WORLD-RADIO

BBC

DOMINION AND FOREIGN PROGRAMMES

WITH WHICH IS INCORPORATED "THE RADIO SUPPLEMENT"

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PRINCIPAL CONTENTS.

Norway's Relays :
Their Picturesque Surroundings.

A Wireless Set on the Ocean Wave.

Sir Thomas Beecham Broadcasts in U.S.A.

Daventry (5XX & 5GB) Programmes.

WORLD-RADIO
Station Identification Panel
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KATTOWITZ (Poland).

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Approximate distance from London: 830 miles.

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Interval Signal: Strokes on a gong.

When closing down wishes listeners good-night in both Polish ("Zyczmy Dobrei Nocy") and French, followed by a few bars of the National Anthem. Apart from own transmissions, relays entertainments from Warsaw.

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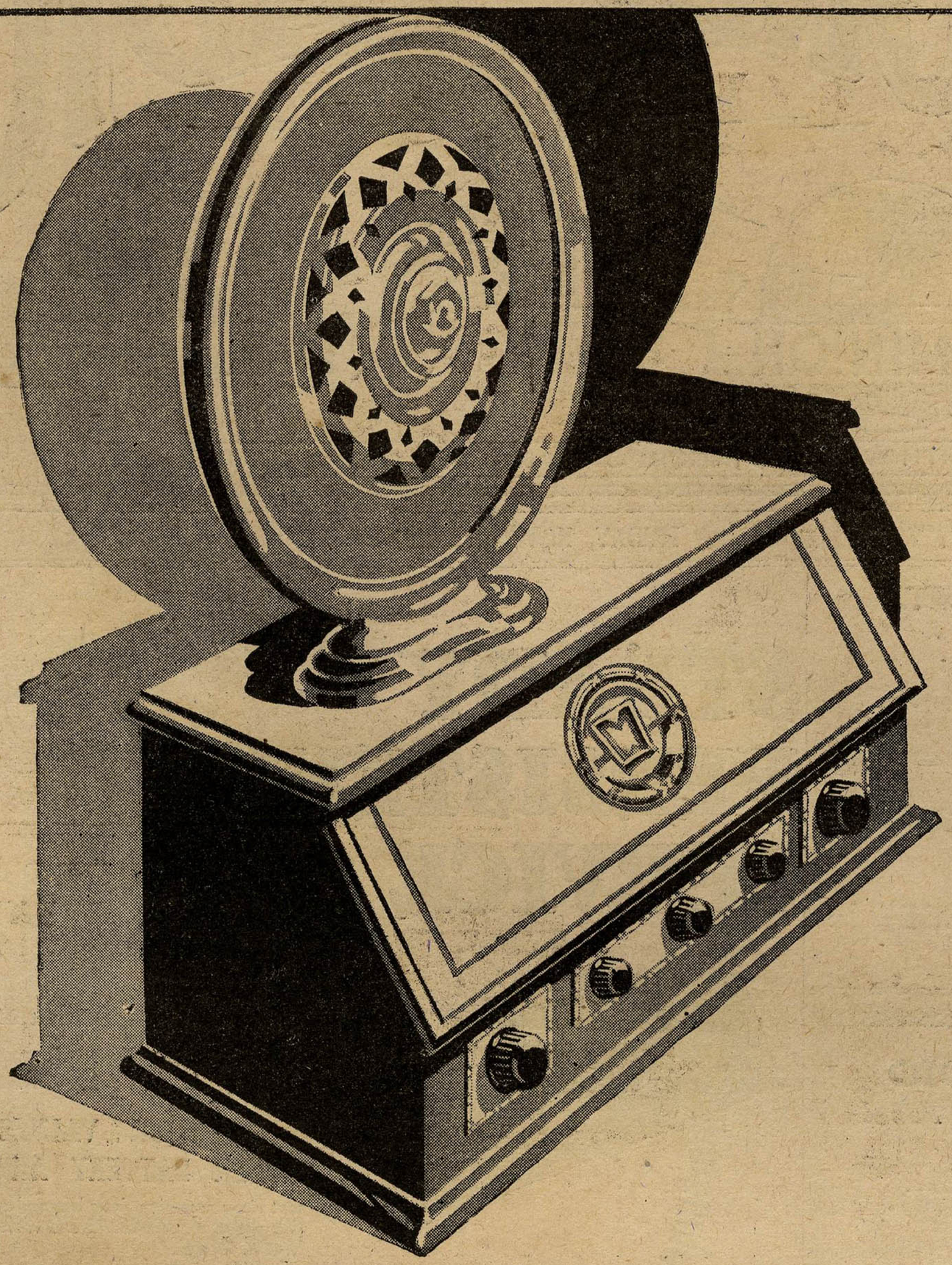
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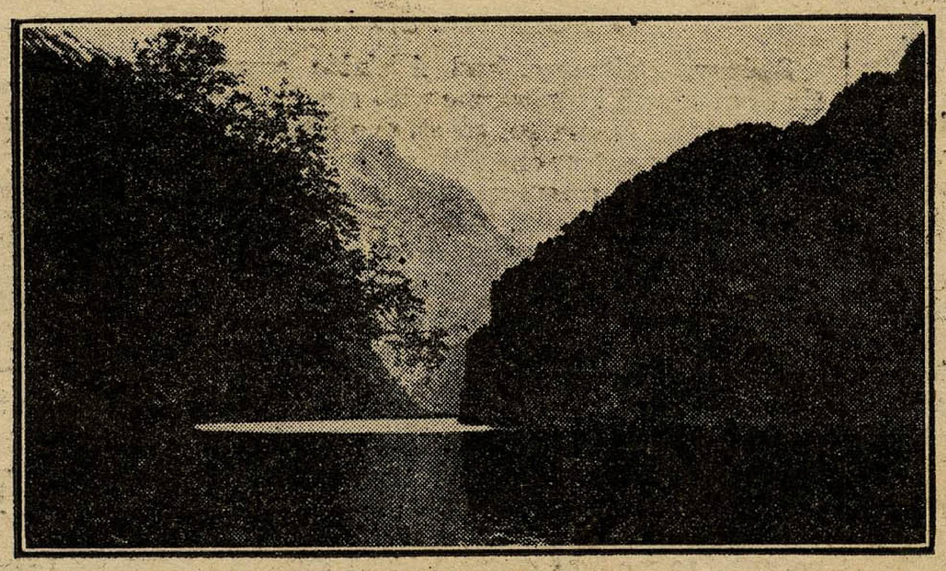
Norway's Relay Stations:

Their Picturesque Surroundings.



A view of Rjukan.

NOW that world radio has brought the people of all countries on speaking terms, it may be of interest to learn something of the most secluded spots from which strange voices come. The first picture is of Rjukan, from whose station, on 448 metres you can hear the Oslo programme relayed. The second is of a typical Norwegian valley, in the west, where broadcasting has come as a miraculous boon. The illustration shows clearly the isolated character of such valleys. A sparse population, consisting almost entirely of small farmers, who are also independent landowners, secure a living from the soil in the brief summer or from the fishery in the fjord that reaches miles and miles up into the submerged part of the valley. The making of railways, where practicable, the coming of the automobile and the consequent bettering of highways, have brought these valleys more into touch. Many communities still remain, as of old, cut off from connection with the neighbouring valleys by the barrier of impassable mountains, or, where not impassable, at least so formidable as to preclude the desire for mutual intercourse.



A typical fjord.

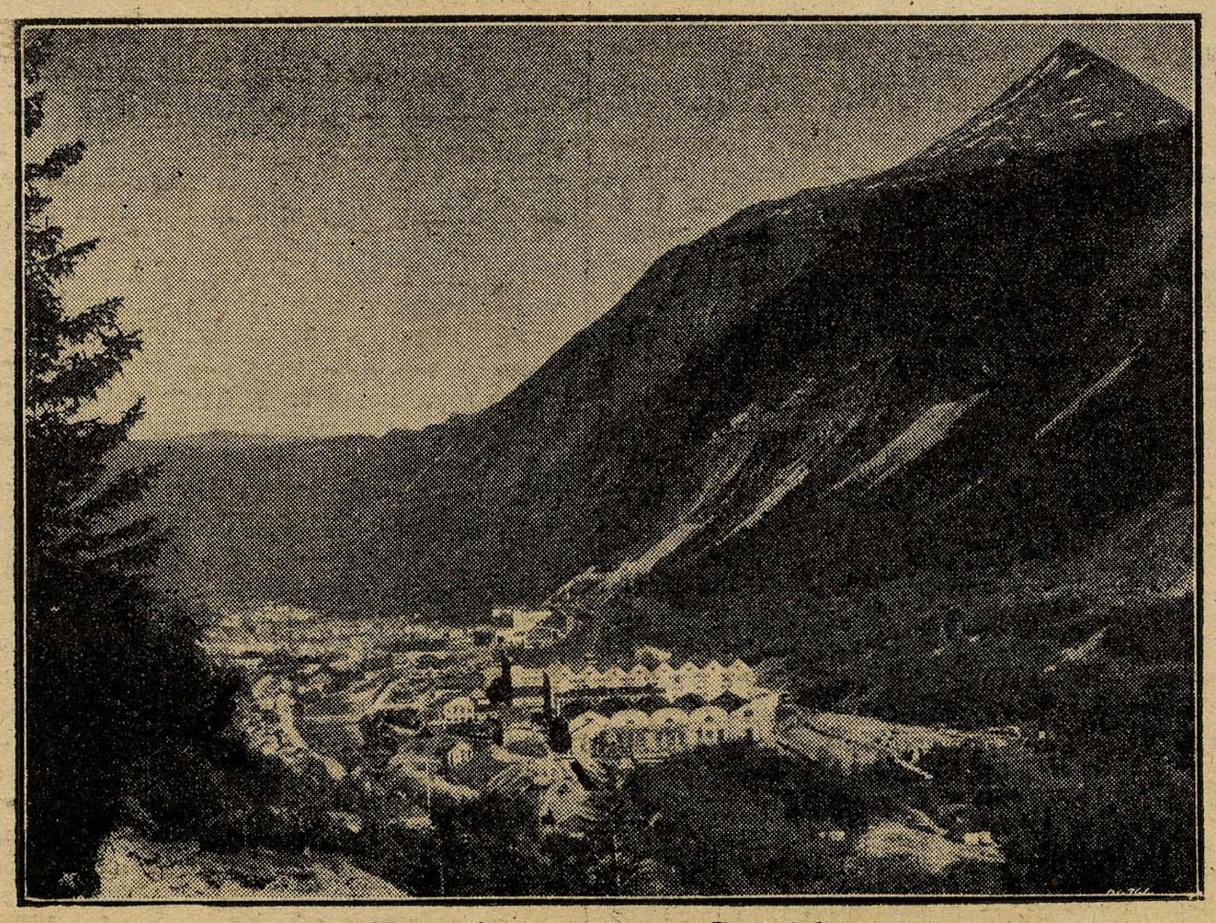
Electricity at all events is highly developed in Norway. These homely-looking dwellings are well equipped with modern forms of electric lighting, warming, and cooking. In one or two other respects they have also developed. In some of them one can hear the sound of the band and the hum of voices from the Savoy Hotel in London, and in very many of them the home-dwellers can dance to the music of the jazz band of an Oslo hotel. The coming of radio only serves to emphasise still more the extraordinary mingling of old and new conditions to be met with in the country homes of Norway. Fancy an old woman, who has never in her life seen a railway train, chuckling at the droll sounds heard between the items on the programme of a great London hotel.

The scenery of Norway is familiar from advertising posters and from illustrated papers, but few tourists even are aware of the busy little hives of industry that lie hidden far away in certain lonely spots amongst the mountains. Seventy-five per cent. of the country is wholly uninhabitable, and one-fifth only of the area is capable of cultivation. Norway is a mass of granite, or, as the people call it, grey-stone. There are few minerals worth the working. The wealth of the country lies in its fisheries, its agriculture, and its forests. Saw-mills and paper-mills abound, and boat-building is skilfully carried on. Yet if you took the train from Skien, in the south-east, to Notodden, 423 metres (709 kc.), there will be met with the first indications of industrial energy. If the traveller proceeds farther by the electric railway he will, after his train has been transported for twenty miles by the ferry on a lake, reach Rjukan, where there is one of the largest electric power-stations in Europe. The power-station at Notodden produces 60,000 horse-power, and is used in the production of carbide, for the extraction of iron, and for the manufacture of wood pulp. But Rjukan is the place where the Norsk Hydro operates in the producing of saltpetre, the "arc process" for getting the nitrogen from the air by means of electric power. Twenty-five years ago Rjukan was the home of a few farmers. To-day it can boast of only eight or nine thousand as its population, but these are all engaged in the saltpetre enterprise, and their efforts serve to indicate the vast possibilities of the use of Norway's immense water power. The country has falls to give 10,000,000 horse-power and to supply Denmark and Holland, provided transmission were not so difficult. At present not more than one and a half million horse-power is in use.

