to Old Vir-
ginny " , ginny

Will Marion Cook
George Blackmore will sing-and talk a Tittle.
Grensdier Guards Band.
Valse, "Moonlight on the Alster."
False, Moonlight on the Alster;"
Fox-trot, "Blue Danube Blues."
10.30--Close down.

Announcer : J. S. Dodgson.

## BIRMINGHAM.

3.30-4.30.-Paul Rimmer's Orchestra relayed from Lozells Picture House.
5.0-WOMEN'S CORNER.
5.30.-Agricnltural Westher Forecast.

KIDDIES CORNER.
7.0.- NEWS. S.B. from London.

ARCHIBALD HADDON. S.B. from Lon-
Locat News and Weather Forecast.

## "Singbad the Wailer,"

A RADIO PANTO-REVUE. In 8ix Stupendous Scenes
Written, (if the Composed, and Produced by
Cast: EVERYBODY OF US Orchestra and Choras: ANYBODY how and then:
9.30.-NEWS. S.B. from London.

Local News and Weather Forecast.
9.45. "SINGBAD THE WAILER" Continued
10.30.- "Beer Vic " Morse Practice.
10.45.-Close down.

Announcel = Percy Edgar.

## BOURNEMOUTH.

3.45.-Concert: Classical Afternoon, The 6BM" Trio.
4.45,-WOMEN'S HOUR.
5.15.-KIDDIES HOUR.
6.15. -Scholars' Half-Hour : C. H. Woodward, A.M.I.E.E., "Electrical Measurements." $6.40 .-$ M. E. M. STEPHAN. S. $B$. from Lon don.
7.0- - NEWS. S.B. from Lomdon

ARCHIBALD HADDON. S.B. from London
Local News and Weather Forecast.

## Musical Comedy Night.

7.30. THE WIRELESS ORCHESTRA

Conductor: Capt. W. A. Featherstone
Selection, "The Gipsy Princess "... Kalman 7.40. EVELYN FRYER (Contralto).
"The Flower" ("Lilae Time").. Schubert "I Love the Moon" ..................... Rubens 7.50. Orchestra:

Selection, "Sally" ......................... Kern
8.0. JESS COLBORNE (Baritone).
"Under the Deodar" ("The Country Giri") Monckton
The Call of the Sea " (" The Southern Maid ") ........................... Fraser Simeon 8.10. Orchestra.
Selection, "The Cabaret Girl
8.20 .

Evelyn Fryer.
Corraline" ("Cha Chim Chow ").... Vortom "The Love Nest" ("Mary ") ........ Hirseh 8.30. Orchestra.

Selection, " The Maid of the Moantains
8.50. "THE MAKER OF DREAMS (Oliphant Down).
Piertot ..... T. WHLSON CLARIDGE.
Piervette ......... KATHLEEN WIHLS.
The Mannfactarev SYDNEY JAMES
9.30.-NEWS. S.B. from L.ondon.

Local News and Weather Forecast.
9.45. Jess Collorne.

Any Time's Kissing Time " ("Chy Chin
Chow ") .................................... Norton
Live for To-day" (*The Maid of the Mountains ") Orchestra..... Fraser Simaon 9.55.
Fox-trot, "Just Holding Hands ; Fox-trot, Fox-trot, "Just Holding Hands ; Fox-trot,
世 Last Night in the Back Porch"; Valse, Honeymon Chimes": One-step, "Broadcasting "; Fox-trot, "Dirty Face," ; Foxtrot, "Keep It Under Your Hat " ' Valse: "I Wonder"; One-step, "Oompah Trot." 10.15.-Close down.

> Announcer: W, R. Keene.

## CARDIFF.

3.30.4.30.-Falkman and his Orehestra relayed from the Capitol Cinema:
5.0.-"5WA'S" "FIVE O'CLOCKS." " Mr Eiveryman," Tulks to Women, Vocal and Instrumental Artistes, the Station Orchestra. Weather Forecast.
5.45.-THE HOUR OF THE "KIDDIE WINKS.
6.40.-M. E. M. STEPHAN. S.B. from Lon dom.
7.0.-NEWS, S.B. from London

ABCHIBALD HADDON. S.B. from Lon don.

## Popular Night.

Vocalist : BEN DATE
Solo Violin: LIONEL FALKMAN (of the (Capitol),
7.30.-Orchestral March, "Light of Foot"

Entr'rete". Intermezzo "... Coleridgc-Taylor
7.40.-Songs (Selected).
7.50. - Violim Solo, Andante from Mendelssohn Concerto.
8.0- Orchestral Overture, "Oberon"... Hebes 8.10,-Vialin Soli: (a) "Rondino on a Theme by Beethoven" "............... ....... Arvister
(b) "Slavische Tanze " Diont...... Deoral
8.20.- Orchestral Suite, "Tribute of Zamora"
Gounad
8.30. YOICKS + TALLY HO!

Songs (a) "Wake! to the Hunting"; (b) " Hunting the Hare.
CYRIL ESTCOUBT in a Recital of "Rey nard the Fox" (Masefield) (repeated by request).
Songs: (a) "Old Towler"; (b) "John Peel."
9.30.-NEWS. 'S.B. from London.

Local News and Weather Foreeast,
9.40 -DR. JAS. J. SIMPSON, M.A., B.Sc., Chat on "British Mammals.
9.50.-Dance Music
10.30.-Close down.

Amnouncer: L. B. Page.

## MANCHESTER.

3.30-4.30.-Concert : Bessie Brown (Soprano), Miss M. Ride (Contralta), Tom Child (Tenor), Lindon Russell (Entertainer).
5.0.-MAINLY FEMININE.
6.25.-Farmers' Weather Forecast.
5.30.-CHILDREN'S HOUR.
6.30.-Organ Recital relayed from the Piccadilly Picture Hoase. Organist, Mr. J. Armitage, F.R.C.O.
7.0.- NEW8. S.B. from London.

ABCHIBALD HADDON. S.B. from London.
Local News and Weather Forecast.
8.0.

THE SALFORD VOCAL SOCIETY.
Part Songs: " Dawn of Song " .... . Bairatown
"The Blue Bird" ... ................... Stanferd
Moonlight " ....................... Eaton Faning
Soldiers' flest ", ............................ King
O Happy Eyes" ..................... Elgar
THE SIRFESSOR will give a few moments'
talk.
The Salford Vocal Society (Ladies only).
The Lord is My Shepherd.
Three Fishers.
Happy Isle.
8.45.-W. R. STOKES, F.R.A.S., on "The

New Astronomy,"
9.0. TOM H. MORRISON (Solo Violin).
"Hyre Kati" "....................... Hubay
9.10. THE SIRFESSOR will discourse again.
9.30.-NEWS. S.B. from London.

Local News and Weather Forecast.
9.45. Tom H. Morrison.

Praeludium and Allegro ................. Pagnani
The Salford Yocal Society.
The River Floweth Strong, My Love "
K. Rogers

Lullaby of Life "
Lethic
Brahms
10.-W F PLETCEER, Examiner in Span-
ish to the Union of Lancashire and Cheshire
Institute Spanish Talk.
10.30.-Clase down.

> Aunouncer: Viotor Smythe,

## NEWCASTLE.

3.45-4.40.-Concert : The Wircless Bijou Orchestra.
45.-WOMEN'S HOUR.
5.15,-CHILDREN'S HOUR.
6.0.-Scholars' Half-Hour : Mr., W. Carr,
B.Se., "Topical Science Talks.
(Continued in col. 1, page 147.)


## TURKISH BATHS

## ATE TEOMNEX

THE GEM TURKISH BATH CABINET is a portable, foldable bath for use in the home, complete in itself. It is made of is durablo antiseptic material in our own factory in London. It takes up little or no room. It can be made ready in a minute in any room in your hoase. It gives all the benefits to be derived from the publie Turkish Bath.


The Gem Home Turkth Bath is a necenalty if perfect bealh is to bo mainatained. Health der pends on a freesaction of the pares of the shili. Without Turkish bathIng these pores becomo eloggod with the greaso of soap. With dost and dirt.
ili-bealth is duo to peleotis in the phod. Rheamastisu, wiaticen, lumbago, coot, headeche, neuralydin, nervouspess, and all the klindred symptomat of wous trouble are due to a polsoned life-strean.
When you we the Gem, Bath what happens is this, You sit in the Cablect. Tho warmith specdily acts on your skin. As the temperature ries you persplee frocty. A few mitaiter of five persyination works a
 water, complete with as eold sponge-and yoia will be water, comple woman or wopan! Jon will feel better, brlebter,
a new a aew man- or woband yon will feel better, brighter
atronger - refneshed as if you had risen from Atronger - refonshe
itreamiese dumber.
Recommended by leadiug pligsclans and health culturisk. Booklet pont from on mentloning The Alsio Times.
THE GEM SUPPLIES CO., LTD. (Desk R.T.),
67, Southwark St., London, S.E.

## Senatore G. MARCONI

## G.C.V.O., LL.D., D.Se.

has written an interesting article in
The Wireless 1924 Annual
for Amateurs \& Experimenters.

Full to overflowing with valuablè information, the Annual includes amonest its contributors Dr. W.H. Eccles, Sir William Noble, Phillip R. Coursey, Major H. C. Parker, Captain P. P. Eckesley, W, G. Mitchell, etc. In addition the Arnual provides you with a fult, up-to-date list of Amateur Call Signs, including French stations, Regular Transmissions of European Wircless Stations, Call Signs of aill Land and Aircraft Stations, Directories of Wircless Societies, Manufacturers and Re-
tailers of sets and sccesories, tailers, of sets and occesories,
Definitions of Techrical Terms in five-languages, a host of useful tables and other general information.
GET YOUR COPY TO-DAY.
THE WIRELESS PRESS, Ltd., Dept. R.T. 12-13, Henrietta St., London, W.C.2.

## WIRELESS PROGRAMME-THURSDAY <br> (Jan. 24th.)

The letters "S.B." printed in italics in these Programmes signify a Simultaneous Broadcast from the station mentioned.

## LONDON.

8.30-4.30.-Concert: The Wireless Trio and Muriel Baker (Mexzo-Soprano).
5.0.-WOMEN'S HOUR : Fashion Talk by Nora Shandon. A Chat on Health Calture by M. G. Shields
5.30-CHILDREN'S STORTES : Mnsical Talk by Auntic Hilda and Uncle Humpty Dumpty. "Jack Hardy," Chap. 18, Part II., by "Jack Hardy, Chap. 18, Part Merly Maif: "Zoo Snike Stories."
6.15. - Boy Seoats' and Girl Guides' News.
6.25-7.0.-Interval.
7.0.-TIME SIGNAL, AND 1ST GENERAL NEWS BULLETIN, S.B, to oll Statione.
PERCY SOHOLES (the B.B.C, Music Eritiel Critic) : "
afl Stations
Tall by the Radio Socicty of Great Britain S.B. to all Stations.

Local News and Weather Forecast.
7.35.-WHITIE ROUSE in Alleged Humour at the Piano, with Pierrot and Pierrette. S.B. to other Stations.
8.0. AN HOUR'S CHAMBER MUSIC THE WINIFRED SMITH STRING QUARTETEE
Movements from Quartette in D Mnjor $\begin{gathered}\text { Haydn }\end{gathered}$
Readings from "The Sloropshire Lad " (by Eaurence Housman) by C. A. Lewis, JOHN HUNTINGTON (Baritone).
"The Wanderer" ........................Schabert
"The Poet's Love
Schumann
$\qquad$ Devolion The Erl King" Schumana String Quartette.
.Schubiert
Dumka fro E Flat Quartette

Drarak John Hantington.
Four Songs
Braĥma
"The Forge "; "In Summer Fields "True Love"; "The Vain Suit."

String Quartette.
"Tour de Fetea " ............Rimaky-Korakko 9.0. - A Jolly Half-Hour with ARTHUR MELrose (the Whistling Entertainer) and HECTOR GORDON (the Canny Scot). S.B. to Cardiff and Manchester.
9.30 . -TIME SIGNAL, AND 2ND GENERAL NEWS BULLETIN. S.B. to all Stations. Local News and Weather Forecast
9.45.-PROFESSOR H. R. KENWOOD, C.M.G., M.B., F.R.S.F., Chadwick Professor of Hygiene and Pablic Henlth, in University of London, on " Popular Fallacies Plegarding the Killing of Disease Microbes." S.B. to Cardiff ond Afanchester.
10.0.-THE SAVOY ORPHEANS AND SAVOY HAVANA BANDS relayed from the Savoy Hotel, London. S.B. to oflier Stations, 11.0.-Close down.

## Announcer : J. S. Dodgson <br> BIRMINGHAM.

3.30-4.30.-Eileen Barlow (Soprano) in a Song Recital.
5.0.-WONEN'S CORNER.
5.30.-Apricnltural Weather Forecast. KIDDIFS' CORNER.
6.45.-Boy Soouts' and Girl Guides' News.
7.0.-NEWS, S.B. from London.

PERCY SCHOLES. S.B. from London. Radio Society Talk. S.B. from London.
Local News and Weather Forecast.
Popular Classios Programme.
7.35. THE STATION ORCHESTRA
(under the Direction of Joseph Lewis)
Overture, "Hebrides" ...........Mendelssolen "Marche Militaire" Schubert MURIEL SOTHAM (Contralto),
"June" . "....................... gi....Qualer Softly Awakes My Heart" (" Stmson and Delilah ")

Fantasia, "Carmen No. 1" Bizet, arr. Taran 8.15-8.45.-Interval.
8.45. Orchestra.

Morceaux, " Shepherd's Hey " ......Grainger
Molly on the Shore " ..............Grainger
LIEUT. ARTHUR SPRY (of the British
and Foreign Sailors' Society) on "The
Dogzer Bank Affair."
March, "Funeral March of a Marionette"
Gounod
Morceau, "Londonderry Air " ........Morris
Ballet Music from "Coppelia" ......Delibes 9.30.-NEWS. S.B. from Lamdon.

Local News and Weather Forecast.
9.40.-MAJOR VERNON BROOK, M.I.A.E.
on "Motors and Motoring."
Mariel Sotham.
Soit Was the Song'
...............VIgar
None But the Weary Heart" Tehaikovsky Orchestra.
March, from "Tannhăuser" .......... Waguer
Mosaigue on the Works of Mozart arr. Tevan 10.30.-Close down.

Announcer : H. Cecil Pearson.

## BOURNEMOUTH.

3.45.-Concert : The Crystals Concert Party,

Allan Franklin (Solo Piano),
4.45-WOMEN'S HOUR.
5.15. KIDDIES' HOUR.
6.0.-Boy 'Scouts' and Girl Guides' News.
6.15.-Scholars' Half-Hour : Miss A. G. Spry, L.L.A., "Longfellow's Poems."
7.0.-NEWS. S.B. from London.

PERCY SCHOLLS. S.B. from Londom.
Radio Society Talk. S.B. from London.
Local News and Weather Forecast.
7.35-8.0.-Interval.

## A Night of Memories

8.0. THE WIRELESS ORCHESTRA.

Conductor: Capt, W. A. Featherstone.
(All Songs accumpanied by Orchestra.)
March, "Distant Greeting""........ Doring Valse, My Queen "................... Cook 8.10 AMY COCKBURN (Mezzo-Soprano). "Lomdon Bridge" ...................... Afolloy "The Gift"
.20 . HERBERT SMITTH (Baritone).
8. The Deathless Army" (Baritone). Trol...... Trotere "Shipmates $0^{\circ}$ Mine " ................. Sonderson
8.30. Orchestra:
8.30. Selection, " Florodora " "............. Stuart 8.45. AMY COCKBURN (Mezzo-Soprano). VIOLET COCKBURN (Soprano)
Duets, "O Sole Mio" ............... di Gapua 8.55.

