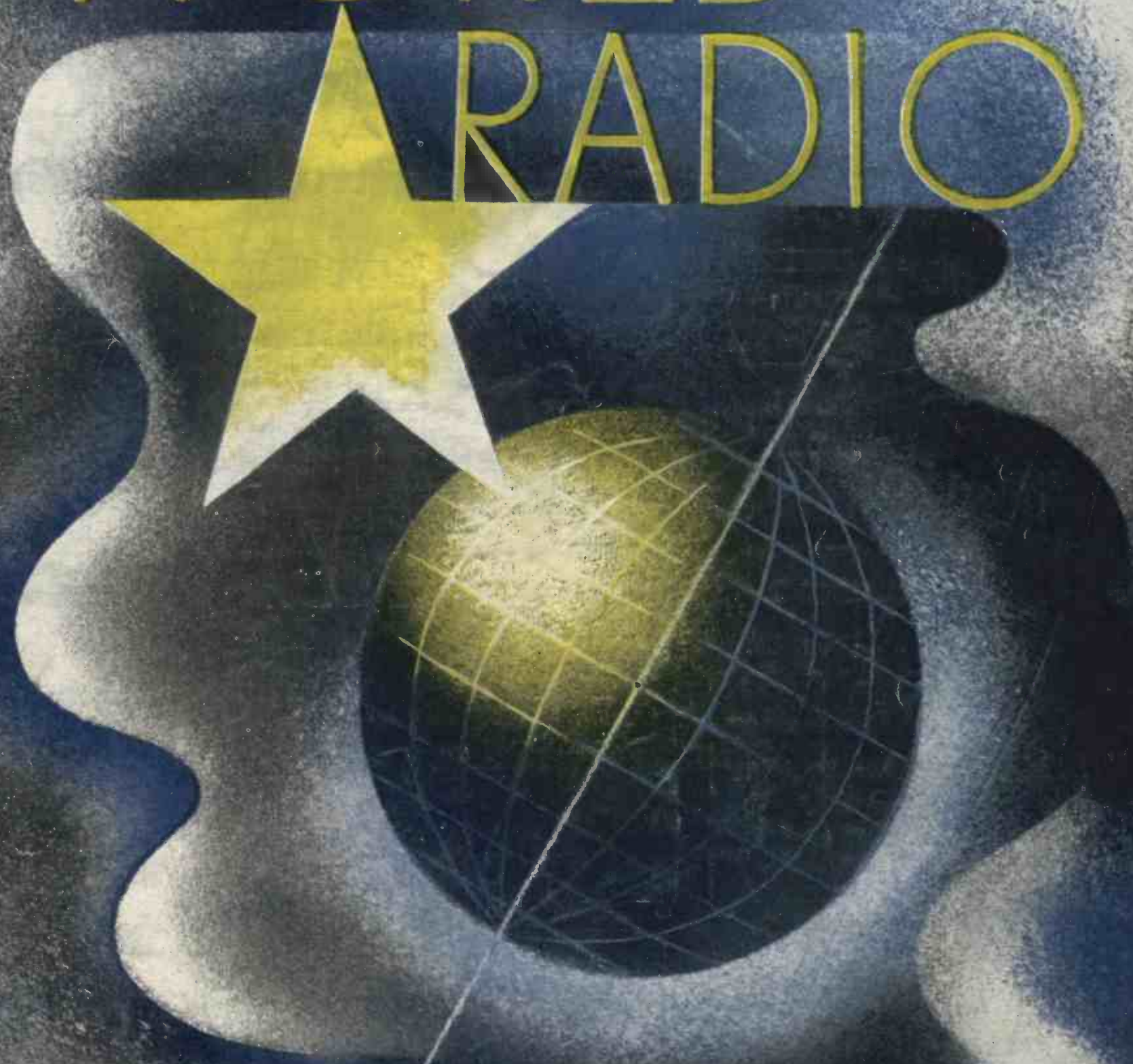


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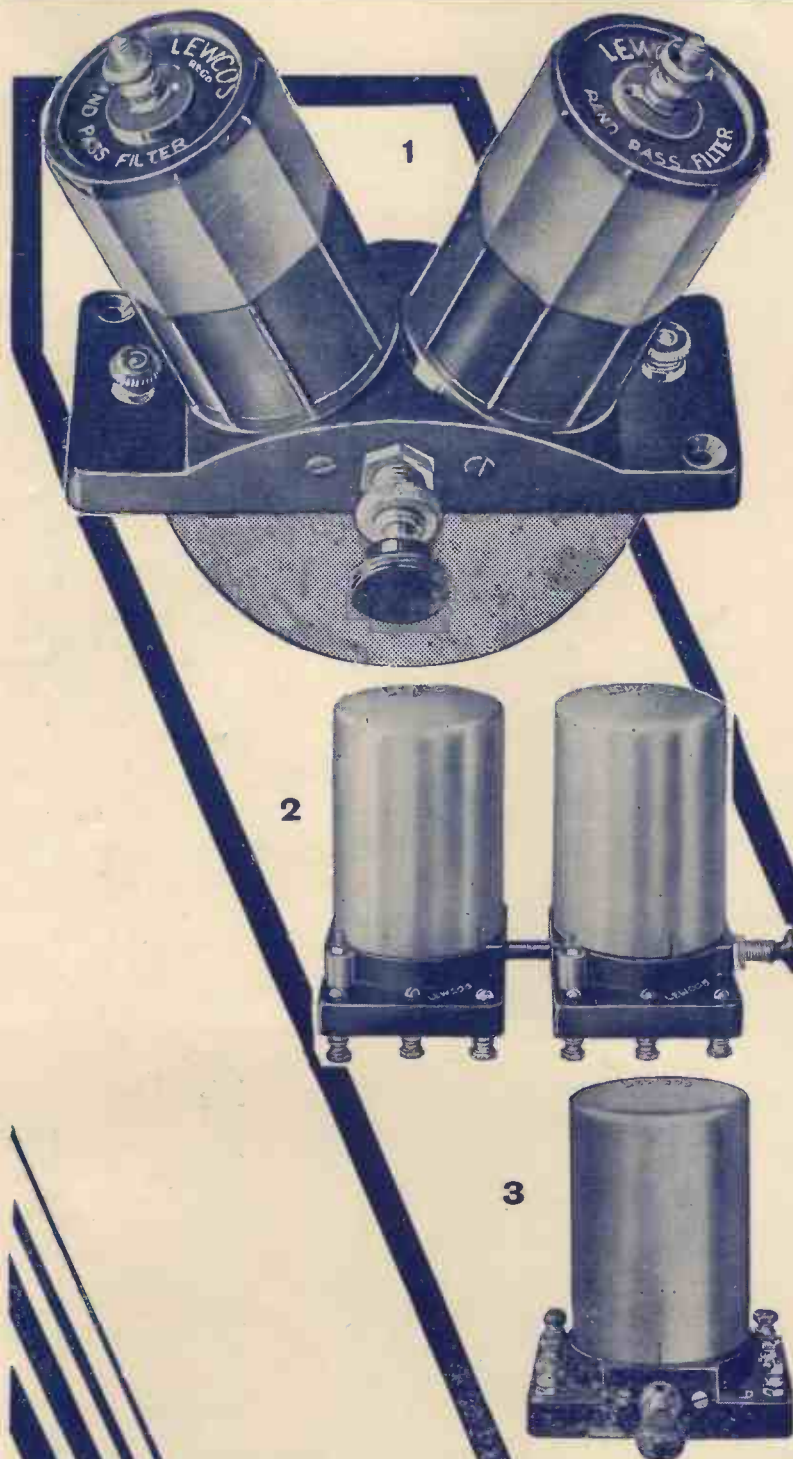
WORLD RADIO



CHRISTMAS 1931

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Regd.



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WAS ~~12/11~~
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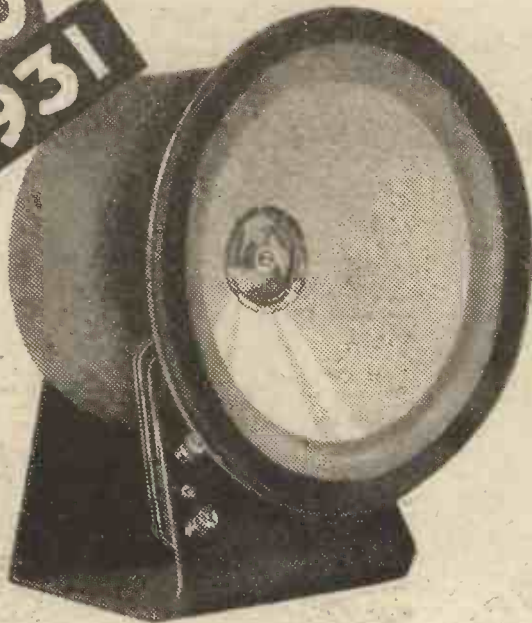
Name.....

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1929
1930
1931

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M.2 " £4 0 0
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YEAR AFTER YEAR

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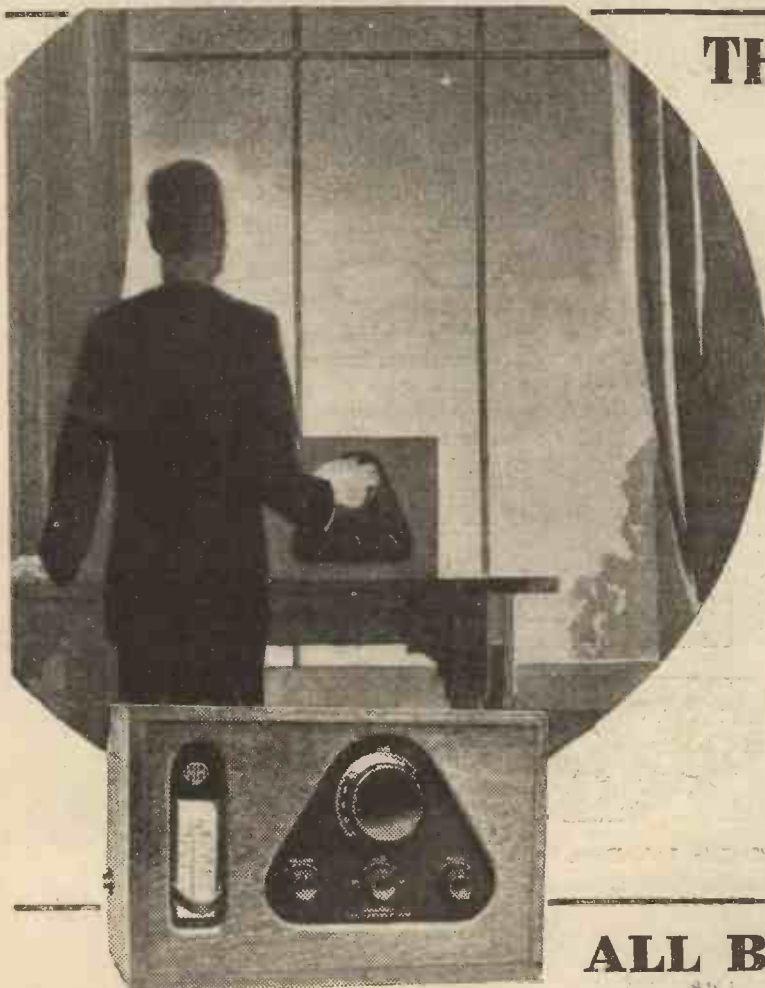
Bearing in mind that the ballot embraces every leading British make, it will be admitted that the result speaks volumes for the speaker that speaks the truth.



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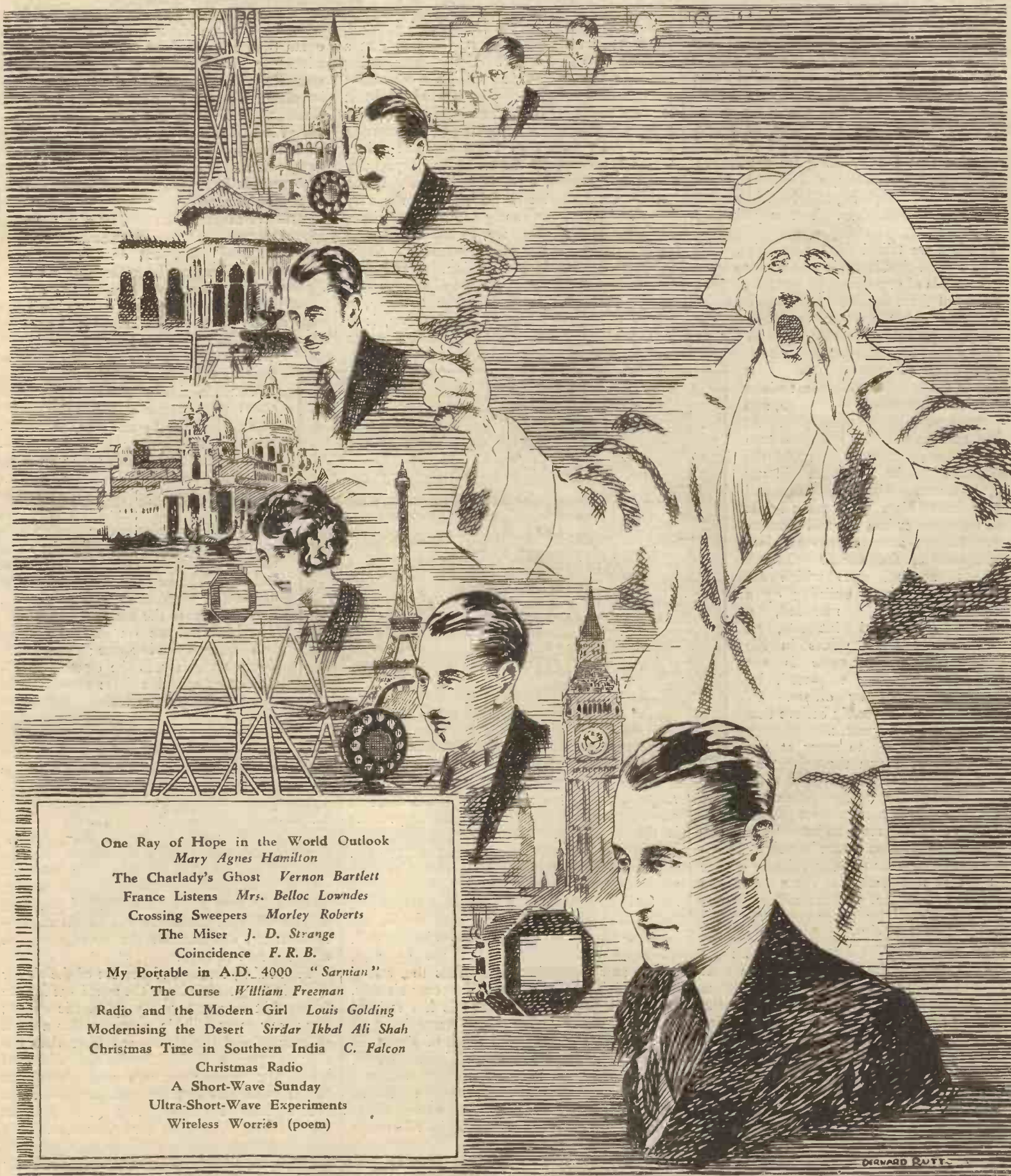
WORLD-RADIO

Vol. XIII No. 333

Registered at the G.P.O.
as a Newspaper.

FRIDAY, DECEMBER 11, 1931

THREE PENCE



One Ray of Hope in the World Outlook
Mary Agnes Hamilton

The Charlady's Ghost *Vernon Bartlett*

France Listens *Mrs. Belloc Lowndes*

Crossing Sweepers *Morley Roberts*

The Miser *J. D. Strange*

Coincidence *F. R. B.*

My Portable in A.D. 4000 "Sarnian"

The Curse *William Freeman*

Radio and the Modern Girl *Louis Golding*

Modernising the Desert *Sirdar Ikbal Ali Shah*

Christmas Time in Southern India *C. Falcon*

Christmas Radio

A Short-Wave Sunday

Ultra-Short-Wave Experiments

Wireless Worries (poem)

One Ray of Hope in the World Outlook

By MARY AGNES HAMILTON, late M.P. for Blackburn. Author of "Greek Legends," various biographies, and some novels

DURING, the other night, in a company which contained an unusually large number of responsible persons, and persons, too, with a "large stake" in this world, I was struck by the complete uncertainty they seemed to feel about the world outlook, and the dark pessimism of many. "Well," said one of them, when I happened to mention that I was sailing for the United States almost immediately, and should not be back till Easter, "anything may have happened to the world before then. You may find us all on rations."

Yet when we talked further on this dismal line, he agreed that it never had been so clear that the needs of every country were the same; that none of them could be met, save by common action; that a degree of co-operative common sense might save us all, and set us free for a kind of world-prosperity such as we had never known.

Such is the background against which we all look forward to Christmas, and prepare to pass into a new year. At such a time there is no one who, even if he has taught himself to avoid the good resolutions, he knows he will not keep, does not, instinctively, pause and seek to fortify his soul by some hopes based on more or less rational foundations. Where, as 1931 moves into 1932, are we to find them? Only, I think, in the influences which are silently but effectively building up a common sense of mankind, a realisation of shared interests, an appreciation of those values in life whose possession by some is not threatened, but rather enhanced, by their being shared by others. Of those influences I sincerely believe that radio is far the most potent.

Easy and tempting to sneer at the "fans" who bore you throughout an evening, devoted to showing off their set, by shifting from foreign station to foreign station, never giving you a chance to hear any of them. Yet even they serve an international purpose. The world grows a more homely and companionable place when spots, previously remote and often unpronounceable, come right into your range of audition, and, insensibly, you see them as inhabited by human creatures like yourself. Impossible to look upon all the denizens of other climes and cities as mere odious "foreigners" when their voices float over to you on the ether; when the tremendous comradeship of music—most social of all the arts—binds London, Berlin, Paris, Oslo, Philadelphia, Prague in a bond of common enjoyment; when you know, as you listen to some voice or violin that thrills you, that the same thrill is being felt by hundreds of thousands who may speak different languages, but respond, in complete oblivion of national difference, to an appeal that reckons nothing of these unreal barriers. If the greatest danger to the world, at this moment, is an increased and

trembling nationalism, economic and political, its greatest safeguard lies in the fact that a vast public opinion is, by the wireless, being created and extended daily, which is essentially international. It is not only international; it is impregnated (unconsciously, perhaps, but nevertheless profoundly) with an apprehension of the true nature of those civilised values which can never be the exclusive property of any single nation, race, or individual. If the artistic creator, in any field, is, by the very law of his nature, a lonely soul, his creations, as they pass from him, are, by the law of their nature, co-operative and barrier-breaking. Slow, in the past, was this transmission, from country to country, of the achievements of mind which all countries were, in the long run, to share, to enjoy. To-day, thanks to broadcasting, it is inconceivably swift. This alteration in the

was, for the world, the vital element: the ocean then was the great mystery, the road of adventure, the pathway of discovery and of romance. For us another element has taken its place. Not water, not fire, but air is our element. It is there our future lies; by the use of it that our lives, for good or ill, are to be conditioned. It is in the air that our great danger lives. Is it not plain that, if the world is to prevent future war, the air must be made safe for humanity? It is thence that the destructive machines created by man's terrible ingenuity may rain down death and destruction, not on armies only, but on the masses of helpless and innocent home-keeping civilians. Against the terror that flies in the sky no armament can make nations secure; all the experiments go to prove that, if it is once let loose, doom follows with appalling certainty.

To demilitarise the air is our most urgent need.

Towards this purpose the air itself offers us a powerful aid. Dark with potential death to millions, it is also bright and quivering with the possibilities—and possibilities that are, day by day, becoming realities—of an immense extension of the mutual understanding and inter-communication between the peoples of the earth which is the condition of fuller life for all of them. In degree, every listener must feel this. The listener over a wide range of foreign stations realises it nightly: Barriers across the air are impossible. The land and the sea may be divided into spheres and zones; the ether, through which pass the electric potentialities of sound, refuses to submit to being parcelled out into any such fashion. To be international is part of the very nature of the "air." Insensibly, its use as the medium for wireless must instil into the minds of those who use and enjoy it a habit of international

thinking and feeling. It is doing so. If few realise this fully, that is merely a sign of the fact that habit, which governs us, grows up secretly, without our being aware of the process; and, when formed, is the stronger and more dominant because of that. Actually, little as he may know it, a habit of thinking, wholly different from the old pre-War, pre-radio habit, characterises the average citizen of the world in 1931.

That habit, creation of the use of the air for radio, is the greatest hope the world has for the future. It is our surest prophylactic against war; our most reliable guarantee for a kind of international life richer and freer than the old; our main justification, in this winter of crisis, for looking forward with confidence to the victory of international common sense over nationalist illusion. Not the talkers, but the listeners, have got to save the world. They represent the new, enlightened public opinion of the future; to them, the fact of world solidarity is a fact, known by constant contact.



Broadcasting House, from Langham Place

tempo of intellectual interchange is a force of enormous potency, hardly realised as yet. It is the world's greatest bulwark against war, its most effective guarantee of genuine progress.

It has been common enough in the past to see the separate stages in human history as marked by the use of some characteristic material. As I write now I look out of my London window on to a great, up-rearing, dark wedge, blackened by soot, worn by rain, beaten and buffeted by the winds that sweep along the Thames, scarred by enemy aircraft. The stone of Cleopatra's Needle has resisted time and weather throughout centuries, and it is in terms of stone we think of Egypt, as it is in terms of marble that we think of Greece. For Europe, the nineteenth century was, and the twentieth century still is, largely expressed in terms of iron and steel. And so on. But if later ages thus typify past periods in terms of materials, we may, taking a wider view, see epochs as having their proper elements. So, in the spacious days of Queen Elizabeth, water

The Charlady's Ghost

By VERNON BARTLETT

WE were at one of those week-end parties at which, by the Sunday evening, the guests try to drive away boredom by recounting the superlative experiences of their lives. We had exhausted the "most awkward" and the "most gruesome" incidents, but still boredom skulked round the corner, and still we could not reasonably suggest that it was time to go to bed.

And suddenly Cartwright turned to our hostess and asked her—a little bluntly, she seemed to think—what was the most cowardly thing she had done in her life. Perhaps the most stupid had been to collect so ill-assorted a group of guests, but she did not say so. And, since neither she nor anybody else volunteered examples of their own cowardice, Cartwright told us the following very simple little tale. To save the printer a lot of work with inverted commas I shall write it as though it had happened to me, for I believe I should have behaved exactly as Cartwright behaved. And if, after this preliminary, you should expect something sensational, I should warn you that you would be better advised to pick up your evening paper.

Well, I was walking one Sunday, Cartwright told us, on the borders of Kent and Surrey, not thirty miles from Town, but in a very thinly-populated area. And, coming across a nice old house standing at the end of an avenue of trees, I decided to go in to ask for a drink. It was a long, low, Elizabethan house, almost hidden by a high wall, and I confess that thirst had less to do with my decision than the hope of seeing what the place looked like inside. The avenue of elms was a little depressing, for many of them had been blown down, and they looked, in some absurd way, like gaps in a row of teeth. And the house itself was rather dilapidated. I clambered up on a bank to peer at it before I went round to the back door and it was quite obvious that the first floor was not inhabited. At least, ragged blinds covered most of the windows, and the creeper had been allowed to grow over others in a manner that would have been almost intolerable for anyone who lived in the rooms behind them. And the ground-floor windows, on the other hand, were beautifully clean and shiny. That aroused my curiosity, of course, and when I found the back gate locked I went boldly up to the front entrance. The heavy, timbered door was unbolted, and I walked up a short, flagged path to a charming entrance porch. Most of the garden was over-grown and untidy, but there was a neat strip a few yards wide on each side of the path, and the roses that grew there were carefully tended. I pictured a little old lady in washable gloves busy among them with garden scissors and a basket.

Now the odd thing is that when, after a long delay, feet shuffled along the stone passage, bolts were drawn back, and the door swung open, there stood exactly the old lady I had imagined to myself. It must have been one of those odd moments when the clockwork of the mind gets muddled up, but it gave me quite a shock. Perhaps the only difference between my vision and reality was that the old lady who stood before me had a worried, anxious look that one does not associate with people who tend roses.

She was pleased enough to see me, though. My request for water was countered by an offer of milk, and before I knew what was happening, I was being led along a flagged passage to the kitchen—such a nice, large, and comfortable dignified room that I was not surprised

to be told my hostess spent most of her time in it when she was alone.

"You see," she explained, with an air of apology, "I don't care for stairs, so I don't use the first floor. I live entirely on the ground floor, but, somehow, I like the kitchen more than my own sitting-room. I suppose it's the saucepans shining on the wall, and the big kitchen grate."

I knew what she meant. The deal table was beautifully white and clean, but it was covered with cuts and scratches left by previous cooks. The plates on the dresser shone in a friendly way. The pattern on the linoleum was worn where on countless occasions the wickerwork arm-chair had been pulled up in front of the fire on winter evenings when the dinner things had been washed up and the sheets turned down for the night. The room was "lived in," and the rest of the house must look cold and gloomy with this old lady as its only inhabitant.

For she was already explaining, with the eagerness of those who lead solitary lives, how her son had been killed in the War, how her husband



... we could hear the footsteps cross the floor . . . and then put down something heavy.

had died five years ago, and how Bessie, the charwoman, only came in on weekdays.

"But isn't it fearfully lonely?" I was tactless enough to ask.

The old lady glanced instinctively at the ceiling. "No," she replied, after a slight pause, "not really lonely. You see, I've lived here since I got married, forty-six years ago. I'm part of the house by now, and it's in my blood. Only"—and here again she hesitated, seeking for the right words—"only it's too big for one person to inhabit. That's why I gave up the floor above. I never go there now. It's still furnished, and Bessie goes there sometimes to wash and dust. But it's as much as I can do to keep three rooms nice and homely. If you don't go in a room often it gets strange and unfriendly. Do you know what I mean?"

I did. I thought of this little, lonely old woman, reluctant to leave the house whose walls sheltered all her memories, and yet fighting a losing battle against an invasion of the unfamiliar. It made me think of a clearing in the jungle which grows smaller and smaller month by month as the pioneer who made it finds it more difficult to keep back the evil growths that want to swallow up his skeleton, his hut, all the marks of his activity.

"No, I'm not really lonely," the old lady

repeated, more to herself than to me. "Bessie's a great companion, too. She's been with us for nearly thirty years. And she's here all day except on Sundays. She lives down in the village, next the inn, and she doesn't come up on Sundays. That's why I'm so glad to see you, because it's Sunday, and one does feel the solitude a bit."

So the old lady prattled on, happy to have someone new to talk to. I hadn't the heart to clear out, although I'd a long walk back to the station. And when I was on the point of leaving, an unexpected sound came to our ears. For somebody walked past the kitchen door and began to mount the back stairs. I'd closed the door, so we could see nothing, but the sounds were unmistakable. Somebody went slowly up the stairs.

Neither of us spoke. After all, I told myself, it was none of my business. But it was queer. The person must have gone into the room above us—for we could hear the footsteps cross the floor towards the window—and then put down something heavy. It was all as distinct as could be, and there we both stood, the old lady and I, one on each side of the kitchen table, staring upwards at the ceiling.

"But I thought you lived alone," I blurted out at last.

"I do," said the old lady. "That's the odd thing; I do."

I felt I should volunteer to go upstairs to see who it was, but I could not produce the words to make the offer. And while I sought for a little pluck we heard someone go down on her knees above, the clank of a brush hitting the edge of a bucket, and then the long, steady swish of the brush scrubbing the floor. One could almost see the big, wet semicircles it left behind it.

At last the old lady laughed nervously. "How absurd I am!" she said. "Of course, it must be Bessie. I must have made a mistake. I'm getting old and I always get muddled about the days of the week. It's Monday to-day—it must be."

I knew better. I had every reason for knowing, since by ten on Monday morning I should be back in my office. I felt I ought to contradict her. But if I did so I should have to volunteer to go upstairs in search of this ghostly charwoman, with the steady, sinister scratching of her brush across the floor. And I hadn't the courage. Better humour the old lady, I said to myself, as otherwise she'd only be worried and alarmed. No point in that. If she thought it was Monday, so much the better for her. That's what I told myself, but I knew I was only seeking to excuse my cowardice.

Suddenly the old lady turned to me, and the anxiety I had noticed when she had opened the door seemed to have deepened on her face. "It is Monday, isn't it?" she asked urgently.

"Of course it is," I lied.

And I left as soon as I could. I simply had to get away from the sound of that scrubbing brush, and my hostess seemed quite happy again. When I got outside I looked up. In the room where the ghostly charwoman was at work the tattered blinds were down, and tendrils of creeper almost hid the window-panes.

And can you beat that for cowardice? Cartwright asked us.

He was silent for a moment, but continued before any of us could speak. That's not quite all, he said. There was the usual mysterious sequel, for as I walked back through the village I made discreet inquiries at the little inn. Bessie Harper, I learnt, had died some time before, her last words expressing concern for her mistress, who would be left quite alone.

France Listens

By Mrs. BELLOC LOWNDES

(Mrs. Belloc Lowndes has made a study of French life among all classes, and is peculiarly well fitted to discuss the broadcast listener in France.)

"THIS is the National Programme from London!"

All over France, from garret-like rooms on the eighth floor of one of the great skyscraper buildings now being built in all the industrial towns of his country for the French working man to the comfortable homesteads often twenty miles and more from a railway station, and surrounded, in each case, by land belonging to the owner of the house, eager folk listen. They may know only as much English as they have been able to pick up through having heard London calling; but they feel excited and interested when they tune in to any British radio stations.

What sort of men and women, what sort of boys and girls, are those who are linked to Great Britain by what even now seems to each of them the incredible miracle of world radio? They feel themselves an integral part of the country which produced St. Louis, Joan of Arc, Louis XIV, as well as the monsters and the martyrs who made a revolution which convulsed the world, and threw up a Napoleon.

More than any other nation in the world, France is a corporate whole, of which all other countries know singularly little. Paris may be the playground of the world, but to the average Frenchman his home is so much his castle that he guards it with a jealous and a secret care that would seem incomprehensible to every British visitor, were he aware of the fact. Yet what was an impenetrable, if invisible, barrier, has certainly been breached—to the joy of the present writer, whose father was French—by the all-conquering, all-effective influence of what is commonly called "wireless."

Just after the recent General Election I received a letter which moved me deeply. It was from a Frenchman who had been disabled in the War, and who lives, together with his devoted wife—both of them elderly people—on what would seem to the immense majority of people in England, whatever their class and condition, an incredibly small weekly income. He wrote:—

"I have never been able to feel I could afford a radio set, for, as you know, I am an invalid, and the savings that I and my wife had made before the August of 1914 were cut down by the fall of our franc four-fifths. Where I had five francs, I now have one franc. All the same, I did not feel I could wait for my daily paper to know which way the most momentous general election in the history of your great country was going. I therefore bought a radio set, and listened during a fine autumn night to the results which have amazed the world. Henceforth, thanks to that wise impatience of mine, my wife and I shall have the intense pleasure of hearing the marvellously varied and excellent programmes of the British Broadcasting Corporation."

It is a curious fact that the average man and woman belonging to a nation which has given great gifts to science—one, I am proud to say, through the medium of a woman, the great-souled, great-hearted, and many-sided Madame Curie—should be in almost every case uninterested in what I suppose may be called the progress of science! Literature, the arts, home, and even foreign politics, are of absorbing moment to every Frenchman of every class—even to those who have had but few advantages in the way of education and what is called culture. But the march of popular science seems to concern him, personally, not at all. If this is true of him, it is naturally even more true of his mother, wife, and daughter, the

feminine trinity which means so very much to every side of his life. True, he accepts, very often late in the day, and almost unwillingly, the benefits of which he would be bereft were it not for the scientific discoveries which have led to the telephone, the motor-car, the electric light, the moving picture, and, last but not least, the wireless. But he does not long for new wonders of the kind. He is content with what comes his way.

Let us take the five I have mentioned *seriatim*, as regards *la Belle France*.

Every dwelling and office, however humble, in an American city, and every homestead in Canada, is linked to its neighbours by the telephone. But the enormous majority of those working folk who have rightly been called the backbone of their country—I mean the French peasants—have never even seen a telephone instrument, save, may be, in their local post-office.

As for motor-cars, in the winter you can still drive—I am tempted to say—hundreds of miles, in certain parts of the country without meeting with any form of horseless transport. The motor-car is still regarded in many districts as the privilege of the really rich. Even now the great motor lorries of the American Army are remembered with amazement in those central parts of France which had remained, till 1917, untouched by the War, save by the icy hand of death.

If you ever waken early in the morning during a Paris holiday, and, I venture to add, if you will rise with the summer sun—when holidays in Paris will once again become possible to the ordinary Briton—you will see, should your window overlook one of the great arteries leading into the city, a procession of horse-drawn carts bringing in fresh vegetables and farm produce to the central markets from the surrounding country.

As to electric light, owing to the energetic action of the local governments of each department, it is to be found in most French country towns. But those who would derive the greatest benefit from it—I mean old people of small means—go on contenting themselves with oil-lamps and candles.

An evening in a picture palace, the pleasure which plays so great a part in the life of almost every man, woman, and child in England, in America, and in Germany—the first imports acquired by the Germans in Switzerland after the Armistice were motion picture reels—is considered a luxury by the average French family. Still, here the Government is also doing all it can to support and foster what should be a leading industry in a country gifted with imaginative genius. When a Frenchman turns producer, he evokes *Les Toits de Paris* and *Le Million*, which are acclaimed all over the world, and that though the dialogue may remain in the native tongue of its inventor. But as to that fact, the trite old saying that "one swallow does not make a summer" is lamentably true here. And, as regards actual support of an industry which should also be a fine art, and often is in France, there must be still hundreds of thousands of French people who never go to a picture palace save on very special high days and holidays.

Very, very different is the position of wireless!

I well remember the thrill of extreme astonishment I felt when I first learnt that practically every smallholder—and France, remember, is a country largely made up of smallholders—had a radio set. This astounding fact—to me it was, indeed, astounding—is partly accounted

for by the highly intelligent way in which that particular section of the country that, composed of the French toilers on the land, is catered for in every broadcasting programme.

The French peasant, so like the Scotsman in his shrewd, sober, dour outlook on life, is absorbed first in whatever be his form of agriculture, and secondly in the wise investment of his savings. In the old days he had to depend on his poorly printed and produced local paper for the prices of the produce on which depended his livelihood, and the prices of the stocks and shares in which what money he had to spare from the land could be invested. Now, thanks to the miracle of the wireless, he receives at least once a day a full list of the prices of every kind of country produce, and hears not only the ups and downs of the Paris Stock Exchange, but also the prices of the leading securities of the world as quoted in London and New York. Thus has come the amazing change, the silent transference of a nation of occasional readers into ardent listeners—brought about in what is, in many ways, from the human point of view, the most conservative country in the world.

No doubt in the vast majority of cases the man on the land begins by listening only to the price of crops, and to the price of shares. But soon he becomes allured, first by the talks—for the Frenchman, like the Scotsman again, delights in every form of self-improvement—and then by the general news, which in France comprises the broadcasting of what we should call leaders on current home and foreign affairs, written by distinguished publicists.

I not infrequently hear, when broadcasting is being discussed, contemptuous references to the French programmes. But inquiry on my part generally elicits the fact that the speaker has only made a very few attempts to listen-in to France, and has had, may be, the bad luck to fall on one of those advertisements which, at any rate to the present writer, are far more often a cause of mirth than a cause of disdain.

For one thing, the French radio advertisements—partly owing, no doubt, to the fact that the advertiser is paying for the programme—are so cleverly composed that British salesmen and saleswomen who happen to know French would certainly hear something well worth their attention, if they would consider the way in which this method of attracting this invisible customer is both composed and spoken.

Take, for instance, the following, which is very little of a parody, if any:—

You are a young mother listening-in, blessed in the possession of what you know to be the most physically perfect, as well as the most beautiful, baby in the world. But even the most perfect and beautiful baby is sometimes fretful, and, alas, however clever he is, cannot tell you what is the matter with him! Try him with a few drops of our delicious "Cupid's Balm" (guaranteed free from any dangerous element by the Government), and he will laugh with joy.

(I need hardly say that "Cupid's Balm" is a non-existent preparation.)

It must, however, be admitted that there are innumerable French listeners who do not care to listen to advertisements, however seductively they may be worded, and they greatly envy the country where broadcasting programmes are not, to their mind, disfigured by such interruptions. An effort is being made in certain departments, as also by the powerful "Societies of Listeners," to minimise the advertisement side of French radio.

There is a strong local patriotism in provincial France, akin in some instances to that which animates those among us who were born on the other side of the Tweed. So it frequently happens that the authorities concerned will allocate what is for them a substantial subsidy to their own radio

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Crossing Sweepers

By MORLEY ROBERTS

THE world changes, and how often we do not know it! For, consider, it was only yesterday that it came to me with a great shock that I had not seen a crossing-sweeper for years. Here was something lost to the world and to literature as well. I wondered what Dickens would have thought. And more than that, I wonder what my father would have said!

For if the flight of the crossing-sweeper is a loss to London, I believe it to be an even greater loss to parents. What service was he to my own? I will tell you. He stood, as it were, cheek by jowl with the greengrocer when my father observed any slackness in those studies which were to open to me my designated career. For it was one of the greatest griefs of my childhood that he considered me easily capable of becoming the Lord Chancellor, the Premier, or the Governor-General of India, if I could but be induced to show due diligence. If he thought that I failed in this he condemned me at once to the rôle of a crossing-sweeper or a trader in greenstuff. Naturally, this led me to take interest in the life and career of such social workers. In despair and indignation at being held up to casual visitors as a boy destined to the highest posts the British Empire could offer, I was often on the verge of offering my services to the nearest greengrocer in order to escape being made such an ass as I conceived I must necessarily appear. Even the life of a crossing-sweeper seemed a refuge when in helpless rage I heard my father say, "Tell Mr. Smith what you are going to be." I beg all capable of pity to think of my feelings as I stammered, "I—I mean to be the—the Lord Chancellor." Was it any wonder that the statement was sometimes so delivered as to inspire the belief in my father's guests that my ultimate destination was an Idiot Asylum? For this I paid due penalties. I was told savagely of unhappy and disappointed parents who had deliberately bestowed brooms on their eldest sons and kicked them out of the house to do their best in the muddy streets of London.

It is difficult for me now to know whether I believed these histories. It seemed hard that a casual attitude to Latin grammar, or the Greek alphabet, should be so avenged. But the constant repetition of such tales did so affect me that I had terrible nightmares in which I swept a crossing or retailed cabbages. In my dreams my barrow broke down, my cabbages turned into turnips, my turnips became carrots as I handled them; I obstructed the traffic and was arrested by policemen. Or, again, I swept a crossing with an ineffectual broom, a worn-out, moth-eaten broom that failed lamentably against a sea of encroaching mud and fouled the feet of my best customers. To this day I cannot pass a greengrocer's shop, or a coster's barrow, without a feeling that even now my father's prophecy may come true. Times are hard. Who can tell? What do we know of the future?

If the terrors of greengrocery still abide with me in dreams some will say that I should at least be grateful to be spared like fears by the disappearance of London mud and the crossing-sweeper. No longer does any grimy old man broom a passage between two carefully-preserved ridges of dirt, brought in a bucket, as some cynics averred, to the scene of action early in the dawn. This tale of mud brought from a distance was, or so a bitter crossing-sweeper

once told me, the dastardly invention of a boot-black. There was, he assured me, in the old days mud enough in London for everyone. Now it is not so. London has changed. Piccadilly alters daily. Regent Street has nothing of the Regency. The old Oxford Street for all I know has gone to Oxford. Our historic mud is no more. The horse has taken wings, and taxis, dripping oil, smoothe out the roads and polish them till they shine. But crossing-sweepers are no more. It may be that I have been spared some dreams by their departure, and yet I miss them now I have come to recognize the fact that they are no longer with us. But, if I miss them, what of modern parents? Will they have to fall back as a body on greengrocers? And if so, may it not happen that bitter knowledge of the enormous price of fruit will egg on some apparent but deceitful financial failure to grasp the high opportunities offered? These are difficult questions—questions not to be solved in a hurry.

Until recently it was my belief that if greengrocers were to find a permanent position in



Easy, plentiful mud which had to be piled up . . . in the neatest ridges.

literature, they would owe it to me. But here I was wrong. Not only is the greengrocer mentioned in literature; I find that he actually served the very same purpose for another parent as for my own. In *The Way of All Flesh* it seems that the hero, whom we may justifiably take to be Samuel Butler himself, was threatened by his father with apprenticeship to greengrocery. If this was one great cause of Butler's undoubted savagery of mind, who shall blame him, and who will not congratulate me on the fact that I have escaped like acerbity? Butler, I fear, never eyed cabbage without bitterness, or ate a radish without resentment. And yet he was never threatened with a crossing!

It seems then that parents will now have to rely wholly on greengrocers and costermongers, who are still with us. Will these serve their turn? Often enough the crossing-sweeper failed, as might have been expected, seeing how greatly youth delights in mud. As I have suggested, there are many boys with a passion for apples and the like who may regard considered neglect of Latin and Greek as an easy path to the attainment at a wholesale price of all that the fruit markets offer. Such will not look on greengrocers with a parent's eye. On the contrary, the threat of apprenticeship to a greengrocer will fill them with secret joy. Some of these predestined costermongers might have been preserved for nobler paths in life if there

had still been crossing-sweepers, who do offer to most an apparent spectacle of melancholy failure. I say "apparent" of set purpose, for I think that many, if not most, crossing-sweepers were in fact content and prosperous, however disastrous their appearance and apparel. The more wretched and ragged they appeared the greater their success, though there were some who put on an air of desperate jollity. This excited pity and admiration, and often brought silver, not mere copper. After cross-examining some, at a reasonable price, I came to the conclusion that many sweepers took up the broom through deliberate calculations of its financial possibilities, and their natural enjoyment of the material they worked in. Had not this been in a measure my own case? I recalled the fact that to make a hole in our garden with a stick and, after pouring water into that hole, to stir the ground till it was a gurgling, gorgeous liquid, gave me infinite pleasure. Had I not often piled up mud in artistic patterns and ridges? Ridges! Yes, that was the point! Here my favourite old crossing-sweeper had spent his days in easy, plentiful mud which had to be piled up carefully and continuously in the neatest ridges. I had done this when six. He was doing it at sixty. I saw that it might easily be that he looked on his emoluments as those of an artist in a profession he delighted in.

This conclusion led me many years ago to make inquiries of the sweeper I knew best, a true ancient, one of the last relics of a muddier civilisation which was rapidly going with the passing of Macadam before the wood-block invasion of London's streets. If washed, his beard would have been white as it fluttered in competition with his choicest rags. I say choicest, for this man was an artist and, I verily believe, a successful artist. He fenced with me at first as I asked him about his aims in life, his daily profits and emoluments, for he maintained, to begin with, that his profession was hard and so poorly paid as to afford the meanest living. If I had encouraged him he would surely have pitched me a tale of better days, of brilliant prospects, of disasters and despair. But I know mankind. I saw that he was secretly proud and fatter than he seemed to the casual eye. So I said sternly, "Stop! I don't believe you. You enjoy this life. I know it." He put up no defence. All he said was, "How do you know it, sir?" And when I told him how greatly, as a child, I had rejoiced in mud, he looked at me in surprise and owned that this had been his own case. But didn't I see what charms the life of a crossing-sweeper offered? Yes, give him the streets and liberty, fair rain and mud!

I went away, knowing that I had at last met a successful man. Is this not a lesson for those fathers who attempt to force their offspring into posts alien from their natural instincts? How little my father knew what dangers he ran when he drove me from mud pies to grammar! He was not, as I see him now, a philosopher. He would not have considered even two pounds a week and content as a crossing-sweeper a real success. No, he designed me before friends, yes, even before the casual stranger, for the Lord Chancellorship, and never dreamed that his threats might wake up a savage determination in me to follow my instincts to real freedom and true success. For that no Latin, no Greek, was needed, no aorists or iambics. To the crossing sweeper, what was Latin prose, what history, what the stream of philosophic thought?

Never did I attain the precarious glories my father believed to be my destiny. And now I can never reach the fortune my unambitious nature clearly designed for me. I turn away, sighing,

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The Miser

By J. D. STRANGE ("Yodeller")
Author of "The Price of Victory"

"C'M on, Bill—y'aint afraid, is y'?"
"Naw..." The second urchin doubled his bare big toe up, picked up an apple core, deftly transferred it to his hand, and began to gnaw the dirty thing with relish. "'Ave a bite, Albert?" he said generously.

Albert finished off the core without a word, and going across the pavement stuck his bare foot on a projecting stone, levered himself up with his bony arms and peered over the wall into the grounds of the house beyond.

"Th' bloke's in, Bill," he observed, his sharp young eyes taking in every detail of the house front before him. "I c'n see'm stuffin' hisself." He let himself drop back to the pavement and turned to his companion. "C'm on, let's give 'm a rouser."

Bill did not seem keen.

"'Tain't no use, Albert," he observed, hanging back. "Sammy Hodge went there las' year 'n never got s' much as a sniff o' copper. Th' bloke wot lives there's a miser, Albert." Bill's voice dropped to a whisper as he gave his friend this last information, and he gazed fearfully at the wall as if expecting to see some grim spectre peering over at them.

Albert sniffed scornfully.

"'Oo's afraid of a blinkin' ole miser?" he asked largely. "Lor'! Luv a duck, Bill, y' gives me th' pip!—listenin' t' Sammy's tales! 'Cos 'e never 'ad no luck, 'tain't no reason why we shudn't 'ave a flutter. C'm on. If you ain't comin', I'm goin' on me little lonesome, see!" and without another glance at his friend Albert hitched his ragged trousers up, thrust both hands in his pockets and moved along the wall towards the large iron gateway which gave entrance to the house beyond.

Bill watched Albert go, hesitated, then, with lagging steps, followed him.

"There ain't no dawg?" he asked nervously as he came up with the other in the act of opening the large wrought-iron gateway.

"Dawg my boots!" snapped Albert angrily. "'N if theré wus a dawg, Bill, I'd nipnotise 'm, see!"

Greatly cheered by such a display of moral strength, Bill trotted along beside his older companion—Albert was at least a year older, but looked perhaps two—and together they made their way along the drive until they arrived at a short flight of steps which led up to the house door.

Together the pair of ragged little scamps stood on the step, their eyes staring fixedly at the door before them.

"'Y ready, Bill?" demanded Albert hoarsely.

Bill pinched his friend's arm by way of assent.

"Wot sh'll we bust off wi, Albert?" he whispered.

Albert thought a moment.

"'Good King Wence'laus,'" he said, clearing his throat. "Give us th' note, Bill."

Bill shook his head.

"You start, Albert," he begged nervously. "Me froat's a mite sore t'night."

Albert looked annoyed. Now that he was here, before the lion's den, as it were, he was not feeling quite so courageous as he would

have had his friend believe. But one had a certain position to keep up when one was the "boss" of the Cork Street "gang." He threw one last fearful glance at the doorway before him, fixed his eyes unwinkingly on a spot a little above the said doorway, threw out his narrow little chest and began in a shrill, high-pitched voice:

"'Good King Wence'laus looked aht, On th' feast of Steeeeeee-ven.'"

Bill stared admiringly at Albert in the dim light from the window above the doorway.

"'When——' C'm on, Bill—give us a blinkin' 'and!" Albert hissed in the middle of his chanting, digging his friend furiously in the ribs. "'When th'——'"

"'Ouch!' gasped Bill, recovered, and joined in: "'Snow lay rahnd abaht——'"

"'Deep n' crisp n' eeeeeee-ven,'" continued the two small voices courageously in unison.

"'Brightly shone th' moon thet night, Though th' frost wus crooooo-el, When a——'"

The door in front of them suddenly swung open and the song broke off as abruptly as it had

"'Yah!' he shouted derisively. "'Ole fat-belly—ole sossidge legs!'"

"'Ooo pinched th' guv'nor's ceegars? 'Ooo stole th' pidgeon's milk?' yelled Bill, not to be outdone. "'Ole rasberry nose!'"

The large figure in the drive started to run towards them, and Albert seized his companion's arm.

"'C'm on, Bill!' he panted. "'Ee'll cop us if we goes straight. 'In through th' trees n' we'll dodge 'm!'"

Panting hard, the pair raced across the grounds, dodging here and there amongst the trees. Presently they halted, listening. Behind them all was silent. They breathed a sigh of relief.

"'Ole pudden'-guts s' lost hisself,'" gasped Albert, grinning. "'Lumme, that was a bit of orl right! Now we got t' find our way out agin.'"

They looked curiously round them.

"'Look!' said Bill, pointing at a light behind a distant tree. "'That's th' winders. Let's 'ave a dekkio, Albert.'"

Albert hesitated, considered, and nodded.

Together the pair crept towards the window and peered in. Seated at a table they saw a figure with its back towards them. All they could see was a wide back and the bald top of a head which moved up and down as its owner conveyed food to his mouth.

"'Coo!' murmured Bill in awed tones, clutching his friend's hand nervously. "'Th' blinkin' miser!'"

"'Huh!' Albert flattened his nose against the window-pane to get a better view. "'E ain't arf doin' 'isself a bit o' good! I'd c'd do wi' a plate o' that 'am, Bill, this very minute!'"

"'I c'n a'most smell them taters through th' winder, Albert,'" commented Bill, smacking his lips hungrily. "'I reckon——'" But what Bill "reckoned" was not divulged. At that precise moment two huge hands descended, one on each boy's neck.

"'Got you!' snapped a big voice triumphantly. "'Thought I saw you against the window. Come along in and we'll see what the master'll say to ye!'"

Regardless of their whimpering, the servant dragged the two delinquents inside the house and into the room which the pair had been gazing at so intently a few moments before.

"'Caught these two young gentlemen in the grounds, sir,'" said the man, not quite so largely, now that he was in the presence of a greater

Authority.

The old man at the table looked up from his meal and the two youngsters shivered as his cold eyes ran over them.

"'Ah,'" said the old man, laying down his knife and fork with deliberation. "'And what were they doing in my grounds, Weston?'"

"'They came carol singing at first—no doubt to spy out the land,'" explained Mr. Weston obsequiously. "'I chased them away from the door, sir—and they ran into the grounds. I next found them spying in on you through the window over there.'"

"'I see. Spying!'" The old man's gaze swept over each youngster in turn, surveying the little tatterdemalions without emotion of any sort. "'All right, Weston,'" he nodded dismissal. "'I'll ring when I want you. I'll have a little talk with them first.'"

The footman gone, the owner of the house pushed back his chair and slowly lit a cigar.

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"'E ain't arf doin' 'isself a bit o' good!'"

begun. Dimly the two youngsters saw a huge figure standing in the doorway, a figure which, indistinct though it was, they recognised as being that of a servant of some sort.

"'Clear off!' cried an angry voice, and the menacing figure in the porch took a step forward. "'We don't want any carol-singers here.'"

The two youngsters fell back down the steps, covering before Authority.

Suddenly Albert recovered.

"'Give us a copper, mister,'" he said loudly.

"'Op it!'" cried Authority angrily.

"'We ain't done no 'arm,'" wheedled Albert tenaciously. "'We'll do yer th' 'Fust Noel' if y'll dob up a coupla ha'pence, mister.'"

"'Go away!'" roared Authority ferociously, advancing down the steps with threatening mien.

Albert and his friend took to their heels down the drive. Suddenly Albert halted and, turning, put his fingers to his nose.

Coincidence

AUGUST 4 found us in Lorenzo Marques along with three German ships known familiarly to us as the beer boats; actually they belonged to the German East Africa line, and in that climate light lager is nectar.

We had just arrived from Beira, a heat-stricken spot farther up the coast towards Zanzibar. War rumours had been the sole topic since leaving, and it was with added interest that we saw the cruiser *Highflyer* just before we entered the heads at Delagoa Bay. We tied up alongside the wharf and loading and unloading went on in the usual way. Just ahead of us lay the *Beira*, a Portuguese ship of about four thousand tons. She had recently had an argument with the dockhead at Cape Town, and her bows were twisted to a comical angle. It wasn't long before her wireless operator came aboard, and after the usual "peg," the conversation turned to the possible destination of the three Germans who lay out in the harbour. He thought that they would make a dash for German South West, though that would not be of much avail. He gave us details of his ship's adventure at the Cape, and after the conversation ebbed, drifted back to his ship. Soon afterwards we heard that war had been declared, but being so far from home, the immediate effect on the ship was yet to be felt.

Soon after our friend from the *Beira* had left, a head put itself through the curtains over the cabin door and the owner thereof came in and made himself acquainted. Said he was from the *Hof*, the biggest of the Germans, and that he was a passenger who had to go up-country from Delagoa to a remote place beyond Rhodesia. Had come out *via* Suez on the German boat for the sake of cheapness. They had treated him all right, he said, until about two days ago, just before the ship arrived here, then he had noticed a change. The plentiful table dwindled to almost rations, a tightening-up of discipline was noticeable, not with him, of course, but he had noticed it. The naval touch about the crew, "reservists, I suppose," he said. Anyhow, matters had become worse, and now that war was declared he was in a pretty predicament, an Englishman and his wife—he had his wife on board, he added—isolated amongst a lot of Germans, not hostile, but frigidly polite. Could I give him any advice, was he safe in going up-country, or should he try to get a passage on our ship down to the Cape so that at least his wife could find good lodging among all this turmoil?

Meanwhile I bade the Goanese boy bring up some sandwiches and tea which he consumed rather hungrily and, picking up his topee, said he must be off, mustn't leave his wife fretting and all that. Supposed we'd be all right anyhow unless we got mopped up by a German cruiser on our way down the coast—not much chance of that, though, he thought, with the—knocking about somewhere. Expected we'd already run into her on our way down? Something prompted me to say "No!" and with a few more topical remarks my visitor left.

After he had gone I turned over the conversation in my mind, and now I noticed that there were weaknesses in my visitor's statements. Was he all he purported to be? The suspicion flashed through my mind that, in spite of his perfect English and his clothes of English cut, he might be a German. Going out on deck and looking across the harbour, I was struck by the activity going on on board the *Hof*. Painting was going on everywhere, her funnel was being transformed and painted black; her hull was changing colour rapidly under the efforts of a score of men slung over the side on besom chairs. It was fairly obvious

that she was going to attempt to get out under false colours.

Darkness hid the activities from view soon, but there had emerged a fair representation of a Messageries boat with the distinguishing white line round the hull from beneath the paintpots of her crew.

Next morning she was gone; her two sisters were still there, but of the *Hof* no trace. Neutral waters forbade any action on our part, so we had just to wait and see. Towards noon, a somewhat dishevelled *Hof* reappeared and took up her old anchorage. We could guess what had happened. She had rounded the heads, and there waiting for her was the—

Discretion was the best part of valour, and while still in neutral waters she beat a hasty retreat. No sooner had she dropped anchor than her wireless apparatus burst into intense activity, her high, piercing Telefunken note wiping out all other signals at that short range. After a few preliminary buzzes, she started calling Swakopmund on the other side of the African Continent. I thought at least the best I could do was to jam her; if I couldn't at least jam her signals to Swakopmund, I could doubtless wipe out all trace of Swakopmund's reply to



... I asked him where he had learned to speak so well.

her. And so we kept at it, within a few hundred yards of each other, perfectly friendly and yet enemies, both infringing goodness only knows how many articles of the Berne Convention and other international agreements. However, we stuck at it all that hot tropical day, and not till evening when we left for Durban did the little private war cease and further jamming on my part would have been useless.

Now for the sequel. Skipping the intervening years of grimness, we are on the Royal Mail liner *Orbita*, just arrived at Hamburg. Consternation and chaotic conditions reign ashore in the old Hansa town, the gaunt steel arms of the Vulcan works on the other side of the Elbe stand solitary and deserted. The slipways of the yards are empty. All round the proud liner are rusting derelicts of the German Merchant Service. Things are terrible ashore, we are told. The bottom has fallen out of the mark and starvation stares many in the face. A bad time to inaugurate a service to New York *via* Southampton. Everything is strange. A British ship bidding for the trade the "crack" German liners had all for their own. The very men who manned these ships are now working on the dockside, on the lighters alongside. Stevedores who themselves had been captains—all out of ships. The very watchman on our gangway was probably an officer

from these German ships. Going ashore, I spoke to him—he replied in such excellent English without the trace of an accent, that I asked him where he had learned to speak so well. "Before the war I was an officer on the Deutsche Ost Afrika Line," he said—"a wireless officer," he added. "What was your last ship?" I asked. "The *Hof*," he replied. I remembered the *Hof*. "Were you in Delagoa when the War broke out?" I questioned him. "Yes," he said. "Then you must remember the *Kattiwaw* who lay alongside the dock and tried to jam you." "Of course I do," he said. "That was me," I added. How we laughed over that—a serious matter then—and now? "You didn't succeed, we got through," he informed me—"but the Portuguese came and took down our aerials and interned us at the other end of the harbour. We had another aerial up the rigging the same afternoon, not so good, perhaps, but still—an aerial. There we were stuck. Afterwards we were given quarters ashore and we were there throughout those long war years. Lucky, perhaps, what think you? But this?" he said, with a comprehensive shrug indicating at large the rusty degeneration around him. "Never mind, I'm glad you came through," I said, and, shaking hands, went down the gangway thinking of the extraordinary coincidence of the meeting.

F. R. B.

FRANCE LISTENS

(Continued from page 968)

station. I say "for them," because, owing to the depreciation of currency which took place after the War, a sum which would even now seem insignificant in this country represents in thousands of francs a very great deal of money to any Frenchman most of whose life was lived in those serene far-off days when the franc was still twenty-five to the pound.

It may surprise some of my readers to learn that owing to world radio a real love of German music is now penetrating rural France. A friend of mine who was spending a week in a remote village in the Pyrenees was astonished to find, in the inn where she was staying, mine host and his family regularly listening to both the British and German musical programmes. They explained that they found these far more fascinating, because more strange and unusual, than any music they could obtain from their own stations.

Every French station starts the day's work while many British listeners are still sound asleep—some stations, in fact, from 6.45 a.m.—by broadcasting clear, concise instructions for those physical exercises which are fast transforming France into an athletic nation. I frequently listen to such a broadcast, because it is given out in so cheerful a voice that I feel it starts my day well. It is significant, also, that not only the young are catered for in this particular matter of physical culture. Excellent exercises for those who are middle-aged, and even old, are also minutely described, listeners being told not only what to do, but also what to avoid.

Frenchmen are naturally eloquent, especially those who belong to the South, and they delight in listening to a good speech. They are, therefore, great "amateurs," to use their own expressive term, of the admirable British talks, as also of those broadcasts which are now and again made by leading British statesmen. The Prince of Wales is, in France, the most popular of living Britons, and when he is announced as about to broadcast thousands of French people who do not know a word of English listen in just to hear his clear, pleasant, highly individual voice coming towards them over the ether, with some message of good-will.

My Portable in A.D. 4000

By "SARNIAN"

HAVE you ever constructed a portable from your own design? If so, you will no doubt appreciate why, after putting eight solid hours into what I optimistically hoped would be the finishing touches of what I had equally optimistically misnamed the "Oceanic Super Five"—after eight solid hours, I say—I kicked the whole lot into the corner and laughed savagely as it described a graceful parabola and landed with a tinkling of broken valves. The tinkling sobered me and I sat down gloomily.

I must have dozed.

* * *

It was A.D. 4000.

I was waiting to hear the proceedings of a meeting of the world's foremost scientists which was to be diffused from Zen Teltho.

Permit me to digress a moment to explain our system of diffusion. The science of telepathy had advanced to a truly wonderful extent, with the result that we heard and saw our diffused programmes without need of resort to artificial aids, the mind itself being the receiver.

However, to return to the story. A few weeks previously an engineer who was overlooking the construction of a new underground moving-way in what I estimate to be Regent Street, had come up against the concrete foundations of an old English building. Cutting his way through, he had found a curious object embedded therein. This object was presented to the Society devoted to Ancient Anglican Research, and caused world-wide comment and discussion. It was well preserved and untouched by time. The theory which gained most supporters in the best informed circles was that it was a device used by the ancients for causing some sort of unknown disturbance in the ether. Professor Lana, acknowledged head of the Faculty of Men of Science, was reputed to have some startling and definite views on the subject. (In passing, I might remark that his views on most subjects were of this nature.) He was to radiate his theories from Zen Teltho this very night.

At the appointed hour I closed my eyes and fixed my mind on Zen Teltho. As if I had been present in the flesh, I found myself gazing over a vast sea of faces in an enormous hall.

* * *

Immediately before me was a platform graced by the presence of a group of famous men and dominated by Professor Lana, who needed no introduction to his vast audience, seen and unseen. I say dominated with reference to his tremendous will and intellect, for he was barely five feet three and very stout.

Announcements had been made.

The Professor was speaking—we still used the old terms.

"Ladies and—" pointedly turning his back towards three of his fellow scientists on his left—"gentlemen. We have here a piece of prehistoric apparatus of considerable interest." Here he indicated, with a graceful gesture, a small table containing the apparatus in question.

You may easily imagine my amazement when I recognised the "Oceanic Super Five" that I had built far back in 1931. I noted, with relief, that only two of the valves had succumbed to my well-directed boot.

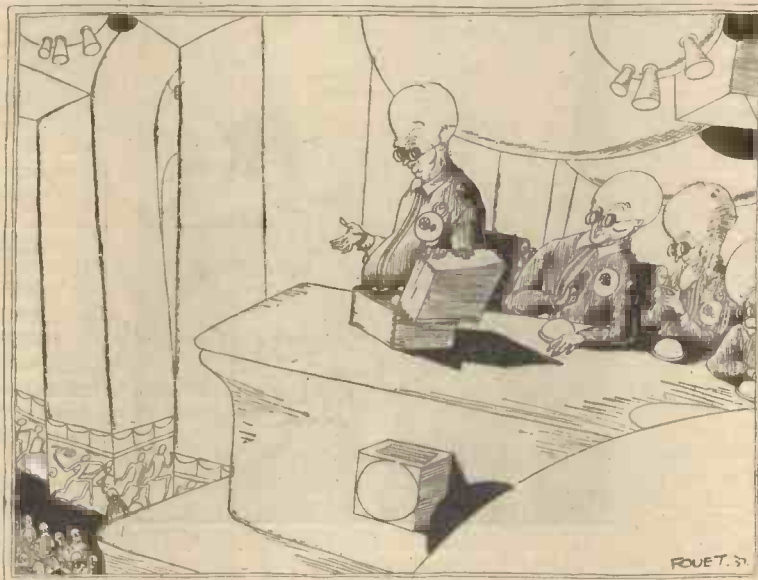
I awoke to the fact that the Professor was speaking.

"... glass bulbs. It is known that the ancients, in their efforts to obtain artificial light, made use of a primitive method, which consisted of rendering white hot a wire inside a glass bulb, being naturally ignorant of our method of storing sunlight. It has been suggested by some of my—er—learned colleagues, that this apparatus was used for that purpose. Colour has been lent to this so-called theory by the presence of this unit of electrical power."

Here he held aloft the H.T. battery.

"Contemporary documents tell us that our ancestors were able to obtain a limited supply of electrical energy in this manner by the conversion of chemicals—a clumsy and costly process, gentlemen, is it not? But, with regard to this theory, there is one thing, at least, which these—er—gentlemen appear to have overlooked.

"How do they propose to obtain light from a wire inside a glass bulb which is silvered over?"



Further, I have proved conclusively that at no time could this wire be more than red hot!"

There were other theories, weird and fantastic, "and now, my friends, I propose to give you my own views on the subject." This was said in a tone of one who "casts his pearls," but it, nevertheless, produced an air of expectancy. "My—er—learned fellow investigators have all been misled by one thing. They have assumed that, because there is power, if we may call it so, here, it must necessarily be used for radiating some other form of power. Such is not the case."

A learned looking gentleman stood up and said "Excuse me!"

The Professor said, "You are excused!" and went on.

"This electrical energy and these glass bulbs and other crudities were used for amplifying some sort of ether-wave, itself very weak. Questions naturally arise as to the nature of this wave. Rather difficult questions, gentlemen, for even I was held up here for a little time—a little time," he repeated, evidently wishing to make the point quite clear.

Then he pointed at the loud speaker.

"Here lies the solution of the problem; a piece of apparatus for which none but I know the use. Its purpose is quite clear—to trans-

form electrical energy into sound energy, by means of vibrations. Ether waves into sound waves, my friends. Does that suggest anything to your minds?"

He spoke as one who talks to children.

"Sound waves, then, were translated into ether impulses, probably of an electrical nature, and these impulses were radiated from various centres. I am continuing my investigations and hope to show, at some later date, that these centres correspond with the stumpy remains of towers still dotted about the earth's surface. Their numbers indicate that their range was very much limited. Now, these impulses, necessarily very feeble, were picked up by this contraption and re-translated into sound waves, which would then be intelligible to prehistoric man."

Here followed many objections, the gist of which was that the theory was altogether too fanciful and that the uncivilised minds of their ancestors were incapable of such intricate thought and ingenuity.

The Professor maintained a stony and contemptuous silence. He thawed slightly, however, when a youthful-looking savant put forward a question as to the period when the device was in use.

"That, I will admit, is a point about which I am not altogether clear. This handle shows that it was intended to be carried from place to

place. I have chiefly made use of this circumstance in my deductions. With certain reservations, the farther we go back in history, the greater we find the physical strength of man. Now, this apparatus is very heavy, and no ordinary man could carry it any distance. To find such a one, it would seem that we must go right back to the dawn of history, when the Vikings first came to the shores of England, probably in about the ninth century. This argument is supported by the crudity of the workmanship, which you can see to be very primitive and immature."

I blushed in the seclusion of my room.

"On the other hand, the depth at which the relic was found seems to show that it belongs to a later civilisation, and this is more probable, because it is very doubtful whether the Vikings would possess the necessary knowledge of glass blowing, wire drawing, evacuating, and so forth,

which are essentially products of a peaceful age.

"Now contemporary documents tell us that it was the barbarous custom of the white races to capture the men of Era ('evidently, Africa') and take them into their homes as slaves."

Followed mutterings from the ebon Frans, who obviously resented this reminder of their erstwhile inferiority.

"These slaves, being specially selected, would be very powerful and hence quite capable of carrying the apparatus. This fact enables us to fix on a later date, for we know that slavery was not abolished until the beginning of the nineteenth century. It is my opinion, therefore, that the relic dates from A.D. 1800."

I smiled a superior smile and considered myself justified, for the learned Professor had not been too flattering about my handiwork. I determined to communicate with him. It would be gratifying to enlighten the world-famous Lana concerning a few obscure points.

Meanwhile, the assembly hall was in a state of uproar. Every person present seemed to be launching forth different objections. One, more demonstrative than the rest, jumped up, seized the set and threw it into the air. Although it was very heavy, it seemed to rise higher and higher until it hit the roof with a tremendous crash and—

I awoke as someone banged the door.

The Curse

By WILLIAM FREEMAN

THE man with the bronzed face and blue eyes was the only other passenger in my compartment. The express had left London well behind before he leant forward and spoke.

"Yes," I said—he had asked me if I was going to spend Christmas at the sea—"Chine Regis. My first visit."

The bronzed man remarked that if the weather held I ought to try one or two moonlight excursions, but that he didn't expect I should be visiting Juniper's Cove or the Angler's Stone. I had never heard of Juniper, nor his Cove, nor the Stone, and said so. He seemed surprised, and thereupon told me the story of all three, gesticulating from time to time with a stubby brown forefinger. I was, I'm afraid, a bad audience, uneasy and embarrassed, for reasons which will appear later. I give his narrative more or less in his own words . . . but edited.

Juniper's Cove (explained the bronzed man) consisted of about twenty bungalows tucked away in a sort of pocket in the cliffs. You couldn't see even the roofs from the main road, and you couldn't get there except by a twisting lane. The place hadn't had even a name of its own until Bill Juniper, who called himself a retired deep-sea diver, but was said to have made his money by hiring out bathing-tents when such things were hardly thought of, bought the land and built the first bungalow there. A good many people wondered at his turning hermit, Bill being a marriageable bachelor with four pounds a week coming in regularly, and all Devon to choose from when it came to wine, women, and song, as the saying is. But gradually it got to be known that what first attracted and then kept him there was the Cove's bathing-pool. You wouldn't see it from the beach, but there was a flat ledge of rock, called the Angler's Stone, that made a perfect little place to dive from, to say nothing of caves at the rear for undressing. And diving, Bill told them that asked, was once his livelihood and now his hobby.

At this point the bronzed man paused long enough for me to inquire why so attractive a site hadn't been developed before. He said he'd been expecting the question, and that the answer was simple. The Cove had a queer reputation. Not for being haunted, exactly, nor yet unhealthy, nor even unlucky. But there were stories of visitors bathing there and coming home again . . . different. Not all of them; only some.

"Was Juniper one of the some?" I asked.

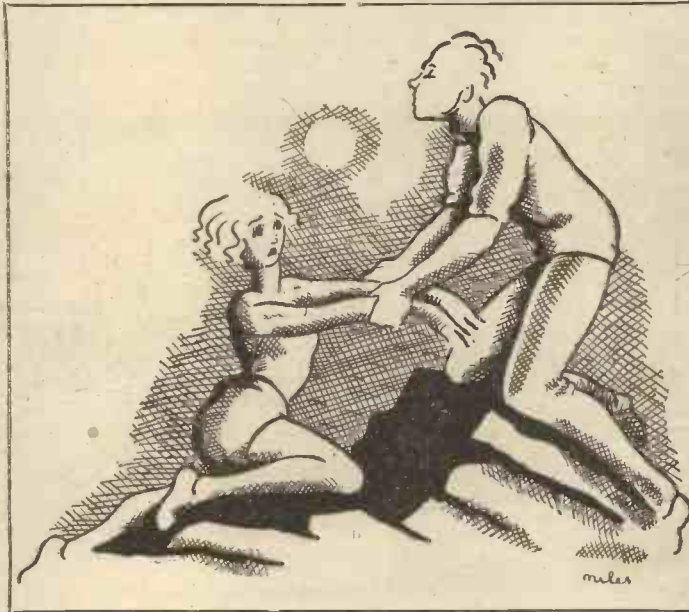
"He was," said the bronzed man.

"Very interesting, not to say mysterious."

The bronzed man shook his head deprecatingly. I had heard (he explained) only the beginning of the story. Old Juniper had great ideas concerning his duty towards his neighbour and about being fair and above board, and whenever anyone from London or the provinces came along and wanted to buy a plot and start building, he used to warn them very solemnly about the risks that were connected with the Angler's Stone. "You can take a header off that stone any day you've a mind to," he'd tell them, "provided the sea ain't too boisterous, but don't for the love of Mike try diving by moonlight." And the visitor from London or the provinces would ask, naturally, "Why not?" To which old Juniper would reply by telling 'him about the curse

which had been laid on the Angler's Stone, and which he had proved for himself, as well as read about in a book he bought for tuppence in Exeter, and wouldn't part with for a hundred pounds. And the story of the curse was this: A hundred years before, on a calm and moonlight night, a Spanish ship had gone to pieces off Chine Point. And one of the crew, swimming from the wreck, had come ashore at the Rock. He found a man, a stranger, fishing there, and when the Spaniard asked for help the angler only stormed at him for scaring the fish away just as they were beginning to bite. In the end, the sailor had to scramble to safety a hundred yards farther down the beach. But before he went he said he hoped the first fish on the hook would pull the angler into the sea, and teach him to talk less and perhaps learn more charity. Which happened, the fish being a big conger and the ledge slippery. Ever since which it had been dangerous to bathe from the Stone when the moonlight was on it.

That (said the bronzed man) was the yarn Bill Juniper used to put over. Sometimes it scared people away, and sometimes it had just the opposite effect.



"Do you believe in the legend yourself?" I asked.

The bronzed man emphatically did. Those who dared to dive by moonlight were *changed*. Never quite the same again. That was why they shunned their fellow-creatures, and were glad to buy a quarter-acre from old Juniper on his own terms, and live in the Cove for the rest of their lives. Eventually there came a time when there was only one plot left, and excitement ran high as to who the last bungalow builder would be.

That, it appeared, was how things were five years ago. It was then that a young chap called Peter Barlow came down from London to spend Christmas at a boarding-house at Chine. He'd never heard of Juniper's Cove; neither had a girl called Lewkins—Jane Lewkins was her full name—whom he'd met in the train and struck up a friendship with. Jane had more good looks than any one girl has a right to, and Barlow was head-over-heels in love long before Chine was reached. The story, when they heard it, worked on their minds in different ways. Jane said she wasn't superstitious, but couldn't imagine anyone who was being brave enough to risk—well, whatever there was to risk. Whereas young Barlow said that he was willing to believe that there might be something in the curse, but that it wouldn't prevent

him bathing from the Stone by moonlight if he felt like it. There was a full moon, as it happened, the very next night. The girl said she didn't believe he'd *dare*, and Peter Barlow said: "Wait and see."

And on the following night he took his bathing-suit and towels, and slipped out of the house and down to the Cove without being noticed. It was only eleven o'clock, but all the bungalows were dark and silent as he walked past them down the twisty path that led to the Stone. In those parts the natives go to bed early, and visitors get the habit. Peter undressed in the nearest cave, put on his bathing-suit, stepped on to the Stone, gave a last look at the moon, raised his arms, and dived.

And at the very instant he realized that the curse wasn't bunkum; that he was doing a thing he'd be sorry for afterwards. But the water was deliciously warm and, once in, there didn't seem any particular 'sense in cutting short his swim. He'd splashed about for ten minutes or so when he heard a sound, and turning, saw Jane coming out of the farthest cave. She was wearing a green bathing costume, and in the moonlight she looked like the loveliest mermaid that had ever swum ashore.

"After what you said yesterday I simply had to come," she said.