The upper station at Rjukan produces about 130,000 h.p. The water is brought through a tunnel in the mountains, four miles long, and after being used in this station, which is seen in the photograph, it is passed down pipes to the larger station in the valley. Then the water, having been tamed and harnessed in the service of man, once more regains its freedom and, as the beautiful river Maana, bounds away down the slope to the salt fjord which is the sea. In these two stations 300,000 horse-power is produced. They cost 6 to 7 million pounds, much of it foreign capital. This last year the company paid 6 per cent., but in good years they pay up to 15 per cent. Professor Birkeland was the discoverer of the process used at Rjukan, and he hit on it by chance when attempting to invent a method of discharging cannon by electricity instead of with ammunition. The air is blown through furnaces and the nitrogen in the air oxidises so that nitrogen dioxide is formed, and, in contact with water, forms nitric acid.

This is, in short, the story of a big undertaking in the field of electricity.

(*Continued on page* 560.)



Vengetindeme, from Grövdalen.

A Wireless Set on the Ocean Wave.

By SEAFARER.

I CANNOT claim to have been one of the seafarers who made a hobby of listening in the early days of broadcasting. But I have had several of these enthusiasts as shipmates, men who built their own sets, sometimes with advice from the professional "Sparks" on board, more often without. Results were good, bad, indifferent, and frequently amusing, the most wonderful of all being those one heard of from men belonging to other ships, who "had regular concerts every night right across." The perfect reception, apparently in any circumstances, that they claimed and their loyal shipmates vouched for, can only be explained on the supposition that they had overcome the atmospheric nuisance in a very thorough manner.

One man I sailed with bought himself quite an expensive set in New York and never got any results at all except by a fluke. He had his aerial carried away once or twice to start with, and as he wasn't very "handy" and not too popular with the senior officers, he had to depend on juniors to rig it for him in a more or less efficient fashion. He was allowed to charge his battery from the ship's juice, but unless "Sparks", or a junior engineer was at hand to guide him, he was apt to connect it up the wrong way. It was marvellous how that battery stood up to the abuse it got first and last, but it was still smiling at the end of the six months' voyage. There was a loud-speaker connected to the set in the "old man's" room, but it had a bad effect on the skipper's temper and it was usually switched off.

No "Floating Birdcage."

But the amateur at sea generally does better than this. Marine engineers, many of whom have sets, have as a rule a good working knowledge of electricity, besides being expert with tools, and I have seen some really excellent sets built at sea, and can vouch for the results attained. When several "wireless fans" are numbered among the ship's company there is often some rivalry, and perhaps, since seamen are boyish in their ways, some jealousy in evidence. In one case where they amounted to about half the total complement, the skipper refused to allow any more aerials to be rigged, as he "didn't want the ship to look like a floating birdcage."

I had not been greatly interested in "wireless," and probably would not have had a set now but for a sequence of events started by the general strike. That upheaval prevented the ship from getting any nearer home than Dunkirk one voyage, and stopped my home leave. Wandering through the narrow, old-fashioned streets, feeling fed up with things in general, and idly scanning the shop windows, I came across a neat little four-valve set, which at the current rate of exchange (about 180 francs to the pound) was a bargain that appealed to a Scot. I bought the whole outfit, aerial wire, batteries, spare valves, 'phones and loudspeaker, and on the way to New York I rigged a fine aerial and fitted the set up in my room. The multitude of American stations that flooded the ether as we headed westward was confusing to a novice, but a little practice in tuning made all the difference. "Morse" from the ice patrol vessel was my first capture, and I got my first music from WJZ, Boston (WEEI) was second, and off the Newfoundland banks I had my first experience of "atmospherics." I remember thinking that it was like listening to a concert in a railway station where half a dozen locomotives were taking turns at blowing off and whistling.

When it's Friday in Florida . . .

In port I had little time for listening in, but before we left the coast I was familiar with a lot of American stations and their "slogans," the "World's Play Ground" being much in evidence as we moved south. On the subsequent trip to Australia, *via* the Panama Canal, I had some interesting results. The Florida stations were the last I heard before passing through the canal, and in the Pacific I early made the acquaintance of Los Angeles (KFI). He was quite an old friend before I lost him, our last communication by loud speaker being at a distance of 2,700 miles, while we were still on speaking terms by 'phone at 4,800 miles in spite of the frequent electrical storms of the tropics, which can make a racket that puts anything met with in temperate zones quite in the shade.

Before I lost KFI I had got hold of Brisbane (4QG). For several evenings I had been searching for an Australian station, and I was investigating Brisbane's wavelength when in he came, the first item being an old Scotch song I hadn't heard since I was a boy at school. Clear and loud came the words, "Last nicht there were four Marys, This nicht there'll be but three," and a homely sound they had to a wandering Scot away in mid-Pacific. The same evening I picked up Auckland (1YA), and when both concerts ended with "God Save the King" I felt that I was among my ain folk again, and had a foretaste in imagination of the genial welcome that I have always met with in Australia and New Zealand. It was a novel experience to listen to the Friday night programme from Los Angeles, and, by merely altering the tuning, to change over to the Saturday night concert in Brisbane, but the difference of time enabled me to perform this "black magic."

The Australian Stations.

Sydney, Melbourne, and Adelaide came in in that order, and supplied me with regular entertainment on the Australian coast, one interesting item being a commentary on Cobham's arrival at Sydney. I lost them all comparatively early on the homeward voyage *via* Suez. Perth, though a powerful station, was a disappointment. Off the Leeuwin I could get better reception from Brisbane. Shortly after we had crossed the line I was having my usual experimental combing of the ether after dinner when I raised some queer squeaks and moans. It sounded as though I was just "on the edge" of some instrumental music, but all my tricks of tuning made no difference. I had decided that something was wrong with the set and started to look for slack terminals, when it occurred to me that it might be an Eastern station broadcasting native music. It turned out to be one of the Indian stations, and my set was giving its normal truthful reproduction. I fear I have no ear for music—of that kind anyway.

Red Sea Interference.

Before we passed Cape Guardafui I was in touch with one or two European stations, but all the way up the Red Sea there was a lot of interference, both atmospheric and morse from shipping, and it was impossible to recognise them. After leaving Port Said I had the pick of a lot. Eiffel Tower and Daventry soon made themselves heard. I got 2LO first just off Malta, and a day or two more brought me into range of other home stations. The programmes from these compare favourably with the average American or foreign broadcasting.

In the round-the-world voyage I have outlined one thing left a lasting impression on my mind—the extent and majesty of the British Empire. During by far the greater part of the time it took I was within reach of stations which concluded heir programmes with "God Save the King." Listening to that majestic measure in mid-ocean, thousands of miles from the homeland, gave me always a thrill of pride in the race to which I belong, for—

"You may take hold of the wings of the morning,
And flop round the earth till you're dead;
But you'll never get away from the tune that they play
To the blooming old rag overhead."

Broadcasting in Shanghai.

WHEN radio was first introduced to China is difficult to trace and still remains a matter of conjecture. In all likelihood it was brought in by foreign steamers calling at Chinese ports around 1899. Soon afterwards Chinese vessels began to be equipped with radio sets. This new invention, however, was not commercialised until recent years. In the spring of 1924 the Kellogg Switchboard and Supply Co., of Shanghai, started to broadcast a daily regular programme and has continued to do so. With the development of broadcasting, Chinese and foreign residents in the International Settlement and the French Concession have shown a growing interest in radio, and an increasing number of radio sets is being installed in their homes. Broadcasting and receiving in Chinese territories are not permitted on account of Government restrictions. It was the Kellogg Company's station. which was instrumental in saving the lives of many missionaries and others during the recent outbreak of civil war (as reported in *World-Radio* of August 19 last).

The number of radio users in Shanghai is unknown, but is estimated to be in the neighbourhood of 10,000. The number of radio importers is placed at 15 and that of dealers at 25.

Radio sets are either imported ready made or are made locally of parts imported. The prices of radio sets range from 8s. to £150. Shanghai has three broadcasting stations—namely, the Kellogg Switchboard and Supply Co., the Kobe Electric Works, and the Shanghai Mainichi Shimbunsha, 2, Thorne Road. The Kellogg broadcasting station claims to have a wavelength of 342 metres and power of 250 watts, and a similar wavelength and power are claimed by the other two stations. While broadcasting is mainly for the purpose of entertainment, it is not infrequently employed as an advertising medium, though no fixed rates are charged for this service. At times broadcasting is also used for educational campaigns. Music is usually furnished by foreign or Chinese associations or by means of phonograph records, or by hotel orchestras. The close co-operation of phonograph dealers and broadcasting stations seems to indicate the business potentialities of Shanghai for both.

Practical Searching Hints.

Improving the Selectivity of the Receiver.

Not a few long-distance enthusiasts find a certain difficulty now in obtaining good reception from stations such as Langenberg, Lyons Doua, Witzleben, Brussels, and Vienna, owing to the wipe-out effect experienced from 5GB. In some cases this can be very greatly diminished by placing a small fixed condenser of first-rate quality between the aerial lead-in and the aerial terminal of the receiving set. The capacity of the average amateur receiving aerial lies between about .0002 and .0003 microfarad. By making use of a small series condenser the capacity can be very greatly reduced, with beneficial effects upon the selectivity. As a general rule a suitable capacity for the series condenser is .0001 microfarad; this, however, may effect a noticeable diminution in signal strength. It is a good plan to use a condenser of the "clip-in" type, in which case various values such as .0001, .00015, .0002, .00025, and .0003 micrafarad can be tried and use made of that which gives the most desirable combination of signal strength and selectivity. Another method is to use a .0003 variable condenser instead of one of the fixed variety. This enables the optimum capacity in series with the aerial to be found very easily.

Railway Radio in Austria.

Beginning with the New Year, every train on the Austrian lines running for more than five hours will have a radio carriage attached, and passengers will be entitled to use this at the rate of a shilling an hour.

Broadcasting and Languages.

GERMAN TALK.—V.

(To be broadcast through Daventry from the London Station by Mr. F. Norman, on Monday, November 28, at 7.25 p.m.)

DER ZERBROCHENE KRUG.

(Continued.)

Die Blumen.

Aber während dieses Vierteljahrs hatte Mariette wohl noch andere Geschäfte. Der Krug machte ihr viel Verdruss und Mühe; und ausserdem wohl sonst noch etwas.

Vierzehn Tage lang sprach man in La Napoule von nichts anderm, als dem Krug. Und jedermann sagte, es sei ein Geschenk des Richters und die Hochzeit schon verabredet. Als aber Mariette feierlich allen ihren Gespielinnen erklärt hatte, sie wolle ihren Leib lieber dem Abgrunde des Meeres als dem Richter vermählen, fuhren die Mädchen nur ärger fort, sie zu necken, sprechend: „Ach, wie selig muss es sich ruhen im Schatten seiner Nase." — Dies war der erste Verdruss.

Dann hatte Mutter Manon den grausamen Grundsatz, dass sie Marietten zwang, den Krug alle Morgen beim Brunnen am Felsen zu schwenken und mit frischen Blumen zu füllen. Dadurch hoffte sie Marietten an den Krug und an das Herz des Gebers zu gewöhnen. Aber sie fuhr fort, Gabe und Geber zu hassen, und die Arbeit am Brunnen ward eine wahre Strafe für sie. Zweiter Verdruss.

Dann, wenn sie morgens zum Brunnen kam, lagen zweimal in der Woche auf dem Felsstück daneben immerdar einige der schönsten Blumen, schön geordnet, recht für die Pracht des Kruges geschaffen. Und um die Blumenstengel war immer ein Papierstreif geschlungen, und darauf geschrieben: „Liebe Mariette!" — Nun musste man der kleinen Mariette doch nicht weismachen wollen, als wenn es in der Welt noch Zauberer und Feen gäbe. Folglich kamen die Blumen und die süsse Anrede derselben von Herrn Hautmartin. Mariette mochte nur nicht daran riechen, bloss weil der lebendige Atem aus des Richters Nase sie umsäuselt hatte. Inzwischen nahm sie die Blumen, weil sie besser waren als Feldblumen, und zerriss die Papierstreifen in tausend Stücke und streute sie auf die Stelle, wo die Blumen zu liegen pflegten. Aber das ärgerte den Richter Hautmartin gar nicht, dessen Liebe unvergleichlich gross war in ihrer Art, wie seine Nase in ihrer Art. Dritter Verdruss.

Endlich aber entdeckte es sich im Gespräch mit Herrn Hautmartin, dass er gar nicht der Geber der Blumen wäre. Wer sollte es nun sein? — Mariette war über die unverhoffte Entdeckung sehr erstaunt. Sie nahm von der Zeit an zwar die Blumen lieber vom Felsen, roch auch daran, aber —wer legte sie dahin? Mariette war, was die Mädchen sonst gar nicht zu sein pflegen, sehr neugierig. Sie riet auf diesen und jenen Jüngling von La Napoule. Doch erraten liess sich das nicht. Sie lauschte und lauerte spät hinein in die Nacht; sie stand früher auf. Aber sie erlauschte und erlauerte nichts. Und doch zweimal in der Woche des Morgens lagen immer die Wunderblumen auf dem Felsen, und auf dem darum gewundenen Papierstreifen las sie immer den stillen Seufzer an sich: „Liebe Mariette!" — So etwas muss doch auch den Gleichgültigsten neugierig machen. Aber Neugier macht zuletzt brennende Pein. Vierter Verdruss.

Bosheit über Bosheit.