Orchestra.
Selections of Albert Chevalier's Coster Songs. 9.5 . Herbert Smith.
Land of Hope and Glory …....... Elgar
9,10. "Somewhere a Voice is Calling" ...... Tate
9.15 Orchestra

Selection, "A Country, Girl" ... Monckton
9.30.-NEWS, S.B, from London.

Local News and Weather Forecast.
2.45.-THE SAVOY BANDS. S.B. from

London
11.0.-Close down.

Announcer: Ian Oliphant.

## THOSE " HOWLERS."

Oscillation seems to be increasing in all districts. The B.B.C. wish to appeal to the sporting spirit of all who are thus interfering so seriously with the pleasures of many thousands of fellow-listeners not to continue this annoyance. Captain Eckersley will be pleased to supply free printed information regarding the best methods of avoiding oscillation to all who apply to him at

2, Savoy Hill, London, W.C.2.

## CARDIFF.

3.30-4.30.-Falkman and his Orchestra relayed from the Capitol Cinema.
5.0.-" 5 WA'S " "FIVE O'CLOCK8," Isaac J. Williams on "The Golden Age of Sculpture." Weather Forecast.
5.30.-Mr. Arthur Short.
5.45.-THE HOUR OF THE "KIDDIE WINKS."
6.45.-Boy Scouto' and Girl Guides' News.
7.0.-NEWS. S.B. from London.

PERCY SCHOLES, S.B. from London Radio Society Talk. S.B. from London. Radio Societ
7.35-11.0-The Entire Programme S.B. from fiondon.

## Announcer : L. B. Page

## MANCHESTER.

11.30-12.30.- Concert by the "2ZY" Trio. 5.0.-MAINLY FEMININE.
5.25.-Farmers Weather Forecast.
5.30.-CHILDREN'S HOUR.
6.30.- Boy Scouts' and Girl Guides ${ }^{\prime \prime}$ News.
6.40.-Mr. Francis J. Stafford, M.A., M.Ed., German Talk.
7.0-NEWS. S.B. from London

PERCY SCHOLES. S. $B$. from Loudon. Radio Society Talk. S.B. from London. Local News and Weather Eorecast.
7.35-11.0. - The Entire Programme S.B, from London.

## Announcer: Victor smythe

## NEWCASTLE.

3.45-4.40.- Concert : John Burgess (Baritone), Martin Henderson (Solo Concertina).
4.45.-WOMEN'S HOER
5.15.- CHHDREN'S HOUR.
6.0.- Scholars' Hair. Hour : Mr, J. J. Todd, B. 8c., Talk on " Poets and Poetry," Part II. 6.30.-Boy Scouts' and Girl Guides' News. 6.45.-Farmecs' Corner.
7.0.-NEWS. S.B. from Lowdon.

PERCY SCHOLES, S.B. from London.
Radio Society Talk. S.B. from London.
Local News and Weather Forecast.
7.35. THE WIRELES8 ORCHESTRA.

Selection, "Matherine" ....... Tchaikovsky 7.45. EDNA SHEARD (Contralto). "The Cherry Tree Dance " ........ Newton 7.55. ERNEST SHARP (Solo Viotin). Meale Meditation" …...................... Massenel
Gipsy Dance

### 8.5. Orchestra.

Selection of Squire's Songs:
8.15. JACK TODD (Tenor)

Land of My Waiting Heart " ... Matthew
8.25. The Songs My Mother Sang " ... Grimeha
"The Sona
"The Songs My Mother Sang ", ... Grimshaw
" Don't Be Quite Forgetting " ........ Meale
8.35.

Waldteute!
Valse, "Solitude" "
8.45. Romance" Ernest Sharp.
". Dazurka ......................... Zarsyosio
8.55.

Mazurkia ......................... Qrchesta. Rarzycki
". Serenade Improvisée"........... Planzant
9.09.30. Interval.
9.30.-NEWS. S.B. from Liondon.

Local News and Weather Forecast.
9.45. Orchestra,

Melodies from "The Lily of Killarney "
10.0. Jack Todd. Benediet
"Then Yon'll Remember Me". ..... Bal/e
10.10. Mrchestra.
"A Masical Switch "
10.20.-Close down.

Announcer. R. C. Pratt.


AN essential feature of any Valve is that the electrical energy consumed by the filament should be as small as possfble consistent with efficient operation. This electrical energy is measured in wattsa term used to denote the product of the actual voltage and amperage used.

## WUNCELL VALVES.

P. 3. With sreen top. Freqeencicy $30 /$ -
P. 4.-With blue sop. omplifica- $30 \%$ -
Eivaer of the abiove Valoes Newines oute hattery onlymat thrice.
P. 1 and P. 2 Vatves
now re- $12 / 6$
duced to
COSSOR VALVE Co.,
Highbury Grove, N.5.

Thus, the Wuncell-operating at $\cdot 8$ of a volt and consuming 2 of an ampere - has a total wattage of o:16, which is as low or lower than any Valve at present on the market.

In selecting a Valve, first consideration should be given to its wattage and not to its apparent amperage. For although at first sight it might be considered ad vantageous to reduce the amperage of a Valve below '2, yet if this is done the voltage must be correspondingly increased, and the nett result is merely as before.

But there is this serious disadvantage introduced. An unnecessarily low amperage necessitates a filament so fine that it is exceedingly fragile.

The Wuncell filament, on the other hand, is particularly robust, and the Valve as a whole possesses all the advantages of the standard Oossor construction.



ENGINES YOUR BOY COULD DRIVE -BUILT TO SCALE


Nothing will give your boys so mach pleasure as making a Model Railway. These perfect reproductions, built to scale by experienced craftsmen, not only mean a recreation that appeals to every boy, but are also a source of instruction in the elementary principles of engineering Give your boy pleasure and knowledge that he will appreciate - but be sure that you get only-genuine BassettLowke Models. Write to-day for

## OUR NEW CATALOGUE

now ready -contains many hundrcels of interesting photographs of all kinds of model engities, coaches, wagoms, tagmals-in fect, everything in the Model Railway practice. Section $\mathrm{A} / 40$, post free I/s, ffoni Northampton. Abridged $E$ isf post free on teceipt of Post Card.

BASSETT-LOWKE LTP
NQRTHRMPTON
LONDON BRAMCH $\| 2, H 10 H$ FOLEORN, WKh
Break Away from the Old Senseless 'Practising'
DID you ever stop to think how hopelessly D ont-of-date is the old method of teaching the piano? Constant practising is supposed to be indispensabie-but what is it ? Merely a short-sighted attempt to bludgoon the mind into insensibility, and to get the muscles to act automatically. By. eliminating the old senseless "practising" which has ruimed many a budding musician, the EASY SYSTEM-"From Brain to Keyboard "-which Musical News describes as " the most striking discovery of the present generation for practical musicians," shows you how to turn pianoforte playing into a fascinating easy study, free from all the

## From Brain to 啹euboard



## WIRELESS PROGRAMME-FRIDAY (Jm 2sth)

The letters "S.B." printed in italics in these Programmes signify a Simultaneous Broadcast from the station mentioned.

## LONDON.

3.30-4.30.-Concert : The Wireless Trio.
5.0.-WOMEN'S HOUR : "Some Japanese Customs," by C. Pollard Crowther. Imprespressions of the Week.
5.30.-CHILDREN'S STORIES : "The Rat's Wedding." by Encle Pollard Crowther. Songs by Uncle Rex. Dicle Jack Frost's Wirdess Yarn.
6.15.7.0.-Interval.
7.0-TIME SIGNAL, AND 1ST GENERAL NEWS BULLETIN. S.B, to all Statione. G. A. ATKINSON (the B.B.C. Film Critie) "Seen on the Screen." S.B. to all Stations. Local News and Weather Forcoast.
7.30.-BURNS NICHT PROGRAMME. $S . B$ from Glasgoie.
9.30--TIME SIGNAL, AND 2ND GENERAL NEWS BULLETIN. S.f. to all Stations. Local News and Weather Forecast.
9.45.-BURNS' 'NICHT PROGRAMME (Contd.). S.E. frow Gilaegore:
10.10.-"SIEGERIED," Act III. (Wagner), relayed from The Royal Opera House, Covent Gatden. S.SK. to all Stations.
11.20.-Close down.

Announcer : R. F. Pulmer.

## BIRMINGHAM.

3.30-4.30.-Paul Rimmer's Oreliestra relayed frum Lezells Picture House:
5.0.-WOMEN'S CORNER.
5.30.-Agricultural Weather Forecast. KIDDIES' CORNER.
7.0.-NEWS. S.B. from London, G.A. ATKINSON. S.B. from Leadon Local News and Weather Forecsat.
7.30. THE STATION ORCHESTRA.

Special Request Items
7.45. WILLIAM MACREADY.

Dramatic Recital, "The Drunken Soene, Act II., from " David Garrick.'
8.5.

Special Request Items.
8.15-8.45,-Interval.


Announcer: H. Ceeil Pearson.

## BOURNEMOUTH.

3.45.-Concert : The " 6BM " Trio.
4.45.-WOMEN'S HOUR.
5.15.-KIDDIES' HOUR.
6.15:-Scholars' Half-Hour : Miss Grey : "The Camp Cook's Story.'
7.0.-NEWS. S.B. from London.
G. A. ATKINSON. S.B. from Lendon.

Local News and Weather Forecast.
7.30.-BURNS' NICHT PROGRAMME. S.IS. from Glasgove.
9.30.-NEWS. $S, B$. from Leadox.
9.45--BURNS NICHT PROGRAMME (Contd.). S.B. from Glaxgow.
10.10.-" SIEGFBIED:" Act IIL. S.B. from London.
11.20.- Close down.

Annonncer: W. R. Keene.

## CARDIFF.

8.30-4.30. - Falkman and his Orehestra relayed from the Capitol Cinema,
5.0. - "5WA'\& " "FIVE O'CLOCKS." " Mr. Everyman," Talks to Women, Vocal and Instrumental Artistes, the Station Orchestra. Weather Forecast.
5.45.-THE HOUR OF THE "KIDDIEWINKS.?
7.0.-NEWS. S.B. from Londom.
G. A. ATKINSON. S.E. from London.

Local News.

## Robert Burns.

January 25 th, 1759.
THE BEISTOL GLEE SINGERS Vocalist: MAUD STEPHENS.
7.30.-March, " Fame and Glory " ........., Matt
7.35.- Part Sonys :
Of a' the Airst
Bommie Wee Thing ",
'Eobin Adair:" ............................. Barr. Contock
7.45,-BETTY LINDS $A Y$ : Recitals from the Works of Eolient Burns
7.50,-Songs
"John Anderson, My Jo," arr. Michael Dypack "Ye Banks and Braes" arr-Michaed Dyack 8.0.-MR. J. M. HOGGE, M.A., M.P., proposing "The Immortal Memory of Robert Barns" at the Cardiff Caledoninn Society's celebration of the 165 th anniversary of the celebration of the 165th anniversary of the
birth of Robert Burns (relayed from Cox's birth of Robeit
Cafe, Cardifi).
8.30.-Part Songs :

Allan Water"
'Jean
Annie Lauric

arr Cantor
8.40.- Selection, " The Thistle " ... Myuldleton
8.50. - Songs
"My Love is Like at Red, Red Rose"
The Gallant Weaver ". arr. Michael Dyack
8.55.-A Handful of Scottish Yaras.
9.0.-Suite, "Keltic Suite"

Poulds
8.10.-Part Songs
"Jessie, the Flower of Dunblane."
"Afton Water?"
9.20,-Songs :
"O Whistle, and I'H Come to You, my Lad"
"Coming Thso' the Rye " arr. Michael Dyack
9.30.-NEWS. S.B. from London. Local News and Weather Forecast
9.45.-Dance Music.
10.10.-"SIEGFRIED," Aet III. S.B. /rom London:
11.20.-Close down.

## Announcer: A, Corbett-Smith.

## MANCHESTER.

3.30-4.30--Concert : Muriel Travis (Soprano), Lily Kendat (Contralto), V. H. Wilson (BassBaritone), James Taylor (Dialect Entertainer).
5.0.-MAINLY FEMININE
5.25.-Farmers' Weather Forecast.
5.30.-CHILDREN'S HOUR.
6.40.-MR. FRANCIS J. STAFFORD, M.A., M.Ed, French Talk.
7.0.-NEWS. S.B. from T.ondom.
G. A. ATKINSON. S.B. from London. Local News and Weather Forecast.
7.30-7.45.-Interval.
7.45.-KEYBOARD KITTY will open proceedings.
8.0-JAMES BERN ARD will give yon excerpts from Shakespeare.
8.50. BETTY WHEATLEY (Soprano).
8.50.- "Solveig's Song'

I Did Not Know ${ }^{\text {I }}$.......................... Trotere
9.0-JAMES WORSLEY (Dialect Eritertainer).
"How Billy Armitage Geet a Neet's Lodgings."
9.15.-MR. W. F BLETCHER, Examiner in Spansh to The Union of Lancashire and Chesbire Institute, Spanish Talk.
9.30.-NEWS. S.B. from London.

Local News and Weather Forecast.
9.45.

Betty Wheatley.
9.45.-" An Eriskay Love Lite"
"A Little Coon's Prayer" Kennedy Proser
9.55. James Worsley.
'Bomy Brid.'
10.10.-"SIEGFRIED," Act III. S.B. from Londer.
11.20.-Close down.

Announcer: Victor Smythe.

## NEWCASTLE.

3.45.-Concert : Ralph Elliott (Solo Pianoforte). Bessie I indmarsh (Contraito), Johm J. Mare fin (Baritone).
4.45.-WOMEN'S HOUR.
5.15.-CHILDREN'S HOUR.
6.0-Scholars' Half-Hour: Mr. W. C. F. Campaign : Talk on "Water Power."
6.35.-Farmers' Corner. Mr. R. W. Wheldon on "Variations in the Composition of Milk."
7.0.-NEWS. S.B. from London.
G. A. ATKINSON. S.B. from London.

Local News and Weather Forceast.
7.30.-BURNS' NICHT PROGRAMME. S.B. from Glasgow.
8.15.-Burus' celebrations relayed from the dinner given by the Neweastle Burns Club to honour the memory of the famons liard.
SIR ROBERT BRUCE (Editor of the Glasgow Herald) will propose the "Immortal Memory."
9.0.9.30.-IntervaL
9.30.-NEWS, S.B. from Lowdon.
9.45.-BURNS NICHT. PROGRAMME (Contd.) S.B. from Glasgoes.
10.10.-"SIEGFRIED," Aet III. S. S. /rom London.
11.20. $=$ Close down.

Announcer: E. I. Odhams.


TWO, THREE \& FOUR-VALVE RECEIVING SETS.

The above initials are known throughout the world for
EFFICIENCY and
RELIABILITY
A.J.S. Wireless Sets incorprorate the Latest in Reaction Circuits and are unsurpassed for Selectivity, Purity of Tone, Volume and Workmanship.

Complete Sets consist of Panel. as illustrated, Valves Head Phones. High and Low Tension Batteries, Aerial Wire, Insulators. Lead-in Tube, etc

- ololopur ant foetor parntioders


## A. J. STEVENS \& CO.

 (1914) LTD., WOLVERHAMPTON.