Peter was frightfully bucked. It made him feel that he really mattered to her. And yet, at the same time, he dreaded the thought of her jumping in, because of the sense of disaster he'd suffered from himself. He tried to tell her so, but before he could get the words out of his mouth, she had raised her arms and dived, and was bobbing about in the sea beside him.

"How perfectly lovely!" she said. And Peter answered, with a leaping heart—for her words made him feel that the Curse hadn't fallen on her yet, anyway—"Yes, isn't it!" or words to that effect. And Jane said: "You've been in too long; your teeth are chattering like anything." And though he shook his head, not really feeling cold, in a minute or two he had to admit that she might be right, and climbed out.

He went to his cave to get dry and dress, and then back to the Stone to make sure that Jane was all right.

She was still splashing happily in the water, looking more like a mermaid than ever, because you couldn't see that she hadn't a tail. An unendurable curiosity to know the worst swept over Peter. He beckoned her to come out. She began to say "Why should I? It's simply glorious," but instead of finishing she faltered, and a look of distress and amazement flitted over her face, and her eyes filled with salt tears as well as salt water. Silently she swam back to the Stone, and with Peter's help was hauled on to it. And, still silent, she fled to the cave. Ten minutes later she came out again, clothed, but pale and unhappy. She and Peter sat down, side by side, on the cliff, and for the best part of an hour discussed the Curse that now had overtaken them both, and what was to be done about it.

* * * *

The bronzed man broke off to search for a cigarette. He discovered that he hadn't any, and helped himself from the case I proffered.

When he had got it properly alight, I asked him how the story had ended.

Peter and Jane (he said) were married. And Peter being a crossword expert, and, as such, able to earn a living anywhere, they had settled down on the last vacant plot in the Cove. They

(Continued in col. 3, page 980)

Radio and the Modern Girl

By LOUIS GOLDING

IT is only a few years ago that the idea of a-girl tinkering with anything mechanical would have seemed entirely preposterous. Up to a certain age she had her dolls to play with; then she started playing about with her sweethearts. But everything in the nature of toy engines, tools, valves, rails, was the strict province of the boy.

What an unattractive creature the young, mechanically-minded male was always represented to be—and usually was! He always wore spectacles. His stud never held both sides of his collar simultaneously. His hair was lank and untidy. His fingers were black with ink-stains. Of course, the type is by no means defunct. He still drives toy trains and, in later years, builds real ones. Moreover, a whole new world of mechanical experimentation has come within his ken. I mean, of course, the world of wireless. The boy who thirty years ago played with puff-puffs is father to the boy who plays with aërials. He was once content to throw a toy bridge over a wooden river. Nowadays he throws a bridge from his play-room all the way to Berlin or Milan.

But, whereas the male was sole lord of the mechanical world in the old days, his sister very emphatically disputes it with him now. The Miss Amy Johnstons and Lady Baileys will not let the Scotts and Mollisons have it all their own way. They drive their own racing-cars. They participate on equal terms with their brothers on dirt-tracks. They do not yet drive the Flying Scotsman to Edinburgh or the Golden Arrow to Paris. But they will, sooner or later.

It is notably in the world of wireless that the modern girl asserts herself. I suppose that this is because wireless, more than most of these mechanical pastimes, invades her own particular sphere, the home. And when I say the modern girl, I don't mean some unprepossessing equivalent of the unattractive young gentleman I evoked earlier—a grim maiden with blue stockings, with spots on her face and her hair in plaits. Some of the most attractive girls I have met on my wanderings have had a keen interest in wireless, not merely in the comparatively passive department of listening, but in the active and highly complicated region of set-building, too.

Only a month or two ago, for instance, I spent some idyllic days with a young literary maiden from Berlin, canoeing up and down the chain of lakes that thread the sandy pine-woods between Berlin and Potsdam. She built novels by day and in the evening flung herself into building wireless sets. We had one with us in the canoe. It was a pleasant thing to glide down those smooth waters to an elfin relay of a Strauss waltz from the Hotel Adlon.

Then, somewhat earlier, I was staying in Nauplia, an exquisite sea-city on the Greek Coast southward from Athens. A Greek-American girl and her father were staying there, too. They had made a pleasant fortune out of second-class restaurants in the speak-easy region of New York, east of Broadway at Seventh Avenue. She had a short-wave set with her, and I wondered whether it had an attachment by which she hoped to get into touch with her remote ancestors of the Periclean age. But her interests, I soon discovered, lay entirely with her contemporaries of the Marconi age.

Two days later she informed me that a peasant girl and youth were being married in a church just near the hill on which the prehistoric palace of Tiryns stands. Would I come with her and her father and a luncheon basket and a wireless-set? She was the sort of Greek girl who sent Byron to die at Missolonghi. The least I could do was to go and eat lunch with her at Tiryns.

An hour, or two hours, after our arrival, we became aware of a procession below us, proceeding with music along the plain. A Ford car led, in which we could recognise a bride in her white clothes, and a bridegroom. The relatives followed in rustic carts with a jingling of harness, a singing, a strumming of guitars, a moaning of fiddles. The women had pink parasols, looking like petals of peach-blossom against the blue sky. The black priest followed behind.

"Say boy!" said the Greek girl, her intensely black eyes shining with excitement, "ain't it swell?" Then she played about with her receiver for some moments, till at last, from some far, smoky capital she drew a surge of jazz. She rose to her feet and swayed in time to the music. "Ain't it swell?" she cried. "What



d'you think them old guys would say if they came back to this joint and heard this yer radio and saw that there Ford car? Would it make them kinda queer, honey? I'll say it would!"

Later we were aware of another cavalcade, more jingling and strumming, and later of a third. "What!" I cried. "I say, Miss Theotocopoulo!" (or some name like it!). "Is all Nauplia being married to-day? Is there no hope for any bachelor who enters Nauplia to-day, hoping to find his destiny there?"

She laughed merrily. It was all the same wedding, she told me. It was the same pink parasols, circling round somewhere beyond the megalithic walls to give the bride for another hour the rapture of riding upon a Ford car on this, her life's great day.

To me it seemed that the Ford car was a chariot of victory driven round the walls of a defeated city, and the music of the wireless was the music of conquerors who had dispossessed a king of his house. Yet I should not wonder if Tiryns will speak the last word yet, over the body of the remote ultimate offspring of that day's wedding.

Mr. Filson Young admirably wrote, not long ago, that it is the duty of people who take portables out into the open air to see that they do not make themselves offensive to other people in their neighbourhood. A certain French young lady who visited the island of Capri last

autumn was obviously unaware of Mr. Filson Young's advice. There was not a moonlit terrace, not a bank of mountain-thyme, which she would not compel to break forth suddenly into oscillatory noises—for she was an incompetent creature with a switch, though she was consummate with a lip-stick. I do not often exult in a young lady's mortification, but I confess I did in hers on a certain occasion. I was rowing towards the Blue Grotto one hot afternoon when suddenly a loud wail was heard across the waters. The French maiden and her wireless were approaching. She got into the Blue Grotto just a minute or two after me. She thought the setting would be particularly appropriate to a little hectic dance-music from Naples. She turned and twiddled, and turned again, the dials and knobs of her receiver. But we were surrounded by colossal masses of mountain, beautifully impervious to etheric waves. Not a squeak emerged from her expensive set. She hurled forth from the grotto indignantly.

But in Paris I know another Frenchwoman who amply atones for her. This other Frenchwoman is older. She is not so skilful with a lip-stick, but she is much more efficient with a wireless set. I have known her for years, for she runs an adorable little restaurant near the wine-market. She is herself fat and comfortable and adorable. She can cook chicken in wine-sauce so exquisitely that all human woes slip

from your shoulders. I once saw a rugged London stockbroker weigh in on that chicken, and slow tears started in his eyes, of incredulity first, and then of rapture. As for the sweetbreads you get there, and the raspberry cake . . . but I will say no more.

It is not long ago since she installed a magnificent wireless console in her restaurant. She is very efficient with it. She is too efficient. I am not quite so sure that the wine-sauce which goes with the chicken is quite as paradisaical as it was before. I'm beginning to have my doubts about that raspberry cake.

Dear *madame la patronne*, do not lose yourself in an abstract world of transformers and kilowatts. Leave your countrywoman from the Blue Grotto to wander to and fro in the etheric vacancy!

Do you, for your part, return to your sauce-pans and your baking-tins!

CROSSING SWEEPERS.

(Continued from page 969.)

from greengrocery, and crossing-sweepers are no more. I wonder much if those who but for a malign fate would have taken to the profession have now, in despair, gone into the vegetable trade. If this is so, that profession should itself be crowded and difficult to enter. Parents must, I fear, fall back on threats of apprenticeship to a master sandwichman.

The "Dame Europa" Radio Map

AFTER you have once looked at this map you will never be able to see a map of Europe without noticing the energetic lady who is radiating all over the world. Her attire is rather ragged in places, but this may be symbolic of the reception we get from heterodyned stations.

Readers who have some knowledge of morse may find the border of the map, with its two types of pictorial morse, interesting. In the one case, the long and short strokes give the code letters; in the other, the holly leaves and berries give the same result in harmony with this festive season.

The 200-mile radial rings are drawn from the North Regional Station, that point being approximately the centre of the B.B.C. area.



DAME EUROPA RADIATES

Modernising the Desert

Wireless in the Harem

By the Sirdar IKBAL ALI SHAH

NEW means have been found for coercing the recalcitrant marauders of the desert. Loud speakers with a range of several miles are to be fitted to R.A.F. airplanes in Iraq and elsewhere. With the aid of these, political officers with a knowledge of local dialects are to hurl down imprecations from the heavens upon those tribesmen who offend.

The desert bandits who infest the hills beyond

in Suburbia. It is true that but few of them can speak or understand English, but quite a number, especially in Syria, have an acquaintance with French, and most a recently developed appreciation of the intricacies of modern syncopation. Kaid and others nowadays provide wireless sets for their harems in much the same manner that they did gramophones in the past. The men of the oases regard them as toys for the womenfolk. To what usages they are put behind the purdahs of the harem only the women can tell—and they do not propose to do so at present. The time is coming when the lesser Sultans and their Kaid will pull their patriarchal beards in vexation. That will be when the women have become so accomplished that they will demand an outlet and insist upon following in the footsteps of their sisters in Turkey.

Because of the paucity, or rather non-existence, of desert wireless stations, only the more expensive sets are operative in these regions. For the moment they are of the short-wave variety, but the time is not far distant when medium-wave radio will be available.

A scheme is actually in hand for the installation of wireless within the sacred precincts of Mecca, the object of the Faithful being to make available to all good believers

a radio service which will take them to the heart of their faith. The spectacle will yet be seen of Moslems conducting their daily prayers to the exhortations of wireless radiating the voice of the Mullah from the Holy of Holies of Mecca itself.

Unfortunately, there are certain fundamental difficulties in the way. The wireless engineers are mostly infidels, and as such cannot set foot in Mecca itself. To obviate this, and to make the scheme practicable, a number of young Egyptian engineers are being sent to Europe for training in wireless.

There are other angles, also, to desert wireless which, if not so colourfully interesting, at least have their romantic side. It is the intention of the Egyptian Government to link up all the principal oases of the Libyan desert by means of a chain of fixed and mobile wireless telegraph stations. That this is not a mere dream can be gathered when it is stated that this work is already well in hand and that the main station at Cairo is on the point of completion.

Dakhla, Baharia, and Siwa are the three

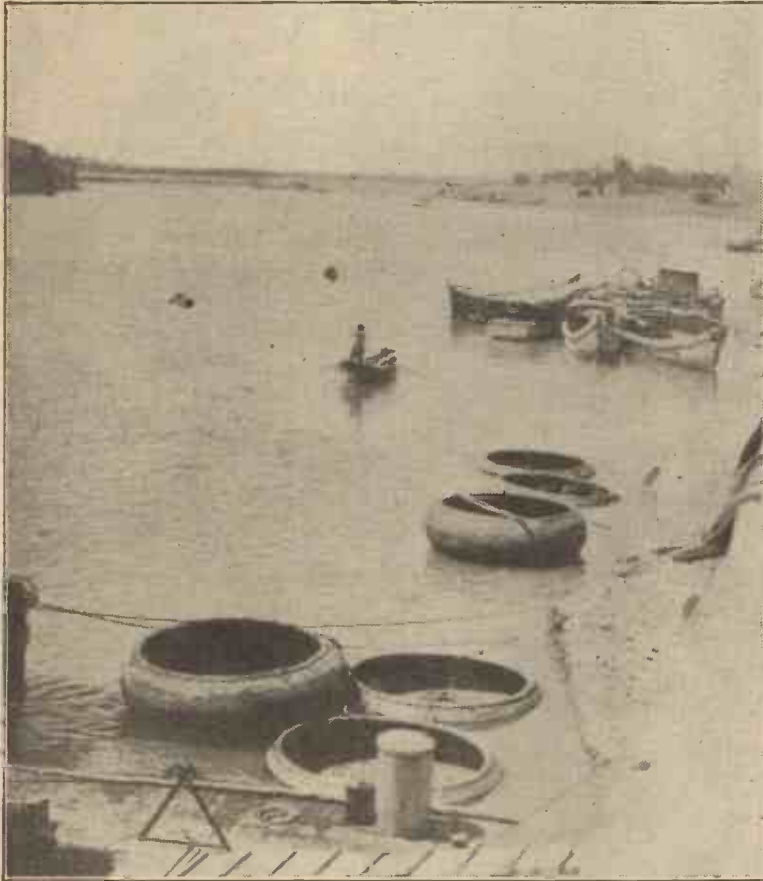
principal oases to be brought into wireless communication with the Egyptian capital. In each instance the new wireless stations will be operated by the Egyptian State Telegraphs Administration. They will be incorporated in the inland telegraph system, and ordinary telegraph rates will be charged. Exactly what this will mean to Egypt and the desert population only few can yet realise.

The great oasis of Dakhla has 17,000 inhabitants. It is 160 miles, or five days' camel ride, to the westward of Khargha oasis. This latter has 6,000 inhabitants, and it is connected to the Valley of the Nile, near Luxor, by a light railway of 120 miles. Baharia is six days' camel journey from Cairo. It has a population of 4,500. Siwa, the oasis of Jupiter Ammon, is 240 miles from Alexandria, and contains about 4,000 inhabitants.

All of these oases are fertile places. In Dakhla there are some 240,000 date palms, and the Siwa olives are amongst the finest produced. The camel-borne date and olive export trade is considerable. For the first time the wealthy inhabitants of these oases are to be brought into direct contact with the markets of the outside world. Many a weary camel journey will shortly become unnecessary.

It is also probable that the new stations to be erected will play an important part in the cadastral survey of the Libyan desert. As a consequence of the intensive exploration which has been in progress during the past decade, an immense pocket was discovered between Siwa and Alexandria. This has been named the Quattara Depression. Wireless is to be utilised in the further exploration of this region, for it has been proposed that a canal should be cut from the Mediterranean, thirty miles away. By this means the depression could be filled, a lake with an area of five thousand square miles formed, and a means of navigation provided right to the edge of the Siwa Oasis. The water level of the lake would be 150 feet below sea level. It is calculated that its fall would be sufficient to generate 270,000 electrical

(Continued in column 3, page 988)



The ancient river transport of flat-bottomed, cup-shaped "Dhos" on the river Tigris, in Iraq

Mosul, and the rather despicable creatures who haunt the marshes of the Tigris and the Euphrates, have a wholesome respect for R.A.F. bombers and R.A.F. troop carriers, but in these sophisticated days they are likely to laugh in their beards at the voice from the sky, even should an eerie touch be given by virtue of the loud-speaking aeroplane being hidden in the clouds.

The Arab is not entirely ignorant of the properties of wireless. He might have been mystified and perhaps apprehensive of the strange apparatus of fourteen years ago with which Major-General Townshend kept touch with the outside world when besieged in Kut-el-Amara, but he has progressed since then. He has been present at gatherings when the spoken word has been transmitted over a wide area by means of the microphone and loud speaker, and he has long since overcome his amazement at the capabilities of a portable radio. He might not understand how these instruments function, but he does know that they are not to be associated with danger—and that counts for most in the desert.

The more enlightened ladies of the harems regard their wireless sets with just as much affection or opprobrium as do their counterparts



A palm-grove café where Arabs and Kurds foregather

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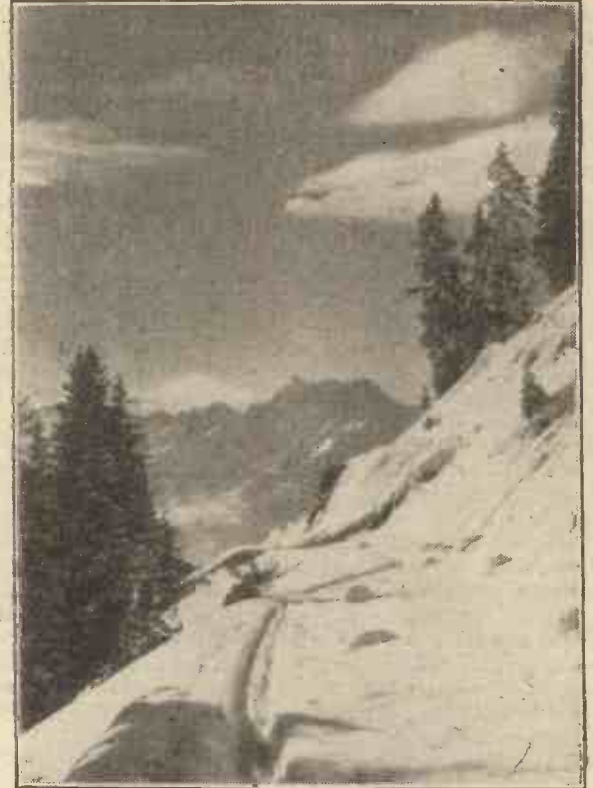
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Alpine Scenes in Switzerland



Sun and Shadow

A Leysin snow scene. The Chamossaire mountain, in the background



Ski tracks in the Alps

THE MISER

(Continued from page 970)

"Carol singing, eh?" he said slowly. "Why—?"

The two youngsters cowered before him abjectly.

Suddenly Albert regained a little of his courage.

"T' earn a few coppers, Mister," he jerked desperately. "We ain't done no 'arm."

"Ah, to earn money," the man eyed them fiercely. "And why did you spy on me here afterwards?" he turned to Bill for an answer. Bill stared, white faced, at the floor, his bare toes curling and uncurling amidst the thick pile of the carpet. The old man waited for his reply.

"We was watchin' y' eatin," stammered Bill at last in a voice which was only barely audible.

"I see. And did you enjoy watching me eat?"

Bill nodded.

"It were a fair treat, Mister," he said earnestly, suddenly losing his frightened air. "I were jes sayin' t' Albert here that I c'd a'most smell yer taters through th' winder, when ole pottle bell—I means th' bloke, copped us. We wasn't up t' no 'arm, Mister—straight!"

"Hum," the old man appeared to be thinking this over. "Did you think I should enjoy your carol singing?" he demanded roughly.

The youngsters nodded mutely.

"Oh——" the old man appeared a little surprised. It was the first time any human emotion had appeared on his face since the interview had begun. "Do you know I am a great musician?" he demanded.

"I thought you was a mi——" started Bill and suddenly halted in response to a swift dig in the ribs administered by Albert.

"Well——" the old man's eyebrows raised in silent enquiry.

"Bill thought you were a mighty big singer," said Albert with ready resource.

"I see," their interrogator smoothed his chin

thoughtfully. "I should like to hear your carols," he said a trifle grimly. "Stand here in front of the fireplace and let me hear you!"

The two urchins looked badly scared. They suspected some trap. Bill reached out and clutched his friend's hand for comfort. Albert clutched it tightly, his eyes on the man's face.

"Well——?" The old man waited for his guests to commence. "Aren't you going to sing?"

"Can't——" stammered Albert with an effort.

"Can't—— of course you can——"

"Forgotten th' words——" muttered Albert miserably.

"N th' toone——" whispered Bill, feeling he must give his friend a little support at all cost.

"You can't remember words—or tune?" demanded the old man testily. He walked over to the other side of the room and swung round on them suddenly. "Are you hungry?"

The youngsters surveyed him suspiciously, then nodded, not hopefully.

The old man pointed to the table.

"All right," he said irascibly. "Don't stand there looking at me as if I were an ogre. Sit down at the table and help yourselves to what you fancy." He drove the pair to the table and placed food before them. The youngsters stared at the food helplessly, too scared to eat.

The old man looked puzzled.

"The food isn't poisoned," he observed, standing back from the table. "Tuck in and enjoy yourselves." But still the urchins would not take advantage of his offer.

Suddenly the old man gave a sharp exclamation. He looked at the pair and smiled.

"It's atmosphere," he remarked obscurely. "We must change it. Do you know it's Christmas Eve?"

The urchins nodded dumbly.

"Good," he remarked, and went over to a small side table on the far side of the room, where he fiddled about with a square box. "And on Christmas Eve, we feast and have carols. I wanted you to oblige me in that

latter respect, but you wouldn't—or rather, couldn't. So I must obtain the carols elsewhere. Listen——" he depressed a shining knob. At once the room was filled with music. To the astonished ears of the two youngsters came the sound of a glorious choir singing an air which at once struck a familiar chord in their memories.

"Then looked up, and saw a Star.

"Shining in the East, Beyond them Far."

Bill and Albert listened open-mouthed, enthralled.

"Carols," said the old man. His face grew gentle, his eyes kindly. Going back to the table, he laid a hand lightly on each urchin's shoulder. "Eat up," he bade them heartily. "If you want more, I will ring. I was only testing you just now. Bless my soul, I'm only too delighted to have you here tonight. I'm a lonely old man. Hark at that. It's the B.B.C. choir—although I don't suppose you know what that means. They sing jolly well, don't they! Can you remember the words, now?" he grinned at Albert, then at Bill, "——and the tune?"

The boys looked up at him solemnly. Suddenly they smiled, freely and without reserve. Nodding, they picked up knives and forks, and attacked the plentiful supply of food before them with ecstatic vigour.

"Lumme!" exclaimed Bill, his mouth full.

Albert merely grinned, too much occupied to waste time on mere words.

The old man listened to the Wireless Carol Service with moist eyes. Five minutes ago he had felt alone, deserted. He had not had the heart to switch on the Carol Service; it would have brought too sad memories. It was dreadful to be old, alone, friendless. But now——

He rose to his feet and hurriedly cut more slices from the loaf.

"Eat up," he said happily. "There's plenty more where this came from."

"Coo!" said Albert—a statement which was wholeheartedly echoed by Bill.

The old man nodded gravely to himself and chuckled.

Christmas Time in Southern India

By C. FALCON

ALL Bangalore turns out to visit the Christmas Eve *bazar*, and one's progress through the narrow streets is slow as a journey up the Mall to a London court. If you are not jammed between a bullock-cart, a landau, car, or rickshaw, you are held up by a coolie with a load of chairs or a tray of cakes balanced on his head, or by a cow with a calf tied to her tail wandering from house-door to house-door to be milked.

The market is a glare of colour. The reds, blues, oranges, and greens of the people's garments fight with the hard yellow sunlight and the brilliant hues of the fruits. One's ears are filled with the clamour of the vendors, with the squawks, squeaks, shrieks, and yappings from the poultry and animal markets where ducks, turkeys, rabbits, minah birds, and puppies are squashed into the smallest possible cages.

It is a show as well as a market, and since prizes are being distributed, most of the fruits and vegetables are of outrageous size, cauliflowers bigger than a person's head, beans as long as a forearm. The prize-winning cock, with a garland round his neck, sits on a barrel before an admiring crowd of men and boys. He looks sad and seedy. Perhaps it is the scent of the frangipane flowers which compose his garland.

We pass stalls of brassware—the sheen of it hurts already dazzled eyes—and stalls of

small charcoal fires lit in hollows in a huge stone trestle.

Our next task is to decorate the "tree." The *mali* has entered into our wish for one, and, knowing nothing of spruce, has produced a number of branches with large, floppy, serrated leaves. It is difficult to fix candles on to them, but the final effect is quite satisfactory.

Christmas Day dawns, and our Hindu boys greet us at breakfast time with strings of garlands, which they hang round our necks, and gifts of limes. The garlands are composed of threaded white and yellow flower heads, chiefly frangipane blossoms, potatoes covered with silver paper, and beads or small stones. Overnight the boys have strewn the drive with more flower heads and erected an arch of leaves, coloured paper stars and lanterns over the gates.

At breakfast time, too, the *sais* and *mali* arrive with offerings of roses and more limes. After breakfast the head boy collects the staff and makes a speech of good wishes to the assembled family. Then cook's children appear, very sleek of head and neat in their best *saris*. They bring garlands for our children. They come again later in the day with the rest of the boys' families, always excepting the wives, to see our Christmas tree and receive gifts of oranges, sweets, and annas. Presents to the boys amount to two rupees (3s.) to the head servants and one rupee to the others.

Much of Christmas Day is spent in paying or receiving visits and eating Christmas cakes or puddings that have arrived from home. A shout of "Boy!" echoing through the bungalow announces visitors, for there are no door-bells, and immediately the chirping of the tree-rats which have made their home in the rafters of the drawing-room and the raucous croaks of the grey-backed crows that sit quarrelling on the compound wall all day are drowned in the boisterous exchange of good wishes.

During the afternoon most of the tradespeople from the *bazar* arrive with rich presents of fruit and cakes, cigarettes, and bottles of whisky as well as garlands for all the family. But the acceptance of the former implies a kind of business contract, a promise of custom for the coming year, and, therefore, though we accept their garlands and fruit, it is customary to refuse the expensive gifts.

The day may end with a party at home, with the playing of wild and childish games, the pulling of crackers and with carol singing. But if the moon be full we shall almost certainly organise a picnic. The choice for this is carefully selected: not near rocks for fear of snakes, not too near a tank (as all lakes are called) for fear of mosquitoes, and not on any account where spear-grass grows. One has only to brush past this tall, harmless-looking, sparsely-growing grass to collect numerous needlelike barbs which work their way through the closest material persistently to prick the skin.

The picnic will probably take place on an open sandy plain, where the moonlight can be enjoyed to the full. Like all functions in India, it will be no trouble to arrange. Some time during the afternoon the boys will go out and make the site gay with Chinese lanterns hung on sticks which have to be hammered into the hard earth. Later, cook and his mate will journey thither in a *jutka* cart, a hooded vehicle without seats drawn by a fast-trotting little pony. Cook will have partially cooked the meal at home, and, now arrived at the site, he lights the usual small charcoal fire to complete his task and enable him to serve a hot meal. Everything is arranged by the time we arrive. Someone will have

brought a gramophone, and we may dance. We may play a species of rugger or netball with a cushion from the car as ball. But sooner or later we shall settle down round the improvised table, and over sweets, cigarettes, and drinks discuss other Christmases. And then, from a safe distance, jackals will peer and wonder, and the thousand sounds of an Indian night make themselves heard—the whirr of insect wings, the flop of heavy insect bodies, the chirp of crickets, and the cheep and squeak of countless unseen little animals.



Hindu merchants and *bazar* coolies

THE CURSE

(Continued from page 973)

were living there to this day, happy enough in spite of the Curse. Once a year Peter came up to London to buy Christmas presents and so forth, but for the rest of the time their lives were passed among other people who had dived from the Stone in the moonlight and paid the penalty.

Handicapped, yes. But there were advantages as well. It was surprising, for example, how little gossiping and backbiting there was in the Cove. No real encouragement to spread a rumour when it took so long to get going. Dull? Well, there were always gramophones and the wireless to liven things up.

The bronzed man broke off to remark that we'd got to Salisbury.

I glanced through the window. He was right. And at Salisbury I was joining a friend in the luncheon car.

"There's one thing you haven't explained," I said, and hesitated. "And that's exactly what the penalty was." Then, as his expression made it clear that he didn't consider further explanation necessary, I added, hurriedly: "I've guessed, of course. But a guess isn't a certainty."

"Reckon it ought to b-b-be in this c-c-case," said the bronzed man. "However, if you w-w-want to know, that c-c-c-curse was a st-st-stutter, warranted pup-pup-permanent and incurable. And I'm P-p-p-peter B-b-b-b-arlow."

"Good-bye, Mr. Barlow," I said. "And a Merry Christmas."

"G-g-g-goo-good bub-bub-bub-bye," said Peter Barlow. "The s-s-same to you, and mum-mum-many of 'em!"



Garlands and bouquets presented by our native servants

bright pink sweetmeats and lurid native foods. We are pestered by coolies begging to carry the purchases we have not yet made; and ducks being carried round by their owners as if they are puppies are pushed into our faces with: "One rupee, memsahib, on'y one rupee."

An hour passes, and we are glad to return to the bungalow. How cool and refreshing after the noise and dust of the streets!

Cook appears to discuss to-morrow's Christmas dinner. There is really nothing to discuss, for he knows better than I what a *sahib* should eat on Christmas Day. Nothing will be forgotten, and I shall again be left marvelling how he has managed to cook everything on a number of

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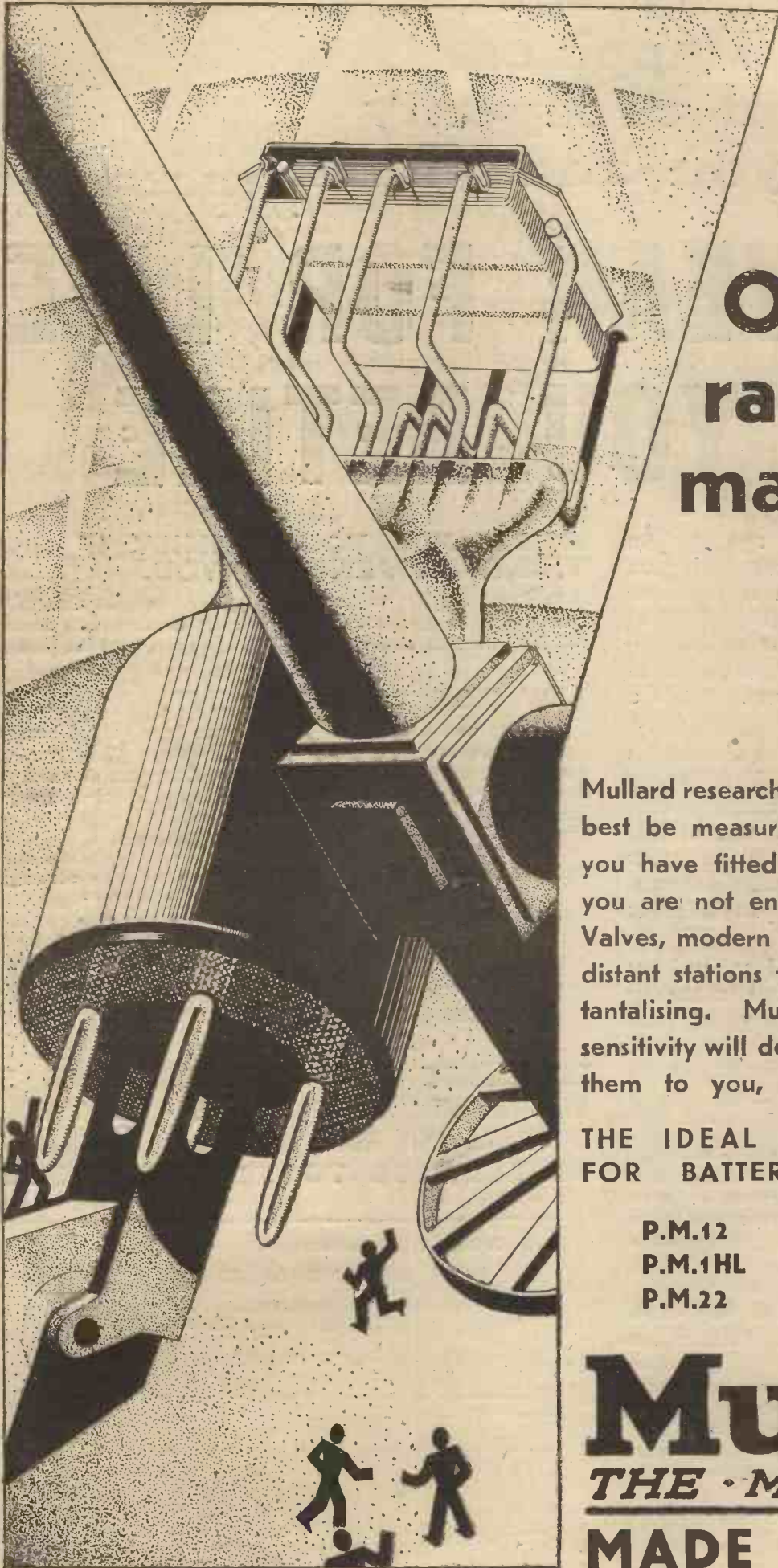
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Christmas Customs

The Bethlehem Play in Hungary

By "RODEUR"

IN most Continental countries New Year's Eve is the most important Yuletide festival: Christmas Eve and Day are religious

of the great Palocs clan, who are famous for their artistic embroideries, the Bethlehem Plays are studied and prepared weeks in advance.

have themselves made. Admitted to the courtyard or main room of the farmhouse, they sing Christmas carols and dance folk dances, and relate the story of the Holy Night in verses especially composed. Finally they sing again in chorus. This is the end of the play, but not the end of the performance, for the youngsters wait for the small presents which are always given to the Bethlehem Players. It is a prettily



holidays with home gatherings round the decorated Christmas tree at the foot of which is laid a present for each member of the party. In Hungary, however, the Christmas festivities have an entirely special character. Little plays by the children are the most distinctive feature. They are called "Bethlehem Plays," and naturally deal with the Nativity.

In Mesökövesd, a country town in Western Hungary, the home of the Matyok, a branch

Only girls of from six to fourteen years of age take part. Having with much thought and labour built a small crib and collected elaborate costumes, these youngsters make a tour of the village at round about five o'clock in the evening. They knock at each door and ask permission to enter the home with the "jaszel," a small model stable, or crib, illustrating the place where Christ was born. The traditional figures of the scene the young players

conceived custom, and the girls in their richly embroidered festival dresses, with weird head-dresses, and the quaint "shepherds," add considerably to its attractiveness. The Matyok are noted at all times for their wonderfully embroidered dress, and many a young girl going to church on Sunday may be wearing clothing and ornaments worth from £100 to £200. The young men likewise embroider their dress during the winter and are very elegant at church parade.

Festivities in Poland

(From our Warsaw Correspondent)

CHRISTMAS in Poland, as in most Christian countries on the Continent, is mainly a religious and family festival. The preparations for the holidays begin long in advance. Their character, however, depends much on circumstances, and varies in different parts of the country, different classes of people, and with country as distinct from town dwellers.

The central feature of the festivities is the Christmas-tree, picturesquely decorated with golden and silver threads, walnuts, and "St. John's bread," rainbow-coloured glass balls, artificial shining snow, all sorts of sweets, "Paradise Apples," and many toys. It is a popular custom to put under the Christmas-tree a toy model of the Manger, with the Holy Family and the Angels, the Shepherds, the Three Kings and the Wise Men who gathered to pay

homage to the Holy Child. Models of Bethlehem's sacred inn can be bought, but some people, especially those who have children, construct one themselves from printed pictures. Of course, in the evenings, the tree and the sacred shed, called in Polish "Szopka" are beautifully illuminated with candles, sometimes with coloured electric candles. You will find a Christmas-tree, lighted with electric candles and elaborately decorated, in almost every big shop, café, restaurant, cinema, theatre, and similar places of public entertainment.

The Christmas-tree is hidden from the children until Christmas Eve, when they all gather to present good wishes to each other, while sharing the "Oplatek"—a flat, stiff, and square piece of white wafer with seasonable Christmas images or scenes impressed upon its surface. The "oplateks" are not sold in the shops, but are prepared and distributed by the parish churches.

Usually the children find Christmas gifts arranged for them as surprises under the tree, each bearing the name of its intended recipient.

They all sing the "Kolendy" (Christmas songs). Nobody in the house must be omitted at the ceremony of the "oplatek," or during the singing. The servants, too, have their share in the celebration.

In the country it is the invariable custom to attend the midnight service on Christmas Eve ("Pasterka")—a special Christmas service. There is a gay sledge drive with much shouting of greetings. During Christmas there is plenty to eat and to drink—or was in the past. This year, owing to the economic crisis, which is exceptionally acute, it is feared many people will go hungry.

But people in Poland are by nature very joyous and they will endeavour to "manage somehow"—as they say.



Making straw goats which are a traditional feature of Swedish Christmas festivities. The photograph was taken in one of the houses of the well-known "open-air museum" of Skansen, the girl being from Dalecarlia appears in provincial costume. At midday on Sunday, the 13th, Stockholm is broadcasting from the Christmas Fair at Skansen.



The Lucia festival, kept on Dec. 13th, in Sweden. Coffee with special bread and cakes is served by a girl dressed in white, and with burning candles in her hair. She is attended by a train of "Lucia-maids," and together they sing old Swedish Christmas songs. The above picture is of the Bollnäs cottage at Skansen.

Christkindlmarkt in Germany

ALL over Germany it is the custom for people to buy the necessary tinsel, candles and other ornaments for the Christmas tree, from merchants in the streets. In Southern Germany a number of towns have regular "markets." A fortnight or so before Christmas, wooden huts are put up on some central square, and here one can buy everything required for Christmas. As, usually, the weather is cold, the stalls selling hot sausages do quite good business. Shopping starts at noon and goes on till well after seven. Candles and electric light turn the *Christkindlmarkt*, as it is called, into a glittering mass of Christmassy things. Munich has a famous *Christkindlmarkt*. Children are the main customers, even if the grown-ups have to pay. This year, even more than last, prices are low; but pockets are emptier, too, and so there will be less custom.

A. G.

Austria's Listening Christmas

(From our Vienna Correspondent)

RAVAG is making special preparations to brighten up the coming Christmas holiday—which will last from Thursday afternoon till Monday morning—for the vast numbers who will have no other external recreation than that offered by broadcasting. This will be such a home-keeping Christmas as has not been for years, in most countries, and especially in Austria, where "hard-up-ness" is specially acute.

Soon after dusk begins on Christmas Eve every shopkeeper starts closing up, offices of all kinds shut earlier than on ordinary days, and there are no amusements or entertainments but home and the Christmas tree—always lighted on Christmas Eve—and wireless. So that evening the Wandering Microphones will relay the singing by the Salzburg Song Association from the graveside of Franz Gruber—the composer of "Silent Night, Holy Night" ("Stille Nacht, Heilige Nacht"—the wonderfully beautiful and simple Christmas carol which is sung by German-speaking people all over the world on that evening) in the vicinity of the ancient cemetery chapel at Hallein, near Salzburg.

Gruber was a school teacher and village organist at Oberndorf. This will be followed by a Christmas Mass in the chapel, with special music, which will also be relayed. At 10.40 p.m. on Christmas Eve the organ-playing and, finally, the chiming of the bells at midnight, will be relayed from the famous church of St. Rupert, in the centre of Vienna, close to the ancient Jewish ghetto. This is the oldest church in Vienna, parts of it dating from the beginning of the thirteenth century, and the crypt going back to the time of the Romans.

The first of the important Christmas celebrations to be relayed by Ravag will be the ceremonial unveiling on Sunday, December 20, of the Christmas-tree for the birds, set up in the People's Garden, near the Hofburg Palace in the heart of Vienna, and decorated and furnished with thousands of meals and tit bits. Last year such a tree was erected for the first time, and the excitement of the ceremony of the unveiling, and the unaccustomed disturbance of the garden's winter quietude by the crowds of onlookers, and the speeches, so scared the birds that for two days hardly anything was taken from the tree by the birds, who watched from afar, but took no risks. But gradually they found courage, and soon the tree had to be replenished almost daily. Birds are so tame as a rule in that garden—for a few people go there all the year round to scatter crumbs—that they will peck corn from the hand if coaxed by a familiar voice and figure, and it will be interesting to see if the tradition of last year's tree has survived to make the hungry bird-guests who visit the tree less timorous on the very first day this year.

Broadcasting and Winter Distress

Germany's "Winterhilfe"

(From a Correspondent)

HELP in winter might be a translation for *Winterhilfe*. In Germany it means both more and less than that; more, because help saves many lives each winter; less, as only a small number of the poor and needy can be helped, for, alas, there is never enough for all.

Broadcasting helps greatly. If a large part of the community is out of work—and there were nearly five million official unemployed in Nov-

ember in Germany, besides many "unofficial"—i.e., those who no longer receive unemployment benefit, as they have exceeded the prescribed period of benefit—obviously the number of people able to help those in distress is less than in normal times. And since there is little money to spend on publicity, broadcasting's free service of appeal is a very great boon.

In Berlin, where, with the exception of the Rhineland, there is most hardship, a special appeal is broadcast almost every evening, telling people where they can send money or clothes or other things in order to help. There is a central receiving office for such contributions in each of the twenty Berlin districts. A longer appeal is broadcast once weekly, this being read by a special announcer, and about once a month some prominent person broadcasts an appeal: not very long ago Reichskanzler Brüning spoke, and his appeal was relayed by all German stations.

Then, occasionally, on Sundays, the *Funkstunde* arranges for a number of bands to play on public squares. The broadcasting company pays the band and young ladies go round among the spectators with collecting-boxes for the *Winterhilfe*.

From time to time groups of voluntary helpers go from house to house collecting clothes and other gifts for the poor. The *Reichswehr* does the carting free of charge. Here, again, the broadcasting station makes known the date and time of these special collections, so that the inhabitants of each district can have their parcels ready.

But broadcasting does not stop at relaying appeals and notices, and paying bands. It arranges special broadcasts for unemployed actors and actresses, concerts in the studio for unemployed musicians, and even gives broadcasts by unemployed variety artists. Here, the broadcasting company is doing excellent work; it is enabling the unemployed to work for their bread. And even if every unemployed artist is not quite a microphone star, the listener does not mind when he knows the facts. On the other hand, much new microphone talent has been discovered in this manner.

If all this seems to be in direct contrast to the
(Continued in column 3, page 988.)

Viâ Ether

Relay of a Sacha Guitry Play

THE number of plays broadcast from Continental stations constantly increases, and I am particularly pleased to see that Radio-Paris is now periodically relaying performances from various theatres of the city. On SUNDAY next, at 9.10 p.m., for instance, there is to be a relay from the Théâtre de la Madeleine, the home of M. Sacha Guitry and Mme. Yvonne Printemps. Many readers will no doubt recollect the performances of French plays which these fine artists and their associates gave in London not long ago. The programme on Sunday next is devoted to Henri Monnier, the famous French dramatist. The first item is a comedy written by Sacha Guitry, which has Monnier as its central character, Guitry himself playing the part. Then follows a short address on the dramatist by M. Guitry, and the programme will conclude with a one-act play by Monnier himself. Radio-Paris is announcing another dramatic transmission for 8.45 p.m. on WEDNESDAY—i.e., a studio performance of Cervantes' *La Mort de Don Quichotte*. All in all, a good opportunity for brushing up your French.

First Performances

THE coming week's musical programmes are remarkable for the fact that they include a number of first performances. Thus, I see that at 6.30 p.m. on SUNDAY an Andersen fairy story—Prince Ligojan's *Brautfahrt*—which has been set to music by Hermann Reutter, will have its *première* in the Stuttgart studio. This broadcast will be relayed by Frankfurt and Langenberg. Another first performance is the opera entitled, *Friedemann Bach*, which is to be performed at the Schwerin Opera House at 7 p.m. on WEDNESDAY and will be relayed by the Norag group of stations. Paul Graener, one of Germany's foremost musicians, is the composer of this work. I have on several occasions referred to Graener's compositions—his name appears frequently in the German programmes—which have always impressed me by their beauty and melodiousness. Friedemann Bach, the unfortunate, and by many people considered the most talented, son of Johann Sebastian Bach, is the hero of this opera. His tragic life-story and miserable end have been described in a novel which forms the basis of the text. Another interesting operatic relay which Brussels No. 2 will broadcast at 8 p.m. on SUNDAY is the performance of D'Albert's *Dead Eyes* from the Antwerp Opera House.

The Brussels International Relay

THE next European Relay Concert, which is to take place at 7.30 p.m. on THURSDAY, is to be organised by the Institut National Belge de Radiodiffusion, and will be broadcast by most European stations, including the British Regional stations. It will be recalled that since 1928, when the "National Nights" were instituted, they were successively devoted to every country in Europe, and the programmes consisted of typically national musical or literary works. Five European Concerts have already taken place. THURSDAY's programme will consist of works of both the French and

the Flemish schools of Belgian music. The programme begins with an overture of Peter Benoit, who gave new life to the Flemish School, his principal works being Flemish operas and a great number of songs. Hendrik Waelput, whose *Stabat Mater* will be given, belongs also to the Flemish School, and his works are especially remarkable by their typically Flemish austerity. Jan Blockx is a disciple of Benoit and succeeded him as a Director of the Antwerp Conservatoire. He has kept unimpaired his master's tradition, but presents it in a more melodious, simple, and glowing style. Of the French School, there is no need to introduce César Franck, who may be considered as one of the founders of the young modern school in France. His *Symphony in D Minor* is one of his masterpieces, and has become almost a classic. Guillaume Lekeu was a disciple of César Franck and of Vincent d'Indy. Unfortunately he died very young, at only twenty-four years of age, and has left but a few works. Gretry, who is also represented in the programme, took a very important part in the renovation of French lyric art of the eighteenth century.



Palais des Beaux Arts, Brussels, the scene of the International Relay Concert on Thursday next

Vincent D'Indy

BELONGING to a rank of society which has given the world only a few great masters of music, D'Indy, whose death is just announced, began his career as a somewhat scantily equipped amateur. He served as an infantry officer throughout the Franco-Prussian war, and his history of his own unit, for the years 1870 and 1871, is now one of the rare booklets which collectors prize as treasures. It was only afterwards that he turned to music in earnest: he submitted a string quartet to César Franck, only to be told, very gently, no doubt, that it was altogether badly written and badly put together. D'Indy, however, devoted himself with such energy and enthusiasm to serious study, that for many years he held a leading place in the French world of music, as composer, teacher, and author. During his years of apprenticeship, he made the acquaintance of such great men as Liszt, Wagner, and

Brahms, and was one of the very few Frenchmen who had a hand in the first performance of Wagner's *Ring* at Bayreuth. He took a large share in the early presentations of Wagner operas in Paris, and, by way of gaining practical orchestral experience, acted as second drummer in the Colonne concerts for some three years. At the same time he was chorus-master there and organist in a Paris church. He became eventually César Franck's favourite disciple, succeeding him in 1890 as President of the National Society of Music, and two years later was a member of the commission set up to reform the Conservatoire. His biography of his master is one of the finest tributes of its kind in the whole of musical literature. His own music, ranging over a wide field, and all essentially French, has its roots in the best impulses of the Romantic movement, though his own character was all along too strong to be much influenced by outside sources. A man of immense industry and the highest ideals, he did more for the music of his own day and country than it would be at all easy to reckon. As Director of the Schola Cantorum, of which he was one of the founders in 1894, he exercised a far-reaching influence on the younger generation of French musicians and on the public taste. France has lost not only a great musician, but one of her great men, one who was in every sense of the word, a nobleman.

Emile Verhaeren

SATURDAY, November 28, was the fifteenth anniversary of the death of Emile Verhaeren, the greatest of Belgian poets and perhaps the greatest of French-writing authors. The programme broadcast by Brussels consisted of talks on and readings of his poems. The tragic end of Verhaeren was recalled. On November 26, 1916, the poet, who had lectured in Rouen, was waiting in the railway station of that town for a train to Saint-Cloud, his residence. There was a dense crowd on the platform. No sooner had the train begun to slow down than Verhaeren jumped on to the footboard. But he fell and rolled helplessly between two coaches and was killed. Between Verhaeren and his wife existed a degree of affection which was almost legendary in its warmth, and his poems on the subject of marital love are among the most beautiful masterpieces in the language. Some of them have been translated into English. He also painted the terrible beauty of machinery and the tragic side of great cities in his books, *Les Forces tumultueuses* and *Les Villes tentaculaires*; but he is happiest in writing of the rhythmic dunes and the poplar-lined pastures of Flanders. There was one point which was not mentioned during the Verhaeren broadcast commemoration, and that was the story of his stay in England. Like many others, Verhaeren left Belgium in October, 1914, when refugees embarked in Antwerp and accepted the hospitality of this country. He went first to London, where he had numerous relations, and later to Cardiff, the "opulent town with its shady corners, its trees, its ivy-clad walls." He lived there with the Belgian painter, Emile Claus. ETHERTVIATOR

Dominion and Foreign Broadcasting Intelligence

American Stations

(From a Correspondent)

The time of year is approaching for good medium-wave reception of American broadcasters. From 10 p.m. to sunrise, stations should be heard, with the best reception probably about 2 a.m. (9 p.m. in New York). The following list shows the stations more likely to be heard:—

Kc/s. M.	CALL.	CHAIN.	SITUATION.	KW.
640 468	KFI	N	Los Angeles, Calif.	50
660 454	WEAF	N1	New York, N.Y.	50
700 428	WLW	N2	Cincinnati, Ohio	50
720 416	WGN	C	Chicago, Ill.	25
760 394	WJZ	N2	New York, N.Y.	30
770 389	*WBBM	C	Chicago, Ill.	25
790 379	WGY	N1	Schenectady, N.Y.	50
800 375	*WFAA	N	Dallas, Texas	50
830 361	KOA	N	Denver, Colo.	12½
860 349	WABC	C	New York, N.Y.	50
870 345	WENR-WLS	N	Chicago, Ill.	50
980 306	KDKA	N2	Pittsburgh, Pa.	50
990 303	WBZ	N2	Springfield, Mass.	15
1,060 283	*WBAL	N2	Baltimore, Maryland	10
1,060 283	*WTIC	N1	Hartford, Conn.	50
1,070 280	WTAM	N1	Cleveland, Ohio	50
1,090 275	KMOX	C	St. Louis, Mo.	50
1,100 273	*WPG	C	Atlantic City, N.J.	5
1,170 250	WCAU	C	Philadelphia, Pa.	10
1,190 252	WOAI	N	San Antonio, Texas	50
	C CBS relays	WABC		
	N NBC relays	WEAF or WJZ		
	N1 NBC relays	WEAF		
	N2 NBC relays	WJZ		

Nearly all of the principal stations in the United States are members of national networks, so that three programmes are generally available from the three key stations in New York, WABC, WEAF, or WJZ. Broadcasts, however, often originate in Chicago, and sometimes in Washington and San Francisco. Announcements are usually given at the quarter hour; chimes (three notes) precede NBC announcements and "This is the Columbia Broadcasting System" precedes CBS station calls. The programmes of WLW, WJZ, WGY, WABC, WENR, KDKA, WBZ, and WCAU are available on short waves.

Most American broadcasters go "on the air" about 7 a.m. (local time) and continue without a break until midnight or later. Of the above listed stations WBAL and WPG generally sign off at 5 a.m. (G.M.T.). Most of the others close down at 6 a.m., except WABC and the western stations. WABC transmits till 7 a.m. (G.M.T.); WEAF and WJZ sign off at 6 a.m. KFI and WABC have recently opened new 50 kW transmitters. WBZ plans to use 50 kW soon. When WBAL is on 1,060 kc/s, WTIC is synchronised with WEAF on 660 kc/s. When WTIC is using 1,060 kc/s, WBAL broadcasts on 760 with WJZ. Both station calls are given from the respective transmitters when the stations are together.

Canada's stations are gradually using increased power. CKGW is heard widely through VEGW, its short-wave relay. VAS, in Nova Scotia, is a semi-Government station. Only weather reports and bulletins are broadcast. The Canadian National Railways (CNR) and the Canadian Pacific Railways (CPR) have phantom calls for most of their stations. When using another station, their own calls are used. Montreal stations announce in French and English. The more powerful Canadian stations are listed below:—

Kc/s. M.	CALL.	CHAIN.	SITUATION.	KW.
685 438	VAS	—	Glace Bay, N.S.	10
690 434	CFRE-CNRX	C	Toronto	4
730 411	*CKAC-CNRM	C	Montreal	5
730 411	*CHYC	—	Montreal	5
780 384	CKY-CNRW	—	Winnipeg	5
840 357	CKGW-CPRY	N	Toronto	5
985 304	CFCN	—	Calgary	10

Mexico will be heard across the Atlantic this winter. With announcements in Spanish and English, stations are heard on the following channels:—

Kc/s. M.	CALL.	SITUATION.	KW.
735 408	XER	Villa Acuna, Coahuila	100
910 330	XEW	Mexico	5
940 319	XEO	Mexico	5
965 311	XED	Reynosa	10
1,130 265	XEH	Monterrey	5
1,400 214	XEP	Nuevo Laredo	2½

XER opened in October, licensed for 100 kW. It is owned by an American whose Kansas station licence (KFKB) was revoked at Washington. The transmitter is in Mexico and the studios are in the United States. XEW and XEP relay their programmes to the world via short waves. Another Spanish-speaking station is CMK 730 kc/s (411 m.), 3 kW, the most powerful broadcaster in Havana, Cuba.

Note: *shares time with another station.

AUSTRALIA

(From our Australian Correspondent)

National Orchestra Suggested

The Commonwealth Government has under consideration a proposal for the establishment of a national broadcasting orchestra of about fifty performers. This is an outcome of the Australian Broadcasting Company's practice of augmenting existing station orchestras from time to time and rendering works which ordinarily would not be heard. The idea is that a national orchestra could visit the six capital cities of Australia and, with the addition of players from recognised local musical bodies, make up a combination of about a hundred instrumentalists and give concerts in public halls. It is proposed that the orchestra should be financed by allocating 1s. from each listener's licence fee of 24s. per annum, of which 8s. goes to the Government for the provision of new relay stations, and for the improvement of services.

New Station for the Churches

A project for the establishment of a church broadcasting station which has been under discussion for years has now advanced to the point where the transmitting equipment has been ordered. Ever since broadcasting was established in Australia the service of the various religious denominations have been broadcast in turn twice, three times, or four times each Sunday from each of the six capital cities by the A class or national stations. Certain churches have also engaged B class or privately-owned stations to give additional broadcasts. The present development is the outcome of the activities of the Council of Churches, which includes the Anglican, Methodist, Presbyterian, Congregational, and Baptist denominations. It is intended that the new station, which will be situated in Sydney, with the call letters 2CH, will transmit three sessions daily, prominence being given to church news throughout the week. The Sunday evening programmes will receive special attention. Most of the other B class stations in Australia rely mainly on recorded music for their programmes, but 2CH intends to use "flesh and blood" artists principally. Advertising will, of course, be necessary to assist the station, but it is stated that this activity will be carried out so discreetly as to call for no complaint from listeners. The new station will operate on a frequency of 1,210 kilocycles (248 metres) with a power of 1,000 watts in the aerial. It will be one of the highest powered B stations in Australia.

FRANCE

(From our Paris Correspondent)

Radio-Paris

For the moment the morning transmissions of Radio-Paris are made by the old Clichy station, all the later programmes coming from the new high-power station.

Renewed Subsidies for Radio-Toulouse

The General Councils of a number of departments in Southern France have renewed their subsidies to Radio-Toulouse.

Laboratory for Professor Branly

Thanks to the generosity of a well-known scent manufacturer, newspaper proprietor, and politician, a new laboratory is being constructed for Professor Branly, the father of French wireless. This laboratory should be completed before the end of January.

GERMANY

(From our Berlin Correspondent)

The Embargo on Gramophone Records

As we go to press our Berlin correspondent writes that the threatened war between the gramophone companies and the German broadcasting authorities has materialised. On Saturday last, in the middle of the afternoon concert (given daily from 2-3 p.m.) the announcer stated that the programme arranged for could not be continued, and that he was obliged to fall back upon records which did not come under the ban of the present injunction. This is a sad blow to German listeners. There are a certain number of records, not belonging to these particular gramophone companies, which will continue to be "free" for radio use. Berlin and Königs Wusterhausen's arrangements for the immediate future are as follow:—

The early concert will be relayed from Hamburg; the midday concert will be played by a band at the Funkstunde; from 2 to 3 p.m. the above referred to "free" gramophone records will be broadcast, alternating with occasional concerts.

Langenberg Aerial Blown Down

During a violent gale between 6 p.m. and 7 p.m. on December 3 the aerial of the Langenberg station was blown down. Work was immediately begun on the masts and a new temporary aerial was in place on the following day.

ITALY

(From our Turin Correspondent)

Milan: Change of Wavelength

The Milan station on November 29 adopted the wavelength—331.5 m.—used until then by Naples. It is felt that this wavelength will be more conducive to uninterrupted reception than the former one of 501.7 m. Moreover, the higher wavelength is more suitable for the Florence station which will use it, because Florence will have to cover country which is both mountainous and wooded, whereas the Milan transmitter serves a relatively flat region. A new transmitter with an energy of 75 kW is at present under construction for Milan and is expected to begin transmissions next spring.

Palermo to Remain on 542 m.

The network of the Italian stations in 1932 will comprise 10 stations on the medium wave. The five wavelengths allotted to Italy have been allocated to the five most important stations—namely, Rome, Milan, Florence, Trieste, and Bari. Genoa, which will shortly augment its power, remains on its allotted wavelength—shared with a Polish station. Bolzano, which has also increased its power, will continue to share a common wavelength; Palermo will remain on the wavelength used by the Sundsvall station. The Turin station will continue to work on its present wavelength, or on one in close proximity, simultaneously with that of another station. The same applies to the Naples station, which is to work on the common wave, 318.8 m.

Brussels Checking Station

THE readers of *World-Radio* are already acquainted with the Brussels Checking Station, if only through the Frequency Measurements Charts published in these pages every month.

Before giving a brief account of this station (Centre de Contrôle de l'Union Internationale de Radiodiffusion), it may be interesting to recall when and why it was founded.

In 1925 a few broadcasting officials met at Geneva and created what was to become the International Broadcasting Union. Soon after that it was found necessary, in spite of the small number of stations at that time and of their limited power, to create also a permanent organisation which would deal especially with the technical problems connected with the rapid development of broadcasting. Thus was created the Technical Committee, which was established at Brussels. The first task of the Technical Committee was to establish a wave-plan, known as the Geneva Plan, in order to overcome the confusion which was prevailing at that time. But the establishment of a wave-plan was not enough, and it was soon found necessary also to have a control which would facilitate the operation of the new wave-plan. It was then decided to institute a checking station, provided with modern means of measurements and research, which would operate regularly and would permit the taking of frequency measurements of distant broadcasting stations. This was achieved by Messrs. Braillard and Divoire, respectively President and Secretary of the Technical Committee; and the Brussels Checking Station began official operations in 1927. Since that moment, the checking of wavelengths of all European stations has never ceased and, at the present time, between 150 and 200 frequency measurements are made every night by a specially-trained staff.

The most important task of the Brussels Checking Station is, of course, to take daily measurements of all European broadcasting stations (and also stations of other services transmitting within the broadcasting bands), in order to ensure that they keep strictly to their allotted frequencies—a very important matter at the beginning of its activities, when many stations transmitted on wrong wavelengths and were badly heterodyning each other.

However, a better state of affairs was soon reached by representations made to the broadcasting stations, which showed always, on the whole, an excellent spirit of international collaboration.

The Brussels Checking Station intervenes in the following manner. When an interference is detected at Brussels, or pointed out by the organisation experiencing it, the necessary measurements and identifications are made, and a telegram (or, more rarely, a letter) is sent to the interfering station to ask it to adjust itself exactly to its allotted wavelength, in order to free the interfered station's wave. In connexion with the measurement of distant broadcasting stations, the problem of identification presented also some difficulties, which were, however, successfully overcome by a special training of the staff, who are obliged to know most of the current languages of Europe. It may be pointed out, in that respect, that during the winter 1930-31 no fewer than forty-five unknown transmissions were identified, all being weak and very distant (some as distant as 2,600 miles).

The cases of interference dealt with by the Brussels Checking Station have nearly always reached a satisfactory and rapid result.

It may be said, in conclusion, that the fact of the present situation in Europe, in spite of the constant increase of the number and the power of stations, being no worse than it is is due, in great measure, to the repeated efforts of the Brussels Checking Station. L. B.

Wireless Worries (1923)

FOR me 'alas! the Muse is still;
Parnassus is a barren hill;
And, spite experience and skill,
And effort tireless,
My harp-strings scarce will yield a trill—
I'm smit with "Wireless."

It happened thus—fresh, full of go,
My Pegasus frisked to and fro,
In middle ether poised, when lo!
I felt him falling;
Careering earthward, "zLO,"
He cried, "is calling."

Downward we came—no easy glide—
We looped the loop, turned side o'er side,
Dived, shivered, shied; till, hoofs astride
And wings extended,
He touched the earth where, smooth and wide,
A river wended.

Medusa's blood in every vein
Made serpents of his tail and mane—
He would not answer spur or rein,
Well did I know,
Till I should vanquish or restrain
That zLO.

My faithful beast—he suffered sore!
By all the gods he knew I swore
That, while my worthless weight he bore
Through thrilling space,
That zLO should nevermore
Disturb his pace.

I pitched my tent upon the lea;
Strung up a wire from tree to tree,
Led down another—like a T—
To my "receiver";
An earth-wire thence, resistance free,
As a reliever.

A Twenty-Guinea Three-Valve Set,
Screwed in a polished cabinet;
Fool-proof, and guaranteed to get
All British stations;
And some—their names I now forget—
Of other nations.

I got them (Bournemouth to Berlin)—
Speech, music, morse; but what a din;
That T-like aerial tuned them in
With fatal ease;
But zLO was out to win . . .
"One minute, please."

One minute—hush, it's Aberdeen—
The Doric, and "My Bonnie Jean,"
Wi' bagpipes skirlin' in between,
Rich and enralling—
O d—! how short that minute's been;
There's London calling.

The trouble is, as you may know,
The broadcast belt is crowded so;
My "set" was close to zLO
And not selective—
Knob after knob along the row
Was ineffective.

Since then I've laboured in the toils
Of circuits, valves, transformers, coils,
Volts, amperes, ohms, leaks, chokes, and foils
To aid rejection;
But London still chips in and spoils
Some choice reception.

I thought I'd won. From sunny Spain
Came, clear and full, the sweetest strain;
My Pegasus shook out his mane
And spread his wings,
The nectar of the gods to drain
Where Thalia sings.

Soon we in middle ether hung;
'Tween wave and welkin far we swung,
My lyre to strength and sweetness strung,
When—dreaded name—
That zLO was on us sprung,
And down we came.

I've told you 'twas no easy glide—
We looped the loop, turned side o'er side,
Dived, shivered, shied; till, hoofs astride
And wings extended,
We touched the earth where, smooth and wide,
A river wended.

Invisible to mortal eyes,
Or in some unsuspected guise,
My steed, more willing than he's wise,
But keen as ever,
Watches my doubtful enterprise
By that smooth river.

With me still "hope eternal springs";
And, when to touch each station swings,
My patient beast will spread his wings,
And bear me far,
Where no tormenting insect stings,
Nor "stations" jar.

WILLIAM BLANE.

BROADCASTING AND LANGUAGES (Continued from page 990)

"st." Observe, however, that in words like Händler (dealer) from handeln (to act, trade), or Handlung (action or shop), the "d" sound is left intact on account of the "e" having been dropped out between d and l. O. S.

ITALIAN

Un Capolavoro Di Michelangelo
"NON dimentichi d'andare sulla cupola!
Vedrà che ne vale la pena!" Quando qualche amico inglese parte per Roma, io non manco mai di dargli questo consiglio. Gli è (*it is*) che son convinto che non si può avere un'esatta idea della grandiosità del maggior tempio del mondo senza aver fatto l'ascensione della sua cupola—il gran capolavoro di Michelangelo. Bisogna vederla, non solo per i suoi propri meriti, ma anche perchè dalla sua sommità ci si rende meglio conto delle dimensioni dell'intera chiesa.

San Pietro, infatti, è uno di quegli edifici la cui immensità è neutralizzata dalla perfetta armonia fra le sue parti. Sicchè, uno che lo vede dopo averne letto le enormi dimensioni in qualche guida (altezza della cupola, due volte quella delle torri di Westminster; diametro interno, dieci metri più lungo di quello della cupola di San Paolo di Londra) quasi sempre prova una certa disillusione, quando ci si trova davanti; perchè non gli pare di vedere niente di così straordinariamente grande da giustificare la fama che ha nel mondo.

E così accade che molti miracoli di architettura, che si son compiuti proprio per ottenere quell'insieme tanto armonico, sfuggono all'attenzione del comune visitatore.

Ma fortunatamente c'è un mezzo sicuro e semplice per convincere anche i profani d'architettura della grandiosità di quella fabbrica. Questo mezzo consiste nel cambiarne il punto di vista; nel guardarla, non soltanto dal basso in alto, come si fa di solito (*usually*) e come ce la mostran sempre le fotografie; ma anche dall'alto in basso, e precisamente dalla sommità della cupola.

La cupola fu ideata da Michelangelo; ma il sommo artista non poté, sfortunatamente, dirigerne lui stesso la costruzione. Egli morì nel mille cinquecento sessantaquattro, e il suo capolavoro non fu compiuto che nel mille cinquecento novanta. Il suo progetto fu eseguito, dopo molte lotte, da un suo successore (Della Porta), con sufficiente fedeltà, se non con quella cura e scrupolosità che ci avrebbe messe invece il suo ideatore. (continua)

S. BREGLIA.

Letters to the Editor

Bilingual Announcements

To the Editor of WORLD-RADIO

SIR,—I feel that all listeners would owe you a debt of gratitude if you would suggest, either through the valuable medium of your excellent journal, or direct to the powers that be, that all the Czechoslovakian, Yugoslav, and Scandinavian stations should, as far as possible, besides announcing in the national language, also announce in a "world language" such as French, English, or German. Radio has become so international that it seems a pity that the many excellent programmes broadcast from the above-mentioned stations should not be more generally enjoyed by more adequate announcing.

In Czechoslovakia a large proportion of the population are German-speaking, yet there are no announcements in German. We have bilingual announcements from Strasbourg and there are certainly equally strong claims for such a procedure in Czechoslovakia, if not in all the other countries mentioned, also Poland.

Yours faithfully,
R. POPPER.

81c, Eccleston Square, S.W.1., Nov. 15, 1931.

[Announcements are frequently made in English, French, and German from the Czechoslovak stations, and also from Yugoslav stations on special occasions.—Ed.]

Reception in Northern India

To the Editor of WORLD-RADIO

SIR,—A reception report from North India may be of interest to you. Since Oct. 15, with the disappearance of atmospherics—which make reception on the broadcast band impossible in India between April and October—reception is wonderful. All the European stations of importance are received not only clearly, but at full R8 volume on the loud speaker. The English

stations only are inconsistent in strength and suffer from fading. The stations received best are the following:—

Wilno, 244 m. (identified), R8; Heilsberg, 276 m. (identified), R9; unknown station, 280 m., R6; unknown station, 290 m., R8; unknown station, 340 m., R8; Stuttgart, 360 m. (identified), R9; Lwów, 381 m. (identified), R8; Bucharest, 394 m. (identified), R8; Rome, 441 m. (identified), R8; Budapest, 550 m. (identified), R8; also a number of others at lesser strength.

Possibly my aerial picks up more than that achieved by the average listener in India. It is 70 ft. high, and of the inverted "L" type, pointing north-west. The receiver is of the conventional S.G.-V3 type. The long waves are not received so well, although I have logged about eight of these, the most remarkable being the reception of what I believe is Reykjavik, although it is not properly identified.

The short waves are not as good now as they were in the summer months; G5SW, however, now comes through with his midday transmission.

Yours faithfully,
W. A. DUTTON.

Cawnpore, India, Oct. 27, 1931.

Radio-Paris

To the Editor of WORLD-RADIO

SIR,—I was interested to read your article on the above station. During the last five or six weeks the reception of Radio-Paris does not appear to be as good as it used to be. The transmission lacks sharpness, and the tone is decidedly "woolly." Although less volume is required to bring him in, an increase of volume does not seem to make any marked difference. With more volume it is certainly louder, but there still remains that "woolly" quality. If this station is now working on a greater power, the result is, so far, not what one was led to

expect, and I am curious to know if any of your numerous readers have noticed the same falling off.

Yours faithfully,
A. HERMELIN.

33, Northwick Park Road, Harrow, Mdx.
December 4, 1931.

MODERNISING THE DESERT

(Continued from page 97.)

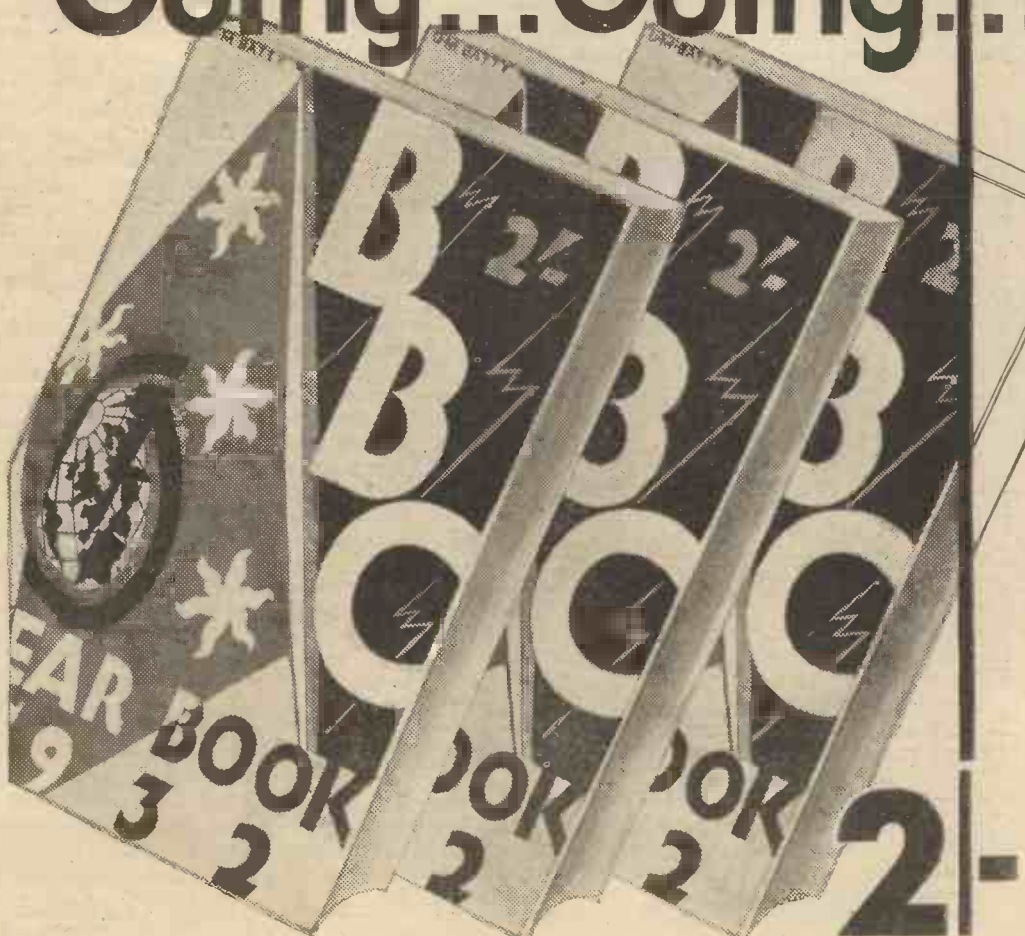
horse-power. Before such a scheme could be brought to fruition, however, wireless has to play its all-important part in the rapid communication of data. The existence of such a vast sea-water lake would undoubtedly alter the climate along the whole Mediterranean littoral of Egypt, but whether it would be for better or for worse has yet to be ascertained. The Egyptians and the desert dwellers have no desire to wipe out the Siwa Oasis.

BROADCASTING AND WINTER DISTRESS

(Continued from page 98.)

well-filled places of amusement on the Kurfürstendamm, and the theatres that are neither cheap nor empty, I would like to point out two facts. Many people are still earning, even if their wages and salaries have been cut drastically, but they have given up saving. Banks are hardly to be trusted, so let's have a good time, seems to be the general attitude—something like what happened during the inflation period, when one could buy a roll for a few millions in the morning, but might, by the afternoon, with the falling mark, find that the same amount of money would buy only a quarter of a roll. And as for the theatres—well, it is an open secret that only visitors to Berlin pay full prices for the tickets; everybody else either gets in free or on a reduced-price ticket, paying forty per cent. less than the official prices.

Going... Going...



before they are all GONE, be sure to get your copy of the B.B.C. Year Book and be up-to-date in radio matters. All those hundred and one questions about B.B.C. personnel and practice are answered, together with interesting commentaries on foreign systems and the trend of progress. Finely printed and profusely illustrated. From all newsagents and booksellers.

B.B.C. YEAR BOOK

Broadcasting and Languages

FRENCH

(Supplementary Notes in connexion with the French Talk, Tuesday, December 8.)

(A)—J'ai reçu plusieurs lettres de correspondants que la question de l'e muet, dans le vers français, embarrassé fort, et on me prie instamment de vouloir bien en dire quelques mots. Je ne me proposais pas de parler ici de cette question assez délicate, mais je veux bien essayer de fournir quelques renseignements à mes auditeurs.

L'e muet est un des charmes et une des des caractéristiques les plus remarquables de la poésie française. Les règles que nous avons expliquées dans les articles précédents, ne peuvent pas s'appliquer à la lecture des vers. En principe, en lisant les vers, l'e muet, se prononce, à moins qu'il ne soit éliminé conformément aux lois de la prosodie française. Or, l'e muet s'élide dans le vers français: (a) quand il se trouve dans la syllabe finale du vers:

"Le jour tombe, la nuit tout doucement s'avanc(e)."

(b) Quand il sert de signe diacritique et indique exactement le son qu'une autre lettre représente:

"Il neig(e)ait, on était vaincu par sa conquêt(e)."

(c) Quand le mot suivant dans le vers commence par une voyelle ou une h muette:

"Sa lour(d)e épé(e) avait la gard(e) et la coquill(e)."