Nun hatte am Sonntag Pater Jerome wieder über den Satz gepredigt: „Des Himmels Fügungen sind wunderbar." Und die kleine Mariette dachte: „So wird er's auch fügen, dass ich den unsichtbaren Blumenspender endlich entdecke." Pater Jerome hatte nie unrecht.

In einer Sommernacht, da es auch allzuwarm gewesen, war Mariette früh erwacht, und konnte nicht wieder einschlafen. Drum sprang sie freudig vom Lager, als das erste Morgenrot über die Meereswellen und über die lerinischen Inseln her gegen das Fenster des Kämmerleins blitzte. Sie kleidete sich und ging hinaus, Antlitz, Brust und Arme am kühlen Brunnen zu waschen; den Hut nahm sie mit, am Meer ein Stündchen zu lustwandeln. Sie kannte da eine heimliche Stelle zum Baden.

Um aber zu der heimlichen Stelle zu kommen, musste man über die Felsen hinter dem Hause gehen, und von da wieder abwärts, neben Granatbüschen vorbei und Palmen. Diesmal konnte Mariette nicht vorbei. Denn unter der jüngsten und schlankesten der Palmen lag im süssen Schlaf ein junger, schlanker Mann—neben ihm ein Strauss der allerschönsten Blumen. Auch sah man wohl ein weisses Papier daran, auf welchem vermutlich wieder ein Seufzer redete. — Wie konnte Mariette da vorbei kommen?

N.B.—*Listeners are advised to provide themselves beforehand with paper and pencil, as a short dictation test in German will be given at the end of the talk.*

The text of the dictated matter will appear in the next issue of "World-Radio."

SPANISH.

Aids and Hints for Students.—IV.

By W. F. BLETCHER.

Reverting to the first paragraph of my last article, I wish to call the attention of students to the peculiar way in which sentences like the following are rendered in Spanish:—

It is I who did it.—Yo soy quién (*or* el que) lo hice (*or* hizo).

It was they who complained.—Ellos fueron quienes (*or* los que) se quejaron.

It is we who are to blame.—Nosotros somos quienes (*or* los que) tenemos (*or* tienen) la culpa.

It would be quite wrong to translate literally and say: *Es yo que; fué ellos que; es nosotros que;* etc.

Notice that the verb following *I who* and *we who* may be used in either the *first* or *third* person in Spanish.

. . . . . .

A question which is very often put to me by students is: When is *as* translated *como* and when *pues?*

The answer is that *pues* can only be used to translate *as* when the meaning is *because; i.e.*, to express the reason for something which goes before. Thus:—

Sólo podemos entregar la mitad de su pedido, *pues* la otra mitad se ha echado a perder en el tinte. (We can only deliver half your order *as* the other half has been spoilt in the dyeing.)

Here *pues* means *as* or *because*. But if you invert the order and place the second clause first, you get:—

Como la mitad de su pedido se ha echado a perder en el tinte, sólo podemos entregar la otra mitad. (*As* half your order has been spoilt in the dyeing, we can only deliver the other half.)

Here *as*, meaning *in view of the fact that*, is translated *como* (or *comoquiera que*) and not *pues*. In short, *como* is used at the beginning of the first clause, and *pues* is used when *as*, meaning *because*, commences the second clause. Further examples are:—

Como no tenemos dinero, no podemos comprarlo.

No podemos comprarlo, *pues* (*porque*) no tenemos dinero.

. . . . . .

I always find considerable difficulty in explaining to students the exact difference between *en caso que* and *por si*, both of which are rendered in English by *in case*. The following examples will, I hope, make this perfectly clear:—

Agradeceremos a Vds. nos manden una copia por otro correo *por si* se extravía el original. (We shall be glad (grateful) if you will send us a copy by another mail *in case* the original should go astray.)

Now here *por si*, though I have translated it *in case*, would really be better rendered by *lest*. If we said *en caso que*, the meaning would be quite altered. This will be clearly seen if *en caso que* is placed at the beginning of the sentence: "*En caso que* se extravíe el original, sírvanse Vds. mandarnos una copia."

In other words, *en caso que* makes the sending of the copy dependent on the original going astray, whereas *por si* calls for the copy *in any case* as a safeguard against possible loss.

You will often hear in Spanish the expression *por si acaso* used like this:—

Yo no creo que él se olvide del arreglo, pero mándele Vd. un recado *por si acaso* (lest perchance). (I don't think he will forget the arrangement, but send him word—*a message*—in case he should.)

Alguien ha dejado este paraguas; lo dejaré aquí *por si acaso* su dueño viene a buscarlo. (Someone has left this unbrella; I will leave it here *in case* the owner should come for it.)

In both these sentences *en caso que* would be quite wrong.

. . . . . .

And now a short story in Spanish:—

Una señora entró en una tienda de modas acompañada de una amiga. Después de probarse casi todos los sombreros que había en la tienda, se lanzó (*she pounced*) con alegría sobre uno que estaba sobre el mostrador (*counter*).

—¿Qué tal me va éste?—preguntó a su amiga, poniéndoselo (*putting it on*).

—A mí me parece muy ordinario (*common, dowdy*)—contestó la amiga. La otra se lo colocó a otro ángulo antes de decidirse.

—Sí que es ordinario (*it is common*);—dijo—no lo tomaré después de todo. En esto (*at this point*) una señora que detrás de ellas esperaba con paciencia dijo amargamente:

—Cuando Vds. hayan acabado de probarse (*finished trying on*) mi sombrero, me lo pondré yo (*I will put it on myself*).

FRENCH TALK.

Text of the dictation to be given at the end of the French Talk on Monday, November 21.

Ce qu'on trouve chez La Fontaine ce n'est pas la morale du catéchisme c'est la morale de l'expérience.

Elle peut paraître mesquine aux grandes âmes, qui aiment la vertu pour elle-même: mais est-ce une raison pour la proscrire? Est-il donc mauvais d'éclairer notre ignorance et de désabuser notre orgueil?

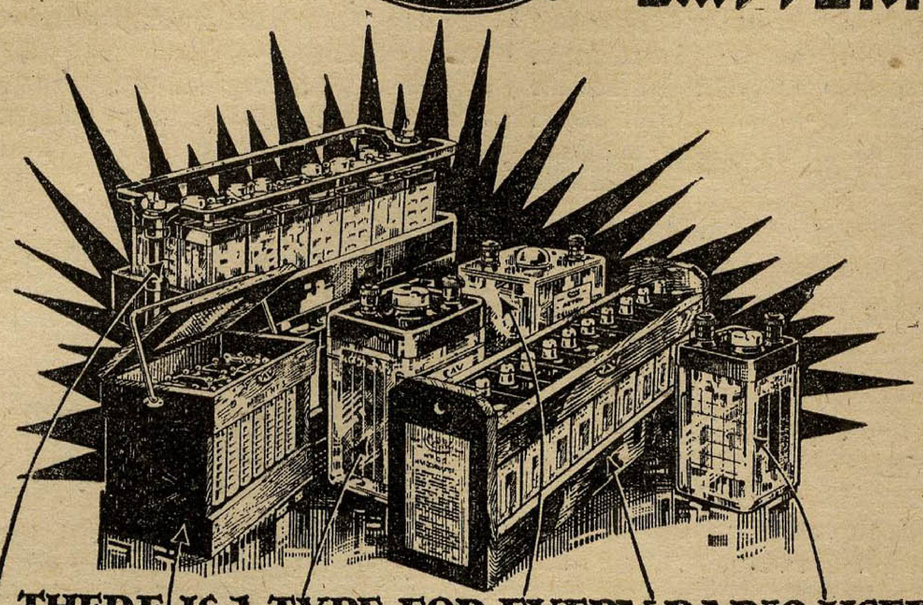
Sentences for translation:—

(1) Let him go and have this letter translated: Qu'il aille faire traduire cette lettre.

(2) I cannot refrain from shuddering when I think of it: Je ne puis (or *peux*) m'empêcher de frissonner quand j'y pense.

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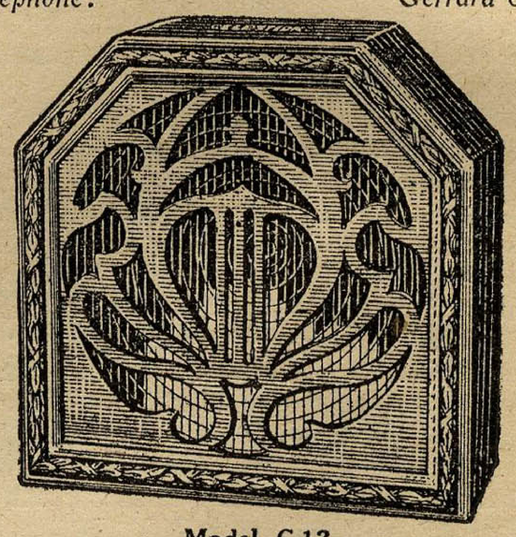
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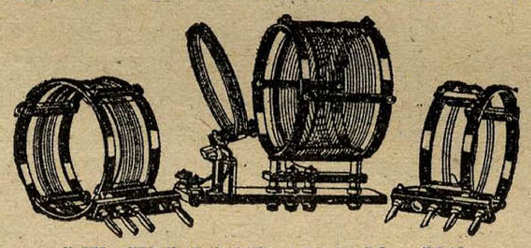


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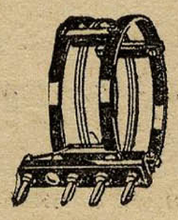
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"Viâ Ether"

FRANKFURT-ON-MAIN is a station of which the transmissions, in most parts of the United Kingdom, can be heard very clearly; if, however, any readers should encounter any difficulties in picking them up, they would do well to try to-night (Friday, November 25) for Koenigswusterhausen, at 7.15 p.m., as the high-power transmitter will devote the whole evening to "Frankfurt-am-Main und Cassel," taking from the former a programme of sonatas with Walter Caspar as solo violinist, and later at 8.18 p.m. a Chinese hour to be broadcast by the relay station. Leipzig and Stuttgart, at 7 p.m., will give us solos and duets from operatic works of German origin.

* * *

To-morrow (November 26) Kiel, at 3.15 p.m., gives us liberal excerpts of d'Albert's opera *Tiefland*. At 7.15 p.m. we are given the choice of two good entertainments by turning to either Frankfurt or Breslau. By the former we shall be conveyed to Mayence for a gala choral concert, given by local societies assisted by the Municipal Orchestra, and greatly strengthened by soloists from Berlin and Darmstadt; from the "oder" station you should hear a cabaret programme followed by *The Flower of Hawaii*, a one-act operetta with music by Walter Kollo, one of Berlin's pet composers. Of the Italian stations at respectively 8 p.m. and 8.30 p.m., both Rome and Naples visit their favourite theatres; Milan, at 8 p.m., again broadcasts Puccini's sentimental one-act *Sister Angelica*: it is a score entirely written for female voices. If towards 9.15 p.m. from an apparently unknown source you should hear English syncopated songs, bear in mind that the Oslo studio at that time will present to its listeners The Three Black Cat Singers.

* * *

I hear that the new Polish transmitter at Kattowitz has been testing nightly on 422 metres, and that it is to be officially opened on November 27. For an ordinary broadcasting station the power is a fairly high one—namely, some 5 kilowatts, and, with some patience, I fancy, it should be possible to tune in to its transmissions. Seeing that Posen, a weaker relative, is fairly regularly received at good strength in many parts of the United Kingdom, I shall devote some little time to a search in the region of Frankfurt-on-Main, but somewhat lower in wavelength, of course, on and after next Monday night. By the way, on Tuesday, November 29, at 6.20 p.m., the Posen studio will give a performance of Mozart's opera *Il Seraglio* (The Elopement from the Seraglio), a beautiful score possessing a wealth of rich melodies. Warsaw, at 7.30 p.m. on the following evening, gives us a radio version of Kalmann's operetta *The Bayadère*.

* * *

Again, on Tuesday, November 29, we can pay a second visit to the Liceo Theatre of Barcelona at 10 p.m., from which EAJ1 is effecting a relay of *The May Night*, one of the many rarely produced Rimsky-Korsakov operas. Leipzig, at 7.15 p.m., will present Shakespeare's *The Tempest* with incidental music by Humperdinck.

* * *

Next Sunday (November 27) will provide us, as usual, with a great variety of entertainments. Kalundborg, at 7 p.m., relaying from the Royal Theatre, Copenhagen, a programme composed of music, songs, and dances of the Faroe Islands, should prove of fascinating interest. Barcelona (EAJ1), on one of its regular visits to the Liceo Theatre, will favour us with Acts 3 and 4 of *Rigoletto*. As the relay is timed to start at 5.30 p.m., I presume that it is an afternoon performance, and probably an early "matinée" for Spain. At Munich, at 7.15 p.m., we find a revival of *Don Quixote*, an operatic tragi-comedy in seven scenes based on the well-known Spanish classic, but with music by Anton Beer-Walbrunn; *Fatmé*, a two-act opera by Flotow, and featuring a humorous story from the reign of the Caliph Haroun al Raschid, forms the main portion of the Leipzig programme. Langenberg at the same time broadcasts a studio performance of *The Waltz Dream*.