## FIRESIDE CONCERTS

You cannot buy better instruments at any price, nor can you buy instruments at lower prices to give equal results.
The SAXON TWO. VALVE RECEIVER PO.
Registered No, sos, as illatrated: 26:10:0 Royaltien 40/-extra, carriage paid. Complete with best phones, icuRoyalties 40/- extra. Valves 15/The SAXON threevalve receiver. £8: 15 : 0 Royalties $57 / 6$ extra, carriage paid.
With best phones, accumulator and battery, $212: 10: 0$. Royaltien $57 / 6$ extra. Valves $15 /$ -
each extra,

Unsolicited Testimonials:- "High Street, Galashiels. "Your two-salve set is giving excellent results. We receive all B.B.O. Stations ; also Continental Stations."
"Main Street, Leamahagow, Lnnarlakire. "With your three-talve set 1 have got good results from all B.B.C. Stations, being able to tune out Glasgow easily to get other stations. I received on Sunday morning very good receptions from NEW YORK, AMERICA, from 3 am. 10 $6.15 \mathrm{a} . \mathrm{m} . M_{\text {usic }}$ and speech very clear; also the handclapping after the dance items."

## These instruments are obtainable only from <br> SAEMDND RADIO BO. <br> Manufacturers of Wireless Instruments and Accessories

(Dept. 24), HENRY STREET WORKS (South Shore), BLACKPOOL.

Quid vesper feral, inceotum est ${ }^{\prime \prime}$-(Who knows what the evening may bring us? -Livy.

IN these days of perplexity and circumstance, would it not be folly to dwell upon what the evening may bring us? We really do know-and it mightily concerns most of usthat on every evening of the week and easily within reach, lie the means of bringing wholesome pleasure and infinite contentment to family and friends. Instance the remarkable popularity of the wonderful Wireless programme and the keen enjoyment created among the charmed listeners by the introduction of a few cartons of choice Tunis Dates to the circle.
This delicious and favourite fruit is welcomed as a light but nourishing refreshment and the very finest selections from the New Season's crop are those packed by the firm of co. Covent Garden Market, W.C.2. Sole Agent for Scotland -
WM. B. SINCLAIR,
55, King Street, Glasgow.


GREATLY as Jack prizes his precious stock of PLAYER'S CIGARETTES, he will never hesitate to share them with a messmate. That, after all, is a supreme test of friendship, showering credit upon the giver -joy upon the happy recipient.
PLAYERS Navy curs Cigarettes

## WIRELESS PROGRAMME-SATURDAY (Jan 2fath)

The letters "S.B." printed in italics in these Programmes signify a Simultaneous Broadcast from the station mentioned.

## LONDON.

3.30-4.30.-Concert: The Wireless Trio and Jessie Elliott (Soprano).
5.0.-WOMEN'S HOUR : "In and Out of the Shops," by "The Copy Cat." Gardening Chat by Marion Crani.
5.30.-CHILDREN's STORIES : Auntie Sophie at the Piano. Childnen's Ners. Games and Pastimes, Richard Kearton's "Wild Bird Adventures," read by J. Riddell Young.
6.15.7.0.-Interval.
7.0.-TIME SIGNAL, AND IST GENERAL NEWS BULLETIN. S.B. to all Stations. Local News and Weather Forecast.
7.15.-MR. ALLEN BADDELEY on "The Day's Association Football."
7.30. JOHN HENRX on "Conjuring.
S.B. to other Stations,
Some Humorous Smapshots by FBED MIL. NER. S,B. to other Stations.
JOHN HENRX on "Grand Opera."
8.0 - " HANSEL AND "GRETEL," Acts 1. and 11. (Humperdinek), relayed from The Royal Opera House, Covent Garden. S.B. to all Stations. (For Mr. Scholes' description of the Opera, see page 124 of this issue).
9.30.-TIME SIGNAL, AND 2ND GENERAL NEWS BULLETIN. S.B. to all Stations. Local News and Weather Forecast.
$9.45,-\mathrm{MR}$. E. KAY ROBINSON, on "Stories from Nature-Footwriting, in the Snow." S.B. to other Stations.
10.0.-THE SAVOY ORPHEANS AND SAVOY HAVANA BANDS relayed from the Savoy Hotel, London. S.B. to other Stations.
11.0.-Close down.

Announcer: J. S. Dodgron.

## BIRMINGHAM.

3.30-4.30.-KIDDIES CONCERT by the Kiddies.
5.0.-WOMEN'S CORNER.
5.30.-Agricultural Weather Forecast,

KIDDIES' CORNER. Further Adventures of Snooky.
7.0.-NEWS. S.B. from Londen.

Local News and Weather Forecast.
Old Memories Night.
7.15--THE LEADS OF THE STATION REPERTORY COMPANY will give further renderings of "OLD TIME FAVOURITE SONGS."
8.0.-"HANSEL AND GRETEL," Acts 1. and II. $S ; B$. from Londor.
9.30.-NEWS. S.B. from London,
9.45. ALICE COUCHMAN (Solo Pianoforte),
"Prelude in A Flat"............ Rosenbloom
"Night in May" ......... ........... Polmgren
"En Route " .............................. Palmgren
Cappriccio No, 2 ............................ Bridge
"Arabesque " ........................... MacDovell
10.0.-WALTER EADHAM (Humorist) in selected items from his Repertoire,
10.15.-Close down.

Announcer : H. Cecil Pearson.

## BOURNEMOUTH.

3.45.-Concert: Allan Franklin (Solo Piano), Gerald Lee (Tenor), Muriel Golton (Contralto).

### 4.45--WOMEN'S HOUR.

5.15.-KIDDIES' HOUR.
6.15--Scholars' Half-Hour: J. Scattergood, F.I.G.S., "The Romance of Old Maps."
7.0.-NEWS. 8.B. from London.

Local News and Weather Forecast.
7.15.-EA. RUSSELL OAKLEY on "The Passing of the Smugglers' Trade.'
7.30.-JOHN HENRY and FRED MILNER. S.B. from London.
8.0.- "HANSEL AND GRETEL," Aets I and II. S.B. from Tondon.
9.30.-NEWS. S.B. from London.
$9.45,-\mathrm{MR}, \mathrm{E}$. KAY ROBINSON, S.B. from London.
10.0.-THE SAVOY BANDS. S.E. from London.
11.0.-Close down.

Aunouncer: W, R. Krene.

## CARDIFF.

3.30-4.30.-Falkman and his Ofchestra. relayed from the Capitol Cinema.
5.0.-" 5 WA 's" "FIVE O'CLOCKS." "Mr. Everyman," Talks to Women, Vocal and Instrumental Artistes, the Station Orchestra. Weather Forecast.
5.45-THE HOUR OF THE "KIDDIEWINKS."
7.0.-NEWS, S.B. from: London.
7.15.-WILLIE C. CLISSITT: Chat on "Sport of the Week.?
Local News.
7.30.-JOHN HENRY and FRED MILNER. 8.B. from London.
8.0. - HANSEL AND GRETEL," Aets I. and II. S.E.- from Tondon.
9.30.-NETVS. S.B. from Lomidon.
9.45:-ME. E. KAY ROBINSON, S. $\boldsymbol{\text { B. from }}$ Lioridon.
10.0.-THE SAVOY BANDS, S.B. from London.
11.0.-Close down.

Announcer: I. B. Page.

## MANCHESTER.

3.30-4.30.-Concert relayed from the Oxford Picture House.
5.0.-MAINLY FEMININE.
5.25.-Farmers' Weather Forecast.
5.30.-CHILDREN'S HOUR.
6.30.- Organ Recital relayed from the Piccadilly Picture House. Organist, Mr. J. Armitage, F.R.C.O.
7.0.-NEWS, S.B. from London.

Local News and Weather Forecast.
7.15. THE " $2 Z Y "$ ORCHESTRA.

March, "Folles Bergère" .............. Lincke

Overture, "Wiliam Tell" ............ Rossixi
Waltz, "Destiny " ....................... Baymes
SYBIL GORDON (Mezzo-Soprano).
Air, "Le Cid" ......................... Massenct
7.45.-G. W. THOMPSON on "The Atmosphere."
8.0.-"HANSEL AND GRETEL," Acts I. and II. S.B. from London.
9.30-NEWS. S.B. from Lordon.

9,40 .
Orchestra.
"Siamese Patrol " ......................... Liacke
Selection of Irish Airs ............... Myddleton
10.5. Sybil Gordon.

Two Songs. (Selected.)
10.20. Orchestra.

Selection, "Thi Areadians"... Caryll and Monckion
10.30.-Close down.

Annotincer : Sydney G. Honey.

## NEWCASTLE.

8.45.-Concert: Terchal''s Dance Orchestra, Johin Irons (Solo 'Cello), Rose Chapman (Solo Violin).
4.45.-WOMEN'S HOUR.
5.15.-CHLDDREN'S HOUR.
6.0.-Scholar's Half.Hour : Mr, J. R. Williams on "Wales and its People," Part I.
6.35,-Farmers' Cormer : Mr. H. C. Pawson on "Farming Proverbs."
7.0.-NEWS. S.B. from Iendon. Local News and Weather Forecast.
7.15.-MR. R. J. TAIT, on "Old Purish Records."
7.35. PALMER'S WORKS BAND. IS March, "Commonwealth" ............ Dimmer Intermezzo, "Secrets " .................. Aneliffo
7.45. WILLIAM J. TAYLOR (Baritone).
"A Good Old-Fashioned Chorus "... Henry "Bashful Tom" .............. .......... Nemp
8.0.- "HANSEL AND GRETEL," Acts I. and II, S.B. from London.
9.30.-NEWS. S.B. From London.
9.40. Talmer's Works Band.
"Songs of Araby" (Cornet Solo) ... Moore
9.50. ETHEL M. STANLEY (Mezzo-

Sopranol.
"Parted"
" In the Silence of the Niex............. Tosti
10.0. Palmer's Works Band.
"The Joywheel " (Trombono Solo) ... Sutton Soloist : M. G. Snowdob.
10.10. William J, Taylor.
"The Windmill"" ....................... Nelson
" Shoemaker Ned"
"Shoemaker Ned" ..................... Nentom
10.20. Palmer's Works Band.

Selection, "Le Pró aux Cleres"... Herold
10.35. Ethel M. Stanley.
"Spinning" .............................. Clarke
"Tarn Ye to Me " ........................ Laeseon
10.45. Palmer's Works Band,

Selection, "In Sunny Lands" ...... Rimmer
Waltz, "Queen of Emeralds " ... Greemrood
11.0.-Close down.

Amouncer : R. C. Prati.

## My Secret Hut on Biggin Hill.

## How I Relayed America. By A. G. D. West, Assistant Chief Engineer of the B.B.C.



CAPTAIN A. G. D. WEST,
B.A., B.Sc. from squadron stationed there. The fun started that evening. I was waiting in a hut for a telephone call when I heard a violent crackling and dashed outside to find the Accountant's but was blazing. Flames were leaping out of the window, but a few buckets of water soon subdued the fire, and the presence of the fire party prevented me from gathering up any of the fragments. Further, it was Friday, and the evening of pay-day, so my luck - hike the cash-was out !

## Listening in a Blizzard.

There was snow on four of the dozen or more nights of my vigils at Biggin Hill. Boxing Night was the worst, with a blizzard. The hut whs a stone one, but we had a good oil stove, and we seon warmed up to it: and my wife often came up with us and made some boiling hot tea-very welcomo at $2 \mathrm{~s}, \mathrm{~m}$. ?
My first attempts at reception up at Biggin Hill were with a wonderful twelve-valve high frequency receiver. It gave us the Yanks at full strength -but it gave is also all the Morse stations in Europe, practically every thunderstorm in the world, and a frightful amount of interference from the harmonies of high-power stations. And New York faded away at intervals (every three minutes or so), just as if it were engaged in a twenty-round contest with atmospheries.

## Disappointing Wave-Lengths.

One night the medley of Morse was deafening. It was all the result of an S.O.S. from a Dutch ship in mid-Atlantic, and by the time it had reported all O.K., America had closed down.
Listening to America on the ordinary broadcast wave-lengths was very disappointing. And who wants to wait up until $3 \mathrm{a} . \mathrm{m}$. with a doubtful chance of getting good musio from U.S.A. ? Fortunately, there was more thain one string to our bow. The East Pittsburg Station of the Weetinghouse Electric Company has been transmitting its programmes during the last six monthe on two wavellengths simul-taneonsly- 326 metres and 100 metres. My first introduction to the latter was on a small set. It was a good night and reception was remarkable.

- After that, I tried all kinds of circuits, and what turned out to be best for our purpose consisted of a seven-valve high frequency amplifier, followed by two stages of low frequency amplification. Musio was then received fairly vegularly at suffivient strength, but it all deperided on the strength of the atmospherics as to whether it was suitable for relaying. At any rate, the X's were less on this wave-length than on the higher wave-length; also there was practically no interference and no fading. This station was picked up directly it started at 11.15 or 11.30 each evening.

During our first attempt at relaying, on December 22 nd, the atmospherics were terrific
and completely drowned the music. On Boxing Night reception was no better. On December 27 th we had a busy time. At a quarter to eleven one of our 40 ft , masts came down right on to the roof of our hut with a huge crash. One of the guy stakes had come out of the ground. The guy ropes were twisted round the chimney, but one of us shinned up it and released them.
At the second attempt at pulling up the mast we got it up in position, and in half an hour excellent music was being received from KDKA.
Directly the Savoy Havana stopped we would relay it; but it was not to be. KDKA signed off exactly at midnight, the first time I had ever heard it do that-it usually goes on until $3 \mathrm{a} . \mathrm{m}$.

## Critical Tuning.

The difficulty throughout the experiments was that we were unable to arrange definite programmes, and we had to relay whatever we could piok up. Fortunately, on Friday and Saturday, the 28 th and 29th of December, the programmes proved suitable. My apparatus was crudely arranged and the tuning was oritical.

On the Friday the set appeared to have a growing tendency to oscillate, and I had to counteract this by holding my hand nearer and nearer to the tuning coil. After tuning-in and getting eatisfactory signals, we 'phoned through and informed 2LO, and then switched the music on to a Post Office line specially rescrved for us. This brought the musie to Savoy Hill, where it was distributed to all stations. We also had a portable set on which we could listen to 2 LO and compare the transmission with what we heard on the receiver.

On the Saturday we simply could not get through to $2 L 0$ on the 'phone, so we switched the milisic through, and such a good watch was being kept on our reserved line that, by the time we had changed our 'phones for those on the portable set, $2 L 0$ was already transmitting it and relaying it to all stations.
It was only an experiment, but it was great fun.

## QUERIES : By C. R. Wade.

$I^{\text {F }}$I tune the inductance and cut out the grid With an amplified aerial earth, And do it exactly like Eckersley did, What would erystal reaction be worth

If I couple my anode to half-watt dry cells With a potentiometer switch,
And vary the valve till it fuses and smells, How could anyone tell which was which :

If I plug the resistance with rectified sparks (And a quenched spark transmitter reflexed), Ignoring my neighbours indignant remarks, Do you think $2 L O$ would be vexed ?

If I tune in to Cardiff and get Aberdeen
By dividing my amperes by two,
Then by doubling the voltage-you know what i mean.
Should I get on to Glasgow, or who ?* ic
I know that I don't know as much as you know, But you think that you know such a lot, That a few simple questions like these will soon thow
If you're on the right wave-length or not.
-Poetio Licence!

## Paris Calling!

## The First Franco-British Broadcast. By C. A. Lewis.

THERE is something very attractive about the French capital, and the chance to go over there on any pretext was one to be jumped at, particnlarly as it concemed the first broadcastilig between two European countries

Actually, of course, the distance between Paris and London is no greater than that between Lendon and Manchester, and therefore no particular difficulty was encomntered.

## French Goodwill.

The great interest in this trip to me was the extraordinary courtesy, co-operation and goodwill which the French officials showed towards the scheme. The original arrangements to broadcast the address of M. Poincaré falling through, I had to try to put something over from Paris to take its place at twenty-four hours notice. This would never have been possible but for the help which was shown on all sides.