Partout ailleurs l'e muet compte comme élément syllabique dans la structure du vers, et devrait se prononcer, du moins en principe.

D'autre part, si en lisant des vers on faisait entendre fortement tous les e muets qui ne sont pas éliminés d'après les lois de la prosodie, on ferait violence à la prononciation moderne, et l'oreille en souffrirait. Que faut-il donc faire? En prononcer le plus possible, (d'aucuns disent, les prononcer tous) et ceux que l'on ne prononce pas, il faut les faire sentir par le prolongement de la syllabe précédente ou par un léger arrêt lorsque le sens le permet. Par exemple, dans le vers suivant je ne sais entendre que onze syllabes, mais j'en fais sentir douze:

"J'aim(e) le son du coi, le soir, au fond des bois."

Par le prolongement du son ai et aussi de l'm du mot aime, je marque l'existence de l'e muet qui suit. En d'autres termes, je m'arrange de telle façon, que ce vers, qui ne contient que onze syllabes prononcées, produite sur mon oreille l'impression d'en contenir douze.

(B)—Les hirondelles . . . tout occupées de leur couvée (from L'Hirondelle by Jules Michelet, Fasnacht, page 101, line 40).

Ici, naturellement, tout est adverbe, et par conséquent invariable, puisqu'il modifie un participe passé. Il en serait de même s'il modifiait un adjectif ou un adverbe: Ex. Leurs visages sont tout novirs; cette dame tout élégamment parée; elle était tout en sueur etc. . . .

Dans les exemples cités tout signifie tout à fait entièrement.

Pour cause d'euphonie, tout, adverbe, varie s'il est placé devant un adjectif féminin commençant par une consonne ou une h aspirée: Ex. Des maisons toutes blanches, des petites filles toutes honteuses, de l'eau toute froide, etc. . . .

Tout, adverbe est quelquefois suivi d'un substantif qui remplit la fonction d'un qualificatif; alors il se traite exactement comme tout devant un adjectif: Ex. Il est tout yeux et tout oreilles, le chien est tout ardeur et tout obéissance, cette dame est toute bonté, Dieu est toute justice.

Remarquez, cependant, qu'on écrit: des bas tout soie, des étoffes tout laine.

Il arrive quelquefois que, dans certaines phrases, construites sur le modèle des phrases

(Continued on page 990)

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ci-dessus, le mot *tout* ne signifie pas *tout à fait*, mais indique la totalité, l'ensemble des parties; alors il n'est plus adjectif, il devient adjectif et variable. Ex. *Cette table est toute en marbre et ces dames sont toutes élégamment vêtues, etc.*

Le sens est clair: *toute cette table est en marbre, toutes ces dames sont élégamment vêtues.*

Dans les phrases suivantes il faudra écrire *tout* ou *toutes*, *tout* ou *tous*, suivant que le mot *tout* indiquera l'intensité ou la totalité: Ex.

Mes robes sont tout aussi belles que les vôtres (Tout=tout à fait); *Mes robes sont toutes aussi belles que les vôtres* (Toutes mes robes sont...); *Ces arbres sont tout couverts de neige* (Tout=complètement); *Ces arbres sont tous couverts de neige* (Tous ces arbres sans exception).

(C)—Translation of Exercise 120, page 65, from Intermediate Exercise in French Grammar and Composition, by C. W. Bell, Harrap and Co.

Monsieur X. (Monsieur Chose), était un pêcheur (pêcheur à la ligne), des plus enthousiastes, et résolu (décida, prit le parti), de chercher un nouvel endroit (de nouveaux parages), où il put déployer (faire montre de, faire étalage de), ses talents de pêcheur. Après avoir marché de-ci, de-là, pendant bien des heures, il trouva (découvert) dans un champ, un étang de dimensions honnêtes (assez grand, de grandeur raisonnable). "Ah," s'écria-t-il, jetant autour de lui le coup d'œil appréciateur du pêcheur accompli, "il me semble qu'ici j'attraperai nombre (beaucoup, un grand nombre, quantité) de gros poissons. Essayons." Il pêchait, depuis quelque temps (il y avait quelque temps qu'il pêchait), lorsqu'un paysan vint à passer, et la bouche grande ouverte, il fixa sur M. X. un regard (des regards, un œil, des yeux), étonné. "Dites donc, mon ami (mon garçon)," dit (s'écria) le pêcheur, "y a-t-il des poissons (du poisson) ici?" "Je n'en sais rien, monsieur. S'il y en a ils doivent être bien petits." "Bien petits," demanda le pêcheur, "que voulez-vous dire?" "Ma foi (Mon Dieu) répliqua le campagnard, avant la grande pluie d'hier, il n'y avait pas, ici, la moindre trace d'étang."

French Language Talks

THE National Institute for the Blind will publish on January 1 a Braille edition of *Le Pavillon sur l'Eau* and *Le Nid de Rossignols*, by Théophile Gautier (in French). These stories are being used as exercises in the French Language talks which will be broadcast by Monsieur E. M. Stéphan, on Tuesdays (6.50 p.m.—7.20 p.m.) in the National programme from January to March, 1932. This book, apart from its intrinsic interest, will therefore be useful to Braille readers who are following the French Language Talks. It will be in pocket size, and will probably cost 1s. net. Orders for the book should be sent to the National Institute now, so that there is no delay in delivery. It is hoped that all wireless listeners will support this first attempt of the Institute to provide them with Braille literature to accompany wireless talks, as, if the demand is extensive, Braille editions of selected B.B.C. pamphlets and similar literary matter will be put in hand at once.

GERMAN

Compound Verbs—(II)

IN our last article we have explained the general principles underlying the distinction between separable and inseparable verbs. It is important that they should be thoroughly grasped before an attempt is made to grapple with details, for these will be simple and easy for the student who has a clear notion of the fundamental idea, but difficult and confusing for him and her if they have not. We shall consider first compound verbs whose first component is *durch*, *über*, *um*, *unter*,

voll or *wieder*, because they help to form compounds with many a simple verb, that are separable as well as inseparable. Let it be remembered that *separable* verbs have their tonic accent on the first component and the *inseparable* on the verb, e.g., *durchfahren* (to travel through without stopping): *Wir fahren durch bis Berlin—durchfahren* (to travel through in various directions, all over); *Wir durchfahren die ganze Insel (island)*. Remember also that in *separable verbs* the first component retains its primary force which in the case of *durch* is *through* or *through and through* (durch und durch), whilst in *inseparable verbs* the meaning of the verb tends to be *figurative*, and in the case of *durch* suggests the notion of in several directions or all over.

(1) *durch*.—(a) *inseparable*.—As the preposition *durch* governs the Accusative, intransitive inseparable verbs compounded with *durch* become transitive and the Accusative denotes the direct object through or within or over which the action takes place, frequently implying that the action does not move in a straight line through but rather all over the object, e.g.:—*durchbeben* (to agitate violently): *Die Angst (fear) durchbebt sein Herz.*

durchblättern (to peruse): *Er durchblättert das Buch.*

durchblicken (to see through, penetrate): *Ich durchblickte seine Absicht (intention).*

durchbohren (to perforate, pierce): *Die Maschine durchbohrt das Papier.—Er durchbohrte ihn mit einem Dolch (dagger).*

durchdringen (to permeate): *Die Hefe (yeast) durchdringt den Teig (dow).*

durchteilen (to hurry through): *Wir durchteilten die Ebene (plain).*

durchflechten (to interweave): *Der Stoff ist mit Gold durchflochten.*

durchfliegen (to fly about in): *Kugeln durchflogen die Luft.*

durchfliessen (to irrigate): *Der Bach durchfließt die Wiese (meadow).*

durchforschen (to investigate): *Er hat das ganze Gebiet (region or subject) durchforscht.*

durchgehen (to walk all over): *Wir durchgingen den ganzen Wald.*

durchjagen (to hunt through for game or race through): *Sie durchjagten Feld und Wald.*

durchkosten (to taste to the full): *Er hat viel bitteres Leid (sorrow) durchkostet.*

durchkreuzen (to cross, thwart): *Er hat meine Pläne durchkreuzt.*

durchlaufen (to run all over): *Das Gerücht (rumour) durchlief die Stadt.*

durchleuchten (to flood with light): *Der Mond durchleuchtete die Nacht.*

durchlöchen or *durchlöchern* (to perforate, punch): *Er durchlöchert die Fahrkarten.*

durchnässen (to drench): *Wir kamen ganz durchnässt an.*

durchrasen (to rush furiously through): *Ein Wirbelsturm (tornado) durchraste die Gegend.*

durchreisen (to travel all over): *Er hat ganz Amerika durchreist.*

durchschauen (to see through, penetrate): *Ich durchschaute seine Kniffe (trickery).*

durchschliessen (to interleave): *Wir durchschliessen die Hefte mit Löschpapier (blotting paper).*

durchschiffen (to navigate): *Er hat alle Meere der Welt durchschiff.*

durchschlafen (to pass in sleep): *Er durchschläft den hellen Tag.*

durchschneiden (to intersect): *Der Kanal durchschneidet die Landenge (isthmus).*

durchschreien (to scream all over): *Sie durchschreien die Stadt (die Nacht).*

durchschreiten (to traverse): *Wir durchschritten den Garten.*

durchschwärmen (to swarm all over): *Bienen durchschwärmten die Luft.*

durchschweifen (to wander about in): *Wir durchschweiften das Gebirge.*

durchschwimmen (to swim about in): *Sie durchschwimmen den See (lake).*

durchsetzen (to permeate): *Der ganze Boden ist mit giftigen Stoffen durchsetzt.*

durchsitzen (to sit through): *Diese Schlemmer (carousers) durchsitzen die ganze Nacht.*

durchspüren (to search): *Die Jagdhunde durchspüren jeden Strauch.*

durchstechen (to pierce): *Die Nadel durchsticht den Stoff (material, cloth).*

durchstöbern (to ransack): *Sie durchstöberten das ganze Haus.*

durchstrahlen (to irradiate): *Das Licht durchstrahlt den ganzen Körper.*

durchsuchen (to search): *Wir durchsuchten alle Schubladen (drawers).*

durchwachen (to keep awake throughout): *Sie durchwachen die ganze Nacht.*

durchwärmen (to warm thoroughly): *Sie durchwärmen den ganzen Körper.*

durchwatzen (to ford): *Sie durchwateten den Fluss.*

durchwühlen (to rummage): *Die Maulwürfe (moles) durchwühlen die Erde.*

durchziehen (to march through): *Sie durchzogen die Stadt.*

(To be continued)

B.—*Assimilation of Consonants*.—As applied to a language "Assimilation" means the influence speech-sounds standing in juxta-position have on one another, e.g., the *ch*-sound of *wach* (awake) sounds like "k" in *Wachs* (wax). The cause of assimilation is the tendency of our organs of speech to get ready for the position needed for the next sound, or to get over an awkward succession of sounds without difficulty, e.g., in *impatient* for *inpatient* the labial "m" before the labial "p" is easy to say, but the dental "n" before the labial "p" is a bit awkward.

Assimilation is irregular in English. In words like *caps*, *pots*, *docks*, as compared with *cabs*, *pod*s, *dogs*, it is obvious that after the voiceless stops *p*, *t*, *k*, the "s" is also voiceless, whilst after the voiced *b*, *d*, *g*, the "s" is voiced, i.e., it is sounded like "z"—in fact, the sounds have been assimilated. Similarly in *calves* (plural of *calf*), *wives* (pl. of *wife*), the voiceless "f" has become "v," i.e., it has been assimilated to the final "z" sound, just like the "s" of "house" takes the "z" sound in the plural *houses*. Again, in "he knocked at the window" and "he stopped suddenly," the final *d* of *knocked* and *stopped* has been assimilated to "k" and "p." And in *observe*, the "s" of *serve* has been assimilated to the voiced *b* of "ob."—Assimilation of this sort, whether the first consonant is assimilated to the second or *vice versa*, is incomplete, because both consonants preserve their existence, though one has become similar to the other as to being voiced or voiceless. Complete assimilation occurs in words like "attend," which originally was made up of "ad" + "tend," or "oppose," consisting of "ob" + "pose." The "d" and "b" have been completely assimilated to the "t" and "p" respectively, for there is only one "t" and one "p" uttered, though the spelling has "td" and "pp." In German, assimilation is quite regular: When any one of the voiced consonants (*b*, *d*, *g*) is immediately followed by a voiceless stop (*p*, *t*, *k*) it becomes also voiceless, e.g., *we have from lieben, loben, leben: er liebt er lobt, er lebt, du lebst, ihr lebt* (*b* is sounded like "p" in all these), and *in er wandte for er wendete (from wenden, to turn), er sandte for er sendete (from senden, to send), the "d" is completely assimilated to the "t," though it persists in the spelling. Again, in er légt from legen, er fragt from fragen the voiced "g" is assimilated to the voiceless "t" (pronounced le:kt, fra:kt). Similarly "b" is sounded like "p" in hübsch (pretty) before voiceless "sch," and in Obst before voiceless*

(Continued in column 3, page 987)

TECHNICAL SECTION

Christmas Radio

A few suggestions which may prove of service by adding to the enjoyment of the festive season

ABOUT this time Christmas puddings, cakes, sweets, poultry, and other fare associated with this festival, not to mention the cellar, are receiving their full share of attention, and many readers will probably be immersed deeply in complex problems relative to the satisfactory entertainment of friends and house parties. Most readers have realised from past experience that attention to details is essential to the success of their plans, yet whatever preparations are made must not be too elaborate, nor intrude themselves more than necessary upon the guest. The surprise element does much to make these amusements go with a swing, but a hitch in the programme can be responsible for a marked flatness in the proceedings unless somebody is able to improvise a stop-gap.

Undoubtedly the wireless receiver or radio gramophone will be expected to provide some portion of the entertainment during the holiday in most households. Possibly it may only be wanted as a stop-gap, but in a large number of cases it will most certainly be called upon to take a share in the entertainment. It is, therefore, imperative that a general examination and overhaul of the equipment shall take place if disappointment due to breakdowns, poor quality or other failures is to be avoided. Further, it will also be appreciated that the holiday extends over a period from Thursday evening, December 24, until Monday, the 28th, and in a good many cases until the 29th, during which period it may not be possible to obtain valve replacements, etc.

Points for Investigation

Probably the cause of most difficulties with wireless receivers is the batteries. Most readers have established a schedule for charging the low-tension batteries so that they may feel fairly confident that there will be no failure due to this cause. It would possibly be as well, however, to have a set of freshly-charged accumulators handy in case of emergency, as sometimes unexpected demands are made upon the wireless receiver, and disappointment due to run-down batteries may occur. It is also a good plan to examine the cells with a view to ensuring that they are in good condition—*i.e.*, that there is not a large amount of sediment in the bottom of the container in danger of making contact with the plates, and that the specific gravity of the acid is according to the maker's instructions. The acid is, of course, tested with a hydrometer, and if it is not according to instructions, the battery should be sent to the charging station for re-charging. The same remarks, of course, apply to H.T. accumulators.

Grid-bias batteries are rather apt to be neglected, as they give service for an appreciable length of time and are often only replaced when the receiver is giving obviously bad quality. These batteries might, therefore, be disconnected and tested with a high-resistance moving-coil voltmeter. If such an instrument is not available, possibly the local wireless dealer would make the necessary tests. If the battery shows a marked depreciation (say, below one volt per cell) it should be replaced, for although the total voltage may be sufficient for the valves in use, these batteries frequently supply grid-bias voltages to more than one valve, and may be

responsible for distortion due to the development of a high internal resistance. Dry batteries used as a source of high-tension supply should be examined in a similar manner and replaced if necessary.

Faulty valves are possibly the next most probable cause of poor quality and weak volume. The most satisfactory test for the average listener to undertake is first to measure the anode and grid-bias voltages and then to measure the current supplied to the anode. The reading obtained by the milliammeter should then be compared with the characteristic curve published by the valve manufacturer. If the listener does not possess the equipment and knowledge necessary to undertake this test, and the quality of his reproduction is in any way unsatisfactory, it would, perhaps, be advisable to have the valves tested *in situ* by a reliable local wireless dealer. Valves which show a marked departure from the maker's figures should, of course, be replaced with new ones of the same make and type if possible. It is also a good plan to have available one or two spare new valves for use as replacements in emergency during the holiday season.



The Co-optimists before the microphone

Loud speakers and telephones, and their connecting cords or extension wiring, should also be examined for faults. Frayed or faulty insulation of connecting leads may cause difficulty when least expected, and if the loud speakers are mounted in baffles or cabinets these should be examined with a view to tracing any loose joints or fixings in the woodwork which may cause harshness or poor reproduction.

There remains the aerial and earth system to which a little attention might be given. Lightning or earthing switches, which have not been used for some little time, may have developed slight faults and make poor contact, or dry joints may have developed in soldered parts of the aerial wire and earth leads, or a faulty contact may exist at the point where the

latter joins the earth system. All the foregoing points are well worth attention.

The entertainment value of a wireless receiver can be enhanced if one or two novelties in the nature of surprises are introduced. For instance, if the loud speakers can be secreted behind suitable articles of furniture or disguised with light silk drapings, the guests may be pleasantly surprised when they are switched on. Often it is of value to place additional loud speakers in rooms which may be used by members of the party during their stay, and switches and volume controls should be arranged so that they can be adjusted for volume as desired.

A gramophone electrical pick-up and turntable, also a microphone, are invaluable aids to the entertainment of a Christmas party, and the necessary alterations to a receiver to allow them to be used temporarily are not usually very complicated. For instance, in the majority of receivers without high-frequency amplifiers and in which a suitable bias is applied to the valves through a grid leak, either the pick-up or microphone can be put into circuit by connecting the pick-up or the secondary of the microphone transformer across the grid leak by means of clips. The aerial should be removed, of course, and the grid bias arranged so that the valve acts as a distortionless amplifier. This calls for no structural alteration in the majority of receivers.

If a high-frequency amplifier is embodied in the receiver, it will be necessary to disconnect this before using the receiver as a microphone amplifier or electric gramophone, as complications may otherwise arise. It is, of course, desirable that tests should be made with whatever arrangement is adopted prior to relying upon it for entertainment. With a microphone it is possible to introduce pleasant variations in the amusement of a company of people, and no doubt the reader will appreciate the scope offered him by such apparatus.

In Lighter Vein

Several simple "tricks" can be carried out with a wireless receiver. For instance, the arrangement of a switch between a door and door-frame, so that music is

heard only when the door is closed, will prove amusing. This is done by arranging two thin pieces of brass, one on the door itself and the other on the frame. The brass pieces constitute a switch in the loud speaker leads and break one side of the circuit when the door is open, closing the circuit and producing music when it is shut. The effect of the sudden silence with each entry into the room will be interesting, especially to the entrant who, of course, will not be "in the know."

If the receiver works from the mains it is very important to ensure that the loud speaker is isolated from the high-tension supply, either by means of an output transformer or a filter

(Continued at foot of column 3, page 996)

Technique of Broadcasting

The Acoustical Problems of Broadcasting Studios (5)

By NOEL ASHBRIDGE, Chief Engineer, B.B.C.

(Continued from page 931, December 4)

IT is to be regretted that although so much research work has been carried out on the technical side of broadcasting during the past seven years, both in America and Europe, comparatively little comprehensive work has been done on studio design. It is true that there is a good deal of work in hand in the various countries, but so far comparatively little has been published.

Studio Design in other Countries

The following remarks may be of interest as indicating tendencies. In several Continental countries great stress is laid on the desirability of being able to vary the reverberation period, and one finds the walls of studios fitted with shutters, having different surface treatment on either side. These shutters can be turned round so as to expose either side to the interior of the studio, somewhat on the principle of a "venetian" blind. Again, in one case, namely at Hamburg, the idea of being able to vary the physical constants of a studio has been carried to an extreme, and, in addition to reverberation, the volume of the studio can be changed, one end wall being made movable by an elaborate engineering device.

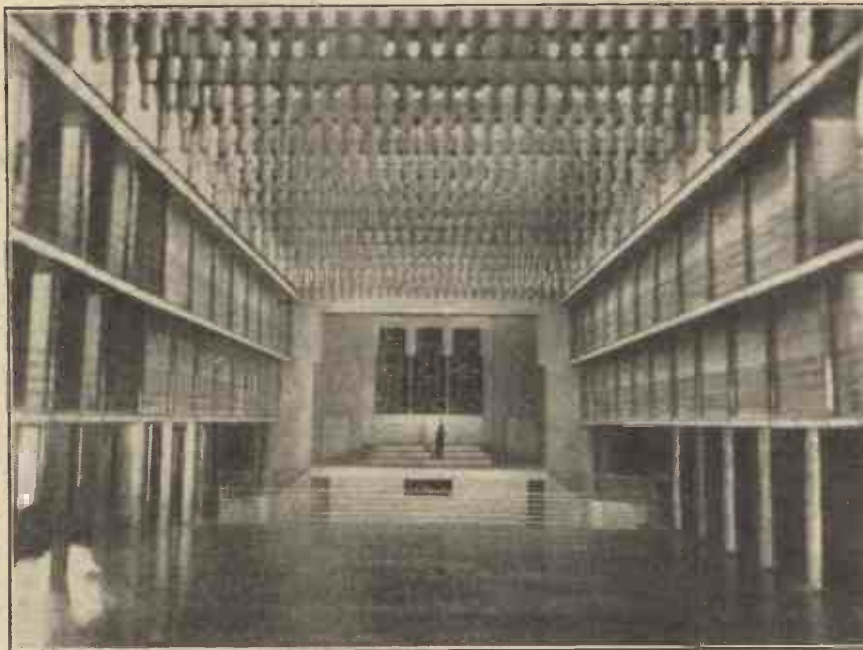
Some Continental engineers lay great stress on the necessity of avoiding parallel walls in studios, particularly longitudinally. The idea is that this prevents the setting up of so-called room resonance, and possibly reduces also any possibility of diaphragm effect. Again, in Germany and a few other countries, it seems to be a usual practice to allow a larger reverberation period than would normally be associated with direct listening. Naturally this is purely a question of musical taste, and varies considerably according to the views of the various musical directors.

Possibly, however, the greatest difference in studio technique existing between this country and the continent is in connexion with the methods employed for controlling the depth of modulation of the transmitter in such a way as to give as close a picture as possible of the variations of sound intensity in the studio. It is an unfortunate fact that a transmitter cannot handle the same range of volume as is produced by an orchestra. In an article in the *Bell System Telephone Journal*, Vol. X, 1931, p. 349, Harvey Fletcher gives the ratio of the maximum to minimum sound intensity in a studio with a large orchestra as equivalent to 73 decibels, whereas the maximum variation of volume that can be delivered by the transmitter, or that can be handled by the receiver is of the order of 30 decibels. This is, of course, on the assumption that it is necessary to limit the minimum sound intensity in order to prevent the musical sounds being obliterated by unavoidable background noise.

Thus it becomes necessary to devise a method of increasing the amplifier gain during the weak

passages and reducing it during the strong passages. Since these variations in an amplifier must be carried out immediately in advance of the occurrence of the variations in the studio, up to now no automatic device has been found practicable. Consequently in this country the necessary amplifier adjustment is carried out by musicians working in conjunction with the score. It is important to note that the volume of sound as finally transmitted is not "smoothed off" to be sensibly constant, but merely partially smoothed to reduce the ratio of maximum to minimum to the largest value practically permissible. Such a method, of course, allows the conductor to carry on in the ordinary way. The problem is a very involved one, and is much more complicated than is indicated by these brief remarks.

While in this country the problem is dealt with in the way mentioned above, in certain countries abroad the conductor attempts to control the actual volume of sound existing within the studio itself by the direct control of



The Hamburg studio. An example of highly-specialised construction

his orchestra. For this purpose he is provided with an instrument which indicates the volume of energy picked up by the microphone. It then remains for him to control the volume within prescribed limits, as indicated by marks on the dial of the instrument. This, of course, involves the employment of conductors with special experience of broadcasting. The method has never been looked upon favourably in this country, and seems likely to be superseded abroad by various methods of hand control of amplifier gain by experienced persons.

Orchestral Balance

The question of how best to place the various instruments composing an orchestra with respect to the microphone, the conductor, and each other, is one which has been the subject of much discussion during the past few years amongst those interested. As in the case of the tone quality produced by a studio, the only

criterion of excellence is the opinion of musical experts. Moreover, there is a very large number of factors both technical and otherwise, which affect the result. The more important of these are as follows:

- (1) The size and acoustical properties of the studio.
- (2) The type of microphone used.
- (3) The frequency response of the receiving apparatus used to judge the results.
- (4) The composition of the orchestra and the type of music to be played.
- (5) The musical taste of the observer responsible for the balance.
- (6) The special requirements of the conductor of the orchestra.

It might be thought, at first sight, that if the studio possessed good acoustical properties the correct position for the microphone would be found by determining by trial at what point in the studio the music was heard at its best. In general one would find that such a point was sufficiently far from the players to give a kind of focus on to the orchestra as a unit. If, however, this is done, it will be found that the best point is at a distance from the orchestra, where the sound level is insufficient and, with some types of microphone—i.e., those which in themselves produce an unavoidable background noise—the ratio of the wanted sounds to background noise is sometimes too small.

Moreover, irrespective of type, the microphone would have to be used in such a sensitive condition that spurious noises would become obtrusive. This, of course, becomes particularly acute when broadcasting in a concert hall with an audience, owing to the fact that in most cases the microphone would have to be placed much closer to the audience than to the players. It is somewhat curious that when listening direct to an orchestra this effect is not noticed to such a marked degree as when listening to the same combination of sounds as broadcast, when the effect of even weak, spurious noises is always very unpleasant. It would seem that the ear has the power of subconscious rejection of the unwanted sounds when listening directly in a concert hall, which it does not possess to the same degree when listening to a loud speaker in a small, quiet room.

It becomes necessary, therefore, to place the microphone at some point much closer to the orchestra than one would select for direct listening to the best advantage. This naturally produces balance difficulties, and it is necessary to select the position very carefully. It is frequently advantageous to raise the microphone to a height of some four to ten feet above the heads of the orchestra, and in this way it is possible to find a position at the right distance from the orchestra, which shall not be too close either to the orchestra or the front rows of the audience. Again, frequently a better balance can be obtained if the players are placed to suit the broadcast balance, but this often clashes with the wishes of the conductor, who is accustomed to finding the various instruments in definite positions, in relation to each other and himself.

Attempts have been made to get over the difficulty with very large orchestras by using two or more microphones working simultaneously, the degree of sensitivity of each microphone

(Continued in column 2, page 995)



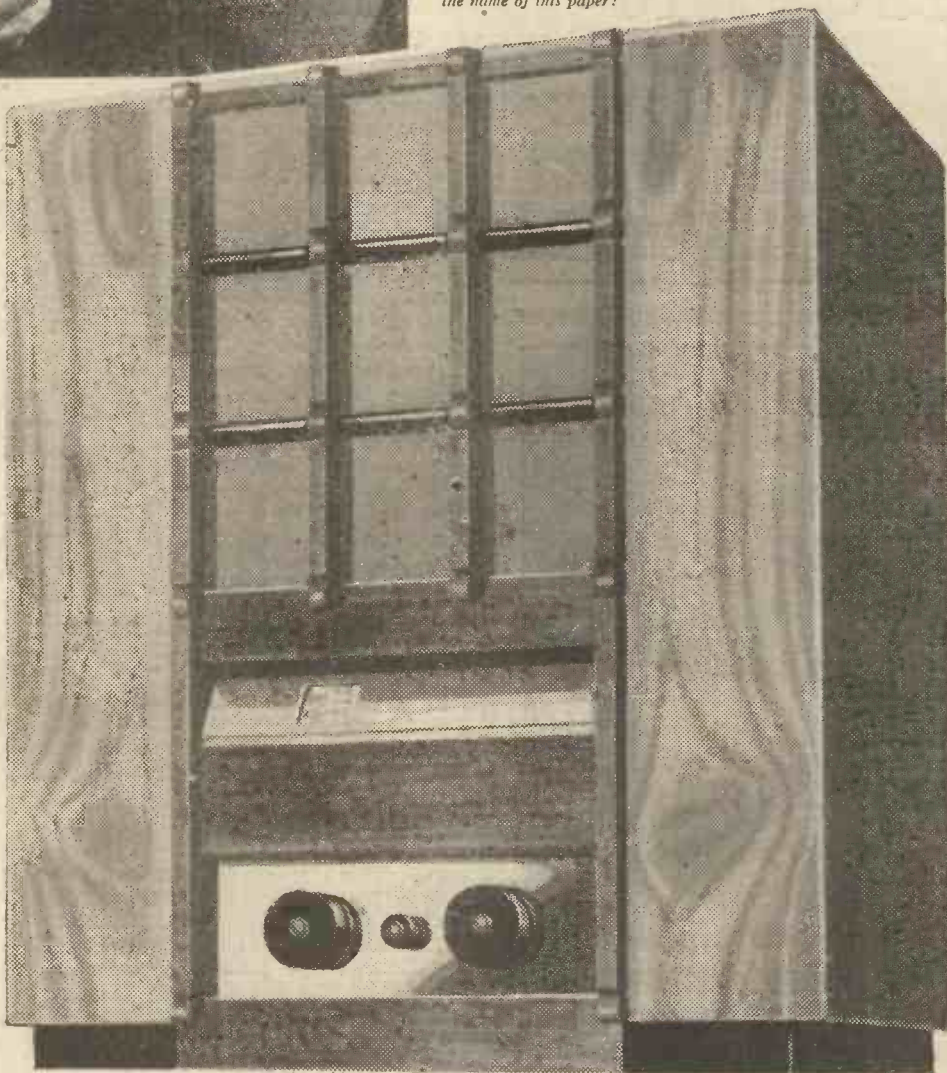
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 In writing for this booklet will you kindly mention the name of this paper!

I'm going to have a good old shout for once. . . Here's the news! In the competition to decide the best set at Olympia, the readers of the "Wireless World" have selected the Murphy A.3 as, in their opinion, the best set employing three valves or less. This decision of theirs is very good news to me, because it is the opinion of many thousands of the best technical men in the country. Nobody knows better than I do that we are perhaps the youngest set manufacturers in Great Britain, and it is obvious that these technicians have not been persuaded by our prestige or long standing. It is the set itself which has convinced them—of that there is no doubt. You have been good enough to listen to me telling you all about the virtues of Murphy Sets, but here is evidence from another quarter—evidence which ought to convince you, just as it has elated me. *Ask your nearest Murphy dealer for a demonstration.*



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Christmas Topics

By "Decibel"

THIS being Christmas-time I am going to tell you about what happened at the house of my friend Dick Trevor at a Christmas party last year.

Dick Trevor is a brother wireless fan whom I have known for donkey's years—from the time we played with induction coils and bichromate cells at school, in fact. We studied electrical engineering together at college and played about with quenched spark gaps and Poulsen arcs and crystals. Then followed flag wagging and key pushing, and our introduction to valves in the Army. Since then we and wireless have grown up together, but it is all we can do to keep our brother wireless from leaving us behind. We do our best to keep up with him, but it is rather a struggle. However, that is not what I am going to tell you about, but what happened at the Christmas party.

Dick is married to a pretty wife of the truly feminine type, by which I mean that she screams if she sees a mouse and gets the wind up at the mere mention of burglars. Dick doesn't mind that, because it gives him a chance to act the part of the male protector for which he is very well fitted. They live in a very nice house, and of course they have a wireless set. Like the wireless sets of most engineers it is not a thing of beauty, but it works (as a rule), and very well, too, which is the main point. Dick's wife simply refuses to have it in any of the rooms, as she says its appearance is a perfect disgrace.

I sympathise with Dick, as I have the same trouble at home, but whereas I have got out of the difficulty by buying a large, posh-looking cabinet in which I can hide any old lash-up which I happen to be playing about with at the moment, Dick has fitted his receiver on a shelf in a large cupboard under the stairs in the hall.

This cupboard is one of those vile places where the electricity and gas meters are fitted, and which contains mops, brooms, carpet-sweepers, vacuum-cleaners, clothes-horses, babies' baths, golf clubs, old raincoats and goodness knows what. Everything for which a decent home can't be found goes in there. You know the sort of place; I expect you have one; we have, as I know to my cost. Whenever I try to turn off the gas or the electricity, or put in a new fuse, I step on the head of a broom and the handle hits me in the eye, or I get my legs entangled and fall into the clothes basket or the baby's bath.

This was the sort of place that Dick had more or less been compelled to choose for his wireless set. He had wired up loud speaker points in the two main rooms, and he had a volume control on his loud speaker, so whenever there was any item he didn't want to listen to he just faded out on his loud speaker and didn't switch off his

set. His set ran off the mains, so this didn't involve any appreciable increase in the cost of running it. He had intentions of fitting remote control arrangements for switching off, but he hadn't done anything about it at that time.

Well, to get on with my story. My wife and I, and several mutual friends of the Trevors and ours, duly assembled at the Trevors's house one evening last Christmas for mutual enjoyment. We don't usually have the wireless on very much on such occasions, except for items which appeal to every member of the company. Dick is very particular about this, and hates to think that he may be forcing his wireless on to people when they would much rather be doing something else.

On this particular occasion, however, it was unanimously decided that two items of the programme should be well worth listening to. These consisted of a ghost story followed by a play, which, according to *The Radio Times* ought to be really thrilling. We decided to take full advantage of the opportunity of being



"..... we heard another scream from the cupboard"

really thrilled, so Dick switched on the set and put out the light, and we settled down to make the most of it.

I don't know if you remember that ghost story, but it really was some thriller. It sent cold shivers down my back, and I am not easily stirred by such things; even Dick confessed afterwards that he didn't feel quite normal. As for the ladies, you can imagine what they were like. Dick's wife in particular got thoroughly wound up. I have already told you what sort of a person she is, so you will have some idea of the state she got into. She was sitting next to me and she clung to me as if I had been her long-lost husband. I might have enjoyed that under different circumstances, but I was so gripped by the story and the atmosphere in general that it only served to add to the excitement.



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By the time the story finished we were all in a state of nerves, the ladies in particular, of course. Dick faded out his loud-speaker to give us time to recover before the play started, and he and I starting chaffing his wife. She gradually pulled herself together a little, and Dick dared her to go and fetch a pipe of his which he had left in the pocket of an old rain-coat hanging in the cupboard under the stairs. She flatly refused at first, and I don't believe she would have left the room at that moment even if a small fortune had been awaiting her in the cupboard. However, she gradually recovered, and being a lady of some spirit in spite of her femininity, she finally said she would fetch Dick's pipe just to show she wasn't afraid.

She got up from her chair, walked to the door, opened it and went into the hall. Naturally she left the door wide open—she wasn't going to have a door between us and her even if she wasn't afraid.

She walked bravely up to the cupboard door, and just as she opened it we heard a piercing scream come from the depths of the cupboard followed by an ear-splitting scream from Dick's wife, who collapsed on the floor.

We all rushed into the hall to her assistance, and just as we got there we heard another scream from the inside of the cupboard. We were in such a state by this time that even Dick and I did not immediately realise the cause of it, and then the truth dawned on us both simultaneously, and we looked at each other and burst out laughing, much to the astonishment of the other guests and of Dick's wife, who was now coming round.

We then explained to them that one of the iron-core chokes in Dick's receiver was acting as a loud speaker, and the screams were part of the play which had commenced while we had been chaffing Dick's wife. Dick had faded out the loud speaker in the drawing-room, but had not switched off the set, so the iron stampings which formed the core of the choke could vibrate and act as a loud speaker. This effect was well known to both Dick and me, but in our wound-up state we had not realised the truth immediately, and it was not surprising that Dick's wife had been taken in.

Book Review

Ralph Stranger's *Wireless Library for the "Man in the Street."* Eighteen books, price One Shilling each. (George Newnes, Ltd.)

The earlier books of this useful series were reviewed in these columns some time ago and we have now received the six books—Nos. 13 to 18—which complete the series. The author adheres to his principle of explaining scientific matters in simple language and in an easy conversational style which, together with the numerous illustrations, should certainly tend to make the acquirement of knowledge a pleasant recreation rather than a task.

No. 13.—*Detection of Wireless Signals*, deals fully and clearly with the various methods of rectifying (or detecting) high-frequency currents.

No. 14.—*Amplification of Wireless Signals*, explains the theory and practice of both H.F. and L.F. amplification.

No. 15.—*Reproduction of Wireless Signals*, explains the theories of sound, sense of hearing, the microphone, loud speakers and the essentials for good reproduction.

No. 16.—*Wireless Receiving Circuits*. The characteristic features and *modus operandi* of crystal and multi-valve receivers are illustrated and explained.

No. 17.—*Wireless Measuring Instruments*, deals with the principles and uses of instruments such as the galvanometer, ammeter, and voltmeter, with particular reference to wireless measurements.

No. 18.—*By-Products of Wireless*, deals with such matters as electric organs, the "talkies," electric gramophones, direction finding, and wireless control.

Mr. Stranger intends his books for the "man in the street" and we can certainly recommend them to all who occupy that position in matters appertaining to wireless.

TECHNIQUE OF BROADCASTING

(Continued from page 992)

phone being adjusted beforehand. It might be thought that this was an obvious solution, but the method is liable to difficulties in connexion with the picking up of unwanted sounds. Several microphones, however, are essential for operatic work, but in this case each microphone is hand-controlled to suit the frequently changing conditions.

It has been stated already that the closer the microphone to the source of sound the less will be the influence of the acoustical properties of the studio. This applies particularly to speech, songs and solo instruments, where it is possible to place the performer very close to the microphone. To take an extreme case, if the speaker is, say, 6in. from the microphone, the effect of the studio acoustics is almost nil, while if the speaker is, say, 4ft. or more from the microphone, in a fairly large hall or studio, the speech becomes resonant, as, for example, during the broadcasting of speeches from a banquet. The question arises, therefore, whether an announcer should speak, say, 4ft. from a microphone and raise his voice, or at a distance of, say, 18in. and speak in a conversational tone. As is well-known, the latter course is adopted in this country, and for that matter in most other countries, because it imposes much less strain on the listener and, incidentally, on the announcer himself. It will usually be found that when studio acoustics are bad the musician or engineer who is responsible for the balance, falls into the habit of placing the microphone too close to the performers in order to exclude the effects of reflected sounds.

Sound Intensity and Balance

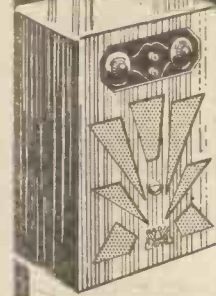
There is an important effect of reverberation period on balance which has to be taken into account with the more modern type of studio. With the older, heavily damped studios, the intensity of sound dies away rapidly as the distance from the source of sound is increased, in fact, the law would be of the order of the inverse square. Thus, the precise position of the microphone becomes of the utmost importance, both with regard to the intensity of sound and the balance of the instruments. On the other hand, with a studio having a much higher reverberation period, the intensity of sound will fall away far more slowly, and it should be possible to locate the microphone at a much greater distance from an orchestra.

It is to be borne in mind, moreover, that the manner in which the reverberation period of the studio varies with frequency has a very definite effect on the requirements from the point of view of balance. Assuming that resonance of partitions and other structural features is playing a negligible part in the acoustics of the studio, the curve showing the intensity of sound produced in the studio over the range of frequencies, assuming that there is an equal production of sound energy at each frequency, will be of the same shape as the reverberation/frequency curve. Thus, if the reverberation period increases to a marked degree towards the bass frequencies, the effect due to the bass instruments will be too great by comparison with the rest of the orchestra, and they must be moved farther from the microphone in an endeavour to compensate. This was the state of affairs in many of the older studios. If, in addition, partition resonance is in evidence, the effect on the acoustics of the studio may be still more complex, since the intensity and reverberation curves in these circumstances no longer coincide.

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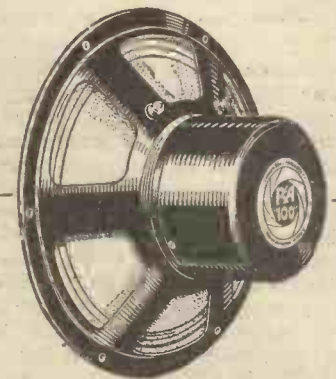
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A Short-Wave Sunday

Readers who find themselves with time to spare during the Christmas holidays may care to follow the example of our contributor

WE, in Europe, are so well catered for in the matter of wireless entertainment by medium and long wave stations that we tend to look upon a short-wave set as a scientific novelty rather than as a means for providing programmes. But there are thousands of listeners in the world who have to depend on short waves alone, and I thought it would be an interesting experiment to put myself in their place for one day.

I chose a Sunday, and, although living only some fifteen miles to the North of London, tried to imagine that every normal broadcasting station was out of range. My apparatus consisted of an 0-v-1 home-made short-wave set arranged for headphone reception only. I was using an ordinary L.F. valve in the output stage and a maximum H.T. of sixty volts. With a thirty foot aerial and rather a long earth lead I did not feel that I was taking any unfair advantage over listeners in the outposts of civilisation.

I switched on first at nine in the morning. The 40-metre amateurs were just getting busy, but I resisted the temptation to listen to them for I was out for broadcasting alone. After a short search among the high-powered commercial code stations and those exasperating telephone service carriers I picked up the faint sounds of a church service on a wavelength of approximately 36 metres.

Bandoeng—Dutch East Indies

A little juggling with the dials brought it in at better strength, though the signals were marred by rapid fading. Evidently this was Bandoeng PLW relaying Evensong. Evensong from the Dutch East Indies at nine o'clock on a foggy Sunday morning in England! Not the least of the wonders of wireless is that we take these things for granted.

Away up on 50 metres the experimental transmitter at Eindhoven was relaying the Hilversum programme with excellent volume and quality. His signals continued to be reliable throughout most of the morning and afternoon. He was joined at about ten by the Vatican transmitter broadcasting a short service and Bible reading in French which came through with tremendous strength. This station accompanies its announcements and the spoken parts of its programme with a steady "beating" sound not unlike the B.B.C. interval signal.

I had previously selected certain stations from the *World-Radio* Short-Wave List but on this occasion they proved disappointing. Radio LL was only just audible on his morning schedule. I suppose I should have been prepared for this owing to the skip-distance effect, but the short waves spring so many surprises that I would not have been astonished to hear him at good strength. At half-past eleven I looked out for Rabat on his 23-metre wave, but could find no trace of him.

Sydney—Australia

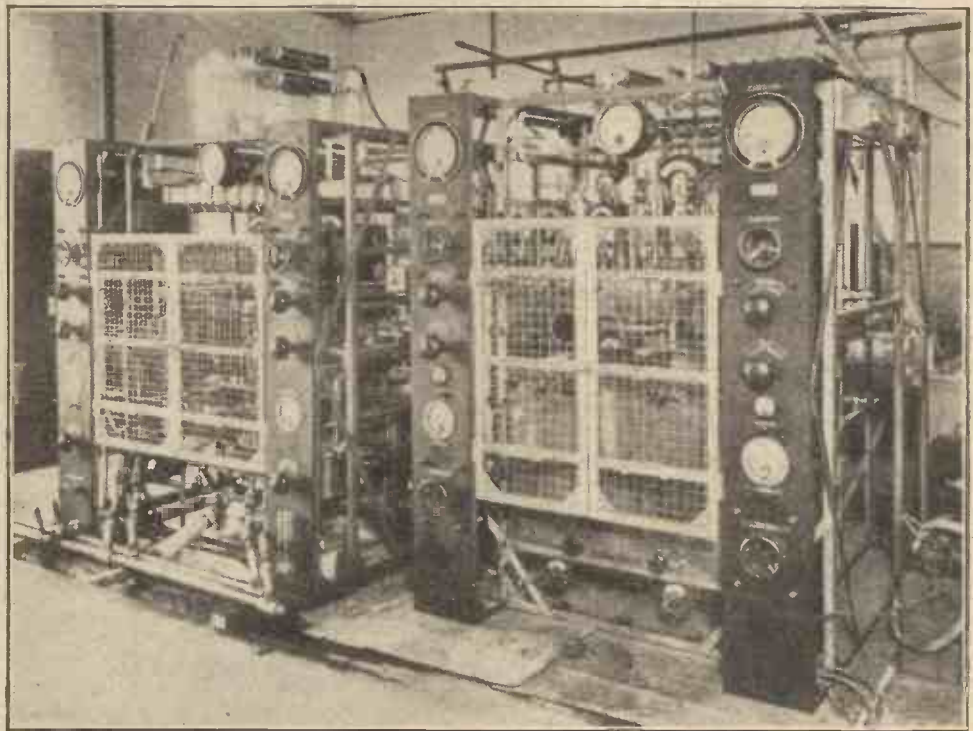
It looked as though the morning was going to be unsatisfactory as far as broadcast entertainment went, when, just before one o'clock I heard faint music near 31 metres. I held on to it, and was rewarded by hearing the announcement "VK2ME, Sydney." Strangely enough all the musical items were spoilt by bad fading but speech was clear and perfectly intelligible. A talk had just been announced when signals were blotted out by Zeesen beginning its transmission. This station continued to give excellent volume until the early evening, when it faded out.

At two, Moscow (Trades Unions) could be heard faintly on 50 metres, giving one of its interminable talks. The first harmonic

on 25 metres was also just distinguishable. Above the harmonic, and at very good strength, was another Russian station giving musical items, but I did not succeed in identifying it. It appeared to close down about tea-time. Searching still further down the wavelengths I came across Pontoise giving French news on 19 metres or so. This was followed by a bulletin in English, but no concert items were transmitted. There was some fading, but the speech throughout was readily intelligible on the 'phones, which was rather remarkable considering the poor results I had previously had from Radio LL.

Saigon—French Indo-China

Then, at three o'clock, I had another pleasant surprise. The concert from Radio Saigon was coming over at better strength than I had ever heard it before, even on a three-valve set. This was not one of the stations I had made a



Transmitting equipment at G5SW, Chelmsford

point of looking out for as I have not previously found it very reliable. The announcements are repeated in English, and an English news bulletin is included in the programme.

After Saigon closed down there was nothing new to hear until four when the Moscow transmitter on 45 metres started up. This was at as good strength as the 25-metre Russian I have previously mentioned and was giving a programme of songs and piano solos. At the same time, as darkness fell, the signals from Moscow Trades Unions (on 50 metres) were building up in volume.

In the evening I had hoped to hear something of Schenectady, W2XAD, but could get nothing but very faint and unintelligible speech at about six o'clock. At the same time Zeesen was still strong, and Skamlebaek, relaying Copenhagen, was moderate. After that I heard no more of him. At 6.15 p.m. Moscow, on 45 metres, was beginning to fade, though Moscow T.U. was talking with tremendous energy and earnestness.

A weak and distorted programme of songs just below the latter station was identified by its announcements as coming from Nairobi,

a station of which I rarely hear anything. As time went on signals from all stations faded and from seven until eleven there was little to hear anywhere. I tried again for Rabat on his longer wave and heard the faintest trace of music which was almost too weak to be worth recording.

Cincinnati—U.S.A.

It was not until nearly midnight that I picked up anything more. This time it was America. The 49-metre stations had started their tea-time programmes. W8XAL, Cincinnati, was giving announcements of forthcoming items to a dreamy musical accompaniment. They were followed by a short playlet, one of a series sponsored by a silk stocking manufacturer, dealing with the adventures of a mannequin called Barbara. That was the last contribution to my short-wave Sunday's entertainment.

Monday was approaching when I switched off, and on the other side of the Atlantic the evening was just beginning. I had travelled a long way in search of programmes and made interesting excursions in time. When I heard Sydney I was listening to the first few minutes of "to-morrow." I started the day with Sunday afternoon in the Pacific, and finished it with

Sunday afternoon in the Atlantic. Europe, Asia, Africa, Australia and America had all played to me. If it had no other value the day must have taught me more than any number of geography lessons.

B. K. C.

CHRISTMAS RADIO

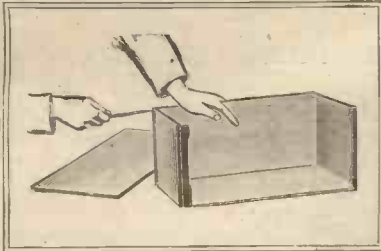
(Continued from page 991)

output circuit, before attempting extensions of the wiring or "tricks" of any description.

A similar trick is to arrange a hidden switch under a mat or rug which, preferably, interrupts the music when stood upon. The mat or rug should be arranged at some convenient spot as, for instance, under an electric light pendant suitably decorated with evergreens and berries! The imagination of the reader will supply appreciation of the possibilities of such an arrangement, for instance, in an alcove, or small side room! The mechanical construction of a suitable switch is not easy, but the simplest arrangement would be a spring which, when not depressed, makes contact and maintains the circuit complete.

J. A. J. C.

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Ultra-Short-Wave Experiments

By E. W. B. GILL and R. H. DONALDSON

THE ultra-short-wave generator to be described may claim to be the simplest in existence, as it requires no coils, chokes, transformers or condensers. It gives, very conveniently, wavelengths from about three metres to twenty metres. The circuit is given in the accompanying diagram. A A are parallel wires held on insulators and attached to the plates of two similar small transmitting valves; their distance apart is a matter of indifference, but about 10 cms. is suitable. The wires should be bare and fairly thick, say 16 gauge. For the first experiment a length of one metre may be used, the ends being joined together through a small "pea" lamp L, such as are used in flashlamps.

B B are two exactly similar wires on insulators attached to the valve grids, and running in the opposite direction to those connected to the anodes, but instead of being joined at the ends, a bar, D, is arranged to slide along them.

strongest when the lamp is brightest. The oscillating circuit is between L and D, through the wires A A and B B, and the valve capacities. At L and D the oscillating currents are a maximum, and, as these points are potential nodes, no oscillating currents run down the leads to the H.T. or grid bias.

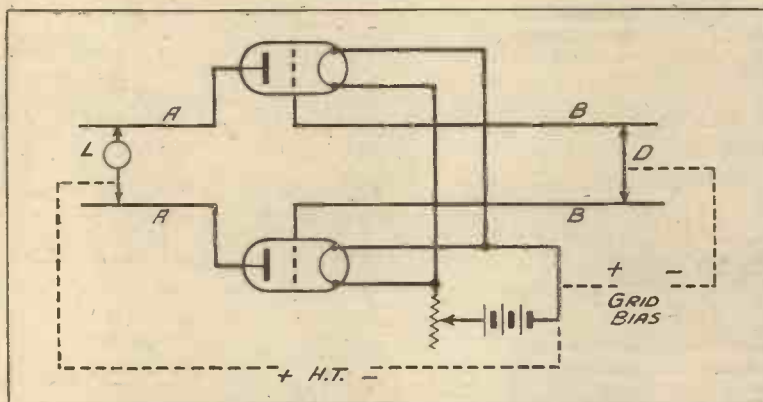
The wavelength will be found to be rather more than twice the distance from L to D. A variety of wavelengths can be obtained by altering the lengths of A A and B B, adjusting D each time, the only precaution being that it is not advisable to have too much "free end" on the wires B B. Those who possess calibrated short-wave receiving sets can easily measure the wavelength directly, either by heterodyning the wave, or if an H.T. generator is used this will modulate the emitted wave enough to be received without the receiver being brought into oscillation.

A further experiment can be done as follows.

Make the parallel wires A A, connected to the anodes of the valves, say 6 metres long, and arrange the lamp L on a sliding bar. Place the slider D on the wires B B at a distance of, say, one metre from the valves. Move the slider carrying the lamp L along the long wires A A until the lamp lights. The set is then oscillating.

Now move the sliding lamp farther out,

when a second point will be found where the lamp again lights. The set is then again oscillating on the same wavelength, the distance between the two points where the lamp lights being one-half the wavelength. The circuit consisting of the valve, the parallel wires A A, and the lamp, is then oscillating on its first harmonic. If the wires A A were made still longer, more positions could be found where the lamp lights up, all these positions being a half-wavelength apart. Owing to the attenuation down the wires A A, however, the oscillation tends to become more and more feeble.



Circuit arrangement of ultra-short-wave generator

The filaments are connected in parallel, and the centre of the bar D is joined to the negative of the filament battery, or, if the valves require it, to the appropriate grid bias. One terminal of the lamp L is joined to the H.T. positive, the negative H.T., as usual, being joined to the filament battery.

When the valves are turned on, move the bar D along the wires B B until it is found that over a certain small distance the lamp L lights up. This indicates that oscillations are occurring, L really acting as the ammeter in the circuit. The oscillations are, therefore,

Correspondence

S. W. Reception in France

To the Editor of WORLD-RADIO

SIR,—Short-wave reception in the South of France may be of interest. I have a Super-60 portable with a short-wave coil and small indoor aerial. Have just picked up Sydney, 1.45 p.m.—2 p.m. (Sunday), and heard the announcer say it was twelve midnight, also the laugh of the Kookaburra, "God Save the King," and the announcer stating they would close down for half an hour. All this on the loud speaker.

G5SW, Chelmsford, is very well heard and with absolute purity. Last night I picked up W2XAF at 10.30, but could not hold him for long. Zeesen, Rabat and Moscow are very strong signals. I spend most of my time on the medium and long waves, Prague, Rome, Stuttgart, the Swiss stations and London National are very good; the first three are as good as local stations at home.

Yours faithfully,

Hyères, France.

Good Reception Conditions

To the Editor of WORLD-RADIO

SIR,—Did anyone notice the fine reception conditions on Tuesday, December 1? I switched on at 15.00 G.M.T. and heard Moscow at strength R9 on about 45 metres. Then just below I heard a station (relaying Hilversum, Holland) at strength R6. Even the small French stations were coming in at fine strength. Can any reader tell me the name of Italian station on about 44 metres, calling "Pronto! Pronto! Comunicato Reggimento," at enormous strength?

I heard Bandoeng, Java, for first time this year. He was on 31.45 metres, not 15.93 metres as published, and was broadcasting a service or cantata. He closed down with announcements in several languages (Dutch, German, Spanish, French and English), announced the time of next transmission, and asked for reports. My set, an SG-v-pentode, has been practically-dead lately, but returned to its old form to-day.

Yours faithfully,

Swansea.

S. T.

[Probably the Italian "Government Announcement" was transmitted by one of the Rome short-wave stations.]

P. R.

PROGRAMME SECTION

Continental Programme Events

SUNDAY, DECEMBER 13

- Concerts**
 10.30 a.m. Leipzig, Schweizerischer Landessender, and all German stations: Bach Cantata.
 11.15 ,, Warsaw: Philharmonic Orchestra.
 2.10 p.m. Hilversum: Mengelberg concert from Concertgebouw, Amsterdam.
 2.25 ,, Copenhagen: Orchestral and vocal.
 5.0 ,, Radio-Paris: Symphony concert.
 7.0 ,, Munich: Regensburg Cathedral Choir.
 7.0 ,, Schweizerischer Landessender: Orchestral and vocal.
 7.15 ,, Heilsberg: Orchestral.
 7.15 ,, Warsaw: Operatic concert.
 8.0 ,, Stuttgart, Frankfurt: "A Flight round the World."
 8.45 ,, Stuttgart, Frankfurt: Hungarian national music.
 9.0 ,, Stockholm: Orchestral.
 9.10 ,, Copenhagen: Danish and Dance music.

Operas and Operettas

- 6.30 p.m. Stuttgart, Frankfurt, Langenberg: Prince Ligojan's Brautfahrt.
 8.0 ,, Brussels No. 2: "Judith" and D'Albert's "Dead Eyes."

Plays

- 9.10 p.m. Radio-Paris: Relay from Théâtre de la Madeleine (Sacha Guitry).

MONDAY, DECEMBER 14

- Concerts**
 6.35 p.m. Frankfurt, Stuttgart: "The Creation" (Haydn).
 7.0 ,, Langenberg: Orchestral.
 8.0 ,, Prague: Orchestral.
 8.5 ,, Munich: Symphony concert.
 8.30 ,, Hamburg: Mahler's "Lieder eines fahrenden Gesellen."
 8.45 ,, Brussels No. 1: Beethoven Sonatas.
 11.30 ,, Frankfurt, Stuttgart: "Late" concert.

Operas and Operettas

- 7.15 p.m. Warsaw: "Janek" (L. Zelénski).

TUESDAY, DECEMBER 15

- Concerts**
 7.0 p.m. Bucharest: Orchestral and vocal.
 7.0 ,, Schweizerischer Landessender: Symphony concert.
 7.0 ,, Stockholm: Operatic concert.
 7.30 ,, Langenberg: Symphony concert.
 8.0 ,, Brussels No. 2: Orchestral and vocal.
 8.30 ,, Prague: Haydn chamber music.
 9.15 ,, Copenhagen: Dvorák concert.
Operas and Operettas
 7.0 p.m. Radio-Paris: "Les Cloches de Corneville" (Planquette).
 7.5 ,, Munich: "The Pearl Fishers" (Bizet).

Plays

- 8.15 p.m. Frankfurt, Stuttgart, Heilsberg: "Ilsebill" (fairy-tale play).

WEDNESDAY, DECEMBER 16

- Concerts**
 7.45 p.m. Langenberg: "Melodies from childhood."
 9.25 ,, Copenhagen: Scandinavian folk music.
Operas and Operettas
 6.30 p.m. Bucharest: Relay from Opera House.
 6.30 ,, Prague: "Dalibor" (Smetana), relay from Opera House.

- 6.55 p.m. Hamburg: "Friedemann Bach" (Graener).
 7.0 ,, Munich: "Der Obersteiger" (Zeller).
 8.35 ,, Stockholm: "Fidelio" (Beethoven), Act II.
Plays
 8.45 p.m. Radio-Paris: "La Mort de Don Quichotte" (Cervantes).

THURSDAY, DECEMBER 17

- Concerts**
 7.20 p.m. Bucharest: Orchestral.
 7.30 ,, Brussels, Hamburg, Langenberg, Prague, Schweizerischer Landessender, Warsaw, and British Regional stations: European concert, Belgian composers.
 7.55 ,, Hilversum: Mengelberg concert from Concertgebouw, Amsterdam.
 8.15 ,, Munich: Philharmonic Orchestra.
 11.50 ,, Frankfurt, Stuttgart: Russian Songs.
Operas and Operettas
 7.10 p.m. Copenhagen, Heilsberg: "Orpheus and Eurydice" (Gluck).
 9.15 ,, Barcelona: Relay from "Liceo Theatre."

FRIDAY, DECEMBER 18

- Concerts**
 7.0 p.m. Bucharest: Violin recital.
 7.0 ,, Hamburg: Schumann concert.
 7.0 ,, Stockholm: Orchestral and vocal.
 7.15 ,, Warsaw: Symphony Concert.
 7.40 ,, Heilsberg: Symphony concert.
 8.0 ,, Brussels No. 1: Chamber music.
 9.20 ,, Copenhagen: Danish Chamber music.
 9.20 ,, Prague: Contemporary Czech chamber music.
 9.30 ,, Barcelona: Recital of Spanish songs.

Operas and Operettas

- 7.10 p.m. Stuttgart, Frankfurt: "Die Fledermaus."

SATURDAY, DECEMBER 19

- Concerts**
 3.30 p.m. Hamburg: Orchestral.
 7.0 ,, Bucharest: Orchestral.
Operas and Operettas
 8.0 p.m. Brussels No. 1: "La Fille de Mme. Angot" (Lecocq).

Interference between Stations

(November 29—December 2)

ON Nov. 29, two important changes of Italian wavelengths took place. Milan left 599 kc/s for 905 kc/s, the Naples frequency. The latter has gone to 941 kc/s, occupied by Dresden. San Sebastian has slightly increased his frequency, and is now on 660 kc/s. The interference with Beromünster has thus considerably decreased. Radio-Vitus, which for more than a year has heterodyned Genoa and Cracow (959 kc/s), seems to have increased his power. As a result, the interference was very bad during the last few days; furthermore, Radio-Vitus is now on 961 kc/s instead of 959, previously, and the heterodyne whistle is thus much more unpleasant. Valencia had gradually come nearer to his allotted frequency of 1,121 kc/s during the past two weeks and was using it exactly on November 30. However, he was again on 1,118 kc/s the next day. Trieste is always

(Continued on page 1002)



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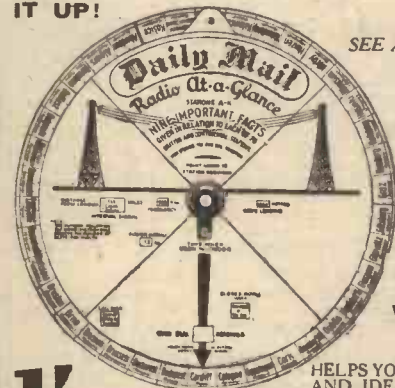
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SHORT-WAVE STATIONS

The times quoted are reduced to G.M.T.

80	3750—Rome (Italy) zRO, 14kW. (Aer).
70.2	4273—Khabarovsk (U.S.S.R.), 20 kW. 9 a.m. to 12.
62.5	4800—Long Island, W2XV, FRI., 11 p.m. 1.30 a.m.
58	5172—Prague. TUES. and FRI., 7.30—9.30 p.m.
54.52	5502—Brooklyn (N.Y.) W2XBH, Relays WCGU.
51.22	5857—Chapultepec (Mexico) XDA, 20 kW. Daily 3—4 p.m.
50	6000—Barcelona Radio Club EAJ25, SAT. 8—9 p.m.
50	6000—Bucharest (Romania) 0.3 kW.
50	6000—Moscow (Relays Moscow T.U.) 8.0 p.m.
49.96	6005—Tegucigalpa (Honduras), HRB, 2.5 kW. Daily (except SUN.), 12 m'nt.—5 a.m.
49.83	6020—Chicago (Ill.), W9XF, 5 kW. Relays WENR SUN. 8—7 a.m., 1—5.30 p.m., 8.30—11 p.m. and 1—6 a.m. (MON). Weekdays, 3.15—4.45 p.m., 8.30 p.m.—12 m'nt and (ex. SAT.) 1.30—6 a.m.
49.67	6040—New York (W2XAL), 0.25 kW. TUES., 12 m'nt.—5 a.m. WED., 12 m'nt.—2 a.m. FRI., 12 m'nt.—4 a.m. SAT., 12 m'nt.—3 a.m.
49.5	6060—Cincinnati, W2XAL, 10 kW. Relays WLW.
49.5	6060—Nairobi (Kenya), 7 LO.
49.5	6060—Philadelphia (Pa.) W3XAU, 0.5 kW. Relays WCAU. Daily 2—9 p.m. THURS. and FRI., 2 p.m.—6 a.m.
49.43	6069—Vancouver (B.C.) VE6CS.
49.4	6072—Johannesburg (S. Africa). Daily 3.30—8.30 p.m.
49.34	6080—Chicago (Ill.) W9XAA, 0.5 kW. Relays WCFL. Daily 2—5 a.m.
49.22	6095—Bowmanville (Canada) VE9GW, 0.028 kW. Weekdays, 11.45 a.m.—3 p.m.; and 8 p.m.—3 a.m. SUNDAYS, 5.30 p.m.—4.15 a.m.
49.18	6100—Bound Brook (N.J.) W2XAL, 12 kW. MON. TUES., WED. and THURS., 6.30—11.45 p.m. and 4—6 a.m. Sun., 1—7.30 p.m.
49.05	6116—Saigon (French-Indo-China) F3ICD. Daily 12 noon—3.45 p.m.
49.02	6120—Richmond Hill (N.Y.). W2XE, 0.5 kW. Relays WABC. D'y 1 p.m.—5 a.m. next day.
48.86	6140—Pittsburgh East (W8XK), Relays KDKA. WED. and SAT., 10 p.m.—5 a.m.
48.8	6147—Winnipeg (Canada) VE0CL, 2 kW. Daily (except SUN.) from 12.30—2.30 a.m.
48.65	6167—Mexico City XIF.
48.35	6205—Bogotá (Columbia) HKC. Daily, 3 p.m.
48.05	6243—Barranquilla (Colombia), HKD.
48	6250—Casablanca (N. Africa) CN8MC. Relays Rabat, MON., 8—9 p.m. TUES., 12 noon—1 p.m. and 8—9 p.m.
46.69	6425—Bound Brook (N.J.) W2XL, FRI. 10—11.45 p.m. and 4—6 a.m. SAT. 6.30—11.45 p.m. and 4—6 a.m.
45.38	6611—Moscow (Russia).
45	6667—Constantine (Algeria) 8KR, 0.2 kW. MON. and FRI., 11 p.m.
43	6976—Madrid (EAR 110), TUES. & SAT., 10.30 p.m.
42.9	6991—Lisbon CT1AA, 2 kW. FRI., 10 p.m.
41.7	7195—Singapore VS1AB, SUN. & WED. 2.30—4 p.m.
41.6	7211—Tenerife Radio Club EAR58, 0.05 kW.
41	7313—Bangkok HSP2, 2.5 kW. (Testing). MON. only 1—4 p.m.
39.7	7556—Bogotá (Columbia) HKF.
39.4	7612—Nuevo Laredo (Mex.) X26A, THUR., 4—5 p.m.
34.58	8650—Long Island W2XV, FRI. 11 p.m.—1.30 a.m.
33	9090—Radio LL (France), 0.5 kW. DAILY 12.30—1 p.m. and 6—6.30 p.m. SUN., MON., WED. and FRI., 8—10 p.m. SAT., 7—8.30 p.m. SUN., 10 a.m.—12.30 p.m. and 2.30—4 p.m.
32.5	9230—Paris (FL), Time Sig. 8.56 a.m. and p.m.
32.26	9300—Rabat (Radio Maroc), 6 kW. SUN. 7—9 p.m.
31.75	9450—Rio de Janeiro (Brazil), 9.30—11.30 p.m.
31.55	9510—Melbourne (Australia) VK9ME, 5 kW. WED. and SAT., 10 a.m.—11.30 a.m.
31.51	9520—Skamlebek (Denmark) OXY, 0.5 kW. Relays Copenhagen. Daily from 6 p.m.
31.48	9530—Schenectady, N.Y. (W2XAF), 10 kW. (Aer) Relays WGY. Weekdays 10.30 p.m.—4 a.m. SAT. and SUN., 9 p.m.—4 a.m.
31.38	9560—Zeeseen (Germany), 8 kW. Relays various stations, generally 1 p.m.—12.30 a.m.
31.35	9570—Poznań (Poland) SR1, 1 kW. TUES., 6.45—9.45 p.m. THURS., 6.30 p.m.—1 a.m.
31.35	9570—Springfield (Mass.) W1XAZ.
31.3	9582—Philadelphia (Pa.) W3XAU, 0.5 kW. Daily (except THURS. and FRI.), 9 p.m.—6 a.m.
31.28	9590—Melbourne (Australia) VK9ME, 20 kW. WED. and SAT., 10 a.m.—11.30 a.m.
31.28	9590—Sydney (Australia) VK2ME, 20 kW. SUN., 10 a.m.—2 p.m.; 2.30—4.30 p.m. and 6—8 p.m.
31.28	9590—Eindhoven (Holland) PCJ, 25 kW. (Closed for six months.)
30.75	9756—Agen. TUES. and FRI., 9—10.15 p.m.
30	10,000—Belgrade. MON. only, 8—9 p.m.
29.3	10,238—Heredia (Costa Rica) NRH, 7.5 watts. Daily 10—11 p.m. and 2—3 a.m.
28.98	10,350—Buenos Aires LSX, 20 kW. 8.30 p.m.—12.30.
25.63	11,705—Pontoise (Paris). Daily 9 p.m.—12 m'nt.
25.53	11,750—Chelmsford (G5SW), 16 kW. (Aerial). 12.30—1.30 p.m. and 6.45 p.m.—12 m'nt. MON., TUES., WED. and THURS. Reg. prog. FRI., Nat. programme.
25.5	11,763—Chapultepec XDA, 20 kW. Daily, 8—9 p.m.
25.43	11,795—Bowmanville (Canada), VE9GW. (Exp'tl).
25.34	11,840—Chicago (Ill.) W9XAA. Relays WCFL.
25.27	11,870—Calcutta (India) VUC, 0.5 kW. Weekdays, 2.45—3.15 a.m. and 3.15—5 p.m.
25.25	11,880—Pittsburgh East (W8XK), 5 p.m.—3 a.m.
25.2	11,905—Pontoise (Paris), Daily 5.30—8.30 p.m.
24	12,500—Funchal (Madeira) CT2AQ, 0.05 kW.
23.8	12,605—Rabat (Radio Maroc), 6 kW. SUN., 11.30 a.m.
21.5	13,950—Bucharest, 0.3 kW. WED. and SAT., 7.10 p.m.
20.5	14,630—Chapultepec XDA, 20 kW. D'y 7.30—8 p.m.
19.72	15,210—Pittsburgh East (W8XK), Relays KDKA. WED. and SAT., 12 noon—4 p.m.
19.68	15,234—Pontoise (Paris). Daily 2—5 p.m.
19.56	15,340—Schenectady (W2XAD), 20 kW. Weekdays, 6—8 p.m. SAT. and SUN., 6—9 p.m.
16.57	18,105—Chicago (Ill.) W9XAA. Relays WCFL.
15.93	18,630—Bandoeng (PLE) 80 kW. TUES., 1.40—3.40 p.m.
15.5	19,355—Nancy (France).

For Long and Medium Wave Stations see page 1028

Last Week's Log

(November 29—December 3)

By "THE SEARCHER"

THIS report actually covers only the first four days of the week, since owing to earlier press dates necessitated by the approach of the Christmas holidays my copy has to reach the office of *World-Radio* some days earlier than usual. So far as it has gone it has been one of the best weeks of the season, with a complete absence of atmospheric interference and with excellent all-round signal strength. This is the kind of week that all long-distance men thoroughly enjoy, for it enables the fullest use to be made of the high-frequency amplification that is available. When atmospheric, even of the minor type, are present, the full sensitiveness of the set cannot be made use of owing to the background of interference which is brought up. Nor is it of much use trying for very weak and distant stations, for, if they are not actually drowned, they are at any rate seriously spoiled by the interfering sounds which are amplified at the same time as those of broadcasting. But when these perfect conditions are with us it is really worth while to launch an attack upon stations that are difficult to hear in ordinary times.

Swedish Relays' Surprising Power

Amongst these are the Swedish relays, now receivable with surprising strength in many instances, and stations such as Copenhagen (usually a feeble signal in the Midlands and Southern England), Zagreb, and the medium-wave Norwegian stations.

Long-wave reception both in daylight and after dark is naturally extraordinarily good. Warsaw has been slightly heterodyned on one or two evenings, though his strength in my locality is comparable with that of the London National, whose range is only forty-five miles. Radio-Paris is of course a very big signal now, though not quite so big as I had expected when his power was increased. Personally I have no trouble whatever with wipe-out effects from him. I believe that he is not yet using every available kilowatt, so that it is early days to say what will eventually happen. Huizen and Kalundborg are outstandingly good transmissions.

Good Medium-Wave Stations

On any night now one can take one's pick of at least a score of first-rate stations on the medium-wave band. Here is my list of star stations: Budapest, Vienna, Brussels No. 1, Prague, Langenberg, Rome, Schweizerischer Landessender, Stockholm, Suisse Romande, Katowice, Frankfurt, Toulouse, Hamburg, Strasbourg, Brno, Brussels No. 2, Göteborg, Bordeaux, Breslau, Hilversum, Heilsberg, Hörby, Gleiwitz, Trieste, and Nürnberg.

Inconsistencies in Reception

A very interesting letter comes from a York correspondent, who signs himself "Ether." Though his home is nearly two hundred miles from mine, he and a brother, living half a mile from him and using identical sets, have precisely the same experiences in the reception of Brno and Heilsberg that I reported recently in my own locality. At his house Heilsberg is very powerfully received, whilst Brno is but a moderate signal. His brother obtains tremendous volume from Brno, but finds that Heilsberg is only just able to supply loud speaker-strength.

The differences are really enormous. My correspondent tells me that in his own home such is Heilsberg's volume that it is difficult to believe that the transmission is not coming from Moorside Edge, only thirty-eight miles from him. I should welcome reports of other instances of queer reception from readers.

Heard on the Continent

By "CENTRAL EUROPEAN"

RECEPTION of distant stations on all wave-bands in the period under review was remarkable for its signal strength. Atmospherics, too, on the whole, were favourably disposed towards listeners. Reception of Radio-Paris was not once as good as one would expect of its greatly increased power. Warsaw continues to be a wonderful signal and, in addition, its programmes are always interesting; I would only mention the excellent Chopin recitals on Saturday evening. Motala has greatly fallen from its former strength: the Swedish programmes are heard far better *via* Hörby and Göteborg. Moscow Trades Union is another transmitter reception of which is not so good as formerly; perhaps this is one of the reasons why the far more powerful station Moscow-Stalin has been opened. Reception of Kalundborg continues to be poor, and that of Oslo is still not without a blemish.

Wilno's Change of Wavelength

A little lower in the wave-band a station has appeared which hitherto has operated on a very short wavelength. I am referring to Wilno, which apparently now works on 581 metres, with a greatly increased power. But reception has been so poor that I could not definitely establish the identity of the station in question. Ljubljana's signal strength has decreased somewhat. I have also been unable to discover what has become of Palermo. This station no longer appears to transmit on the wave which it shared with Sundsvall, although officially the frequency continues to be given as 554 kc/s. Nor could I hear it on its legitimate frequency of 1,412 kc/s. Reception of Munich has been quite good; that of Riga has also been quite satisfactory. I recorded great fluctuations in the quality of the British North Regional transmitter. At times it was so loud that one feared for the safety of the loud speaker, and in the next minute it would become so weak that in searching for it it could not be found on the tuning dial. Similar fluctuations I found, by the way, also with the Northern National transmitter. Perhaps it is the district that causes these interferences.

Rome versus Stockholm

Schweizerischer Landessender has become one of the best-heard European stations. Rome has again been too weak a signal to overcome Stockholm, a station which comes through with good strength. Radio Suisse Romande has also been a very steady signal. Reception of Bucharest has been particularly good. Radio Toulouse continues to improve, Stuttgart was extraordinarily loud, and reception of London Regional has also been quite good. Barcelona EAJ1 has again become very weak. Radio Strasbourg, on the other hand, is heard extremely well and at any time of the day. Brno has been received with agreeable constancy, as, indeed, are all Czech stations. Both Brussels transmitters were again very clear and audible. Breslau and Göteborg are two stations which seem to be involved in a constant struggle, resulting mostly in Breslau's disappearance in the background. Hilversum comes through very well, and for the first time since a year ago have I heard Tallinn tolerably well.