* * *

Leo Slezak, who in the early days of last month gave a song recital in London, is now back in Vienna for the opera season. If you care to tune in to the Rosenhuegel transmitter on Monday, November 28, you will hear him in the title *rôle* of Meyerbeer's opera *Le Prophète*, a very theatrical score based on a libretto by the French playwright Eugène Scribe. Although my advance notes do not specify the time at which the curtain rises, you may take it as being about 6.30 p.m. G.M.T., the hour at which most performances begin in the Austrian capital, Copenhagen, on the same evening at 8 p.m., will return to the Odd Fellows' Hall for the first season's concert of the Cecilia Association. The main work on the programme is *Les Béatitudes*, by César Franck, and for this performance the principal soloists will hail from the Danish Royal Opera House.

* * *

Almost every night during the coming week, Radio Paris, for its evening programme, provides both comedy and opera. On Monday (November 28) we are to hear Donizetti's *The Daughter of the Regiment*, a true French *opéra comique*, replete with military rhythms; on the following evening the studio gives us a mixed programme, with a Reynaldo Hann Festival, to include excerpts from his modern operatic works, including *Nausicaa*, produced at Monte Carlo in 1919. This is to be followed by a short sketch by the well-known French humorist, Georges Courteline, and the evening ends with a request performance of Offenbach's *Les Deux Pêcheurs*, but recently broadcast from the same station.

* * *

For Thursday, December 1, we are promised a classical hour at 4.45 p.m., consisting of a dip into Molière. *Le Dépit Amoureux* will be interpreted by Dorival and some of his fellow artists from the Comédie Française; at 8.30 p.m. excerpts from *La Gloire* by Gabriele d'Annunzio and selections from Mozart's *Magic Flute*. Again, on Friday evening (December 2) Radio Paris ensures a good performance of Molière's *L'Avare* by calling on M. Denis d'Ines of the Comédie Française to assume the *rôle* of the Miser *Harpagon*. With its usual liberality the studio adds to this entertainment a shortened version of Cimarosa's *Secret Marriage* (Il Matrimonio Segreto) which, similar to Pergolesi's *La Serva Padrone*, can be considered *opera-buffa* par excellence.

* * *

During this week listeners to Munich from their arm-chairs will be given an opportunity of doing the grand tour; on Wednesday, November 30, at 9.20 p.m., the station will pick up for their benefit whatever may be of interest in the ether, and on Saturday (December 3), from 9.15 p.m. to 11 p.m., through the medium of Daventry 5XX, they will dance to the strains of the Savoy Bands.

* * *

Finally, on Saturday, December 3, at 6.30 p.m., we must do our best to capture and hold Vienna, for a transmission of *Die Königin* (The Queen), an operetta by Oscar Strauss, which I believe is not known to us on this side of the Channel.

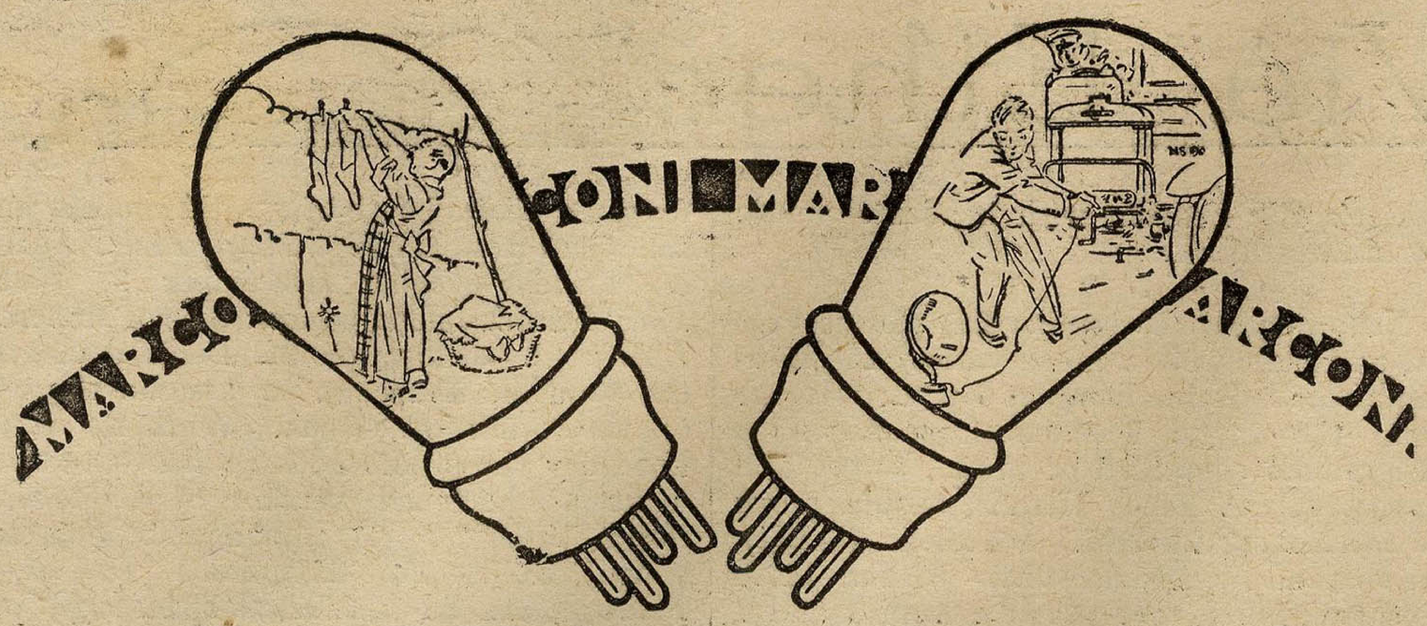
* * *

Both the new PTT transmitters Lille and Rennes in the north of France appear to be heard at good strength in the Southern counties of England. Lille, now on 287 metres, apart from taking its news bulletins and special entertainments from the Ecole supérieure, Paris, also broadcasts its own programmes, and recently has relayed concerts from both Roubaix and Tourcoing, two French cities to which its service is destined. Up to the advent of this 700 watt transmitter, French radio fans could only turn to Belgium or to Great Britain for their wireless concerts, and the installation of this small station has aroused considerable enthusiasm amongst the population of the three towns. I hear that at Fives the local barber now treats his customers to headphones, whilst they await their turn; and in the rue de Paris at Lille, a famous purveyor of *pommes-frites*, has installed a loud speaker in his window. From all accounts, the rush on "crystals" in the district has been unprecedented in France. There is a possibility that with a view to increasing its utility, the power of the station may be raised, and it is thought that the broadcasts would cover a wider area if the transmitter were transferred to the neighbourhood of Armentières, a district possessing a number of suitable sites. What an opportunity to make "Mam'selle" a lady announcer!

* * *

PTT Rennes, now operating on 294 metres, which either relays Lille or Paris, for the present only broadcasts on five nights of the week; the station is silent on Mondays and Fridays in order to allow its habitual listeners to pick up foreign transmissions.

JAY COOTE.



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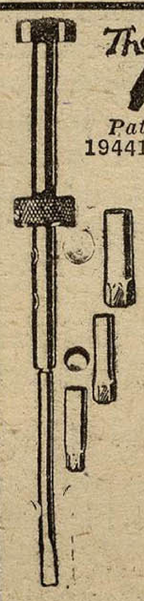


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(*Continued from page* 555).

With such opportunities for the use of electric energy, it is not surprising that Norwegian engineers and Norwegian chemists are well-practised men. Familiarity with the domestic uses of electricity will explain how it is that the homely peasant is less surprised at what a little crystal set can do for him than he would be at the sight of a performing animal. The hold that broadcasting has taken in these valleys is extraordinary, and the demand for more and more relay stations in these regions of dominating mountains that frown down on innumerable little scattered communities. They have come to rely on broadcasting to an extent that can scarcely be realised unless you are fully acquainted with the nature of the country. News, weather forecasts, market reports, all take on a curiously intimate association in the daily life, and even when the emigrant to America leaves his native shore, the departure of the large Norsk-America steamers is always accompanied by the sending of farewells in hundreds of short messages, broadcast to valleys such as those in the picture.

(*Continued from page* 561.)

for the festival at the Royal Theatre will be introduced with an overture by Carl Nielsen, the great Danish composer, especially written for this occasion. Then follows a lecture on the Faroen popular folk song dances and a number of Faroen songs. In addition, there will be a joint performance by the Faroe Islanders and the Danish ballet.

The New Copenhagen Station.

The new broadcasting station is expected to begin testing in the course of the next ten days. The wavelength will be the same as at present and the power about 2 kw.

The Danish broadcasting authorities have arranged some important concerts for this season, under the direction of famous European conductors and composers. The first of these took place on November 22. It comprised Czechoslovak music conducted by Oscar Nedbal, leader of the Slovakian national theatre in Bratislava. The next concert takes place on Wednesday, January 25, and will comprise Swedish music conducted by the composer Armas Järnefelt.

FRANCE

"Pasdeloup" Concerts from Paris.

It is interesting to note that for the present the Ecole Supérieure de PTT broadcasting station (458 metres) will relay twice weekly the famous "Pasdeloup" concerts from the Théâtre Mogador in Paris. These concerts, which take place every Saturday and Sunday from about 5.15 p.m.—7.30 p.m. (G.M.T.)—were founded as popular concerts by Jules Etienne Pasdeloup, the famous French pianist and conductor, in 1861, and since then have been given regularly. They are among the most excellent and interesting of the regular Continental concert events.

NORWAY

Bergen to Exchange Programmes with U.S.A.

As is announced in our U.S.A. Notes, an arrangement has been made between the Bergen station and WBAL (Baltimore) to exchange a typical national programme. Both stations will present these programmes, probably on the evening of December 17 next.

A Short-Wave Station for Norway.

The Bergen station will, it is expected, shortly transmit its normal programmes on a wavelength of about 30 metres in addition to its medium wavelength of 370.4. The new transmission should be working early in December.

Dominion and Foreign Broadcasting Intelligence

AUSTRALIA

(From a Special Correspondent.)

Radio has proved a good fairy to a Scottish woman who recently came out to Australia. Though she has been out for several months, she was finding a difficulty in accustoming herself to Australian ways. Everything was so different, so strange. She felt homesick. There is a four-valve set in the house where the Scottish woman is living. She is very fond of radio and never misses the children's session. One night recently at the conclusion of the bedtime stories she suddenly heard herself called. "Hello! Is Mrs. Blank from Greenock, Scotland, listening?" The woman nearly jumped off the chair with surprise as the familiar voice of Uncle Bass from station 2BL filled the room. "I want to give Mrs. Blank a very warm welcome to Australia," he continued. "She has come to a very fine country with six million people in it, and every one of them is her friend. I am sure I am speaking for them all when I tell you we are glad you have made Australia your home. You'll find conditions a little different at first, but you'll soon learn to know our ways, and become as good an Australian as any of us. Goodbye, Mrs. Blank; good luck." Quite a simple message, but it did much to cheer the lonely woman, who wrote expressing her deep appreciation.

CANADA

(From our Montreal Correspondent.)

Microphone Publicity.

In publicity and advertising campaigns radio is playing an increasingly important part in Canada. One of the latest demonstrations of its value to those who would reach the housewife was the broadcasting from the Montreal Household Show of a varied programme which was transmitted simultaneously from Montreal, Quebec, and Ottawa, through station CNRM.

Musical Education.

How much radio is doing in the way of educating the populace of Canada musically can be gathered from the excellent and varied programmes broadcast. One of the latest received here was composed entirely of music of composers of the pre-Mozart era.

Farmer "Fans."

From local radio dealers I learn that the farmers of this and the western provinces are taking more enthusiastically to radio, the improved sets enabling them to tune in many programmes which could not be heard in level outlying districts until the modern sets arrived. The farmers have made a lot of money this year, and are investing a great deal of it in automobiles and expensive radio sets.

INDIA

(From our Bombay Correspondent.)

Women Announcers.

BOMBAY, November 4

Progress is evident both in Bombay and Calcutta by the number of aerials on buildings, and shortly we hope that on arrival at either city the first thing people will notice will be a forest of aerials, as in London. Each station has now appointed a woman assistant station director, who shares in the announcing work of the European programmes.

Short Wave Transmissions.

Experiments are shortly being started on short-wave transmissions, and if these prove successful, it is intended to duplicate the transmissions of both stations on long and short waves, in order to give listeners who live beyond the normal range of the present 3 kw. transmitters a chance of listening on smaller and cheaper sets than is at present possible; the present transmissions touch only the fringe of the country for the listener of average means. If, as is hoped, this brings a substantial increase of revenue to the company, funds will then be available for the erection of further normal wavelength stations to serve the more intimate local needs of different provinces, where the difference of language makes anything but local stations useless for anything in the nature of educational work. Topical talks are becoming a popular feature of programmes, and during the last fortnight that wonderful octogenarian, Mrs. Besant, has broadcast, as also has the Maharaja of Kapurthala, who is thus the first Ruling Prince to appear before the microphone.

Foreign Radio Humour

U.S.A.



Trying to Convince Grandmother that it will be "real gentle."

[*Cleveland Plain Dealer.*

AUSTRIA

(From our Vienna Correspondent.)

Presidential Address from the Air.

VIENNA, November 18.