There were naturally two things to be doneone was to change over the direct lines to London from the French Foreign Office to some other place where a concert could be given, and, secondly, to arrange such a concert. By great good fortune, 1 was given a letter to M. Brenot, the technical expert to the Cie Fse. Radioelectrique, and as soon as I broached the question of making use of the Radiola Studio for a concert to be transmitted to Great Britain, he showed the greatest enthuaiasm.

## Trusting to Luek.

Within a few hours a programme was artanged, the Post Office and Telegraph authorities had agreed to switch over the lines to the Radiola Studio and all was complete. It remained only to test over fo London to see that the lines were in full working order. This was done at 11 o'clock on Sunday morning, and the results were highly satisfactory.

The Radiola Studio started their usual pro. gramme at 8.30 and we were due to start at 9 o'elock. But something went wrong with the trunk lines and at five minutes to nine we found we were unable to speak to the London Office at. all ! Great excitement! It so happened that we had a French engineer on the spot who very ably established communication on one line at a few minutes after 9 o'clock. We could get nothing through on the other, and so, fearing to keep impatient listeners allover Great Britain waiting any longer, we put the microphone on to the telephone line and decided to trust to our lucky stars that everything was all right. It was fortunate that we did so, becanse the second line did not come into working order until after 9.30 .

## A Horrible Thought.

You can imagine the suspense in which the transmission took place! Particularly while General Antoine, the President of the Compagnie Francaise de Radiophonie, was speakīng. He-might be speaking to nothing! What a horrible thought 1 Luckily things proved to be otherwise. The General seized this opportunity of this first official broadcasting between France and. England to deliver a few admirable words of friendship and goodwill towards Great Britain. After this; I had the great honour of replying on hehalf of British listeners.
The Radiola Studio of Paris is undergmound in a cellar and about 30 ft, square.
t. The Radiola Company is keed to take some of our transmissions, and perhaps before the New Year is out we may have established a regular series of Paris-to-London tranemissions both ways.

## The Savoy Dance Bands.

## By the Leader of the Famous Savoy-Orpheans Band.

MANY listeners to the Savoy-Orpheans and the Savoy-Havana Dance Bands, broadeast from the actual ballrooms of the Savoys Hotel, London, will be interested in a description of the manner in which these orchestras were evolved.

These orchestras are not imported en bloc from abroad, like those American dance orchestras which visited London last year. They are built up step by step by months of preparatory work. Each member of the Savoy-Ompheans and Savoy-Havana Bands is a soloist of the finest quality, procared at great expense and trouble. They come from all parts of the world-England, the United States, and from the Continent. Etch soloist is "discovered," brought to London, and, after much rehearsing. wolded into the bands.

## The Seareh for Novelities.

New instruments and new formations are always being tried so as to add to the sparkle of the individual numbers.

The demand for daneing grows every month and, with it, a consequent demand for finer orehestras. There are very many symphony orchestras; there are, however, few really perfect dance orchestras.

A good dance orchestra is by far the most difficult orchestra to build up or to create. There are, even to-day, only two or three outstanding or great dance orchestras in the Unted States- the first country to endeavour seriously to create them. London has been more cosmopolitan in her seareh, and London now undoubtedly possesses the three finest dance bands in the world.

## Better Music Wanted.

Dance music has completely changed its character in the past ten years-from the poorlyconstructed, poorly-orchesfrated "Jasz " to the present-daysyncopated musie whichtakesadvantage of every shade of orchestration and harmony. There is a constant and growing demand for better and better dance music ; but it i an unsolved problem to find sufficient suitable dance tones which are really good and original. To-day, however, it is absolutely essential for the Savoy Hotel to have agents in every capital in the world searehing for, and sending home, new dance music. These new numbers
are then considered by our special staff of arrangers in London and, where selected, are recast and orchestrated with every consideration for symphonic and syncopated beauty.

Over ten thousand dance tunes were read and tested when compiling the present repertoire of the Savoy-Orpheans Band.

Some Queer Instruments.
A dance orchestra for analytical purposes is divided under two heads-instruments which emphasize "rhythm" and instruments which maintain the "melody." The two groups are composed of the following :-

| Rhythm. | Melody. |
| :--- | :--- |
| Piano. | Saxophones |
| Banjo | Cornets |
| Sousephone | Trombones |
| String Bass | Violin |
| Drums | Reeds |
| Harpsichord | Harp |
|  | Xylophone |
|  | Glockenspiel |
|  | Tubular Bells |

These instruments in almost every case are really groups of instruments. For instance, there are two banjos, the long-neek and the tenor. Saxophones range from the double-bass, which sounds like a double baesoon, through the E flat bass, baritone, tenor, and alto to the soprano and C melody, giving a tremendous range of effects.
The cornets sometimes use Bach trumpets, which look like coach-horns, but with regular comet stops, and give a real clear-cut effect in fanfares and similar papsages. Then the cornets also use various kinds of mutes, from the ordinary fibre mute to the Kazoo-Mute, which gives a paper-and-comb effect.

## A Man of Many Parts.

The reed instruments include clarinets and oboe, which are used almost exclusively for the "Blues " and waltzes.
The "Drummer" is the euriosity of the orchestra, however, for he manages the big drum, side-drums, timpani-or kettle-drums-tom-tom, tambourine, castanettes, wood-block, Chinese temple blocks-which give a note when struck and are shaped almost like cow-bells,
carved from wood and covered with lovely lacquer work-the xylophone, glockenspiel, and tubular bells. The glockenspiel is just like the toy instrument we used to buy as children, consisting of pieces of metal of different lengths rosting on two wooden sleepers and struck with a soft hammer, giving off a soft melodious note.

Altogether, the Savoy.Orpheans and SavoyHavana Bands each use over forty instruments in the course of an evening's broadeasting.

The World's Most Wonderful Piano.
The piano used by the Savoy-Orpheans is the only one of its kind in the world. It has two manuals, exactly like an organ. The upper of the two is tuned an octave higher than the lower. With a central pedal, the higher manual can be coupled to the lower and thus each note struck plays an octave. In this way, the effect of two pianos, or four hands, is obtained.
This piano marks a great advance in dance music, as one piano is too little for an orchestra of the size of the Savoy-Orpheans or the SavoyHavana Bands, and two pianos-which have hitherto been considered essential-mean two pianists and a corresponding lack of precision. This new piano, with its two keyboards, is really two pianos. When not coupled, each manual can be ueed for solo work. The Savoy-Orpheans was the first great darice orehestra to use this wonderful piano, and it is now being duplicated in all the important dance bands in Ameriea.

## The Atmesphere of Happiness.

The Savoy orchestras take the greatest interest in broadcasting, and are very keen to please their hearers.

We all realize, in the Savoy danee bands, that the vast audience to whom we are performing, through the agency of broadcasting, are unable to receive direct impressions of the glamour and feel all the glow of movement and colour in the ballrooms, which would enhance the value of the music could they do so-so on broadcusting nights every effort is made to transfer to the listener by the-music alone the trie atmosphere of happiness.
During the present month it is hoped to broadeast to the United States, in happy retaliation for their Pittsburg effort:


## पOFASN 品S Specialities Ensure Best Reception at Least Cost. SEND FOR LISTS:

The<br>Bijouphone Crystal Set, (PROO Number 292962)

is far in advance of any set at anywhere near ito price. In addition to

## VARIOMETER TUNING

it has many exclusive features which include :-Dust-proof, full enclosed, Glass Crystal Detector with Reat solid Gold Cat's Whisker.
Special Terminal and Auxiliary Condenser for long wave reception. Specially denigned for all the B.B.C. wave longthe.
Heavy Nickel Plated Fittings. Ebonite Panel Top.
Range up to 30 miles and more under good conditions.
Astoumding rosults have been ob. tained with this set, and is is sensational value at the price of C
$7 / 6$ Complete
(B.B.C. Tax 1/- extra.)
"Ideal" Valve Accumulators. Over 30,000 in use-no complaints received. Buift throughout with the strongest materials and enclosed in a thiok glass case. The "IDEAL." has no rival for vaive work.
Prices -4 volt, 50 amps, 24/- (carriage $2 /$ ). 6 volt, $50 \mathrm{amps}, 35 /$ - (carriage $3 /-$ ). Complete in wooden case with carrying handle. There are many other models available of 90 and 140 amps. The prices of these are shown on our lists. Celluloid Accumulators. Composed through out of best quality matorials, with very robust plates, ebonite separators and non-corrosive
Prices -2 volt, 40 amps., $10 /$. 2 volt, 100 amps., $17 /=$ 4 volt, 40 ampse $16 / 6 \quad 4$ volt, 60 ampa, $21 /-$ 4 volt, 80 amps., $27 / 9 \quad 6$ volt, $40 \mathrm{amps}, 23 /-$ 6 volt, $60 \mathrm{amps}, 32 /-\quad 6$ volt, 80 amps., $38 /-$
Pyramid High Tension Batteries. The new model embodies the latest improvements. The special method of insulating ensures long life and relisbility.
Supplied in various models, each tapped at every 3 volts, to ensble the most critical tuning, and gupplied complete with two wander plugs.
Prices- 15 volts, $3 / 6 \quad 33$ volts, 7/6 60 volts, $12 / 6$ volts, $18 / 6$ ALL THESE AND MANY OTHFR SPECIALTTIES, ARE FULLY DETANED IN OUR
LISTS, WHICH CAN BE OBTA NED ON REQUEST. SEND AT ONCE

## WATES BROS., LTD., <br> $13 / 14$, GREAT QUEEN STREET, LONDON, W.C. 2

 Phoner ierrard $575-6$, (wholesale only) i 101, OLD CHRISTCHURCH ROAD, BOURNEMOUTH.SOUTHERN DEPOT (whent


## FINEST QUALITY

## ENGRAVING

SEND SAMPLE PANEL FOR ENGRAVING AND ASK FOR QUOTATION FOR ANY LARGER QUANITIES YOU MAY REQLIRE, PROMPT DELJVERY


## A NEW BOOK ON WIRELESS

free
to readers of "Radio Times" We have just published a 28 page book of absorbing interest and usefulness to all Radio enthusinsts. Tells you how to get the very best results and is a mine of information. Strictly limited edition. Publishod at 6 d ,, but free if you mention Radio Times. Write at once to :-

WIRELESS DEPT.,
$232-293$, HIGH HOLBORN,
LONDON, W.C.I.




## 

The letters "S.B." printed in italics in these Programmes signify a Simultaneous Broadcast from the station mentioned.

## SUNDAY.

3.0-5.0.-ORGAN RECITAL. S.B. from Lon-$5.0-5.30$.-CHHDREN'S CORNER. S.B. from Cardiff.
8.30. WIRRLESS QUARTETTE.
3.40-songs Without Words .....Mendelesohn
8.40. AMY MURDOCH (Soprano).

Glory to Thee, My God, this Night"
Gornod
"O Divine Redeemer.
Gounod
8.50. Qverture

Overture, "Coriolanas" ............Becthaven
9.0. JOHN KNOX U.F. CHURCH CHOIR.

THE REV, JOHN A. MARTIN, John Knox
U.F. Church. Religious Address.

John Knox U.F. Chureh Choir.
9.15. Amy Murdoch

I Know That My Redeemer Liveth
Handel
Come Unto Me
9.25. Quartette.

Selection of Old Psalm Tunes,
9.40 . Amy Murdoch.
Hear Ye, Israel",
Angels Ever Pright and Fair
MendelssoAn 9.50. Angels Ever OROHESARA.

Selection, "Coppelia."
10.0.-NEWS. Relayed from London.

Local News and Weather Forecast.
10.15.

Humoreske Orehestra.
Mélodie-Elégie :
Dvorak
10.25.- Close down

Massenet
Announcer: W. D. Simpson

## MONDAY.

5.30-4.30.-The Wireless Quartette, Popular Afternoon.
5.0.-WOMEN'S HALF-HOUR
5.30.-CHILDREN'S CORNER.
6.0. - Weather Forecast for Farmers.
6.80.-Boys' Brigade News.
6.40.- Doy Scouts' Talk : District Scoutmaster
H. S. Forsyth, ". Scout Signs."
7.0.-NEWS, S.B. from London JOHN STRACHEX. S. $B$, from London. Local News und Weather Forecast.
7.30--POPULAR CONCERT. S.B. from Loudon.
9.15.-MR. E. ARNOLD WARD. S.B. from Liondos.
9.30.-NEWS, S.B. from London.
9.45.-POPULAR CONCERT (Contd.). S.B.
9.45.- Fom London.
10.30.-Close down.

## Announcer ; H. J. McKee.

## TUESDAY.

3.30-4.30.-The Wireless Quartette, Irish After-
5.0.-WOMEN'S HALEHOUR.
5.30.- CHILDREN'S CORNER.
6.0.- Weather Forecast for Farmers
6.5.-Talk to Farmers: Mr. Jas. R. Barclay, Secretary of the Aberdeen Angus Cattle Bociety, "The Story of the Aberdeen Anens."
7.0.-NEWS. S.B. from London:

Local News and Weather Forecast.
7.15. JULIAN ROSETTT'S ENSEMBLE.

## "La Tosca" JOHN PERRY. .........Puecin.

 7.30."Prize Song " (" Meistersinger "Spring Song" (" Valkyrie ") ... Wagner 40. Julian Rosetti's Ensemble.

Ballet Music from "Rosamunde" Schubert
7.55. MARY BOWMAN (Merzo-Soprano).
"Saper Vorreste " ("Un Ballo in Maschera")
Verdi
"O Lace di Quest Anima" (" Einda di Chamounix ") ......................... Donizelt
8.5. Julian Rosetti's Ensemble.
Melody in $\mathbf{F}$

Melody in $\mathbf{F}$ Allegretto 8.15.

Adelaide
Jolin Perry.
"I Love You
8.30.-CAPT. P. P, ECKERSLEY Beothoeen
8.30.-CA
8.45,- TRISTAN AND ISOLDE," Act II. S.B. from Londom.
S.B. from London.
9.45.-NEWS. S.B. from London.
10.0. Julian Rosetti's Ensemble.

Overture, "William Tell"
Rossini

### 10.10. Mary Bowman.

By the Waters of Minnetonka "... Laurence
"Love is Meant to Make Es Glad " German
10.20. Julian Rosetti's Ensemble.

Andante Rondo
10.35

Mary Bowman.
D Flower of All the World
Woodforde Finden ". Cuckoo ". ..........................
0.45 . Julian Rosetti's Ensemble
"Raymond " Overture .....................Thomes
10.50. . John Perry.

In Autumn Mobile
erry.
Prans
"La Donna e Mobile"
Verdi
Announcer: R. E. Jeffrey.

## WEDNESDAY.

3.30-4.30. - The Aberdeen Wireless Quartette, Scutch Afternoon.
5.0.-WOMEN'S HALF HOUR.
5.30.-CHILDREN'S CORNER.
6.0.-Weather Forecast for Farmers
6.5.-MADAME LEFEVRE ; Tals and Instrac-
tion on the French Language, No. 4.
7.0. NEWS. S.B. from London.

ARCHIBALD HADDON. S.B. from Londow.
Local News and Weather Forecast.

## Dance Night.

7.30. THE WIRELESS ORCHESTRA.

Fox-trot, "Blue Danube Blues"; Waltz, Isle of Sweethearts,
7.40.-DUFTON SCOTT (Braid Scots Humor-
ist) will entertain from lis own works.
Waltz, "Love's Triumply"
Waltz, "Love's Triumph"; One-step, "Darktown Jambouree " Fox-trot, "Cat's Whiskers
8.10.-PROFESSOR W. W, FYVIE, D.Sc,

Aberdeen Eniversity, on "Wireless,"
8.25, MOLIX RICHARDSON (Soprano).
"The Shepherd" ......................... Darke "Butterflies"

Hall
8.35.-Dufton Scott, will entertain from his own works.
8.50.