Heilsberg has been received with clarity; the same applies to Turin, although the latter is at times a little suppressed by the former. London National and Hörby have been good and constant signals, the former being subject to a certain amount of strong fading. Finally, Lodz should be mentioned as a station that was heard very well and at any time.

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Which Station Was That?

Answers to Correspondents

WIDE-AWAKE (Gstaad, Switzerland): London National; heterodyne whistle caused by neighbouring transmitter. **PUZZLED** (Mount Vernon): New fog beacon and direction-finder testing. **FOUND ONE** (Liverpool): Radio-Idzerda, The Hague; experimental transmitter. **DRAPER** (Cardiff): Bordeaux-Lafayette relaying from Trocadero, Paris, international meeting in connexion with Disarmament Conference. **J. H. (Falkirk)**: Heilsberg relaying Frankfurt. **Edmund-Fritz** (tenor). **ORCHARD** (Sherrington): Lille PTT; gramophone records. **N. P. C. (Northampton)**: British relays (239 m.). **THREE VALVER** (Weymouth): (1) regret, cannot trace; (2) French aerodrome, possibly Le Bourget or St. Inglevert. **LIZ** (Holborn): (45) Scheveningen-Haven (Holland); (46) Reykjavik; gramophone records; (47) Prague relaying Warsaw; symphony concert. **HOPEFUL** (St. John's Wood): WL appears to be wrong; the only station in that neighbourhood broadcasting in Italian is Palermo on 541 m. **L. F. H. (Sydenham)**: (1) Prague advertised a relay from New York but this was replaced by a local cabaret entertainment. **EASTERN NIGHT** (Cawnpore, India): (1) Lwów relaying Warsaw; (2) cannot confirm, but might tally with Saigon (Indo-China) on 24.98 m. **MONTUS (Colne)**: (a) Heilsberg relaying Berlin; (b) Cardiff; (c) Radio-Paris; (d) Prague. **AFTERIT** (Eastbourne): W3XAL, Boundbrook, N.J., on 49.18 m. **CARNALL** (Belfast): You do not say whether a.m. or p.m.; if latter, Reykjavik. **G. T. (Leeds)**: Hilversum; midnight (local time in Holland) equals 11.40 p.m. G.M.T. **NIGHT HAWK** (Totton): EAQ, Aranjuez, Madrid, on 30.426 m. **SANDY ACRE** (Derby): Jack Hylton and his dance band broadcast from Prague; you heard the transmission through Brno. **NIMROD** (Brentford): (1) 7LO, Nairobi; (2) WNC and WMI, Deal Beach (N.J.), on 30.77 m.; (3) not a broadcast, but a talk given in London relayed to the Columbia broadcasting stations, U.S.A., by trans-Atlantic telephony through GBU, Rugby, on 24.41 m. **RUTLI** (Northfleet): (1) Kharkov; early-morning physical exercises; (2) Leningrad; (3) Moscow (Old Komintern). **TELESEER** (Rugby): Eiffel Tower; transmission of meteorological charts. **RHEINGOLDZUG** (Worcester): The only station we can trace is WDAE, Tampa (Florida), on 1,220 kc/s, 1 kW. **MEADOWS** (Cheltenham): Poznan relaying Warsaw. Clock chimes (midnight) at 11 p.m. G.M.T. **ASLAR** (Liverpool): Radio Normandie, Fécamp, sponsored concert on 245.9 m. **JERRY** (West Wickham): Radio-Paris testing. **W. H. A. T. (Acton)**: Radio-Idzerda, experimental transmitter, The Hague. **BLACKSTREAM** (Malton): Rome, on 80 m.; (2) regret, too vague; cannot trace. **FIDLER** (Reading): Hilversum; the call was "Hier V.A.R.A." (pronounced "Fara"). **ROVER** (Aberdeen): Ljubljana; English lesson. **CARISBROOKE** (Hauxton): Lille. PTT. **NOVICE** (Farnham): Lille. PTT. **K. B. T. S. E. (Chester)**: Radio Normandie, Fécamp; sponsored concert on 245.9 m. **DIAL ROVER** (Putney): Hörby testing. **HOPPY** (Norwich): Kalundborg relaying Copenhagen. Chimes at 10.58 G.M.T. or 11.58 p.m. C.E.T., followed by midnight time signal. **ULTRAG** (Glasgow): Frankfurt relaying Berlin programme. **ETHER ROVER** (St. Agnes): Not a broadcast, but local interference. **HOGHTONIAN** (Preston): Altered programme; Motala relaying Stockholm. **HORATIO** (Glastonbury): Radio-Idzerda, experimental trans-

mitter, The Hague. **WILLIAMSBURGH** (Johnstone): Apparently an harmonic. **MOUSE** (Gunnerbury): Motala relaying Stockholm. **QU'EST-CE-QUE-C'EST** (Bourne End): Budapest; a broadcast by Jack Hylton's dance band. **ALF-O'-THE-TOOLEY** (Walworth): (17) Rabat (Morocco); (16) Radio Normandie, Fécamp (using 245.9 m.). **CURIOUS** (Groydon): Warsaw; relay of service from Poznan Cathedral. **BURNTOOT** (S.W.2): (1) LQE, Radio Splendide, Buenos Aires, on 30.57 m.; (2) EAQ, Aranjuez, Madrid, on 30.426 m. (neither of them is a broadcasting station), (3) certainly, Rabat (Morocco); but we have no information regarding a station on that wavelength; (4) HRC, Bogotá (Colombia), on 48.35 m. **SOUTHGATE OWL** (N.14): 7LO, Nairobi (Kenya Colony). **TAVISTOCKIAN** (Torquay): Apparently VK2ME, Melbourne (31.55 m.), if on wavelength above Zeesen, otherwise VK2ME (Sydney) on 31.28 m. **GREEN CARNATION** (Plymouth): A test by Hörby. **MANSUS** (E.5): Cannot confirm, but reception of Buenos Aires on 315.8 m. has been reported by other listeners. **NOVIATIE** (Cardiff): Cologne. German National Anthem ("Deutschland über Alles"). **WATCH** (Eltham): (1) Nürnberg relaying Munich; (2) Leningrad; English Lesson. **C. L. C. (Dartford)**: Oslo. Jubilee concert of "Harmonie" Choral Society. **EDGAR RENN** (Birmingham): Heston Airport; Air Ministry weather reports broadcast by Automobile Association. **TYDRAW** (Glamorgan): Far too vague; regret, cannot trace. **BRITON** (First Tower, Jersey): (1) Radio-Idzerda, experimental transmitter, The Hague; (2) possibly test by Hilversum through Kootwijk; (3) might tally with WLW, Cincinnati (Ohio). **DEVONIAN** (Ashburton): No; these are "short" wavelengths under 100 metres.

INTERFERENCE BETWEEN STATIONS

(Continued from page 999)

interfered with by several small stations working round 1,211 kc/s, the most troublesome being Kalmar, a Swedish relay, generally using 1,215 instead of 1,220 kc/s. Farther down the medium-wave band, Cork is often heterodyned by a French station which has not been identified up to now. Radio-Normadie, which previously worked round about 1,350 kc/s, has gone up to 1,363 kc-s, where he is badly heterodyned by Radio-Beziers, a French station which is very unsteady and of extremely bad quality.

On the long-wave band, the experimental transmissions of Vienna on 240 kc/s (Mondays, Wednesdays and Saturdays from 7 p.m.) are badly jammed by a powerful telegraphic station using about 242 kc/s.

L. B.

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Each query should be numbered and the questions on the coupon carefully answered. Letters must be addressed to the Editor, *World-Radio*, Savoy Hill, W.C.2.

The Alternative Postal Service

In addition to the free service of "Which Station was That?" printed in these columns, replies to queries can be obtained within forty-eight hours of receipt of details, on payment of 6d. per query, in stamps or P.O., accompanied by stamped addressed envelope (marked in left hand top corner "Postal Query Service"), and coupon as per conditions for "Free Queries."

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1. Time and Date of reception.
2. Approximate frequency in kilocycles per sec. (or wavelength in metres).
3. Nearest known stations, above and below.
4. Call or interval signal, if heard.
5. Language.
6. Type of receiver in use and strength of signal.
7. Details of programme or signal received.
8. Name and address.
9. Nom de plume. (Proprietary names must not be used.)

Schedule of Advance Programmes

(STRICTLY COPYRIGHT)

For the benefit of traders who may wish to make arrangements for demonstrating, we are printing each week a schedule of the programmes to be transmitted by the National and Regional stations. It will be noticed that these schedules concern programmes to be transmitted a fortnight hence, and it is felt that they will also be of particular service to those of our readers living abroad who will be able to use them in connexion with the reception of the Experimental Short Wave Station, G5SW, which relays either the National (5XX) or London Regional programme from 7 p.m.

SUNDAY, DECEMBER 27

	NATIONAL	LONDON REG.	MIDLAND REG.	NORTH REG.
AFTERNOON	Church Cantata Light Music Violin Recital String Orchestra	Orchestral Con. Chamber Music	Studio Orchestra As London Reg.	Studio Orchestra As London Reg.
EVENING PROGRAMME		Military Band	As London Reg.	Orchestral Con.

MONDAY, DECEMBER 28

	NATIONAL	LONDON REG.	MIDLAND REG.	NORTH REG.
MORNING	Studio Concert	As Midland Reg.	Cinema Orch.	As Midland Reg.
AFTERNOON	Gram. Orch. Gram. Records Hotel Orchestra	As North Reg. As Midland Reg. As National	As North Reg. Studio Orchestra	Organ Recital As Midland Reg. As National
1ST EVENING PROGRAMME	Talks Vaudeville	Light Music Orchestral Con.	Light Music Military Band	Band Concert Studio Orchestra
2ND EVENING PROGRAMME	Chamber Music Dance Music	Gram. Records Dance Music	As London Reg. As London Reg. (till 11 p.m.)	Concertina Prize Band As London Reg.

TUESDAY, DECEMBER 29

	NATIONAL	LONDON REG.	MIDLAND REG.	NORTH REG.
MORNING	Cinema Organ	As North Reg.	As North Reg.	Ballad Concert
AFTERNOON	Restaurant Music Gram. Records Cinema Orch.	As North Reg. As Midland Reg. As National	As North Reg. Studio Orchestra	Studio Orchestra As Midland Reg. As National
1ST EVENING PROGRAMME	Organ Recital Play	Military Band Tango Orchestra	Studio Orchestra Dance Music	Military Band Orchestral Con.
2ND EVENING PROGRAMME	Songs from the Shows Dance Music	Choral and Orch. Dance Music	As London Reg.	As London Reg. As London Reg.

WEDNESDAY, DECEMBER 30

	NATIONAL	LONDON REG.	MIDLAND REG.	NORTH REG.
MORNING	Orchestral Con.	Cinema Organ As Midland Reg.	As London Reg. Studio Orchestra	As London Reg. As Midland Reg.
AFTERNOON	Organ Recital Symphony Con.	As North Reg. As North Reg. As National	As North Reg. As North Reg.	"Mid-Day" Concert Studio Orchestra As National
1ST EVENING PROGRAMME	Talks Song and Piano-forte Recital	Light Music As Midland Reg.	V'cello Recital Revue	Relay from the Blackpool Theatre As Midland Reg.
2ND EVENING PROGRAMME	Orchestral Con. Dance Music	Play Dance Music	As London Reg.	As London Reg. As London Reg.

THURSDAY, DECEMBER 31

	NATIONAL	LONDON REG.	MIDLAND REG.	NORTH REG.
MORNING	Organ Recital	Cinema Orch.	As London Reg.	As London Reg.
AFTERNOON	As Midland Reg. Abbey Evensong Hotel Orchestra	As Midland Reg. As North Reg. As National	String Orchestra As North Reg.	As Midland Reg. Hotel Orchestra As National
1ST EVENING PROGRAMME	Talks Orchestral Con.	As North Reg. Wireless Chorus	Musical Com. Programme Theatre Relay	Studio Orchestra Play
2ND EVENING PROGRAMME	Vaudeville New Year's Eve Programme	Light Orch. Con. As National (till 1 a.m.)	As London Reg.	Choral and Orch. As National (till 1 a.m.)

FRIDAY, JANUARY 1

	NATIONAL	LONDON REG.	MIDLAND REG.	NORTH REG.
MORNING	Gram. Records	As Midland Reg.	Cinema Organ	As Midland Reg.
AFTERNOON	Organ Recital Gram. Records Hotel Orchestra	Cinema Orch. As Midland Reg. As National	As London Reg. Cinema Orch.	As London Reg. As Midland Reg. As National
1ST EVENING PROGRAMME	Talks Dance Music	As Midland Reg. Orchestral Con.	Band Concert As London Reg.	As Midland Reg. Hotel Orchestra
2ND EVENING PROGRAMME	Orchestral Con. Dance Music	"Pantomimery" Dance Music	As London Reg. As London Reg. (till 11 p.m.)	As London Reg. As London Reg.

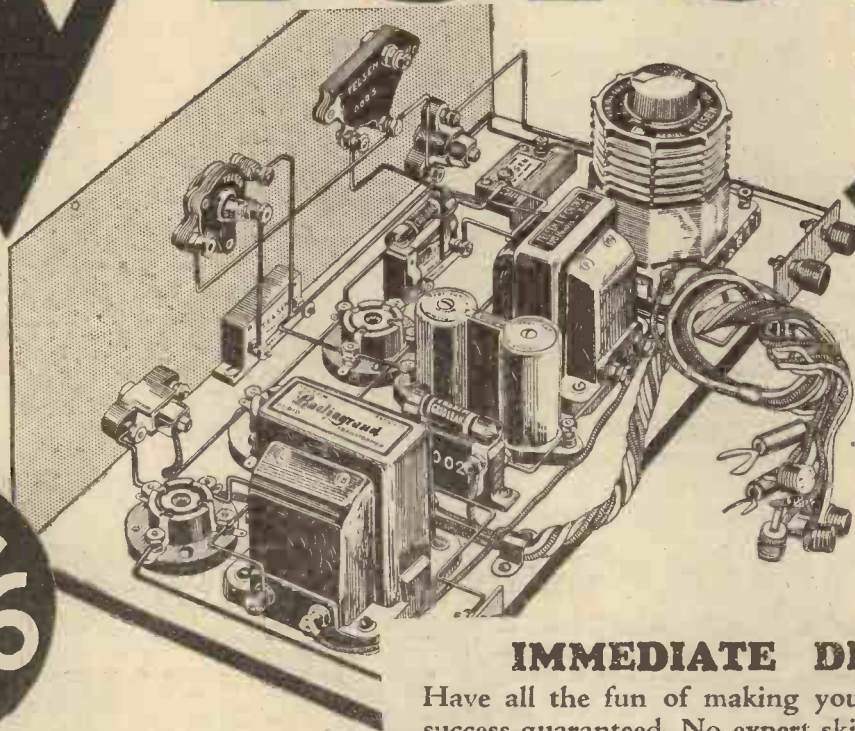
SATURDAY, JANUARY 2

	NATIONAL	LONDON REG.	MIDLAND REG.	NORTH REG.
MORNING	Cinema Orch.	As National		As National
AFTERNOON	Commentary on International Rugby Match	Orchestral Con. Cinema Organ	Dance Music Cinema	Football Commentary
1ST EVENING PROGRAMME	Talks "Pantomimery"	As North Reg. Military Band	Light Orch. Con. Studio Chorus	Organ Recital Studio Orchestra
2ND EVENING PROGRAMME	Light Orch. Con. Dance Music	Vaudeville Dance Music	As London Reg.	As London Reg. As London Reg.

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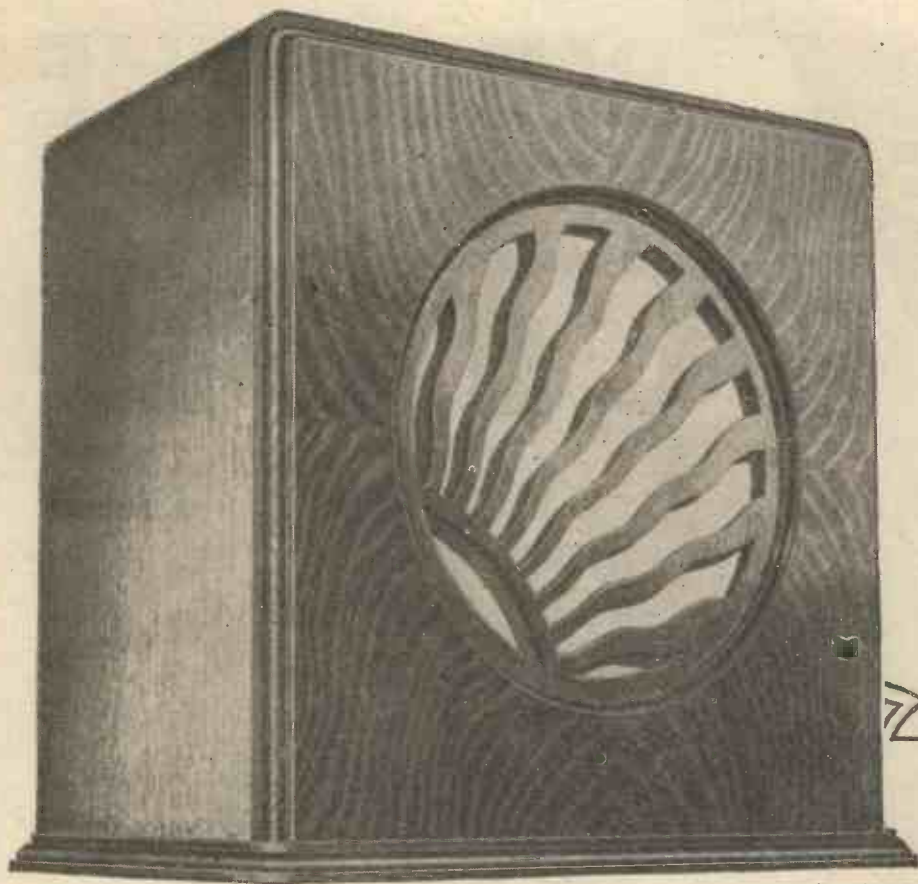
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SUNDAY (DEC. 13th)

- 3.0 p.m.—Church Cantata (No. 159). Bach. Sehst, wir geh'n hinauf gen Jerusalem... Singers: Gladys Currie (Soprano), Betty Bannerman (Contralto), Robert Leeds (Tenor), Arnold Matters (Bass)...

- 8.0 p.m.—Vaudeville. Ernest Shannon and Janet Joye, in Impressions, Ronald Frankau with his Frankau-Optimists, Elsie Otley (Soprano), Leonard Henry, Comedian... The Orchestra, under the direction of S. Kneale Kelley... 9.0 p.m.—"The Second News." 9.15 p.m.—Shipping Forecast; New York Stock Market Report.

TUESDAY (15th)

- 10.15 a.m.—The Daily Service. 10.45 a.m.—"British and Overseas Dishes"—IX. Mrs. Thirkell. 11.0—11.5 a.m.—Housewives' News. 12 noon—12.50 p.m.—A National Service of Prayer for the World Disarmament Conference... 2.5—3.0 p.m.—Gramophone Records. 4.0 p.m.—A Sonata Recital. Nancy Phillips (Violin), Hinda Phillips (Pianoforte).

- 10.25 p.m.—"Mosaic"—VII. 10.40 p.m.—12 midnight.—Dance Music. Henry Hall's Glencagles Hotel Band.

WEDNESDAY (16th)

- 10.15 a.m.—The Daily Service. 10.45—11.0 a.m.—"The Week in Westminster." 12 noon.—A Light Symphony Concert. The Northern Studio Orchestra, directed by John Bridge, Gordon Green (Pianoforte).

TIME SIGNALS (Greenwich)

- Sunday: 10.30 a.m., 3.0 p.m., 9.0 p.m. Weekdays: 10.30 a.m., 1.0 p.m., 4.45 p.m., 6.30 p.m., 9.0 p.m., 11.30 p.m.

DANCE MUSIC

- 5.15—6.0 p.m., each weekday from London and Northern National transmitters. 7.10—7.25 p.m.—Mr. Frank Prewett: "The Countryside." 7.30 p.m.—"What is Man?"—VI. Professor Julian Huxley: "Man and Reality." 8.0 p.m.—Interval. 8.15 p.m.—B.B.C. Symphony Concert, relayed from the Queen's Hall, London... 10.25 p.m.—Miss K. E. Lloyd: "Christmas in India."

THURSDAY (17th)

- 10.15 a.m.—The Daily Service. 10.45—11.0 a.m.—"The Child's World"—XV. Mrs. H. A. L. Fisher: "A Summing Up."

- 12 noon.—Reginald Foot at the Organ. 1.0 p.m.—Gramophone Records. 2.0—2.30 p.m.—A Concert. Dinah Evans (Soprano), Anita Vaughan (Contralto). 3.0 p.m.—Evensong from Westminster Abbey. 3.45 p.m.—Jack Payne and his B.B.C. Dance Orchestra. 4.30 p.m.—The Grosvenor House Orchestra, directed by Joseph Meeus. 5.15 p.m.—The Children's Hour. 6.0 p.m.—"The First News." 6.30 p.m.—The Foundations of Music. Bach's English Suites, played by Victor Hely-Hutchinson. 6.50 p.m.—German Talk. Mr. Otto Siepmann. 7.20 p.m.—The Weekly Bulletin of Special Notices. 7.30 p.m.—"Can Democracy Survive?"—XII. The Rt. Hon. Lord Eustace Percy: "Our Problem To-day." 8.0 p.m.—"Yes and Back Again." A Paraphrase by E. J. Kingi Bull. 9.5 p.m.—"The Second News." 9.20 p.m.—Shipping Forecast; New York Stock Market Report. 9.25 p.m.—"The Way of the World." Mr. Vernon Bartlett. 9.40 p.m.—A Recital. William Primrose (Viola), the Wireless Singers, conductor, Stanford Robinson.

FRIDAY (18th)

- 10.15 a.m.—The Daily Service. 10.45—11.0 a.m.—Christmas Stories—II. 12 noon.—A Concert. Horace Ralph (Violin), Joan Bonner (Violoncello), Dorothy Hildreth (Pianoforte). 12.45 p.m.—Organ Recital by Walter Vale. 1.30—2.30 p.m.—A Recital of Gramophone Records, by Christopher Stone. 4.0 p.m.—Moschetto and his Orchestra, from the Dorchester Hotel. 5.15 p.m.—The Children's Hour. 6.0 p.m.—"The First News." 6.30 p.m.—The Foundations of Music. Bach's English Suite, played by Victor Hely-Hutchinson: Suite, No. 5, in E Minor. 6.50—7.5 p.m.—"The Cinema." Mr. Francis Birrell. 7.10 p.m.—"This Surprising World." Mr. Gerald Heard. 7.30 p.m.—"Learning to Live"—XII. Professor John Macmurray (Grote Professor of the Philosophy of Mind and Logic, University of London): "Education for Leisure." 8.0 p.m.—The Ridgeway Parade—VI. (New Series). Happy Night. A Song and Dance Show, written by Holt Marvell and Philip Ridgeway. 9.0 p.m.—"The Second News."

- Weather Forecast, Second General News Bulletin. 9.15 p.m.—Shipping Forecast; New York Stock Market Report. 9.20 p.m.—National Lecture. Sir William Rothenstein: "Whither Painting?" 10.5 p.m.—The B.E.C. Light Orchestra, conducted by Stanford Robinson. Hedde Nash (Tenor). Orchestra: Overture, Preciosa (Weber). Hedde Nash and Orchestra: I arise from Dreams of Thee, It was a Lover and his Lass, Hey, ho, the Wind and the Rain (Quilter). Orchestra: Serenade, Waltz (Vincent d'Indy), Perpetuum Mobile (Johann Strauss). Hedde Nash: O Mistress mine (Redgrave Cripps), Diaphania (Whittaker), Pretty Ring Time (Peter Warlock), And yet I love her till I die (Parry), Winter (Bal-four Gardiner). Orchestra: The Bells of Aberdovey, The British Grenadiers (Stanford Robinson). 11.0 p.m.—12 midnight.—Dance Music. The Savoy Hotel Orpheans.

SATURDAY (19th)

- 10.15 a.m.—The Daily Service. 10.45—11.0 a.m.—Housewives' News. 1.0 p.m.—The Commodore Grand Orchestra, directed by Joseph Muscant. 2.0 p.m.—Ireland v. South Africa. A Running Commentary by W. P. Collopy, on the International Rugby Football Match. 3.45 p.m.—The Gershwin Parkington Quintet. Gladys Palmer (Contralto). 4.45 p.m.—Reginald Foot at the Organ. 5.15 p.m.—The Children's Hour. 6.0 p.m.—"The First News." 6.25 p.m.—Interval. 6.30 p.m.—The Foundations of Music. Bach's English Suites, played by Victor Hely-Hutchinson. 6.50—7.5 p.m.—"The Week in the Garden." Mr. A. Simmonds. 7.10 p.m.—"The World of Business." Mr. Archibald Gordon. 7.30 p.m.—Southampton Male Voice Choir, conductor, Arnold B. Williams. 8.10 p.m.—"The Barber of Seville." (Rossini). Performed by the Covent Garden Opera Company, relayed from the Prince of Wales Theatre, Birmingham. Act II—A Room in the house of Dr. Bartolo. Conductor, John Barbirolli. 9.0 p.m.—"The Second News." 9.15 p.m.—Shipping Forecast; New York Stock Market Report. 9.20 p.m.—Mr. Cedric Belfrage: "Round the British Studios"—III. 9.35 p.m.—Vaudeville. Bob and Alf Pearson (Synopacted Duets). Mabel Marks (Light Comedy Songs at the Piano). Horace Kenney (Comedian). Yvette Darnac (Light Ballads). Tommy Handley (Comedian). Jack Payne and his B.B.C. Dance Orchestra will play during the programme. 10.35 p.m.—12 midnight.—Dance Music. Ambrose and his Orchestra, from the May Fair Hotel.

(London)

REGIONAL PROGRAMMES

(Northern)

842 kc/s (356.3 m.) (70 kW.)

(Midland) 752 kc/s (398.9 m.) (38 kW.)

626 kc/s (479.2 m.) (70 kW.)

SUNDAY (DEC. 13th)

- 3.0 p.m. (London and Northern).—The Wireless Military Band. Conductor, B. Walton O'Donnell. Hughes Macklin (Tenor). 3.0 p.m. (Midland).—An Afternoon Concert. The Studio Orchestra. Directed by Frank Cantell. Elsie Small (Soprano), Herbert Stephen (Violoncello). 4.15 p.m. (London and Northern).—Organ Recital by Stanley Marchant, from St. Margaret's, Westminster. 4.30 p.m. (Midland).—A Recital by Geoffrey Dams (Tenor). 5.0—5.30 p.m.—"The Modern Dilemma"—X. Miss Evelyn Underhill. 7.55 p.m.—Daventry National Programme. 8.45 p.m. (Midland).—The Week's Good Cause. An Appeal on behalf

- of the Joint Hospitals, by A. H. Leaney, House Governor, The General Hospital, Birmingham. 8.45 p.m. (Northern).—The Week's Good Cause. An Appeal on behalf of the Travellers' Aid Society, Liverpool, by the Venerable Archdeacon Howson, M.A. 8.50 p.m.—"The News." Weather Forecast, General News Bulletin; Regional News. 9.5 p.m.—Sunday Orchestral Concerts—IX. Poushnhoff (Pianoforte). The B.B.C. Studio Symphony Orchestra (Leader, Arthur Catterall), conductor, Adrian Boulton. 10.30 p.m.—Epilogue.

MONDAY (14th)

- 10.15 a.m. (London and Northern).—The Daily Service. 10.30—11.0 a.m. (London and North-

- ern).—Daventry National Programme. 11.30 a.m.—12 noon (London).—Experimental Television Transmission by the Baird Process (356.3 m. Vision); 261.3 m. Sound.) 12 noon.—The Regal Orchestra, conducted by Ernest Parsons. 1.0 p.m.—Reginald Dixon at the Organ. 1.45—3.0 p.m.—Jack Martin and his Majestic Orchestra. Ernest Allen (Tenor). 4.0 p.m. (London and Northern).—Daventry National Programme. 5.15 p.m.—The Children's Hour. 6.0 p.m.—"The First News." 6.30 p.m. (London).—Eugene Pini and his Tango Sextet. Johanna Volders (Soprano). 6.30 p.m. (Midland).—Pattison's Salon Orchestra, under the direction of Norris Stanley.

- 6.30 p.m. (Northern).—The Studio Orchestra. 7.0 p.m. (Northern).—Leeds Philharmonic Society's Concert. "Messiah" (Handel). Isobel Baillie (Soprano), Muriel Brunskill (Contralto), Frank Titterton (Tenor), Norman Allin (Bass). John Paley (Solo Trumpet). The Leeds Symphony Orchestra and the Leeds Philharmonic Chorus, conducted by Dr. E. C. Bairdston. 7.30 p.m. (Midland).—The Midland Studio Chorus, under the direction of Edgar Morgan. 7.45 p.m. (London).—An Orchestral Concert. Joseph Farrington (Bass). The B.B.C. Light Orchestra, conducted by Joseph Lewis. 8.0—10.15 p.m. (Midland).—The Cheltenham Orchestral Society's Concert. The City of Birmingham Orchestra (Leader, Paul Beard),

- conducted by Leslie Heward. Philip J. Taylor (Organ). 8.35 p.m. (Northern).—Interval, including a talk from the studio. 8.55 p.m. (Northern and London).—Leeds Philharmonic Society's Concert. (From Leeds). "Messiah." Part II. 10.15 p.m.—"The Second News." 10.35—11.0 p.m. (Midland).—As London. 10.35 p.m.—12 midnight (London and Northern).—Dance Music. TUESDAY (15th) 10.15 a.m. (London and Northern).—The Daily Service. 10.30—11.5 a.m. (London and Northern).—Daventry National Programme. 12 noon.—A Ballad Concert. Kathleen Rolyane (Soprano). Harry Costigan

Regional Programmes—(Cont.)

(Baritone). Ottoline Forshaw (Violin). Millicent Silver (Pianoforte).
 1.0 p.m.—Gramophone Records.
 1.15 p.m.—The Manchester Tuesday Midday Society's Concert. Dorothy Pearce (Soprano), accompanied by Dora Gilson. George Whittaker (Pianoforte).
 2.0—3.0 p.m.—The Midland Studio Orchestra, directed by Frank Cantell.
 4.0 p.m. (London).—Daventry National Programme.
 4.0 p.m. (Northern).—Evensong from York Minster, York.
 5.15 p.m.—The Children's Hour.
 6.0 p.m.—"The First News."
 6.30 p.m.—Regional Bulletin for Farmers.
 6.35 p.m. (London and Northern).—Reginald Dixon at the Organ.
 6.35 p.m. (Midland).—Light Music. The Studio Orchestra.
 7.0 p.m. (London).—An Orchestral Concert. Orloff (Pianoforte). The B.B.C. Studio Symphony Orchestra, conductor, Adrian Boult.
 7.20 p.m. (Northern).—Mr. F. Stacey Lintott: "The Month in Northern Sport."
 7.30 p.m. (Midland).—Chamber Music. The Unity Quartet: Paul Beard (1st Violin); Ernest Element (2nd Violin); Frank Tement (Viola); Johan Hock (Violoncello).
 7.45—10.15 p.m. (Northern).—The Liverpool Philharmonic Society's Concert. The Liverpool Philharmonic Orchestra, conducted by Sir Hamilton Hartly.
 8.20 p.m. (London and Midland).—"Der Rosenkavalier" (Strauss). Performed by The Covent Garden Opera Company, from The Prince of Wales Theatre, Birmingham. Act II—A room in the house of Herr von Faninal.
 9.10 p.m. (London and Midland).—Vaudeville.
 10.15 p.m.—"The Second News."
 10.35 p.m.—12 midnight (London and Northern).—Dance Music.

WEDNESDAY (16th)

10.15 a.m. (London and Northern).—The Daily Service.

10.30—11.0 a.m. (London and Northern).—Daventry National Programme.
 11.30 a.m.—12 noon (London).—Experimental Television Transmission by the Baird Process (356.3 m. Vision; 261.3 m. Sound).
 12 noon.—Quentin Maclean at the Organ.
 12.45 p.m.—The Midland Studio Orchestra.
 1.30 p.m.—The Bradford Midday Concert. A Violin Recital by Morava.
 2.15—3.0 p.m.—The Northern Studio Orchestra, directed by John Bridge.
 3.30 p.m. (London and Northern).—The Bournemouth Municipal Orchestra, conductor, Sir Dan Godfrey. Esther Fisher (Pianoforte). Cyril Scott (Pianoforte).
 4.45 p.m. (London and Northern).—Daventry National Programme.
 5.15 p.m.—The Children's Hour.
 6.0 p.m.—"The First News."
 6.30 p.m. (London).—The B.B.C. Theatre Orchestra, conductor, Leslie Woodgate. Winifred Davis (Soprano).
 6.30 p.m. (Midland).—The Coventry Silver Band, conducted by J. Matthew. Harold Howes (Baritone).
 6.30 p.m. (Northern).—The Studio Orchestra.
 7.50 p.m. (Northern).—Mrs. Ruth Castleton: "The Northern Householders' Budget."
 8.0 p.m. (London and Midland).—The Ridgeway Parade. (New Series—No. VI.) Happy Night. A Song and Dance Show. Written by Holt Marvell and Philip Ridgeway.
 8.10 p.m. (Northern).—The Studio Orchestra, directed by John Bridge. The Shotton Welsh Glee Party.
 9.0 p.m. (London).—The Wireless Military Band, conducted by Charles Leggett. Ashmoor Burch (Baritone).
 9.0 p.m. (Midland).—An Organ Recital by Gilbert Mills.
 9.30 p.m. (Northern).—"The Yorkshire Mummings." Second Edition.
 9.40 p.m. (Midland).—"Queer Street." A Comedy in One Act by John Donald Kelly.

10.15 p.m.—"The Second News."
 10.35 p.m.—12 midnight (London and Northern).—Dance Music.
 10.35—10.40 p.m. (Midland).—Experimental Transmission for the Radio Research Board by the Fultograph Process.

THURSDAY (17th)

10.15 a.m.—(London and Northern).—The Daily Service.
 10.30—11.0 a.m.—(London and Northern).—Daventry National Programme.
 11.30 a.m.—12 noon (London).—Experimental Television Transmission by the Baird Process (356.3 m. Vision; 261.3 m. Sound).
 12 noon.—The Shepherd's Bush Pavilion Orchestra, conducted by Louis Levy.
 1.15 p.m.—The Philharmonic Midday Concert, directed by Johan Hock. From Queen's College, Birmingham.
 2.0 p.m.—Laddie Clarke's Imperial Hydro Hotel Orchestra.
 3.0 p.m. (London).—Daventry National Programme.
 3.0 p.m. (Northern).—The Studio Orchestra.
 3.30—3.45 p.m. (Northern).—Mrs. Storr Best: Readings from "Cranford" (Mrs. Gaskell).
 3.45 p.m. (Northern).—Daventry National Programme.
 5.15 p.m.—The Children's Hour.
 6.0 p.m.—First General News Bulletin and Farmers Bulletin.
 6.35 p.m. (London).—The Victor Olof Sextet. Vivien Lambelet (Soprano).
 6.35 p.m. (Midland).—The Regal Orchestra, conducted by Ernest Parsons.
 6.35 p.m. (Northern).—The Studio Orchestra.
 7.30 p.m. (London and Northern).—European Concert. In co-operation with Institut National de Radiodiffusion. Symphony Concert. Grand Orchestra of the Institut National Belge de Radiodiffusion, under the direction of M. Desiré Defauw. Mlle Berthe Briffaux, of The Flemish Theatre Royal, Antwerp.
 7.35 p.m. (Midland).—The Studio Chorus.
 8.10 p.m. (Midland).—Symphony Concert. The Leicester Symphony Orchestra (Leader, Grace Burrows), conducted by Dr. Malcolm

Sargent. Joan Coxon (Soprano).
 9.0 p.m. (London).—Gramophone Records.
 9.0 p.m. (Northern).—Christmastories. By Henrik Ege. Produced by Victor Smythe. Supported by The Harmony Five Quartet.
 9.45 p.m. (London).—A Reading of "The Son's Veto" from "Life's Little Ironies," by Thomas Hardy.
 10.15 p.m.—"The Second News."
 10.35 p.m.—12 midnight (London and Northern).—Dance Music. Jack Payne and his B.B.C. Dance Orchestra.

FRIDAY (18th)

10.15 a.m. (London and Northern).—The Daily Service.
 10.30—11.0 a.m. (London and Northern).—Daventry National Programme.
 11.30 a.m.—12 noon (London).—Experimental Television Transmission by the Baird Process (356.3 m. Vision; 261.3 m. Sound).
 12 noon.—Frank Newman at the Organ.
 1.0 p.m.—The Trocadero Orchestra, directed by Alfred Van Dam.
 2.0—3.0 p.m.—The Regal Orchestra, conducted by Ernest Parsons.
 4.0 p.m. (London and Northern).—Daventry National Programme.
 5.15 p.m.—The Children's Hour.
 6.0 p.m.—"The First News."
 6.30 p.m. (Northern and London).—The Horden Colliery Band, conducted by J. Foster. Norman Crabtree (Tenor).
 6.30 p.m. (Midland).—The City of Birmingham Orchestra. (Leader, Paul Beard), conducted by Leslie Heward. Leonard Gowings (Tenor). Margaret Ablethorpe (Pianoforte).
 7.45 p.m. (London and Northern).—The Wireless Chorus (40 Voices), conductor, Stanford Robinson.
 8.15 p.m. (Midland).—The Cheltenham Art Ball. Dance Music by Peter Fielding and his Band.
 8.30 p.m. (London).—Dr. G. J. Renier: "The English Christmas and Other Things."
 8.30 p.m. (Northern).—Dance Music. Henry Hall's Gleneagles Hotel Dance Band.
 9.0 p.m.—Concerts of Contemporary Music. (Sixth Season—1931-32.) Odette de Foras (Soprano). Arthur Benjamin (Pianoforte). The B.B.C.

Chamber Orchestra, conducted by Constant Lambert.
 10.15 p.m.—"The Second News."
 10.35—11.0 p.m. (Midland).—As London.
 10.35 p.m.—12 midnight (London and Northern).—Dance Music.

SATURDAY (19th)

10.15 a.m. (London and Northern).—The Daily Service.
 10.30—11.0 a.m. (London and Northern).—Daventry National Programme.
 1.0—5.15 p.m. (London and Northern).—Daventry National Programme.
 3.30 p.m. (Midland).—Dance Music.
 4.45 p.m. (Midland).—Reginald New at the Organ.
 5.15 p.m.—The Children's Hour.
 6.0 p.m.—First General News Bulletin.
 6.25 p.m.—Regional Sports Bulletin.
 6.30 p.m.—The B.B.C. Light Orchestra, conducted by B. Walton O'Donnell. Irene Morden (Soprano).
 6.30 p.m. (Midland).—The City of Birmingham Police Band, conducted by Richard Wassell. Ida Sargent (Entertainer).
 6.30 p.m. (Northern).—Special Interlude.
 6.45 p.m. (Northern).—Music of the North. The Studio Orchestra, directed by John Bridge. Harry Hopewell (Baritone). Tom Clough (Northumbrian Pipes).
 7.45 p.m. (Midland).—Gramophone Records.
 8.0 p.m. (London and Northern).—The Band of H.M. Royal Air Force, conductor, Flight-Lieut. R. P. O'Donnell, M.V.O., Director of Music, R.A.F. Florence Marks (Irish Diddle).
 8.0 p.m. (Midland).—From the Musical Comedies. The Studio Orchestra, directed by Frank Cantell. Mary Pollock (Soprano).
 9.10 p.m.—"Yes and Back Again." A Paraphrase by E. J. King Bull.
 10.15 p.m.—"The Second News."
 10.35 p.m.—12 midnight (London and Northern).—Dance Music. Ambrose and his Orchestra.
 10.35—10.40 p.m. (Midland).—Experimental Transmission for the Radio Research Board by the Fultograph Process.

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PROGRAMMES FOR SUNDAY (December 13)

NOTE: THE HOURS OF TRANSMISSION ARE REDUCED TO GREENWICH MEAN TIME

BARCELONA (Spain)
 Radio-Barcelona (EAJ1). 860 kc/s (349 m.); 8 kW.
 7.30-8.30 a.m.—Topical Review.
 11.0 a.m.—Cathedral Chimes and Weather.
 1.0 p.m.—Concert of Light Music on Gramophone Records.
 1.30 p.m.—Sextet Concert.
 2.0 p.m.—Theatre and Amusement Guide, Gramophone Records and Film Review.
 2.20 p.m.—Concert (continued).
 3.0 p.m.—Programme for Hospitals and Benevolent Institutions, with Gramophone Records.
 4.0-5.30 p.m.—Interval.
 5.30 p.m.—Agricultural Talk in Catalan.
 5.45 p.m. (approx.)—Part Relay of an Opera from the Gran Teatrol del Liceo, followed by Talk in Catalan.
 9.0 p.m. (approx.)—Close Down.

BERLIN (Germany)
 Königs Wusterhausen. 183.5 kc/s (1,635 m.); 75 kW.
 Transmits at intervals from 5.30 a.m. (Witzleben Relay).
 10.30 a.m.—See Leipzig.
 11.0 a.m.—1.0 p.m.—See Berlin (Witzleben).
 1.0 p.m.—Reading.
 1.25 p.m.—Talk: Original Genius among Authors
 1.45 p.m.—Illustrated Talk: Goethe and the German Song.
 2.5 p.m.—Talk: Impressions of a Visit to the Paris Colonial Exhibition.
 2.30 p.m.—Concert from Berlin (Witzleben). In the interval at 3.30 p.m.—Talk on Winter Relief.
 4.30 p.m.—Book Review.
 5.0 p.m.—See Berlin (Witzleben).
 6.0 p.m.—An Address to Youth by Dr. W. Groener.
 6.15 p.m.—Talk: The Art of Giving.
 6.45 p.m.—Concert from the Hotel Bristol.
 7.30 p.m.—See Langenberg.

9.15 p.m.—News Bulletin, followed by Programme from Berlin (Witzleben).
 11.30 p.m. (approx.)—Close Down.

BERLIN (Germany)
 Witzleben. 715 kc/s (418 m.); 1.7 kW.
 Transmits at intervals from 5.30 a.m. (Gymnastics).
 11.0 a.m.—Military Band Concert, from the Busch Circus.
 12.20-1.0 p.m.—Concert from the Winter Garden.
 2.30-4.30 p.m. (approx.)—Popular Orchestral Concert conducted by Eugen Sonntag.
 5.0-6.0 p.m. (approx.)—Recital of Christmas Music for Organ and Choir relayed from Magdeburg Cathedral.
 6.30 p.m.—See Stuttgart.
 7.30 p.m.—Concert by the Berlin Philharmonic Orchestra. Programme from the Works of Dvorák, Mozart, Wagner, Tchaikovsky, Berlioz, Grieg and Brahms.
 9.15 p.m. (approx.)—News, followed by Dance Music. In the interval, Report on the Ice Hockey Match, Ottawa, Canada, v. Berlin, from the Sports Palace (on Gramophone Records).
 11.30 p.m. (approx.)—Close Down.

BORDEAUX-LAFAYETTE (France)
 (PTT). 986 kc/s (304 m.); 35 kW.
 12 noon.—Concert relayed from Paris (Ecole Supérieure), 671 kc/s (447.1 m.).
 2.0 p.m.—Relay from Paris or Relay of Local Festival.
 4.30 p.m.—Pasdeloup Symphony Concert, relayed from the Théâtre des Champs Elysées, Paris.
 6.20 p.m.—Sports Notes.
 6.30 p.m.—Radio Journal.
 8.0 p.m.—Boxing Report.
 8.10 p.m.—Results of the Prize Draw.
 8.15 p.m.—Charades.
 8.30 p.m.—Gramophone Concert. After the Programme, Amusement Guide and Time Signal.

BRUSSELS (Belgium) (No. 1)
 I.N.R. 590 kc/s (509 m.); 20 kW.

12.15-1.45 p.m.—Gramophone Dance Records.
 5.0 p.m.—Orchestral Concert. Overture to a Revue (Lincke). Waltz (Erwin). Fantasia (Delibes). Campana a sera (Billi). Melody (Bolzoni). Rigaudon (Chaminade). Aubade mignonne (Staub). Foxtrot, Baby's Birthday Party (Ronell). Indian Intermzzo (Jose). Selection from "Le Petit Faust" (Hervé). Foxtrot Potpourri on Russian Airs (Geiger).
 6.0 p.m.—Gramophone Records.
 7.15 p.m.—Religious Address.
 7.30 p.m.—Le Journal Parlé.
 8.0 p.m.—Gramophone Records.
 8.10 p.m.—Humorous Dialogue.
 8.25 p.m.—Gramophone Records: Two Hungarian Dances (Brahms).
 8.30 p.m.—Programme on the occasion of the Fiftieth Anniversary of "Young Belgium" "Death" — Opera (Du Bois), followed by Readings by M. Gontier.
 10.0 p.m.—Le Journal Parlé.

BRUSSELS (Belgium) (No. 2)
 N.I.R. 887 kc/s (338.2 m.); 20 kW. Programme in Flemish.
 12.15-1.45 p.m.—Gramophone Concert.
 5.0 p.m.—Orchestral Concert. Siegfried Idyll (Wagner). Crépuscule (Massenet). Petite Suite (Debussy). Third Serenade (Glazounoff). Selection from "Peiléas et Mélisande" (Faure).
 6.0 p.m.—Gramophone Records.
 7.15 p.m.—Religious Talk: Eternity.
 7.30 p.m.—Music Review.
 8.0 p.m.—Relay from the Flemish Opera House, Antwerp: (a) "Judith"—Opera (Honegger), (b) "Die toten Augen"—Opera (d'Albert). In the intervals, Recitations and Le Journal Parlé.

COLOGNE (Germany)
 Westdeutscher Rundfunk. 1,319 kc/s (227 m.); 1.7 kW.
 See Langenberg.

COPENHAGEN (Denmark)
 1,067 kc/s (281 m.); 0.75 kW.
 Relayed by Kalundborg, 260 kc/s (1,153 m.).

Transmits at intervals from 7.30 a.m. (Gymnastics).
 9.0 a.m.—Divine Service from the Cathedral, Roskilde.
 10.30 a.m.—Weather and News.
 11.0 a.m.—Town Hall Chimes.
 11.2 a.m.—Concert by Mogens Hansen's Instrumental Ensemble. Military March in G Major (Schubert). Abendlied (Schubert). Moment musical (Schubert). Scherzo in B Flat Major (Schubert). Selection from "The Magic Flute" (Mozart). Caravan March (Grétry). Invitation to the Dance (Weber).
 12 noon.—Talk in English: English Statesmen of Yesterday and Today—William Pitt the Younger.
 12.20 p.m.—Talk in German: The Foundation of the New German Reich, 1866-1871.
 12.40 p.m.—Talk in French.
 1.0 p.m.—Gramophone Records.
 1.30 p.m.—Programme for Children.
 2.25 p.m.—Eleventh Popular Concert, from the Axelborg Studio. The Radio Orchestra, conducted by Emil Reesen. Soloist: Villie Hagbo Petersen (Vocalist). Overture, "The Black Domino" (Auber). Waltz, Roses of the South (Joh. Strauss). Hungarian Dances: (a) No. 5, in G Minor, (b) No. 6, in D Major (Brahms). Rhapsody, España (Chabrier). Songs: (a) Aria from "Les Dragons de Villars" (Maillart), (b) Aria from "Si j'étais roi" (Adam). Selections from the Second Suite of "L'Arlésienne" (Bizet). Frühlingsglaube, arranged for Strings (Schubert). Intermzzo and Barcarolle from "The Tales of Hoffmann" (Offenbach). Wedding March from the Music to "A Midsummer Night's Dream" (Mendelssohn).
 4.0 p.m.—Divine Service from St. Frederick's Church.
 5.20 p.m.—(from the Aarhus Studio).—Talk: Possibilities for the Future of the Peasant.
 5.50 p.m.—Weather and News.
 6.15 p.m.—Time; Sports Notes.
 6.30 p.m.—Talk: The Construction of the Atom.

7.0 p.m.—Town Hall Chimes.
 7.2 p.m.—Selections from "The Little Princess"—Operetta (Georg Rygaard), by the Orchestra and Soloists.
 7.45 p.m.—"Kaerlighed uden Kærligt"—Radio Comedy, in Four Episodes (Poul Sabroe).
 8.30 p.m.—Pianoforte Recital, by France Ellegaard. La cathédrale engloutie (Debussy). Two Selections (Chopin): (a) Ballade No. 2, in F Major, (b) Impromptu in F Sharp Major. Jeux d'eau (Ravel).
 9.0 p.m.—News Bulletin.
 9.10 p.m.—Concert of Danish Music, by the Orchestra and Soloists.
 10.0 p.m.—Dance Music by Watson's Band, relayed from the Wivex Restaurant.
 11.0 p.m. (in an interval).—Town Hall Chimes.
 11.30 p.m. (approx.)—Close Down.

DUBLIN (Ireland)
 (2RN). 725 kc/s (413 m.); 1.5 kW. Relayed by Cork, 1,337 kc/s (224.4 m.).
 8.30 p.m.—Time Signal.
 8.32 p.m.—The Station Sextet.
 8.45 p.m.—The Station Sextet and Ernest Hargreaves (Tenor).
 9.0 p.m.—The Station Sextet and Dorothy Silk (Soprano).
 9.10 p.m.—Duets by Ernest Hargreaves and Dorothy Silk, with the Orchestra.
 9.20 p.m.—The Station Sextet with Dorothy Silk in Operatic Solos.
 9.30 p.m.—Pianoforte Recital by Edward Isaacs.
 10.0 p.m.—"Apostasy"—Play (the Rev. M. H. Gaffney, O.P.), by University College Dramatic Society.
 11.0 p.m.—Time, News, Weather and Close Down.

FÉCAMP (France)
 Radio Normandie. 1,364 kc/s (219.9 m.); 1 kW.
 8.0 p.m.—News Bulletin.
 8.45 p.m.—Concert Relay.
 10.30-2.0 a.m. (Monday).—Concert.
 2.0 a.m. (approx.)—Close Down.



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Programmes for Sunday—(Cont.)

FRANKFURT-am-MAIN

(Germany)

770 kc/s (390 m.); 1.7 kW.
Relayed by Cassel, 1,220 kc/s (246 m.).
Transmits at intervals from 6.0 a.m. (Hamburg Relay).
9.0 a.m.—Concert from the Works of Georg Ph. Telemann, on the Two Hundred and Fiftieth Anniversary of his Birth.
9.45 a.m.—Choral Concert.
10.30 a.m.—See Leipzig.
11.0 a.m.—See Berlin (Witzleben).
12.50 p.m.—Talks arranged by the Wiesbaden Board of Agriculture.
1.0 p.m.—Rural Programme.
2.0—5.0 p.m.—See Stuttgart.
5.0 p.m.—Dialogue: Germany and Czechoslovakia.
5.40 p.m.—The Twilight Hour.
6.0 p.m.—See Berlin (Königs Wusterhausen).
6.20 p.m.—Sports Notes.
6.30—11.0 p.m.—See Stuttgart. In the interval at 9.30 p.m. Time and News.

HAMBURG (Germany)

Norag (ha, in Morse). 806 kc/s (372 m.); 1.7 kW. Relayed by Bremen, 1,112 kc/s (270 m.); Flensburg, 1,373 kc/s (218 m.); Hanover, 530 kc/s (566 m.) and Kiel, 1,292 kc/s (232.2 m.).
Transmits at intervals from 6.0 a.m. (Hamburg Harbour Hour).
10.30 a.m.—See Leipzig.
11.15 a.m. (from Bremen).—Recitations, Piano-forte Solos and Address.
12 noon.—Weather and Winter Sports Notes.
12.5 p.m.—Orchestral Concert, conducted by Horst Platen. Vocal Soloist: Gertrud Schnitzer. Gerhard Maasz at the Piano-forte. Overture, "Le fils du Mandarin" (Cui). Overture, "Dimitri Don-skoi" (Rubinstein). Selection from "The Pearl of Brazil" (David). Styrian Song from "Mignon" (Thomas). Spanish Suite (Albeniz). Meditation from "Thais" (Massenet). Intermezzo from "L'amico Fritz" (Mascardi). Selection from "André Chénier" (Giordano). Overture, "His Life for the Czar" (Glinka).
1.30 p.m.—Talk: The Island of Corsica.
2.0 p.m.—Programme for Children.
3.0 p.m.—Bellmann, the Joyous Singer of Old Stockholm"—Songs to the Lute, by Alf Gislis of Copenhagen, with Explanatory Notes by Kurt Siemens.
4.0 p.m.—Schumann Recital, by Eva Hauptmann (Violin), Julius Möller (Viola), Jakob Sakom (Cello) and Anita Matthaei (Pianist). Sonata in A Minor for Violin and Piano-forte. Quartet in E Flat Major.
5.0 p.m.—Advent Festival in Eutin Parish Church. Selections by an a cappella Choir, Women's Choir, Girl's Choir and Organ.
5.45 p.m.—Talk: Adventures of a Film Director.
6.20 p.m. (from Hanover).—Sports Talk: Rowing in Winter.
6.25 p.m.—Sports Notes.
6.35 p.m.—Weather Report.
7.0 p.m.—Waldteufel, Translateur and Franz von Bill. Concert by a Male Voice Quartet and the Station Orchestra, conducted by Adolf Secker.
9.0 p.m.—News and Sports Notes.
9.20 p.m.—Topical Talk.
9.30 p.m.—Dance Music from the Café "Haus Siegler."

HEILSBURG (Germany)

1,085 kc/s (276.5 m.); 75 kW. Relayed by Danzig, 662 kc/s (453.2 m.).
Transmits at intervals from 6.30 a.m. (Concert).
10.0 a.m.—Talk on Composers—Weber.
10.30 a.m.—See Leipzig.
11.0 a.m.—Concert by the Königsberg Opera House Orchestra, conducted by Dr. Erich Seidler. Soloist: Alfred Schoeder (Pianist). Old Dutch Suite after Dance Pieces of the Seventeenth Century (arranged for Orchestra by Cornelis Doppler). Overture, "The Siege of Corinth" (Rossini). Suite from "Idomeneus" (Mozart-Busoni). Wanderer-Fantasia for Piano-forte and Orchestra (Schubert-Liszt). Oriental Ballet Suite (Bortkiewicz). Piano-forte Solos: (a) The Lark (Glinka), (b) The Bumble Bee, from "The Tale of Czar Saltana" (Rimsky-Korsakoff). Serenade, Winter Nights (Huber). Waltz: Wine, Woman and Song (Joh. Strauss).
1.0 p.m.—Talk on Chess.
1.30 p.m.—Talk for Young People:

Hunting Experiences in German East Africa.

2.0 p.m.—Talk: War in Old Prussia Seven Hundred Years ago.
2.30 p.m.—"Um sieben Dittchen"—Three Radio Scenes from a Friendly Conversation in East Prussia (Karl Lubovsky).
3.0 p.m.—Choral Concert.
3.30 p.m.—Orchestral Concert, conducted by Eugen Wilcken. Overture, "Die Felsenmühle" (Reisinger). Two Selections (Becc): (a) On the Shores of Sorrento, (b) Légende d'amour. Waltz, O schöner Mai (Joh. Strauss). Suite from "The Talisman" (Drigo). Overture, "Marinella" (Fucik). Two Selections (Nevin): (a) Green is the Heath, (b) Narcissus. Waltz from "The Rose of Stamboul" (Fall). Potpourri, Wiener Spaziergänge (Kozzak).
5.0 p.m.—Talk: German Birds in Winter.
5.30 p.m.—Concert of Old Advent and Christmas Music, relayed from the University.
6.30 p.m.—Meinhardt Lemke reads from his own Works.
7.0 p.m.—Sports Notes.
7.15 p.m.—Popular Concert by the Königsberg Opera House Orchestra, conducted by Karl Hrubetz. Soloists: Kurt Sachs (Cello), Gustav Haberstroh (Clarinet), and Fritz Bosse (Xylophone).
9.15 p.m.—Weather and News.
9.30 p.m. (approx.).—Dance Music from Berlin (Witzleben).

HILVERSUM (Holland)

1,004 kc/s (298.8 m.); 8.5 kW.
7.55—9.40 a.m.—Programme of the Workers' Radio Society (V.A.R.A.).
7.55 a.m.—Gymnastics.
8.10 a.m.—Esperanto Lesson.
8.35 a.m.—Football Notes.
8.40 a.m.—Agricultural Talk.
9.5 a.m.—Variety Items.
9.10 a.m.—Gramophone Records.
10.10—11.40 a.m. (approx.).—Programme of the Liberal Protestant Society (V.P.R.O.). Divine Service Relay.
11.40 a.m.—4.40 p.m.—Programme of the Algemeene Vereeniging Radio Omroep (A.V.R.O.).
11.40 a.m.—Orchestral Concert.
12.40 p.m.—Talk (to be announced).
1.10 p.m.—Concert (contd.).
1.40 p.m.—Weekly Book Talk.
2.10 p.m.—Concert by the Orchestra of the Concert Hall conducted by Dr. Willem Mengelberg, relayed from the Concert Hall, Amsterdam. Soloist: Ania Dorfmann (Piano-forte). Overture, "Coriolanus" (Beethoven). First Concerto in C Major Op. 15 (Beethoven). Fifth Symphony in C Minor Op. 67 (Beethoven).
3.40 p.m.—Choral Concert. Songs by Henrika van Tussenbroek.
4.25 p.m.—Gramophone Records and Sports Notes.
4.40—7.40 p.m.—V.A.R.A. Programme.
4.40 p.m.—Programme for Children.
5.40 p.m.—Quintet Concert and Gramophone Records.
6.25 p.m.—"Silver"—a Radio Play (Gold).
7.10 p.m.—Concert (contd.).
7.40 p.m. till Close Down.—A.V.R.O. Programme.
7.40 p.m.—Time and News
7.55 p.m.—Orchestral Concert.
8.25 p.m.—Recitations.
8.40 p.m.—Concert (contd.).
9.10 p.m.—Recitations.
9.25 p.m.—Concert (contd.).
10.10 p.m.—Concert by a Cossacks' Choir.
10.25 p.m.—Gramophone Records.
11.40 p.m. (approx.).—Close Down.

HUIZEN (Holland)

160 kc/s (1,875 m.); 8.5 kW.
8.10—9.10 a.m.—Religious Programme by the Christian Radio Society (N.C.R.V.).
9.10 a.m.—4.40 p.m.—Programme of the Catholic Radio Society (K.R.O.).
9.10 a.m.—Mass from St. Dominic's College, Nijmegen.
11.25 a.m.—Talk.
11.40 a.m.—Balalaika Concert.
1.10 p.m.—Religious Talk.
1.40 p.m.—Gramophone Records.
1.50 p.m.—Literary Talk.
2.10 p.m.—Orchestral Concert.
3.55 p.m.—Religious Programme relayed from Bois-le-Duc.
4.40—7.25 p.m.—N.C.R.V. Programme.
4.40 p.m.—Sacred Music.
5.0 p.m.—Divine Service relayed from Delfzyl, followed by Choral Selections.
7.25 till Close Down.—K.R.O. Programme.
7.25 p.m.—Football Results.
7.30 p.m.—See Langenberg. In the interval, News.
10.0 p.m.—Gramophone Records.

10.20 p.m.—Choral Epilogue.
10.40 p.m. (approx.).—Close Down.
KALUNDBORG (Denmark)
Kalundborg Radio. 260 kc/s (1,153 m.); 7.5 kW.
See Copenhagen.

LANGENBERG (Germany)

Westdeutscher Rundfunk. 635 kc/s (473 m.); 17 kW. Relayed by Aachen, Cologne and Münster, 1,319 kc/s (227 m.).
Transmits at intervals from 6.0 a.m. (Hamburg Relay).
10.30 a.m.—See Leipzig.
11.5 a.m.—Talk: The Problem of the Unemployed in the Rhineland and Westphalia.
11.30 a.m.—Talk by Alfons Paquet: My Homeland.
12 noon.—Orchestral Concert.
1.30 p.m.—German Shorthand.
1.50 p.m.—Talk on Chess.
2.25 p.m.—Talk: Winter Tales and Christmas Legends.
2.45 p.m.—Extracts from Books and Periodicals for Women—Childhood.
3.5 p.m.—Talk for Workers.
3.30 p.m.—Police Band Concert.
5.0 p.m.—Talk: Theatres and Art.
5.20 p.m.—An Entertainment.
6.0 p.m.—See Berlin (Königs Wusterhausen).
6.20 p.m.—Sports Forecast.
6.30 p.m.—See Stuttgart.
7.30 p.m.—"The Little Dutch Girl" Operetta in Three Acts (Kálmán), followed by News, Sports Notes and Concert.
11.0 p.m. (approx.).—Close Down.

LEIPZIG (Germany)

1,157 kc/s (259 m.); 2.3 kW. Relayed by Dresden, 941 kc/s (319 m.).
Transmits at intervals from 5.30 a.m.
10.30 a.m.—"Meine Seele erhebet den Herrn"—Cantata for the Third Sunday in Advent (Bach), by Soloists, the Municipal and Gewandhaus Orchestra and the Choir of St. Thomas'. Conductor: Dr. D. K. Straube.
11.0 a.m.—Readings: Great Artists about Themselves—Auguste Rodin.
11.30 a.m.—See Berlin (Witzleben).
1.0 p.m.—Weather, Time and Topical Talk.
1.15 p.m.—Agricultural Hints.
1.20 p.m.—The Toy Industry of the Erz Gebirge—a Radio Report from Grünhainichen.
2.0 p.m.—Programme for Children.
2.45 p.m.—"The Poor Broommaker"—Old Fairy Tale in Five Acts (Carl Hauptmann), arranged for Radio.
4.15 p.m.—"Christmas Customs in the Erz Gebirge"—a Radio Sequence (R. Schuster).
5.0 p.m.—Sacred Music from St. Peter's Cathedral, Bautzen.
6.0 p.m.—"The Conquering of the South Pole"—Microphone Report after Amundsen (arr. Karl Schöne).
6.30 p.m.—See Stuttgart.
7.30 p.m.—An Address to Youth by Dr. Groener (on Gramophone Records).
7.45 p.m.—Concert by the Leipzig Symphony Orchestra. Soloist: Hans Hagen (Cello).
9.15 p.m.—News and Dance Music from Berlin (Witzleben).
11.0 p.m. (approx.).—Close Down.

LJUBLJANA (Yugoslavia)

522 kc/s (574.7 m.); 2.8 kW.
Transmits at intervals from 7.0 a.m.
2.45 p.m.—Operetta Concert.
3.30 p.m.—Humorous Reading.
4.30 p.m.—Dramatic Programme.
7.0 p.m.—Duets from Operas.
8.0 p.m.—Quintet Concert.
9.0 p.m.—News Bulletin.
9.15 p.m.—Light Music.

MADRID (Spain)

Union Radio (EAJ7). 707 kc/s (424.3 m.); 2 kW.
8.0—9.30 a.m.—Topical Review.
2.30 p.m.—Chimes, Time, Radio Exchange and Mart and Sextet Concert.
3.55 p.m.—Theatre Notes.
4.0—7.0 p.m.—Interval.
7.0 p.m.—Chimes and Request Gramophone Records.
8.30—10.0 p.m.—Interval.
10.0 p.m.—Chimes, Time and Concert from the Works of Chapi, followed by Provincial Songs and Flamenco Songs.
12 midnight.—Chimes and Dance Music.
12.30 a.m. (Monday).—Close Down.

MILAN (Italy)

Ente Italiano Audizioni Radiofoniche. 598 kc/s (501.7 m.); 8.5 kW. Relayed by Turin, 1,094 kc/s (274.2 m.), and Genoa, 959 kc/s (312.8 m.).
Transmits at intervals from 9.15 a.m.
1.30 p.m.—Relay from Turin of the Football Match Italy v. Hungary. Notes on Art in the interval.

3.20 p.m.—"La Fille de Madame Angot"—Operetta (Lecocq). Sports Notes in the interval.
5.30 p.m.—Giornale Radio and Sports Notes.
5.45 p.m. (from Turin).—Variety Programme.
6.5 p.m.—Gramophone Records. In the intervals at 6.40 p.m.—Announcements and at 7.0 p.m.—Time and News.
7.35 p.m.—"Le donne curiose"—Opera (Wolf-Ferrari), conducted by Arrigo Pedrollo. In the intervals: Reading, Theatre Notes and Giornale Radio. News after the Programme.

MUNICH (Germany)

563 kc/s (533 m.); 1.7 kW. Relayed by Augsburg and Kaiserlautern, 536 kc/s (560 m.) and Nürnberg, 1,256 kc/s (239 m.).
Transmits at intervals from 9.45 a.m.
6.0 p.m.—See Berlin (Königs Wusterhausen).
6.15 p.m.—Talk: Literature and the People's Needs.
6.35 p.m.—Guitar Recital.
6.50 p.m.—Weather and Sports Notes.
7.0 p.m.—Sacred Concert by the Cathedral Choir conducted by Dr. T. Schrems relayed from Regensburg Cathedral.
8.0 p.m.—Concert by the Munich Concert Society relayed from the Tonhalle.
10.0 p.m.—News followed by a Concert from the Café Stadt Wien.
11.0 p.m. (approx.).—Close Down.

OSLO (Norway)

Kringkastingsselskapet. 277 kc/s (1,083 m.); 75 kW. Relayed by Fredrikstad, 816 kc/s (367.6 m.); Hamar, 536 kc/s (560 m.); Notodden, 671 kc/s (447.1 m.); Porsgrund, 662 kc/s (453.2 m.); and Rjukan, 671 kc/s (447.1 m.).
Transmits at intervals from 9.50 a.m.
5.0 p.m.—Programme in commemoration of Roald Amundsen. Prologue, Talk and Orchestral Concert.
6.15 p.m.—News Bulletin.
6.30 p.m.—Talk: Floods in China.
7.0 p.m.—Time Signal.
7.2 p.m.—Orchestral Concert.
8.35 p.m.—News Bulletin.
8.50 p.m.—Topical Talk.
9.5 p.m.—Talk: Gay Musicians.
9.35 p.m.—Dance Music from the Grand Hotel.
11.0 p.m. (approx.).—Close Down.

PARIS (France)

Eiffel Tower (FLE). 207.5 kc/s (1,445.7 m.); 15 kW. Time Signals (on 2,650 m.) at 9.26 a.m. and 10.26 p.m. (preliminary and 6-dot signals).
12.30 p.m.—Symphony Concert conducted by M. E. Flament.
1.0 p.m. (in the interval).—News.
5.45 p.m.—Le Journal Parlé.
6.45 p.m.—Programme for Children.
7.20 p.m.—Weather Forecast.
7.30 p.m.—Gramophone Concert.
PARIS (France)
Poste Parisien. 914 kc/s (328.2 m.); 1.2 kW.
8.15 p.m.—Gramophone Records and News Bulletin.
9.0 p.m.—Concert, with the collaboration of Opéra and Opéra-Comique Artists. Overture, "Le jeune Henri" (Méhul). "Cello Solo by M. Lagüe: Chants russes from the Concerto (Lalo). Selections for Voice and Orchestra from "The Damnation of Faust" (Berlioz). Presto and Finale from the Seventh Symphony (Beethoven), conducted by M. Francis Casadesus. First Béatrice (César Franck). Persian Dance (Guiraud). Toreador Song from "Carmen" (Bizet).

PARIS (France)

Radio-Paris (CFR). 174 kc/s (1,725 m.); 80 kW.
7.45 a.m.—Gramophone Records.
8.0 a.m.—News Bulletin.
8.30 a.m.—Physical Culture Lesson.
10.30 a.m.—Gramophone Records.
11.10 a.m.—Spanish Lesson.
11.30 a.m.—Gramophone Records.
12 noon.—Religious Address.
12.30 p.m.—Organ Recital. Andante cantabile (Widor). Allegretto (Guilmant).
12.45 p.m.—News and Weather.
1.0 p.m.—Music by Electrical Transcriptions.
2.0 p.m.—Gramophone Records.
3.0 p.m.—Concert of Gramophone Records.
4.0 p.m.—Gramophone Concert.
5.0 p.m.—Concert by the Paris Symphony Orchestra, conducted by Pierre Monteux, relayed from the Salle Pleyel. Symphony No. 1 (Beethoven). Le Jour (Jaubert). Concerto for Piano-forte and Orchestra (Liszt). Soloist: Borovsky. Cinq Mouvements à danser (Rivier). Tone Poem, Don Juan (Strauss).

7.0 p.m.—Agricultural Report, Market Prices, Racing Results and Weather Report.
7.15 p.m.—Economic and Social Notes and News.
7.30 p.m.—Radio-Paris Concert.
8.0 p.m.—Gramophone Concert. Symphonic Poem, Stenka Razin (Glazunoff). Chanson trizain (Duparc). La Havannaise (Saint-Saëns), Spring Song from "Die Walküre" (Wagner). Aria from "Lucia di Lammermoor" (Donizetti). Nocturne in F Sharp Minor (Chopin). Song from "Die schöne Müllerin" (Schubert). Absence (Berlioz). Invitation to the Waltz (Weber). In the interval at 8.30 p.m.—News Bulletin.

9.0 p.m.—Programme relayed from the Madeleine Theatre. "Monsieur Prudhomme a-t-il vécu?"—Comedy in Two Acts (Sacha Guitry) with the collaboration of Sacha Guitry and Yvonne Printemps. Talk by M. Sacha Guitry on Henry Monnier. "La Femme du Condamné"—Drama in One Act (Henry Monnier).
10.5 p.m.—News and Time.
10.20 p.m.—Gramophone Concert. Conducted by Yvonne Printemps and Sacha Guitry from "L'Amour Masqué" (Messager). Songs by Yvonne Printemps, (a) Song (Lully), (b) Song from "The Grand Duchess of Gerolstein" (Offenbach). Two Songs from "Mozart" (Sacha Guitry-Hahn): (a) Air de la lettre, by Yvonne Printemps, (b) Le petit moment, by Sacha Guitry.

PRAGUE (Czechoslovakia)

614 kc/s (488.6 m.); 120 kW. Transmits at intervals from 6.30 a.m.
10.0 a.m.—Chamber Music Concert.
11.0 a.m.—Time Signal and Chimes.
11.5 a.m.—Chamber Music Concert.
12.5 p.m.—Gramophone Records.
12.30 p.m.—Agricultural Report.
12.45 p.m.—Talk: The Old Age Pension.
3.0 p.m.—Concert from Moravská Ostrava.
4.30 p.m.—Gramophone Records.
4.45 p.m.—Talk.
5.0 p.m.—Programme in German. The Nuremberg Doll—Operetta (Adam).
5.45 p.m.—Sports Notes.
6.0 p.m.—Musical Play from Brno.
8.0 p.m.—Time Signal.
8.2 p.m.—Concert from Bratislava.
9.30 p.m.—News Bulletin.
9.45 p.m.—Announcements.
9.50 p.m.—Gramophone Records.
10.30 p.m. (approx.).—Close Down.

ROME (Italy)

Ente Italiano Audizioni Radiofoniche (I.R.O.). 680 kc/s (441 m.); 75 kW. Relayed by Naples, 905 kc/s (332 m.); and ZRO, 3,750 kc/s (80 m.).
Transmits at intervals from 9.0 a.m.
12 noon—1.15 p.m.—Gramophone Records.
12.30 p.m. (in the interval).—Time and Announcements.
1.30 p.m.—See Milan.
3.30 p.m. (from Naples).—Programme for Children, followed by Weather and Sports Notes.
3.45 p.m.—Vocal and Instrumental Concert. Theatre Notes in the interval.
6.55 p.m. (from Naples).—Shipping.
7.0 p.m.—News Bulletin.
7.30 p.m.—Time, Announcements and Gramophone Records.
8.0 p.m.—Variety Concert, with Talk and Vaudeville in One Act.
9.55 p.m.—News Bulletin.

SCHENECTADY (U.S.A.)

General Electric Company (WGY). 790 kc/s (376.5 m.); 50 kW. Relayed at intervals by W2XAF on 9.50 kc/s (31.48 m.); and by W2XAD on 15,340 kc/s (19.56 m.).
Transmits at intervals from 1.0 p.m.
7.15—5.30 a.m.—New York Relay.
7.15 p.m.—Sunday Bright Spots.
7.30 p.m.—Moonshine and Honey-suckle.
8.0 p.m.—Lady Esther Programme.
8.30 p.m.—National Sunday Forum.
9.0 p.m.—Florsheim Frolies.
9.30 p.m.—The Wonder Programme.
10.0 p.m.—International Gipsies.
10.30 p.m.—General Electric Twilight Hour.
11.0 p.m.—Catholic Hour.
12 midnight.—Through the Opera Glass.
12.30 a.m. (Monday).—Jocent Club of the Air.
1.0 a.m.—Chase and Sanborn Programme.
2.0 a.m.—Talk: Our Government, by David Lawrence.
2.15 a.m.—Atwater Kent Programme.
3.15 a.m.—National Oratorio Society Programme.
2.45 a.m.—Sunday at Seth Parker's.
4.15 a.m.—Ralph Kirbery (Baritone).
4.30 a.m.—Jesse Crawford (Organist).

Programmes for Sunday—(Cont.)

5.30 a.m.—Palais d'Or Orchestra.
5.30 a.m.—Doc Peyton and his Kenmore Orchestra.
6.0 a.m. (approx.)—Close Down.