Dr. Michael Hainisch, President of Austria, has created a new record by addressing the nation on the day following the eighth anniversary of the Revolution from an aeroplane which flew above and around Vienna for an hour. The wavelength used was 900, and the message was received in the station on the flying ground at Aspern, relayed to Rosenhügel, and thence to Graz, Klagenfurt, and Innsbruck. It was heard all over Austria with perfect clearness, and far beyond its borders also. The aeroplane carried, besides the President, seven other passengers and the pilot.

Wireless Picture Transmission: British System.

Captain Otho Fulton has succeeded in transmitting pictures simultaneously with his Fultograph to four points ranging from five to fifty miles from Vienna, where he has a 2 kw. station of his own in his laboratory. He has made a demonstration at the British Legation in Vienna by invitation of the British Minister. He is to demonstrate his invention at Geneva in December, in the Palace of the League of Nations, where pictures will be received from the Geneva station of the Swiss Broadcasting Company, in the presence of the official League delegates. Ravag is determined to have the honour of being the first broadcasting company to distribute pictures by wireless to subscribers by means of this British invention.

Pictures by Wire: German Method.

On December 1 the postal and telegraph administrations of Berlin and Vienna will begin transmitting facsimile telegrams over telegraph wires by means of the Carolus system, and it is expected that soon after that date the public will be able to send telegrams in this way between the two capitals.

BULGARIA

(From our Vienna Correspondent.)

To Broadcast Next Year.

Though Bulgaria has as yet no broadcasting station, the most Balkan of the Balkan countries—for the Balkan Mountains themselves are in Bulgaria—is thinking very seriously about erecting one, and a start will probably be made early in the New Year. Quite a number of amateurs are now licensed to use their apparatus, which mostly comes from Vienna, all amateur transmitting being unauthorised until quite recently. The radio station, under State control, is near the city of Sofia, but is not itself powerful enough to carry messages far. A much more powerful station is soon to be erected. At the principal Sofia hotel radio music, received from all parts of Europe, alternates during the evening with that of a small orchestra, and a map of Europe, with coloured discs indicating the principal stations, which are illuminated as those stations are being received, is conspicuous on the wall of the dining-room. Sofia is two hours ahead of London time. I heard London, Munich, Vienna, Berlin, Zurich, and Budapest quite well while dining there a few days ago. Amateurs complain bitterly of atmospherics at Sofia, and also of the constant morsing signals of the official station. There is a dearth of skilled radio mechanics in Bulgaria, and the cost of material is very high. But radio is beginning to "boom" in Bulgaria, where it is badly needed, as evenings are apt to be dull.

DENMARK

(From our Copenhagen Correspondent.)

Faroe Islanders to Broadcast.

COPENHAGEN, November 18.

On Sunday, November 27, fifty visitors from the Faroe Islands will arrive in Copenhagen for a series of festivals. The first of these takes place at the Royal Theatre, and from there will be relayed to all the Danish broadcasting stations. The chief appeal lies in the old popular songs and dances which the Islanders will render in the original form in which the Danes of the Middle Ages performed them. These old airs and dances were last transported from Iceland, but live still in their original form on the Faroe Islands. The programme

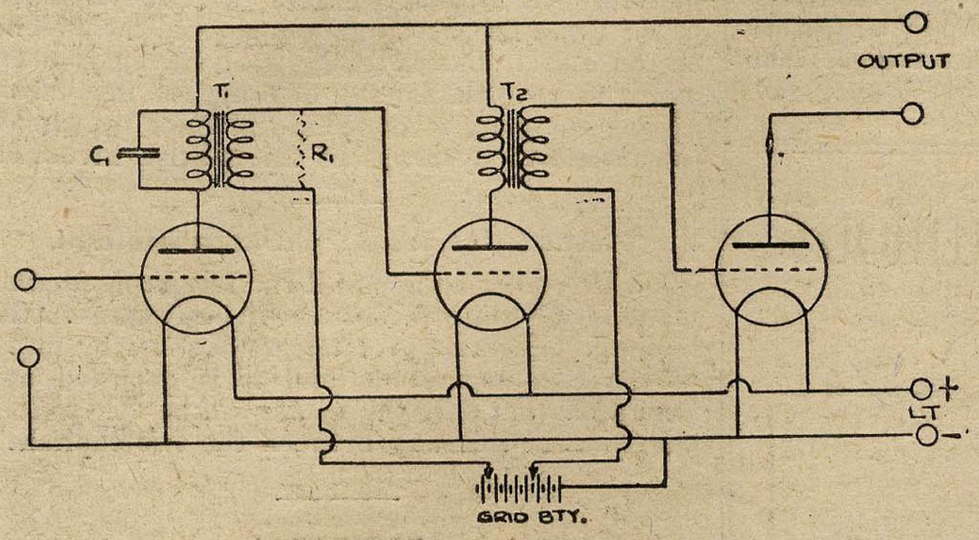
(*Continued on page* 560.)

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By "DICTRON."

XXXIII.—Low Frequency Amplification.

AND now we come to the third alternative method of low frequency amplification. Last week we discussed the choke-coupled amplifier and found that a higher degree of amplification could be obtained with it than with the resistance method, but that it was more liable to introduce distortion. Now supposing we took a choke coil wound on an iron core, such as we considered in the last instalment, and instead of passing on the amplified voltage variations through a condenser to the grid of the next valve, we wound another coil on top of the choke and connected one end of it to the grid of the next valve and the other to the filament, we should have something of the same piece of apparatus as we used in a transformer-coupled high frequency amplifier, except that now the transformer has an iron core which is common to both primary and secondary winding. A transformer coupled amplifier has one great advantage over the other two kinds—namely that much higher amplification may be obtained per stage. On the other hand, it has all the disadvantages of the choke but in greater degree, since both primary and secondary are open to all the difficulties of design and tendencies to distortion, and in addition there are some difficulties to be overcome which are peculiar to the transformer alone.



Construction of Transformers.

The usual method of constructing transformers is to wind the primary and the secondary each in several sections. The same type of core as was illustrated in Fig. 35 of last week's instalment is in general use for transformers. The sections of the primary and secondary are placed on the core alternately, first a primary section then a secondary section, and so on. It is of the utmost importance that each primary section should be insulated from each secondary. A thin layer of waxed paper is often used. After assembly the primary sections are connected together in series and the secondary sections likewise. The transformer amplifier can give higher amplification per stage because the voltage variations across the primary will produce greater voltage variations in the secondary if the latter is wound with a greater number of turns of wire. Say that the secondary coil has four times more turns than the primary, we should obtain voltage variations four times as great. Thus if the primary gives an amplification of a value ten, the total amplification impressed on the grid of the next valve would have a value 40. This assumes no losses in the transformer, a condition which is unfortunately seldom achieved even with the most careful design. We must remember that the losses in the core are now twofold, effecting both primary and secondary, and that there are now two inductances both having self capacity and consequently in both there is a resonant frequency at which a greater reactance is afforded to the voltage variations than at any other frequency. The two resonant frequencies are different because the inductance of both coils is different unless the transformer is wound with a 1 to 1 turns ratio which in practice is seldom the case. The core, although of similar type to that which we considered in connection with the choke coil requires to be of specially careful design. Fig. 36 shows a typical transformer coupled amplifier. It is not normally practicable to use more than two stages of amplification. T1 and T2 are the coupling transformers. It is, of course, still necessary to apply a negative bias to the grids of the valves in order that they may be operated on the most effective part of their characteristic curves. C1 is a by-pass condenser. If there is difficulty in avoiding distortion due to the resonant frequency of the primary or secondary of the transformer this may be overcome by shunting the secondary with the resistance R1, although some reduction in the strength of signal will result.

General Remarks.

Although we are dealing with low frequencies we must not neglect to take some precaution against spurious coupling between the components of the amplifier which may give rise to low frequency oscillation. It is not necessary to space the wiring and the components with such care as in a high frequency amplifier, but some precautions are essential; for instance, it is bad practice to place two transformers very close together with the turns of wire composing the coils parallel to one another. Do not forget to pick the right type of valve and to arrange the circuit so that it is operated on the proper part of its characteristic curves. A valve in the last stage of an amplifier will require more negative grid bias than the others because it will have greater voltage variations to deal with. If a loud speaker is to be operated the last valve will have to provide quite considerable power quite apart from the process of amplification. We must pick a valve with a long straight portion to the left of the zero grid volts line and ensure that the maximum negative potential which the grid receives from the incoming alternations does not, when added to the auxiliary negative potential, produce a value which will work the valve on the flat or horizontal part of the bottom bend allowing rectification to take place. We must also ensure that the maximum positive swing of the grid does not allow grid current to flow. We must therefore use a low impedance valve having a very open mesh grid which will give a large output of power. To ensure the latter we must apply a high potential to the anode.

Finally, a correspondent has asked the writer to emphasise the superiority of the resistance coupled amplifier over the other types. This has already been indicated in an earlier instalment, but it may be stated again that for good quality reproduction there is no question but that the resistance method is the best, although for a given number of stages the total amplification obtained will be less than by either of the other two methods.

Last Week's Log.

By NORTHERNER.

THROUGHOUT the past week or ten days conditions for distant reception have definitely improved so far as signal strength has been concerned, whilst interference from static has been at a minimum, except on one or two occasions, fortunately not of long duration. This latter interference was undoubtedly caused by heavy snowclouds of which we, in this part of the country, have already had experience.

It is rather curious to have to report that with the improved reception conditions prevailing, increased Morse troubles have developed, almost certainly for this very reason, and those broadcast transmissions within the neighbourhood of 450 metres have especially suffered.

To go further into detail, I would mention an Italian station, working at about 545 or 550 metres, and which I believe to be Lugano. Very good reception is experienced, with only a small amount of fading. The transmission is frequently heterodyned, but I am not certain as to the identity of the second station. Zürich has been very disappointing of late, but Vienna (Rosenhügel) and Munich are nearly always excellent signals. There is much interference on 500 metres, which is unfortunate for Aberdeen, the third British station in my locality, considered in order of signal strength. Lyons PTT is frequently very good to hear, but generally spoiled by distortion at short intervals, and also by bad fading. Langenberg and Frankfurt, and, I ought to add, both Hamburg and Stuttgart, are all almost always available for reception at excellent strength. I recently suggested Motala as a sure means of receiving the Swedish programmes, and this, of course, still holds good. Regarding the transmissions from Norway, however, there is no long-wave station in that country, and as Oslo is usually heterodyned, it is not easy to receive their programmes with any comfort. I find that Rjukan is very obliging, and through this station it is usually possible to receive Oslo with the minimum of interference, morse excepted, and at very considerable volume.

Cracow appears to have changed frequency and is now quoted as being on 500 metres. On about 344.8 metres Posen comes over at good strength generally, and quality is very satisfactory. I fear that there will be some interference when this station and Barcelona are operating simultaneously, though up to the present I have not heard both at one time.

The question of relaying other programmes, *via* wireless link, is becoming much more common on the Continent, and it is frequently very difficult to identify a newcomer without verifying programmes and making use of any and every small point which may be observed in the transmission, from which definite inferences may be drawn. Nothing is too small to note in this direction; personally, I once obtained the first clue to the identity of such a new station from the unequal beat of the metronome or clock used.

On the short waves, the most noticeable feature is the marked increase in the number of amateurs receiving on these frequencies, or so I judge by the extra oscillation which is to be heard.

KDKA has been heard rather weakly on 26 metres, but apparently this transmitter is also sending out at about 62 metres and also in the neighbourhood of 43 metres. On the morning of November 18 KDKA was coming over at much greater strength than either 2XAD or 2XAF, but unfortunately the quality was not good. Due to the late hour at which I located the particular transmission, I was unable to follow up the matter of wavelength, and as I was using a coil with which I was not entirely familiar, I must reserve my statement on this point. I have also noted a German-speaking station in the same vicinity, but dance music does not lend itself to easy identification.

The General Electric Co.'s 2XAD and 2XAF are up to the usual strength, and quality is remarkably good. Eindhoven still appears to be silent, whilst 5SW at Chelmsford is not often heard.

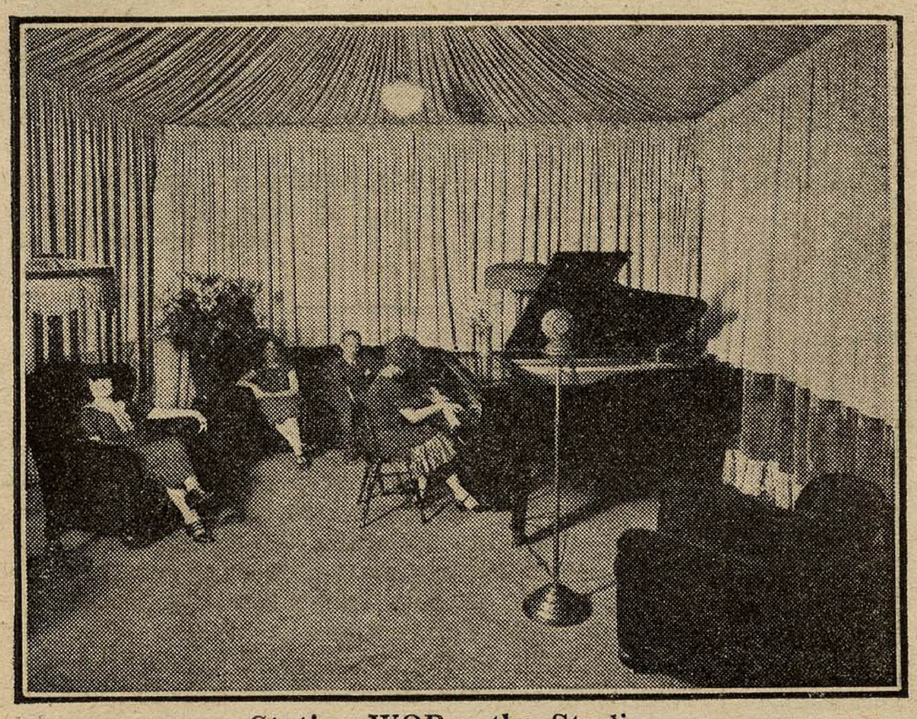
I wonder how many amateurs, after the last B.B.C. relay of 2FC Sydney through 2ME, heard the latter station switch on again after a short interval and relay back to us, and incidentally to any other part of the world, the test programme Australia was receiving from 5SW at Chelmsford.