Fox.trot, "I Ain But, a Simple Maid ";
Walt天 Waltz, ", Swing Time.
9.0.9.30. Interval,
9.30.-NEWS. S.B. from London.

Local News and Weather Forecast.
9.45. Orehestra.

Waltz, "Royale"; Quadrille, "Reel Time"
10.0.- Dufton Scott will entertain from his own works.
10.10. Molly Richardson.

Moon Magic
"Gretna Green
Orchestra.
10.20
Eightsome Reel.
10.30.-Clase down.

Announcer: W. D. Simpson.

## THURSDAY.

3.30.4.30. -The Aberdeen Wireless Quartette,

Memories of Great Composers.
5.0-WOMEN'S HALF.HOUR.
5.30--CHILDREN'S CORNER
6.0.-Weather Forecast for Farmers.
6.40 .- Boy Scouts' and Girl Guides' News. 6.40,-Boy Scouts and Girl Guides
7.0.-NEWS. S.B. from: London.
7.0.-NEWS. S.B, trom London.
PERCY SCHOLES. $8 . B$. Irom London.

Radio Society Talk. S.B. from London.
Local News and Weather Forecast,


## FRIDAY.

3.30.4.30, -Aberdeen Wireless Quartette, Dance Afternoon.
5.0.-WOMEN'S HALF.HOUR,
5.30--CHILDREN'S CORNER
6.0.-Weather Forecast for Farmers.
6.5. -Scholars' Half-Hour: Harry 'Townend.

Curator, Art Gallery, Aberdeen, on "Art." 6.25.-Answers to Scholars' Queries.
7.0- - NEWS. S.B. from London.
G. A. ATKINSON. S.B. from London.

Local News and Weather Forecast.

## Burns Nicht.

7.30-9.30 and $9.45-10.10$. This Programme will take the form of the post-prandial portion of a Burns dinner. The Immortal Memory will be proposed by DR, JAMES E. TOCHER, D.Sc., F.I.C. The following Burns' songs will be sung by MISS GERTRUDE SIMPSON (Soprano)
Gall the Yowes to the Knowes.:
'Call the Yowes to the K
"Comin' Thro' the Rye
"For the Sake of Somebody."
"There was a Lad was Born in Kyle.
"Ye Banks und Braes.
MR. JAMES SHARPE (Tenor) will sing :
"Ae Fond Kiss.
"The Do'il's Awa wi' the Exciseman."
My Love is Like a Red, Red Rose.:
Bonnie Mary, of Argyle,
and others:
The following items will be recited by DONALD MUNRO, O.B.E., Provost of Banchory :
A Man's a Man for $A^{\prime}$ That."
'Address to a Haggis."
To a Mouse.
Tam o' Shanter.
"Scots What Hae:"
Willie Wastle,"
An after dinner talk by DR. J. F. TOCHER, D.Sc., F.I.C., Public Analyst, Aberdeen. THE PIPERS FROM OAKBANK INDUS. TRIAL SCHOOL will play bagpipo selee. tions.

THE WIRELESS ORCHESTRA
will play

A Nicht Wi' Burns."
Heart of Midlothian."
Rhoderick Dhu."
Gathering ' 0 ' the Clans."
9.30.-NEWS. S.B. From London.
10.10.-" SIEGFRIED," Act III. S.B. from London.
11.20.-Close down.

Announeer: H. J. McKee.
Continued in col. 1, page 147.)


To dance within sight of a celebrated orchestra is possible to the privileged few only, but thousands may "fox trot" to the strains of the same musio when broadeasted as it frequently is.

In associstion with a suitable Receiving Set, the Amplos reproduces every note with remarkable fidelity and in the full and rich tone of the original-only the musicians are unseen:

That the Loud Speaker is a genuine Amplos is most espelttial, for no other instrument can compare with the Axpciox for volume, clarity and tonal quality.

Yet the Amplion is by no means expensive. The original Junior type is obtainable at £2 20 , the "Dragon" and "Swan Neek" styles at $£ 550$ and 56000 respectively, and the handsome Concert Model at £8 $10 \quad 0$ with Oak Horn or £8 180 with mahogany trumpet.

Amplion Loud Speakers are supplied by the principal producers of Radio Apparatus and sold by all "Wireless" Dealers of Repute.

Descriptive Folders W.J. gladly mailed on request.
ALFRED GRAHAM \& COMPANY,
E. A. GRAHAM,

ST. ANDREW'S WORKS, CROFTON PARK, LONDON, S.E. 4

## 

The letters "S.B." printed in italics in these Programmes signify a Simultaneous Broadcast from the station mentioned.

## SUNDAY.

3.0-5.0.-ORGAN BECITAL. S.B. from Lon-5.0-5.30--CHILDREN'S CORNER. S.B. from Cardiff.
8.30. PARK CHURCH QUARTETTE.

Psalm 23 to the Tune "Orlington," Anthem, "Bless the Lord, 0 My Soul" Mozart 8.40.-THE REV. GEORGE W. TAYLOR, M.A., of Stevenson United Firee-Chureb, Ayrshire. Religions Address.
8.50.
Psalm 103 to the Tune ". Coleshill: Psam 10them," Lord, for Thy Tender Mercies Authem.:
9.0. ISAAC LOSOWSKY (Solo Violin)

Prelude and Allegro ........ Pumani-Kreileter "Liebesfied "
...........Kreseler -Tambourin Chinois .
9.10. DAISY R. GILLON (Contralto.) O Rest in the Lord" ...... . Mendelesokn " Lie There, My Lute" "........ H, McGrua
9.20. ROY WIIIHAMSON (Tenor) The Beautiful English Rose" Ed. Gcrinan Sweet Litcle Girl That I Love

Isaac Losowsky. Zupateado

Lare Wilson Zapateado

Rachmaninaft
9.40. KATHIEEN GARSOADDEN (Soprasa) One Morning Very Early" ... IV. Sandercon Pipes of Pan " .................... Moncleton
9.50 . Th Isaac Lasowsky. The Gentle Miniden Hebrew Melody Scherzo Caprice Quartette.
"Love is Meant to Make us Glad
10.0.-NEWS. Relayed from London.

Locail News and Weather Forecast. 10.15. Special Announcements. Clase down. Anmouncer : Herbert A. Carruthers.

## MONDAY.

3.30-4.30.-An Hour of Melody.
4.45.-WOMEN'S HALF-HOUR
5.15-THE CHILDREN'S CORNER.
6.0.-Weather Fonecast for Farmers.
6.45.-Boys ${ }^{\circ}$ Brigade News.
7.0.-NEWS. S.B. from London.

JOHN STRACHEY. S.B. from London.
Local News and Weather Forecast.
7.30.-POPULAR CONCERT, S.B. from LSN-
8.15.-MR. E, ARNOLD WARD. S.B. from Lowdon.
9.30.-NEWS. S.B. from London.
9.45.-POPLLAR CONCERT (Contd.). S.B. frön London.
10.30.- Close down.

Announcer: A, H, S. Paterson.

## TUESDAY.

3.30-4.30.-An Honr of Melody,
4.45.-A TALK TO WOMEN.
5.15.-THE CHILDREN'S CORNER
6.0.- Weather Forecast for Farmers.
7.0.-NEWS. S.B. from Eondon.

Local News and Weather Forecast.
7.15.-LOU1S H. BRENNAN on "How Gas is Made.
7.30. BAND OF H.M. 18T BATTALION ROYAL, SCOTS FUSILIERS.
(By kind permission of Bres.-Col. O. H. Delano-Osborne, C.M.G.)
Conductor: W, C. WITHERS, A.R.C.M Overture, "The Merry Wives of Windsor"
Serenade, "The Belfry * ........... Howeqill
Selection, "Faust " ....................... Gounod
7.55. LIDDELL PEDDIESON (Tenor).
"In Love " Lend Me Your Aid"
G. Lounor
8.5. Bite, Band.
Suite, "Four Indian Love Lyries Wood torde. Finden Naval Patrol, " Britain's First Line Williams Selection. "The Maid of the Mountaims" 8.30.-CAPT. P. P. ECKERSLEY. S.aser-B. from Londos.
8.45.-"TRISTAN AND ISOLDE," Aet II.
S.B. from Londom.
9.45.-NEWS. 8.B. from London.

Local News and Weather Forecast.
10.0. Liddell Peddieson.

Under the Greenwood Tree " ...." Quilter
"It Was a Lover and His Lass" Quilter
0.10.
Reverie, "La Voix des Cloches" .. Luigini
Valse, "Kissing Time" ................ Caryl
Belection, "The Cabaret GirI" …..... Kern
Valse, "Love's Lallaby" …........... Tate
Scottish Rhapsody, "The Wedding of Shon
MeLean, March, "God Bless the Prince of
Regimental Math
0.45.-Special Announcements. Close down.

Announcer: Mungo M. Dewar.

## WEDNESDAY.

3.30-4.30.-An Houe of Melody.
4.45.-A TALK TO WOMEN.
5.15.-THE EHILDREN'S CORNER
6.0.- Weather Forecast for Farmers.
6.40.-M. E. M. STEPHAN. S. B. from Londom.
7.0.-NEWS. S.B. from London.

ARCHIBALD HADDON. S.B. from London.
Local News and Weather Forecast,
Grand Schubert Night.
7.30. THE AUGMENTED ORCHESTKA. Condacted by
Herbert A. Carruthers.
Overture in B Flat.
7.40. JOHN PERRY (Tenor).

Serenade.
Thou Bringest Peace,'
7.50. Orchestra
Symphony in C Major.
8.20. Hark! Hark John Perry,
"Hark! Hark the Lark."
"Who is Sylvia?"
8.30.

Orchestra.
Symphony in C Major, contd.
9.0-9.30.-Interval.
9.30.-NEWS. S.B. from London.

Local News and Weather Forecast.
9.45.

Orchestra.
Ballet Music, " Rosamunde. 9.55.

John Perry.
The Erl King,"
Omnipotence,' Opus 79, No. 2.
(With Orchestral Accompaniment).
10.10. Orchestra:
"Ave Maria."
" Marche Militaire."
10.30.-Special Announcernents. Close down. Announcer: Mungo M. Dewar.

## THURSDAY.

3.30-4.30. - An Hour of Melody.
4.45.-A TALK TO WOMEN.
5.15.-THE CHILDREN'8 CORNER.

5,15 . WHE CHILDREN 8 CORNER
6,0 - Weather Forecast for Farmers.
6.0.-Weather Forecast for Farmers.
6.45,-Boy Scouts ${ }^{2}$ and Girl Guides' News,
7.0.-NEWS. S.B. from London.

PERCY SCHOLES. S.B. from London.
Radio Society Talk: S.B. from Lordon.
Local News and Weather Forecast.
7.35.-WHLLE ROUSE. S.B. from London.
8.0.-AN HOUR'S CHAMBER MUSIC. S. $B$
8.0.-AN HOUR'S CHAMBER MUSIC.
from London.
9.0 .

ORCHESTRA
Fox-trot, "Dearest"; Waltz, " Let All the World Go By" Lancers, "Lady Madcap " \& Fox-trot, "Homesick."
9.30.-NEWS, S.B. from London,

Lomal News and Weather Forecast.
9.45. Orchestra.

One-step, "Mamie I Loves Yer "; Fox-trot, "Sudanese"; Wultz, in A Kiss in the Dark ": Fox-trot, ${ }^{\prime \prime}$ I am lout a Simple Maid ": Reel, "As Usual": Wattz, "Kentncky Babe "; Fox-trot, " When You and I Were Dancing."
10.30.-Special Announcements. Close down. Announcer : Mungo M. Dewar.

## FRIDAY.

3.30-4.30- An Hoar of Melody.
5.0.-A TALK TO WOMEN.
5.30.-THE CHHDREN'S CORNER.
6.0.-Weather Forecast for Farmers.
7.0.-NEWS, s.i. from London.
G. A. ATKINSON S.B. frow Lowdom.

Local News and Weather Forecast.

## Burns' Nicht Programme.

7.30. S.B. to other Station.
-Overture, "A Nicht Wi' Burns" Cart Volti 7.40. THE WILTON SELECT CHOIR

Mary Morrison." Soloist : Andrew Hardie (Tenor).
There was a Lad.
7.50. AUGUSTUS BEDDIE (Elocutionist).
"Tam O' Shantep."
8.0.-SIR JOHN SAMUEL, K.B.E:, on *: The

Immortal Memory.
8.15. GLASGOW CORPORATION

TRAMWAYS PIPE BAND.
March, "Scotland the Brave."
March, "The Black Bear."
March, "The Brown Haired Maiden."
March, "A Man's a Man for a' that."
Strathspey, "Arniston Castle "
Reel, "The Grey Bob."
8.27. Orchestra

8election, "The Thistle "....... A yydaleton
8.36. The Wilton Select Choir

Solos, "Ye Banks and Braes" and "A
Man's a Man."
Choir, "Scots Wha Hae,"
8.47. Augustus Beddie.
"The Cotter's Saturday Night."
9.0. The Wilton Select Choir
"Ae Fonid Kiss.",
9.10.-Recitationis and Songs in the Ayrshire diatect relayed from PoOSEY NANCY'S INN, Manchline, Ayrshive.
Poosie Nancy's Inn was the scene of the Jolly Beggars, and the intimate association of this howss with the national bard gives the meeting of the Mauchline Burns Club a world-wide interest. (By) kind permis-
sion of the President, Office Bearets and sion of th
Members.)
9.30.-NEWS. \&. $\boldsymbol{R}$. from London.
9.45. PIPE BAND.

Air, "The Green Hills of Tyrol."
Air, "The old Rustic Bridge.:
Air, "They're Ear, Fur Awa,"
March: "Dake of Roxburgh's Welcome to
Black Mount Forest."
Strathspey, "Balmoral Castle,"
Rtrathspey, "Bridge of Ferth."
9.57

The "Maggis" Arrives at "5SC."
To the Usual Accompaniment,
Augustus Beddie.
Address to il Haggis.
10.10-" SIEGFRIED," Act III. S.B. from London.
11.20. Close down

Announcer :'Herbent A. Carruthers.
(Continued in col. 2, page 147.)

## YOUR VALVE TROUBLE.

You have valve trouble
So does your friend
So do thousands of others.

## WHY?

In 99 cases out of 100 your valve has been overloaded, or the high tension voltage has been allowed access to the low tension circuits.

The shghtest accident may cause this; neither your knowledge or your skill is at fault.
The fact is that your set is incomplete.

## HOW TO CURE IT.

There are two ways. One person buys a new valve; this costs him at least
Twelve Shillings and Sixpence.
A week later the new valve fails. Bang goes another

## Twelve Shillings and Sixpence And More Trouble.

But there is another person who is wiser. He buys a Polar Filament Fuse, and this costs him

## SEVENPENCE.

He fits this fuse to his valve before it fails, and has

## No More Trouble.

Polar Filament Valve Fuses protect valves against all the ordinary causes of failure. If anything does go wrong the Polar Filament Fuse sustains the shock, and saves the valve, incidentally saving you at least

## Eleven Shillings and Elevenpence.

There are three types of Polar Filament Fuses.
Type O. For Mullard Ora A and Ora B valves.
Type R. For Mullard RA, Marconi Osram R, and Ediswan R valves.
Type $\frac{1}{2}$ A. For use in the H.T. battery negative lead to protect any valves using .5 amp . current or more against accidental shocks from the H.T. battery.

| Pola | Filament | Fuses |  |  | Price |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Fusehold | ers mounted | type |  |  | , |  |  |  |  |  |
| Panel m | ounting type |  |  |  |  |  |  |  |  |  |

## Sold iy all Polar Slockists.

## The RADIO COMMUNICATION Co. Ld.

Telephone:
CENTRAL 8480
(3: lines).


34/35, NORFOLK STREET, STRAND, W.C.2.