SCHWEIZERISCHER LANDESENDER (BERO-MÜNSTER) (Switzerland)

653 kc/s (459 m.); 75 kW;
Basle, 1,220 kc/s (244.1 m.), and
Berne, 1,220 kc/s (246 m.).
9.30 a.m. (from Zürich)—Catholic Address by Prof. Jos. Vogel.
10.15 a.m.—Gramophone Records of Organ Music.
10.30 a.m.—See Leipzig.
11.0 a.m.—Gramophone Records of de Falla's Works.
11.28 a.m.—Time, Weather and News.
11.40 a.m.—Orchestral Concert.
12.35 p.m.—Weather Report.
12.40—2.30 p.m.—Interval.
2.30 p.m. (from Berne)—Popular Programme.
2.30 p.m.—Selections by the Heimberg Peasants' Orchestra.
2.45 p.m.—Tales by Dr. Vettergötti.
3.15 p.m.—Selections by a Peasants' Orchestra.
3.30 p.m.—Gramophone Records of Dialect Songs.
4.0 p.m.—Gramophone Records of Old-Fashioned Dance Music.
4.30 p.m.—Weather Report.
4.35—5.30 p.m.—Interval.
5.30 p.m. (from Zürich)—Lesson in Chess.
6.0 p.m. (from Zürich)—Talk on Plants.
6.25 p.m.—Sports Results.
6.28 p.m.—Time and Weather Forecast.
6.30 p.m. (from Zürich)—Talk: The Outlook on the World of the East and the West.
7.0 p.m. (from Basle)—Vocal and Instrumental Concert from the Works of Vivaldi, Händel, Gluck, Mozart, Schumann, Mendelssohn, Verdi, Smetana and Frenkel. Soloists: Stefan Frenkel, of Berlin (Violin), Hans Visscher van Gaasbeek (Tenor), Gustav Blex (Bari-tone), and Marie Litterst (Pianist). The Station Orchestra.
9.0 p.m.—Weather, News and Sports Notes.
9.15 p.m. (approx.)—Close Down.

STOCKHOLM (Sweden)

Radiotjänst (SASA). 689 kc/s (436 m.); 75 kW. Relayed by Boden, 244 kc/s (1,220.5 m.); Göteborg, 932 kc/s (322 m.); Hörby, 1,166 kc/s (257 m.); Motala, 222.5 kc/s (1,348 m.); Östersund, 389 kc/s (770 m.); and Sundsvall, 554 kc/s (542 m.).
9.30 a.m.—Topical Talk.
10.0 a.m.—Divine Service.
11.45 a.m.—Weather Report.
12 noon.—Relay from the Christmas Fair at Skansen.
1.0 p.m.—Symphony Concert, relayed from Norrköping, 1,292 kc/s (232.2 m.).
2.30 p.m.—Song Recital by Elof Benktander, relayed from Göteborg. Three Songs (Sjögren).
3.0 p.m.—Sonata in A Major, Op. 47, for Violin (Beethoven).
3.30 p.m.—Programme for Children, relayed from Boden.
4.0 p.m.—Gramophone Records.
4.40 p.m.—Reading.
4.45 p.m.—Chimes from the Town Hall.
5.0 p.m.—Evensong.
6.15 p.m.—Weather, News and Sports Notes.
6.30 p.m.—Talk: Children in Swedish Poetry of the Nineteenth Century, relayed from Uppsala, 662 kc/s (453.2 m.).
7.0 p.m.—Orchestral Concert. Overture, "Raymond" (Thomas). Suite from "The Sleeping Beauty" (Tchaikovsky). Poem (Fibich). Spanish Serenade (Glazounoff). Potpourri, Fortissimo (Kálmán-Feigel). Basque Legend (Maquarre). German March Potpourri (Blankenburg).
8.15 p.m.—A Play.
8.45 p.m.—Weather and News.
9.0 p.m.—Orchestral Concert. Soloist; Emil Talmányi (Violin). Overture, "Mascarade" (Nielsen). Concerto, Op. 32, for Violin and Orchestra (Nielsen). Variations on a Theme by Lomjansguten (Hakanson).
10.0 p.m. (approx.)—Close Down.

STUTTGART (MÜHL-ACKER) (Germany)

Süddeutscher Rundfunk. 833 kc/s (360 m.). 75 kW. Relayed by Freiburg, 527 kc/s (570 m.).

Transmits at intervals from 6.0 a.m. (Hamburg Relay).
11.0 a.m.—Variety Concert from the Municipal Theatre, Ulm.
12 noon.—Pieces for Two Pianofortes, with Introductory Talk.
12.45 p.m.—Talk: Queer Things in Life.
1.15 p.m.—Christian Fink Memorial Programme.
2.0 p.m.—Programme for Children.
3.0 p.m.—Orchestral Concert.
4.0 p.m. (from Mannheim)—Advent Programme.
4.45 p.m.—Authors' Programme—A. Demling.
5.15 p.m. (from Karlsruhe)—Chamber Music.
6.0 p.m.—See Berlin (Königs Wusterhausen).
6.15 p.m.—Sports Notes.
6.30 p.m.—"Prince Ligejan's Honey-moon"—Play after an Andersen Fairy-Tale (Else Holle-Helmsund). Music by H. Reutter.
7.30 p.m.—"A Flight round the World"—Cuba, San Domingo and Haiti. Extracts from the Works of Seabronk, R. Katz, K. Mast and others. Gramophone Records in the intervals.
8.30 p.m.—Hungarian Popular Music of the 17th—20th Centuries—a Violin and Pianoforte Recital.
9.20 p.m.—News.
9.40 p.m.—Dance Music.
11.0 p.m. (approx.)—Close Down.

TOULOUSE (France)

Radiophonie du Midi. 779 kc/s (385 m.); 8 kW.
Transmits at intervals from 12.30 p.m.
6.0 p.m.—Orchestral Selections.
6.30 p.m.—News Bulletin.
6.45 p.m.—Orchestral Selections.
7.0 p.m.—Opera Songs.
7.15 p.m.—Accordion Solos.
7.30 p.m.—News Bulletin.
7.45 p.m.—Military Music.
8.0 p.m.—Opera Songs.
8.15 p.m.—Orchestral Selections.
8.45 p.m.—Sound Film Music.
9.0 p.m.—Orchestral Selections.
9.30 p.m.—Opera Songs.
9.45 p.m.—Accordion Solos.
10.0 p.m.—Gramophone Records.
10.30 p.m.—News Bulletin.
10.45 p.m.—Concert arranged by the Vocalion Gramophone Company of Hayes.
11.15 p.m.—North African News.
11.30 p.m.—Operetta Songs.
11.45 p.m.—Concerto No. 4 in G

Major for Orchestra (Beethoven).
12 midnight.—Weather Announcements and Close Down.

TRIESTE (Italy)

Ente Italiano Audizioni Radiofoniche. 1,211 kc/s (247.7 m.); 15 kW.
Transmits at intervals from 8.55 a.m.
5.0 p.m.—Light Music or Gramophone Records. Sports Notes in the intervals.
7.15 p.m.—News Bulletin.
7.30 p.m.—Gramophone Records.
8.0 p.m.—Time, Programme Notes and Variety Programme.
9.55 p.m.—News Bulletin.

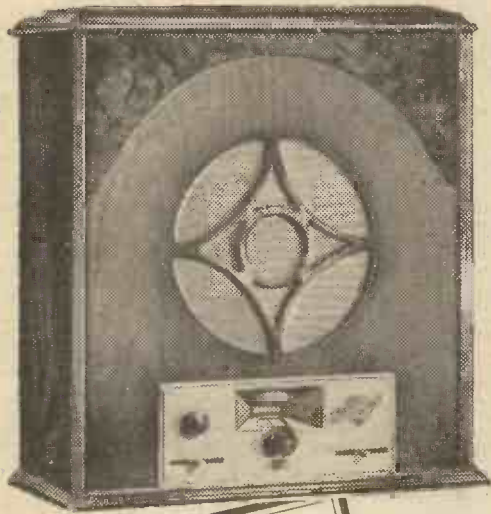
VIENNA (Austria)

Radio-Wien. 581 kc/s (517 m.); 20 kW. Relayed by Graz, 851 kc/s (352 m.); Innsbruck, 1,058 kc/s (283 m.); Klagenfurt, 662 kc/s (453.2 m.); Linz, 1,220 kc/s (246 m.); and Salzburg, 1,373 kc/s (218 m.).
9.0 a.m.—Organ Recital.
9.30 a.m.—Talk: The Great International Problem of Science.
10.5 a.m.—Competition of the Viennese Jazz Bands and Jazz Singers for the Gold Ribbon, relayed from the Apollokino.
12.5 p.m.—Gramophone Records of Famous Singers—Opera Selections.
2.0 p.m.—Time and News.
2.5 p.m.—"The Contemplative Hour"—a Talk on Comradeship.
2.30 p.m.—Orchestral Concert. Overture, "The Ace of Hearts" (Künnecke). Waltz, Faschingskinder (Ziehrer). Fantasia on the Works of R. Strauss (Paumgartner). Elegy (Suk). Descriptive Piece, Am Isonzo (Bauer). Johann Strauss Operetta Potpourri (Ludwig Schögl). Waltz, Nilfluten (Jos. Strauss). March, Per aspera ad astra (Urbach).
4.10 p.m.—Talk: Germany in Australia.
4.30 p.m.—Chamber Music by the New Vienna String Quartet. String Quartet in A Minor, Op. 29 (Schubert). Songs by Marianne Mislap-Kapper, to String Quartet accompaniment (Mittler): (a) Landstreicherherberge, (b) Con sordino, (c) Die frühe Stunde, (d) Frühling.
5.15 p.m.—Gretc Urbanitzky reads

from her own Works. Introductory Talk by Paul Frischauer.
5.45 p.m.—Talk by Dr. Viktor Pietschmann: Stages on my Journey to Anatolia—Egerdir.
6.15 p.m.—Time and News.
6.25 p.m.—Bass Song Recital by Josef Manowarda.
7.0 p.m.—"Elga"—Six Scenes (Gerhart Hauptmann, after a Story by Grillparzer).
8.45 p.m.—News and Announcements.
9.0 p.m.—Dance Music.

WARSAW (Poland)

Polskie Radio. 212.5 kc/s (1,411 m.); 158 kW.
9.15 a.m.—Divine Service.
10.58 a.m.—Time Signal and Bugle Call from the Tower of St. Mary's Church, Cracow.
11.5 a.m.—Programme Notes.
11.10 a.m.—Weather Report.
11.15 a.m.—Concert by the Philharmonic Orchestra, conducted by S. Lutoszewsky. Soloist: Mme. E. Kafarska (Pianoforte). Overture, "Phèdre" (Massenet). Concerto for Pianoforte in G Minor (Saint-Saëns). Symphonic Poem, L'apprenti sorcier (Dukas). Suite No. 2 from "L'Arlésienne" (Bizet).
1.0 p.m.—Agricultural Report.
1.20 p.m.—Musical Programme.
1.40 p.m.—Talk by S. Medrzeczy.
2.0 p.m.—Musical Programme.
2.55 p.m.—Children's Programme.
3.20 p.m.—Gramophone Records.
3.40 p.m.—Agricultural Talk.
3.55 p.m.—Gramophone Records.
4.15 p.m.—Talk: Polish Life in Silesia a Hundred Years Ago, relayed from Cracow, 959 kc/s (312.8 m.).
4.30 p.m.—Useful Hints.
4.45 p.m.—Vocal and Orchestral Concert. Announcements in the interval.
6.0 p.m.—Miscellaneous Items.
6.25 p.m.—Programme Notes.
6.45 p.m.—Humorous Talk, relayed from Lwów, 788 kc/s (381 m.).
7.15 p.m.—Popular Concert.
8.45 p.m.—Literary Programme.
9.0 p.m.—Song Recital by Charlotte Jaekel.
9.40 p.m.—News Bulletin.
9.45 p.m.—Sports Notes.
10.0 p.m.—Dance Music from the Café Georges.
11.0 p.m. (approx.)—Close Down.



PRICES:
Upright Grand in Walnut - 27 Gns.
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W.S.400 in Oak - 20 Gns.
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REG. TRADE MARK.

PROGRAMMES FOR MONDAY

(December 14)

NOTE: THE HOURS OF TRANSMISSION ARE REDUCED TO GREENWICH MEAN TIME

ALGIERS (N. Africa)

825.3 kc/s (363.4 m.); 13 kW.
Transmits at intervals from 12.30 p.m.
7.20 p.m.—Talk on Films.
7.30 p.m.—Accordion Music.
7.40 p.m.—Gramophone Records.
7.55 p.m.—News and Time.
8.0 p.m.—Orchestral Concert.
9.0 p.m.—Dance Music from the Municipal Casino.
10.0 p.m.—La Marseillaise and Close Down.

BARCELONA (Spain)

Radio-Barcelona (E.A.J.). 860 kc/s (349 m.); 8 kW.
Transmits at intervals from 11.0 a.m.

1.0 p.m.—Concert of Light Music on Gramophone Records.
1.30 p.m.—Sextet Concert. Overture, "Poet and Peasant" (Suppé). Cradle Song (Kostal). Intermezzo, Serenata al vento (Mascheroni). Prelude to "Werther" (Massenet).
2.0 p.m.—Theatre Notes and Amusement Guide, Gramophone Records and Film Review.

4.20 p.m.—Concert (continued).—En un cortijo (J. Balcells Planas). Selection from "El Trullas de los Tenorios" (Serrano). Intermezzo (J. Arambarri). En la Alhambra (Bretón).

1.50 p.m.—Labour Market Report.
3.0 p.m.—Programme for Hospitals and Benevolent Institutions, with Gramophone Records.

4.0—7.0 p.m.—Interval.
7.0 p.m.—Trio Music. Largo from Quartet No. 12 (Haydn). Serenade from Quartet No. 5, Op. 3 (Haydn). Andantino con espressione (Mozart). Vieux Vienne—Old Viennese Airs (Drda).

7.30 p.m.—Exchange Quotations and Request Gramophone Records. In the interval at 8.0 p.m.—Sports Notes.
8.30 p.m.—Elementary French Lesson followed by News.

9.0 p.m.—Cathedral Chimes, Weather and Market Prices.
9.5 p.m.—Humorous Review of the Week's Events in Verse.

9.20 p.m.—Orchestral Concert. March, Colonel Bogey (Kenneth). Selection from "Gypsy Love" (Lehar). For a Woman (Lambert). Sardana, Lleida (Mateu). Polonaise militaire (Chopin). Overture, "The Secret Marriage" (Cimara).

10.0 p.m.—Gramophone Records of "Doña Francisquita"—Musical Comedy in Three Acts (Vives).
11.30 p.m.—Dance Music from the Café Catalan.
12.0 p.m.—Dance Music from the Café Catalan. —Close Down.

BERLIN (Germany)
Königs Wusterhausen. 183.5 kc/s (1,635 m.); 75 kW.
Transmits at intervals from 5.30 a.m. (Gymnastics).
3.30 p.m.—Concert from Leipzig.
4.30 p.m.—Talk: Repetition in Music.

5.0 p.m.—Educational Talk.
5.30 p.m.—Spanish Lesson.
5.55 p.m.—Weather, followed by Agricultural Talk.

6.20 p.m.—Talk: Can Germany make itself economically independent?
7.0 p.m.—See Hamburg.
7.45 p.m.—Berlioz Concert from Berlin (Witzleben).
9.20 p.m.—News Bulletin.
9.35 p.m.—See Leipzig.
11.0 p.m. (approx.)—Close Down.

BERLIN (Germany)
Witzleben. 715 kc/s (418 m.); 1.7 kW.
Transmits at intervals from 5.30 a.m. (Gymnastics).
7.15 p.m.—Literary Programme.
7.45 p.m.—Berlioz Concert for Choir, Orchestra and Soloists.
9.20 p.m. (approx.)—News, followed by Dance Music from the Hotel Excelsior.

BORDEAUX-LAFAYETTE (France)
(P.T.T.). 986 kc/s (304 m.); 35 kW.
Transmits at intervals from 12.45 p.m.
5.0 p.m.—Talk: The Language and Literature of South-Western France—the Pyrenees.
6.0 p.m.—Talk: The Physical and Economic Geography of French Equatorial Africa.
7.30 p.m.—News, Exchange and Market Prices.
7.40 p.m.—Talk on Sport.

7.55 p.m.—Results of the Prize Draw.
8.0 p.m.—Programme for Children.
8.15 p.m.—Charades.
8.20 p.m.—News Bulletin.
8.30 p.m. (approx.)—Gala Concert, conducted by A. Guitrand, with Mezzo-Soprano and Tenor Solos. After the Programme, Amusement Guide and Time Signal.

BRATISLAVA (Czechoslovakia)
1,076 kc/s (279 m.); 14 kW.
Transmits at intervals from 10.0 a.m.
6.0 p.m.—See Prague.
6.5 p.m.—Talk in Esperanto: A Short Survey of the History of the Slovak People.
6.20 p.m.—One-Act Comedy (V.H.V.).
7.0 p.m.—See Brno.
7.55 p.m.—See Prague.
8.0 p.m.—Orchestral Concert of Russian Music.
9.0 p.m.—See Prague.

9.15 p.m.—Announcements.
9.20 p.m.—Light Concert.
10.0 p.m. (approx.)—Close Down.

BRESLAU (Germany)
923 kc/s (325 m.); 1.7 kW. Relayed by Gleiwitz, 1,184 kc/s (253 m.).
Transmits at intervals from 5.30 a.m.
6.30 p.m.—Orchestral Concert.
7.30 p.m.—Weather Forecast.
7.35 p.m.—"Winter Landscape"—a programme arranged by O. E. Meyer.
8.20 p.m.—News Bulletin.
8.30 p.m.—Concert of Old and Modern Chamber Music.
9.15 p.m.—Time and News.
9.35 p.m.—Theatre Talk.
9.50 p.m.—Answers to Technical Queries.
10.0 p.m. (approx.)—Close Down.

BRNO (Czechoslovakia)
878 kc/s (342 m.); 3 kW.
Transmits at intervals from 10.0 a.m.
6.0 p.m.—See Prague.
6.5 p.m.—Popular Concert, relayed from the Stadium.
6.45 p.m.—Talk.
7.0 p.m.—Cabaret Programme.
7.55 p.m.—See Prague.
8.0 p.m.—"Mrs. Williams and the Storm"—Sketch (Mark Twain), relayed from the Stadium.
8.20 p.m.—Violin Recital.
8.40 p.m.—Suite in Old Style (Jirak).
9.0 p.m.—See Prague.
9.15 p.m.—Announcements.
9.20 p.m.—See Bratislava.
10.0 p.m. (approx.)—Close Down.

BRUSSELS (Belgium) (No. 1)
I.N.R. 590 kc/s (509 m.); 20 kW.
12.15—1.45 p.m.—Gramophone Concert.
5.0 p.m.—Orchestral Concert relayed from the Hotel Atlanta.
6.0 p.m.—Gramophone Records. Two Pieces (Mozart). Selections (de Séverac): (a) Chanson pour le petit cheval, (b) Ma poupée chérie. Selection from "Pelléas et Mélisande" (Debussy).
7.15 p.m.—Talk on Criminality.
7.30 p.m.—Theatre Review.
8.0 p.m.—Talk and Readings: The Wallon Poet, Joseph Mignolet.
8.45 p.m.—Cello and Piano-forte Recital by M. Georges Pitsch and M. Charles Scharre—Beethoven Programme. Sonata No. 1, Op. 5, in F Major. Sonata No. 4, Op. 102 in C Major.
9.30 p.m.—Gramophone Concert.
10.0 p.m.—Le Journal Parlé.

BRUSSELS (Belgium) (No. 2)
N.I.R. 887 kc/s (338.2 m.); 20 kW. Programme in Flemish.
12.15—1.45 p.m.—Gramophone Concert. Overture, "Romeo and Juliet" (Tchaikovsky). Ballet Music from "Céphale et Procris" (Grétry). The Battle of Marignan (Janhequin). Le Coucou (Daquin). Le Tambourin and Minuet (Rameau). Humoresque (Dvorak). Caprice Viennois (Kreisler). Gavotte Mignonne (Gilsen). The Unfinished Symphony (Schubert). Ballet Music from "Isoline" (Messager).
5.0 p.m.—Gramophone Records of Chamber Music. Trio No. 1 in F Sharp Minor (C. Franck). Salut d'amour (Elgar). Arteveldedloet (Gevaert). Strijdkreet (Benoit). Divertissement No. 14 in B Flat (Mozart). Overture, "Alessandro Stradella" (Flotow). Dramatic Symphony, Romeo and Juliet" (Berlioz).
6.15 p.m.—Talk on Criminality.
6.30 p.m.—Gramophone Records. Overture, "Preciosa" (Weber). Impression d'Italie (Charpentier). Dances from "Prince Igor" (Borodin).

BUDAPEST (Hungary)
545 kc/s (550 m.); 23 kW.
Transmits at intervals from 8.15 a.m.
6.25 p.m.—Programme by E. Trager.
6.40 p.m.—Orchestral Concert, conducted by Leo Blech, relayed from the Academy of Music. Symphony in B Minor (Schubert). Chaconne (Bach-Hubay). Fifth Symphony in C Minor (Tchaikovsky).
9.0 p.m.—Tzigane Concert.

COLOGNE (Germany)
Westdeutscher Rundfunk. 1,319 kc/s (227 m.); 1.7 kW.
See Langenberg.

COPENHAGEN (Denmark)
1,067 kc/s (281 m.); 0.75 kW. Relayed by Kalundborg, 260 kc/s (1,153 m.).
Transmits at intervals from 6.30 a.m. (Gymnastics).
11.0 a.m.—Town Hall Chimes.
11.2 a.m.—1.0 p.m.—Concert by the String Ensemble, conducted by Max Skalka, relayed from the Hotel d'Angleterre.
2.20 p.m.—Talk for Housewives.
2.30 p.m.—Orchestral Concert, conducted by Emil Reséen. Overture, "The Bohemian Girl" (Balfé). Waltz from "Frau Luna" (Lincke) Minuet (Paderewsky). Selection from "The Pearl Fishers" (Bizet). Funeral March of a Marionette (Gounod). Parade of the Tin Soldiers (Jessel). Reading, Helmsman's Song and Sailors' Chorus from "The Flying Dutchman" (Wagner). Waltz, Morgenblätter (Joh. Strauss). Berceuse for Strings (Gislason). Selection from "Manon" (Massenet). Badinage (Herbert). Torch Dance of the Brides of Kashmir, from "Feraoros" (Rubinstein). Waltz from "The Count of Luxembourg" (Lehar).
4.40 p.m.—Exchange; Fish Market Prices.
4.50 p.m.—Talk on Amateur Photography.
5.20 p.m.—Elementary English Lesson.
5.50 p.m.—Weather and News.
6.15 p.m.—Time Signal.
6.20 p.m.—Talk.
6.30 p.m.—Review of Politics for the Past Month.
7.0 p.m.—Town Hall Chimes.
7.2 p.m.—Talk: The Orchestra and its Instruments, with Illustrations.
8.0 p.m.—The Danish Language in Word and Music—Talk and Recital of Songs.
8.55 p.m.—News and Report of the Workers' Radio Society.
9.15 p.m.—Relay from the Lorry Establishment of the Festival of the Revue Authors' Society, with the Collaboration of Authors, Composers, Actors and Actresses, Singers and Dancers and Two Popular Orchestras.
1.0 a.m. (Tuesday).—Close Down.

DUBLIN (Ireland)
(2.R.N.). 725 kc/s (413 m.); 1.5 kW. Relayed by Cork, 1,337 kc/s (224.4 m.).
1.30—2.0 p.m.—Time, Weather, Stock Exchange Quotations and Gramophone Concert.
6.0 p.m.—Gramophone Records.
6.15 p.m.—Programme for Children.
7.0 p.m.—Gramophone Records.
7.20 p.m.—News Bulletin.
7.30 p.m.—Time Signal.
7.32 p.m.—Gadhilg by Sile Ni Dhubgan.
7.45 p.m.—Talk by the Rev. A. H. Macpherson.
8.0 p.m.—The Leinster School of Music in a Varied Programme.
8.30 p.m.—Original Numbers by Fay Sargent.
8.45 p.m.—Brahms and Mendelssohn Music by the Station String Orchestra.

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8.30 p.m.—Original Numbers by Fay Sargent.
8.45 p.m.—Brahms and Mendelssohn Music by the Station String Orchestra.

DUBLIN (Ireland)
(2.R.N.). 725 kc/s (413 m.); 1.5 kW. Relayed by Cork, 1,337 kc/s (224.4 m.).
1.30—2.0 p.m.—Time, Weather, Stock Exchange Quotations and Gramophone Concert.
6.0 p.m.—Gramophone Records.
6.15 p.m.—Programme for Children.
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8.30 p.m.—Original Numbers by Fay Sargent.
8.45 p.m.—Brahms and Mendelssohn Music by the Station String Orchestra.

7.15 p.m.—Lesson in Correct Pronunciation.
7.30 p.m.—Talk: Flemish Music and Composers.
8.0 p.m.—Dance Music.
8.45 p.m.—Talk.
9.0 p.m.—Concert relayed from the "Augustins".
10.0 p.m.—Le Journal Parlé.

BUCHAREST (Romania)
Radio-Bucarest. 761 kc/s (394 m.); 16 kW.
Transmits at intervals from 11.0 a.m.
6.0 p.m.—Scientific Talk.
6.40 p.m.—Gramophone Records.
7.0 p.m.—Sonata for Violin and Piano-forte (Respighi).
7.30 p.m.—Talk.
7.45 p.m.—Harp Recital.
8.15 p.m.—Trio for 'Cello, Clarinet and Piano-forte (Beethoven).
8.45 p.m.—News Bulletin.

BUDAPEST (Hungary)
545 kc/s (550 m.); 23 kW.
Transmits at intervals from 8.15 a.m.
6.25 p.m.—Programme by E. Trager.
6.40 p.m.—Orchestral Concert, conducted by Leo Blech, relayed from the Academy of Music. Symphony in B Minor (Schubert). Chaconne (Bach-Hubay). Fifth Symphony in C Minor (Tchaikovsky).
9.0 p.m.—Tzigane Concert.

COLOGNE (Germany)
Westdeutscher Rundfunk. 1,319 kc/s (227 m.); 1.7 kW.
See Langenberg.

COPENHAGEN (Denmark)
1,067 kc/s (281 m.); 0.75 kW. Relayed by Kalundborg, 260 kc/s (1,153 m.).
Transmits at intervals from 6.30 a.m. (Gymnastics).
11.0 a.m.—Town Hall Chimes.
11.2 a.m.—1.0 p.m.—Concert by the String Ensemble, conducted by Max Skalka, relayed from the Hotel d'Angleterre.
2.20 p.m.—Talk for Housewives.
2.30 p.m.—Orchestral Concert, conducted by Emil Reséen. Overture, "The Bohemian Girl" (Balfé). Waltz from "Frau Luna" (Lincke) Minuet (Paderewsky). Selection from "The Pearl Fishers" (Bizet). Funeral March of a Marionette (Gounod). Parade of the Tin Soldiers (Jessel). Reading, Helmsman's Song and Sailors' Chorus from "The Flying Dutchman" (Wagner). Waltz, Morgenblätter (Joh. Strauss). Berceuse for Strings (Gislason). Selection from "Manon" (Massenet). Badinage (Herbert). Torch Dance of the Brides of Kashmir, from "Feraoros" (Rubinstein). Waltz from "The Count of Luxembourg" (Lehar).
4.40 p.m.—Exchange; Fish Market Prices.
4.50 p.m.—Talk on Amateur Photography.
5.20 p.m.—Elementary English Lesson.
5.50 p.m.—Weather and News.
6.15 p.m.—Time Signal.
6.20 p.m.—Talk.
6.30 p.m.—Review of Politics for the Past Month.
7.0 p.m.—Town Hall Chimes.
7.2 p.m.—Talk: The Orchestra and its Instruments, with Illustrations.
8.0 p.m.—The Danish Language in Word and Music—Talk and Recital of Songs.
8.55 p.m.—News and Report of the Workers' Radio Society.
9.15 p.m.—Relay from the Lorry Establishment of the Festival of the Revue Authors' Society, with the Collaboration of Authors, Composers, Actors and Actresses, Singers and Dancers and Two Popular Orchestras.
1.0 a.m. (Tuesday).—Close Down.

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"No guesswork about this accumulator!"



These little chaps 'Say When' "

"These little chaps" are the three coloured floats of the patent* "Tell Tale," which shows you unmistakably, at a glance, the exact state of the Dagenite's charge.

Three floats—a three-fold service. Ample notice when recharging is needed. Complete protection against the damage done by over-discharge. Plain proof that recharging is done properly.

As good an accumulator as money can buy—*kept* good to the end of its long life by the "Tell Tale": that's your Dagenite. All the points that your experience bids you check are embodied in the Dagenite: stout interlocking grid plates, acid-proof glands, error-proof terminals. And over and above all this—thrown in for nothing, as a price comparison will show you—the invaluable "Tell Tale"!

Every Dagenite embodies the 40 years' experience of those two famous firms, the Hart Accumulator Co. Ltd. and Peto & Radford.

D. 34

**YES!
THIS IS
BRITISH!**

The Dagenite Accumulator is entirely British; made in a British factory, by British workmen, employing British capital.

*Obtainable from
Dagenite Service Stations
and radio dealers*

*Patent No. 139652. The "Tell Tale" has now been ingeniously adapted to Dagenite H.T. Accumulators too. See it at your dealer's.

DAGENITE

The Dependable Accumulator

NATIONAL ACCUMULATOR CO. LTD., 93 GREAT PORTLAND STREET, LONDON, W.1
Branches: 107A PIMLICO RD., S.W.1 - 45 CLYDE PLACE, GLASGOW - 27 BURY ST., SALFORD, MANCHESTER

Programmes for Monday—(Cont.)

10.10 p.m.—News Bulletin.
10.20 p.m.—Gramophone Records.
11.10 p.m. (approx.)—Close Down.
KALUNDBORG (Denmark)
Kalundborg Radio. 260 kc/s (1,153 m.); 7.5 kW. See Copenhagen.
LANGENBERG (Germany)
Westdeutscher Rundfunk. 635 kc/s (473 m.); 17 kW. Relayed by Aachen, Cologne and Münster, 1,319 kc/s (227 m.).
Transmits at intervals from 5.45 a.m. (Exercises).
5.20 p.m.—Living Authors—Poems (Ludwig Strauss).
5.40 p.m.—Talk: Polar Exploration from the Air.
6.0 p.m.—Weather, Time and News.
6.15 p.m.—Topical Talk.
6.30 p.m.—Talk: Disputed Questions in Social Politics.
6.55 p.m.—News Bulletin.
7.0 p.m.—Orchestral Concert, conducted by Pensis. Overture, "Prince Igor" (Borodin). Waltz, Mein Baden (Komzak). Selection from "The Queen of Spades" (Tchaikovsky). Old English Song (Scott). Rustle of Spring (Sinding). Suite, Carnival (Schmalstich). Hungarian Dances, Nos. 5 and 6 (Brahms). French Serenade (Grieg). Bib and Bob (Demare). Rhapsody No. 2 (Liszt).
8.40 p.m.—Experimental Technical Talk: Tone Sensitiveness.
9.15 p.m.—News and Concert.
10.0 p.m.—Concert relayed from the Schwertorf, Cologne.
11.0 p.m. (approx.)—Close Down.
LEIPZIG (Germany)
1,157 kc/s (259 m.); 2.3 kW. Relayed by Dresden, 941 kc/s (319 m.).
Transmits at intervals from 6.0 a.m.
6.0 p.m.—Talk for Parents: Christmas Presents.
6.30 p.m.—Concert from Breslau.
7.30 p.m.—"The Chronicle of Pizarro"—a Radio Play (Otto Rombach).
8.30 p.m.—Marcher Concert on the Seventieth Anniversary of his Death. Soloists: Kurt Wichmann (Baritone), A Bonhardt (Violin), O. Kleist (Cello), and Dr. Hans Gaartz (Speaker and Pianist). Introductory Talk. Romance from the Trio for Violin, Cello and Piano, Op. 138. Three Songs for Baritone with Pianoforte accompaniment: (a) Trennung, (b) Die Monduhr, (c) Juchheissal. Second and Fourth Movements from the Trio for Violin, Cello and Piano, Op. 167.
9.15 p.m.—News, followed by Dance Music and Light Music.
11.0 p.m. (approx.)—Close Down.
LJUBLJANA (Yugoslavia)
522 kc/s (574.7 m.); 2.8 kW.
Transmits at intervals from 11.15 a.m.
4.30 p.m.—Quintet Concert.
5.30 p.m.—Talk: The Struggle for Existence.
6.0 p.m.—Czech Lesson.
6.30 p.m.—Lesson in Hygiene.
7.0 p.m.—Quintet Concert.
9.0 p.m.—News Bulletin.
LWÓW (Poland)
788 kc/s (381 m.); 21 kW.
Transmits at intervals from 10.40 a.m.
4.35 p.m.—Gramophone Records and Topical Talk.
4.45 p.m.—Talk: Limited House Room.
5.0 p.m.—Concert from the Café Szkočka.
5.50 p.m.—Miscellaneous Items.
6.15 p.m.—Pianoforte Recital from the Works of Turina.
6.30 p.m.—Violin Recital.
6.45—9.0 p.m.—See Warsaw.
9.0 p.m.—Programme (not yet announced), relayed from Wilno, 1,229 kc/s (244.1 m.).
9.15—10.0 p.m.—See Warsaw.
10.0 p.m.—Relay of Foreign Stations.
11.0 p.m. (approx.)—Close Down.
MADRID (Spain)
Union Radio (EAJ7). 707 kc/s (424.3 m.); 2 kW.
Transmits at intervals from 11.45 a.m.
7.0 p.m.—Chimes, Exchange, Market Prices and Request Gramophone Records. In the interval at 8.0 p.m.—News.
8.30 p.m. (approx.)—Close Down.
MILAN (Italy)
Ente Italiano Audizioni Radiofoniche, 598 kc/s (501.7 m.); 8.5 kW. Relayed by Turin, 1,094 kc/s (274.2 m.); and Genoa, 959 kc/s (312.8 m.).
Transmits at intervals from 7.15 a.m. (Giornale Radio).
6.0 p.m.—Agricultural Notes and Report of the Royal Geographical Society.
6.20 p.m.—Programme of Light Music.
6.40 p.m.—Announcements.
6.45 p.m.—Gramophone Records.

7.0 p.m. (in the interval)—Time and News.
8.0 p.m.—Francesco Pastonchi recites the Sixth Canto of the "Inferno," with Commentary.
8.30 p.m.—Variety Music.
9.0 p.m.—"In the Train"—Comedy in One Act (Alfredo Testoni). After the Comedy: Orchestral Music.
10.0 p.m.—Giornale Radio.
MORAVSKÁ-OSTRAVA (Czechoslovakia)
1,139 kc/s (263 m.); 11 kW.
Transmits at intervals from 10.0 a.m.
6.0 p.m.—See Prague.
6.5 p.m.—Accordion Recital.
6.20 p.m.—See Prague.
7.0 p.m.—See Brno.
7.55 p.m.—See Prague.
8.0 p.m.—Orchestral Concert.
9.0 p.m.—See Prague.
9.15 p.m.—Announcements.
9.20 p.m.—See Bratislava.
10.0 p.m. (approx.)—Close Down.
MUNICH (Germany)
563 kc/s (533 m.); 1.7 kW. Relayed by Augsburg and Kaiserslautern, 536 kc/s (560 m.); and Nürnberg, 1,256 kc/s (239 m.).
Transmits at intervals from 5.45 a.m.
6.10 p.m.—Talk for Workers.
6.30 p.m.—Choral Concert, conducted by Ludwig Aechter.
7.0 p.m.—Talk.
7.10 p.m. (from Nürnberg)—Concert by the Frankish Chamber Orchestra, conducted by Markus Rümmler. Soloist: Lenie Iwan-Fischer (Soprano). Overture, "The Marriage of Figaro" (Mozart). Andante (Rosetti). Aria from "The Marriage of Figaro" (Mozart). Minuet (Schubert). Aria from "Faust" (Gounod). Selection from "La Traviata" (Verdi).
8.0 p.m.—Reading.
8.15 p.m.—Hermann Zilcher. Symphony Concert by the Station Orchestra, conducted by the Composer. Concerto for Pianoforte and Orchestra, Op. 20. Soloist: Hermann Zilcher. Hans Winter conducting. Symphony No. 2 in F Minor, Op. 23.
9.20 p.m.—Time and News.
OSLO (Norway)
Kringkastingselskapet, 277 kc/s (1,083 m.); 75 kW. Relayed by Fredrikstad, 816 kc/s (367.6 m.); Hamar, 536 kc/s (560 m.); Notodden, 671 kc/s (447.1 m.); Pilsgrunden, 662 kc/s (453.2 m.) and Rjukan, 671 kc/s (447.1 m.).
Transmits at intervals from 10.10 a.m.
6.0 p.m.—News Bulletin.
6.30 p.m.—Literary Review.
7.0 p.m.—Time Signal.
7.2 p.m.—"The Fur Coat"—Sketch (Fritz Nagn).
8.35 p.m.—News Bulletin.
8.50 p.m.—Topical Talk.
9.5 p.m.—Popular Concert.
9.45 p.m. (approx.)—Close Down.
PARIS (France)
Eiffel Tower (FLE), 207.5 kc/s (1,445.7 m.); 15 kW. Time Signals (on 2,650 m.) at 9.26 a.m. and 10.26 p.m. (preliminary and 6-dot signals).
5.45 p.m.—Le Journal Parlé.
7.20 p.m.—Weather Forecast.
7.30 p.m.—Hawaiian Guitar Recital.
8.0 p.m.—Cabaret Concert.
PARIS (France)
Poste Parisien, 914 kc/s (328.2 m.); 1.2 kW.
8.15 p.m.—Gramophone Records and News Bulletin.
9.0 p.m.—Concert with the collaboration of Artists from the Opera and Opéra-Comique. Overture, "The Well of Love" (Balfe). Pianoforte Solo: Prelude in C Minor (Rachmaninoff)—Soloist: M. Marcel Jacquot. Selection from "La dame blanche" (Boieldieu). Bolero, Ouvre ton cœur (Bizet). Selection from "La Rose de Saint-Flour" (Offenbach). Sonata for Viola and Pianoforte (Rubinstein), by M. Villain and M. Marcel Jacquot. Selection from "Phi-Phi" (Christine). Valse viennoise (Delmas). Ballet Music from "Hiawatha" (Coleridge-Taylor). Berceuse sérénade (Mignan). Russian Dance (Mozzkovsky).
PARIS (France)
Radio-Paris (CFR), 174 kc/s (1,725 m.); 80 kW.
Transmits at intervals from 6.45 a.m. (Physical Culture).
12.30 p.m.—Gramophone Records.
1.0 p.m.—Exchange and News.
1.5 p.m.—Gramophone Concert of Pavodits and Medleys. Pianoforte Solo by Felix Lederer: From Mozart to Hindemith (Lederer). Rhythmic Paraphrase on Themes from Verdi's "Il Trovatore" (arr. A. Lange). Pianoforte Solo by

Wolsley Charles: Impressions of Famous Composers. Pianoforte Quartet Selection: Waltz from "Faust" (Gounod-Gelbtrunk). Rhythmic Dance. Parody from "Carmen" (Bizet-Cole). Musical Medley in the Style of Massenet. Debussy Hahn, Wagner and Rossini (Bétové). Pianoforte Solos by Clement Doucet (Doucet): (a) Chopinata, (b) Wagneria. An American in Paris (Gershwin). Fantasia on Favourite Wagnerian Themes, Souvenirs de Bayreuth (Fauré-Messenger). In the intervals at 1.30 p.m.—and 2.0 p.m.—Exchange Quotations.
3.35 p.m.—Exchange: Market Prices.
6.30 p.m.—Market Prices, Agricultural Report, Racing Results and Weather.
7.0 p.m.—Talk: The Soviet Cinema.
7.10 p.m.—Book Review: Diderot's Unpublished Correspondence.
7.30 p.m.—Elementary English Lesson.
7.45 p.m.—Commercial Prices, Economic and Social Notes and News.
7.50 p.m.—Horticultural Talk.
8.0 p.m.—"Marathon"—Play (Diivoire), by M. Georges Colin and his Company. In the intervals at 8.30 p.m.—News Bulletin, and at 8.40 p.m.—Talk.
9.15 p.m.—News and Time.
9.30 p.m.—Gramophone Concert. Soprano G. (Bach). Penitential Hymn (Bach). Pianoforte Solo by Arthur Rubinstein from "Goyescas" (Granados). Pianoforte Solos by Arthur Rubinstein (Albeniz): (a) Navarra, (b) Sevilla. Popular Spanish Suite for Violin (de Falla). Trio in G Minor (Schumann).
PRAGUE (Czechoslovakia)
614 kc/s (488.6 m.); 120 kW.
Transmits at intervals from 10.0 a.m.
4.35 p.m.—Programme for Children.
4.45 p.m.—Talk: Winter Sports.
4.55 p.m.—Gramophone Records.
5.5 p.m.—Agricultural Report.
5.15 p.m.—Talk: Life of a Shoemaker.
5.25 p.m.—News in German.
5.30 p.m.—Programme in German. Educational Programme.
6.0 p.m.—Chimes and News.
6.5 p.m.—Music Review.
6.20 p.m.—Czechoslovakian Song Recital.
6.40 p.m.—Zither and Xylophone Concert.
7.0 p.m.—See Brno.
7.55 p.m.—News Bulletin.
8.0 p.m.—Time Signal.
8.2 p.m.—Spanish. Symphony for Orchestra and Violin (Lalo).
9.0 p.m.—Time and News.
9.15 p.m.—Announcements.
9.20 p.m.—See Bratislava.
10.0 p.m.—Chimes.
RADIO-SUISSE ROMANDE (SOTTENS) (Switzerland)
743 kc/s (403 m.); 25 kW.; Lausanne, 442 kc/s (680 m.); and Geneva, 395 kc/s (760 m.).
Transmits at intervals from 11.30 a.m.
6.1 p.m. (from Lausanne)—Gramophone Records.
6.30 p.m. (from Lausanne)—Lesson in Commercial Law.
6.55 p.m.—News Bulletin.
7.0 p.m. (from Lausanne)—Radio Notes.
7.15 p.m. (from Geneva)—Chamber Music.
8.10 p.m. (from Lausanne)—"Andrea del Sarto"—Comedy in Three Acts (A. de Musset).
9.10 p.m.—Weather and News.
9.40 p.m. (approx.)—Close Down.
ROME (Italy)
Ente Italiano Audizioni Radiofoniche (IRO), 680 kc/s (441 m.); 75 kW. Relayed by Naples 905 kc/s (332 m.); and 2RO 3,750 kc/s (25.4 m.).
Transmits at intervals from 7.15 a.m. (Giornale Radio).
4.30 p.m. (approx.)—Second Concert by the Berlin Philharmonic Orchestra relayed from the Royal Philharmonic Academy.
6.15 p.m. (from Naples)—Shipping and Sports Notes.
6.20 p.m.—News Bulletin.
7.0 p.m.—Sports and Press Review.
7.30 p.m.—Time Announcements and Gramophone Records.
7.48 p.m.—Fashion Review.
8.0 p.m.—Concert of Light Music and Folk Music. In the interval at 9.0 p.m. (approx.)—Announcements.
9.55 p.m.—News Bulletin.
SCHENECTADY (U.S.A.)
General Electric Company (WGY), 790 kc/s (379.5 m.); 50 Wk. Relayed at intervals by W2XAF on 9,530 kc/s (31.48 m.) and by W2XAD on 15,340 kc/s (19.56 m.). Transmits at intervals from 11.45 a.m.
9.0 p.m.—National Music League Hour, relayed from New York.

9.30 p.m.—Stock Reports and Police Notes.
9.45 p.m.—Carmelo Cascio (Blind Pianist).
10.0 p.m.—News Bulletin.
10.5 p.m.—Musical Ad Men.
10.30—11.0 p.m.—New York Relay.
10.30 p.m.—Sweetheart Programme.
10.45 p.m.—Pilgrims.
11.0 p.m.—Weather Report.
11.1 p.m.—Jack Miles and his DeWitt Clinton Orchestra.
11.29 p.m.—Time Signal.
11.30 p.m.—Blue Coal Fireside Reveries.
11.45 p.m.—The Stebbins Boys from New York.
12 midnight (WGY only) Vermont Lumber Jacks from New York.
12 midnight (W2XAF only)—Stock Reports and News.
12.15 a.m. (Tuesday)—4.15 a.m.—New York Relay.
12.15 a.m.—Howard Lanin's Orchestra.
12.30 a.m.—Prince Albert Programme.
12.45 a.m.—Trials of the Goldbergs.
1.0 a.m.—Soconyland Sketch.
1.30 a.m.—Voice of Firestone.
2.0 a.m.—A and P Gipsies.
2.30 a.m.—General Motors' Programme.
3.0 a.m.—True Story Programme.
3.45 a.m.—Lee-Morse (Crooner).
4.0 a.m.—Hotel New Yorker Orchestra.
4.15 a.m.—Comedy Skit—"Bob and Janitor."
4.30 a.m.—Clyde Kittell (Tenor).
4.45 a.m.—Cotton Club Orchestra from New York.
5.0 a.m.—Doc Peyton and his Orchestra.
5.30 a.m.—Jack Miles and his Orchestra.
6.0 a.m. (approx.)—Close Down.
SCHWEIZERISCHER LANDESSENDER (BEROMÜNSTER) (Switzerland)
653 kc/s (459 m.); 75 kW.; Basle, 1,229 kc/s (244.1 m.); and Berne, 1,220 kc/s (246 m.).
11.28 p.m.—Time and News Bulletin.
11.40 a.m.—Gramophone Concert.
12.35 p.m.—Weather Report and Exchange Quotations.
12.45 p.m. (approx.)—2.30 p.m.—Interval.
2.30 p.m.—Orchestral Concert.
2.58 p.m.—Time Signal.
3.0 p.m.—Gramophone Concert of Light Music.
4.0 p.m. (from Basle)—Programme for Children.
4.30 p.m.—Weather Report.
4.35—5.30 p.m.—Interval.
5.30 p.m.—Gramophone Records of Popular Vocalists.
6.0 p.m. (from Berne)—Talk: Switzerland's Balance of Trade during the Past Month.
6.10 p.m. (from Berne)—Reminiscences.
6.20 p.m. (from Berne)—Topical Talk.
6.28 p.m.—Time and Weather.
6.30 p.m. (from Berne)—Talk in French: French Romanticism.
7.0 p.m. (from Zürich)—Popular Concert of Yodelling Selections and Accordion Duets.
7.45 p.m. (approx.)—The Best Waltzes of Johann Strauss, played by the Swiss Radio Orchestra.
8.15 p.m.—Concert of Contemporary Music, by the Swiss Radio Orchestra and Richard Sturzenegger (Cello).
9.0 p.m.—Weather and News.
9.15 p.m. (approx.)—Close Down.
STOCKHOLM (Sweden)
Radiotjänst (SASA), 689 kc/s (436 m.); 75 kW. Relayed by Boden, 944 kc/s (1,229.5 m.); Göteborg, 232 kc/s (322 m.); Hörby, 1,166 kc/s (257 m.); Motala, 222.5 kc/s (1,348 m.); Östersund, 389 kc/s (770 m.); and Sundsvall, 554 kc/s (542 m.).
Transmits at intervals from 6.15 a.m. (Gymnastics).
4.0 p.m.—Accordion Music, relayed from Sundsvall.
4.30 p.m.—Talk.
4.45 p.m.—Gramophone Records.
5.45 p.m.—Elementary English Lesson, relayed from Malmö, 1,301 kc/s (231 m.).
6.15 p.m.—Weather and News.
6.30 p.m.—Military Band Concert, relayed from Karlstad.
7.30 p.m.—Talk: The Bible as a Cultural Factor, relayed from Uppsala, 662 kc/s (453.2 m.).
8.0 p.m.—Song Recital by Fatma Djemile von Bonkovska. Turkish, Macedonian, Greek and Bulgarian Songs.
8.25 p.m.—Talk on Sport.
8.45 p.m.—Weather and News.
9.0 p.m.—Concert of Light Music.
10.0 p.m. (approx.)—Close Down.
STRASBOURG (France)
Radio-Strasbourg (PTT), 869 kc/s (345 m.); 15 kW.;

Transmits at intervals from 11.30 a.m.
7.0 p.m.—Dance Music.
7.30 p.m.—Time Signal.
7.32 p.m.—News in French and German.
7.45 p.m.—Gramophone Records.
8.30 p.m.—Concert, relayed from the Palais des Fêtes.
10.30 p.m. (approx.)—Close Down.
STUTTGART (MÜHL-ACKER) (Germany)
Süddeutscher Rundfunk, 833 kc/s (360 m.); 75 kW. Relayed by Freiburg, 527 kc/s (570 m.).
Transmits at intervals from 5.15 a.m. (Frankfurt Relay).
4.5 p.m.—Musical Variety.
5.30 p.m.—Time and Agricultural Notes.
5.40 p.m. (from Karlsruhe)—Talk on Music.
6.5 p.m.—See Frankfurt.
6.30 p.m.—Time and News.
6.35 p.m.—See Frankfurt.
8.45 p.m.—"A German without Germany"—a Radio Sequence, from the Friedrich List Novel by W. V. Molo (K. A. Bhringer).
9.45 p.m.—News Bulletin.
10.0 p.m.—Chess for Beginners.
10.30 p.m. (approx.)—Close Down.
TOULOUSE (France)
Radiophonie du Midi, 779 kc/s (385 m.); 8 kW.
Transmits at intervals from 12.45 p.m.
6.0 p.m.—Opera Songs.
6.15 p.m.—Orchestral Selections.
6.30 p.m.—News Bulletin.
6.45 p.m.—Concert.
7.30 p.m.—News Bulletin.
7.45 p.m.—Orchestral Selection from "Die Fledermaus" (Joh. Strauss).
8.0 p.m.—Opera Songs.
8.15 p.m.—Military Music.
8.30 p.m.—Accordion Recital.
8.45 p.m.—Songs from (a) "La Fille de Madame Angot" (Lecocq) and (b) "Véronique" (Messager).
9.0 p.m.—Vocal and Orchestral Concert.
9.45 p.m.—Accordion Solos.
10.0 p.m.—Concert.
10.30 p.m.—News Bulletin.
10.45 p.m.—Orchestral Selections.
11.0 p.m.—Soloist Selections.
11.15 p.m.—North African News.
11.30 p.m.—Operetta Songs.
11.45 p.m.—Orchestral Selection: Rédemption (C. Franck).
12 midnight—Weather, Announcements and Close Down.
TRIESTE (Italy)
Ente Italiano Audizioni Radiofoniche, 1,211 kc/s (247.7 m.); 15 kW.
Transmits at intervals from 11.30 a.m.
7.15 p.m.—News and Gramophone Records.
8.0 p.m.—Time, Programme Notes and Symphonies Concert. Art Notes in the interval.
9.55 p.m.—News Bulletin.
VIENNA (Austria)
Radio-Wien, 581 kc/s (517 m.); 20 kW. Relayed by Graz, 851 kc/s (352 m.); Innsbruck, 1,058 kc/s (283 m.); Klagenfurt, 662 kc/s (453.2 m.); Linz, 1,220 kc/s (246 m.); and Salzburg, 1,373 kc/s (218 m.).
Transmits at intervals from 8.20 a.m.
5.55 p.m.—English Language Lesson.
6.20 p.m.—Time and News.
6.30 p.m.—A Relay from the State Opera House. In the interval at 8.15 p.m. (approx.)—News.
9.5 p.m.—Dance Music, with Vocal Refrains from the Café de Paris.
WARSAW (Poland)
Polskie Radio, 212.5 kc/s (1,411 m.); 158 kW.
Transmits at intervals from 10.40 a.m.
12.40 p.m.—Agricultural Programme.
1.50 p.m.—Gramophone Records.
2.15 p.m.—News and Exchange.
2.20 p.m.—Talk: Radium and its Importance to Science and to Life.
2.45 p.m.—Tides Report.
2.50 p.m.—Gramophone Records.
3.20 p.m.—Intermediate French Lesson.
3.40 p.m.—Gramophone Records.
4.10 p.m.—Talk relayed from Lubów, 788 kc/s (381 m.).
4.30 p.m.—Gebethner and Wolf Programme.
5.50 p.m.—Miscellaneous Items.
6.15 p.m.—Agricultural Report.
6.25 p.m.—Programme Notes.
6.30 p.m.—Gramophone Records.
6.45 p.m.—Radio Journal.
7.15 p.m.—Talk on Music.
7.15 p.m.—"Jarek"—Opera (Zelen-sky).
9.0 p.m.—Dialogue: The Future and Past of Wilno.
9.15 p.m.—Radio Journal.
9.20 p.m.—News Bulletin.
9.25 p.m.—Sports Notes.
9.30 p.m.—Dance Music from the Café "Gastronomia."
11.0 p.m. (approx.)—Close Down.

PROGRAMMES FOR TUESDAY

(December 15)

NOTE: THE HOURS OF TRANSMISSION ARE REDUCED TO GREENWICH MEAN TIME

ALGIERS (N. Africa)

825.3 kc/s (363.4 m.); 13 kW.
Transmits at intervals from 12.30 p.m.
7.45 p.m.—Boxing Report.
7.55 p.m.—News and Time.
8.0 p.m.—Accordion Music.
8.15 p.m.—Gramophone Recitations.
8.30 p.m.—Talk: Old Algiers.
8.45 p.m.—Light Music.
9.0 p.m.—Gramophone Records of Oriental Music.

BARCELONA (Spain)

Radio-Barcelona. (E.A.J.). 860 kc/s (349 m.); 8 kW.
Transmits at intervals from 7.30 a.m.
1.30 p.m.—Sextet Concert. Selection from "Playing with Fire" (Bartieri). Evocacion (Serrano). Cuban Rhapsody (Albeniz). Romantica, No. 2 (Torrens).
2.0 p.m.—Theatre Notes and Amusement Guide, Gramophone Records and Film Review.
2.20 p.m.—Concert (continued). Scherzo, A Musical Box (Liadoff). Selection from "A Masked Ball" (Verdi). Reminiscences of Parma (Heumann). Bohemian March (Chauvet).
2.50 p.m.—Labour Market Report.
3.0 p.m.—Programme for Hospitals and Benevolent Institutions, with Gramophone Records.
4.0—7.0 p.m.—Interval.
7.0 p.m.—Trio Concert. Récuerdo a Jaén (M. Peralta). Valgame Dios de los cielos! (Mariani). Serenata (Albeniz). Spanish Dance, No. 2—Oriental (Granados). Spanish Dance No. 5—Andalusian (Granados).
7.30 p.m.—Exchange Quotations and Request Gramophone Records. In the interval at 8.0 p.m.—Fortnightly Football Talk.
8.30 p.m.—Elementary English Lesson and Press Review.
9.0 p.m.—Cathedral Chimes, Weather, and Market Prices.
9.15 p.m. (approx.).—Part Relay of

an Opera from the Gran Teatro del Liceo.
12 midnight (approx.).—Close Down.

BERLIN (Germany)

Königs Wusterhausen. 183.5 kc/s (1,635 m.); 75 kW.
Transmits at intervals from 5.30 a.m. (Gymnastics).
3.30 p.m.—See Leipzig.
4.30 p.m.—Talk on Lord Kitchener.
5.0 p.m.—Talk: Christmas throughout the Ages.
5.30 p.m.—Review of Books—Contemporary Catholic Literature.
5.55 p.m.—Weather Report.
6.0 p.m.—Talk: The Geographical Causes of the Great War.
6.30 p.m.—Concert from the Central Hotel.
7.15 p.m.—Talk: Protestantism and the Idea of Property.
8.0 p.m.—News; Sports Notes.
8.10 p.m.—See Hamburg.
9.10 p.m.—News Bulletin.
9.30 p.m.—See Hamburg.
11.0 p.m. (approx.).—Close Down.

BERLIN (Germany)

Witzleben. 715 kc/s (418 m.); 1.7 kW.
Transmits at intervals from 5.30 a.m. (Gymnastics).
6.35 p.m.—Microphone Report by H. Nussbaum: A visit to a Film Studio.
7.0 p.m.—Symphony in D Major, No. 86 (Haydn), by the Berlin Wireless Orchestra, conducted by Bruno Seidler-Winkler.
7.30 p.m.—Literary Programme, relayed from the Robert Schumann Saal.
8.20 p.m.—First News.
8.30 p.m.—Second Act of "Gasparone"—Operetta (Millocker), relayed from the Theatre in the Nollendorfplatz.

BORDEAUX-LAFAYETTE (France)

(P.T.T.). 986 kc/s (304 m.); 35 kW.
12 noon.—Concert relayed from Paris (Ecole Supérieure), 671 kc/s (447.1 m.).
12.45 p.m.—Gramophone Concert. News in the interval.
1.50 p.m.—Exchange Quotations.

2.0 p.m.—Concert of Chamber Music.
6.0 p.m.—The Physical and Economic Geography of French Equatorial Africa.
7.30 p.m.—News and Exchange.
7.40 p.m.—Talk: Physical Training or Sports?
7.55 p.m.—Results of the Prize Draw.
8.0 p.m.—Topical Talk.
8.15 p.m.—News Bulletin.
8.30 p.m.—Gramophone Concert. After the Programme, Amusement Guide and Time Signal.

BRNO (Czechoslovakia)

878 kc/s (342 m.); 3 kW.
Transmits at intervals from 10.0 a.m.
6.0 p.m.—See Prague.
6.5 p.m.—Talk.
6.20 p.m.—See Prague.
6.55 p.m.—"Al Capone—the King of Chicago"—Radio Play (G. Schäke).
7.55 p.m.—See Prague.
8.0 p.m.—Orchestral Concert from the Stadium.
9.0 p.m.—See Prague.
9.15 p.m.—Announcements.
9.20 p.m.—See Prague.
10.0 p.m. (approx.).—Close Down.

BRUSSELS (Belgium) (No. 1)

I.N.R. 590 kc/s (509 m.); 20 kW.
12.15—1.45 p.m.—Gramophone Dance Records.
5.0 p.m.—Gramophone Concert. Overture, "Orpheus in the Underworld" (Offenbach). Selections from (a) "Monna Vanna" (Février), (b) "Samson and Delilah" (Saint-Saëns), and (c) "L'Arlésienne" (Bizet).
5.45 p.m.—Programme for Children.
6.20 p.m.—Literary Review.
6.30 p.m.—Gramophone Records. The Seventh Symphony (Beethoven). Dance of the Seven Veils from "Salomé" (R. Strauss).
7.15 p.m.—Report of the Belgian Catholic Radio Society.
7.30 p.m.—Talk for Women.
8.0 p.m.—Orchestral Concert. March (Turina). Selection from "Hans, the Flute-Player" (Ganne). Piccolo Solo. Wedgwood Blue (Ketelbey). Three Pieces (Fletcher). La Voix des cloches

(Luigini). Waltz from "Faust" (Gounod).
8.45 p.m.—Talk by M. J. Basyn.
9.0 p.m.—Concert (continued). Overture, "La Vie Parisienne" (Offenbach). Dance of the Hours from "La Gioconda" (Ponchielli). Three English Songs. The Mill in the Black Forest (Eilenberg). Salut d'amour (Elgar). Neapolitan Dances (Descrimes). Popular Melodies. Selection from "The Love Parade" (Scherzinger).
10.0 p.m.—Le Journal Parlé.

BRUSSELS (Belgium) (No. 2)

N.I.R. 887 kc/s (338.2 m.); 20 kW.
Programme in Flemish.
12.45—1.45 p.m.—Gramophone Concert. Overture, Fingal's Cave (Mendelssohn). Entrée des Gnomes (Pierne). Kaiserwalzer (Joh. Strauss). Hungarian Dances (Brahms): (a) No. 5 in G Minor, (b) No. 6 in D Major. Hindu Song (Rimsky-Korsakoff). Salut d'amour (Elgar). Artevelde lied (Gevaert). Strijdkreet (Benoit). Ballet Music from "Les Deux Pigeons" (Messenger). Melody (Tchaikovsky). Song without Words (Mendelssohn). Ballet Music from "Faust" (Gounod).
5.0 p.m.—Gramophone Concert. March, Sidi Brahim (Porot). Selection from "Le Caid" (Thomas-Michel). Selections (Czibulka): (a) Waltz, The Viennese Forest, (b) Dream of Love after the Ball. Overture and Passepied from "La Basoche" (Messenger). Ave Maria (Gounod). Serenade (Titl). Ballet Music from "Hamlet" (Thomas).
5.45 p.m.—Programme for Children.
6.30 p.m.—Gramophone Records. Peer Gynt Suite (Grieg). Songs (Verdi) from (a) "Il Trovatore", (b) "Ernani". Waltz, Charmaine (Rapee). The Doll Dance (Brown).
7.15 p.m.—Talk.
7.30 p.m.—Sports Review.
8.0 p.m.—Orchestral Concert. Soloist: Mlle de Paepé (Vocalist). Overture, "The Gipsy Baron" (Strauss). Selection from "Hansel and Gretel" (Humperdinck). Two Songs. Ballet Music from "Le

Cid" (Massenet). Talk. Overture, "Maritana" (Wallace). Selection from "The Daughter of the Regiment" (Donizetti). Songs from (a) "Le Coq d'Or" (Rimsky-Korsakoff), (b) "Madame Butterfly" (Puccini). Waltz, Roses of the South (Strauss).
10.0 p.m.—Le Journal Parlé.

BUCHAREST (Romania)

Radio-Bucarest. 761 kc/s (394 m.); 16 kW.
Transmits at intervals from 11.0 a.m.
7.30 p.m.—Talk.
7.45 p.m.—Song Recital.
8.15 p.m.—Orchestral Concert.
8.45 p.m.—News Bulletin.

BUDAPEST (Hungary)

545 kc/s (550 m.); 23 kW.
Transmits at intervals from 8.15 a.m.
6.0 p.m.—Talk in French: Disarmament.
6.20 p.m.—Dramatic Programme.
8.30 p.m.—Sports Programme.
9.10 p.m.—Zigane Concert from the Café Emke.

COLOGNE (Germany)

Westdeutscher Rundfunk. 1,319 kc/s (227 m.); 1.7 kW.
See Langenberg.

COPENHAGEN (Denmark)

1,067 kc/s (281 m.); 0.75 kW.
Relayed by Kalundborg, 260 kc/s (1,153 m.).
Transmits at intervals from 6.30 a.m. (Gymnastics).
11.0 a.m.—Town Hall Chimes.
11.2 a.m.—String Concert from the Palace Hotel.
2.0 p.m.—Orchestral Concert, conducted by Chr. Høed. Soloist: Agda Lhoir (Pianist). Overture, "Mignon" (Thomas). Caecilia Waltz (Lumbye). Serenade (Moszkovsky). Ballet Music from "Faust" (Gounod). The Second Act of "Aida" (Verdi). Finnish Pianoforte Music: (a) Caprice, Op. 24, No. 3 (Sibelius), (b) Barcarolle, Op. 59, No. 1 (Melartin), (c) May Night (Palmgren), (d) Eroticon, Op. 10, Nos. 1 and 5, Op. 10, No. 2 (Sjögren). Overture, "The Vikings at Helgeland" (Emil Hartmann). Orientale and

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Programmes for Tuesday—(Cont.)

Waltz from the Noellettes for Strings (Glazounoff). Waltz, Frühlingstimmen (Joh. Strauss). Selection from "I Pagliacci" (Leoncavallo). French Military March from the Algerian Suite (Saint-Saëns).
 4.0 p.m.—Programme for Children.
 4.40 p.m.—Exchange; Market Prices.
 4.50 p.m.—Talk and Readings: Medieval Literature—Troubadour Lyrics.
 5.20 p.m.—Elementary German Lesson.
 5.50 p.m.—Weather Report.
 6.0 p.m.—News and Report of the Odense Radio Club.
 6.15 p.m.—Time Signal.
 6.30 p.m.—Talk on Danish Industry.
 7.0 p.m.—Town Hall Chimes.
 7.2 p.m.—*Viola Solos* by Johannes Marke. Sonata in F Minor (Nardini).
 7.15 p.m.—Discussion: The Traffic in Alcohol.
 8.15 p.m.—Recital of Scandinavian Songs. Dulgt Kaerlighed and Lokkeleg (Per Lasson). Sangen om Iver Huitfeldt, and Danebrogssang (Halvorsen). Laengsel, and Mit Hjerter og min Lyre (Kjerulff).
 8.35 p.m.—Reading in Dialect.
 9.0 p.m.—Dvorak Concert by the Radio Orchestra, conducted by Launy Grøndahl. Overture, "The Cunning Peasant." Symphony No. 4 in G Major.
 10.0 p.m.—Dance Music from the Nimb Restaurant.
 11.0 p.m. (in the interval).—Town Hall Chimes.
 11.30 p.m. (approx.).—Close Down.

DUBLIN (Ireland)

(a.R.N.). 725 kc/s (413 m.); 1.5 kW. Relayed by Cork, 1,337 kc/s (224.4 m.).
 8.30-2.0 p.m.—Time, Weather, Stock Exchange Quotations and Gramophone Concert.
 6.0 p.m.—Gramophone Records.
 6.15 p.m.—Programme for Children.
 7.0 p.m.—Gramophone Records.
 7.15 p.m.—News Bulletin.
 7.30 p.m.—Time Signal.
 7.32 p.m.—Leighceacht Gaedhige by Donnchadh O'Brian.
 7.45 p.m.—Talk by T. J. Ellis: Dublin in the Seventeenth Century.
 8.0 p.m.—Selections by the Station Sextet.
 8.15 p.m.—Contralto Solos by Aimee Gibbins.
 8.30 p.m.—Programme by the Dublin Repertory Company.
 9.0 p.m.—Bass Solos by H. J. McCormick.
 9.15 p.m.—Soprano Solos by Edie O'Dwyer.
 9.30 p.m.—Sponsored Programme.
 10.30 p.m.—Time, News, Weather and Close Down.

FRANKFURT-am-MAIN (Germany)

770 kc/s (390 m.); 1.7 kW. Relayed by Cassel, 1,220 kc/s (246 m.).
 Transmits at intervals from 5.15 a.m. (Weather and Gymnastics).
 4.0 p.m.—Orchestral Concert.
 3.0 p.m.—Economic Notes.
 4.5 p.m.—Concert (from Wiesbaden).
 5.30 p.m.—Economic Notes.
 5.40 p.m.—Talk: Agricultural and Suburban Settlements.
 6.5 p.m.—See Stuttgart.
 6.30 p.m.—Time, Programme Announcements, Weather and Economic Notes.
 6.35 p.m.—See Berlin (Witzleben).
 7.0 p.m.—Orchestral Concert, conducted by Reinhold Merten. Soloist: Anita Franz (Soprano). March, Herzblättchen (Suppé). Waltz, Abendblätter (Offenbach). Soprano Solos. Selection from "The Seven Swabians" (Müllöcker). Polka, Sie kriegen sich (Dellinger). Soprano Solos. Waltz, Gabriele (Suppé). Mazurka, Rosige Laune (Joh. Strauss). Waltz, Risetete (Lecocq). Annen-Polka (Joh. Strauss). Ninetta-Marsch (Joh. Strauss).
 8.15 p.m.—"Die Isebill"—a Fairy Tale for Radio (Wolfgang Weyrauch).
 9.20 p.m.—Time, Weather, News, and Sports Notes.
 9.50 p.m.—Theatrical Agency.
 10.0 p.m.—Dance Music.
 11.0 p.m. (approx.).—Close Down.

HAMBURG (Germany)

Norag (ha, in Morse). 806 kc/s (372 m.); 1.7 kW. Relayed by Bremen, 1,112 kc/s (270 m.); Flensburg, 1,373 kc/s (218 m.); Hannover, 530 kc/s (566 m.); and Kiel, 1,292 kc/s (232.2 m.).
 Transmits at intervals from 5.30 a.m. (Time and Weather).

3.30 p.m. (from Kiel).—German Pianoforte Music of the Seventeenth and Eighteenth Centuries. Pianist: Gertrud Trenkroft of Flensburg. Prelude (Kuhnau). Aria pastoralis variata (Murschhauser). Air and Rigaudon (Muffat). Three Selections (Marburg): (a) La Voltigeuse, (b) Minuet, (c) La Badine. Four Small Pieces (Kirnberger). Gigue (Graun). Pastorale variée (Mozart).
 4.0 p.m.—Talk: University Extension Courses and the Unemployed.
 4.25 p.m. (from Hanover).—Talk: The Meaning of Low-German Advent Customs.
 4.50 p.m.—Variety Programme.
 5.30 p.m.—Talk on Forestry.
 5.55 p.m.—Talks on Political Economy: Organisational Changes in Asia.
 6.20 p.m.—Frankfurt Exchange and Hamburg Egg-Market Prices.
 6.25 p.m.—Weather Report.
 6.30 p.m.—Ludwig Jürgens reads from his novel, "Stadt im Seewind."
 7.0 p.m.—See Berlin (Witzleben).
 7.30 p.m.—Talk in North German Dialect by Fritz Lau.
 8.0 p.m.—North German Dialect Variety Programme—Recitations and Choral Selections and Songs to the Lute.
 9.0 p.m.—Weather, News and Sports Notes.
 9.20 p.m.—Topical Talk.
 9.30 p.m.—Orchestral Concert, conducted by Adolf Secker. March from "Sigurd Jorsalfar" (Grieg). La lettre de Manon (Gillet). Overture, "Mignon" (Thomas). Czardas from "Der Geist des Wojewoden" (Grossmann). Overture, "Si j'étais roi" (Adam). Potpourri, Wiener Spaziergänge (Komzak). Spanish Dances Nos. 4 and 5 (Moszkovsky). Albumblatt (Humperdinck). Ballet égyptien—Second Suite (Luigini). Waltz. Flattergeister (Jos. Strauss).
 10.20 p.m.—Ice Report.

HELSBERG (Germany)

1,085 kc/s (276.5 m.); 75 kW. Relayed by Danzig, 662 kc/s (453.2 m.).
 Transmits at intervals from 5.30 a.m. (Gymnastics).
 11.30 a.m.—Concert by the Königsberg Opera House Orchestra, conducted by Georg Wöllner. Overture, "Waldmeister" (Strauss). Opera Fantasia, From Stage to Stage (Fetras). Waltz, España (Waldeufel). March, Hoch Blankenburg (Stelzig). Russian Sketches (Dreyer): (a) Evening in a Russian Village, (b) Cossack Dance, (c) From the Crimea. Selection (Ketelbey). Pictures from Scandinavia (Frederiksen). Intermezzo, Haarlem Tulips (Schmidt-Hagen). Descriptive Piece (Rivelli). Overture, "Der Göttergatte" (Lehár). Auf Skiern (Kark). Heckenrosen-Marsch (Zimmer).
 2.45 p.m.—Rhythmic and Musical Improvisations.
 3.15 p.m.—Orchestral Concert, conducted by Eugen Wilcken. Overture, "Les Francs-Juges" (Berlioz). Two Selections (Hildach): (a) In meiner Heimat, (b) Der Spielmann. Waltz, Phönixschwüngen (Joh. Strauss). Rakoczy Czardas (Michiels). Selection from "The Prophet" (Meyerbeer). Suite from "The Swan Lake" (Tchaikovsky). Overture, "The Bronze Horse" (Auber).
 4.45 p.m.—Review of Books.
 5.15 p.m.—Ice Report and Market Prices.
 5.30 p.m.—Agricultural Talk.
 6.0 p.m. (from Danzig).—Talk for Workers.
 6.25 p.m.—Weather Report.
 6.30 p.m.—Talk: Reichermann and Dietrich—Two Kreuzburg Poets, with Recitations from their works.
 7.0 p.m.—See Berlin (Witzleben).
 7.30 p.m.—Concert by the "Quempas" Choral Society, conducted by Dr. Konrad Ameln. Singet, lieben Leut, und lobet Christum heute. Introductory Talk to the Concert. Lobt Gott, ihr Christen, alle gleich. Singet frisch und wohlgemut. A Short Report on the Quempas Choral Society. Den die Hirten lobeten schon. Was ist für neue Freud.
 8.15 p.m.—See Frankfurt.
 9.30 p.m.—Weather, News and Sports Notes.

HILVERSUM (Molland)

1,004 kc/s (298.8 m.); 8.5 kW. Programme of the Algemeene Vereeniging Radio Omroep (A.V.R.O.).
 7.40 a.m.—Gramophone Records.
 9.40 a.m.—The Daily Service.