U.S.A. Notes

(From our New York Correspondent.)

Senatore Marconi on Short Waves.

"I am profoundly impressed with the enthusiasm of the people in the United States for radio," said Senatore Marconi, during an interview given in New York. The scientist added: "There are three things that have attracted my attention since coming to New York. First, the enthusiasm for radio; secondly, the practical purposes to which radio is put here; and, thirdly, I am surprised at the general knowledge of radio among the younger generation. The elders are dragged into radio for entertainment, but youths are in it because they find it fascinating, and that is most fortunate. Youth has the punch and the go. That is what will send radio ahead. Radio offers many possibilities for the amateur experimenters. We have all been helped by the amateurs. It is a grea asset to have such a great number of amateur expet rimenters interested in the science." Asked if he believed the present broadcast band from 550 to 200 metres would ever be changed to short waves, necessitating the scrapping of present receivers and broadcast transmitters, Mr. Marconi replied: "I can see a big field for short waves. But they will play their most important broadcasting *rôle* in international exchange of programmes; that is, for long-distance broadcasting. The short waves have the ability to span world-wide distances with comparatively small power outputs. However, I believe the present waves, for example, as used in New York for broadcasting, are well adapted to the use for which they are put. I can see no benefit for New York broadcasters to shift to channels below 100 metres unless they desire to entertain Australia, Europe, or South Africa." In Mr. Marconi's opinion, fading remains the most serious obstacle to overcome, although, he said, it is worse on wavelengths between 200 and 1,000 metres than on short waves.



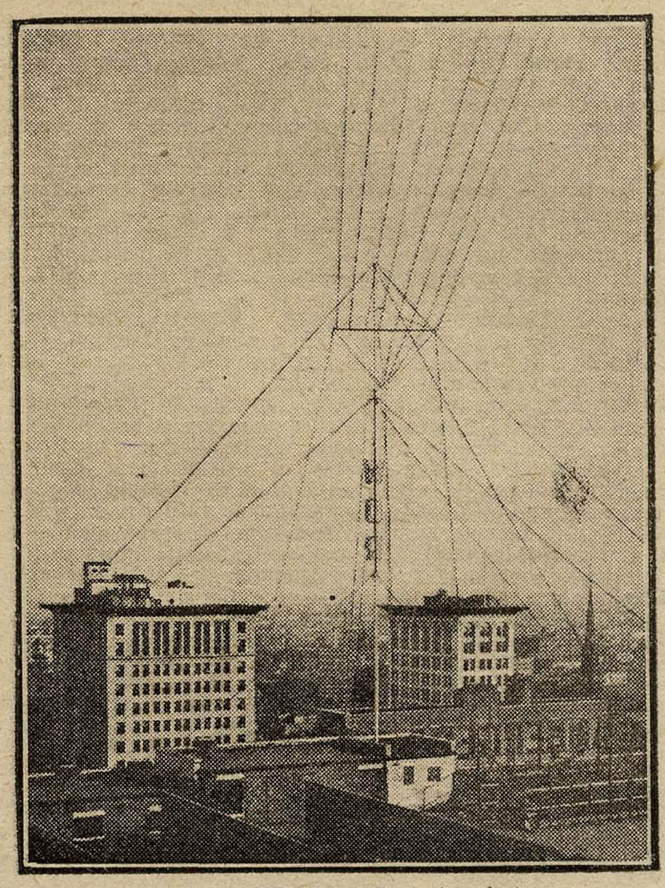
Station WOR: the Studio.

U.S.A. and Norway Exchange Programmes.

As a result of the belief that programmes will be interchanged regularly between England and the United States during the coming winter, Station WBAL, of Baltimore, Maryland, has begun to trade programmes with the broadcasting station of Bergen, Norway. The programmes will cross the Atlantic only in written form, however. A typical "All-American" radio entertainment has been drawn up for presentation by the Norwegian station, while WBAL will offer a characteristic Norwegian one.

A Change of Opinion.

Sir Thomas Beecham, the famous conductor, who once said that broadcasting was music's greatest enemy, will appear with his baton before the microphone of Station WOR in the New York City area. According to arrangements, he will make his *début* on January 10 at Carnegie Hall, in New York City, directing the New York Philharmonic Orchestra. The concert will be the first of a series, and Sir Thomas will appear as a guest conductor. Then, strangely enough, he is scheduled to conduct the Philharmonic when Station WOR broadcasts the eighth of a series of seventeen Thursday night Philharmonic concerts. That will be shortly after he appears at Carnegie Hall. "Ever since the beginning of the present century there has been committed against the unfortunate art of music every imaginable sin of commission and omission," said Sir Thomas last year. "But all of the previous crimes and stupidities pale before the latest attack on its fair name—broadcasting it by means of wireless."



Station WOR: the Aerial.

Continental Programme Events.

Sunday, November 27

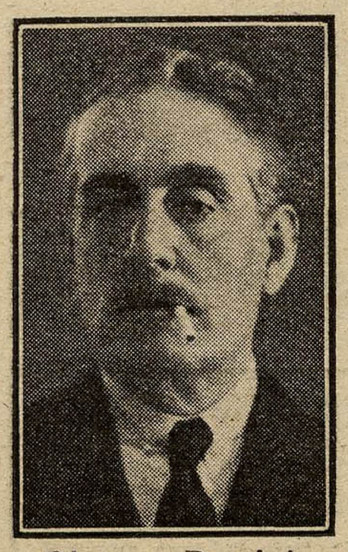
5.30 p.m. **Barcelona.**—"Rigoletto" (Verdi).
7 „ **Copenhagen, Kalundborg.**—Music, songs and dances of the Faroe Islands.
7.10 „ **Langenberg.**—"The Count of Luxemburg" (Lehár).
7.15 „ **Leipzig.**—"Fatmé" (Flotow)
7.15 „ **Munich.**—"Don Quixote" (Beer-Walbrunn).
7.30 „ **Cracow.**—Vocal Concert: Old Time Melodies.
7.50 „ **Hilversum.**—"Rigoletto" (Verdi).
8.15 „ **Brussels.**—Gala Concert.
8.45 „ **Stockholm.**—Orchestral concert.
10 „ **Madrid, Bilbao, San Sebastian.**—Popular concert by the Asturias Regiment. Soloist: Carmen Aldana.

Monday, November 28.

6 p.m. **Berlin, Breslau.**—"Dr. Faust" (Busoni).
6 „ **Vienna.**—"Prophet," an opera by Giacomo Meyerbeer.
6.45 „ **Helsingfors.**—Orchestral concert.
7 „ **Copenhagen, Kalundborg.**—"The Beatitudes" (César Franck).
7 „ **Bruenn.**—"Mademoiselle Nitouche" (Hervé).
7.15 „ **Danzig, Koenigsberg.**—"Elias" (Mendelssohn).
7.30 „ **Posen.**—Scandinavian music.
7.30 „ **Warsaw.**—Chamber music concert.
8 „ **Naples.**—Concert.
8.30 „ **Brussels.**—Concert.
8.30 „ **Radio-Paris.**—"The Daughter of the Regiment" (Donizetti).

Tuesday, November 29.

6.15 p.m. **Prague.**—"Orlov" (Granichstaedten).
6.30 „ **Bergen, Oslo, Stockholm.**—"The Marriage of Figaro" (Mozart).
7 „ **Copenhagen, Kalundborg.**—Danish poetry and music.
7.5 „ **Vienna.**—Popular concert.
7.15 „ **Leipzig.**—"The Tempest" (Shakespeare); music by Humperdinck.
7.15 „ **Hamburg.**—German life and scenery described in music.



Giacomo Puccini.

7.15 p.m. **Munich.**—"Götz von Berlechingen" (Goethe).
7.30 p.m. **Paris (Eiffel Tower).**—Russian music.
7.40 p.m. **Rome.**—Puccini evening, including the second act of "Turandot" (in commemoration of the death of Puccini, November 29, 1924).
8 p.m. **Milan, Naples.**—Selection of Puccini's works.
8 p.m. **Stuttgart**—"The Marriage of Figaro" (Beaumarchais).
8.40 p.m. **Hilversum.**—Concert by Russian artists.
10.5 „ **Barcelona.**—Second Act of "La Noche de Mayo" (Korsakov).

Wednesday, November 30.

5.45 p.m. **Prague.**—Festival of Czecho-Yugoslavian Friendship.
7 „ **Stuttgart.**—"The Queen of the Air," an operetta by O. Schwartz.
7.15 p.m. **Langenberg.**—Symphony concert.
7.15 „ **Leipzig.**—Programme of Dvorák's works.
7.30 „ **Cracow.**—French music.
8 „ **Naples.**—"Norma" (Bellini).
8.15 „ **Brussels.**—Concert.
8.15 „ **Koenigsberg.**—Orchestral concert.
9.10 „ **Hilversum.**—Concert by English artists.

Thursday, December 1.

7 p.m. **Langenberg.**—German folk music and ballads.
7 „ **Stuttgart.**—Alsatian programme.
7.15 „ **Leipzig.**—Leipzig composers.—V.
7.30 „ **Warsaw.**—Orchestral concert.
7.35 „ **Geneva.**—Russian music.
7.50 „ **Hilversum.**—Symphony concert.
8 „ **Naples.**—Popular concert, arranged in accordance with the votes of wireless listeners.
8.30 „ **Stuttgart.**—German poetry and prose during the last century.

Friday, December 2.

7 p.m. **Oslo.**—Symphony concert: Beethoven evening.
7 „ **Danzig, Koenigsberg.**—Symphony concert.
7 „ **Langenberg.**—"Idomeneo" (Mozart).
7 „ **Frankfurt.**—Concert by the Museum Society, including Stravinsky's "Frühlingsweihe."
8 „ **Naples.**—"Mephistopheles" (Boito).
8.15 „ **Brussels.**—"The Daughter of the Regiment" (Donizetti).
8.30 „ **Radio-Paris.**—(1) "L'Avare" (Molière); (2) "Le Mariage Secret" (Cimarosa).
10 „ **Madrid.**—Wagner programme.

Saturday, December 3.

6 p.m. **Frankfurt.**—"The Marksman" (Weber).

(Continued on Page 564.)

Which Station Was That?