## WEDNESDAY'S PROGRAMME

(Continued from page 133.)

## NEWCASTLE.

6.30.-Farmers' Corner : Prof, Gilchrist, Tall on "Results of Feeding Experiments. 6.40.-M. E. M. STEPHAN. S.B. from Lon dom.
7.0.-NFWS. S.B. from London

ARCHIBALD HADDON. S.B. from Lordon.
Local News and Weather Forecast.
7.30. THE WIRELESS ORCHESTRA.

Seleetion, "San Toy " _.................... Jomes
7.45. ANITA HABRISON (Solo Pianoforte).

Etude in Q Sharp Minor ............... Chopi Scherzo in B Flat Minor ................... Chopin 7.55. F. KEMP JORDON (Baritone).
"Beside the Blne Lagoon " ........... Elliot "When a Little While Has Flown" Lloyd
8.5. Orchestra.

Selection, "Songland " ................ Williams
8.15. MAY JOBSON (Contralto).
"Like to the Damask Rose" ......... Elgar
The Cloths of Heaven ". ............ D
8.25. Love Could I Only Tell Thee" ... Cape
" Love Could I Only Tell Thee"... Capel
8.35. Anita Harrison.

Prelude in G Sharp Minor ...... Pack maninoff. Study in F Minor ............................ Poldini Study in A ........................................ Poldini
Study in A
May Jobson
8.45. May Jobson.

> Blackbird's Song

Lilt :...... Kennedy-E raser 8.50. Orchestra.

Valse, "Blue Dannbe
Strouse
9.0.9.30--Interval.
9.30,-NEWS. S.B from London.

Local News and Weather Forecast.
9.45. Forder Ballad Kemp Jordon.

Cowen
"Border Ballad" "Yeoman's Wedding Song"
........ Cowen
9.55. Orchestra.

Entr'acte, " In the Shadows "......... Fincks "Mystic Peanty" Fincl?
10.5. George Hodgson.

I Love Thee " ${ }^{\text {.. }}$........................... Grieg
Easter Flowers" ............................... Sanderson
10.15. 4 Orchesfra, .......... Williams Selection, "Nights of Gladness "....... Ancliffe 10.30.-Close down.

Announcer : C. K. Parsons.

ABERDEEN PROGRAMME.<br>(Continued from page 143.)

## SATURDAY.

3.30-4.30.-The Aberdeen Wireless Quartette, Miscellaneous Afternoon.
5.0.-WOMEN'S HALF-HOUR.

5,30.-CHILDREN'S CORNER.
6.0.-Weather Forecast for Farmers.
7.0.-NEWS. S.B. from London.

Local News and Weather Forecast.
Poputar Oid Songs and Airs.
7.15 THE WIRELESS ORCHESTRA
"I Hear You Calling Me" ......... Marshall
" Hearts and Homes, .................. Bloolley
" When the Heart is Young "........... Bucle
7.30. GEORGE W, L. RAE (Tenor).

Yes, Let Me Like a Soldier Fall ${ }^{10}$ Wallace
"Alice, Where Art Thou?" ......... Wallace 7.40 RUBY CARROL (Soprano).
"Love's Old Sweet Song ".............. Molloy
"Mona ".......................... Stephen Adams
7.50 ROBERT E. $\triangle$ NDERSON (Baritone)
"Roses" ....................................... Adams
"My OId Shale "............................... Trotere
8.0. ${ }^{\text {HANSEEL AND GRETEL, }}$, Acts I.
8.0.- HANSEL AND GRE
9.30-NEWS. S.B. from Londom.
9.30-NEWS, S.B. from London.
$9.40-\mathrm{MR}$ DAVID RORIE, M.D., D.S.O.,
ete., of Aberdeen: "The Forgotten Scraps
of Local History."
10.0. George W, L. Rae.
Thora
(By special request.)
Adams

Di Capua


## GLASGOW PROGRAMME.

(Continued from page 145.)

## SATURDAY.

3.30-4.30.-An Hour of Melody
4.45.-A TALK TO WOMEN.
5.15.-THE CHILDREN'\& CORNER.
6.0.-Weather Forecast for Farmers.
6.45. KILSYTH MALE VOICE CHOIR.
"The Evening Pastorale" ..................Shave
"Rolling Down to Rio" ................. German
"Loch Lomond" .......................... Wiltranis
7.0.-NEWS. S.B. from Londor,

Local News and Weather Porecast.

## A Night of Plays.

7.15. ORCHESTRA.

Overture, "Stradella" "..............
$7.25 . \quad$ Kilsyth Malo Voice Choir.
"O Peaceful Night" ....................German
"Comrades' Song of Hope " ............Adams
7.37. "THE MAN IN THE STREET,"

$$
\begin{aligned}
& \text { a One Act Play } \\
& \text { L }
\end{aligned}
$$

(Lowis N. Parker)
Produced by GEORGE ROSS. Characters :-
Philin Adare. Jabez Gover. Minnie Adare.
Scene : A Studio in West Kensington.
Time: The Present.
8.0.-"HANSEL AND GRETEL," Acts I. and II. S.B. from London.
9.30.-NEIVS. 8.B. from London.
9.45. Orchestra.

Suite, " Desert Suite"
10.0. "THE NINTH WALTZ,"
a One Act Play (IR. C. Garton)
Produced by GEORGE ROSS. Characters :-
Florence and Rolland.
Scene: The Ante-room of a Ballroom in Mayfair.
10.25. Orchestra.

Waltz, "Blue Danube "; Fox-trot, "Teddy Bear Blaes "; March, "The Broadcaster." 10.45.-Special Announcements. Close down. Announcer : A. H. Swinton Paterson.

## THE PUBLISHER'S ANNOUNCEMENTS.

 RATES OF SUBSCRIPTION to "The Radio Times" (including postage to any part of the woorld) I Srx Montis, 6s. 9d. . Twelye Months, 13s. 6d.Messrs. George Newnes, Ltd., have now prepared a handsome case in red cloth with gilt lettering for "The Radio Times," complete with cord down the back to hold a copy of this publication. A pencil is indispensable to the listener during the course of the programme, and this is included conveniently in a slot at the side. Listeners should order this to-day from any Newsagent. It is published at 2 s . 6 d ., or send 4 d extra to cover postage for a case from the Publisher, 8-11, Southampton Street, Strand, London, W.C.2.

## Foreign Stations.

## FRANCE.

Eiffel Tower. FL. Paris. 2,600 metres. 6.40 to $7.0 \mathrm{a} . \mathrm{m}$. ; 11.0 to $11.30 \mathrm{a} . \mathrm{m}$. $; 3.40$ to $4.0 \mathrm{p.m} . ; 5.30$ to 7.20 p.m. $; 10.0$ to 10.30 p.m.

Compagnie Frangaise de Radiophonie (Emission Radiola). SFR. Paris. 1,780 metres. 12.30 to $2.0 \mathrm{p} . \mathrm{m} . ; 4.30$ to $6.0 \mathrm{p} . \mathrm{m} . ; 8.30$ to $10 \mathrm{p} . \mathrm{m}$. (On Sundays and Thursdays Radio Daneing at 10 p.m. Close down at 10.45.)

L'Ecole Supérieure des Postes et Télégraphes. 450 metres.
Sunday, 9.0 p.m.; Tuesday, 8.15 to 9.25 p.m.; Wednesday, 9.0 p.m. ; Thursday, 9.0 p.m. ; Friday, 9.0 p.m.; Saturday 9.0 p.m.

## SWITZERLAND.

Radio Station Marconi. TSF. Geneva. 1,100 metres.
Wireless transmissions daily (Sundays excepted), 1.15 to $1.30 \mathrm{p} . \mathrm{m}$.
Lausanne. HB2. 1,100 metres.
4 p.m. Tuesday, Thursday, Saturday ; 7 p.m. Monday, Wednesday, Friday, Saturday.

## GERMANY.

Koenigswusterhausen. LP. Berliv. 4,000 metres.
6.0 to $7.0 \mathrm{a} . \mathrm{m} . ; 11.30 \mathrm{a} . \mathrm{m}$. to 12.30 p.m. ;
4.0 to $4.30 \mathrm{p} . \mathrm{m}$.

These times of transmission are Greenwich
meantime.
AMERICA
General Electric Co. WGY. Schenectady, N.Y. 380 metres.
Radio Corporation of America. WJZ, New York, N.Y. 455 metres.
John Wanamaker, W00. Philadelphia, Pa. 509 metres.
L. Bamburger and Co. WOR. Newark, N.J. 405 metres.
Post Dispatch. KSD. St, Louis, Mo. 516 metres.
Rensselaer Poly. Inst. WHAZ. Troy, N.Y. 380 metres.


## THIE CHILDREN'S CORNER.

## Uncle Jack Frost's Wireless Story.

HCLLO, CHILDREA :- This week we have got a jolly story by Uncle Jack Frost on how wireless works. I hope you will all read it carefully. Here it is.

Do you know, I have been thinking and thinking and thinking as to the best way in which I can make this week's talk interesting to you. I am ever so afraid lest I may be making you think that Wireless is not such an easy thing to understand after all. And I have juse thought of it-I have not once begun one of my talks with "Once upon a time," nor have I finished with ${ }^{\text {th }}$ and they lived happily ever after." Sad, isn't it? At any rate, let me see if this time I cannot start and end properly.

Once upon a time in a far country there lived a little boy and a little girl in a hut in the centre of some woods. Around the hut was quite a beautiful open meadow of ever such green graes, which formed quite a clearing in the surrounding forest. The meadow was ever so flat and stmoothjust like father's billiard table.

## A Fine Game of Ball.

The little boy had been given a largo moliarubher bail for a present and the little girl had received a doll. Though Jill, the little girl, was very fond of playing with her doll. she was always quite ready for a game of ball with Jack, her brother. Sometimes they played at throwing the ball high into the branches of the trees on the edge of the meadow, and sometimes they kicked it along the ground.

Though Jack was a boy, arid more used to kicking the ball than Jill, yet sometimes the little girt could kick it quite as far aeroes the smooth meadow as her brother could.

One day their father was watching them nt play, and told, them that he would give sixpence to the one that kieked the batl The farthest aoross the meadow from the front of the cottage.
Fist Jill kioked the ball, and then Jack. Nomehow, neither of them seemed to kick it as far as they used to do when playing tosether, but Jack won in the end.

Then father offered another sixpence to the one who could win in a race anound the meadow. Jill was the winner.
Thein, hot and tired, they sat down with their father in the grass near to the cottage door. and Jack, who was a very inquikitive kind of boy, began to ask lots and lots of questions.

Father," he said, " when I kieked the ball across the grase, why did it not go on rolling and rolting ever so far, instead of going slower and slower until it finally stopped ?"

## What "Resistance" Means.

Father looked at Jill, who generally had an answer ready for Jack's many questions, quite expecting that she would answer. And he was not disappointed, for Jill, with quite a positive look towards Jack, said: "Becanse it gets fired, like I do sometimes after running a long way, and goes slower and slower until it stops."

Father smiled to himaelf, and explnined that the ball hns weight, and as it rolls along over the ground it meets with a certain amount of resistanee to ita rolling. "You see," father sath. "if I were to mbb my hand on this chnir. ' $P$ and down, it would soon be hot and sore. would it not? Well, the reason of that is that
friction occurs, or, in other words, resistance to the passing of my hand over the wooden side of the chair. In the same way, the surface of the, ground offers resistance to the passage of the ball across it, and the force with which the ball was kicked by Jack in the first place is lessened by the resistance offered to it by the surface of the meadow. The force with which Jack kieked the ball-is measured in pounds weight. Of course, if the ball had been kicked up-hill, not only would thi resistance of the ground have had effect upon the slowing down and finally stopping of the ball's rolling, but you would find that the law of gravity itself


A PRETTY LITTLE BROADCASTER.
Miss Muriel Henry, who, although only eight years old, sings at Glasgow Station.
would tend to bring the ball to a standstill in the course of time.?
"How funny it would be," Jill said, "if, when you kicked the ball, it went on rolling and rolling and rolling and never stopped."
"Girls always talk like that," said Jack, " but I should not take any notice of her, father, if I were you."
Father then began to explain to them that there were other things besides indiarabber balls which, when thrown or pushed, or sent with any foree along the ground or through a wire, met with resistance. "Through a wire, did you say, father ?" Jill asked. "How could anything go through or along a wire ?"

Her father then explained to her that electricity travels along a wire called a "conductor," not a tram-conductor, of course, but a conductor of electricity, because it conduets electric current better than other things which are called "inuulators," Even an insulator is in some degree a conductor, though what we call good conductors are, as their name implies, much
better mediams for the passage of enrrent than insulators.

An electric current is passed along a wire from a battery or accumulator, and, provided that it has a path whereby it may return to the place that it came from (because it likes to go home, like you and Jack), it will flow along the wire back to the battery or accumulator. The pressure which is used in sending the current from the accumulator along the wire is measured in what are called volts. The resistance with which it meets as it passes along the wire is measured in "ohms," and the quantity or ameunt of current which passes along the wire is measured in "amperes."

Neither Jack nor Jill could possibly understand exactly what this meant, so father explained to them that if he had a pipe fixed to the mouth of the pump standing outside the cottage door, close to where they were sitting, and if be were to pump on the pump handle until the water passed from the pump along the pipe, it would be something like the flow of electricity along a wire. The force with which the pump handle was moved up and down, and the force with which the water gushed out into the pipe, is something like the force which is used for the passage of the current from the accumulator on its way around an electrio cirevit.

## The Water and the Pipo.

If the water were measured as it gushed out of the end of the pipe, and we knew it to be so many gallons, then that was just like the amoint of electric current which has passed along the wire.

Again, as the water, rushed along the pipe, it would be rubbing the whole way along against the sides of the pipe, and this rubbing, or friction, would tend to stop the flow of the water; but because the power used in working the pimp handle is 80 strong, this resistance is overcome and the water gushes out from the end of the pipe. The resistance to the flow of the water along the pipe is like the restetance to the flow of tlie electric current along the wire. If that pipe were laid absolutely flat along the ground, neither uphill nor downhill, and were a very long one, then you would find that the water would not flow out of the pump with such a rush, but would flow out of the end of the pipe quite slowly, And now, children, I am going to wind up my story in the proper way, and Jack and Jill played happily ever after.

## What an "Ohm" is.

You have often heard grown-up people talk about the phones which you wear being of 2,000 or $\$, 000$ ohms resistance, and I expect you have often wondered what an "ohm" is. It is just that tiny force which offers resistance to the flow of the electric eurrent through an electric circuit, and the expression ${ }^{*} 2,000$ ohms" only means that the resistance offered by the windings of the wire inside the headphones is 2,000 ohms.

Uncle Jack Frost.
Miss Muriel Henry, aged eight, whose picture you see on this page, has a charming soprano voice. The engineers at Clasgow Station say that every word she sings is as clear as a bell.

Caractacus.
(Continted of the faeing page.)

The Childrem is Coriser. (Continued from the facing page.)

SABO AND THE BLUE-BOTTLE.
By E, W. Lewis.

ATHOUGH Sabo was no longer used as a pen-wiper, but was now a gentleman of no occupation, he remained on the writing table in the sitting-room, and stood guard over the silver ink-pot, the glass tray for pens, and the little drawer in which the stamps were kept, He was not at all lonely, for quite a lot of interesting persons wished to make his acquaintance. The Blue-bottle, for instance.
Early this morning, before anybody was downstairs, the Blue-bottle flew down on to a patch of sumlight which lay on the writing. table; and he stood there, cleaning his wings with his legs.
All of a sudden, and without any introduction whatever, he said to Saho: "You can't do that! !"

Can't do what ? " said Sabo, looking down on him in surprise.
"That," said the Blue-bottle, having stroked one wing with one leg, and the other wing with another leg, and then both wings with two legs at the same time.