9.55 a.m.—Gramophone Records.
 11.10 a.m.—Vocal and Pianoforte Recital. Sonata in F Minor (Scarlatti). Organ Solo: Rondo in A Minor (Mozart). Gipsy Songs (Dvorák). Improvptu. Op. 90, No. 3 in G Major (Schubert). Aria from "Rienzi" (Wagner). Nocturne, Op. 27, No. 1 in C Flat Minor (Chopin). Ballad, Op. 118, No. 3 in G Minor (Brahms).
 12.10 p.m.—Concert of Light Music by Kovacs Lajos and his Orchestra. Songs by Bob Scholte. Talk in the interval.
 1.40-2.10 p.m.—Interval.
 2.10 p.m.—Gramophone Records.
 2.40 p.m.—Dressmaking Lesson.
 3.40 p.m.—Recital of Dutch Songs.
 4.10 p.m.—Programme for Children.
 5.10 p.m.—Gramophone Records.
 5.40 p.m.—Two Talks.
 6.40 p.m.—Gramophone Records.
 7.10 p.m.—English Lesson.
 7.40 p.m.—Gramophone Records.
 7.55 p.m.—Choral Concert. Soloists: Max Kloos (Baritone), Thomas Canivez (Cello), Paul Loewer (Flute), and Anth. v. d. Horst (Organ). Two Russian Songs for Choir (Tcherepnin). Organ Solos: (a) Durch Adams Fall ist ganz verderbt, (b) Wie schön leuchtet der Morgenstern (Buxtehude). Nun weicher, ihr tollten, vergeblischen Sorgen, for Baritone, Organ and Flute (Bach). Prelude, Sarabande and Bourrée I and II in C Major for Cello (Bach). Three Old French Christmas Carols: (a) Entre le boeuf et l'âne gris, (b) Voisin, d'où venait ce grand bruit, (c) Pâtres vauquants dans les montagnes. Two Old Dutch Christmas Carols for Choir: (a) Het was een maghet uytverkoren, (b) Drie Koningenlied (Horst).
 8.45 p.m.—Orchestral Concert, conducted by Nico Treep. Overture, "Czar and Carpenter" (Lortzing). Music from "Undine" (Lortzing). Dances (Kienzl). Selection from "The Grand Duchess of Gerolstein" (Offenbach). Waltz, The Polar Star (Waldeufel). Polonaise from "Eugen Onegin" (Tchaikovsky). Juppala-Marsch (Kálmán). Komm mit mir nach Varasdin (Kálmán).
 9.40 p.m.—Weather and News.
 9.55 p.m.—Concert (contd.). Selection from "La Bohème" (Puccini). Torch Dance of the Brides of Kashmir, from "Feramors" (Rubinstein). Waltz from "Eugen Onegin" (Tchaikovsky). Walter's Prize Song from "The Mastersingers" (Wagner). Selection from "La Fille de Madame Angot" (Lecocq).

10.40 p.m.—Gramophone Records.
 11.40 p.m. (approx.).—Close Down.

HUIZEN (Holland)

160 kc/s (1,875 m.); 8.5 kW. Transmits at intervals from 7.40 a.m. Programme of the Catholic Radio Society (K.R.O.).
 11.55 a.m.—Trio Concert.
 1.25 p.m.—Gramophone Records.
 1.40 p.m.—Programme for Women.
 2.40 p.m.—Dressmaking Lesson.
 3.55 p.m.—Gramophone Records.
 4.10 p.m.—Concert. Sonata (Handel). Sonata in A Major (Bach). Sonata in B Flat Major (Mozart).
 5.10 p.m.—Orchestral Concert.
 6.25 p.m.—English Lesson.
 6.50 p.m.—Talk.
 7.10 p.m.—Police Notes.
 7.25 p.m.—Talk.
 7.40 p.m.—Orchestral Concert. Overture, "His Life for the Czar" (Glinka). In the Steppes of Central Asia (Borodin). Selection from "Eugen Onegin" (Tchaikovsky). Songs by a Male Voice Double Quartet. Overture, "Le fils du mandarin" (Cui). Polonaise and Duet from Boris Godounoff (Moussorgsky). Polish Dances (Borodin). Chant sans paroles (Tchaikovsky). Quartet Selections (Glazounoff). Selection from "Caucasian Sketches" (Ippolittoff-Ivanoff). Glinka Potpourri (Urback). Flower Waltz from the Nutcracker Suite (Tchaikovsky). In the interval at 9.10 p.m.—News.
 10.40 p.m.—Gramophone Records.
 11.40 p.m. (approx.).—Close Down.

KALUNDBORG (Denmark)

Kalundborg Radio. 260 kc/s (1,153 m.); 7.5 kW. See Copenhagen.

LANGENBERG (Germany)

Westdeutscher Rundfunk. 635 kc/s (473 m.); 17 kW. Relayed by Aachen, Cologne and Münster, 1,319 kc/s (227 m.).
 Transmits at intervals from 5.45 a.m. (Exercises).
 4.0 p.m.—Orchestral Concert.
 5.0 p.m.—Talk: Detective Novels.

5.20 p.m.—Agricultural Talk.
 5.40 p.m.—French Conversation.
 6.0 p.m.—Weather, Time and News.
 6.15 p.m.—Wireless Notes.
 6.30 p.m.—Talk: Historical Review of Social Politics.
 6.55 p.m.—News Bulletin.
 7.0 p.m.—See Berlin (Witzleben).
 7.30 p.m.—Orchestral Concert, conducted by Buschkötter. Soloist: Tossy Spiwadowsky (Violin). Violin Concerto in D Major (Brahms). Symphony in B Minor (Volbach).
 9.0 p.m.—News, Sports Notes and Silent Night.

LEIPZIG (Germany)

1,157 kc/s (259 m.); 2.3 kW. Relayed by Dresden, 941 kc/s (319 m.).
 Transmits at intervals from 5.30 a.m.
 3.30 p.m.—Concert by the Leipzig Symphony Orchestra.
 4.30 p.m.—Weather, Time and Economic Notes.
 5.5 p.m.—Dialogue for Women: Presents.
 5.30 p.m.—French Lesson.
 5.50 p.m.—Talk on the Gewandhaus Concert on December 17.
 6.5 p.m.—Concert by the Leipzig Symphony Orchestra.
 7.0 p.m.—See Berlin (Witzleben).
 7.30 p.m.—Talk on Economics.
 7.40 p.m.—Great Cities—III, "Dresden"—a Radio Sequence from the "Biedermeyer Period" (Dr. Kurt Martens).
 8.40 p.m.—Septet, Op. 55 (R. Dost).
 9.10 p.m.—News and Dance Music.
 10.30 p.m. (approx.).—Close Down.

LJUBLJANA (Yugoslavia)

522 kc/s (574.7 m.); 2.8 kW. Transmits at intervals from 10.30 a.m.
 4.30 p.m.—Programme for Children.
 5.0 p.m.—Quintet Concert.
 6.0 p.m.—German Lesson.
 6.30 p.m.—An Experiment in Phonetics.
 7.0 p.m.—Wireless Notes.
 7.30 p.m.—Programme relayed from Zagreb, 977 kc/s (307 m.).
 9.30 p.m.—News Bulletin.

MADRID (Spain)

Union Radio. (EAJ7). 707 kc/s (424.3 m.); 2 kW. Transmits at intervals from 8.0 a.m.
 7.0 p.m.—Chimes, Exchange, Market Prices and Request Gramophone Records. In the interval at 7.30 p.m.—Hunting and Fishing Notes.
 8.10 p.m.—News and Political Review.
 8.30-10.0 p.m.—Interval.
 10.0 p.m.—Chimes, Time, Political Review and Opera Selection on Gramophone Records: Lucia di Lammermoor (Donizetti).
 12 midnight.—Chimes and News.
 12.30 a.m. (Wednesday).—Close Down.

MILAN (Italy)

Ente Italiano Audizioni Radiofoniche. 508 kc/s (591.7 m.); 8.5 kW. Relayed by Turin, 1,094 kc/s (274.2 m.); and Geneva, 959 kc/s (312.8 m.).
 Transmits at intervals from 7.15 a.m.
 4.0 p.m.—Gramophone Records.
 4.10 p.m.—Concert from the Biffi Café Restaurant.
 5.0-5.15 p.m.—Announcements.
 6.0 p.m.—Agricultural Notes.
 6.15 p.m.—Light Music.
 6.40 p.m.—Announcements.
 6.45 p.m.—Gramophone Records.
 7.0 p.m. (in the interval).—Time and News.
 7.30 p.m.—English Lesson on Gramophone Records.
 7.45 p.m.—Talk by S. Gotta.
 8.0 p.m.—Symphony Concert, conducted by Arrigo Pedrollo. In the interval, Talk.
 10.0 p.m.—Giornale Radio.

MUNICH (Germany)

563 kc/s (533 m.); 1.7 kW. Relayed by Augsburg and Kaiserslautern, 536 kc/s (560 m.), and Nürnberg, 1,256 kc/s (239 m.).
 Transmits at intervals from 5.45 a.m.
 6.10 p.m.—English Language Lesson.
 6.45 p.m.—Introductory Talk to the following Transmission.
 7.5 p.m. (from Nürnberg).—"The Pearl Fishers"—Opera (Bizet), relayed from the Municipal Theatre.
 8.25 p.m.—Chamber Music by the Lenzevski Quartet of Frankfurt. String Quartet, No. 21 in D Major (Mozart). String Quartet (W. Fortner).
 9.20 p.m.—Time and News.

OSLO (Norway)

Kringkastingsselskapet. 277 kc/s (1,083 m.); 7.5 kW. Relayed by Fredrikstad, 816 kc/s (367.6 m.); Hamar, 536 kc/s (560 m.); Notodden, 671 kc/s (447.1 m.); Porsgrund, 662 kc/s (453.2 m.); and Rjukan, 671 kc/s (447.1 m.).
 Transmits at intervals from 10.10 a.m.
 6.0 p.m.—News Bulletin.
 6.30 p.m.—Recitations.
 7.0 p.m.—Orchestral Concert

8.0 p.m.—Talk relayed from the Museum, Bergen, 824 kc/s (364 m.): Religion in Norway from the Earliest Days to the Time of the Vikings.

8.35 p.m.—News Bulletin.
 8.50 p.m.—Topical Talk.
 9.5 p.m.—Chamber Music Concert.
 9.45 p.m. (approx.).—Close Down.

PARIS (France)

Eiffel Tower (FLE). 207.5 kc/s (1,445.7 m.); 15 kW. Time Signals (on 2,650 m.) at 9.26 a.m. and 10.26 p.m. (preliminary and 6-dot signals).
 5.45 p.m.—Le Journal Parlé.
 7.5 p.m.—Gramophone Records.
 7.20 p.m.—Weather Forecast.
 7.30 p.m.—Pianoforte Recital.
 8.0 p.m.—Quartet Concert.

PARIS (France)

Poste Parisien. 914 kc/s (328.2 m.); 1.2 kW.
 7.40 p.m.—Two Short Plays: (a) "Le Trésor"—Play in Two Acts (G. Mazuyer), and (b) "La Redingote"—Comedy in One Act.
 8.25 p.m.—Gramophone Records and News.
 8.45 p.m.—Sports Talk, Gramophone Records and News.
 9.0 p.m.—Concert with the collaboration of Artists from the Opera and Opéra-Comique. Overture in G Minor (Bruckner). Romance for Viola and Orchestra (Max Bruch)—Soloist: M. Villain. First Part of "Schcherzade" (Rimsky-Korsakoff), conducted by M. Théodore Mathieu. Polonaise (Dvorák). Rhapsody No. 1 (Brahms). Habanera (Turinaz). Marche solennelle (César Cui).

PARIS (France)

Radio-Paris (CFR). 174 kc/s (1,725 m.); 80 kW.
 6.45 a.m.—Physical Culture Lesson.
 7.30 a.m. (in the interval).—Weather Report.
 7.45 a.m.—Gramophone Records.
 8.0 a.m.—News Bulletin.
 12.30 p.m.—Gramophone Records.
 1.0 p.m.—Exchange and News.
 1.5 p.m.—Gramophone Records: Selections from "La Bohème"—Opera (Puccini). Sung in Italian. In the intervals at 1.30 p.m. and 2.0 p.m.—Exchange Quotations.
 3.35 p.m.—Exchange; Market Prices.
 4.20 p.m.—Elementary English Lesson.
 6.30 p.m.—Market Prices, Agricultural Report, Racing Results and Weather.
 7.0 p.m.—Theatre Review.
 7.15 p.m.—Art Review.
 7.30 p.m.—Advanced English Lesson.
 7.45 p.m.—Commercial Prices, Economic and Social Notes and News.
 8.0 p.m.—"Les Cloches de Corneville"—Opérette in Three Acts (Planquette), with Mlle Mag Landry, Henriette Lebard, M.M. Kirigaray, Gilles, Tubiana and Castin. The Orchestra conducted by M. Raoul Labis. In the intervals at 8.30 p.m.—Sports Results and Weather, at 8.40 p.m.—Talk, and at 9.15 p.m.—News and Time.

PRAGUE (Czechoslovakia)

614 kc/s (488.6 m.); 120 kW. Transmits at intervals from 10.0 a.m.
 4.10 p.m.—Talk on Children.
 4.20 p.m.—German Lesson.
 4.35 p.m.—Programme for Children.
 4.45 p.m.—Talk: The Archives of Industry.
 4.55 p.m.—Gramophone Records.
 5.5 p.m.—Agricultural Report and Market Prices.
 5.15 p.m.—Talk for Workers.
 5.25 p.m.—News in German.
 5.30 p.m.—Programme in German. Instrumental Concert. Talk with Musical Illustrations: The English Horn.
 6.0 p.m.—Chimes and News.
 6.5 p.m.—News Bulletin.
 6.20 p.m.—Sad and Gay Tramp Songs, followed by Talk.
 6.55 p.m.—See Brno.
 7.55 p.m.—News Bulletin.
 8.0 p.m.—Time Signal.
 8.20 p.m.—See Brno.
 8.30 p.m.—String Quartet in F Major Op. 77, No. 2 (Haydn).
 9.0 p.m.—Time and News.
 9.15 p.m.—Announcements.
 9.20 p.m.—Dance Music by Czech Composers.
 10.0 p.m.—Chimes.

RADIO-SUISSE ROMANDE (SOTTENS) (Switzerland)

743 kc/s (403 m.); 25 kW. Relayed by Lausanne, 442 kc/s (680 m.); and Geneva, 395 kc/s (760 m.).
 Transmits at intervals from 11.30 a.m.
 6.1 p.m. (from Lausanne).—Cinema Organ Recital from the Capitol Theatre.
 6.30 p.m. (from Lausanne).—German Lesson.
 6.55 p.m.—News Bulletin.
 7.0 p.m. (from Geneva).—Talk: Pain or Joy in Work.

Programmes for Tuesday—(Cont.)

7.20 p.m. (from Geneva).—Weekly Gazette.
7.30 p.m. (from Geneva).—Orchestral Concert.
9.0 p.m.—Weather and News.
9.15 p.m. (approx.).—Close Down.
ROME (Italy)
Ente Italiano Audizioni Radiofoniche (IRO). 680 kc/s (441 m.) 75 kW. Relayed by Naples, 905 kc/s (332 m.); and 2RO, 3,750 kc/s (80 m.).
Transmits at intervals from 7.15 a.m. (Giornale Radio).
4.30 p.m.—Vocal and Instrumental Concert.
6.20 p.m.—Announcements.
6.32 p.m.—Atmospheric Signals and Announcements.
6.40 p.m.—News Bulletin.
7.30 p.m.—Time, Announcements, and English Lesson on Gramophone Records.
8.0 p.m.—Variety Concert. Trio in B Flat for Pianoforte, Violin and Cello (Mendelssohn). Talk by S. Gotta. Four Indian Love Lyrics for Soprano (Amy Woodforde-Finden): (a) Temple Bells, (b) Less than the dust, (c) Kashmiri Love Song, (d) Till I Wake, Soprano Solo from "Marina" (Arrieta). "Cello Solos: (a) Chants russes (Lalo), (b) Romance (da Firenze), (c) Allegro appassionata (Saint-Saëns). "Christmas"—Comedy in One Act (Dario Nicodemì). Gramophone Records.
9.55 p.m.—News Bulletin.
SCHENECTADY (U.S.A.)
General Electric Company (WGY). 790 kc/s (379.5 m.); 50 kW. Relayed at intervals by W2XAF on 9,530 kc/s (31.48 m.) and by W2XAD on 15,340 kc/s (19.56 m.). Transmits at intervals from 11.45 a.m.
9.0 p.m.—Bridge Lesson by Ralph C. Blessing.
9.30 p.m.—Stock Reports and Police Notes.
9.45 p.m.—Roger Sweet (Tenor).
10.0 p.m.—News Bulletin.
10.5 p.m.—Musical Ad Men.
10.30—11.0 p.m.—New York Relay.
10.30 p.m.—Rinso Talkie.
10.45 p.m.—Instrumental Solos.
11.0 p.m.—Doc Peyton and his Kenmore Orchestra.
11.30 p.m.—Time Signal.

11.31 p.m.—Jeanette Getz (Pianist)
11.44 p.m.—Weather Report.
11.45 p.m.—The Stebbins Boys, from New York.
12 midnight (WGY only).—General Electric Programme.
12 midnight (W2XAF only).—Stock Reports and News.
12.30 a.m. (Wednesday).—4.15 a.m.—New York Relay.
12.30 a.m.—Prince Albert Programme.
12.45 a.m.—Trials of the Goldbergs.
1.0 a.m.—Blackstone Plantation.
1.30 a.m.—Goodyear Programme.
2.0 a.m.—McKesson Musical Magazine.
2.30 a.m.—The Fuller Man.
3.0 a.m.—Lucky Strike Dance Hour.
4.0 a.m.—Marion Harris (Crooner).
4.15 a.m.—Leonard and Sherman (Piano Twins).
4.30 a.m.—Bettye Lee Taylor—Organist, Proctor's Theatre.
5.0 a.m.—Jack Miles and his DeWitt Clinton Orchestra.
5.30 a.m.—Doc Peyton and his Kenmore Orchestra.
6.0 a.m. (approx.).—Close Down.
SCHWEIZERISCHER LANDESENDER (BEROMÜNSTER) (Switzerland)
653 kc/s (459 m.); 75 kW.; Basle, 1,229 kc/s (244.1 m.); and Berne, 1,220 kc/s (246 m.).
11.28 a.m.—Time, Weather and News.
11.40 a.m.—Orchestral Concert.
12.35 p.m.—Weather and Exchange.
12.40 p.m. (approx.).—2.30 p.m.—Interval.
2.30 p.m.—Orchestral Concert.
2.58 p.m.—Time Signal.
3.0 p.m.—Gramophone Concert of Light Music.
4.0 p.m. (from Berne).—Talk for Women.
4.30 p.m.—Weather Report.
4.35—5.30 p.m.—Interval.
5.30 p.m.—Gramophone Records of Cinema Organ Music.
6.0 p.m. (from Basle).—A Radio Report on a Visit with Children to a Toy Shop.
6.28 p.m.—Time and Weather.
6.30 p.m. (from Basle).—Talk: The History of the Jews in Basle.
7.0 p.m. (from Berne).—Symphony

Concert by the Berne Musical Society, conducted by Dr. Fritz Brun, the Cecilia Society and Julien Pazak (Tenor).
9.0 p.m.—Weather and News.
9.15 p.m. (approx.).—Close Down.
STOCKHOLM (Sweden)
Radiojäst (SASA). 689 kc/s (436 m.); 75 W. Relayed by Boden, 244 kc/s (1,229.5 m.); Göteborg, 932 kc/s (322 m.); Hörby, 1,166 kc/s (257 m.); Motala, 222.5 kc/s (1,348 m.); Östersund, 389 kc/s (770 m.); and Sundsvall, 554 kc/s (542 m.). Transmits at intervals from 6.15 a.m. (Gymnastics).
12 noon.—Gramophone Records: Selections from "Peer Gynt" (Grieg).
12.30—4.0 p.m.—No Transmission.
4.0 p.m.—Talk for Young People, relayed from Falun, 986 kc/s (304 m.).
4.30 p.m.—Gramophone Records.
5.15 p.m.—The Practical Corner.
5.30 p.m.—Song Recital.
5.45 p.m.—Elementary French Lesson relayed from Malinö, 1,301 kc/s (231 m.).
6.15 p.m.—Weather and News.
6.30 p.m.—Talk: Bohr's Atom Theory.
7.0 p.m.—Orchestral Concert—Puccini Programme. Selection from "La Tosca." Song by Knut Öhrström from "La Bohème." Song by Greta Söderman from "La Bohème." Selection from "Manon Lescaut." Song by Knut Öhrström from "Turandot." Selection from "Il Tabarro." Song by Greta Söderman from "La Bohème." Selection from "Gianni Schicchi." Duet from "Madame Butterfly."
8.15 p.m.—Literary Review.
8.45 p.m.—Weather and News.
9.0 p.m.—Gramophone Records.
10.0 p.m. (approx.).—Close Down.
STRASBOURG (France)
Radio-Strasbourg (PTT). 869 kc/s (345 m.); 15 kW.
Transmits at intervals from 11.30 a.m.
7.0 p.m.—Instrumental Concert.
7.30 p.m.—Time Signal.
7.32 p.m. (approx.).—News in French and German.
7.45 p.m.—Gramophone Records.
8.30 p.m.—Concert relayed from the Municipal Theatre, Metz.
10.30 p.m. (approx.).—Close Down.

STUTT GART (MÜHL-ACKER) (Germany)
Süddeutscher Rundfunk. 833 kc/s (360 m.); 75 kW. Relayed by Freiburg, 527 kc/s (570 m.). Transmits at intervals from 5.15 a.m. (Frankfurt Relay).
4.5 p.m.—See Frankfurt.
5.30 p.m.—Time and Agricultural Notes.
5.40 p.m. (from Karlsruhe).—Talk: Work in South America.
6.5 p.m. (from Mannheim).—Talk: Aids to Ready Reckoning.
6.30 p.m.—Time and News.
6.35—11.0 p.m.—See Frankfurt. In the interval at 9.20 p.m.—News.
11.0 p.m. (approx.).—Close Down.
TOULOUSE (France)
Radiophonie du Midi. 779 kc/s (385 m.); 8 kW.
Transmits at intervals from 12.45 p.m.
6.0 p.m.—Popular Songs.
6.15 p.m.—Military Music.
6.30 p.m.—News Bulletin.
6.45 p.m.—Orchestral Selections.
7.0 p.m.—Gramophone Records.
7.30 p.m.—News Bulletin.
7.45 p.m.—Orchestral Selections.
8.0 p.m.—Operetta Music.
8.15 p.m.—Musical Selections.
8.30 p.m.—Gramophone Records.
9.0 p.m.—Opera Songs.
9.15 p.m.—Military Music.
9.30 p.m.—Concert.
10.15 p.m.—Dance Music. In the interval at 10.30 p.m.—News.
11.0 p.m.—Accordion Solos.
11.15 p.m.—North African News.
11.30 p.m.—Opera Music.
12 midnight.—Weather, Announcements and Close Down.
TRIESTE (Italy)
Ente Italiano Audizioni Radiofoniche. 1,211 kc/s (247.7 m.); 15 kW.
Transmits at intervals from 11.30 a.m.
7.15 p.m.—News and Announcements.
7.30 p.m.—English Lesson on Gramophone Records.
7.35 p.m.—Gramophone Records.
8.0 p.m.—Time, Programme Notes and "La Traviata"—Opera (Verdi), on Gramophone Records. News after the Opera.
VIENNA (Austria)
Radio-Wien. 581 kc/s (517 m.); 20 kW. Relayed by Graz, 851 kc/s (352 m.); Innsbruck, 1,058 kc/s

(283 m.); Klagenfurt, 662 kc/s (453.2 m.); Linz, 1,220 kc/s (246 m.); and Salzburg, 1,373 kc/s (218 m.).
Transmits at intervals from 8.20 a.m.
6.45 p.m.—Concert by the Russian Artists' Ensemble. "Novgorod." Tenor, Baritone and Bass Solos and Selections by a Balalaika Orchestra.
7.45 p.m.—Talk on Viennese Types: Street-Sellers.
8.15 p.m.—Haydn's String Quartets
8.45 p.m.—News Bulletin.
9.0 p.m.—Famous American Radio Stars—Programme relayed from New York.
10.0 p.m.—Gramophone Dance Music.
WARSAW (Poland)
Polskie Radio. 212.5 kc/s (1,411 m.) 158 kW.
Transmits at intervals from 10.40 a.m.
11.10 a.m.—Gramophone Records.
12.10 p.m.—Weather Report.
12.15 p.m.—Talk on Economics.
12.40 p.m.—Agricultural Talks.
1.50 p.m.—Gramophone Records.
2.15 p.m.—Talk on Aviation.
2.20 p.m.—Exchange Quotations.
2.25 p.m.—Talk: Respect for Tradition.
2.45 p.m.—Tides Report.
2.50 p.m.—Programme for Young People.
3.20 p.m.—Talk.
3.40 p.m.—Gramophone Records.
4.10 p.m.—Talk: Dr. Zamenhof and his Invention of an International Language, relayed from Cracow, 959 kc/s (312.8 m.).
4.35 p.m.—Symphony Concert by the Philharmonic Orchestra, Soloist: Dymitr Nenoff (Pianoforte), Legend (Stajnowf). Concerto for Pianoforte (Vladigeroff). Four Sketches for Orchestra (Nenoff).
5.50 p.m.—Miscellaneous Items.
6.15 p.m.—Legal Talk for Farmers.
6.25 p.m.—Programme Notes.
6.30 p.m.—Gramophone Records.
6.45 p.m.—Radio Journal.
7.0 p.m.—Dialogue: Unemployment and Over-Production.
7.15 p.m.—Orchestral Concert.
8.45 p.m.—"Siberia"—Literary Programme.
9.30 p.m.—Radio Journal.
9.35 p.m.—Announcements.
9.40 p.m.—Sports Notes.
9.45 p.m.—Dance Music from the Café Gastronomía.
11.0 p.m. (approx.).—Close Down.

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PROGRAMMES FOR WEDNESDAY (December 16)

NOTE: THE HOURS OF TRANSMISSION ARE REDUCED TO GREENWICH MEAN TIME

ALGIERS (N. Africa)

825.3 kc/s (363.4 m.); 13 kW.
Transmits at intervals from 12.30 p.m.
7.20 p.m.—Through the French Provinces.—Programme of Songs.
7.40 p.m.—Talk: The History of the Dance—the Mazurka.
7.55 p.m.—News and Time.
8.0 p.m.—Gramophone Records.
8.15 p.m.—Military Music.
8.30 p.m.—Review of New Books.
8.45 p.m.—Orchestral Concert.
10.0 p.m.—The Marseillaise and Close Down.

BARCELONA (Spain)

Radio-Barcelona (E.A.R.). 860 kc/s (349 m.); 8 kW.
Transmits at intervals from 7.30 a.m.
1.0 p.m.—Fortnightly Health Report by the Municipal Institute of Hygiene, followed by Gramophone Records of Light Music.
1.30 p.m.—Sextet Concert. Fantasia zingaresca (Scuotto). Selection from "The Damnation of Faust" (Berlioz). Otonon (Bayer). Selection from "The Rhinegold" (Wagner).
2.0 p.m.—Theatre Notes and Amusement Guide, Gramophone Records and Film Review.
2.20 p.m.—Concert (continued). Prelude, "Guzman the Good" (Breton). Selection from "Classical Music" (Chapf). Gitana activa (Millán). Fantasia, No. 4 (Iruretia-hoyena).
2.50 p.m.—Labour Market Report.
3.0 p.m.—Programme for Hospitals and Benevolent Institutions, with Gramophone Records.
4.0—7.0 p.m.—Interval.
7.0 p.m.—Concert of Trio Music. Berceuse (Rimsky-Korsakoff). Selection from "Hérodiade" (Massenet). Träumerei (Schumann). Rondo final from the Trio, Op. 99 (Schubert).
7.30 p.m.—Exchange Quotations and Request Gramophone Records.
8.0 p.m.—Talk in Catalan.
8.15 p.m.—Request Gramophone Records.
8.30 p.m.—Lesson in Catalan and News Bulletin.
9.0 p.m.—Cathedral Chimes, Weather and Market Prices.
9.5 p.m.—Orchestral Concert. March, The Spirit of Liberty (Souza). Selection from "El señor Luis, el tumbón" (Barbieri). Slow Waltz, My Heart's Desire (Worsley). Legend, No. 10 (Dvorák). Gavotte Serenade (Hummel). Humoresque (A. de Taeye). African Dance (A. Pérez Moya).
10.5 p.m.—From Christmas to St. Stephen's Day.—Two-Act Comedy in Catalan (J. Molas-Cass).
11.30 p.m.—Dance Music from the Café Catalan.
12 midnight (approx.).—Close Down.

BERLIN (Germany)

Königs Wusterhausen. 183.5 kc/s (1,635 m.); 75 kW.
Transmits at intervals from 5.30 a.m. (Gymnastics).
3.30 p.m.—See Hamburg.
4.30 p.m.—Advent and Christmas Songs.
5.0 p.m.—Educational Talk.
5.30 p.m.—Talk: The Old Masters and Ourselves.
5.55 p.m.—Weather for Farmers.
6.0 p.m.—Talk for Civil Servants.
6.30 p.m.—Dance Music from Berlin (Witzleben).
8.0 p.m.—News Bulletin.
8.15 p.m.—Talk: Goethe as a Psychologist.
9.0 p.m.—Political Press Review.
9.20 p.m.—News Bulletin.
10.30 p.m.—See Berlin (Witzleben).

BERLIN (Germany)

Witzleben. 715 kc/s (418 m.); 1.7 kW.
Transmits at intervals from 5.30 a.m. (Gymnastics).
6.20 p.m.—Old Berlin Dance Evening by the Otto-Kernbach Orchestra, with Talk and Tenor Solos.
8.0 p.m.—News.
8.10 p.m.—Concert by the Berlin Wireless Orchestra, conducted by Bruno Seidler-Winkler.
9.30 p.m.—The End of Free Trade in Britain.—a Radio Picture.
10.10 p.m. (approx.).—News.
10.30 p.m. (approx.).—Concert of Suites from the Works of Nodbal, Grieg and Rebikov, with Tenor Solos from the Works of Offenbach, Gilbert, Jones, Suppé and Granichstaedten.

BORDEAUX-LAFAYETTE (France)

(P.T.T.). 986 kc/s (304 m.); 35 kW.
12.45 p.m.—Septet Concert. News in the interval.
1.50 p.m.—Exchange Quotations.
2.0 p.m.—Gramophone Records.
3.0 p.m.—Concert relayed from Paris (Ecole Supérieure), 671 kc/s; (447.1 m.).
5.30 p.m.—Talk: The History of Bordeaux and the South-West.
7.30 p.m.—News and Market Prices.
7.40 p.m.—Dramatic Criticism.
7.55 p.m.—Results of the Prize Draw.
8.0 p.m.—Agricultural Report.
8.20 p.m.—News Bulletin.
8.30 p.m.—Russian Concert. After the Programme, Amusement Guide and Time Signal.

BRUSSELS (Belgium) (No. 1)

I.N.R. 590 kc/s (509 m.); 20 kW.
12.15—1.45 p.m.—Gramophone Concert.
5.0 p.m.—Orchestral Concert conducted by M. Meulemans. Overture, "The Thieving Magpie" (Rossini). Dance Melody (Meyer-Helmund). La Feria (Lacôme). The Little Pagoda (Siede). Idéale (Tosti). La Cinquantaine (G. Marie). Song (Reinhardt). Tales from the Vienna Woods (Strauss).
5.45 p.m.—Programme for Children.
6.30 p.m.—Gramophone Records. Overture, "William Tell" (Rossini). Air from "Louise" (Charpentier). Waltzes (Lehár) from (a) "The Merry Widow," (b) "The Count of Luxembourg." Prelude to "Lohengrin" (Wagner). Two Songs from "Werther" (Massenet). Ballet Music from "Sylvia" (Delibes).
7.30 p.m.—Le Journal Parlé.
8.0 p.m.—Orchestral Concert conducted by M. Meulemans. Overture, "A Midsummer Night's Dream" (Mendelssohn). Offenbachiana (Conradi). Gramophone Records (Wagner): (a) The Pilgrim's Chorus from "Tannhäuser," (b) Selection from "Boris Godounow." The Vision of Fuji San (Ketelbey). The Clock and the Dresden Figures (Ketelbey). Waltz, La plus belle (Waldteufel).
8.45 p.m.—Talk.
9.0 p.m.—Concert (continued). Selection from "Madame Butterfly" (Puccini). Gramophone Records: Two Arias from "The Pearl Fishers" (Bizet). Suite, Un bal costumé (Rubinstein). Gramophone Records: (a) Selection from "Les Noces de Jeannette" (Masse), (b) Selection from "Le Grand Mogol" (Audran). Ballet Music from "Faust" (Gounod).
10.0 p.m.—Le Journal Parlé.

BRUSSELS (Belgium) (No. 2)

I.N.R. 887 kc/s (338.2 m.); 20 kW.
Programme in Flemish.
12.15—1.45 p.m.—Gramophone Concert. Selection from "Der Rosenkavalier" (R. Strauss). Scherzo from "A Midsummer Night's Dream" (Mendelssohn). Idéale (Tosti). Santa Lucia Montana (Mario). Overture, "Ruy Blas" (Mendelssohn). Egyptian Ballet from "Aida" (Verdi). Intermezzo from "Cavalleria Rusticana" (Mascagni). Suite No. 2 from "Peer Gynt" (Grieg). Selections from "The Merry Widow" (Lehár). Wedding Procession (Rimsky-Korsakoff).
5.0 p.m.—Orchestral Concert. Waltz, España (Waldteufel). Ballet Egyptian (Luigini). Selections from "Carmen" (Bizet). Künstlerleben (Strauss). Rubensmarsch (Benoit).
5.45 p.m.—Programme for Children.
6.45 p.m.—Gramophone Records. Overture, "Mignon" (Thomas). Fantasia brillante (Erwin). Romance in F (Beethoven). Aria from "La Traviata" (Verdi).
7.15 p.m.—Talk.
7.30 p.m.—Theatre Review.
8.0 p.m.—Choral Concert with Recitations and Dialogues.
8.45 p.m.—Religious Talk.
9.0 p.m.—A Performance by the Catholic Flemish Girls' Association of Malines.
9.55 p.m.—Evening Prayer.
10.0 p.m.—Le Journal Parlé.

BRUSSELS (Belgium) (No. 2)

I.N.R. 887 kc/s (338.2 m.); 20 kW.
Programme in Flemish.
12.15—1.45 p.m.—Gramophone Concert. Selection from "Der Rosenkavalier" (R. Strauss). Scherzo from "A Midsummer Night's Dream" (Mendelssohn). Idéale (Tosti). Santa Lucia Montana (Mario). Overture, "Ruy Blas" (Mendelssohn). Egyptian Ballet from "Aida" (Verdi). Intermezzo from "Cavalleria Rusticana" (Mascagni). Suite No. 2 from "Peer Gynt" (Grieg). Selections from "The Merry Widow" (Lehár). Wedding Procession (Rimsky-Korsakoff).
5.0 p.m.—Orchestral Concert. Waltz, España (Waldteufel). Ballet Egyptian (Luigini). Selections from "Carmen" (Bizet). Künstlerleben (Strauss). Rubensmarsch (Benoit).
5.45 p.m.—Programme for Children.
6.45 p.m.—Gramophone Records. Overture, "Mignon" (Thomas). Fantasia brillante (Erwin). Romance in F (Beethoven). Aria from "La Traviata" (Verdi).
7.15 p.m.—Talk.
7.30 p.m.—Theatre Review.
8.0 p.m.—Choral Concert with Recitations and Dialogues.
8.45 p.m.—Religious Talk.
9.0 p.m.—A Performance by the Catholic Flemish Girls' Association of Malines.
9.55 p.m.—Evening Prayer.
10.0 p.m.—Le Journal Parlé.

BUCHAREST (Romania)

Radio-Bucarest. 761 kc/s (394 m.); 16 kW.
Transmits at intervals from 11.0 a.m.
5.50 p.m.—Talks on Social Problems and Foreign Politics.
6.30 p.m.—Relay from the Romanian Opera House. News in the intervals.

BUDAPEST (Hungary)

545 kc/s (550 m.); 23 kW.
Transmits at intervals from 8.15 a.m.
5.50 p.m.—Italian Lesson.
6.20 p.m.—Gramophone Concert.
7.50 p.m.—Programme by G. Otlilik.
8.20 p.m.—Talk on Beethoven.
8.35 p.m.—Bethoven Concert by the Royal Hungarian Opera House Orchestra, conducted by Ernst Dohnanyi, followed by Tzigane Concert from the Hotel Pannonia.

COLOGNE (Germany)

Westdeutscher Rundfunk. 1,319 kc/s (227 m.); 1.7 kW.
See Langenberg.

COPENHAGEN (Denmark)

1,067 kc/s (281 m.); 0.75 kW.
Relayed by Kalundborg, 260 kc/s (1,153 m.).
Transmits at intervals from 6.30 a.m. (Gymnastics).
2.0 p.m.—Concert by Carl Rydahl's Instrumental Ensemble. Marcia reale Italiana (Gabetti). Overture—"Morning, Noon and Night" (Suppé). Siesta Waltz (Waldteufel). Selection from "La Bohème" (Leoncavallo). Amoretto (Bullérian). Cradle Song (Finl Henriques). Slavonic Dance No. 8 in G Minor (Dvorak). Talk for Women: Christmas in the Country. Overture, "Der Göttergatte" (Lehár). Laengsel (Skovgaard). Waltz, Krolls Balkklänge (Lumbye). Selection from "Les Brigands" (Offenbach). Minuet from the Rocco Suite (Danning). Valse sérieuse (Mogens Hansen). March, Berliner-Luft (Lincke).
4.0 p.m.—Gramophone Records.
4.40 p.m.—Exchange; Market Prices.
4.50 p.m.—Talk (to be announced).
5.20 p.m.—French Lesson.
5.50 p.m.—Weather Report.
6.0 p.m.—News and Report of the Non-Political Radio Club.
6.15 p.m.—Time Signal.
6.30 p.m.—Legal Talk.
7.0 p.m.—Town Hall Chimes.
7.2 p.m.—Christmas Concert relayed from the Cathedral.
8.0 p.m.—Talk: Mechanisation and Mankind's Struggle for a Living.
8.30 p.m.—Recital of Oriental Songs by Agnes von Bonkowska. Turkish Lament (Glazounoff). Turkish Village Song (Nurullah). Serbian Song (Boikov). Macedonian Song (Hadjiieff). Bulgarian Song (Hadjiieff). Bulgarian Song (Hadjiieff). Bulgarian Song (Hadjiieff).
8.50 p.m.—News Bulletin.
9.25 p.m.—Suite Op. 16 for two Cellos (Popper).
9.55 p.m.—Concert of Scandinavian Folk Music. Fantasia on Swedish Folk Melodies and Dances. Five Old Jutland Folk Dances for Chamber Orchestra. Fantasia on Norwegian Folk Melodies (arr. J. Haaland). Four Old Zealand Folk Dances for Strings and Clarinet. Two Selections (Grieg); (a) Springtanz, (b) Norwegian Dance in G Major.
10.5 p.m. (approx.).—Close down.

HAMBURG (Germany)

Norag (ha, in Morse). 806 kc/s (372 m.); 1.7 kW. Relayed by Bremen, 1,112 kc/s (270 m.); Flensburg, 1,373 kc/s (218 m.); Hanover, 530 kc/s (566 m.) and Kiel, 1,292 kc/s (232.2 m.).
Transmits at intervals from 5.30 a.m. (Time and Weather).
3.30 p.m.—Vocal and Orchestral Concert of Romantic and Gipsy Music; conducted by José Eibenschütz. Soloists: Erna Kroll-Lange (Soprano), Bernhard Jakschtat (Bari-tone), Alex. Schneider (Violin) and C. Weber (Bassoon). Adolf Secker at the Pianoforte. Overture, "Preciosa" (Weber). March from the Divertissement à l'honorable (Schubert). Andante and Rondo on gansere for Bassoon and Orchestra (Weber). Baritone Solo: Die drei Zigeuner (Liszt). Hungarian Dances, Nos. 2 and 4 (Brahms). Zigeunerweisen for Violin and Orchestra (Sarasate). Soprano Solos: Zigeunerlieder for Voice and Pianoforte (Brahms): (a) He, Zigeuner, (b) Wisst ihr, wann mein Kindchen, (c) Lieber Gott, du weisst. Hungarian Rhapsody, No. 1 (Liszt).
4.30 p.m.—Talk: And yet... something for Christmas.
4.50 p.m.—Variety Programme.
5.30 p.m.—Talk: Don't fear your Fate!
5.55 p.m.—Talk on North German Settlements.
6.20 p.m.—Frankfurt Exchange and Hamburg Market Prices.
6.25 p.m.—Weather Report.
6.30 p.m.—A. de Nora reads from his work: "Reminiscences of a Doctor-Author." Introductory Talk by E. A. Greenen.
6.55 p.m.—"Friedemann Bach" Opera in Three Acts (Paul Graener). After the First Act, Announcements. In the interval after the Second Act at 8.50 p.m. (approx.).—Weather, Sports Notes and News.
9.30 p.m.—Topical Talk.
9.40 p.m.—Dance Music from the Café "Haus Siegler."
10.20 p.m.—Ice Report.

DUBLIN (Ireland)

(2RN). 725 kc/s (413 m.); 1.5 kW.
Relayed by Cork, 1,337 kc/s (224.4 m.).
1.30—2.0 p.m.—Time, Weather, Stock Exchange Report and Gramophone Concert.
6.0 p.m.—Gramophone Records.
6.15 p.m.—Programme for Children.
7.0 p.m.—Gramophone Records.
7.20 p.m.—News Bulletin.
7.30 p.m.—Time Signal.
7.32 p.m.—Gaedhilig by M. O'Maolain.
7.45 p.m.—German Lesson by Olga von Wenckstern.
8.0 p.m.—Variety Concert by the Station Sextet, Letitia Ennis (Soprano), J. MacGarvey (Banjo) and Tadhig MacFirbisigh (Amhrain Gaedhlig).
9.0 p.m.—A Radio Drama by Elizabeth Young and Company.
9.30 p.m.—Sponsored Programme.
10.30 p.m.—Time, News, Weather and Close Down.

FRANKFURT-am-MAIN (Germany)

770 kc/s (390 m.); 1.7 kW. Relayed by Cassel, 1,220 kc/s (246 m.).
Transmits at intervals from 5.15 a.m. (Weather and Gymnastics).
2.15 p.m.—Programme for Children.
3.0 p.m.—Orchestral Concert.
4.0 p.m.—Economic Notes.
4.5 p.m.—See Stuttgart.
5.30 p.m.—Economic Notes.
5.40 p.m.—See Stuttgart.
6.5 p.m.—Talk: Historical Belles-lettres.
6.30 p.m.—Time, Programme An-

nouncements, Weather Report and Economic Notes.

6.35 p.m.—A Short Guide to Christmas Books.
6.45 p.m.—See Stuttgart.
7.45 p.m.—Debate: The Preservation of Dialects—Low-German.
8.15 p.m.—Berthold Sekles Concert by the Station Orchestra, conducted by Hans Rosbaud. Soloist: Else Gentner-Fischer (Soprano). The Composer at the Pianoforte. Orchestral Entr'acte and Scene from "Scheherazade." Minuet and Intermezzo from the Short Suite, Op. 21; dedicated to E. Th. Hoffmann. Four Songs for Soprano with Pianoforte accompaniment: (a) Two Selections from the "Liederkreis": Schön' Maria and Latvian Song; (b) Two Songs from the "Schi-King": Mädchenlied and Krieglied der Fürstin. German Children's Songs—Miniature Suite for Small Orchestra. The Choleric, from the Four Symphonic Movements, Op. 25—Temperaments.
9.15 p.m.—Time and News.
9.30 p.m.—See Berlin (Witzleben).
10.10 p.m. (approx.).—Close down.

HAMBURG (Germany)

Norag (ha, in Morse). 806 kc/s (372 m.); 1.7 kW. Relayed by Bremen, 1,112 kc/s (270 m.); Flensburg, 1,373 kc/s (218 m.); Hanover, 530 kc/s (566 m.) and Kiel, 1,292 kc/s (232.2 m.).
Transmits at intervals from 5.30 a.m. (Time and Weather).
3.30 p.m.—Vocal and Orchestral Concert of Romantic and Gipsy Music; conducted by José Eibenschütz. Soloists: Erna Kroll-Lange (Soprano), Bernhard Jakschtat (Bari-tone), Alex. Schneider (Violin) and C. Weber (Bassoon). Adolf Secker at the Pianoforte. Overture, "Preciosa" (Weber). March from the Divertissement à l'honorable (Schubert). Andante and Rondo on gansere for Bassoon and Orchestra (Weber). Baritone Solo: Die drei Zigeuner (Liszt). Hungarian Dances, Nos. 2 and 4 (Brahms). Zigeunerweisen for Violin and Orchestra (Sarasate). Soprano Solos: Zigeunerlieder for Voice and Pianoforte (Brahms): (a) He, Zigeuner, (b) Wisst ihr, wann mein Kindchen, (c) Lieber Gott, du weisst. Hungarian Rhapsody, No. 1 (Liszt).
4.30 p.m.—Talk: And yet... something for Christmas.
4.50 p.m.—Variety Programme.
5.30 p.m.—Talk: Don't fear your Fate!
5.55 p.m.—Talk on North German Settlements.
6.20 p.m.—Frankfurt Exchange and Hamburg Market Prices.
6.25 p.m.—Weather Report.
6.30 p.m.—A. de Nora reads from his work: "Reminiscences of a Doctor-Author." Introductory Talk by E. A. Greenen.
6.55 p.m.—"Friedemann Bach" Opera in Three Acts (Paul Graener). After the First Act, Announcements. In the interval after the Second Act at 8.50 p.m. (approx.).—Weather, Sports Notes and News.
9.30 p.m.—Topical Talk.
9.40 p.m.—Dance Music from the Café "Haus Siegler."
10.20 p.m.—Ice Report.

HEILSBURG (Germany)

1,085 kc/s (276.5 m.); 75 kW. Relayed by Danzig, 662 kc/s (453.2 m.).
Transmits at intervals from 5.30 a.m. (Gymnastics).
10.40 a.m. (from Danzig)—Concert from the Casino Hotel, Zoppot.
11.30 a.m.—Concert by the Königsberg Opera House Orchestra conducted by Karl Hrubetz. March, Germanentreu (Blankenburg). The Kiss Waltz (Joh. Strauss). Selection from "Le Tribut de Zamora" (Gounod). Overture, "The Daughter of the Regiment" (Donizetti). Waltz, Der Himmel voller Geigen (Zieher). Potpourri, Kéler-Béla Pearls (Rhode). Idyllic Tone Picture, Ein Tag im Wienerwald (Kreuzberger). Entr'acte from "The Arabian Nights" (Strauss). Waltz, Wäschermäd'In (Reimann). Selection from "Der Betsstudent" (Müllöcker). March, Immer flott und schneidig (Lincke).
2.45 p.m.—Talk for Parents.
3.10 p.m.—Programme for Young People: "How a Little Devil came to Heaven"—a Radio Play for Children (Helene Spitzner).
3.40 p.m.—Orchestral Concert, con-

ducted by Eugen Wilcken. Overture, "Rübzahl" (Weber). Eine kleine Nachtmusik (Mozart). Waltz, Die Schönbrenner (Lanner). Fantasia, Dem Andenken Beethovens (Urbach). Overture, "Alessandro Stradella" (Flotow).
4.45 p.m.—Book Review.
5.15 p.m.—Ice Report and Market Prices.
5.30 p.m.—Talk on Health.
6.0 p.m.—Dialogue for Business Men.
6.30 p.m.—Cello Quartet Concert. Weihegesang op. 65 (Grützmacher). Serenade in Six Movements op. 2 (Pape). Nocturne and Religioso op. 53 (Goltermann).
7.0 p.m.—Orchestral Concert, conducted by Eugen Wilcken. Overture, "Jessonda" (Spohr). Träume (Wagner). Liebesfeier (Weingartner). Aquarellen-Walzer (Jos. Strauss). Violin Solos: (a) Faust Fantasia (Sarasate), (b) Canzonetta (d'Ambrosio). Selection from "The Tales of Hoffman" (Offenbach).
8.0 p.m.—Announcements.
8.10 p.m.—"Lampoon wandert"—Scenes from the Novel "Alutgen Himmel" (Manfred Hausmann). Arranged for Radio by Richard Steintol. After the Play, Weather, News and Sports Notes.
9.30 p.m.—Dance Music by the Orag Orchestra.
11.30 p.m. (approx.).—Close down.

HILVERSUM (Holland)

1,004 kc/s (298.8 m.); 8.5 kW.
6.25—9.40 a.m.—Programme of the Worker's Radio Society (V.A.R.A.).
6.25—6.40 a.m. and 7.10—7.25 a.m.—Gymnastics.
7.40 a.m.—Gramophone Records.
9.40 a.m.—Religious Programme by the Liberal Protestant Radio Society (V.P.R.O.).
9.55 a.m.—till Close Down.—V.A.R.A. Programme.
9.55 a.m.—Vocal and Instrumental Concert, with Gramophone Records and Recitations.
11.40 a.m.—Septet Concert and Gramophone Records.
1.25—1.55 p.m.—Interval.
1.55 p.m.—Talk by Mr. Kers.
2.40 p.m.—Pianoforte Recital.
3.10 p.m.—Programme for Children.
4.25 p.m.—Question Time.
5.25 p.m.—Septet Concert.
6.25 p.m.—Talk on Capitalism.
6.45 p.m.—Frisian Programme—Songs, Pianoforte Solos and Recitations.
7.40 p.m.—Concert by the Dutch Society for Contemporary Music.
9.10 p.m.—"You take"—a Radio Play (Schiller and Krassa).
10.10 p.m.—Orchestral Concert, conducted by Hugo de Groot. Overture, "Nakiris Hochzeit" (Lincke). Valse des blondes (Ganne). Suite orientale (Popy).
10.40 p.m.—News Bulletin.
10.50 p.m.—Concert (cont.).—Hungarian Comedy Overture (Kéler-Béla). Waltz, Amoureuse (Berger). Serenata (Chapi). Rêve d'amour (Becca). L'étudiant passe (Ibáñez). Potpourri, Auf Wiederhören (Weninger).
11.40 p.m. (approx.).—Close Down.

HUIZEN (Holland)

160 kc/s (1,875 m.); 8.5 kW.
Programme of the Christian Radio Society (N.C.R.V.).
7.40 a.m.—Time and Reading.
7.55—9.25 a.m.—Concert.
9.40 a.m.—Selections by a Ladies' Choir.
10.10 a.m.—Service for Hospitals.
10.40 a.m.—Hornium Recital. Psalm 81. Hymn 68. Soprano Solo: Morgenlied (Reichardt). The Lamb of God (Mozart). Vater im Himmelshöhen (Stradella). Two Soprano Solos (Mendelssohn and Tietze). Aria from "Elijah" (Mendelssohn). Heimweh (Armin Stein). Two Soprano Solos. Adagio (Armin Stein). March (Berridge). O Holy Lamb of God (Rappard).
11.40 a.m.—Police Notes.
11.55 a.m.—Gramophone Records.
12.10 p.m.—Vocal and Instrumental Concert. Trio No. 8 for Violin; Cello and Pianoforte (Haydn). Second Movement from the Trio, Op. 63 (Weber). Four Hymns (de Heer). Selections from "Der Freischütz" (Weber). Selections from "Masaniello" (Auber). Four Songs with Pianoforte accompaniment. Cradle Song (MacDowell). Melody (Dawes). First Movement from the Trio in G Major (Hummel).

RADIO TIMES

(Conti

THE DAV

- 5 The Children's
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(S. G. Hulme)
Another Toytown
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WEATHER FORECAST,
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literary criticisms and bo
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dramatic and literary critic
of that enterprising monthl
Letters, now in its fourth
He will introduce
'Literature
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PROGRAMME

9.55 Shipping Forecast; New York Stock Mark
Report
Time Signal, Greenwich, at 10.0

10.0 'MOSAIC'—I

IT seems possible—to judge from the vio
criticism of past broadcasts of poe
readings—that wireless is not a suitable med
for poetry, or at least that some other fori
presentation might be more successful. A
from any question of the destruction of
intimate quality of poetry or of the difficul
finding suitable readers, it is doubtful wh
fifteen or twenty minutes of continuous poe
likely to appeal to any but confirmed
of poetry. It has, therefore, been decided
a new variation in the form in
poetry is broadcast. 'Mosaic
title of which is suggested by M
definition of music as 'mosaic
air'—is an experiment in which
and poetry are to be combi
Express and interpret various
Lyric poems or short excerpts
by unity of subject or feeling,
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For a merry Christmas, give
and get a **DRYDEK** !

DANCE MU
X and his BAND,
MONSEIGNEUR
at Greenwich, at 11

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- ORCHEST.
Song of t.
HAROLD W and Orchestra
Song of the Sea.....Mussorgsky
- SOLOMON and Orchestra
Concerto, No. 2, in C Minor, for Pianoforte and
.....Rachmaninou
(alla marcia);

MOSSOLOV, though he
y-one, has already made a name
sia, for even in that land of shattering
istic revolutions, he has found a method
revolting which is all his own. This work, con
posed in 1928, is in the form of an overture
and its programme is simply the steady rhytl
of a factory working at full pressure; thou
behind the mere picture there is conveyed
sense of awe and exaltation which cannot
to possess the man of imagination confro
with the powerful weapons of attack and def
man has set up under the very nose of an
omistic nature.

Symphony, No. 4, in F Minor (Op. 36)
Tchaik
Moderato con a
Coberto. Piz

The supreme
dry battery
by Exide

MADE ENTIRELY IN
ENGLAND, EMPLOYING
BRITISH LABOUR AND
BRITISH CAPITAL

Obtainable everywhere from all good dealers in sizes and types to suit every wireless set. Also for torches, pocket lamps, cycle lamps and bells.
Exide Batteries, Exide Works, Clifton Junction, near Manchester. Branches at London, Manchester, Birmingham, Bristol, Glasgow, Dublin and Belfast.

Programmes for Wednesday—(Cont.)

1.40 p.m.—Gramophone Records.
2.10 p.m.—Reading.
2.40 p.m.—Concert by the Hague Trio (Violin, Cello and Piano).

JUAN-LES-PINS (Nice) (France)
1.205 kc/s (249 m.); 1 kW.
2.30 p.m.—News, Amusement Guide, Variety Programme and Pathé Programme.

KALUNDBORG (Denmark)
Kalundborg Radio. 260 kc/s (1,153 m.); 7.5 kW. See Copenhagen.

LANGENBERG (Germany)
Westdeutscher Rundfunk. 635 kc/s (473 m.); 17 kW. Relayed by Aachen, Cologne and Münster.

PARIS (France)
Eiffel Tower (FLE). 207.5 kc/s (1,445.7 m.); 15 kW. Time Signals (on 2,650 m.) at 9.36 a.m. and 10.26 p.m. (preliminary and 6-dot signals).

LEIPZIG (Germany)
1,157 kc/s (259 m.); 2.3 kW. Relayed by Dresden, 941 kc/s (319 m.).

LJUBLJANA (Yugoslavia)
522 kc/s (574.7 m.); 2.8 kW. Transmits at intervals from 11.15 a.m.

MADRID (Spain)
Unionj Radio (EAJ7). 707 kc/s (424.3 m.); 2 kW. Transmits at intervals from 8.0 a.m.

8.10 p.m.—News and Political Review.
8.30—10.0 p.m.—Interval.
10.0 p.m.—Chimes, Time, Political Review and Comedy (Carlos Primmelles).

MILAN (Italy)
Ente Italiano Audizioni Radiofoniche. 598 kc/s (501.7 m.); 8.5 kW. Relayed by Turin, 1,094 kc/s (274.2 m.); and Geneva, 950 kc/s (312.8 m.).

MUNICH (Germany)
563 kc/s (533 m.); 1.7 kW. Relayed by Augsburg, and Kaiserslautern, 536 kc/s (560 m.); and Nürnberg, 1,256 kc/s (239 m.).

OSLO (Norway)
Kringkastingskapet. 277 kc/s (1,083 m.); 75 kW. Relayed by Fredrikstad, 816 kc/s (367.6 m.); Hamar, 536 kc/s (560 m.); Notodden, 671 kc/s (447.1 m.); Porsgrund, 662 kc/s (453.2 m.) and Rykand, 671 kc/s (447.1 m.).

PARIS (France)
Eiffel Tower (FLE). 207.5 kc/s (1,445.7 m.); 15 kW. Time Signals (on 2,650 m.) at 9.36 a.m. and 10.26 p.m. (preliminary and 6-dot signals).

PARIS (France)
Poste Parisien. 914 kc/s (323.2 m.); 1.2 kW.
8.25 p.m.—Gramophone Records and News Bulletin.
9.0 p.m.—Concert with the collaboration of Artists from the Opera and Opéra-Comique.

PARIS (France)
Radio-Paris (CFR). 174 kc/s (1,725 m.); 80 kW. Transmits at intervals from 6.45 a.m. (Physical Culture).

Field Marshal, (b) Serenade. Choral Selections: (a) Credo (Gretchaninoff), (b) Lord, Hear my Prayer (Archangelosky). Selection (Ibert). In the intervals at 1.30 p.m. and 2.0 p.m.—Exchange Quotations.

7.0 p.m.—Talk: The "Comédie Française"—the Committee.
7.30 p.m.—Medical Talk.
7.45 p.m.—Commercial Prices, Economic and Social Notes and News.

PRAGUE (Czechoslovakia)
614 kc/s (488.6 m.); 120 kW. Transmits at intervals from 10.0 a.m.
4.10 p.m.—"The Deaf King"—Marionette Play, in Three Acts.
5.5 p.m.—Agricultural Report.

ROME (Italy)
Ente Italiano Audizioni Radiofoniche (IRO). 680 kc/s (441 m.); 75 kW. Relayed by Naples, 955 kc/s (332 m.); and 2RO, 3,750 kc/s (80 m.).

SCHENECTADY (U.S.A.)
General Electric Company (WGY). 790 kc/s (379.5 m.); 50 kW. Relayed at intervals by W2XAF on 9,530 kc/s (31.48 m.) and by W2XAD on 15,340 kc/s (19.56 m.).

4.30 a.m.—Annette McCullough (Crooner).
4.45 a.m.—Vincent Lopez and his Orchestra from New York.
5.0 a.m.—Jack Miles and his DeWitt Clinton Orchestra.
5.30 a.m.—Doc Peyton and his Kenmore Orchestra.
6.0 a.m. (approx.)—Close Down.

SCHWEIZERISCHER LANDESSENDER (BEROMÜNSTER) (Switzerland)
653 kc/s (450 m.); 75 kW.; Basle, 1,229 kc/s (244.1 m.); and Berne, 1,220 kc/s (246 m.).
11.28 a.m.—Time, Weather and News Bulletin.

STOCKHOLM (Sweden)
Radiotjänst (SASA). 689 kc/s (436 m.); 75 kW. Relayed by Boden, 244 kc/s (1,229.5 m.); Göteborg, 932 kc/s (322 m.); Hörby, 1,166 kc/s (257 m.); Motala, 222.5 kc/s (1,348 m.); Östersund, 389 kc/s (770 m.) and Sundsvall, 554 kc/s (542 m.).

STRASBOURG (France)
Radio-Strasbourg (PTT). 869 kc/s (345 m.); 15 kW. Transmits at intervals from 11.30 a.m.

STUTT GART (MÜHLACKER) (Germany)
Süddeutscher Rundfunk. 833 kc/s (360 m.); 75 kW. Relayed by Freiburg, 527 kc/s (570 m.). Transmits at intervals from 5.15 a.m. (Frankfurt Relay).

4.5 p.m.—Vocal and Orchestral Concert.
5.30 p.m.—Time Signal.
5.40 p.m.—Talk: The Cult of the Dead in Early Times and Now.

TOULOUSE (France)
Radiophonie du Midi. 779 kc/s (385 m.); 8 kW. Transmits at intervals from 12.45 p.m.

TRIESTE (Italy)
Ente Italiano Audizioni Radiofoniche. 1,211 kc/s (247.7 m.); 15 kW. Transmits at intervals from 11.30 a.m.

VIENNA (Austria)
Radio-Wien. 581 kc/s (517 m.); 20 kW. Relayed by Graz, 851 kc/s (352 m.); Innsbruck, 1,058 kc/s (283 m.); Klagenfurt, 662 kc/s (453.2 m.); Linz, 1,220 kc/s (246 m.); and Salzburg, 1,373 kc/s (218 m.).

WARSAW (Poland)
Polskie Radio. 212.5 kc/s (1,411 m.); 158 kW. Transmits at intervals from 10.40 a.m.

PROGRAMMES FOR THURSDAY (December 17)

NOTE: THE HOURS OF TRANSMISSION ARE REDUCED TO GREENWICH MEAN TIME

ALGIERS (N. Africa)
825.3 kc/s (363.4 m.); 13 kW.
Transmits at intervals from 12.30 p.m.
7.30 p.m.—Gramophone Records.
7.45 p.m.—Solo Selections.
7.55 p.m.—News and Time.
8.0 p.m.—Two Comedies (Duvernois) on Gramophone Records; (a) "The Accident" (b) "In the Lift."
8.15 p.m.—Guitar and Mandoline Concert.
9.0 p.m.—Talk: The Life and Works of Alphonse Daudet on the Anniversary of his Death.
9.30 p.m.—Gramophone Records.

BARCELONA (Spain)
Radio-Barcelona. (E.A.J.) 860 kc/s (349 m.); 8 kW.
Transmits at intervals from 7.30 a.m.
1.30 p.m.—Sextet Concert. Granada (Albeniz). Selection from "La Generala" (Vives). Andalusian Serenade, Entre naranjos (Martin Vidal). Selection from "La Callesera" (Alonso).
2.0 p.m.—Theatre Review and Amusement Guide, Cinema Notes and Gramophone Records.
2.15 p.m.—Sextet Concert.
2.20 p.m.—Sextet Concert (continued). Momento musical (Nucci). Selection from "The Blue Mazurka" (Lehár). Novelette No. 2 (A. d'Ambrosio). Prelude in C Minor (Rachmaninoff).
2.50 p.m.—Labour Market Report.
3.0 p.m.—Programme for Hospitals and Benevolent Institutions, with Gramophone Records.
4.0—7.0 p.m.—Interval.
7.0 p.m.—Trio Concert. Pensando en Schumann (Fusté). Serenata (Fusté). Selection from "Le roi l'a dit" (Delibes). Czardas (Hubay).
7.30 p.m.—Exchange Quotations and Programme for Children.
8.0 p.m.—Request Gramophone Records.
8.30 p.m.—Advanced English Lesson.
9.0 p.m.—Cathedral Chimes, Weather and Market Prices.

9.15 p.m. (approx.)—Part Relay of an Opera from the Gran Teatro del Liceo.
12 midnight (approx.)—Close Down.

BERLIN (Germany)
Königs Wusterhausen. 183.5 kc/s (1,635 m.); 75 kW.
Transmits at intervals from 5.30 a.m. (Gymnastics).
3.30 p.m.—Concert from Berlin (Witzleben).
4.30 p.m.—Talk: Ten Years as a German in Sumatra.
5.0 p.m.—Book Review.
5.30 p.m.—Spanish Lesson.
5.55 p.m.—Weather Report.
6.0 p.m.—Agricultural Talk.
6.30 p.m.—Talk on Workers' Law.
7.0 p.m.—Topical Programme.
7.30 p.m.—See Brussels.
9.0 p.m.—News Bulletin, followed by Concert from Langenberg.
11.0 p.m. (approx.)—Close Down.

BERLIN (Germany)
Witzleben. 715 kc/s (418 m.); 1.7 kW.
Transmits at intervals from 5.30 a.m. (Gymnastics).
7.15 p.m.—Chamber Music Concert by the Berlin Philharmonic Orchestra. Septet in E Flat Major, Op. 20 (Beethoven).
8.0 p.m.—News Bulletin.
8.10 p.m.—"Katie." Play (H. Burke) relayed from Breslau, 923 kc/s, (325 m.).
9.30 p.m. (approx.)—News, followed by Dance Music from the Femina.

BORDEAUX-LAFAYETTE (France)
(P.T.T.) 986 kc/s (304 m.); 35 kW.
12.45 p.m.—Septet Concert. News in the interval.
1.50 p.m.—Exchange Quotations.
2.0 p.m.—Gramophone Records.
4.30 p.m.—Programme for Children.
7.30 p.m.—News and Exchange.
7.40 p.m.—Talk: The Development of Modern Industry.
7.55 p.m.—Results of the Prize Draw.
8.0 p.m.—Talk on Wine.
8.15 p.m.—News Bulletin.
8.20 p.m.—Comedy Programme. After the Programme, Amusement Guide and Time Signal.

BRATISLAVA (Czechoslovakia)
1,076 kc/s (279 m.); 14 kW.
Transmits at intervals from 10.0 a.m.
6.0 p.m.—See Prague.
9.15 p.m.—Announcements.
9.20 p.m.—Tzigané Music from the Café Baross.
10.0 p.m. (approx.)—Close Down.

BRNO (Czechoslovakia)
878 kc/s (342 m.); 3 kW.
Transmits at intervals from 10.0 a.m.
6.0 p.m.—See Prague.
9.15 p.m.—Announcements.
9.20 p.m.—See Prague.
10.0 p.m. (approx.)—Close Down.

BRUSSELS (Belgium) (No. 1)
I.N.R. 590 kc/s (509 m.); 20 kW.
12.15—1.45 p.m.—Gramophone Concert.
5.0 p.m.—Sonata for Violin and Piano (A. Marsick), by MM. Wagemans and Scharres.
5.30 p.m.—Gramophone Records.
6.15 p.m.—Talk: Belgian Universities.
6.30 p.m.—Gramophone Records.
7.0 p.m.—Wireless Review.
7.30 p.m.—European Concert relayed from the Palais des Beaux-Arts. The Orchestra conducted by M. Désiré Defauw. Soloists: Mlle Berthe Briffaux (Vocalist). Overture, "Charlotte Corday" (Benoit). Songs: (a) Nocturne (Lekeu), (b) Meilied (Huberty). Ballet Music (Grétry). Stabat Mater (Waelput). Serenade (Blockx). Symphony in D Minor (C. Franck).
9.0 p.m.—Gramophone Records: Petite Suite (Jongen).
9.10 p.m.—Reading: A Rustic Dialogue (Emile Verhaeren).
9.17 p.m.—Gramophone Records: Selection from "La Rosière de Salency" (Grétry). Charade (Quinet). Jazz Music (Poot). Patria Belgica (Labory). In the intervals at 9.25 p.m.—Reading: A Rustic Dialogue (Emile Verhaeren), and at 9.40 p.m.—"L'Obole d'un soir ancien"—Poem (Jean Sarmant) arranged for Wireless Performance, with the collaboration of Mmes Jeanne Bourtembourg and Germaine la Vallée,

MM. Lucien Charbonnier and Théo Fleischmann.
10.0 p.m.—Le Journal Parlé.

BRUSSELS (Belgium) (No. 2)
N.I.R. 887 kc/s (338.2 m.); 20 kW.
Programme in Flemish.
12.15—1.45 p.m.—Gramophone Concert. Selection from "Carmen" (Bizet). Waltzes (Waldeufell-Lacôme): (a) Estudiantina, (b) Dolores. Kol Nidrei (Bruch). Overture, "Die Fledermaus" (Joh. Strauss). Les Lanciers blancs (E. Marie). Waltz Suite, España (Waldeufell). Concert Paraphrase on "Rigoletto" (Verdi). Selection from "Il Trovatore" (Verdi-Tavan). Selections (Waldeufell): (a) Waltz, The Skaters, (b) Tango Charmant et pervers. Selections (Lincke): (a) Hochzeitswalzer, (b) Nachtlied. Hungarian Rhapsody No. 1 (Liszt).
5.0 p.m.—Orchestral Concert relayed from the Hotel Atlanta.
6.0 p.m.—Gramophone Records: Wotan's Farewell and Fire Magic from "Die Walküre" (Wagner).
6.15 p.m.—Talk.
6.30 p.m.—Gramophone Records. Humoresque (de Taeye). Habanera (Goeyens). Humoresque (Jongen). Légende (de Maleingreau).
6.45 p.m.—Reading.
7.0 p.m.—Talk for Women.
7.30 p.m.—See Brussels No. 1.
9.0 p.m.—Reading from "La voix humaine" (J. Cocteau).
9.25 p.m.—Gramophone Dance Records.
10.0 p.m.—Le Journal Parlé.

BUCHAREST (Romania)
Radio-Bucarest. 761 kc/s (394 m.); 16 kW.
Transmits at intervals from 11.0 a.m.
7.0 p.m.—Song Recital.
7.20 p.m.—Orchestral Concert.
8.0 p.m.—Talk.
8.15 p.m.—Orchestral Concert.
8.45 p.m.—News Bulletin.

BUDAPEST (Hungary)
545 kc/s (550 m.); 23 kW.
Transmits at intervals from 8.15 a.m.
6.30 p.m.—Hungarian Folk Songs.
7.30 p.m.—Programme from Brussels No. 1, followed by Orchestral Concert.

COLOGNE (Germany)
Westdeutscher Rundfunk 1,319 kc/s (227 m.); 1.7 kW.
Sec. Langenberg.

COPENHAGEN (Denmark)
1,067 kc/s (281 m.); 0.75 kW.
Relayed by Kalundborg, 260 kc/s (1,153 m.).
Transmits at intervals from 6.30 a.m. (Gymnastics).
11.0 a.m.—Town Hall Chimes.
11.2 a.m.—String Ensemble Concert from the Palace Hotel.
2.10 p.m.—Recital of Songs.
2.30 p.m.—Orchestral Concert, conducted by Oscar Stalla, relayed from the Wivex Restaurant.
4.0 p.m.—Programme for Boys.
4.40 p.m.—Exchange; Market Prices.
4.50 p.m.—Talk in German: East Prussia, the Land of Amber and a Thousand Lakes.
5.20 p.m.—Elementary English Lesson.
5.50 p.m.—Weather and News.
6.15 p.m.—Time Signal.
6.16 p.m. (from the Esbjerg Studio).—Talk on Danish Church and Parish Life.
6.45 p.m.—Danish Lesson.
7.10 p.m.—Twelfth Concert from the Theatre of the State Broadcasting Building. "Orpheus and Eurydice"—Opera in Three Acts (Gluck), by the Symphony Orchestra, conducted by Launy Gröndahl. Soloists: Anna Tibell, Else Trepiele and Anna Hagen. A Mixed Choir.
9.15 p.m.—News Bulletin.
9.30 p.m.—Dance Music relayed from the Lodberg Restaurant.
11.0 p.m. (in the interval).—Town Hall Chimes.
11.30 p.m. (approx.)—Close Down.

DUBLIN (Ireland)
(2RN). 725 kc/s (413 m.); 1.5 kW.
Relayed by Cork, 1,337 kc/s (224.4 m.).
1.30—2.0 p.m.—Time, Weather, Stock Report and Gramophone Concert.
6.0 p.m.—Gramophone Records.
6.15 p.m.—Programme for Children.
7.0 p.m.—Gramophone Records.
7.10 p.m.—News Bulletin.
7.30 p.m.—Time Signal.
7.32 p.m.—French Lesson by Mlle M. T. Giudicelli.

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Programmes for Thursday—(Cont.)

7.45 p.m.—Literary and Dramatic Talk, by Aodh de Blacain.
8.0 p.m.—The Royal Irish Academy Students' Musical Union "At Home," relayed from the Gresham Hotel, Dublin.
9.0 p.m.—Tenor Solos by Peter Lynch.
9.10 p.m.—The Station Sextet.
9.20 p.m.—Bass Solos by P. Dockrey.
9.30 p.m.—Sponsored Programme.
10.30 p.m.—Time, News, Weather and Close Down.

FRANKFURT-am-MAIN (Germany)
770 kc/s (390 m.); 1.7 kW. Relay by Cassel, 1,220 kc/s (246 m.).
Transmits at intervals from 5.15 a.m. (Weather and Gymnastics).
3.30 p.m.—Orchestral Concert.
4.0 p.m.—Economic Notes.
4.5 p.m.—See Stuttgart.
5.30 p.m.—Economic Notes.
5.40 p.m.—Topical Talk.
6.5 p.m.—Talk by Dr. Werner Thormann.
6.30 p.m.—Time, Programme Announcements, Weather Report and Economic Notes.
6.35 p.m.—Talk by Hans Rosbaud: The Fundamental Principles of Music.
7.0 p.m.—Orchestral Concert, conducted by Reinhold Merten. Funeral March of a Marionette (Gounod). Ballet Suite from "Lazy John" (Nedbal). Waltz-Fantasia (Glinka). Ballet Suite from "Polyeucte" (Gounod). Overture, "Die Musikanten" (Flotow).
8.0 p.m.—"Romantic Improvisations"—A Radio Sequence from the German Romantic Period (Willy Haas and Hanna Haas). Prologue: "Puss in Boots" (Friedrich Tieck). "A Disturbing but Remarkable Interruption" Interludes.
9.30 p.m.—Time, Weather, News and Sports Notes.
9.50 p.m.—Russian Music by Ida Harth zur Nieden (Soprano). Six Songs (Balakireff): (a) Introductory Song, (b) A Dream, (c) Vision, (d) Without a Title, (e) Song, (f) Sleep.
10.40 p.m. (approx.)—Close Down.

HAMBURG (Germany)
Norag (ha, in Morse), 806 kc/s (372 m.); 1.7 kW. Relay by Bremen, 1,112 kc/s (270 m.); Flensburg, 1,373 kc/s (218 m.); Hanover, 530 kc/s (566 m.); and Kiel, 1,292 kc/s (232 m.).
Transmits at intervals from 5.30 a.m. (Time and Weather).
4.50 p.m.—Variety Programme.
5.30 p.m.—Debate between Vocational Advisers and Teachers: The State of the Labour Market and the Choice of a Profession.
5.55 p.m.—Health Talk: The Teeth.
6.20 p.m.—Frankfurt Exchange.
6.25 p.m.—Weather Report.
6.30 p.m.—"The Exile to Castle Celle"—a Cultural Historical Play about Queen Caroline Matilda of Denmark (Albert Petersen).
7.30 p.m.—European Concert, relayed from Brussels.
9.0 p.m.—Weather Report, Political and Miscellaneous Announcements, Sports Notes and News.
9.20 p.m.—Topical Talk.
9.30 p.m.—Concert relayed from the Alsterpavillon.
10.20 p.m.—Ice Report.