ANSWERS TO CORRESPONDENTS

Highlander (Guildford): Kalundborg, relaying Copenhagen. News. Later, dance music from the Restaurant Nimb. **Puritan (Stoughton)**: Munich, broadcast of Arthur Honegger's *King David*. **Smugger**: (1) Yes, Moscow Comintern (RDW), (2) Yes, Leningrad, (3) Yes, Kalundborg, relaying afternoon concert from Copenhagen, (3) Yes, Leningrad. **E. C. (Ashford)**; **H. W. Davies (Pershore)**: A new Italian station (not yet definitely identified) on 545 m. relaying Milan. **Victor (Hull)**: PTT Paris, relaying dance music from the Coliseum until midnight. **Mus. Doc. (St. Margaret's-on-Thames)**: Yes, if your estimate of WL. is correct, this was Kharkov (Russia) which is broadcasting on about 1,700 m. **3 Valves (Malton)**: Details would tally with Copenhagen. Children's hour, followed by news. **H. R. B. (Edinburgh)**: Kalundborg relaying Copenhagen. Children's hour, followed by news. **F. J. YK (New Earswick)**; **1.2 NO (Birmingham)**; **2 Valve (Radcliffe)**: As you give no estimate of WL. it is impossible to trace; possibly a Spanish station at that time. **J. J. Y. (Ashford)**: Huizen (Holland), 1,840 m. **Shipman (Dover)**: Hilversum (Holland) Church Service. **Quatre V. (Pontypool)**: 5XJ, amateur Bexley Heath; 2GO, amateur London, W. 2. **O'Donnell**: Not advertised in programmes, but reports have been received from other listeners of this transmission, and all details would point to Kalundborg. **Smoker 3B (Barkingside)**: PTT Lille. At 11.30 a.m. relay of a ceremony at the inauguration of the Monument to Louise de Bettignies, the French "Edith Cavell." Later a relay of concert from Roubaix (Exhibition of Textile Industries). **E. F. B. (Walsall)**: Kalundborg, relaying Copenhagen. Dance music until 1 a.m. G.M.T. from Berlin, London and the Restaurant Nimb, Copenhagen. **H. T. W. (Wokingham)**: Hilversum (Holland). From 10.10—11.40 p.m., concert of newest gramophone records. **Abbeyhill (Edinburgh)**: Believe new station at Almeria (Spain), possibly relaying Madrid (EAJ7). **Waratah (Teignmouth)**: Dublin and Cork. In view of your position, you possibly heard this through the latter station. **Hibernia (Loughrea)**: (1) This was Stamboul (Turkey); announcements are made in Turkish and French, (2) The new Italian station (not yet definitely identified) on 545 m.; (3) yes, if your estimate of WL. is correct, Leningrad. **BM/BAHS (Bath)**: (1) Yes, a Norwegian amateur as EL is the International prefix for that country, but cannot trace call sign OIM, (2) 8FA, amateur, Paris. **Drummer (Maltby)**: (1) Malmö, relaying a concert of old dance music from Stockholm, (2) apparently induction from telephone lines. **F. J. Furby (Leigh-on-Sea)**: Motala, relay of church service from Stockholm. **Golden Bay**: Langenberg; from studio. **W. L. Randell (Sydenham)**: Frankfurt-on-Main, relay of concert from Hoechst. **S. H. (Derby)**: Madrid (EAJ7). **Etherite (Shrewsbury)**: Berne. A play, followed by a relay of a concert from Burgdorf; male choir and orchestra. **Leslie Noble (Harringay)**: Apparently a Swedish relay of Stockholm, but cannot say which. **A. E. J. (Eastbourne)**: Como *appears* to be working again on 545.5 m.; it relays either Milan or Rome. **Major Rhondda**: an English amateur transmission, but cannot trace call sign. **J. W. S. (Beccles)**: If your WL. correct, Bilbao (EAJ11), but cannot confirm as no programmes available for this station. **J. H. H. (Dundee)**: Kalundborg, relaying Copenhagen. **R. H. Brett (Leeds)**: Kovno, news and weather. **N. C. (York)**: Apparently the new station at Almeria (Spain), possibly relaying Madrid (EAJ7), as no other station on about that WL. was advertised to work so late. **Allen (Cardiff)**: 2GF amateur Brixton, 6TH amateur Newport (Mon.), 6FR amateur Birmingham; cannot give WL on which these amateurs work, as they are not published; cannot trace the two French amateurs as you give no call sign. **Kasha (Highbury)**: Surely Madrid (EAJ7), which was giving a concert at that time. **Nine Goals (Waterloo)**: (1) Motala, relaying Stockholm (concert of old dance music); apparently working later than advertised in programmes, (2) Moscow Comintern (RDW). **Spade (Woking)**: (1) You give no date; if Spanish, possibly Cadiz (EAJ3), (2) no date given; too vague; regret, cannot trace. **12.0 to 2.30 a.m.**: (1) WABC (New York), 64 m., (3) possibly WIZ (New Brunswick), 43 m., but cannot confirm. Coupon must be sent with *each* enquiry. **Robinson Crusoe**: (1) WL. apparently wrong; regret, cannot trace, (2) your details are vague, but possibly Prague. **Schola Carliolensis**: We know of no station actually on the WL. of 5XX; you do not state time you heard this transmission. **Hopeful (Gasport)**: Regret, cannot trace. Your details are too vague, and you give no estimate of WL. **G. A. F. (Harrogate)**: Many thanks for your information; it is correct. **Spark (Sheffield)**: Madrid (EAJ7). **Radio Roma (Cheshire)**: (1) Possibly Limoges (France); (2) cannot trace; (3) Barcelona (EAJ13); (4) regret cannot trace, details too vague. We believe that Lisbon is transmitting, but it is not confirmed that there are regular broadcasts. **J. W. (Hale)**: Details tally with Kalundborg, relaying concert from the Odd Fellows Palace at Copenhagen. **Trans-Atlantic** (Eastbourne): (1) Madrid (EAJ7); (2) Barcelona (EAJ1). **DX Three Valver (Yorks)**: Apparently Barcelona (EAJ1), but play was not advertised. Coupons may be taken from *any* issue. **Bendo (Liverpool)**: Kalundborg, relaying from Copenhagen. A talk in English given by J. E. Pryde-Hughes (London). **C. E. C. (West Derby)**: (1 and 2) Kalundborg, relaying afternoon concert from Copenhagen. **Shipy (York)**: Wavelength wrong; Cassel relaying broadcast of physical exercises from Frankfurt-on-Main. **R. W. A. Keith (Gt. Crosley)**: The new Italian station (not yet definitely identified) on 545 m. relaying concert from Milan. **Tadcarwen**: (1) Schevening-en-Haven (Holland) News; (2) yes, Kovno. Children's Hour. **Bacanie (Spalding)**: (2) not Tallinn, but Berne (Switzerland); (2) the new Italian station (not yet definitely identified) on 545 m., relaying concert from Milan. **Scrounger (Hove)**: With reference to your reply in last week's issue, the station heard was Posen on 344.8 m. Confirmed by other listeners. **3 X (Crayford)**: Kalundborg, relaying Copenhagen. **Eov-Try**: a.m. or p.m.? your call sign is illegible, regret, cannot trace. **G. B. Todd-Naylor (Yeovil)**: (1) No Italian station on that WL., but would tally with Children's Hour from Madrid (EAJ7); (2) no coupon. **Guest (Peterborough)**; Regret, cannot trace, details far too vague; you give no programme details. **Flambro (Yorks)**: (1) San Sebastian; (2) too vague, cannot trace any item by Mendelssohn broadcast on or near that WL. **Rovi (Douglas, I.O.M.)**: Apparently Leningrad. No details published in programme. **D. X. (Wimbledon)**; Cannot confirm, but from other reports, Barcelona (EAJ1) was working later than advertised in programmes. **Bierton (Clapham Common)**: PTT Lyons (Armistice Concert). **Hispano-Suiza (Burgess Hill)**: Short wave transmitter of KDKA (East Pittsburg) on about 43 m. **Yanteb (Leeds)**: WL. very vague, but possibly the new station at Como (Italy) on 545 m. **Northridge**: 2FC usually tests on Sundays from 7-8 a.m. and 6-7 p.m. (G.M.T.); no regular transmissions. **Amplifier (Aberdeen)**: (1) Berlin (Witzleben) concert of gramophone records; (2) apparently your local station testing. **Keady (Armagh)**: Motala and Kalundborg. **Becontree**: Radio Paris. **Nobby Clarke (Maidenhead)**: (1) if WL. correct, Salamanca (EAJ22); (2) if WL. correct, Cadiz (EAJ3); (3) Naples, relaying from Theatre; (4) Oslo; (5) details very vague, but possibly Berne; (6) Notodden, relaying English lesson from Oslo. **Wean-o-Wean (Hornsey Rise)**: Hamburg, relaying English lesson from Koenigswusterhausen. **Messabout**: Hilversum. **Yorky (Liversedge)**: (a and b) apparently Helsingfors and Tammerfors; (c) yes, Falun, relaying Stockholm (from the Opera House); (d) yes, we believe this to be the new station at Almeria (Spain), relaying Madrid (EAJ7); (e) Barcelona (EAJ1), relaying Madrid (EAJ7). **Solodyne (Deal)**: A relay of PTT Paris (dance music from the Coliseum), possibly Toulouse PTT. **Mundesdyne**: Apparently Helsingfors, but programme did not advertise so late a broadcast. **Mac (Reading)**: Langenberg. **A. Z. (Ladbroke Grove)**: Prague. **Coil Holder (Margate)**: Frankfurt-on-Main. Comedy (Interval signal: metronome). **Eight Knobs (Bristol)**: No, this was Bergen. At 9.15 p.m. English lesson. **Abaccus (Westcliff)**: Barcelona (EAJ1). **P. P. V. 3 (Deal)**: Cork relaying organ recital from St. Patrick's Cathedral at Dublin. **Kingsdown 3 V (Kent)**: WL. rather vague, but time and details point to Madrid (EAJ7). **Resistance Capacity**: Is this not a harmonic? **Solodyne (Paisley)**: Radio Toulouse. (Interval signal: metronome). **Joyce (Liverpool)**: Hilversum. A concert of gramophone records. **Benjy (Birkdale)**: (1) Warsaw; (2) Huizen (Holland). Bible talk to children. **Westminster (Ilminster, Somerset)**: Barcelona (EAJ13). **Etherite (Holt)**: Dublin. *The Planets*, a talk by H. O'Donovan. See programme in *World-Radio*. **Prestwyche (Abbots Langley)**: The new Italian station (not yet identified with certainty) relaying Rome. **P. N. Y. (Notts)**: Quite possibly Dresden, but we have no information to this effect; Stuttgart has been carrying out these relays lately as well as Munich. **Four Valve (Ross)**: Falun, relaying Stockholm. **J. H. Burford (Canterbury)**: It is very difficult to trace as you give no estimate of WL., but possibly Motala relaying dance music from Stockholm. **High Power (Ponteland)**: Your estimate of WL. is very vague, but possibly Almeria (Spain) on about 326 m. relaying Madrid (EAJ7). **W. J. A. (Palmers Green)**: The new Italian station (not yet identified with certainty) relaying Milan. **Jonnie and Ronnie (Redhill)**: See previous answer. **Willie**: Kalundborg, relaying Copenhagen. Chimes from the Town Hall at midnight (11 p.m., G.M.T.). **C'est Quoi**: Huizen (Holland), 1,950 m. **Garra (Nr. Cheltenham)**: Kharkov (Narkompotchtel), 1,700 m., relaying from the State Opera House. **Tranode 3 (E. 11)**: Yes, possibly KDKA (East Pittsburg), 315.6 m., but cannot confirm as no detailed programmes are available. **Night Hawk (Chatham)**: Possibly the short wave transmitter at Koenigswusterhausen on about 58 m. **Early Bird (Heanor)**: (1) We do not think you received WGY direct, but a relay effected by Stuttgart. (2) We cannot trace a station with call sign CNA. **Gladys (Edinburgh)**: Details too vague, cannot trace. **Paddy (St. Annes)**: Kalundborg, relaying Copenhagen. Dance music from the Restaurant Nimb. Chimes from the Town Hall at midnight (11 p.m., G.M.T.). **Ultradion (Birmingham)**: Madrid (EAJ7) and Cadiz (EAJ3). **Crystavalve**: Kalundborg, relaying dance music from Copenhagen. **Yak How (Cumberland)**: St. Michel (Finland), 566 m., 250 w., relays Helsingfors. You would hear the call from the latter station: *Huomio! Huomio! taalla Suomen yleisradio, Helsinki. Giv akt, giv akt! Har Finlands rundradio, Helsingfors* (*Helsinki*). **Dallon (Norwich)**: There appears very little doubt that this was a test made by Munich previous to a relay which was advertised as taking place on Sunday, November 20. **Gasworks (Leith)**: (1) If WL. correct, WGY (Schenectady), 379 m.; (2) possibly WBZ (Springfield), but cannot confirm as no detailed programmes available. **P.M.2 3 Valve**: No, if WL. approximately correct, Bilbao (EAJ11), 418 m. **Dan (Ranelagh)**: Your details are so vague; you do not say whether in a foreign or in the English language. At that time possible an amateur transmitter. **L. E. D. (Oxford)**: Motala, relaying Stockholm (a relay of foreign stations). See programme in *World-Radio*. **3 Valver (Leith)**: Moscow Comintern (RDW). **E. A. (Wells)**: (1) Possibly Kharkov (Narkompotschtel), 1,700 m.; (2) are you sure this was below 5XX?; details would tally with Norddeich (Germany), 1,829 m. Weather report; (3) Leningrad. **Collegien**: Radio Paris.

NOTE.

Readers desiring a postal reply should enclose a postal order for sixpence and a STAMPED ADDRESSED ENVELOPE in addition to the coupon. Those who wish to take advantage of our free service by means of these columns must give a NOM DE PLUME, in addition to their own name and address. PROPRIETARY TRADE NAMES MUST NOT BE USED AS NOMS DE PLUME.

WORLD-RADIO (No. 122).

For replies to questions concerning the identity of stations heard, this coupon should be cut out and forwarded, together with particulars, written on a separate sheet of paper, to Editor, *World-Radio*, Savoy Hill, London, W.C.

Particulars should include: Date and time, approximate frequency (or wavelength), call (if heard), fading or not, signal strength, and details of programme. N.B.—Each inquiry must be accompanied by a separate coupon.

The Alternative Postal Service.

In response to numerous requests, whilst retaining in *World-Radio* the usual free published service of "Which Station Was That?" we have instituted a paid postal service, which, we are confident, will enable a reply to be posted within forty-eight hours of our reception of a "Which Station Was That?" coupon.

The conditions are as follows:—

A charge of sixpence, payable by postal order or in postage stamps, will be made for each query specially answered by post; but six queries may be sent for a fee of 2s. 6d. Stamped addressed envelope must be sent, and each query should be accompanied by the coupon published in "World-Radio." All queries should be numbered, in order to facilitate reply. Letters must be addressed to the Editor, "World-Radio," Savoy Hill, London, W.C. 2, envelopes to be marked in left-hand top corner "Postal Query Service."