What do you do it for ?" Sabo asked.
T'm combing myself," replied the Blue bottle.

Then the Blue-bottle flew straight up the sunbeam as far as the window, came skimming down it back again, and alighted on the table with the greatest ease.
"Yon can't do that, either," he said
No, and I don't want to," Sabo stifily replied.

What can you do?" asked the impertinent fly. If you can't ©ly, can you walk?"
"Of course I can walk," said Sabo indignantly.
"But ean you do this ?" said the Bloe-bottle
as he flew up to the ceiling and walked across it upside down. "Do you see what I'm doing ?" he called from the ceiling. "Walking upaide


Sabo let go and fell head first to the floor with a terrible bump.
down, do you see?" And then he dropped with a little thud on to the table again, and walked about a bit there. "Now I'm walking right side up !" he said. "I can walk right side up, and I can walk upside down, and I can tly ! . . . Let me ree you walk !
Sabo strode to and fro across the table.
"There !" he said, " you see."
"If I'd legs like yours," said the Blue-bottle,
"Id walk over the honse and over the moon ! You're a good walker, I can see that-right -ride up. Can you walk upside down ?"
"I've never tried." said Sabo.
"But you've got feet ?" The Blue-bottle laughed. "Try. It's quite easy. You just put your feet on to the ceiling as you put them on to the table, and-walk !
And he so teased and bullied Sabo that he succeeded at last in persuading him to try.

Sabo climbed up the curtain, and when he got to the top, his tormenter was waiting for him, "That's very good," said the Biw-bottle. "Now, put your foot on to the ceiling-and the other-now, let go, and you'll see !'
Sabo let go, and fell head first to the floor with a terrible bump.

Sabo picked himself up, and went back to his place on the table, feeling very wicked. The Blue-bottle joined him there. "That wasn't a very good try," he said, "but it was the firat time. You'll manage better after a bit."

Then an idea came into Sabo's aching head. "How do you manage to do it ?" he asked.

I don't manage," replied the fly, "I just do it."
"I wish you'd show me how," said Sabo.
Well, watch!" said the Blue-bottle, and flew up to the ceiling again.

Too far away," cried Sabo.
"There's nowhere else nearer," said the Blue-bottle.
"What about this ? "said Sabo, opening the top of the silver ink-pot.

That's not big enough to walk on."
"But I only want to see how you put your feet," said Sabo eagerly. "Please !"
"All right," said the Blue-bottle. "Now watch closely," and he flew on to the inside of the lid.

Sabo immediately shut it down, and sat on it. (Another "Sabo" Story Next Week.)


## That's pretty smart of you, Williams !

Yy ELI, I muat admle it'a not too bod for a first attempt,
from it, too,"
"THell me. how did you olitalo your knowlodge and abil $? 1$ sippose you have had soms sort of engineering training ?
 over been In any worlcs in my life. As a matter of fact, it was Garmitt who put me up to it. He told mo how slample it was to bulld up a really good Set from ready-made compoosnts."
"it is a very crodtenble pied of work-1 1 mas congratulato sou. I suppose farnect howed you how to mike - tr? ?
"Nos a bit of it. Ho marely advtiod mo to get a copy of a book callod Twatre Teeted Wirekers Sets, and to follow the leatructions. By the way, your hoy is honse from schoot; why not spend a conpwo of vanlums or 50 with hily making ip a sood set?
"That's not a byd didea. I know he is at a bit nid III call in at the bookshop on the way home for and I'I calt in at the bookehop on the way hotne for a copy."

Twelve Tested
Wireless S:ts.
By PERCY W. HARRIS.
Eyery But deecriced to this book in weil prebte the capobiltive of

 It tho folto attelen
folly dosp/bedi:-

1. A 2/e Gryatal Set.
2. A Cryital set on a New
3. A single Valve Magnifier.
4. A single Valve Magnifir
5. Asimple 2-Valve Recsiver.
6. A 2 -valve Gabinet set. 7. An "Yold Folks" Recelver. 8. A 3-Yalve "All Concert"
7. A " Transatiantic "\# 0. A 3-Yalve Reinartz set. 11. An S.T. 160 set 70 . the
 BADIO PRESS LTD., Devereux sourt, STRAND, W.C. 2


Excellent reception of Broadcasting within a radius of a few miles from operating station on all our 4 -valve sets without an external aerial.
Only necessary operation is to connect up set to most conventent piece of gas or water piping.
receiver as illustrated.

Price

B.B.C. Tax
$6: 0: 0$
Our new 50-page Catalogue 12 , free on request.
RADIO INSTRUMENTS, Ltd, WLRKS, OFFICES \& SHO wRUOMS 12, HYDE ST, NEW OXFORD ST., W.C.1.
 Worthers Depot-19 Hewrond Averr, MasciaEs



Who ties a "Granny knot? Why, those good folk who have not been Boy Scouts in their young days, or still have yet to discover the difference between a reof dwot and a "Granny." The difference between these two knots is the same as soldering with or without Fluxite-one holds, the other doesn't 1 And again, twisting wires of your set together is just like a "Granny " knot-liable to slip at most inopportune moments-the very moment when you $m$ ght have "caught" American transmission. Don't jib at the sound of soldering-just bear in mind the fact that Fluxite makes it an easy affair. Give the attention to your set that you wish it to give you, and solder each connection carefully with the aid of Fluxite-in other words, give your set the "Fluxite touch," Ask your Ironmonger or Hardware Dealer to show you the neat little

## FLUXITE

It is perfectly sumple to use, and will last for years in constant use. It contains a special "small-space" Soldering Iron with son-heating metal bradle, a Pocket Blow. lamp, FLUXITE, Soldet, etc., and full inistructions. Price 76 . Write to us should you be unable to obtain it.
FLUXITE SIMPLIFIES SOLDERING
All Hardware and fronmongery Stores sell FLUXITE in tills, prico $8 \mathrm{Bd}_{\text {., }} 1 / 4$, and $2 / 8$.

Buy a Tin To-day.
FLUXITE LTD., 328, Bevington Street, Bermondsey, England.


For the tool-kilt of yeurear or or the tool-kit of yeur car or of cyole or any soklering
obs about the hom?.

SOLDERING SET.
d

Nam
Address..


## A HISTORIC OCCASION.



## THE ARCHBISHOP OF CANTERBURY BROADCASTING.

One of the most important events in the history of wireless occurred on New Year's Eve, when the Archbishop of Canterbury broadcast from the London Station. Never before has such a distinguished Church dignitary addreased the world by means of wireless. His Grace is here scen before the microphone in the act of delivering his message.

## Other People's Opinions.

## USEFULNESS WITHOUT DREAD.

TO.DAY the listener in America may be one with an audienice assembled in some room in London: to-morrow South Africa, India, and Australia may all at the same moment be shaters in entertainments produced in Great Britain. The initial difficulties have been overcome: the range of communication extends practically with every week.

The new generation will regard it as no more remarkable to converee with Sydney than the man of to-day does to get a trunk call from Paris or Glasgow. Of a sudden the world seems to cramp itself into the smallest area. And of wireless telephony we may say that no great invention has ever brought so mach promise of usefulnees to mankind with so few possibilities that could give us caure to dread. - IFestminster Gasette.

## WIRELESS AND MUSICAL INSTRUMENTS.

AFTER a good six months' experimenting in the way of programmes, it is possible to state which instruments transmit the best. The organ, strange as this may seem, is the worst. King of instruments as it is, it fails to carry over adequately.

The voice is good if the singer maintains an even distance from the mierophone, and the same may be said of the violin, but it is safe to say that the two best instruments are the piano and the violoncello. With both, of course, tho quality of the player counts. The 'cello sends forth its broad resonant tones splendidly.A natear Wireless.

## ANNOUNCERS AS TEACHERS.

HAPPIIY for us, the officials of our Broad casting Company have been well chosen, and are all educated and refined men and women, who use cultivated language to which it is a pleasure to listen.

Unlike in America, the very tones of our own announcers' voices are an indication of a background of education and culture, In America, it seems, one hears daily slips in grammar, faults in diction, and the mispronunciation of both Vinglish and foreign words.
In England such slipshod broadeasting is unknown. We look upon our announcers as teachers: And they are,-Wmazam Le Queux in The Scot's Pictorial.

## ARE YOU A " MIDDLEBROW"?

0NE nery amusing aspect of broadeasting is the continual squabbling as to the relative merits of highbrow and lowbrow music. The highbrows adopt a Johnsomian sarcasm with regard to "jazz" and other "popular" forms of -er-melody; while the lowbrows are rather apt to wax vituperative on the surpassing dullness of-er-"classical" musie.

After all, it is a matter of taste. Some prefer "The Poet and Peasant" to a Beethoven symphony, and vice versa, but in all faimess to the B.B.C. I cannot agree with correspondents who declare that too much popular music is broadcast ; nor can I agree that too much classical music is broadcast. The mixture seems fairly equal to me, Perhaps that is because I am a middlebrow-always a safe attitude.-

# CAN YOU ANSWER THESE QUESTIONS? 

An Article for All in Business.

You will probably find it quite easy to answer most of them, but unless you are a rare and brilliant exception you will find several other a good dealmoredifficult. Some of then, indeed, may be altogether beyond you.
And yet, you will agree, they are all questions that you might have to answer any day in your own business. So-if only ont of curiosityrun through the list and see how many you can answer correctly.

## 14 SPECIMEN QUESTIONS.



## HOW MANY DID YOU ANSWER?

Wele, how have you coppe through this examtnation is bustues Ktionledge? You must not lorget that the fonow-
ledge of these facts and of many other facrs tike them is leIge of these facts and of many other facrs like
absolutely necessary to you if you miean to buedeel.
And that is why the "Basiniss Rneycloprodia and Legal
 you can auswer any questicel aboit busiotss that is put fo yon, including all the questions that yot have jast isked yourseli.

## HOW THIS CONCERNS YOU.

Three guections may not arise in your besines, luat othere do, and if you think it would men anything to you to konoul at once what to sac or do in ey
the "Buainess Encyclopuctia."
You caunot do withnot it, whether you are an ambitioun youmg than on the threshold of your comamercial. Hfe or a mature bustines man who dreads that he miny be crovidod
out of the Busince fight owing to the riesent-day stress of out of the Bu
competitiot.
The Work, etiod by W, S. M. Kvicirr, Barritier-at-Law, contains contributbons by the most buocestaf busiagss men of the day. Amotig these are : Lord Dewar, Samat:
ini Director of Jotin Dewar \& Sans, Ltd: Sir Jamns Kevarias, inf Dimetor of John Dewar \& Sons, Ltd Sir James Kenanas,
Managing Diretorot Babcox \& Wilcox, Litd ; Sir A. A. Chatman, h.C.B, M.A., Joint Permanent Secretary, Board of Trade: F, W. Dum, B, A. B.Sc, Examiner of Paterts, 14. M. Patent OHice: Sr Woodtrian Burbidge © Managing Ditector, Harrod's Stores); A. W, Camage: Johir Davric (Managing Director, W
Selfridge, and many others.

## TWO OPINIONS.

I: S. FRY \& SONS, Ltd, thewell-known Cloocolate agd Cocoa Matufarturers, Bristol, write :-
4 We simngly aivise all commercial men to purchase the work. It is IEGE work par exoclience tor every bniness mant to pessess."
Mr. G. W. READ, Clerk, Fortnain Road, Lodidon, N. :"I never mado a tuore, gratifying purchase. I regara the Buspors Pncyclopacia, as a mast probitabo investment, way earlive in life?

## A FREE BOOKLET.

To the Caxton Publistilug Company, Eimited, 168, Sarroy Street, Lobdon, W.C. 2
Please setidi me, free of charge, a copy of the booklet
dracribing the "Butsiness Encyclopadtis,

Nawe
(Send this form or'a post card.)
Adfress
R.T.E.

## Letters From Listeners.

[All letters to the Editor to te acknowledged must bear the name and

The Authorship of " Some Day,"
mear sir,-I have just read the short article by A. B. Cooper on "Some Day," and hasten to correct a great mistake. 7 he words of this popular song were written by my old friend, Fred Fargus (Hugh Conway), the gifted author of "Called Back." He and I, and my brother, F. E. Weatherly, were boys together, and we kept up our friendship till his sad death from typhoid at Nice.
E. E. W. was then writing many songs for Milton Wellings and other known composers, and was one of the first to congratulate Fred Fargus on the great success of "Some Day,"

## Yours faithfolly,

Lionfl A. Whatitebly, M.D.
[Onr contributor states that Milton Wellinge was stated to be the author of the words of "Some Day," in an interview publighed about ten years agof]

## Parrot's Cage As Aerial.

DEan Sit.-Has a brass parrot eage ever been used by others as an indoor aerial ?

I was astonished at the excellent results obtained in this way with my three-valve set. The London Station concert was heard perfectly elearly with three pairs of phones.

Perhaps this may interest readers of The Radio Times.

Yours faithfully,
Brentford.
J. C.

Long-Distance Results.
Deab Str, - I have been reading, with interest, readers' results on crystal sets, and thought you would like to hear of mine.

On December 23rd (Sunday) I was able to receive the concert sent out at $6,15 \mathrm{p} . \mathrm{m}$. from FL (Paris). I could hear speech, songs, an instrument which was probably a violin, and the piano, which latter came through very well indeed.
I have received the weather forecast transmitted by FL at $6.40 \mathrm{a} . \mathrm{m}$, almost every time I have listened for it. Much of the speech is jammed out by the Marconi Station at Ongar (GLA) transmitting on 2,900 metres wavelength.

Yours faithfully,
Stoke Newington, N

## Drawing the Nations Together.

Dear Sir,-I feel compelled to send my congratulations on the excellent programmes broadcast every day.

One grudges the time one has to spend away from the wireless receiver. Being in the Bonrnemouth area, we do not commence until 3.45 , and the following hour is a real mnsical treat.

Having no young children in the house, we tear ourselves away for tea somewhere about 5.30 , but even then keep picking up receivers, to be amused by the brilliant Uneles' Chat to the Kiddies,

Then the Scholars Half-Hour. What an advantage ! But I take the liberty of making thie snggestion that we may soon have the privilege of receiving something in the nature
of a French lesson on certain eveninge. t am certain this would prove a very attractive feature, considering the numbers of children who are learning a kind of French which, in tho majority of cases, they will only be able to read (owing to laok of efficient French teachers) and not to pronounce properly.

I think that wireless has a great mission to fulfil in drawing the nations together. Surely, the commencement was made the other day when your wonderful engineers were so successful, after their long and arduous trials, in transmitting the American programme so distinctlyeven on a crystal set, such as mine is. Yours faithfully,
Romsey, Hants.
G. G.



## LISTEN IN AND LEARNTOSPEAK FRENCH

WITH LINGUAPHONE LANGUAGETEACHING RECORDS ON YOUR OWN GRAMOPHONE IN YOUR OWN HOME.

Perfectly Simple. Woaderfally Favinating. Entertainmeat and Instruction Combined.
A. French profeshor gives your persomal Aution in French by your own fireside. You hear his voice, est the correct secent, the proper pronunciation, and laern to ponible time.
Every mumber of yeour family oas nective inatrustion at the same time viiboat any estr outhyy and under the happient conditions. Uodoute to a complete mastery of French.
Even if soa are studving at preesent wet teacher, of by correspandence, the Ling moptone Leanguare, Recorth winl belp, wou considencly. Especially to think in Frenth, to speak if

PDILE Write Sor booklet sud tu 1
German, Spanush and Italian. We nave specidl proppision tor those interested. Write

THE LINGUAPHONE INSTITUTE, 34 \& 35, High Holborn, London, W.C.1, ENGLAND.

Demonstrators Required.