HEILSBURG (Germany)
1,085 kc/s (276.5 m.); 75 kW. Relay by Danzig, 662 kc/s (453.2 m.).
Transmits at intervals from 5.30 a.m. (Gymnastics).
11.0 a.m.—Gramophone Concert.
11.30 a.m.—Wind Instrument Concert by Out-of-Work Musicians, conducted by Felix Prawniczak. Entry of the Tribunes (Allabout). Overture, "Light Cavalry" (Suppe). Chinese Street Serenade (Siede). Potpourri, Rendez-vous bei Lehar (Hrubý). March, the 179th (Kapitain). March, The Scorchor (Rosey). Waltz, Golden Rain (Waldteuffel). Potpourri, Johann Strauss spielt auf (Morena). March, In Treue fest (Teike).
2.45 p.m.—Programme for Children.
3.15 p.m.—Review of Books on Skiing.
3.45 p.m.—Tea Music from the Alhambra Café.
4.45 p.m.—Talk: The Berlin Film Exchange.
5.15 p.m.—Ice Report and Agricultural Market Prices.
5.25 p.m.—Agricultural Dialogue: Pig-keeping.
5.50 p.m.—English Conversation.
6.15 p.m.—(from Danzig)—"Die blaue Marie"—Play (Max Jungnickel). Music by Gotthold Frotscher.
7.5 p.m.—Weather Report.
7.10 p.m.—See Copenhagen.
9.15 p.m.—Weather, News and Sports Notes.

HILVERSUM (Holland)
1,004 kc/s (298.8 m.); 8.5 kW. Programme of the Algemeene Vereeniging Radio Omroep (A.V.R.O.).
7.40 a.m.—Gramophone Records.
9.40 a.m.—The Daily Service.
9.55 a.m.—Gramophone Records.
10.10 a.m.—Talk (to be announced).
10.40 a.m.—Organ Recital by George Stam with Victorina v.d. Werff (Vocalist). Prelude and Fugue in G Major (Bach). Songs: (a) Ave Maria (Cherubini), (b) The Crusade (Schubert), (c) Great God (Linding). Choral No. 2 for Organ (Frank). Songs: (a) Höre Gotte mein Flehen, (b) Gott ist mein Hirte, (c) Herr I nun sing ich Dir ein neues Lied (Dvorak). Passacaglia and Fugue for Organ (Stam). Songs: (a) Heer, mijn hert is boos en schuldig (van Rennes), (b) Stille (Appeldoorn), (c) Cradle Song (Andriessen).
11.40 a.m.—Concert by the Lunch Trio. Gramophone Records in the interval.

1.40 p.m.—Talk (to be announced).
2.10—2.40 p.m.—Interval.
2.40 p.m.—Dressmaking Lesson.
3.25 p.m.—Gramophone Records.
3.40 p.m.—Programme for Hospitals.
4.40 p.m.—Orchestral Concert conducted by Nico Treep. Overture, "Die schöne Galathee" (Suppe). Selection from "Tiefland" (d'Albert). Music from "Etienne Marcel" (Saint-Saëns). Songs: (a) Ein kleiner Strauss Vergissmeinlich (Berlin), (b) You are my Happiness (Youmans), (c) Geh' nicht wieder fort (Dostal), (d) Song (Thomas Waller). March from "Der dumme August" (Gfaller). Waltz from "Der dumme August" (Gfaller). The Wedding of the Marionettes (Rathke). Selection (Naef). Four Songs: (a) I dream of you (Kollo), (b) Niemand kann so zärtlich sein wie Du (Dessau), (c) Ich hab' drei kleine Wünsche (Stolz), (d) Waltz Song from "Countess Maritza" (Kálmán). Von Ohr zu Ohr (Morena). Waltz, Les Adieux (Fetras). A Wedding Day on Troldhaugen (Grieg). Homage March (Grieg).
6.40 p.m.—Weekly Book Talk.
7.10 p.m.—English Language Lesson.
7.40 p.m.—Gramophone Records.
7.55 p.m.—Concert relayed from the Concert Hall, Amsterdam. Doppler Programme by the Concert Hall Orchestra, conducted by Dr. Willem Mengelberg. Soloist: F. Denayer (Viola). Old Dutch Suite. Nocturne for Viola and Orchestra. Ciaccona Gotica.
8.55 p.m.—Concert by a Male Voice Choir.
9.15 p.m.—Concert of Light Music by Kovacs Lajos and his Orchestra. Songs by Bob Scholte.
9.40 p.m.—Weather and News.
9.55 p.m.—Concert (continued).
10.10 p.m.—Accordion Recital.
10.25 p.m.—Concert (continued).
10.40 p.m.—Gramophone Records.
11.40 p.m. (approx.)—Close Down.

HUIZEN (Holland)
160 kc/s (1,875 m.); 8.5 kW.
Transmits at intervals from 7.40 a.m.
9.40—10.40 a.m.—Programme of the Christian Radio Society (N.C.R.V.).
9.40 a.m.—Gramophone Records.
9.55 a.m.—Service for Hospitals.
10.25 a.m.—Gramophone Records.
10.40 a.m.—1.40 p.m.—Programme of the Catholic Radio Society (K.R.O.).
1.40 p.m. till Close down.—Programme of the N.C.R.V.
1.40 p.m.—Lesson in Handicrafts.
2.40 p.m.—Gramophone Records.
2.55 p.m.—Talk for Women.
3.25 p.m.—Talk (to be announced).
3.40 p.m.—Programme for Seamen: Talk and Musical Selections.
4.40 p.m.—Handwork for Young People.
5.25 p.m.—Pianoforte and Harmonium Recital. Fugue for Pianoforte and Harmonium (Bach-Reinhard). Harmonium Solos: Three Choral Preludes (Brahms). Duets for Pianoforte and Harmonium: (a) Nordische Ballade (Schartel), (b) Adoration (Karg-Elert). Harmonium Solos: (a) Voluntary (W. Lane Frost), (b) Impromptu (Fletcher). Larghetto and Andante for Pianoforte and Harmonium (Prof. August Reinhard). Four Hymns for Harmonium. Phantasiestück for Pianoforte and Harmonium (Mahlberg).
6.25 p.m.—Dressmaking Lesson.
6.40 p.m.—Question Time.
7.10 p.m.—Police Notes.
7.25 p.m.—News Bulletin.
7.40 p.m.—Talk on the Presentation of the N.C.R.V. Film "The Bells peal."

7.55 p.m.—Concert by the Hallelujah Choral Society of Leerdam and an Orchestra. Overture, "Samson" (Händel). Two Choral Selections (Bach). Christmas Carols for Orchestra. Choral Selection from "Joshua" (Händel).
8.40 p.m.—Talk: Boys and Girls.
9.10 p.m.—Concert (continued). The Christmas Oratorio for Soloists, Choir and Orchestra (Barth).
10.25 p.m.—News Bulletin.
10.35 p.m.—Gramophone Records.
11.10 p.m. (approx.)—Close Down.

JUAN-LES-PINS (Nice) (France)
1,205 kc/s (249 m.); 1 kW.
12.30 p.m.—News, Amusement Guide and Variety Programme.
2.0 p.m.—The Marseillaise and Close Down.
8.30 p.m.—News, Exchange and Concert. Mme. Ira Novi (Violinist) and M. Pauloff (Tenor).
10.0 p.m.—The Marseillaise and Close Down.

KALUNDBORG (Denmark)
Kalundborg Radio. 260 kc/s (1,153 m.); 7.5 kW.
See Copenhagen.

LANGENBERG (Germany)
Westdeutscher Rundfunk. 635 kc/s (473 m.); 17 kW. Relay by Aachen, Cologne and Münster, 1,319 kc/s (227 m.).
Transmits at intervals from 5.45 a.m. (Exercises).
4.0 p.m.—"From Tartini to Stravinsky"—Instrumental Concert. Serenade in B Flat Major for Wind Instruments (Mozart). Nonet, Op. 31 in F Major (Sphor).
5.0 p.m.—Talk for Young People: On Foot through Brittany.
5.20 p.m.—Talk: Man and Technique.
5.40 p.m.—Italian Lesson.
6.0 p.m.—Weather, Time, Economic and Sports Notes.
6.15 p.m.—Topical Talk.
6.25 p.m.—Talk: Social Politics.
6.50 p.m.—News Bulletin.
6.55 p.m.—"Des Knaben Wunderhorn" by the Station Chamber Choir, conducted by Zimmermann. Soloists: Guernanova (Contralto), Berger (Soprano), Wocke (Baritone), Hoersch (Tenor), Grape (Accompanist). Commentary by Paul H. Gehly.
7.30 p.m.—European Concert relayed from Brussels.
9.5 p.m.—News, Sports Notes and Concert.
11.0 p.m. (approx.)—Close Down.

LEIPZIG (Germany)
1,157 kc/s (259 m.); 2.3 kW. Relay by Dresden, 941 kc/s (319 m.).
Transmits at intervals from 5.30 a.m.
6.0 p.m.—Talk; The Worker and the Intellectual.
6.30 p.m.—Sentimental Dialogues by Matthias Claudius, Elizabeth Barrett Browning, Franz Werfel, Albrecht Schaeffer and others.
7.0 p.m.—Concert by the Leipzig Symphony Orchestra, conducted by Hilmar Weber—with Items by Joseph Plaut.
8.30 p.m.—"From Rome to Finland"—a Tour of Europe's Radio Stations.
9.15 p.m.—News, followed by Silent Night.

LJUBLJANA (Yugoslavia)
522 kc/s (574.7 m.); 2.8 kW.
Transmits at intervals from 8.0 a.m.
5.0 p.m.—Agricultural Programme.
5.30 p.m.—Gymnastics.
6.0 p.m.—Italian Lesson.
6.30 p.m.—Serbo-Croatian Lesson.
7.0 p.m.—Educational Programme.
7.30 p.m.—Song Recital.
8.0 p.m.—Dance Music and Songs.
9.30 p.m.—News Bulletin.

LWÓW (Poland)
788 kc/s (381 m.); 21 kW.
Transmits at intervals from 10.40 a.m.
3.15 p.m.—Topical Talk.
3.20 p.m.—See Warsaw.
4.10—4.35 p.m.—Programme (not yet announced) relayed from Wilno, 1,229 kc/s (244.1 m.).
4.35 p.m.—Military Band Concert.
5.35 p.m.—Talk on Sport.
5.50 p.m.—Miscellaneous Items.
6.15 p.m.—See Warsaw.
6.25 p.m.—Talk: Culture and Social Life.
6.45—8.30 p.m.—See Warsaw.
7.30 p.m.—European Concert relayed from Brussels.
9.0—11.0 p.m.—See Warsaw.
11.0 p.m. (approx.)—Close Down.

MADRID (Spain)
Union Radio (EAJ7). 707 kc/s (424.3 m.); 2 kW.
Transmits at intervals from 8.0 a.m.
7.0 p.m.—Chimes, Exchange, Market Prices and Request Gramophone Records.
8.10 p.m.—News and Political Review.

8.30—10.0 p.m.—Interval.
10.0 p.m.—Chimes, Time and Political Review.
10.30 p.m.—Concert from the Hotel Nacional.
12 midnight.—Chimes and News.
12.30 a.m. (Friday).—Close Down.

MILAN (Italy)
Ente Italiano Audizioni Radiofoniche. 593 kc/s (501.7 m.); 8.5 kW. Relay by Turin, 1,094 kc/s (274.2 m.); and Genoa, 959 kc/s (312.8 m.).
Transmits at intervals from 7.25 a.m.
4.0 p.m.—Gramophone Records.
4.10 p.m.—Concert from the Biffi Café Restaurant.
5.0—5.10 p.m.—Giornale Radio.
6.0 p.m.—Agricultural Notes.
6.15 p.m.—Gramophone Records. In the intervals at 6.40 p.m.—Announcements, and at 7.0 p.m.—Time and News.
7.30 p.m.—Talk for Housewives.
7.35 p.m.—"Le donne curiose"—Opera (Wolf-Ferrari), conducted by Arrigo Pedrollo. In the intervals: Cinema Notes, Talk and Giornale Radio. News after the Programme.

MORAVSKÁ-OSTRAVA (Czechoslovakia)
1,139 kc/s (263 m.); 11 kW.
Transmits at intervals from 10.0 a.m.
6.0 p.m.—See Prague.
9.15 p.m.—Announcements.
9.20 p.m.—See Prague.
10.0 p.m. (approx.)—Close Down.

MUNICH (Germany)
563 kc/s (533 m.); 1.7 kW. Relay by Augsburg and Kaiserslautern, 536 kc/s (560 m.); and Nürnberg, 1,256 kc/s (239 m.).
Transmits at intervals from 5.45 a.m.
3.20 p.m.—Soprano and Baritone Song Recital by Maria Kiefl and Julius Schweitzer. Richard Staab at the Pianoforte. Three Duets for Soprano and Baritone: (a) Sommernacht (E. Schulz), (b) Sehnen (M. Jacobi), (c) Keine Sorg um den Weg (C. Reinecke).
3.30 p.m.—Pianoforte Recital by Hetty Haelsigg. Twelve Variations on the Russian Dance from the Ballet "Das Waldmäddchen" (Beethoven). Improvisations Op. 18 (Reger).
3.50 p.m.—Three Songs for Soprano (H. Wolf): (a) Der Genesene an die Hoffnung, (b) Mignon, (c) Ganymed.
4.0 p.m.—Literary Talk.
4.20 p.m.—Orchestral Concert. Overture, "Donna Juanita" (Suppe). Serenade (Widor). Selection from "The Merry Wives of Windsor" (Nicolaï). Adagio ma non troppo from the Violin Concerto (Dvorak). Hungarian Rhapsody No. 13 (Liszt). Waltz, Sphärenklänge (Joh. Strauss).
5.20 p.m.—Time and Announcements.
5.30 p.m.—Talk on Films.
5.50 p.m.—Agricultural Talk.
6.10 p.m.—Talk.
6.30 p.m.—Songs for Children.
6.50 p.m.—Palatinate Programme.
8.15 p.m.—Concert by the Munich Philharmonic Society, conducted by Hermann Scherchen, relayed from the Tonhalle. Concerto for Strings and Wind Instruments (Hindemith). Two Etudes for Orchestra (Volgel).
9.0 p.m.—Two Dialogues: Anxiety and Security.
9.20 p.m.—Time and News.

OSLO (Norway)
Kringkastingselskapet, 277 kc/s (1,083 m.); 75 kW. Relay by Fredrikstad, 816 kc/s (367.6 m.); Hamar, 536 kc/s (560 m.); Notodden, 671 kc/s (447.1 m.); Porsgrund, 662 kc/s (453.2 m.); and Rjukan, 671 kc/s (447.1 m.).
Transmits at intervals from 9.0 a.m.
7.30 p.m.—European Concert, relayed from Brussels.
8.5 p.m.—Agricultural Report.
8.35 p.m.—News Bulletin.
8.50 p.m.—Topical Talk.
9.5 p.m.—Vocal and Instrumental Concert.
9.45 p.m. (approx.)—Close Down.

PARIS (France)
Eiffel Tower (FLE). 207.5 kc/s (1,445.7 m.); 15 kW. Time Signals (on 2,650 m.) at 9.26 a.m. and 10.26 p.m. (preliminary band 6-dot signals).
5.45 p.m.—Le Journal Parlé.
7.20 p.m.—Weather Forecast.
7.30 p.m.—Gramophone Concert.

PARIS (France)
Poste Parisien. 914 kc/s (323.2 m.); 1.2 kW.
8.0 p.m.—Concert of Gramophone Records.
8.30 p.m.—News and Announcements.
8.45 p.m.—Film Talk, Gramophone Records and News Bulletin.

PARIS (France)
Radio-Paris (CFR). 174 kc/s (1,725 m.); 80 kW.
Transmits at intervals from 6.45 a.m. (Physical Culture).
12 noon.—Protestant Address.
12.30 p.m.—Gramophone Records.
1.0 p.m.—Exchange and News.
1.5 p.m.—Gramophone Concert. Works interpreted by Children. Choral Selections: (a) Triste est mon âme (Groce), (b) Allons, gay gay bergères (Costeley). Pianoforte Solo: The Harmonious Blacksmith (Händel). Mazurka for Pianoforte (Chopin). Choral Selection: Christmas Carol. Selection by a Children's Choir, from "Das Nachtlager in Granada" (Kreutzer). Recitations: (a) Le Poullet et le Renard (Ratisbonne), (b) C'est le vent (Boyer), (c) Pataud (Delange). Sonata in G (Mozart-Grieg). Violin Solos by Yehudi Menuhin: (a) Chant d'Espagne (Samazeuilh), (b) Allegro (Fiocco), (c) Adagio from the Concerto in G Major (Mozart). Choral Selection from "Carmen" (Bizet). Potpourri of Christmas Carols. In the intervals at 1.30 and 2.0 p.m.—Exchange Quotations.
3.35 p.m.—Exchange; Market Prices.
6.30 p.m.—Market Prices, Agricultural Report, Racing Results and Weather.

7.0 p.m.—Talk: Religion in the Nineteenth Century.
7.30 p.m.—German Lesson.
7.45 p.m.—Commercial Prices, Economic and Social Notes and News.
8.0 p.m.—Programme arranged by the Palais de la Nouveauté.
8.30 p.m.—News Bulletin.
8.40 p.m.—Talk.
8.45 p.m.—Concert. Quartet (Haydn). Gramophone Records—Songs by Mme Ninon Vallin (Duparc): (a) Chanson triste, (b) L'Invitation au voyage.
9.15 p.m.—News and Time.
9.30 p.m.—Concert (continued). Pianoforte Solos by Jean Doyen: (a) Le Coq et la Poule du caill, and (b) Sevillanas (Torralde), (c) Nolette No. 8 (Schumann). Songs by Mme Ninon Vallin (Hahn): (a) Le Printemps, (b) L'Air. Quintet (Hahn).

PRAGUE (Czechoslovakia)
614 kc/s (488.6 m.); 120 kW.
Transmits at intervals from 10.0 a.m.
4.10 p.m.—Talk by Prof. Lasek.
4.35 p.m.—Musical Programme for Children.
5.5 p.m.—Agricultural Report.
5.15 p.m.—Talk: Women's Interest in Public Affairs.
5.25 p.m.—News in German.
5.30 p.m.—Programme in German. Talk: Books for Children.
6.0 p.m.—Chimes and News.
6.5 p.m.—Talk: Treatment for Heart Disease.
6.20 p.m.—Concert arranged by the Klára Blind Institute.
7.5 p.m.—Gramophone Records.
7.30 p.m.—European Concert relayed from Brussels. In the interval at 8.0 p.m.—Time Signal.
9.0 p.m.—Time and News.
9.15 p.m.—Announcements.
9.20 p.m.—Gramophone Records.
10.0 p.m.—Chimes.

RADIO-SUISSE ROMANDE (SOTENS) (Switzerland)
743 kc/s (403 m.); 25 kW.; Lausanne, 442 kc/s (680m.) and Geneva, 395 kc/s (760 m.).
Transmits at intervals from 11.30 a.m.
6.1 p.m. (from Geneva).—Gramophone Records.
6.10 p.m. (from Geneva).—Esperanto Lesson.
6.30 p.m. (from Geneva).—English Language Lesson.
6.55 p.m.—News Bulletin.
7.0 p.m. (from Lausanne).—Two Addresses: The True Life.
7.25 p.m. (from Lausanne).—Reading.
7.35 p.m. (from Montreux).—Concert from the Kursaal. In the interval at 8.30 p.m. (approx.)—Weather and News.
9.30 p.m. (approx.)—Close Down.

ROME (Italy)
Ente Italiano Audizioni Radiofoniche (IRO). 680 kc/s (441 m.);

9.0 p.m.—Concert arranged by the "Association générale des Auditeurs de la Radiodiffusion française," with the collaboration of Artists from the Opera and Opéra-Comique. Overture, "The Magic Flute" (Mozart). Allegro appassionato for Pianoforte and Orchestra (Saint-Saëns)—Soloist: M. Marcel Jacquinot, Second Part of "Scheherazade" (Rimsky-Korsakoff), conducted by M. Théodore Mathieu. Eight Variations on a Theme by Haydn (Brahms). Entr'acte from "Joseph" (Méhul). Selection (Wagner). Triumphant March (Beethoven).

PARIS (France)
Radio-Paris (CFR). 174 kc/s (1,725 m.); 80 kW.
Transmits at intervals from 6.45 a.m. (Physical Culture).
12 noon.—Protestant Address.
12.30 p.m.—Gramophone Records.
1.0 p.m.—Exchange and News.
1.5 p.m.—Gramophone Concert. Works interpreted by Children. Choral Selections: (a) Triste est mon âme (Groce), (b) Allons, gay gay bergères (Costeley). Pianoforte Solo: The Harmonious Blacksmith (Händel). Mazurka for Pianoforte (Chopin). Choral Selection: Christmas Carol. Selection by a Children's Choir, from "Das Nachtlager in Granada" (Kreutzer). Recitations: (a) Le Poullet et le Renard (Ratisbonne), (b) C'est le vent (Boyer), (c) Pataud (Delange). Sonata in G (Mozart-Grieg). Violin Solos by Yehudi Menuhin: (a) Chant d'Espagne (Samazeuilh), (b) Allegro (Fiocco), (c) Adagio from the Concerto in G Major (Mozart). Choral Selection from "Carmen" (Bizet). Potpourri of Christmas Carols. In the intervals at 1.30 and 2.0 p.m.—Exchange Quotations.
3.35 p.m.—Exchange; Market Prices.
6.30 p.m.—Market Prices, Agricultural Report, Racing Results and Weather.

7.0 p.m.—Talk: Religion in the Nineteenth Century.
7.30 p.m.—German Lesson.
7.45 p.m.—Commercial Prices, Economic and Social Notes and News.
8.0 p.m.—Programme arranged by the Palais de la Nouveauté.
8.30 p.m.—News Bulletin.
8.40 p.m.—Talk.
8.45 p.m.—Concert. Quartet (Haydn). Gramophone Records—Songs by Mme Ninon Vallin (Duparc): (a) Chanson triste, (b) L'Invitation au voyage.
9.15 p.m.—News and Time.
9.30 p.m.—Concert (continued). Pianoforte Solos by Jean Doyen: (a) Le Coq et la Poule du caill, and (b) Sevillanas (Torralde), (c) Nolette No. 8 (Schumann). Songs by Mme Ninon Vallin (Hahn): (a) Le Printemps, (b) L'Air. Quintet (Hahn).

PRAGUE (Czechoslovakia)
614 kc/s (488.6 m.); 120 kW.
Transmits at intervals from 10.0 a.m.
4.10 p.m.—Talk by Prof. Lasek.
4.35 p.m.—Musical Programme for Children.
5.5 p.m.—Agricultural Report.
5.15 p.m.—Talk: Women's Interest in Public Affairs.
5.25 p.m.—News in German.
5.30 p.m.—Programme in German. Talk: Books for Children.
6.0 p.m.—Chimes and News.
6.5 p.m.—Talk: Treatment for Heart Disease.
6.20 p.m.—Concert arranged by the Klára Blind Institute.
7.5 p.m.—Gramophone Records.
7.30 p.m.—European Concert relayed from Brussels. In the interval at 8.0 p.m.—Time Signal.
9.0 p.m.—Time and News.
9.15 p.m.—Announcements.
9.20 p.m.—Gramophone Records.
10.0 p.m.—Chimes.

RADIO-SUISSE ROMANDE (SOTENS) (Switzerland)
743 kc/s (403 m.); 25 kW.; Lausanne, 442 kc/s (680m.) and Geneva, 395 kc/s (760 m.).
Transmits at intervals from 11.30 a.m.
6.1 p.m. (from Geneva).—Gramophone Records.
6.10 p.m. (from Geneva).—Esperanto Lesson.
6.30 p.m. (from Geneva).—English Language Lesson.
6.55 p.m.—News Bulletin.
7.0 p.m. (from Lausanne).—Two Addresses: The True Life.
7.25 p.m. (from Lausanne).—Reading.
7.35 p.m. (from Montreux).—Concert from the Kursaal. In the interval at 8.30 p.m. (approx.)—Weather and News.
9.30 p.m. (approx.)—Close Down.

ROME (Italy)
Ente Italiano Audizioni Radiofoniche (IRO). 680 kc/s (441 m.);

Programmes for Thursday—(Cont.)

75 kW. Relayed by Naples, 905 kc/s (332 m.); and 2RO, 3,750 kc/s (80 m.).
 Transmits at intervals from 7.15 a.m. (Giornale Radio).
 4.30—5.15 p.m.—Vocal and Instrumental Concert.
 6.15 p.m. (from Naples).—Shipping Notes.
 6.20 p.m.—News Bulletin.
 7.0 p.m.—Sports; Press Review.
 7.30 p.m.—Time, Announcements, Talk for Housewives and Gramophone Records.
 8.0 p.m.—Instrumental Concert. Sonata a tre in E Flat for Two Violins and Cello (Sammartini). Cinema Notes and Topical Review. Violin and Pianoforte Selections: (a) Sarabande and Tambourin (Leclair), (b) Canti siciliani (Principe). Bass Solos: Wotan's Farewell and Fire Magic from "Die Walküre" (Wagner). Hungarian March from "The Damnation of Faust" (Berlioz). Reading. Overture, "Cleopatra" (Mancinelli). In the Steppes of Central Asia (Borodin). Selection from "The Siege of Corinth" (Rossini).
 9.55 p.m.—News Bulletin.
SCHENECTADY (U.S.A.)
 General Electric Company (WGY). 790 kc/s (379.5 m.); 50 kW. Relayed at intervals by W2XAF on 9,530 kc/s (31.48 m.) and by W2XAD on 15,340 kc/s (19.56 m.).
 Transmits at intervals from 11.45 a.m.
 9.0 p.m.—Stephen St. John's Banjo Quintet.
 9.30 p.m.—Stock Reports and Police Notes.
 9.45 p.m.—Arthur Lane—Popular Melodies.
 10.0 p.m.—News Bulletin.
 10.5 p.m.—Studio Ensemble.
 10.30 p.m.—Rinso Talkie, from New York.
 10.45 p.m.—Aladdin Lamp Programme.
 11.0 p.m.—Weather Report.
 11.1 p.m.—Doc Peyton and his Kenmore Orchestra.
 11.20 p.m.—Time Signal.
 11.30 p.m.—The Golden Trail with Richfield.
 11.45 p.m.—The Stebbins Boys from New York.

12 midnight (WGY only).—Vernon Lumber Jacks, from New York.
 12 midnight (W2XAF only).—Stock Reports and News.
 12.15 a.m. (Friday).—5.0 a.m.—New York Relay.
 12.15 a.m.—Howard Lanin's Orchestra.
 12.30 a.m.—Prince Albert Programme.
 12.45 a.m.—Trials of the Goldbergs.
 1.0 a.m.—Fleischmann Hour.
 2.0 a.m.—Arco Dramatic Musicale.
 2.30 a.m.—Adventures of Sherlock Holmes.
 3.0 a.m.—Lucky Strike Dance Hour.
 4.0 a.m.—Ralph Kirby (Baritone).
 4.5 a.m.—Hotel New Yorker Orchestra.
 4.45 a.m.—Cotton Club Orchestra, from New York.
 5.0 a.m.—Jack Miles and his DeWitt Clinton Orchestra.
 5.30 a.m.—Doc Peyton and his Kenmore Orchestra.
 6.0 a.m. (approx.).—Close Down.
SCHWEIZERISCHER LANDESSENDER (BEROMÜNSTER) (Switzerland)
 653 kc/s (459 m.); 75 kW.; Basle, 1,229 kc/s (244.1 m.); and Berne, 1,220 kc/s (246 m.).
 11.28 a.m.—Time, Weather and News Bulletin.
 11.40 a.m.—Orchestral Concert.
 12.35 p.m.—Weather Report and Exchange Quotations.
 12.45 (approx.).—2.30 p.m.—Interval.
 2.30 p.m.—Orchestral Concert.
 2.58 p.m.—Time Signal.
 3.0 p.m. (from Basle).—Concert of Light Music.
 4.0 p.m. (from Basle).—Book Review: Literature about Music.
 4.30 p.m.—Weather Report.
 4.40—5.30 p.m.—Interval.
 5.30 p.m.—Gramophone Records of Hebrew Music.
 6.0 p.m. (from Zürich).—Talk for Workers: The Individual and Society.
 6.28 p.m.—Time and Weather.
 6.30 p.m. (from Zürich).—Talk.
 7.0 p.m. (from Basle).—Reading.
 7.30 p.m.—International Concert, relayed from Brussels.
 9.0 p.m.—Weather, News and Traffic Notes.
 9.15 p.m. (approx.).—Close Down.

STOCKHOLM (Sweden)
 Radiotjänst (SASA). 689 kc/s (436 m.); 75 kW. Relayed by Boden, 244 kc/s (1,229.5 m.); Göteborg, 932 kc/s (322 m.); Hörby, 1,166 kc/s (257 m.); Mölala, 222.5 kc/s (1,348 m.); Östersund, 389 kc/s (770 m.); and Sundsvall, 554 kc/s (542 m.).
 Transmits at intervals from 6.15 a.m. (Gymnastics).
 4.0 p.m.—Studio Service.
 4.30 p.m.—Choral Concert of Songs by Ahnfelt.
 5.15 p.m.—Provincial Programme relayed from Boden. Songs, Violin and Pianoforte Selections.
 5.45 p.m.—Elementary German Lesson relayed from Göteborg.
 6.15 p.m.—Weather and News.
 6.30 p.m.—Reading.
 7.0 p.m.—Talk on Esais Tegner, relayed from Göteborg.
 7.30 p.m.—European Concert relayed from Brussels No. 1.
 8.20 p.m.—Talk.
 8.45 p.m.—Weather and News.
 9.0 p.m.—A Play.
 10.0 p.m. (approx.).—Close Down.
STRASBOURG (France)
 Radio-Strasbourg, (PTT). 869 kc/s (345 m.); 15 kW.
 Transmits at intervals from 11.30 a.m.
 7.0 p.m.—Instrumental Concert.
 7.30 p.m.—Time Signal.
 7.32 p.m. (approx.).—News in French and German.
 7.45 p.m.—Gramophone Records.
 8.30 p.m.—Concert relayed from the Casino and the Café Moll.
 10.30 p.m. (approx.).—Close Down.
STUTTGART (MÜHLACKER) (Germany)
 Süddeutscher Rundfunk. 833 kc/s (360 m.); 75 kW. Relayed by Freiburg, 527 kc/s (570 m.).
 Transmits at intervals from 5.45 a.m. (Frankfurt Relay).
 4.5 p.m.—Vocal and Orchestral Concert.
 5.30 p.m.—Time and Agricultural Notes.
 5.45 p.m. (from Mannheim).—Talk: Christmas Boxes.
 6.5 p.m.—Reading.
 6.30 p.m.—Time and Weather.
 6.35—10.40 p.m.—See Frankfurt. In the interval at 9.30 p.m.—News.
 10.40 p.m. (approx.).—Close Down.

TOULOUSE (France)
 Radiophonie du Midi. 779 kc/s (385 m.); 8 kW.
 Transmits at intervals from 12.45 p.m.
 6.0 p.m.—Opera Songs.
 6.15 p.m.—Accordion Selections.
 6.30 p.m.—News Bulletin.
 6.45 p.m.—Orchestral Selections from (a) "Carmen" (Bizet) and (b) "Mignon" (Thomas).
 7.0 p.m.—Light Music.
 7.30 p.m.—News Bulletin.
 7.45 p.m.—Vocal and Orchestral Selections.
 8.30 p.m.—Concert.
 10.0 p.m.—Gramophone Records.
 10.30 p.m.—News Bulletin.
 10.45 p.m.—Gramophone Records.
 11.0 p.m.—Popular Songs.
 11.15 p.m.—North African News.
 11.30 p.m.—Orchestral Selections.
 11.45 p.m.—Opera Songs.
 12 midnight.—Weather, Announcements and Close Down.
TRIESTE (Italy)
 Ente Italiano Audizioni Radiofoniche. 1,211 kc/s (247.7 m.); 15 kW.
 Transmits at intervals from 11.30 a.m.
 7.15 p.m.—News Bulletin.
 7.30 p.m.—Talk for Housewives.
 7.35 p.m.—Gramophone Records.
 8.0 p.m.—Time, Programme Notes and Organ Recital with Selections by a Madrigal Choir. Film Review in the interval.
 9.25 p.m.—Light Music or Gramophone Records.
 9.55 p.m.—News Bulletin.
VIENNA (Austria)
 Radio-Wien. 581 kc/s (517 m.); 20 kW. Relayed by Graz, 851 kc/s (352 m.); Innsbruck 1,058 kc/s (283 m.); Klagenfurt, 662 kc/s (453.2 m.); Linz, 1,220 kc/s (246 m.) and Salzburg, 1,373 kc/s (218 m.).
 Transmits at intervals from 8.20 a.m.
 5.50 p.m.—Orchestral Concert.
 6.50 p.m.—Oskar Maria Graf reads from his own Works, with Introductory Talk.
 7.20 p.m.—Time and News.
 7.30 p.m.—See Brussels No. 1.
 9.0 p.m.—News Bulletin.
 9.15 p.m.—Dance Music from the Café Palmhof.
WARSAW (Poland)
 Polskie Radio. 212.5 kc/s (1,411 m.); 158 kW.
 Transmits at intervals from 10.40 a.m.

11.35 a.m.—Concert by the Warsaw Philharmonic Orchestra, Mme. M. Jonas (Pianoforte) and Cas. Czektovsky (Baritone). Overture "The Barber of Seville" (Rossini). Spanish Rhapsody, España (Chabrier). Pianoforte Solos from the Cycle "Undici pezzi infantili" (Casella). Pianoforte Solos: (a) Andaluza (Albeniz), (b) Spanish Serenade, and (c) Bolero, Puerta de Tierra (Granados). Baritone Solos: (a) Gerard's Monologue from "André Chénier" (Giordano), (b) Chanson de Florian (Godard), (c) Serenade (Tosti), (d) Spanish Song (Alvarez). Le Carnaval des animaux (Saint-Saëns).
 1.15 p.m.—Gramophone Records.
 2.5 p.m.—Announcements.
 2.25 p.m.—Book Review.
 2.45 p.m.—Announcements.
 2.50 p.m.—Programme for Young People.
 3.20 p.m.—French Lesson.
 3.40 p.m.—Gramophone Records.
 4.10 p.m.—Talk relayed from Wilno, 1,229 kc/s (244.1 m.).
 4.35 p.m.—Chamber Music. The Dubiska Quartet and Lucie Czechowicz (Mezzo-Soprano). Trio in E Flat Major for Violin, Viola and Pianoforte (Mozart). Scottish Songs (Beethoven), for Voice with Violin, Cello and Pianoforte accompaniment. String Quartet in F Major No. 23 (Mozart).
 5.50 p.m.—Miscellaneous Items.
 6.15 p.m.—Agricultural Correspondence.
 6.25 p.m.—Programme Announcements.
 6.30 p.m.—Gramophone Records.
 6.45 p.m.—Radio Journal.
 7.0 p.m.—Talk: The Tenth Anniversary of the Death of Gabrielle Zapolska.
 7.15 p.m.—Talk: Modern Belgian Music.
 7.30 p.m.—Belgian National Evening, relayed from Brussels No. 1.
 9.0 p.m.—Correspondence and Technical Notes.
 9.15 p.m.—Recital of Indian Songs by Jeanne Gluzinska-Makuszynska (Soprano) and Alex Junowicz (Flute).
 9.50 p.m.—Radio Journal.
 9.55 p.m.—Weather and Announcements.
 10.5 p.m.—Dance Music from the Adria.
 11.0 p.m. (approx.).—Close Down.

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PROGRAMMES FOR FRIDAY

(December 18)

NOTE: THE HOURS OF TRANSMISSION ARE REDUCED TO GREENWICH MEAN TIME

ALGIERS (N. Africa)
825.3 kc/s (363.4 m.); 13 kW.
Transmits at intervals from 12.30 p.m.
7.20 p.m.—Agricultural Report.
7.35 p.m.—Gramophone Records.
7.50 p.m.—News Bulletin.
8.0 p.m.—Czechoslovakian Concert.
9.30 p.m.—Dance Music from the Municipal Casino.
10.0 p.m.—The Marseillaise and Close Down.

BARCELONA (Spain)
Radio-Barcelona (E.A.J.). 860 kc/s (349 m.); 8 kW.
Transmits at intervals from 7.30 a.m.
1.30 p.m.—Sextet Concert. Selection from "Les saltimbanques" (Ganne). Romance (Schmalstich). Adagio from the "Pathetic" Sonata (Beethoven). Pastorale (Wenisch).
2.0 p.m.—Theatre Notes and Amusement Guide, Gramophone Records and Film Review.
2.20 p.m.—Concert (continued). Oriental (Albeniz). Selection from "The Two Princesses" (Cabalero). Intermezzo, Baturra de temple (F. Moreno Torroba). Por fandanguillos (Fernandez).
2.50 p.m.—Labour Market Report.
3.0 p.m.—Programme for Hospitals and Benevolent Institutions, with Gramophone Records.
4.0—7.0 p.m.—Interval.
7.0 p.m.—Trio Concert.
7.40 p.m.—Exchange Quotations and Programme for Women.
8.0 p.m.—Request Gramophone Records.
8.30 p.m.—Elementary French Lesson.
9.0 p.m.—Cathedral Chimes, Weather and Market Prices.
9.5 p.m.—Orchestral Concert. Passacaglia, Estudiantina (Turina). Selection from "Les Cadetes de la Reina" (Luna). Waltz, Liebeslieder (Joh. Strauss). Harlequin and Columbine (K. Kaskel).
9.30 p.m.—Song Recital by Enriqueta Mas from the Works of Ezequiel Martin. The Composer at the Piano.
10.0 p.m.—Vicente Diez de Tejada reads from his own Works.
10.15 p.m.—Orchestral Concert from the Café Español.
12 midnight (approx.).—Close Down.

BERLIN (Germany)
Königs Wusterhausen. 183.5 kc/s (1,635 m.); 75 kW.
Transmits at intervals from 5.30 a.m. (Gymnastics).
3.30 p.m.—See Leipzig.
4.30 p.m.—Talk on Music.
5.0 p.m.—Talk on Economics.
5.30 p.m.—Educational Talk: Poison cases.
5.55 p.m.—Weather for Farmers.
6.0 p.m.—Talk for Doctors.
6.30 p.m.—Talk for Workers.
7.0 p.m.—Concert from Berlin (Witzleben).
7.30 p.m.—See Leipzig.
9.20 p.m.—News Bulletin, followed by a Concert and Dance Music from Berlin (Witzleben).

BERLIN (Germany)
Witzleben. 715 kc/s (418 m.); 1.7 kW.
Transmits at intervals from 5.30 a.m. (Gymnastics).
7.0 p.m.—Guitar Recital by Andrés Segovia.
7.30 p.m.—Reading from his own Works by Gerhard Menzel.
8.0 p.m.—"The Voice of the Age"—an Up-to-date Literary Selection.
9.20 p.m. (approx.).—News.
9.30 p.m. (approx.).—Winter Relief Concert. Songs by Max Hansen, with Violin and Pianoforte Solos, followed by Dance Music.

BORDEAUX-LAFAYETTE (France)
(P.T.T.) 986 kc/s (304 m.); 35 kW.
12.45 p.m.—Gramophone Records.
1.50 p.m.—Exchange Quotations.
2.0 p.m.—Chamber Music.
6.0 p.m.—Literary Talk: Children of Other Days—from Gargantua to Tom Thumb.
7.30 p.m.—News Bulletin.
7.40 p.m.—Educational Report.
7.55 p.m.—Results of the Prize Draw.
8.0 p.m.—Spanish Lesson.
8.15 p.m.—News Bulletin.
8.30 p.m.—Orchestral Concert conducted by A. Guiraud. Soloist: M. Marés (Baritone). After the

Programme, Amusement Guide and Time Signal.
10.30 p.m.—Concert relayed from the Conservatoire, Toulouse.

BRUSSELS (Belgium) (No. 1)
I.N.R. 590 kc/s (509 m.); 20 kW.
12.15—1.45 p.m.—Gramophone Concert. In the Steppes of Central Asia (Borodin). Norwegian Dances (Grieg). Melody (Rubinstein). Chant sans paroles (Tchaikovsky). Träumerei (Schumann). Minuet (Chopin). Two Songs from "La Traviata" (Verdi). Valse ariette from "Mireille" (Gounod). Polonaise from "Mignon" (Thomas). Barcarolle from "The Tales of Hoffmann" (Offenbach). Salut d'amour (Elgar). Ballet égyptien (Luigi). Overture, "Banditenstreich" (Suppé).
5.0 p.m.—Orchestral Concert. March Metropoli (Lincke). Waltz, Ambassadeur (Wangermee). Tango and Slow Fox-trot (Heymann). African Intermezzo (Siede). Oriental Fantasia (Helmburgh). Chanson brève, for Violin (Demaret). March (Faulk). Selection from "Mireille" (Gounod). Rustlings in the Woods (Razipade). Waltz, Les Patineurs (Waldteufel).
6.0 p.m.—Gramophone Records. Arab Melody (Glazounoff). Minuet (Haydn). Scherzo No. 3, Op. 39 (Chopin).
6.15 p.m.—Talk: The International Exhibition of Colonial Art in Rome.
6.30 p.m.—Gramophone Records: Selections from "Faust" (Gounod).
7.15 p.m.—Talk on Banks.
7.30 p.m.—Music Review.
8.0 p.m.—Quartet Concert. Quartet in D Minor (Mozart). Quartet on the Name "Belaieff" (Rimsky-Korsakoff). Scherzo (Ljadoff). Serenata alla spagnuola (Borodin). Finale allegro (Glazounoff).
8.45 p.m.—Talk and Readings: The Belgian Writer Edmond Glesener.
9.0 p.m.—Concert from the Ancienne Belgique.
10.0 p.m.—Le Journal Parlé.

BRUSSELS (Belgium) (No. 2)
N.I.R. 887 kc/s (338.2 m.); 20 kW.
Programme in Flemish.
12.15—1.45 p.m.—Gramophone Concert. Overture, "The Daughter of the Regiment" (Donizetti). Waltz from "Gretna Green" (Guiraud). American Dance (Lauveryns). Song of the Flea (Moussorgsky). Aria from "The Barber of Seville" (Rossini). Selection from "Der Bettelstudent" (Millocker). Waltzes (Lehar) (a) "The Count of Luxembourg"; (b) "The Merry Widow". The Nutcracker Suite (Tchaikovsky). Dance Music.
5.0 p.m.—Orchestral Concert. Five Short Pieces (Kopartz). Eine Kleine Nachtmusik (Mozart). Intermezzo from "Cavalleria rusticana" (Mascagni). Serenade (R. Strauss). Meditation from "Thais" (Massenet). Chant-du soir (Pl. Schmitt). Waltz (Brahms).
6.0 p.m.—Gramophone Records.
6.15 p.m.—Legal Talk.
6.30 p.m.—Gramophone Records. Impressions d'Italie (Charpentier). Selections (Rimsky-Korsakoff): (a) Spanish Caprice, (b) Wedding Procession.
7.30 p.m.—Talk: What there is to see in Nature.
8.0 p.m.—Orchestral Concert. Overture "Titus" (Mozart). Suite, En Kernéo (Vuillemin). Les Millions d'Arlequin (Drigo). Gramophone Records. Abendlied (Schumann). Albumblatt (Wagner). Waltz Suite from "Eva" (Lehar).
8.45 p.m.—Talk: Cancer and Radium.
9.0 p.m.—Concert (continued).—Le pere La Victorie (Ganne). Wedgewood Blue (Ketelbey). Petite Suite de Concert (Coleridge Taylor). Gramophone Records. Overture (Strauven). Selection from "Tip Toes" (Gershwin). Le Pas des fleurs (Delibes).
10.0 p.m.—Le Journal Parlé and Theatre Notes.

BUCHAREST (Romania)
Radio-Bucarest. 761 kc/s (394 m.); 16 kW.
Transmits at intervals from 11.0 a.m.
6.40 p.m.—Gramophone Records.
7.0 p.m.—Violin Recital.
7.30 p.m.—Talk.
7.45 p.m.—Pianoforte Recital.
8.15 p.m.—Flute Recital.
8.45 p.m.—News Bulletin.
BUDAPEST (Hungary)
545 kc/s (550 m.); 23 kW.
Transmits at intervals from 8.15 a.m.

6.15 p.m.—Hungarian Student Songs.
7.20 p.m.—Talk.
7.40 p.m.—Orchestral Concert.
9.10 p.m.—News, followed by the Concert from the Café Ostende.
COLOGNE (Germany)
Westdeutscher Rundfunk. 1,319 kc/s (227 m.); 1.7 kW.
See Langenberg.

COPENHAGEN (Denmark)
1,067 kc/s (281 m.); 0.75 kW.
Relayed by Kalundborg, 260 kc/s (1,153 m.).
Transmits at intervals from 6.30 a.m. (Gymnastics).
2.0 p.m.—Wind Instrument Concert, conducted by Johannes Andersen. March, Ein Tausendkünstler (Blankenburg). Overture, "Giroflé-Girofla" (Lecocq). Waltz, Herbstweisen (Waldteufel). Dances from "Giselle" (Adam). Selection from "Carmen" (Bizet). Introduction and Aria from "Romeo and Juliet" (Gounod). March, Lachendes Leben (Blankenburg). Reading, March (Fall). Serenade (Haydn). Overture, "Czar and Carpenter" (Lortzing). Spanish Serenade, La Paloma (Balfour). Selection from "Die Erlenknechten" (Hartmann). Waltz (Fährbach). Florentine March (Fucik).
4.0 p.m.—Programme for Children.
4.40 p.m.—Exchange; Market Prices.
4.50 p.m.—Talk: The Danish Music Society.
5.20 p.m.—Elementary German Lesson.
5.50 p.m.—Weather Report.
6.0 p.m.—News and Report of the Jutland Listeners' Association.
6.15 p.m.—Time Signal.
6.30 p.m.—Talk: The History of the Workers' Movement.
7.0 p.m.—Town Hall Chimes.
7.2 p.m.—Item by Per Knutzon.
7.10 p.m.—"Guilty or Innocent?"—Play in Three Acts (Julius Magnussen), arranged for Radio.
8.40 p.m.—Choral Concert. Two Selections (Carl Nielsen): (a) Du danske Mand, (b) Sangen til Danmark. Aftensang (Lanzky). Kongernes Konge (Hornemann). Hymn and Evensong (Kuhlau). Two Selections (Hellmuth): (a) Stihled, (b) Majvisé.
9.5 p.m.—News Bulletin.
9.20 p.m.—Concert of Modern Danish Chamber Music for Wood Wind Instruments. Music for Flute, Clarinet and Bassoon (Flemming Weis). Three Chamber Pieces for Flute, Oboe, Clarinet and Bassoon (Erting Brene).
9.50 p.m.—Dance Music from the Palace Hotel.
11.0 p.m. (in the interval).—Town Hall Chimes.
11.30 p.m. (approx.).—Close Down.

DUBLIN (Ireland)
(2RN). 725 kc/s (413 m.); 1.5 kW. Relayed by Cork, 1,337 kc/s (224.4 m.).
1.30—2.0 p.m.—Time Signal, Weather Report, Stock Exchange Quotations and Gramophone Concert.
6.0 p.m.—Gramophone Records.
6.15 p.m.—Programme for Children.
7.0 p.m.—Gramophone Records.
7.30 p.m.—News Bulletin.
7.40 p.m.—Time Signal.
7.32 p.m.—Gardening Talk by G. O. Sherrard.
7.45 p.m.—Recitations by Peg Wallace.
8.0 p.m.—2RN Symphony Concert. Orchestral Selections: (a) Overture, "The Bartered Bride" (Smetana), (b) Symphony, From the New World (Dvorak), Songs by H. Brindle (Bass). Dances by the Orchestra. Concerto for Violin and Orchestra (Mendelssohn)—Soloist: Bay Jellett (Violin). Bass Solos by H. Brindle: Songs (Mendelssohn). Orchestral Selections: (a) Enigma Variations (Elgar), (b) Irlande (Augusta Holmes), (c) Ballet Music (Patterson), (d) Comedy Overture (Hamilton Hart).
10.30 p.m.—Time Signal, News Bulletin, Weather Report and Close Down.

FRANKFURT-am-MAIN (Germany)
770 kc/s (390 m.); 1.7 kW. Relayed by Cassel, 1,220 kc/s (246 m.).
Transmits at intervals from 5.15 a.m. (Weather and Gymnastics).
2.5 p.m.—Time, Economic Notes.
3.0 p.m.—Orchestral Concert Relay.
4.0 p.m.—Economic Notes.
4.5 p.m.—Orchestral concert, from Wiesbaden.
5.30 p.m.—Economic Notes.
5.40 p.m.—Talk arranged by the Frankfurter Zeitung.

6.5 p.m.—See Stuttgart.
6.30 p.m.—Time, Programme Announcements, Weather Report and Economic Notes.
6.40—10.10 p.m.—See Stuttgart.

HAMBURG (Germany)
Norag (ha, in Morse). 806 kc/s (372 m.). 1.7 kW. Relayed by Bremen, 1,112 kc/s (270 m.); Flensburg, 1,373 kc/s (218 m.); Hanover, 530 kc/s (566 m.); and Kiel, 1,292 kc/s (232.2 m.).
Transmits at intervals from 5.30 a.m.
4.0 p.m.—"Beautiful Goldenhair" Fairy Play in Five Scenes (Hans Bodenstedt). Music on Old Motives by Horst Platen.
5.10 p.m.—Talk for Workers: Bank Officials or Bank Workers?
5.30 p.m.—Talk: The Popular Idea in Germany of the Christmas Angel.
5.55 p.m.—Educational Talk.
6.20 p.m.—Frankfurt Exchange and Hamburg Market Prices.
6.25 p.m.—Weather Report.
6.30 p.m.—Gustav Kohne reads from his Novel "Die vom Habichtschorst" with an Appreciation of the Author on the Occasion of his Sixtieth Birthday (Dec. 19th, 1931).
7.0 p.m.—Schumann Concert, relayed from the Musikhalle. Conductor: Richard Richter. Soloist: Richard Goldschmidt (Pianist). Overture, "Genevieve" Concerto in A Minor for Pianoforte and Orchestra. Interval. Symphony in B Flat—the Spring Symphony.
9.0 p.m.—Weather, Political and Miscellaneous Announcements, Sports Notes and News.
9.10 p.m.—Topical Talk.
9.20 p.m.—Orchestral Concert, conducted by Gerhard Maasz. Wedding March (Bossi). Tanzwalzer (Busoni). Duet and Polka from "Rappelkopf" (Leo Blech). Slavonic Dance, No. 15 (Dvorak). Dances in Three-Four Time (Schmidt-Badekoff). Dance Scene from "Mascarade" (Nielsen). Rossiniana (Respighi).
10.20 p.m.—Ice Report.

HELSBERG (Germany)
1,085 kc/s (276.5 m.); 75 kW. Relayed by Danzig, 602 kc/s (453.2 m.).
Transmits at intervals from 5.30 a.m. (Gymnastics).
10.50 a.m.—Sponsored Programme of Gramophone Records, followed by Orchestral Concert conducted by Eugen Wilcken.
12.45 p.m.—Gramophone Concert.
2.45 p.m.—Programme for Children.
3.15 p.m.—Christmas Talk for Housewives.
3.45 p.m.—Orchestral Concert conducted by Eugen Wilcken. Overture, "Hunyadi Laszlo" (Erkel). Aus dem Nordlande (Frederiksen). Pester-Walzer (Lanner). Selection from "Robert le Diable" (Meyerbeer).
4.45 p.m. (from Danzig).—Agricultural Notes.
5.15 p.m.—Ice Report and Agricultural Market Prices.
5.30 p.m. (from Danzig).—Songs to the Guitar by Lotte Schmidt of Munich. Es fiel ein Reif (Lower Rhine Folk Song). Als mich Mütterchen jüngst schalt (Song from Lithuania). Die Treuheit (from Austria). Trutzlied (from Norway). Aria di Cantina (Neapolitan Song). L'Abito di Festa (Italian Folk Song). La Monacella (Italian Song). Cancion (Portuguese Song). Bolero (from Spain).
6.0 p.m.—Review of Books.
6.20 p.m.—Weather Report.
6.25 p.m.—Classical Dialogues: Fools and Eccentrics in the Works of Shakespeare (Hans Wyneken).
7.10 p.m.—"Hallo! Berlin calling!"
7.40 p.m.—Symphony Concert of Old and New Music by the Königsberg Opera House Orchestra, conducted by Bruno Vondenhoff. Soloists: Grete Pohl and Arno Schellenger. Symphony, No. 33, in B Flat Major (Mozart). Lyric Symphony in Seven Songs for Orchestra, Soprano and Baritone (A. Zemlinsky).
9.10 p.m. (approx.).—Weather, News and Sports Notes.

10.10 a.m.—Septet Concert.
10.40 a.m.—Recitations.
11.0 a.m.—Concert (contd.).
11.40 a.m.—3.40 p.m.—Programme of the Algemeene Vereeniging Radio Omroep (A.V.R.O.).
11.40 a.m.—Orchestral Concert conducted by Nico Trecp. Overture, "Poet and Peasant" (Suppé). Selection from "I Pagliacci" (Leoncavallo). Waltz, The Flowers (Waldteufel). Gramophone Records. Music from "La Gioconda" (Ponchielli). Two Songs (Tosti). La danza (Rossini). Prelude (Rachmaninoff). Gramophone Records. Selection from "The Geisha" (Jones). Selection (Kálmán). Blaze away (Holzmann).
1.40 p.m.—Talk for Schools.
2.10 p.m.—Gramophone Records.
2.40 p.m.—Concert by Kovacs Lajos and his Orchestra. Songs by Bob Scholte.
3.40—7.40 p.m.—V.A.R.A. Programme.
3.40 p.m.—Pianoforte Recital.
4.10 p.m.—Programme for Children.
4.40 p.m.—Gramophone Records.
4.55 p.m.—Orchestral Concert.
5.40 p.m.—Songs and Pianoforte Solos.
5.55 p.m.—Concert (contd.).
6.25 p.m.—Songs and Pianoforte Solos.
6.40 p.m.—Talk on Capitalism.
7.0 p.m.—Concert (contd.).
7.40—10.40 p.m.—V.P.R.O. Programme.
7.40 p.m.—Talk.
8.10 p.m.—Vocal Quartet Concert.
8.40 p.m.—Talk.
9.10 p.m.—Concert (contd.).
9.40 p.m.—Religious News.
9.45 p.m.—News Bulletin.
9.55 p.m.—Recitations.
10.25 p.m.—Gramophone Records.
10.40—11.40 p.m.—V.A.R.A. Programme. Gramophone Records.
11.40 p.m. (approx.).—Close Down.

HUIZEN (Holland)
160 kc/s (1,875 m.); 8.5 kW.
Transmits at intervals from 7.40 a.m.
11.55 a.m.—7.40 p.m.—Programme of the Catholic Radio Society (K.R.O.).
11.55 a.m.—Quintet Concert. Liebeskommando (Stolz). An der Wesel (Presser). Morgenblätter (Strauss). Bin nur ein Johnny (Abraham). Suite, A Summer Night Festival (Siede). Romance sans paroles (Wienawsky). Overture to an Opérette (Lincke). Good-bye (Tosti). Suite (Fresco). Song and Waltz (Abraham). Midnight in Montparnasse (Lindern).
1.40 p.m.—Gramophone Records.
2.40 p.m.—Programme in Memory of the Dutch Poet Bilderdijk relayed from a Church in Haarlem.
3.25 p.m.—Gramophone Records.
4.10 p.m.—Concert by the Dutch Chamber Music Society. Sextet for Two Violins, Two Violas and Two Cellos (Brahms). Pianoforte Quartet (Mozart). Sonata for Trio (Purcell). Sonata for Trio (Baillet).
5.40 p.m.—Gramophone Records.
6.10 p.m.—Horticultural Talk.
6.40 p.m.—Gramophone Records.
7.10 p.m.—Police Announcements.
7.25 p.m.—Gramophone Records.
7.40 p.m. till Close Down.—Programme of the Christian Radio Society (N.C.R.V.).
7.40 p.m.—Programme in Memory of the Dutch Poet Bilderdijk, relayed from a Church in Haarlem. Musical Programme, Readings and Address.
8.55 p.m.—Gramophone Records and News.
9.25 p.m.—Symphony Concert. Overture, "La Dame blanche" (Boieldieu). Waltz from "Der Rosenkavalier" (Strauss). Selection from "Madame Butterfly" (Puccini). March from "Sigurd Jorsalfar" (Grieg).
10.10 p.m.—Gramophone Records.
11.10 p.m. (approx.).—Close Down.

JUAN-LES-PINS (Nice) (France)
1,205 kc/s (249 m.); 1 kW.
12.30 p.m.—News, Amusement Guide and Variety Concert.
2.0 p.m.—The Marseillaise and Close Down.
8.30 p.m.—News, Exchange, Miscellaneous Items, Talk on the Cinema, and Gramophone Concert.
10.0 p.m.—The Marseillaise and Close Down.

KALUNDBORG (Denmark)
Kalundborg Radio. 260 kc/s (1,153 m.); 7.5 kW
See Copenhagen.

REMARKABLE WIRELESS EXPERIENCE IN MANCHESTER

Local experts perplexed

Mr. T. A. Kennedy's own story of Battery Record

Everybody who owns a wireless set will be interested in the following letter received from Mr. T. A. Kennedy, of Wilmington, Manchester, whose experience surprised and puzzled even local experts.

"Dear Sirs :

As I write I am listening to the Wireless on a McMichael Screened 3-valve Pentode employing two EVER READY super-capacity batteries, which yesterday completed their 56th week (14 months) continuous use. Surely this is a very exceptional length of time for any battery to last ?

I wrote you on their completion of 8-9 months never expecting a further 5 months' use. Local dealers here are perplexed and say I am mistaken but I know positively that the batteries were put into commission on June 5th, 1930."

(This letter can be inspected at the office of the Company.)

When a set is adequately powered, and only then, it is economically powered ! That is the secret of Mr. Kennedy's success. There is an EVER READY Battery made to fit every type of set, portables included ; and Mr. Kennedy chose the EVER READY battery made for his. Result : 14 months of trouble-free wireless for two guineas ! Why not fit *your* set with the battery made by an exclusive process and guaranteed to give satisfaction by the firm that has been making reliable batteries for over 29 years ? Write to the address below for a free list of popular wireless sets and the EVER READY Battery specially recommended for each of them.

THE BATTERY THAT LASTS A LONG TIME

THE EVER READY
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LTD., HERCULES PLACE,
HOLLOWAY, LONDON, N.7.

Programmes for Friday—(Cont.)

LANGENBERG (Germany)

Westdeutscher Rundfunk. 635 kc/s (473 m.); 17 kW. Relayed by Aachen, Cologne and Münster, 1,319 kc/s (227 m.). Transmits at intervals from 5.45 a.m. (Exercises).
 4.0 p.m.—Orchestral Concert from the Works of Contemporary Composers, conducted by Buschhütter. Soloist: Hertha Brenscheidt (Pianist).
 5.0 p.m.—Review of Books.
 5.20 p.m.—Talk by Dr. Rudolf Menze.
 5.40 p.m.—English Conversation.
 6.0 p.m.—Weather, Time, Economic and Sports Notes.
 6.15 p.m.—Three Germans converse with One Another.
 6.55 p.m.—News Bulletin.
 7.0 p.m.—Orchestral Concert, conducted by Wolf. Overture, "To the Story of the Lovely Melusine" (Mendelssohn). Suite, The Fables of La Fontaine (Mouton). Two Russian Dances (Moussorgsky): (a) Hopak, (b) Cossack in A Major. Potpourri of the Works of Waldteufel (Kling). Waltz, The Blue Danube (Strauss).
 8.0 p.m.—"The African Company, Ltd."—Radio Play by Walter Bohr, with Music by Gustav Kneip. Conductor: The Composer. After the Play, News, Sports Notes and Concert.
 10.15 p.m.—Concert from the Tabaris, Düsseldorf.
 11.0 p.m. (approx.)—Close Down.

LEIPZIG (Germany)

1,157 kc/s (259 m.); 2.3 kW. Relayed by Dresden, 941 kc/s (319 m.).
 Transmits at intervals from 5.30 a.m.
 3.30 p.m.—Concert by the Leipzig Symphony Orchestra.
 4.30 p.m.—Review of Books.
 4.50 p.m.—Economic Notes, Weather and Time.
 5.0 p.m.—Dialogue: Do our Children still read Fairy Tales?
 5.25 p.m.—English Language Lesson.
 5.50 p.m.—Talk (to be announced).
 6.0 p.m.—Talk on Reparations: The Effects of the Hoover Plan.
 6.30 p.m.—Concert by the Leipzig Symphony Orchestra. Soloist: Lubka Kolessa (Pianoforte).
 7.0 p.m.—See Berlin (Witzleben).
 7.30 p.m.—"Strassenrondo"—a Poem (Arno Schirokauer). Music by Alfred Simon.
 8.30 p.m.—Recital of Contemporary Organ Music from the Propsteikirche.
 9.15 p.m.—News Bulletin, followed by Orchestral Concert.
 10.30 p.m. (approx.)—Close Down.

LJUBLJANA (Yugoslavia)

522 kc/s (574.7 m.); 2.8 kW.
 Transmits at intervals from 10.30 a.m.
 4.30 p.m.—Quintet Concert.
 5.30 p.m.—Programme for Women.
 6.0 p.m.—French Lesson.
 6.30 p.m.—Legal Talk.
 7.0 p.m.—Chess Lesson.
 7.30 p.m.—Programme (not yet announced) relayed from Belgrade, 697 kc/s (430.4 m.).
 9.30 p.m.—News Bulletin.

MADRID (Spain)

Union Radio (EAJ7). 707 kc/s (424.3 m.); 2 kW.
 Transmits at intervals from 8.0 a.m.
 7.0 p.m.—Chimes, Exchange, Market Prices and Request Gramophone Records. In the interval at 7.30 p.m.—Educational Talk.
 8.10 p.m.—News and Political Review.
 8.30—10.0 p.m.—Interval.
 10.0 p.m.—Chimes, Time, Political Review and Symphony Concert on Gramophone Records.
 12 midnight.—Chimes, News and Programme Notes.
 12.30 a.m. (Saturday).—Close down.

MILAN (Italy)

Ente Italiano Audizioni Radiofoniche. 598 kc/s (501.7 m.); 8.5 kW. Relayed by Turin, 1,094 kc/s (274.2 m.); and Genoa, 959 kc/s (312.8 m.).
 Transmits at intervals from 7.15 a.m.
 6.0 p.m.—Agricultural Notes and Report of the Royal Geographical Society.
 6.20 p.m.—Gramophone Records. In the intervals at 6.40 p.m.—Announcements, and at 7.0 p.m.—Time and News.
 7.20 p.m.—Wireless Technical Talk.
 7.45 p.m.—"The Chariot of Dionysus"—a Satirical Drama in Three Acts (Words and Music by Ettore Romagnoli).
 9.15 p.m.—Concert of Chamber Music. Pianoforte Solos: (a) La poule (Rameau), (b) Rondo (Mozart), (c) Risonanze nostalgiche (Cilea), (d) Concert Etude (Liszt). Soprano

Solos: (a) Cäcilie (R. Strauss), (b) Bella bellina (Recli). Soprano Solos: (a) Matinata (Aldovrandi), (b) Three Children's Songs.
 10.0 p.m.—Giornale Radio.

MUNICH (Germany)

563 kc/s (533 m.); 1.7 kW. Relayed by Augsburg and Kaiserslautern, 536 kc/s (560 m.); and Nürnberg, 1,256 kc/s (239 m.). Transmits at intervals from 5.45 a.m.
 6.10 p.m.—Talk: How the World sought to avert the Industrial Crisis.
 6.30 p.m.—Orchestral Concert.
 7.30 p.m.—Kuni Tremel-Eggert reads from her own Works.
 8.0 p.m. (from Nürnberg).—"He who has faithfully served his Time"—a Military-Humorous Variety Programme, with Orchestra, Choir and Soloists.
 9.0 p.m.—Dialogue: Anxiety and Security.
 9.20 p.m.—Time and News.

OSLO (Norway)

Kringkastingselskapet, 277 kc/s (2,083 m.); 75 kW. Relayed by Eredskistad, 816 kc/s (367.6 m.); Hamar, 536 kc/s (560 m.); Notodden, 671 kc/s (447.1 m.); Porsgrun, 662 kc/s (453.2 m.); and Rjukan, 671 kc/s (447.1 m.).
 Transmits at intervals from 9.0 a.m.
 6.0 p.m.—News Bulletin.
 6.30 p.m.—Literary Review.
 6.30 p.m.—Time Signal.
 7.2 p.m.—Symphony Concert relayed from the Logen Hall.
 8.35 p.m.—News Bulletin.
 8.50 p.m.—Topical Talk.
 9.5 p.m.—Recitations.

PARIS (France)

Eiffel Tower (FLE) 207.5 kc/s; (1,445.7 m.); 15 kW.
 Time Signals (on 2,650 m.) at 9.26 a.m. and 10.26 p.m. (preliminary and 6-dot signals).
 5.45 p.m.—Le Journal Parlé.
 7.20 p.m.—Weather Report.
 7.30 p.m.—Symphony Concert, conducted by E. Flament, followed by "Rose gets married"—Radio Fantasia.

PARIS (France)

Poste Parisien. 914 kc/s (328.2 m.); 1.2 kW.
 7.25 p.m.—Gramophone Records and News Bulletin.
 8.0 p.m.—Concert of Dance Music by Crickett Smith's Royal Box Band and Miss Mabel Mercer. Anstole prend le métro (R. Penso). Down beside a Dutch Canal (A. Young). Now you're in my Arms (A. Wrubel-Morton Downey). Reaching for the Moon (Irving Berlin). I'm thru' with Love (M. Malneck and F. Livingstone). You're driving me crazy (Donaldson). Rumba, Les trois coups (M. Simeons). I wanna sing about you (Cliff Friend and Dave Dreyer). Romany Rye (M. Wayne). Would you like to take a Walk? (H. Warren). Time on my Hands (V. Youmans). The Waltz you saved for me (Wayne King). Moonlight-Saving Time (Richman).
 9.15 p.m.—Concert of French Songs by Music Hall Artists.
 10.30 p.m. (approx.)—Close Down.

PARIS (France)

Radio-Paris (CFR). 174 kc/s (1,725 m.); 80 kW.
 Transmits at intervals from 6.45 a.m. (Physical Culture).
 12.30 p.m.—Gramophone Records.
 1.0 p.m.—Exchange and News.
 1.5 p.m.—Gramophone Concert of Czech Music. String Quartet, From out my Life (Smetana). Pianoforte Solo (Smetana). Violin Solo by Edith Lorand: Un poco triste (Suk). Selections (Dvorák): (a) Gipsy Song, (b) Andantino from the Sonata for Violin, (c) Quartet in F Major. In the intervals, at 1.30 and 2.0 p.m.—Exchange Quotations.
 3.35 p.m.—Exchange; Market Prices.
 4.20 p.m.—Elementary English Lesson.
 4.45 p.m.—Talk on the History of Music—Händel.
 6.30 p.m.—Market Prices, Agricultural Report, Racing Results and Weather.
 7.0 p.m.—Colonial Talk: Native Art in Cambodia.
 7.45 p.m.—Commercial Prices, Economic and Social Notes and News.
 8.0 p.m.—Opera Selection: "The Mastersingers" (Wagner) by MM. Huberty, Gilles, Narcon and Georges Jouatte, and Mme. Jeanne Manceau. The Orchestra conducted by M. Henri Doffosse. In the intervals, at 8.30 p.m.—Sports Results and Weather, and at 8.40 p.m.—Gastronomic Review.
 9.15 p.m.—News and Time.

PRAGUE (Czechoslovakia)

614 kc/s (488.6 m.); 120 kW.
 Transmits at intervals from 9.30 a.m.
 4.5 p.m.—Violin and Pianoforte Recital.
 5.5 p.m.—Agricultural Report.
 5.15 p.m.—Talk: Is the Worker his own Worst Enemy?
 5.25 p.m.—News in German.
 5.30 p.m.—German Programme. Variety Concert followed by Reading from his own Works by Hans Klaus.
 6.0 p.m.—Chimes and News.
 6.5 p.m.—Economic Talk.
 6.20 p.m.—Smetana and Fibich Song Recital.
 6.45 p.m.—Humorous Programme.
 7.25 p.m.—Violin Recital. Hungarian Dance (Brahms). Spanish Dance (Mozzkovsky). Pianoforte Solos: Will of the Wisp and Erotics (Liszt). Hungarian Rhapsody (Liszt). Slavonic Dance No. 15 (Dvorák). Gipsy Dance (Rachmaninoff).
 7.55 p.m.—News Bulletin.
 8.0 p.m.—Time Signal.
 8.2 p.m.—Orchestral Concert. In the interval at 9.0 p.m.—Time and News.
 9.15 p.m.—Announcements.
 9.20 p.m.—Concert of Modern Music. Folk Song Fantasia, Op. 1 (Stedron). String Quartet No. 2, Op. 31 (Suk).
 10.0 p.m.—Chimes.

RADIO-SUISSE ROMANDE (SOTTENS) (Switzerland)

743 kc/s (403 m.); 25 kW.; Lausanne, 442 kc/s (680 m.); and Geneva, 395 kc/s (760 m.).
 Transmits at intervals from 11.30 a.m.
 6.1 p.m. (from Geneva).—Gramophone Records.
 6.20 p.m. (from Geneva).—Sunday Sports Notes.
 6.30 p.m. (from Lausanne). Technical Talk: Metallurgy.
 6.55 p.m.—News Bulletin.
 7.0 p.m. (from Geneva).—Talk: The Concours Prize.
 7.20 p.m. (from Geneva).—Symphonic Jazz.
 8.0 p.m. (from Lausanne).—Cabaret Concert.
 9.15 p.m.—Weather and News.
 9.30 p.m. (approx.)—Close Down.

ROME (Italy)

Ente Italiano Audizioni Radiofoniche (IRO). 680 kc/s (441 m.); 75 kW. Relayed by Naples, 905 kc/s (332 m.); and ZR0, 3,750 kc/s (80 m.).
 Transmits at intervals from 7.15 a.m. (Giornale Radio).
 4.30—5.15 p.m.—Instrumental Concert, conducted by Enrico Martucci.
 6.15 p.m. (from Naples).—Shipping.
 6.20 p.m.—Announcements.
 7.0 p.m.—Sports Notes.
 7.5 p.m.—Report of the International Institute of Agriculture (in Italian, French, English, German and Spanish).
 7.30 p.m.—Time, Announcements, Talk and Gramophone Records.
 8.0 p.m.—"A Waltz Dream"—Opera in Three Acts (O. Straus). In the intervals, Announcements, Talk on Literature and Art and Topical Talk. News after the Programme.

SCHENECTADY (U.S.A.)

General Electric Company (WGY). 790 kc/s (379.5 m.); 50 kW. Relayed by intervals by W2XAF on 9,520 kc/s (31.48 m.), and by W2XAD on 15,340 kc/s (19.56 m.).
 Transmits at intervals from 11.45 a.m.
 9.0 p.m.—Betty Moore Decorating Notes, from New York.
 9.15 p.m.—Twilight Voices, from New York.
 9.30 p.m.—Stock Report and Police Notes.
 9.45 p.m.—Book Chat.
 10.0 p.m.—News Bulletin.
 10.5 p.m.—Studio Ensemble.
 10.30 p.m.—Musical Programme from New York.
 11.0 p.m.—Weather Report.
 11.1 p.m.—Lydia Stevens (Organist) from Albany, N.Y.
 11.29 p.m.—Time Signal.
 11.30 p.m.—12 midnight.—New York Relay.
 11.30 p.m.—The Three Mustachios.
 11.45 p.m.—The Stebbins Boys.
 12 midnight (WGY only).—Stanley Hummel and Edward Morris (Pianists).
 12 midnight (W2XAF only).—Stock Reports and News.
 12.15 a.m. (Saturday).—With Gray McClintock in the Canadian North-West.
 12.30—1.30 a.m.—New York Relay.
 12.30 a.m.—Prince Albert Programme.
 12.45 a.m.—Trials of the Goldbergs.
 1.0 a.m.—Cities Service Programme.
 1.30 a.m.—WGY Agricultural Programme.
 2.0—4.15 a.m.—New York Relay.
 2.0 a.m.—Clitquot Club Eskimos.

2.30 a.m.—Pond's Programme.
 3.0 a.m.—Silver Flute.
 3.30 a.m.—RKO Programme.
 4.0 a.m.—Marion Harris (Crooner).
 4.15 a.m.—Mary Zoller (Xylophonist).
 4.30 a.m.—Annette McCullough (Crooner).
 4.45 a.m.—Vincent Lopez and his Orchestra from New York.
 5.0 a.m.—Jack Miles and his DeWitt Clinton Orchestra.
 5.30 a.m.—Doc Peyton and his Kenmore Orchestra.
 6.0 a.m. (approx.)—Close Down.

SCHWEIZERISCHER LANDESSENDER (BEROMÜNSTER) (Switzerland)

653 kc/s (459 m.); 75 kW.; Basle, 1,229 kc/s (244.1 m.); and Berne, 1,220 kc/s (246 m.).
 11.28 a.m.—Time, Weather and News Bulletin.
 11.40 a.m.—Orchestral Concert.
 12.35 p.m.—Weather Report and Exchange Quotations.
 12.45 p.m. (approx.)—2.30 p.m.—Interval.
 2.30 p.m.—"On Wings of Song"—Gramophone Music.
 2.58 p.m.—Time Signal.
 3.0 p.m.—Orchestral Concert.
 4.0 p.m. (from Zürich).—Talk for Women: Cooking Recipes.
 4.30 p.m.—Weather and Market Prices.
 4.40—5.30 p.m.—Interval.
 5.40 p.m.—Gramophone Concert. A Modern Potpourri of the Classics of Music.
 6.0 p.m. (from Basle).—Talk.
 6.15 p.m.—Sunday Sports Forecast.
 6.28 p.m.—Time and Weather.
 6.30 p.m. (from Basle).—Talk: Music of the Post-War Period, with Gramophone Illustrations.
 7.0 p.m. (from Berne).—Sacred Concert for Organ and Choir, relayed from St. Ur's Cathedral, Solothurn.
 7.45 p.m.—Orchestral Music.
 8.10 p.m.—"Johannes Brahms in Thun"—Programme of Vocal and Instrumental Music with Introductory Talk.
 9.10 p.m.—Weather and News.
 9.20 p.m.—Bulletin for Tourists and Snow Report.
 9.30 p.m. (approx.)—Close Down.

STOCKHOLM (Sweden)

Radiojäst (SASA). 680 kc/s (436 m.); 75 kW. Relayed by Boden, 244 kc/s (1,229.5 m.); Göteborg, 932 kc/s (322 m.); Hörby, 1,166 kc/s (257 m.); Motala, 222.5 kc/s (1,348 m.); Östersund, 380 kc/s (770 m.) and Sundsvall 554 kc/s (542 m.).
 Transmits at intervals from 6.15 a.m. (Gymnastics).
 4.0 p.m.—Talk for Girl Guides.
 4.20 p.m.—Gramophone Records.
 5.5 p.m.—Topical Talk.
 5.30 p.m.—Cello Recital by Roman Dukastulsky. Toccata (Frescobaldi-Cassado). Song without Words (Mendelssohn). Selections (Cas-sado): (a) Danse du Diable vert, (b) Requiebro.
 5.50 p.m.—Talk: Student Life in Uppsala in 1870—1880.
 6.15 p.m.—Weather and News.
 6.30 p.m.—Topical Talk.
 7.0 p.m.—Orchestral Concert. Soloist: Anna Edström (Songs). Overture, "Lohengrin" (Wagner). Song from "Tannhäuser" (Wagner). Selection from "The Pearl Fishers" (Bizet). Songs from (a) "A Masked Ball" (Verdi) (b) "I Pagliacci" (Leoncavallo). Orchestral Suite from "Coppélia" (Delibes). Selections (Sibelius): (a) Valse triste, (b) Humoresque. Three Songs (Järnefelt). Swedish Rhapsody, No. 2 (Hallén).
 8.25 p.m.—A Dialogue.
 8.45 p.m.—Weather and News.
 9.0 p.m.—Road Report by the Royal Automobile Club.
 9.5 p.m.—Concert of Opera Music.
 10.0 p.m. (approx.)—Close Down.

STRASBOURG (France)

Radio-Strasbourg (PTT). 869 kc/s (345 m.); 15 kW.
 Transmits at intervals from 11.30 a.m.
 7.0 p.m.—Gramophone Records.
 7.30 p.m.—Time Signal.
 7.32 p.m. (approx.)—News in French and German.
 7.45 p.m.—Gramophone Records.
 8.30 p.m.—Weber Commemoration Concert.
 10.30 p.m. (approx.)—Close Down.

STUTTGART (MÜHL-ACKER) (Germany)

Süddeutscher Rundfunk. 833 kc/s (360 m.); 75 kW. Relayed by Freiburg, 527 kc/s (570 m.).
 Transmits at intervals from 5.15 a.m. (Frankfurt Relay).
 4.5 p.m.—See Frankfurt.

5.30 p.m.—Time and News.
 5.40 p.m.—Medical Talk.
 6.5 p.m.—Talk.
 6.30 p.m.—Time and News.
 6.40 p.m. (from Freiburg).—Radio Report on the Schluchsee Operations.
 7.10 p.m. (from Mannheim).—"Die Fledermaus"—Comic Operetta in Three Acts (Joh. Strauss).
 9.20 p.m.—News Bulletin.
 9.40 p.m.—"South Pole Cantata," for Tenor and Baritone Soloists, Choir and Orchestra, Op. 38 (H. Wunsch). Soloists: F. Windgassen (Tenor) and E. Grimm (Baritone). Speaker: E. Stockinger.
 10.10 p.m. (approx.)—Close Down.

TOULOUSE (France)

Radiophonie du Midi. 779 kc/s (385 m.); 8 kW.
 Transmits at intervals from 12.45 p.m.
 6.15 p.m.—Orchestral Selections.
 6.30 p.m.—News Bulletin.
 6.45 p.m.—Orchestral Selections from "Romeo and Juliet" (Berlioz); (b) "Sigurd" (Reyer) and (c) "Le Caid" (Thomas).
 7.15 p.m.—Accordion Solos.
 7.30 p.m.—News Bulletin.
 7.45 p.m.—Military Music.
 8.0 p.m.—Songs from "Thérèse" (Massenet) and "Si j'étais Roi" (Adam).
 8.15 p.m.—Orchestral Selections.
 8.45 p.m.—Sound Film Music.
 9.0 p.m.—Concert from the Café des Américains. In the interval at 10.30 p.m.—News Bulletin.
 11.0 p.m.—Concert. In the interval at 11.15 p.m.—North African News.
 12 midnight.—Weather, Announcements and Close Down.

TRIESTE (Italy)

Ente Italiano Audizioni Radiofoniche. 1,211 kc/s (247.7 m.); 15 kW.
 Transmits at intervals from 11.30 a.m.
 7.15 p.m.—News and Announcements.
 7.30 p.m.—Time, Programme Notes and Gramophone Records.
 7.45 p.m.—See Milan.
 9.25 p.m.—Gramophone Records.
 9.55 p.m.—News Bulletin.

VIENNA (Austria)

Radio-Wien. 581 kc/s (517 m.); 20 kW. Relayed by Graz, 851 kc/s (352 m.); Innsbruck, 1,958 kc/s (283 m.); Klagenfurt, 662 kc/s (453.2 m.); Linz, 1,220 kc/s (246 m.); and Salzburg, 1,373 kc/s (218 m.).
 Transmits at intervals from 8.20 a.m.
 6.0 p.m.—Talk with Illustrations: Bird Songs in Winter.
 6.30 p.m.—Time and News.
 6.40 p.m.—Viennese Music.
 6.40 p.m.—Reading (P. Alverdes).
 7.10 p.m.—News Bulletin.
 8.25 p.m.—Second Modern Concert by the Vienna Symphony Orchestra, conducted by Oswald Kabasta. Soloist: Ernst Toch (Pianist). Pianoforte Concerto, Op. 36 (Ernst Toch). Symphonic Fragments from the Three Goldoni Comedies (Malipiero).
 9.25 p.m.—Dance Music, with Vocal Refrains.

WARSAW (Poland)

Polskie Radio, 212.5 kc/s (1,411 m.); 158 kW.
 Transmits at intervals from 10.40 a.m.
 11.10 a.m.—Gramophone Records.
 12.10 p.m.—Weather Report.
 12.15 p.m.—Economic Notes.
 12.40 p.m.—Agricultural Talk.
 1.50 p.m.—Gramophone Records.
 2.15 p.m.—Talk: Polish Singers' Associations.
 2.20 p.m.—Announcements.
 2.25 p.m.—Talk: The History of Writing.
 2.45 p.m.—Announcements.
 2.50 p.m.—Gramophone Records.
 3.20 p.m.—Talk.
 3.40 p.m.—Gramophone Records.
 3.55 p.m.—Linguaphone English Lesson.
 4.10 p.m.—Talk: Napoleon at Warsaw in 1806.
 4.35 p.m.—Orchestral Concert of Dance Music and Light Music.
 5.50 p.m.—Miscellaneous Items.
 6.15 p.m.—Agricultural Report.
 6.25 p.m.—Programme Announcements.
 6.30 p.m.—Gramophone Records.
 6.45 p.m.—Radio Journal.
 7.0 p.m.—Talk on Music.
 7.15 p.m.—Concert by the Warsaw Philharmonic Orchestra. In the interval, Literary Talk.
 9.40 p.m.—Radio Journal.
 9.45 p.m.—Weather and Police Announcements.
 9.50 p.m.—Sports Notes.
 10.0 p.m.—Dance Music from the Café Georges.
 11.0 p.m. (approx.)—Close Down.

PROGRAMMES FOR SATURDAY (December 19)

NOTE: THE HOURS OF TRANSMISSION ARE REDUCED TO GREENWICH MEAN TIME

ALGIERS (N. Africa)

825.3 kc/s (363.4 m.); 13 kW.
Transmits at intervals from 12.30 p.m.
7.45 p.m.—Medical Talk.
7.55 p.m.—News and Time.
8.0 p.m.—Gramophone Records.
8.15 p.m.—Song Recital of Old Favourites.
8.45 p.m.—Request Gramophone Concert.
9.45 p.m.—Dance Music.

BARCELONA (Spain)

Radio-Barcelona (EAI). 860 kc/s (349 m.); 8 kW.
Transmits at intervals from 7.30 a.m.
1.0 p.m.—Concert of Light Music on Gramophone Records.
1.30 p.m.—Sextet Concert. Puerta de Tierra (Albéniz). Selection from "La Marchenera" (F. Moreno Torroba). Valencian Rhapsody. El ruiseñor de la huerta (Magenti). Danza del maleficio (Romero).
2.0 p.m.—Theatre Notes and Amusement Guide, Gramophone Records and Film Review.
2.20 p.m.—Concert (contd.). Albumblatt (Wagner). En badinant (d'Ambrosio). Selection from "Dédé" (Christiné). Russian Airs (Dreyer).
2.50 p.m.—Labour Market Report.
3.0 p.m.—Programme for Hospitals and Benevolent Institutions, with Gramophone Records.
4.0—7.0 p.m.—Interval.
7.0 p.m.—Trio Concert. Spanish Serenade (Yust). Selections (Breton): (a) from "La Dolores," (b) Polo gitano, (c) Bolero.
7.30 p.m.—Exchange Quotations and Request Gramophone Records.
8.30 p.m.—Elementary English Lesson, followed by News.
9.0 p.m.—Cathedral Chimes, Weather, Agricultural Report and Market Prices.
9.5 p.m.—Orchestral Concert. Overture, "Semiramis" (Rossini). Selection from "Déjanire" (Saint-

Saëns). Waltz, Confidences (Waldteufel). Selection (Ketelbey). Los bebedores de manzanilla (Turina). Momento musical, Tamborilero vienés (Torrents).
10.5 p.m.—Programme from Madrid.

BERLIN (Germany)

Königs Wusterhausen. 183.5 kc/s (1,635 m.); 75 kW.
Transmits at intervals from 5.30 a.m. (Gymnastics).
3.30 p.m.—See Hamburg.
4.30 p.m.—Talk on Health: A Few Hints for the Christmas Festivities.
4.50 p.m.—Talk on Wireless Technique.
5.5 p.m.—German Lesson.
5.30 p.m.—Talk: Our Germanic Cultural Inheritance.
5.55 p.m.—Weather for Farmers.
6.0 p.m.—Elementary English Lesson.
6.30 p.m.—"The Quiet Hour"—Peace to Men on Earth.
7.0 p.m.—"Dances of the Nations"—a Radio Potpourri conducted by Eduard Künneke, relayed from Berlin (Witzleben).
9.0 p.m.—News Bulletin, followed by Dance Music from Berlin (Witzleben).
11.30 (approx.)—Close Down.

BERLIN (Germany)

Witzleben. 715 kc/s (418 m.); 1.7 kW.
Transmits at intervals from 5.30 a.m. (Gymnastics).
7.0 p.m.—"Dances of the Nations"—a Radio Potpourri conducted by Eduard Künneke and arranged by Cornelis Bronsgeest, followed by News and Dance Music from the Hotel Esplanade.
11.30 p.m. (approx.)—Close Down.

BORDEAUX-LAFAYETTE (France)

(PTT). 986 kc/s (304 m.); 35 kW.
12.45 p.m.—Septet Concert. News in the interval.
1.50 p.m.—Exchange Quotations.
2.0 p.m.—Gramophone Records.
3.0 p.m.—Educational Programme.
4.0 p.m.—Concert relayed from Paris (Ecole Supérieure), 671 kc/s (447.1 m.).

5.0 p.m.—Padeloup Symphony Concert relayed from the Théâtre des Champs Elysées, Paris.

6.30 p.m.—Radio Journal.
8.0 p.m.—News, Exchange and Results of the Prize Draw.
8.5 p.m.—Sports Notes.
8.10 p.m.—Advanced English Lesson.
8.25 p.m.—News Bulletin.
8.30 p.m.—Gramophone Records. After the Programme, Amusement Guide and Time Signal.

BRATISLAVA (Czechoslovakia)

1,076 kc/s (279 m.); 14 kW.
Transmits at intervals from 10.0 a.m.
6.0 p.m.—See Prague.
6.50 p.m.—See Brno.
7.30 p.m.—See Prague.
9.20 p.m.—Announcements.
9.25 p.m.—See Moravská-Ostrava.
11.0 p.m. (approx.)—Close Down.

BRNO (Czechoslovakia)

878 kc/s (342 m.); 3 kW.
Transmits at intervals from 10.0 a.m.
6.0 p.m.—See Prague.
6.50 p.m.—"Christmas in Slovakia"—Pictures of Life in Slovakia.
7.30 p.m.—See Prague.
9.20 p.m.—Announcements.
9.25 p.m.—See Moravská-Ostrava.
11.0 p.m. (approx.)—Close Down.

BRSSELS (Belgium) (No. 1)

I.N.R. 590 kc/s (509 m.); 20 kW.
12.15—1.45 p.m.—Gramophone Concert. Selections from Acts 1, 2 and 3 of "La Bohème" (Puccini).
5.0 p.m.—Gramophone Concert—Rabaud Programme. Divertissement on Russian Themes. Eglogue. Chanson des Epées from "La Fille de Roland." La Procession nocturne. Selection and Ballet Music from "Marouf."
6.0 p.m.—Gramophone Records.
6.15 p.m.—Gramophone Concert. Waltz in C Sharp Minor (Chopin). La Capricieuse (Elgar). Pièce héroïque (C. Franck). Overture, "Pique Dame" (Suppé). Bolero in C Major (Chopin). Spanish Dance (Granados-Kreisler). Serenade (Chaminade-Kreisler). Recitation from "Cyrano de Bergerac" (Ros-

tand). Selection from "The Flying Dutchman" (Wagner-Liszt). Andante religioso (Thomé). Caro mio ben (Giordani). Du bist die Ruh' (Schubert).

7.15 p.m.—Talk: The Return to Nature.
7.30 p.m.—Literary Review.
8.0 p.m.—Opera Selection: "La Fille de Madame Angot" (Lecocq). In the intervals, Humorous Gramophone Records and Le Journal Parlé.

BRSSELS (Belgium) (No. 2)

N.I.R. 887 kc/s (338.2 m.); 20 kW.
Programme in Flemish.
12.15—1.45 p.m.—Gramophone Concert of Light Music.
5.0 p.m.—Dance Music.
6.15 p.m.—Talk: Individualisation in Teaching.
6.30 p.m.—Gramophone Records. Selection from "Les Mousquetaires au Couvent" (Varney). "The Jewish Child (Stevens). Selection (David). Selections (Ganne): (a) Waltz, Les Baigneuses, (b) Nocturne. An Evening in Vienna. Parade de Cupidon (Rivelli). Hochzeitszug in Lilliput (Translateur). Song (Stoltz). Waarom zou ik niet (Freed). Potpourri, Dividenden (Morena).
7.15 p.m.—Talk: Nationalism and Socialism.
7.30 p.m.—Agricultural Review.
8.0 p.m.—Mandoline Concert, conducted by M. Ranieri.
8.45 p.m.—Reading.
9.0 p.m.—Orchestral Concert relayed from Antwerp.
10.0 p.m.—Le Journal Parlé.

BUCHAREST (Romania)

Radio-Bucarest. 761 kc/s (394 m.); 16 kW.
Transmits at intervals from 11.0 a.m.
7.0 p.m.—Orchestral Concert.
7.30 p.m.—Talk.
7.45 p.m.—Orchestral Concert.
8.15 p.m.—Romanian Music.
9.0 p.m.—News Bulletin.

BUDAPEST (Hungary)

545 kc/s (550 m.); 23 kW.
Transmits at intervals from 8.15 a.m.

5.50 p.m.—The Letter Box.
6.25 p.m.—Talk on the following Transmission.
6.30 p.m.—Relay from the Royal Hungarian Opera House. In the interval, Weather and News, followed by Tzigane Concert from the Café Bodo.

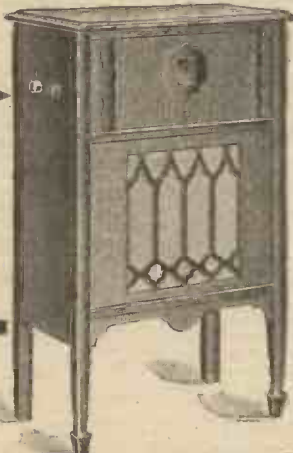
COLOGNE (Germany)

Westdeutscher Rundfunk. 1,319 kc/s (227 m.); 1.7 kW.
See Langenbergs.

COPENHAGEN (Denmark)

1,067 kc/s (281 m.); 0.75 kW.
Relayed by Kalundborg, 260 kc/s (1,153 m.).
Transmits at intervals from 6.30 a.m. (Gymnastics).
11.0 a.m.—Town Hall Chimes.
11.2 a.m.—Concert from the Wivex Restaurant.
1.30 p.m.—Gramophone Concert.
2.0 p.m.—Programme for Children: "With Father Christmas into the Land of Toys"—a Christmas Play for the Radio with Songs.
2.30 p.m.—Orchestral Concert, conducted by Launy Gröndahl. Two Selections (Peterson-Berger): (a) Dalmarch, (b) Ved Frøse Kirke. Selection from the Suite "In Brittany" (Rhené-Baton). Mazurka, La Mousmée (Ganne). Fantasia on Carinthian Folk Melodies. Scherzo (Lalo). March, El Capitan (Sousa). Reading from "Angel Pavement" (J. B. Priestley). Overture, "Elisa" (Kuhlau). Two Selections from "A Summer Day in the Country" (Gade). The Dryads' Swan Song (J. P. E. Hartmann). Waltz, Resignation (Lumbye). Pepita Polka (Lumbye). Champagne Gallop (Lumbye).
4.40 p.m.—Exchange; Market Prices.
4.50 p.m. (from the Esbjerg Studio)—Talk on Christmas Tales.
5.20 p.m.—French Lesson.
5.50 p.m.—Weather and News.
6.15 p.m.—Time Signal.
6.30 p.m.—Talk: The Evolution of the Danish Language from Holberg to Modern Times.
7.0 p.m.—Town Hall Chimes.
7.2 p.m.—Concert of Gay Parisian

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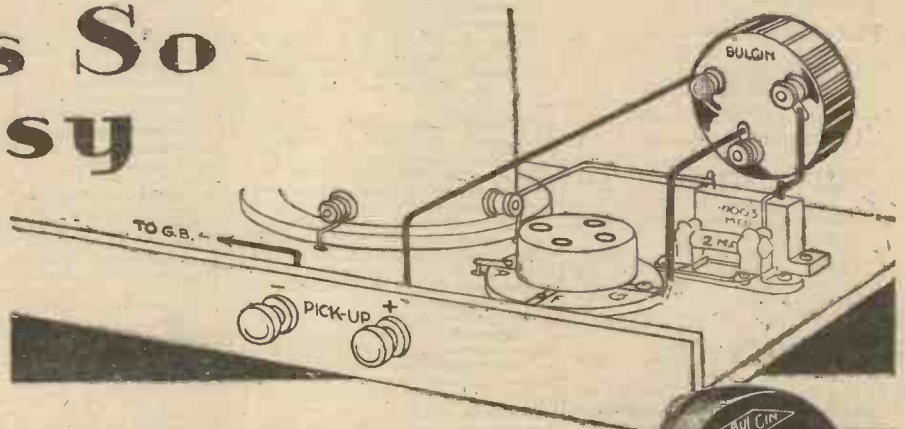
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Programmes for Saturday—(Cont.)

Melodies of the Eighties and Nineties, conducted by Emil Reesen. March, Le père La Victorie (Ganne). Waltz, Tout Paris (Waldteufel). Selection from "Mam'zelle Nitouche" (Hervé). Mazurka, La Tzigane (Ganne). Prestissimo-Gallop (Waldteufel). 7.30 p.m.—Reading (Dan Folke). 7.50 p.m.—Concert of Modern Music by the Radio Wind Instrument Orchestra, conducted by Emil Reesen. Three Military Marches (Kurt Wiell). Spiel für Blasmusik (Ernst Toch). 8.20 p.m.—Recital of Old Danish Songs. Two Songs (Heise): (a) Hvor Skoven mest var øde, (b) Lille Karen. Two Selections (Weyse): (a) I Osten stiger Solen op, (b) Kommer hid I Piger smaa. Jens Vejmand (Carl Nielsen). 8.35 p.m.—"The Hansen Family"—a Humorous Episode (Jens Locher). 8.50 p.m.—Concert of Classical Minuets and Gavottes, by the Radio Orchestra, conducted by Emil Reesen. Violin Solo: Minuet from the Music to "Le Bourgeois Gentilhomme" (Lully). Gavotte (Bach). Minuet (Boccherini). Gavotte (Gossec). Oxen Minuet (Haydn). 9.10 p.m.—News Bulletin. 9.25 p.m.—Modern Pianoforte Music. 9.40 p.m.—Bellman Songs to the Lute. 10.0 p.m.—Dance Music from the Industri Restaurant. 11.0 p.m. (in an interval).—Town Hall Chimes. 11.15 p.m. (approx.).—Close Down.
DUBLIN (Ireland) (2RN). 725 kc/s (413 m.); 1.5 kW. Relayed by Cork, 1,337 kc/s (224.4 m.). 1.30—2.0 p.m.—Time Signal, Weather Report, Stock Exchange Quotations and Gramophone Concert. 7.20 p.m.—News Bulletin. 7.30 p.m.—Time Signal. 7.32 p.m.—Monologues by Paula Luby. 7.45 p.m.—Gaedhlig by Seamus O'Duirinne. 8.0 p.m.—"Faust"—Opera (Gounod) by the Augmented State Orchestra, Station Opera Chorus and Soloists, conducted by Mr. Vincent O'Brien. 10.30 p.m.—Time Signal, News Bulletin, Weather Report and Close Down.

FRANKFURT-am-MAIN (Germany) 770 kc/s (390 m.); 1.7 kW. Relayed by Cassel, 1,220 kc/s (246 m.). Transmits at intervals from 5.15 a.m. (Weather and Gymnastics). 3.20 p.m.—See Stuttgart. 4.0 p.m.—Economic Notes. 4.5 p.m.—Concert of Operetta Music, by Josef Freund and his Concert Orchestra relayed from Mainz. Overture, "La belle Hélène" (Offenbach). Waltz, Sphärenklänge (Joh. Strauss). Selection from "Rose-Marie" (Friml). Prelude to "Das Pensionat" (Suppé). Indigo-March (Joh. Strauss). Waltz, Donauweibchen (Joh. Strauss). Selection from "Show Boat" (Kern). Waltz from "Die Puppenfee" (Jos. Bayer). Waltz from "Where the Lark sings" (Lehár). Theatre March (Fall). 5.30 p.m.—Economic Notes. 5.40 p.m.—Talk: Over the Crest of the Vosges Mountains. 6.5 p.m.—Spanish Language Lesson. 6.30 p.m.—Time, Programme Announcements, Weather and Economic Notes. 6.35 p.m.—A Short Guide to the Christmas Books by Willy Haas. 6.45-11.0 p.m.—See Stuttgart.

HAMBURG (Germany) Norag (ha, in Morse). 806 kc/s (372 m.); 1.7 kW. Relayed by Bremen, 1,112 kc/s (270 m.); Flensburg, 1,373 kc/s (218 m.); Hanover, 530 kc/s (566 m.); and Kiel, 1,292 kc/s (232.2 m.). Transmits at intervals from 5.30 a.m. (Time and Weather). 3.30 p.m.—Orchestral Concert, conducted by José Eibenschütz. Soloist: Gerhard Gregor (Organist). Overture, "Il Seraglio" (Mozart). Moldavia, from the Cycle "My Country" (Smetana). Danse macabre (Saint-Saëns). Organ Solos: (a) Bell Scherzo (Lemare), (b) Pièce héroïque (Bossi). Spanish Caprice (Rimsky-Korsakoff). Waltz, Wiener Blut (Joh. Strauss). Eine Sängerkapelle nach Wien—a Gay Concert, Radio and Sound Film Potpourri on Motives from Viennese Songs and Dances (Silvling). Chromatic Gallop (Liszt).

5.0 p.m. (from Hanover).—Variety Programme. 6.55 p.m.—Weather Report. 7.0 p.m.—Request Programme. 9.0 p.m.—Weather Report, Political and Miscellaneous Announcements, Sports Notes, Local News and Police Notes. 9.20 p.m.—Topical Talk. 9.30 p.m.—Dance Music from the Café "Haus Siegler." In the interval at 10.20 p.m.—Ice Report.

HEILSBURG (Germany) 1,085 kc/s (276.5 m.); 75 kW. Relayed by Danzig, 662 kc/s (453.2 m.). Transmits at intervals from 5.30 a.m. (Gymnastics). 10.40 a.m.—Orchestral Concert, conducted by Eugen Wilcken. Overture, "Albin" (Flotow). Waltz, The Good Old Times (Jos. Strauss). Suite from "Kassya" (Delibes). Selection from "La dame blanche" (Boieldieu). Overture, "Paraphrase Three" (Suppé). Waltz from "Three Old Maids" (Kollo). Fantasia on "Tom the Rhymer" (Hohmann-Webau). Selection from "The Duchess of Chicago" (Kalmán). 12.40—1.30 p.m.—Gramophone Concert. 2.30 p.m. (from Danzig).—Two Talks for Children: (a) Handwork for the Little Ones, (b) Father Christmas is coming! 3.0 p.m.—Talk: Colonisation in East Prussia during the Last Four Centuries. 3.40 p.m.—International Market Prices. 3.40 p.m.—Programme Announcements in Esperanto. 3.45 p.m.—Programme Forecast. 4.0 p.m.—Book Review: "Mothers and Amazons" (Sir Galahad). 4.10 p.m.—Programme (to be announced) relayed from Berlin (Witzleben). In the interval, Ice Report and Market Prices. 5.55 p.m.—"Minnesinger's Competition"—Manuscript and Introductory Talk by Dr. Hans Steinger. Music by Prof. Müller-Blattau. 6.30 p.m.—Wind Instrument Concert by Members of the Königsberg Opera House. Gustav Haberstroh (Clarinet), Osywin Bräutigam (Clarinet) and Fritz Wagner (Bassoon). Divertimento in C Major, Op. 3, for Two Clarinets and Bassoon (Mozart). 6.55 p.m.—Weather Report. 7.0 p.m.—See Berlin (Witzleben). In the interval at 9.0 p.m. (approx.).—Weather, News and Sports Notes. 11.30 p.m. (approx.).—Close Down.

HILVERSUM (Holland) 1,004 kc/s (298.8 m.); 8.5 kW. 6.25—9.40 a.m.—Programme of the Workers' Radio Society (V.A.R.A.). 6.25—6.40 a.m. and 7.10—7.25 a.m.—Gymnastics. 7.40 a.m.—Gramophone Records. 9.40 a.m.—Religious Programme by the Liberal Protestant Radio Society (V.P.R.O.). 9.55 a.m. till Close Down.—V.A.R.A. Programme. 9.55 a.m.—Quintet Concert with Songs and Recitations. 11.40 a.m.—Septet Concert and Gramophone Records. 1.25—1.55 p.m.—Interval. 1.55 p.m.—Talk by Mr. Gerhard. 2.10 p.m.—Gramophone Records. 2.40 p.m.—Programme on the occasion of the Anniversary of the Workers' Sports Association. Addresses. 3.10 p.m.—Chamber Music Concert. 3.50 p.m.—Topical Talk. 4.5 p.m.—Chamber Music. 4.55 p.m.—Political Talk. 4.40 p.m.—Mandoline Concert. 5.10 p.m.—Talk (to be announced). 5.40 p.m.—Mandoline Concert. 6.0 p.m.—Literary Talk. 6.30 p.m.—Popular Songs for Choir. 7.0 p.m.—Talk by Mr. de Vries. 7.10 p.m.—Variety Items. 8.25 p.m.—Programme to be announced. 8.40 p.m.—Topical Talk. 8.55 p.m.—Orchestral Concert, conducted by Hugo de Groot. March, Entry of the Gladiators (Fucik). Waltz Potpourri (Cieré). Saxophone Solo: Souvenir (Drda). The Bird and the Roses (Démarrée). Alpenballet (v. Weezel). March, The Rotterdam Flag (Verhallen). 9.55 p.m.—News Bulletin. 10.10 p.m.—Concert (continued). Overture, "Si j'étais roi" (Adam). Dream of Love after the Ball (Czibulka). Baby Parade (Mannfred). In a Monastery Garden (Kettelbey). The Clock and the Dresden Figures (Kettelbey). Selection from "Carmen" (Bizet). 10.55 p.m.—Popular Programme. 11.40 p.m. (approx.).—Close Down.

HUIZEN (Holland) 160 kc/s (1,875 m.); 8.5 kW. Transmits at intervals from 7.40 a.m. Programme of the Catholic Radio Society (K.R.O.). 11.55 a.m.—Sextet Concert. Mein liebes Mädel du sollst nicht weinen (Abraham). Will dir die Welt zu Füßen legen (Abraham). Puppenwalzer (Bayer). Scala Erinnerungen (Neumann). Suite orientale (Popy). Sag ja (Kálmán). 1930 Potpourri (Nicholls). Blume von Hawaii (Abraham). Waltz, Roses of the South (Strauss). A toi! (Elliot). In meinem grünen Garten (Reisfeld). 1.25 p.m.—Gramophone Records. 2.10 p.m.—Programme for Children. 3.40 p.m.—News in Esperanto. 3.55 p.m.—Gramophone Records. 4.45 p.m.—Concert. March (Pauw); Overture, "The Black Domino"; (Auber). Ballet Music from "Hamlet" (Thomas). March, Le combattant (Liszt). Selections from "Lohengrin" (Wagner). Overture, "William Tell" (Rossini). Czardas from "Der Geist der Wojewoden" (Grossman). March. In the interval at 5.25 p.m.—Political Talk. 6.20 p.m.—Lesson in Esperanto. 6.50 p.m.—Talk. 7.10 p.m.—Police Notes. 7.25 p.m.—Sports Talk. 7.40 p.m.—Vocal and Orchestral Concert, with Variety Items. In the interval at 8.40 p.m.—News. 10.40 p.m.—Gramophone Records. 11.40 p.m. (approx.).—Close Down.

KALUNDBORG (Denmark) Kalundborg Radio. 260 kc/s (1,153 m.); 7.5 kW. See Copenhagen. LANGENBERG (Germany) Westdeutscher Rundfunk. 635 kc/s (473 m.); 17 kW. Relayed by Aachen, Cologne and Münster, 1,319 kc/s (227 m.). Transmits at intervals from 5.45 a.m. (Exercises). 4.0 p.m.—Instrumental Concert. 5.0 p.m.—Talk: The Social Position of the Business Woman. 5.40 p.m.—Talk: Industrial and Social Politics. 6.0 p.m.—Weather, Time, Economic and Sports Notes. 6.15 p.m.—Notes from Radio Literature. 6.30 p.m.—Masters of Travel Description: "A Journey to Greece" (R. G. Binding). 6.55 p.m.—News Bulletin. 7.0 p.m.—Vocal and Orchestral Concert in Aid of the Wireless Winter Relief Fund. 9.45 p.m.—News and Sports Notes. 10.0 p.m.—Gramophone Records of Famous Dance Bands. 11.0 p.m.—Late Concert (after 11.30 p.m.). Langenberg and Zeesen, on 31.38 m. only). Reichswehr-Marsch (Ettinger). Waltz, Nordseestürme (Döring). Overture, "Das Nachtlager in Granada" (Kreutzer). Suite, From the Kingdom of the Sun (Yoshitomo). Selections from "Carmen" (Bizet). Potpourri Suppé's Stage Works (Rhode). Suite from "Im Reiche des Indra" (Lincke). Renggalopp (Ganz). 12.30 a.m. (Sunday).—Close Down.

LEIPZIG (Germany) 1,157 kc/s (259 m.); 2.3 kW. Relayed by Dresden, 941 kc/s (319 m.). Transmits at intervals from 5.30 a.m. 6.0 p.m.—Talk: Modern Acoustical Questions—the Measurement of Sound. 6.25 p.m.—Egon Kornauth Recital. The Composer at the Pianoforte. Five Songs with Pianoforte accompaniment. Sonata for Violin and Pianoforte, Op. 9. 7.0 p.m.—Literary Cabaret Programme. 9.0 p.m.—News, followed by Dance Music. 11.0 p.m. (approx.).—Close Down.
LJUBLJANA (Yugoslavia) 522 kc/s (574.7 m.); 2.8 kW. Transmits at intervals from 11.15 a.m. 4.0 p.m.—Quintet Concert. 5.0 p.m.—Reading. 5.30 p.m.—Music Lesson. 6.0 p.m.—English Lesson. 6.30 p.m.—Programme for Business Men. 7.0 p.m.—Military Music. 9.0 p.m.—News Bulletin. 9.15 p.m.—Light Music.
LWÓW (Poland) 788 kc/s (381 m.); 21 kW. Transmits at intervals from 10.40 a.m. 3.20 p.m.—See Warsaw. 3.40 p.m.—Gramophone Records. 3.50 p.m.—Talk on Fashions. 4.0 p.m.—Gramophone Records. 4.10 p.m.—Talk: The Inconstancy of Art Forms.

4.35 p.m.—Soprano Song Recital from the Works of Grieg, followed by Pianoforte Recital from the Works of Chopin. 5.5—5.50 p.m.—See Warsaw. 5.50 p.m.—Miscellaneous Items. 6.15 p.m.—See Warsaw. 6.25 p.m.—Talk: Intellectual Life in the Provinces. 6.45—10.0 p.m.—See Warsaw. 10.0 p.m.—Dance Music from the Bristol-Palais de Danse. 11.0 p.m. (approx.).—Close Down.

MADRID (Spain) Union Radio (EAJ7). 707 kc/s (424.3 m.); 2 kW. Transmits at intervals from 8.0 a.m. 7.0 p.m.—Chimes, Market Prices and Request Gramophone Records. In the interval at 8.0 p.m.—News. 8.30—10.0 p.m.—Interval. 10.0 p.m.—Chimes, Time and Musical Comedy Selection. 12 midnight.—Chimes and News. 12.30 a.m. (Sunday).—Close Down.
MILAN (Italy) Ente Italiano Audizioni Radiofoniche. 598 kc/s (501.7 m.); 8.5 kW. Relayed by Turin, 1,094 kc/s (274.2 m.); and Genoa, 959 kc/s (312.8 m.). Transmits at intervals from 7.15 a.m. (Giornale Radio). 4.10 p.m.—Light Music. 5.0—5.20 p.m.—Announcements. 6.0 p.m.—Agricultural Notes. 6.15 p.m.—Musical Selections. 6.40 p.m.—Announcements. 6.45 p.m.—Gramophone Records. 7.0 p.m. (in the interval).—Time and News. 7.30 p.m.—French Lesson on Gramophone Records. 7.45 p.m.—Talk: Events and Problems. 8.0 p.m.—Variety Programme. Review of New Books in the interval. 10.0 p.m.—Giornale Radio and Dance Music. 10.55 p.m.—News Bulletin.

MORAVSKÁ-OSTRAVA (Czechoslovakia) 1,139 kc/s (263 m.); 11 kW. Transmits at intervals from 10.0 a.m. 6.0 p.m.—See Prague. 6.50 p.m.—See Brno. 7.30 p.m.—See Prague. 9.20 p.m.—Announcements. 9.25 p.m.—"Olga Nikolajevna"—One-Act Comedy (A. Avertchenko), followed by Songs, Instrumental Solos and Orchestra Selections. 11.0 p.m. (approx.).—Close Down.

MUNICH (Germany) 563 kc/s (533 m.); 1.7 kW. Relayed by Augsburg and Kaiserslautern, 536 kc/s (560 m.), and Nürnberg, 1,256 kc/s (239 m.). Transmits at intervals from 5.45 a.m. 6.5 p.m.—Wireless Notes. 6.20 p.m.—"Uhlenhorster Kinder"—Waltzes and Melodies by O. Fetras, 1854-1931. Orchestral Concert, conducted by Erich Kloss, with Commentary by Paul Heinrich Gehly. 7.20 p.m.—Two Plays: (a) "The Christmas Night Guest"—after the Story "Das heilige Rauchmahl" (Gertrud Lent-Badenweiler), and (b) "Zacherl der Architect"—One-Act Comedy (Lena Christ). 8.45 p.m.—Wireless Notes. 8.50 p.m.—Fritz Horrmann in a Little Cabaret Programme. 9.20 p.m.—Time and News. 9.45 p.m.—Military Band Concert from the Café Königshof, Nürnberg. 11.0 p.m. (approx.).—Close Down.

OSLO (Norway) Kringkastingselskapet. 277 kc/s (1,083 m.); 75 kW. Relayed by Fredrikstad, 816 kc/s (367.6 m.); Hamar, 536 kc/s (560 m.); and Notodden, 671 kc/s (447.1 m.); Porsgrund, 662 kc/s (453.2 m.), and Rjukan, 671 kc/s (447.1 m.). Transmits at intervals from 10.10 a.m. 6.0 p.m.—News Bulletin. 6.30 p.m.—Talk: The October Revolution in Brazil. 7.0 p.m.—Orchestral Concert. 8.35 p.m.—News Bulletin. 8.50 p.m.—Topical Talk. 9.5 p.m.—Student Songs of the Last Thirty Years. 9.35 p.m.—Dance Music from the Grand Hotel. 11.0 p.m. (approx.).—Close Down.

PARIS (France) Eiffel Tower (FLE). 207.5 kc/s (1,445.7 m.); 15 kW. Time Signals (on 2,650 m.). at 9.26 a.m. and 10.26 p.m. (preliminary and 6-dot signals). 5.45 p.m.—Le Journal Parlé. 7.20 p.m.—Weather Forecast. 7.30 p.m.—Gramophone Records. 7.45 p.m.—Dramatic Programme: (a) "Telephone"—Sketch (H. La Barthe) and (b) "Comie Tableaux" (Georges Courteline).

PARIS (France) Poste Parisien. 514 kc/s (328.2 m.); 1.2 kW. 8.15 p.m.—Gramophone Records and News Bulletin. 8.45 p.m.—Theatre Talk, Gramophone Records and News Bulletin. 9.0 p.m.—Concert, with the collaboration of Artists from the Opera and Opéra-Comique. Overture, "Ramuntcho" (Pierné). Second Suite from "Histoires" (Jacques Ibert). Scherzo, L'Apprenti sorcier (Paul Dukas). The Young Prince and the Young Princess—Third Part of "Scheherazade" (Rimsky-Korsakoff), conducted by M. Francis Casadesu. Sevilla (Turina). Berceuse (Ravel). Oriental Dance (Glazounoff).

PARIS (France) Radio-Paris (CFR). 174 kc/s (1,725 m.); 80 kW. Transmits at intervals from 6.45 a.m. (Physical Culture). 9.0 a.m.—Concert relayed from the Conservatoire. 12.30 p.m.—Gramophone Concert. March from "Tannhäuser" (Wagner). Méditation from "Thaïs" (Massenet). Aria from "Benvenuto Cellini" (Diaz). Selections from "Lakmé" (Delibes). "La Poupée" (Audran) and "Messidor" (Bruneau). Cinema Organ Selections: (a) Wedding Waltz (Lincke), (b) Gold and Silver (Lehar). Selections (Delmet): (a) Le vieux mendiant, (b) Berceuse d'amour. Waltz, Voici mon cœur (Crémieux). La soupe à Toto (Noël) by the Composer. Foxtro, White Tulips (Burke). Marche des petits pierrôts (Bosc). In the interval at 1.0 p.m.—Exchange; News and Weather and at 1.30 p.m.—Exchange Quotations. 2.0 p.m.—Exchange Quotations. 3.0 p.m.—Programme for Children. 3.45 p.m.—Exchange and Market Prices.

5.0 p.m.—Concert relayed from the Salle Gaveau. 6.40 p.m.—Market Prices, Agricultural Report, Exchange, Racing Results and Weather. 7.0 p.m.—Talk arranged by the Union des Grandes Associations Françaises. 7.10 p.m.—Astronomical Talk: Small and Large Stars. 7.30 p.m.—Book-keeping Lesson. 7.45 p.m.—Commercial Prices, Economic and Social Notes and News. 8.0 p.m.—Readings from the Works of Catulle Mendès. 8.30 p.m.—News Bulletin. 8.40 p.m.—Talk. 8.45 p.m.—A Revue by M. Moris and the little Gisèle Parry. 9.15 p.m.—News and Time. 9.30 p.m.—Gramophone Concert.

PRAGUE (Czechoslovakia) 614 kc/s (488.6 m.); 120 kW. Transmits at intervals from 10 a.m. 4.10 p.m.—Topical Review. 4.20 p.m.—German Lesson. 4.35 p.m.—Literary Programme. 5.5 p.m.—Agricultural Report. 5.15 p.m.—Talk: The Workers' Amateur Theatre and its Task. 5.25 p.m.—News in German. 5.30 p.m.—German Programme. A play for Young People. 6.0 p.m.—Chimes and News. 6.5 p.m.—Talk: The Origin and Development of the Earth, of Life and of Mankind in the Light of recent Scientific Discoveries. 6.20 p.m.—Brass Band Concert. March from the Marriage of Figaro (Mozart). Waltz, Humoresque (Dvorák). Tango (Jirak). Polka (Hrubes). Passacaglia (Barthe). Polka (Komzák). Rakoczký March (Komzák). 6.50 p.m.—See Brno. 7.30 p.m.—Light Concert. In the interval at 8.0 p.m.—Time Signal. 9.0 p.m.—Time and News. 9.20 p.m.—Announcements. 9.25 p.m.—See Moravská-Ostrava. 11.0 p.m. (approx.).—Close Down.

RADIO-SUISSE ROMANDE (SOTTENS) (Switzerland) 743 kc/s (403 m.); 25 kW; Lausanne, 442 kc/s (680 m.); and Geneva, 395 kc/s (760 m.). Transmits at intervals from 11.30 a.m. 6.1 p.m. (from Lausanne).—Gramophone Records. 6.55 p.m.—News Bulletin.—Talk: A Visit to the Noah's Ark of Zamaoës. 7.30 p.m. (from Geneva). Symphony Concert, conducted by M. E. Ansermet. Soloist: M. N. Milstein ("Cellist"). In the interval at 8.15 p.m. (approx.).—Weather and News. 9.15 p.m. (from Geneva).—Dance Music from the Moulin Rouge. 10.0 p.m. (approx.).—Close Down.
ROME (Italy) Ente Italiano Audizioni Radio-

Programmes for Saturday—(Cont.)

foniche (1RO). 680 kc/s (441 m.); 75 kW. Relayed by Naples, 905 kc/s (332 m.); and 2RO, 3,750 kc/s (80 m.).
 Transmits at intervals from 7.15 a.m. (Giornale Radio).
 4.30—5.15 p.m.—*Instrumental Concert*, conducted by Enrico Marucci. Overture, "Le roi l'a dit" (Delibes). Concert Etude in E Flat for Harp (Goria). Liebestraum (Liszt). Two Selections (Glazounoff): (a) Meditation, (b) Spanish Serenade. Harp Solo (Thomas). Selection from "Resurrection" (Alfano).
 6.20 p.m.—Agricultural Notes and Giornale Radio.
 6.32 p.m.—Atmospheric Signals.
 6.40 p.m.—Announcements.
 7.0 p.m.—Sports Notes; Press Review.
 7.30 p.m.—Time and Announcements.
 7.35 p.m.—French Lesson on Gramophone Records.
 8.0 p.m.—"La Fiamminga"—Musical Tragedy in One Act (Donaudy). Review of New Books and Sports Notes. "Sette Canzoni"—Seven Dramatic Impressions (Malipiero). 9.55 p.m.—News Bulletin.
SCHENECTADY (U.S.A.)
 General Electric Company (WGY). 790 kc/s (379.5 m.); 50 kW. Relayed at intervals by W2XAF on 9,530 kc/s (31.48 m.), and by W2XAD on 15,340 kc/s (19.56 m.). Transmits at intervals from 11.45 a.m. 9.0 p.m.—Phil Spitalny's Orchestra, from New York.
 10.0 p.m.—Studio Ensemble.
 10.30 p.m.—Uncle Jim.
 11.0 p.m.—Jack Miles and his DeWitt Clinton Orchestra.
 11.29 p.m.—Time Signal.
 11.30 p.m.—American Trio.
 11.44 p.m.—Weather Report.
 11.45 p.m.—Municipal Series.
 12 midnight (WGY only).—Bernard Silberg (Cellist).
 12 midnight (W2XAF only).—Stock Reports and News.
 12.15 a.m. (Sunday).—With Gray McClintock in the Canadian North-west.
 12.30—1.0 a.m.—New York Relay.
 12.30 a.m.—Prince Albert Programme.

12.45 a.m.—Trials of the Goldbergs.
 1.0 a.m.—WGY Players.
 1.30—4.15 a.m.—New York Relay.
 1.30 a.m.—National Advisory Council Programme.
 2.0 a.m.—Goodyear Programme.
 2.30 a.m.—Club Valspar.
 3.0 a.m.—Lucky Strike Dance Hour.
 4.0 a.m.—Marion Harris (Crooner).
 4.15 a.m.—Gordie Randall's Van Curler Orchestra.
 4.45 a.m.—Hotel New Yorker Orchestra from New York.
 5.0 a.m.—Jack Miles and his DeWitt Clinton Orchestra.
 5.30 a.m.—Doc Peyton and his Kenmore Orchestra.
 6.0 a.m. (approx.).—Close Down.
SCHWEIZERISCHER LANDESENDER (BEROMÜNSTER) (Switzerland)
 653 kc/s (459 m.); 75 kW.; Basle, 1,229 kc/s (244.1 m.); and Berne, 1,220 kc/s (246 m.).
 11.28 a.m.—Time, Weather and News Bulletin.
 11.37 a.m.—Snow Report and Talk on Winter Sports.
 11.45 a.m.—Gramophone Concert of Light Music.
 12.35 p.m.—Weather Report and Exchange Quotations.
 12.45 (approx.)—2.30 p.m.—Interval.
 2.30 p.m. (from Zürich).—Accordion Concert.
 2.58 p.m.—Time Signal.
 3.0 p.m.—Gramophone Records of Christmas Music.
 4.0 p.m. (from Berne).—Programme for Young People.
 4.30 p.m.—Weather Report and Market Prices.
 4.40 p.m. (approx.).—5.30 p.m.—Interval.
 5.30 p.m.—Gramophone Records of Music from New Sound Films.
 6.0 p.m. (from Zürich).—Chimes from the Zürich Churches.
 6.15 p.m. (from Zürich).—Talk by Walter ab Holenstein.
 6.28 p.m.—Time and Weather.
 6.30 p.m. (from Zürich).—Talk on Health: Nerves and how to fight against them.
 7.0 p.m. (from Basle).—Concert by the Münchenstein Music Society relayed from the Isaak Iselin-Schulhaus.
 8.0 p.m.—"Higher Mathematics"—

a Musical Comedy in Two Acts (Hans Visscher van Gaasbeek). Music from the Opera "Fanchò" by F. H. Himmel.
 9.0 p.m.—Weather and News.
 9.15 p.m.—Dance Music on Gramophone Records.
 10.0 p.m. (approx.).—Close Down.
STOCKHOLM (Sweden)
 Radiotjänst (SASA). 689 kc/s (436 m.); 75 kW. Relayed by Boden, 244 kc/s (1,229.5 m.); Göteborg, 932 kc/s (322 m.); Hörby, 1,166 kc/s (257 m.); Motala, 222.5 kc/s (1,348 m.); Östersund, 389 kc/s (770 m.); and Sundsvall, 554 kc/s (542 m.).
 Transmits at intervals from 6.15 a.m. (Gymnastics).
 3.0 p.m.—Exchange Quotations and Concert of Light Music.
 4.0 p.m.—Programme for Children.
 4.30 p.m.—Variety Programme, relayed from Sundsvall.
 5.10 p.m.—Gramophone Records.
 6.0 p.m.—Humorous Talk, relayed from Göteborg.
 6.30 p.m.—Old Dance Music.
 7.15 p.m.—Talk on Shorthand.
 7.45 p.m.—Cabaret Programme.
 8.45 p.m.—Weather and News.
 9.0 p.m.—Modern Dance Music.
 10.0 p.m. (approx.).—Close Down.
STRASBOURG (France)
 Radio-Strasbourg (PTT). 869 kc/s (345 m.); 15 kW.
 Transmits at intervals from 11.30 a.m. 7.0 p.m.—Gramophone Records.
 7.30 p.m.—Time Signal.
 7.32 p.m.—News in French and German.
 7.45 p.m.—Gramophone Concert.
 8.30 p.m.—Pianoforte Recital of Viennese Music.
 10.30 p.m.—Dance Music from the Savoy.
 12 midnight (approx.).—Close Down.
STUTTGART (MÜHLACKER) (Germany)
 Süddeutscher Rundfunk. 833 kc/s (360 m.); 75 kW. Relayed by Freiburg, 527 kc/s (570 m.).
 Transmits at intervals from 5.15 a.m. (Frankfurt Relay).
 3.20 p.m. (from Karlsruhe).—Wind Instrument Music by the Philharmonic Orchestra.
 4.5 p.m.—See Frankfurt.
 5.30 p.m.—Time and Talk.

6.5 p.m.—See Frankfurt.
 6.30 p.m.—Time; Weather; Sports Notes.
 6.45 p.m.—Choral Concert of Old Folk Songs.
 7.15 p.m.—Orchestral Concert with Humorous Interludes and Selections by a Balalaika Orchestra.
 9.15 p.m.—News Bulletin.
 9.35 p.m.—Dance Music.
 11.0 p.m. (approx.).—Close Down.
TOULOUSE (France)
 Radiophonie du Midi. 779 kc/s (385 m.); 8 kW.
 Transmits at intervals from 12.45 p.m. 6.0 p.m.—Orchestral Selections.
 6.15 p.m.—Songs from "La Dame blanche" (Boieldieu) and "Benvenuto Cellini" (Diaz).
 6.30 p.m.—News Bulletin.
 6.45 p.m.—Light Music.
 7.0 p.m.—Accordion Solos.
 7.15 p.m.—Popular Songs.
 7.30 p.m.—News Bulletin.
 7.45 p.m.—Gramophone Records.
 8.0 p.m.—Orchestral Selections.
 8.30 p.m.—Sound Film Music.
 8.45 p.m.—Orchestral Selections.
 9.0 p.m.—Orchestral Selections.
 9.15 p.m.—Accordion Solos.
 9.30 p.m.—Light Music.
 9.45 p.m.—Military Music.
 10.0 p.m.—Gramophone Records.
 10.30 p.m.—News Bulletin.
 10.45 p.m.—Orchestral Selections. Invitation to the Waltz (Weber). Spanish Caprice (Rimsky-Korsakoff).
 11.0 p.m.—Concert. In the interval at 11.15 p.m.—North African News.
 12 midnight.—Weather, Announcements and Close Down.
TRIESTE (Italy)
 Ente Italiano Audizioni Radiofoniche. 1,211 kc/s (247.7 m.); 15 kW.
 Transmits at intervals from 11.30 a.m. 7.15 p.m.—News and Announcements.
 7.30 p.m.—French Lesson on Gramophone Records.
 7.35 p.m.—Gramophone Records.
 8.0 p.m.—Time, Programme Notes and Vocal and Instrumental Concert. Review of Books in the interval.
 9.25 p.m.—Light Music or Gramophone Records.
 9.55 p.m.—News Bulletin.

VIENNA (Austria)
 Radio-Wien. 581 kc/s (517 m.); 20 kW. Relayed by Graz, 851 kc/s (352 m.); Innsbruck, 1,058 kc/s (283 m.); Klagenfurt, 662 kc/s (453.2 m.); Linz, 1,220 kc/s (246 m.); and Salzburg, 1,373 kc/s (218 m.).
 Transmits at intervals from 8.20 a.m. 5.30 p.m.—Beethoven's Violin Sonatas, Sonata in E Flat Major, Op. 12, No. 3. Sonata in A Minor, Op. 23. Soloist: Georg Steiner (Violin), with Otto Schulhof (Pianist).
 6.15 p.m.—Topical Talk.
 6.45 p.m.—Time and News.
 7.0 p.m.—Two One-Act Operettas.
 9.0 p.m.—Announcements.
 9.15 p.m.—Dance Music with Vocal Refrains from the Graben Cafe.
WARSAW (Poland)
 Polskie Radio. 212.5 kc/s (1,411 m.); 158 kW.
 Transmits at intervals from 10.40 a.m. 2.25 p.m.—Review of Periodicals.
 2.45 p.m.—Announcements.
 2.50 p.m.—Gramophone Records.
 3.20 p.m.—Wireless Review.
 3.40 p.m.—Gramophone Records.
 4.10 p.m.—Talk: Art Collections, relayed from Lódz.
 4.35 p.m.—Concert. M. Zagraj (Bass) and Mme. M. Bronstein (Pianoforte). Bass Solos: (a) Aria from "Sicilian Vespers" (Verdi), (b) The Two Grenadiers (Schumann), (c) Tout passe (Rachmaninoff), (d) Aria from "Simone Boccanegra" (Verdi). Pianoforte Solos: (a) Variations in F Major (Tchaikovsky), (b) Spring (Moniuszko-Friedmann).
 5.5 p.m.—Programme for Children.
 5.30 p.m.—Concert for Children.
 5.50 p.m.—Miscellaneous Items.
 6.15 p.m.—Agricultural Correspondence.
 6.25 p.m.—Programme Notes.
 6.30 p.m.—Gramophone Records.
 6.45 p.m.—Radio Journal.
 7.0 p.m.—"On the Horizon."
 7.15 p.m.—Orchestral Concert. Soloists: Mme. I. Carnero (Soprano) and H. Domansky (Mouth Organ).
 8.55 p.m.—Talk: A Parisian Review.
 9.10 p.m.—Chopin Pianoforte Recital.
 9.40 p.m.—Radio Journal.
 9.45 p.m.—Announcements.
 10.0 p.m.—Dance Music from the Adria.
 11.0 p.m. (approx.).—Close Down.

The Hospital Chapel.



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Streatham 6731/2

Stations in Order of Frequencies and Wavelengths

Corrected in accordance with the latest official information available at the time of going to press

The figures in black type represent the power according to The Hague power-rating scheme

Kc/s	M.	Station	Dial Readings	Kc/s	M.	Station	Dial Readings	Kc/s	M.	Station	Dial Readings
EUROPEAN											
(Including Stations connected with the European System)											
155	1935	Kaunas (Lithuania), 7 kW.		770	390	Archangel (Russia), 10 kW.		1220	246	Berne (Switzerland), 0.5 kW.	
160	1875	Huizen (Holland), 8.5 kW.		779	385	Frankfurt (Germany), 1.7 kW.		1238	242	Cartagena (Spain), 0.4 kW.	
167	1796	Lahti (Finland) (relays Helsinki), 54 kW.		788	381	Toulouse (Radio) (France) 8kW.		1247	240.6	Cassel (Germany) (relays Frankfurt), 0.3 kW.	
174	1725	Radio Paris (CFR), 80 kW.		797	376.4	Lwow (Poland), 21 kW.		1250	240	Eskilstuna (Sweden) (relays Stockholm), 0.25 kW.	
183.5	1635	Königs Wusterhausen (Zeesen) (Germany), 75 kW. Relays Berlin.		806	372	Glasgow (SC), 1.2 kW.		1256	239	Kiruna (Sweden) (relays Boden), 0.25 kW.	
193	1554.4	Davenport National Station (Gt. Britain), 35 kW.		810	370.4	Hamburg (Germany), 1.7 kW.		1265	237.2	Linz (Austria) (relays Vienna), 0.6 kW.	
195	1538	Ankara (Turkey), 7 kW.		815	368.1	Radio LL (France), 0.5 kW.		1274	235.5	Säffle (Sweden) (relays Stockholm), 0.4 kW.	
202.6	1481	Moscow (Old Komintern) (RV1) (Russia), 100 kW.		816	367.6	Bolzano (Italy) 1.5 kW.		1283	235	Schaerbeek (Belgium) (relays Brussels), 0.1 kW.	
207.5	1445.7	Eiffel Tower (FLE), 15 kW.		824	364	Seville (Union Radio) (EAJs) (Spain), 1.5 kW.		1289	234.1	Turku (Abo) (Finland) (relays Helsinki), 0.6 kW.	
212.5	1411	Warsaw No. 1 (Poland), 158kW.		825.3	363.4	Fredriksstad (Norway), 0.8 kW. (relays Oslo).		1292	232.2	Basle (Switzerland), 0.5 kW.	
222.2	1350	Kasbah (Tunis), 0.5 kW.		832	360.5	Bergen (Norway), 1.13 kW.		1299	232	Wilno (Poland), 0.5 kW.	
222.5	1348	Motala (Sweden) (relays Stockholm), 40 kW.		835.5	356.3	Algiers (N. Africa), 13 kW.		1301	231	Belfast (2BE) (Ireland), 1.2 kW.	
230.1	1304	Moscow (Trades Union), 100kW.		842	356.3	Stuttgart (Mühlacker) (Germany), 75 kW.		1310	229	Stavanger (Norway), 0.63 kW.	
238.1	1260	Novosibirsk (Russia), 4 kW.		852	352.1	London Regional, 70 kW.		1319	227	Radio Beziers (France), 1.5 kW.	
242.5	1237	Vienna Experimental (Austria).		860	349	Graz (Austria) (usually relays Vienna), 9.5 kW.		1337	224.4	Nürnberg (Germany) (relays Munich), 2.3 kW.	
244	1229.5	Boden (Sweden), 0.75 kW.		869	345	Leningrad (Russia), 1.2 kW.		1364	219.9	Bordeaux - Sud - Ouest (France), 3 kW.	
250	1200	Istanbul (Turkey), 5 kW.		878	342	Barcelona (Radio Barcelona) (EALr) (Spain), 8 kW.		1373	218	Radio Nimes (France), 1 kW.	
260	1153	Reykjavik (Iceland), 21 kW.		887	338.2	Strasbourg-Brumath (France), 15 kW.		1412	217	Örebro (Sweden) (relays Stockholm), 0.25 kW.	
268.5	1116	Kalundborg (Denmark) (relays Copenhagen), 7.5 kW.		896	335	Bno (Czechoslovakia), 3 kW.		1450	217	Brussels No. 2 (Belgium), 20kW. (Flemish programme)	
277	1083	Moscow, Popoff, 40 kW.		905	331.5	Sofia (Bulgaria), 1 kW.		1470	214.2	Cadix (Spain), 5.5 kW.	
284.9	1053	Oslo (Norway), 75 kW.		914	328.2	Milan (Italy), 8.5 kW.		1480	214	Poznan (Poland), 1.9 kW.	
289.9	1033	Tiflis (Russia), 10 kW.		923	325	Grenoble (PTT) (France), 1.2 kW.		1490	212	Genoa (IGE) (Italy), 1.5 kW.	
300	1000	Leningrad (Russia), 100 kW.		932	322	Poste Parisien (Paris), 1.2 kW.		1530	212	Radio-Vitus (France).	
320	937.5	Kharkov (Russia), RV20.		941	319	Breslau (Germany), 1.7 kW.		1539	211	Münster (Germany), 0.6 kW.	
353.5	848.7	Rostov-Don (Russia), 4 kW.		950	315	Göteborg (Sweden) (relays Stockholm), 15 kW.		1544	211.9	Cork (6CK) (Ireland), 1.5 kW.	
368.1	815	Kiev (Russia), 20 kW.		959	312.8	Dresden (Germany) (relays Leipzig), 0.3 kW.		1554	211.9	Fecamp (Radio Normandie) (France).	
385	778	Petrozavodsk (Russia), 2 kW.		968	309.9	Softia (Rodno Radio) (Bulgaria), 1 kW.		1554	211.9	Flensburg (Germany) (relays Hamburg), 0.6 kW.	
389	770	Östersund (Sweden), 0.75 kW. (relays Sundsvall).		977	307	Cracow (Poland), 1.5 kW.		1554	211.9	Pori (Björneborg) (Finland) (relays Helsinki), 0.7 kW.	
394	761.4	Nijni Novgorod (Russia), 1.8 kW.		986	304	Genoa (IGE) (Italy), 1.5 kW.		1582	217	Salzburg, 0.6 kW. (relays Vienna).	
395	760	Geneva (Switzerland), 1.5 kW.		995	301.5	Radio-Vitus (France).		1591	217	Königsberg (Germany), 0.9 kW.	
416.7	720	Moscow (Experimental), 20kW.		1004	298.8	Falun (Sweden), 0.65 kW.		1600	214.2	Halmstad (Sweden), 0.25 kW.	
428.6	700	Minsk (Russia), 4 kW.		1013	296.1	North National (Manchester), 70 kW.		1615	214.2	Radio Chatelineau (Belgium).	
442	680	Lausanne (Switzerland), 0.6 kW.		1022	293	Hilversum (Holland), 20 kW.		1615	214.2	Tallinn (Estonia), 10 kW.	
516.3	581	Wilno (Poland), 2.5 kW.		1022	293	Kosice (Czechoslovakia), 2.5 kW.		1615	214.2	Limoges (PTT) (France), 0.08 kW.	
522	574.7	Ljubljana (Yugoslavia), 2.8 kW.		1031	291	Limoges (PTT) (France), 0.08 kW.		1615	214.2	Pietarsaari (Jacobstad) (Finland) (relays Helsinki), 0.25 kW.	
527	570	Freiburg-im-Breisgau (Germany) (relays Stuttgart), 0.3 kW.		1033	290.5	Pietarsaari (Jacobstad) (Finland) (relays Helsinki), 0.25 kW.		1615	214.2	Tampere (Finland) (relays Helsinki), 1 kW.	
530	566	Hanover (Germany), 0.3 kW. (relays Hamburg).		1033	290.5	Tampere (Finland) (relays Helsinki), 1 kW.		1615	214.2	Vipuri (Viborg) (Finland) (relays Helsinki), 13.2 kW.	
531	565	Smolensk (Russia), 2 kW.		1033	290.5	Viipuri (Viborg) (Finland) (relays Helsinki), 13.2 kW.		1714	175	Lisbon, Portugal, 2 kW.	
538	560	Augsburg (Germany) (relays Munich), 1.7 kW.		British Relay Stations							
545	550	Kaiserslautern (Germany) (relays Munich), 0.3 kW.		Aberdeen (2BD), 1.2 kW.							
546.7	550	Hamar (Norway) (relays Oslo), 0.8 kW.		Bournemouth (6BM), 1.2 kW.							
546.7	550	Hamar (Norway) (relays Oslo), 0.8 kW.		Dundee (2DE), 0.16 kW.							
546.7	550	Hamar (Norway) (relays Oslo), 0.8 kW.		Edinburgh (2EH), 0.4 kW.							
546.7	550	Hamar (Norway) (relays Oslo), 0.8 kW.		Newcastle (SNO), 1.2 kW.							
546.7	550	Hamar (Norway) (relays Oslo), 0.8 kW.		Plymouth (SPY), 0.16 kW.							
546.7	550	Hamar (Norway) (relays Oslo), 0.8 kW.		Swansea (SSX), 0.16 kW.							
546.7	550	Hamar (Norway) (relays Oslo), 0.8 kW.		Lyons (Radio) (France), 0.8 kW.							
546.7	550	Hamar (Norway) (relays Oslo), 0.8 kW.		Montpellier (France), 1.2 kW.							
546.7	550	Hamar (Norway) (relays Oslo), 0.8 kW.		Berlin Relay (Germany), 0.6 kW.							
546.7	550	Hamar (Norway) (relays Oslo), 0.8 kW.		Magdeburg (Germany), 0.6 kW.							
546.7	550	Hamar (Norway) (relays Oslo), 0.8 kW.		Stettin (Germany) (relays Berlin), 0.6 kW.							
546.7	550	Hamar (Norway) (relays Oslo), 0.8 kW.		Innsbruck (Austria) (relays Vienna), 0.6 kW.							
546.7	550	Hamar (Norway) (relays Oslo), 0.8 kW.		Varberg (Sweden), 0.3 kW.							
546.7	550	Hamar (Norway) (relays Oslo), 0.8 kW.		Copenhagen (Denmark), 0.75 kW.							
546.7	550	Hamar (Norway) (relays Oslo), 0.8 kW.		Radio Liège (Belgium).							
546.7	550	Hamar (Norway) (relays Oslo), 0.8 kW.		Bratislava (Czechoslovakia), 14 kW.							
546.7	550	Hamar (Norway) (relays Oslo), 0.8 kW.		Heilsberg (Germany), 75 kW.							
546.7	550	Hamar (Norway) (relays Oslo), 0.8 kW.		Relays Königsberg.							
546.7	550	Hamar (Norway) (relays Oslo), 0.8 kW.		Turin (Italy), 8.7 kW.							
546.7	550	Hamar (Norway) (relays Oslo), 0.8 kW.		Rennes (France), 1.2 kW.							
546.7	550	Hamar (Norway) (relays Oslo), 0.8 kW.		Bremen (Germany) (relays Hamburg), 0.3 kW.							
546.7	550	Hamar (Norway) (relays Oslo), 0.8 kW.		Oviedo (Spain), 0.7 kW.							
546.7	550	Hamar (Norway) (relays Oslo), 0.8 kW.		Radio Valencia (Spain), 1.5 kW.							
546.7	550	Hamar (Norway) (relays Oslo), 0.8 kW.		Lille (PTT) (France), 2 kW.							
546.7	550	Hamar (Norway) (relays Oslo), 0.8 kW.		Moravská-Ostrava (Czechoslovakia), 11 kW.							
546.7	550	Hamar (Norway) (relays Oslo), 0.8 kW.		London National, 68 kW.							
546.7	550	Hamar (Norway) (relays Oslo), 0.8 kW.		Leipzig (Germany), 2.3 kW.							
546.7	550	Hamar (Norway) (relays Oslo), 0.8 kW.		Hörby (Sweden) (relays Stockholm), 15 kW.							
546.7	550	Hamar (Norway) (relays Oslo), 0.8 kW.		Toulouse (PTT) (France), 1kW.							
546.7	550	Hamar (Norway) (relays Oslo), 0.8 kW.		Gleititz (Germany) (relays Breslau), 5.6 kW.							
546.7	550	Hamar (Norway) (relays Oslo), 0.8 kW.		Almeria (Spain) (EALr), 1 kW.							
546.7	550	Hamar (Norway) (relays Oslo), 0.8 kW.		Barcelona (Association National) (EALr), 1 kW.							
546.7	550	Hamar (Norway) (relays Oslo), 0.8 kW.		Trollhättan (Sweden), 0.3 kW.							
546.7	550	Hamar (Norway) (relays Oslo), 0.8 kW.		Juan-les-Pins (Nice) (France).							
546.7	550	Hamar (Norway) (relays Oslo), 0.8 kW.		Kalmár (relays Stockholm), 0.25 kW.							
546.7	550	Hamar (Norway) (relays Oslo), 0.8 kW.		Trieste (Italy), 15 kW.							

DEVIATIONS

The following are the actual deviations from the official frequencies, as noted during measurements made at the Tatsfield Checking Station. All differences of 1.9 kc/s and over are shown.

Kc/s	M.	Station
238.8	1256.3	Vienna Exp'tl. (Austria)
517.6	579.6	Hamar (Norway)
554	542	Palermo (Italy)
660	454.6	San Sebastian (Spain)
961	312.2	Radio Vitus (France)
1017	294.9	Limoges (PTT) (France)
1045.2	287	Radio Lyons (France)
1052	285.2	Innsbruck (Austria)
1096.6	273.6	Turin (Italy)
1118.4	268.2	Radio Valencia (Spain)
1215	246.9	Kalmar (Sweden)

BRITISH DOMINIONS AND COLONIES

AUSTRALIA											
580	517	Hobart (ZL), 5kW.									
620	484	Melbourne (3AR), 5kW.									
665	451	Sydney (2FC), 5kW.									
690	435	Perth (6WF), 5 kW.									
730	411	Adelaide (5CL), 5 kW.									
759	395	Brisbane (4QG), 5 kW.									
800	375	Melbourne (3LO), 5 kW.									
855.5	351	Sydney (2BL), 5 kW.									
CANADA											
730	411	St. Hyacinthe (CKAC), 5 kW.									
780	385	Winnipeg (CKS-CNRW), 5kW.									
841	357	Toronto (CKGW), 5 kW.									
CHINA											
845	355	Hong Kong (ZBW), 1.5 kW.									
887.3	338	Shanghai (KRC), 0.75 kW.									
EAST AFRICA											
750	400	Nairobi, Kenya (7 LO)									
INDIA											
810	370.4	Calcutta (VUC) 3 kW.									
840	257.1	Bombay (VUB) 3kW.									
NEW ZEALAND											
714	420	Wellington (2YA), 5 kW.									
SOUTH AFRICA											
666.5	450	Johannesburg (JB), 10 kW.									
731	410	Durban, 1.5 kW.									
800	375	Cape Town, 1.5 kW.									
1000	300	Pretoria (relays Johannesburg).									

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- Ultra Short Waves : New York, Pittsburg, Schenectady, Siam, Buenos Aires, Sydney.

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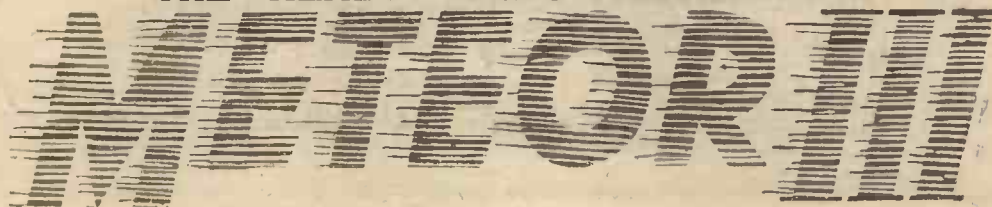
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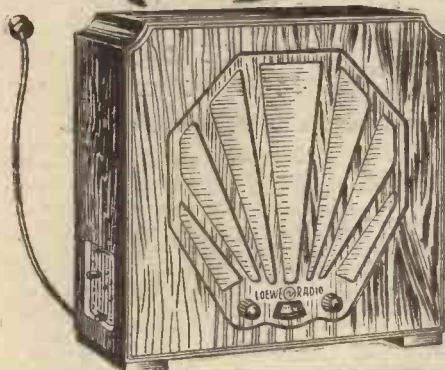
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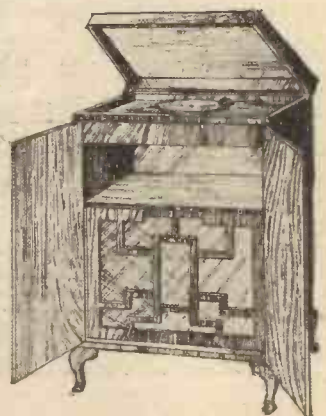
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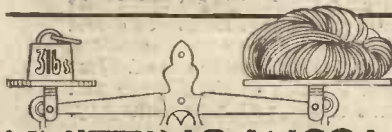
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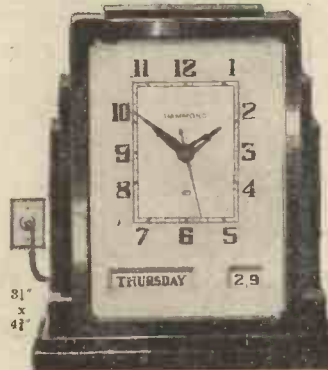
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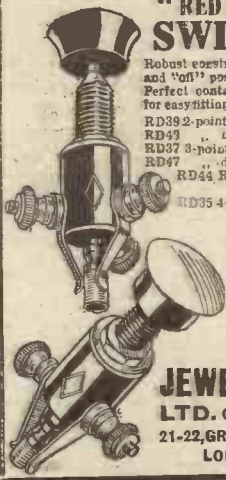
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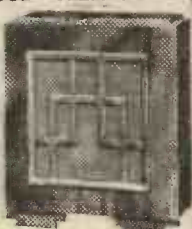
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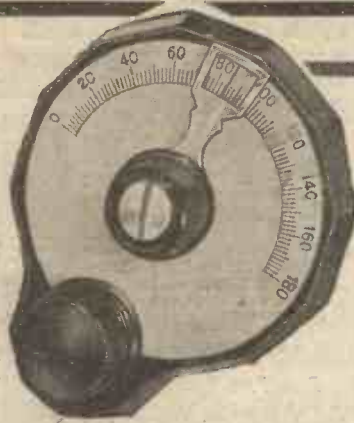
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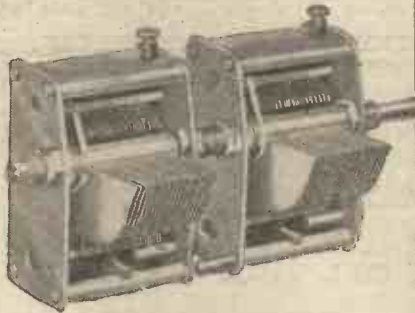
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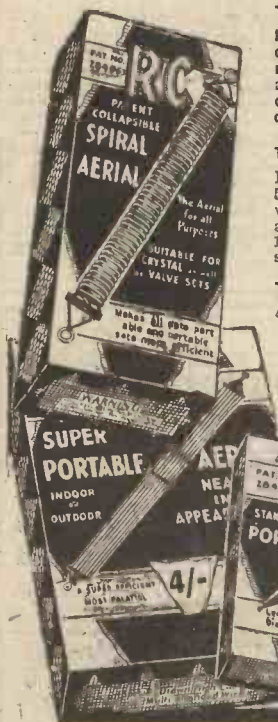
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