## Dear Sir,

## Golf will improve

 your general health, Craven "A"-will look after your happiness. -Now you know what to do for health and happiness.
## Yours truly, CARRERAS, Ltd.

 Est. 1788.P.S. 2 oz . flat pocket size tin, 2/2d.


CRAVEN "A" SMOKING


FELLOWS

## LIGHTWEIGHT PHONES

weligh onder 6 oss and tave extremely comfoctable. With the apecial sprlog adjuttuent, the earpleces may be miosed finto sny deslied position, or separated without the use of adjuctIng nuts, ihfs fitting is spectally deatgned not to tear the hais. Wound to 4,000 ohtas, they
are very genaltive and are well made sith duraloming bead bands, stalloy dlaphragms, etcu

Ader. Fallome Magueto Co, Ltil.,
Lainden, N.W. 10

## M NY of the delightfal musical selections, songs and entertainment Pradcast by the B.B.C. are also obtainable on the BELTONA CRAMO. CHOIR (5 S.C.), ROBERT MURRAY (5 S.C.), DUFTON SCOTT (2 B.D.). <br> Records No. 233, EIGHTSOME REEL; No. 384, JAMIE'S PATROL; No. 123, THREE O'CLOCK IN THE MORNING; No. 231, GRANNY'S SONG AT TWILIGHT, are excellent records and are available at Gramophone and Music Shops everywhere. <br> Catalogues from MURDOCH TRADING CO. (Inc. John G. Murdoch * Co., Ltd.), GLASGOW. Trade distributors of B.T.H. Products: <br>  <br> SAFETY FIRSI! Protect your Wireless ROBINS' Combination Light-Leading-in Tube. Provisionally protected. No Wireless Set or No Wiseless set or PRICE $3 / 6$ Postage 3d. extre To ho hed from any Whe lais Dealers or direct from hes Deolerer or difrect from the Polenters and Motur facturess. Telephono 5176 ROBINS ELECTRICAL \& WIRELESS DEPOT \& INSTITUTE, LTD. Mandofturtes at all yonde of Wirclen Ynatrumenta <br> CARDIFF <br> 



UNSIGHTLY HIGH BOOTS ABOLISHED Gold Meldels and Awaris, London, Paris, ste.
Pamphlet TREE to all weritioning this macoatine, Send THE O'CONNOR EXTENSION CO., LTD. SURGICAL BOOT SPECIALISTS, 2, Btoomsbury Strcet, London, W.C.I.


## DARNING MADE EASY <br> AN HOUR'S WORK IN A FEW MINUTES.

 THE "BTAR" DARNER in a wonderfal automatic hand machIn any fabtic, Repain like magic larie or mail holes In stocklage, Underwear, sllks, Curtaina, Table Lituen, eter, and dothes of any material. Imposable to make innidy darn. Makes darning ia pleasure, saves Mod eyestron, and labour-so easy a chit Prico, with directions, 2/9 (post 3d.). Bent now 3/- P.0, to E.J.R. Co. (Dept. R.T.). 682, Holloway Road, Tondon, N. 19.
## THE ROYAL AIR FORCE

requirea well-educated youths between the ages of 18 and 21 for training as Wireless Operators ; also. Skilled Operators. Age limits for skilled men, 18 to 35 ; ex-N.C.O.'s up to 38 (with rank according to trade ability). Rates of pay: For men under fraining, $21 /$ - per week; skilled men, from $26 / 3$ to $59 / 6$ per week on enlistment, and all found. Allowance for wife and children to mein 26 and over. Write, or call : INSPECTOR OF RECPETITING, R.A.F., 4, Henrietta Street, Covent Garden, London, W.C.2.


Prices :
F type:
120 ohms - per pair 22/6
4,000 ohims - per pair $25 /$ -
A type:
120 ohms - per pair 58/2,000 \& 4,000 ohms
per pair 62/.
8,000 ohms - per pair 66/-
D type:
120 ohms -per pair 48/2,000 \& 4,000 ohms per pair $52 \%$.
S. G. Brown, Ltd. WHOLESALE , Vidarla Raad
N. Aclon, W. 3 . RETAIL: 19. Mortimer Street.
W.I: 15, Moorfleldo. Linerpeol.

$\mathrm{N}^{0}$other Headphone Manufacturers but S. G. Brown, Ltd, could have produced such a remarkably efficient phone as the Featherweight (type F) at any where near the price.

Its staggered magnets, polished ebonite ear pieces, burnished aluminium cases, together with its glossy and comfortable headbands, combine to make the famous nown Featherweight a masterpiece of engineering production.

No wonder it holds the record for popularityits sales have necessitated three-fold factory extensions in an honest endeavour to cope with the incessant demand.
Remember that the same thoroughness which characterises all J6rown products is manifested in every detail of manufacture. For your next pair of headphones be sure to choose a J6rown-there is a type to suit your requirements and your pocket.
C. A. 14.


THE SMALLEST SET PASSED P.M.G.

## 

THIS miniature Crystal Set, a typical example of 1 "Abbiphone" ingenuity, has already proved to be a fhoroughly efficient instrument. Guaranteed to give perfectly reliable reoeption, it combines the certanty of satisfaction with extremely reasonable price.
Broadcast Concerts can be clearly received up to 15 miles and in many cases far beyond this distance and reception of Spark Signals is possible tip to 200 miles. We frequently recerve testimotials of good reception at distances of over 30 miles from a Broadcasting Station.

The instrament compries a Miniature Crystal Detector (patent applied for), Tuning Knob and the necessary Terminals fited to an Engraved Ebonite Panel, mounted on a Polished Mahogany Case. Wave Length Range 350-700 metres.

Price $10 / 6$ (B.B.C. Tax $1 /-$ ). Post Free 12/-
There it a complete range of "As bphone
Recriving Sets, prices from 10 of 6 to 85 gulnear.
Writt to-day for complele deacriplite colologur.
Abbey Wood, London, S.E.2.


ABBIPHONE
Meyd. Trmide Mark.



## NEW TYPE D.T.G.

Specially designed as a substitute for Dry Batteries, Leclanché Cells, etc.s Suitable for Wecovalve, "Peanut," Marconi Type D.E.3, B.T.H. Type B.5, and similar DULL. EMITTER VALVES, also suitable for ELECTRIC CLOCKS, ELECTRIC BELLS, TELEPHONES, FIRE ALARMS, SIGNALLING CIRCUITS, ETC.


Order now from dealers or Exide Service agents.
Orders can only be executed in strict rotation.

CLIFTON JUNCTION, Nr, Manchester.
LONDON: 219-229, Shaftesbury Avenue.

BIRMINGHAM: 57.58, Dale End MANCHESTER: 1, Bridge Street.
 remain, the most generally popular valve on the market. And of the several available makes of " $R$ " valves there is none better than the amber-finted valve bearing the B.T.H. monogram.

For smooth detection and amplification, without valve distortion, the B.T.H. "R" type valve is unsurpassed ; while the amber tinting referred to above entirely eliminates the glare which is such an objectionable feature of the clear glass valve.


See that your valves are amber-tinted and bear the B.T.H. monogramthe sign of good reception


Reduced
12/6 each


The British Thomson-Houston Co Ltd
Works: RUGBY.
Landon Office : CROWN HOUSE ALDWYCH. W.C2.

## Make a Point of going to the Opera-if You Can't, then

## "Hear it at Home

 on an Ethophone"

## Distortionless



## Ethophone V.

THE most efficient and most Reasonably Priced high elass 4-vaive set on the market.

It will work one or more Loud Speakers by reason of the power valves incorporated in the instrument. Attached to a reasonable aerial it will roceive all British-Broadenst Stations-Paris, Brassels, and Berlin. Can be used with the new Dull Emitter Valves.

No. 508.-Sthophane V (with Bright Valves)
53710 8
No. 506/D.E3.-Ethophone V (with Dall Fnitter Valvea) $4010 \quad 0$ To the prive of each of the abovo Models mast be added Broad-

130


## Ethovox Loud Speakers.

FTHESE instruments are of fine appearance, entirely free from resonance and "tinnynesc"
Used with Burndept and Ethophone Speech and Power Amplifiens, the Ethovox will render speech and musio into true and perfectly natural sound.
No. 203.-Fullutixe 120 ohnus
.. is 100

No. 213.-Junfor Model 120 olims 215 $\mathrm{No}, 214$,-Junior Model 2,000 obms 2150

## Speech and Power Amplifiers.

A ANY people have crystal sets, or 1 and 2 valve sets, who will wish to purehase apparatus to attach to their existing sets in order that they and their friends may hear the Opera transmissions on a Loud Speaker. Burndept and Ethophone Speech and Power Amplifiers havo been designed to fill this want. They have been designed specially to amplify Speech and Music without distortion.

Ethophone Speech Amplifier (illustrated above) is a companion to the Popular Model Ethophone, and may be used in conjunction with any Crystal Receiver Set.

No. 525.-Conaphte with \& Valves and eell-containod 120-valt Battory ... ... 520 or 0
The Burndept Speech Amplifier is supplied in flat and sloping cabineta in the well-known Burndept style. It may be used after axy Burndept Model Receiver.

No. 115S.-In sloping ©abinet (without Valves) -
To which mist be added Rroudeast Tarif
Ethophone Power Amplifier. For use when a really large volume of elear and undistorted speech and music is required, such as in Halls or largo ballfroms.

No. 52e. With Twa self-contafond Power Valves and 150 -volits hifh tomslon To which must be added Brondeact Marift

Burndept Power Amplifier. Gives an enormous volume of undistorted speech and music, Supplied in Flat and Sloping walnut cabinet to match the well-known Burndept, Receivers.
No. 1185,-2-valve Power Amplifer (withont Valves), in alopling eabinet
... 52000 To whitich mith be added Browtcast Tarlif
$\begin{array}{cr}\ldots & 10 \\ \ldots & \text { kn } \\ \ldots & 0\end{array}$

BTTPNDFPT ITD Head Office : Aldine House" NOTE NEW TELEPHONE NUMBER: GERRARD som ( (Lines),

BURNDEPT



Triple Proofed Gabardine TRENCH COAT (The Famons 4 TH-1 Coaf.)
This Coat is a combined Winter Overcoa and Raincoat. Its unique features are :1. It is lined with smart check plaid. Corridge 2. It is rubber interlined.
3. It has a detachable wool lining (for cold weather use), which can be removed in a minute during mild, rainy weather.
All materials used in the production of this Coat are guaranteed fast dyes.
Poss free on reseipt of 22 , under our zaurantee to refund your money hould the coat on detivery faiil to five antisfacGow. Atro in Naw Blue ot 45)-cearriage paid. When orderiag Eivera abroad pleaso add $2 / 6$ per coat extra to cover postase.
CTURZOR BEROS., LTTD


## Britain's Best Broadcasting Set.

Gecophone "Listening-in" Sets literally broadcast satisfaction. Their wonderful clarity of reception-even in the most remote corners of the kingdom-permits the utmost enjoyment of the daily broadcasted programmes.
Gecophones have become unquestionably Britain's most popular "Listening-in" Sets, mainly by the recommendations of enthusiastic users.
To ensure reception at its best, regularly, use a Gecophone. The centre of the family circle in thousands of British homest
GECOPHONE Two - Valve Set, as illuatrated, one set double headphones. Approximate range (with standard P.O. Aerial) 100 miles.

Price: $\mathbf{8 2 0}: \mathbf{0}: \mathbf{0}$. Plus B.B.C. Tariff 15/-
GECOPIONE $\begin{aligned} & \text { Singfle Circuit Cryatal Receiving Set, } \\ & \text { complete with one set double }\end{aligned}$ beadphonea. Approximate range (with Standard P.O. Aerial) 25 miles.

Price £4:10:0. Plus B.B.C. Tariff I/. GECOPIONE Crystal Set No. 2, complete with one set double headphones. Approximate range (with Standard P.O. Aerial) 30 miles.

Price E7: 10: 0. Plus B.B.C. Tariff 1/-


Britain's Best Broadcasting Set. Sold by Principal Wireless Dealers. Sole. Sellina Agents for the Muric Trades in Great Brilatn and Ireland: Cotumbla Graphophone Co, Lud. 102-108. Clenkeniell Rd. London, E. ..I BUY BRITISH GOODS ONLY.

Mansfacturere and wholesate oull: The Genenal Eloctric Co., Lid. Magnet Howes, Kinganis, London, W. 0.2


[^1]
"Cosmos" Radiophones form the front rank of modern Wireless Receiving Sets. They have grown in favour and demand since the commencement of the season and are winning unqualified approval from all parts of the British Isles.

## cosinos RADIOPHONES

have been specially designed for reception from the B.B.C. Stations. In consequence they are of extremely simple construction, all unnecessary complications having been avoided. They are particularly suitable for use by non-technical listeners.
"Cosmos" Radiophones possess exceptional sensitiveness and remarkable selective tuning, while special attention has been devoted to purity and clearness of reproduction.
" Cosmos "Radiophones are sold by all Electrical and Wireless Retailers. Send for a copy (enclosing 1/-stamps) of the "Cosmos" Radio Catalogue and Handbook R.T. 7117/.

[^2]

## What people are saying




It reproduces perfectly
No distortion--no jarring.
It is a marvel of value and supplied in three distinct finishes.

$$
\begin{aligned}
& \text { Bright black ar heown } \\
& \text { 55/ } \\
& \text { Decorated fliral drsegn } \\
& \text { in blick and घold } \\
& \text { 60/. }
\end{aligned}
$$

The demand is BIG if you require one you should order at once from your electrical dealer or stores.

## BUY BRITISH GOODS ONLY.


[^0]:    7.0.-NEWS. S.B. from Lundon.

    JOHN STRACHEY. S.I. from Tomdon. Local News.
    7.30-7.45.-Interval

    THE KINGSWOOD EVANGEL, PHIZE
    SILVER BAND
    Vocalist: WHFRED MILES (Tenor)
    7.45,-March, B.B. and C.E." Or..... Ard Ame

    Overture, "Ruy Blas" ............ Aewdelesphn
    8.0.-Songs: (A) "Adelaide" (Bicthoren) (b) Recit. and Aria, "Love Sounds the Alam" (" Acis and Galatea") (Handel).
    8.10.-Tone Poem. "Coriolanus " ...... Jenkens Trombione Solo," Joywheel " .............. Sutton
    8.25.-Songs: (a) "Pleading" (Slgar); (b) Now Sleeps the Crimson Petal " (Vent (c) $)$. 8.35,--Selection, "La Traviata" ............ 'icerdi Cornet Solo: Selected.
    8.55.-PROFESSOR GBAHAM BROWN on "The Aims of the Weish National Sclionl of Medicine.
    9.5.-Songs: (a) "A Dream of Lose" (Montague Phillipi) ; (b) "The Curtain Falls" (Giny D'Hardelot.

    ### 9.15,--Selection, "Bigoletto" <br> rexdi

    9.30.--NEWS. S.B. from London.

    Local News and Weather Forecast.
    9.40.-"Musical Switch
    9.50.-Dance Masic.
    10.15.-Close down.

[^1]:     FELLOPHONE SUPER 2.
    

    Mounted in a well-finished mahogany case, it comprises i H.F Valve and I detector. This instrument pormits the fullest reaction allowed by the PM.G., and will give excellent results on all the British Broadcasting Stations.

    ## PRICE $29: 0: 0$

    Phes B,B.C. Tax, 15 : 0. Marcooi Tax, 51 ; 3 ; 0. 2 Valres $15: 0$ ench. Complete with H. T. battery, Accumulator, 100 $\mathrm{th} .7 / 22$ stranded copper aerial, 2 insulators, 1 pair 4,000 obms headphiones.
    

[^2]:    "COSMOS" RADIOPHONES FOR LISTENERS.
    RADIOBRIX FOR EXPERIMENTERS.