If, owing to paucity of details submitted, or for any other adequate reason, the transmission cannot be identified, a further query will be answered *free of charge*. In this event, the answer form sent to the reader must be returned with the new application.

We are convinced that this alternative postal service will be found of considerable interest to many readers who desire an earlier reply to their enquiries than can possibly be given by publication in a weekly journal.

Note.—In the event of queries received in which readers have not complied with the conditions published, replies will not be sent by post, but will be found in these columns.

Mysterious Musical Intervals at Nürnberg.

LISTENERS when tuning in Nürnberg, the famous toy manufacturing town, will have noticed faint music, mostly singing accompanied by a large orchestra, during the intervals. This is not caused by a station on an adjacent wavelength, but is actually transmitted by Nürnberg, although quite unintentionally.

The special underground cable connecting the relay Nürnberg to the main station in Munich contains a second line used for broadcasting by "wired wireless" the performances from the Munich Opera House. Any subscriber to the ordinary telephone service can, for a small extra charge, listen regularly by means of his telephone to the excellent operas, which during ten months in the year delight the ears of the Munich audiences. This service encompasses, for the moment, the three towns owning broadcast transmitters, viz., Munich, Augsburg, and Nürnberg.

Induction effects are therefore the cause of this mysterious music, which can be heard faintly during even the slightest pause in the broadcast performance.

Germany's Campaign.

With the number of prosecutions of wireless "pirates" steadily increasing in Germany, this should be sufficient to deter any sane person from listening without a licence. The German postal authorities who are responsible for this side of broadcasting, however, do not think so, and have therefore recently raised the "recompense" paid to all furnishing information which will lead to the detection and prosecution of a wireless "pirate," from 3s. to 10s. and, as a further incentive, assure the "informants" that their name will on no account be made public.

The broadcasting companies, of course, help the authorities all they can by periodically issuing warnings to those listeners not having licences. Thus a short while ago the Bavarian stations broadcast in the middle of an interesting and highly amusing programme a "last and final" warning to pirates, and with good cause too, for the new postal campaign began on November 1. Certainly there can hardly remain any "pirates" from ignorance now, and the others well deserve what they get, even if it is a rather severe punishment or fine. Soon the picturesque name of "Schwarzhörer" (black listener) will have lost its meaning.

(*Continued from page* 563.)

6.15	p.m.	**Bratislava.**—"Il Tabarro" and "Gianni Schicchi" (Puccini).
6.45	„	**Vienna.**—"The Queen" (Oscar Strauss).
7	„	**Berlin.**—"A Night in Venice" (Johann Strauss).
7	„	**Munich.**—"By Wireless Express through Old Russia."
7	„	**Zurich.**—Songs by the St. Jacob's Quartet.
8	„	**Milan.**—"La Traviata" (Verdi).

(5GB) DAVENTRY (EXPERIMENTAL) PROGRAMME (Nov. 27—Dec. 3)

(491·8 metres: 610 kc.) (14 kw.)

SUNDAY

3.30 p.m.—Chamber Music. Harriet Cohen (Pianoforte), George Parker (Baritone). The Hungarian String Quartet: Emerich Waldbauer (1st Violin), Tiradar Orszagh (2nd Violin), Jean de Temisvary (Viola), Eugene de Kerpeley (Violoncello). The Quartet: Quartet for Strings in E minor (Op. 59, No. 2) (Beethoven).

4.10 p.m.—George Parker: Feldeinsamkeit (Loneliness in fields) (Brahms), Fussreise (Tramping) (Wolf)—in German; An die Musik (To Music); Der Doppelgänger (The Ghostly Double) (Schubert)—in English.

4.20 p.m.—Harriet Cohen: Pavan and Galliard, "The Earl of Salisbury" A Fancie, Pavan and Galliard (from the Nevil MS.), Variations on "John, cum kisse me now" (William Byrd).

4.30 p.m.—George Parker: Far in a Western Brookland (A. E. Housman) (Bax); Weathers (Thomas Hardy), Santa Chiara (Arthur Symons) (Ireland); Roundabouts and Swings (Geoffrey Shaw).

4.40 p.m.—Harriet Cohen and the Quartet: Quintet for Piano and Strings (Franck).

5.20—5.30 p.m.—Tales from the Old Testament. (*See* 5XX.)

8.0 p.m.—A Roman Catholic Service. Conducted by the Rev. Father C. C. Martindale, S.J.

8.45 p.m.—The Week's Good Cause. (*See* 5XX.)

8.50 p.m.—Weather Forecast and General News Bulletin.

9.0 p.m.—"Messiah." An Oratorio by Handel. Cast: Doris Vane (Soprano), Elsie Chambers (Contralto), Parry Jones (Tenor), Joseph Farrington (Bass). The Birmingham Studio Symphony Orchestra and Chorus, conducted by Joseph Lewis.

10.30 p.m.—Epilogue. (*From Birmingham.*)

MONDAY

3.0 p.m.—Paul Moulder's Rivoli Theatre Orchestra, from the Rivoli Theatre.

4.0 p.m.—Dance Music. The London Radio Dance Band, directed by Sidney Firman. Peggy Berkley (Light Soprano Songs), Thornley Dodge (Entertainer).

5.45 p.m.—The Children's Hour. (*From Birmingham*).

6.30 p.m.—Time Signal (Greenwich), Weather Forecast and First General News Bulletin.

6.45 p.m.—Light Music. (*From Birmingham.*) The Birmingham Studio Orchestra. Conducted by Joseph Lewis. Overture in D (Boccherini). Minnie Hamblett (Pianoforte) and Luigi Gasparini (Violoncello): First Sonata for 'Cello and Pianoforte, in F (Beethoven).

7.5 p.m.—Orchestra: Suite of Four Dances from "The Blue Bird" (Norman O'Neill). Minnie Hamblett: Gavotte (Rameau, arr. D. M. Stewart); Love Poem (Sjogren); Three Studies (Chopin).

7.30 p.m.—Orchestra: Prelude (Järnefelt); Pizzicato from "Sylvia" (Delibes); March of the Dwarfs (Moszkowski). Luigi Gasparini: Unaccompanied 'Cello Solos—Selected from various Suites (Bach). Orchestra: Selection from Suite, "Sylvan Scenes" (Fletcher).

8.0 p.m.—"Tilly of Bloomsbury." (*From Birmingham.*) A Comedy in Three Acts by Ian Hay. Adapted from the Author's novel, "Happy Go-Lucky." Arranged and Abridged for Broadcasting. Produced by Gordon McConnell.

9.25 p.m.—Variety. (*From Birmingham.*) The Three Aces in their Musical Scena, "The Railway Station." Harold Turley's Band, relayed from Wimbush's Prince's Café.

10.0 p.m.—Weather Forecast and Second General News Bulletin.

10.15—11.15 p.m.—Dance Music: Jay Whidden's Band, from the Carlton Hotel.

TUESDAY

3.0 p.m.—Lozells Picture House Organ (*from Birmingham*). Frank Newman (Organ): Overture to "Light Cavalry" (Suppé). Oliver Clutterbuck (Baritone): Linden Lea (Vaughan Williams), The Devout Lover (White). Frank Newman: Suite from "Minnehaha" (Coleridge-Taylor), "The Swan" (Saint-Saëns). Oliver Clutterbuck: At Grendon Fair (Marie). Frank Newman: Selection from "Maritana" (Vincent Wallace), Nocturne in D Flat (Landon Ronald).

4.0 p.m.—A Military Band Programme (*from Birmingham*). The City of Birmingham Police Band, conducted by Richard Wassell: Second "Pomp and Circumstance" March (Elgar, arr. Evans), Overture to "The Magic Flute" (Mozart).

4.15 p.m.—John Bateman (Bass): She is far from the land (Lambert), Stonecracker John (Eric Coates), A Jolly Old Cavalier (Dix), In an old-fashioned Town (Squire). Band First Movement from the "Unfinished" Symphony (Schubert, arr. Evans).

4.38 p.m.—Bert Copley (Humorist-Entertainer): Legends and Logic. Band: Anitra's Dance. In the Hall of the Mountain King (from "Peer Gynt" Suite) (Grieg, arr. Godfrey), Duet, "Excelsior" (Balfe); Cornet, P.C. Cook; Euphonium, P.C. Hare.

5.0 p.m.—John Bateman: Border Ballad (Cowen), The King's Highway (Stanford), A Song of Farewell (Tosti), Eleanore (Coleridge-Taylor). Band: Two Hungarian Dances (Brahms), G Minor, B Flat; Military March (Saint-Saëns, arr. Godfrey).

5.25 p.m.—Bert Copley: Wit and Wisdom. Band: Cornet Solo, "By the Sea" (Am Meer) (Schubert), Cornet, P.C. Cook. Overture to "The Merry Wives of Windsor" (Nicolai, arr. Godfrey).

5.45 p.m.—The Children's Hour (*from Birmingham*).

6.30 p.m.—Time Signal (Greenwich), Weather Forecast, First General News Bulletin.

6.45 p.m.—Dance Music, The London Radio Dance Band, directed by Sidney Firman. Colleen Clifford (Impersonations at the Piano).

8.0 p.m.—"The Rose of Persia," or "The Story-Teller and the Slave," by Basil Hood and Arthur Sullivan. Arranged and abridged for Broadcasting. Produced by Henry Oscar.

9.25 p.m.—A Pianoforte Recital by Luigi Franchetti: Rondo (Weber), Barcarolle (Rubinstein), Tarantella (Chopin), Barcarolle (Leschietizky), God's Benediction in Solitude (Liszt).

10.0 p.m.—Weather Forecast, Second General News Bulletin.

10.15—11.15 p.m.—Variety (*from Birmingham*). Brampton Hawkins (Dialect Entertainer), Lena Copping and Joan Meredith (Entertainers with a Piano), Helena Millais (The Actress-Entertainer), Tommy Handley (The Wireless Comedian), Lloyd's Rhythmic Dance Band.

WEDNESDAY

3.0 p.m.—Chamber Music, relayed from the Pump Room, Leamington Spa, director of Music, Edna Willoughby (*from Birmingham*). Trio (Pianoforte): Trio in D Minor, Op. 49 (Bach). Gilbert Slater (Baritone): Hans Sachs' Monologue (from "The Mastersingers") (Wagner), Adrift (Bantock), Trio, Sonata in E Minor (Thomas Arne). Edna Willoughby Four Preludes, Op. 16, Nos. 2-5 (Scriabin). Gilbert Slater: Windy Nights (Stanford), Piggesnie (Warlock). Trio: Sonata in One Movement (Schubert).

4.0 p.m.—Dance Music. The London Radio Dance Band, directed by Sidney Firman. G. H. Carlisle (Syncopated Songs at the Piano). Vivien Maurice (Light Songs).

5.45 p.m.—The Children's Hour.

6.30 p.m.—Time Signal (Greenwich), Weather Forecast, First General News Bulletin.

6.45 p.m.—A Light Concert (*from Birmingham*). The Birmingham Studio Orchestra, conducted by Joseph Lewis: Overture to "Rosamunde" (Schubert). Arthur Fear (Baritone) and Orchestra: The Fishermen of England (Montague Phillips), The Toreador's Song from "Carmen" (Bizet).

7.5 p.m.—Nigel Dallaway (Pianoforte) and Orchestra: Brilliant Caprice (Mendelssohn). Wynne Ajello (Soprano) and Orchestra: Valse Song from "Romeo and Juliet" (Gounod), Solveig's Song (Grieg).

7.25 p.m.—Orchestra: Dance of the Sylphs from "Faust" (Berlioz). Arthur Fear: Dirge in the Woods, Looking Backward, Grapes (Parry). Wynne Ajello: Where the bee sucks (Sullivan), Nymphs and Wood-Sprites (Bemberg). Orchestra: Suite of Three Dances from "Henry VIII" (German); Morris Dance, Shepherd's Dance, Torch Dance.

7.45 p.m.—A Symphony Concert, relayed from the Free Trade Hall (*from* Manchester). Dorothy Silk (Soprano). Povishnoff (Pianoforte). The Augmented Station Orchestra, conducted by Sir Henry J. Wood. Orchestra: Overture to "The Bartered Bride" (Smetana), Dorothy Silk (Soprano), Comfort Sweet, my Jesu comes (Bach), Pouishnoff (Pianoforte), Concerto in G Minor for Pianoforte and Orchestra (Saint-Saëns). Orchestra: Eighth Symphony in F (Beethoven).

9.15 p.m.—Interlude from the Birmingham Studio. Vincent Curran (Recitations): Carcassonne (Harrison), Ex ore infantium (From the mouths of children) (Thompson), John Kelly (Letts).

9.30 p.m.—Symphony Concert (contd). Orchestra: Suite in C Sharp Minor (Dohnanyi). Dorothy Silk: So early (Gatty), Hush Song (Harty), To Daisies (Quilter), Bubble Song (Martin Shaw). Pouishnoff: Selected Solos. Orchestra: Overture, "Carnival" (Glazunov).

10.30 p.m.—Weather Forecast, Second General News Bulletin.

10.45—11.15 p.m.—Dance Music: Teddy Brown's Band and Percival Mackey's Band, from the Kit-Cat Restaurant.

THURSDAY

3.0 p.m.—A Symphony Concert. Relayed from the Winter Gardens, Bournemouth. The Bournemouth Municipal Symphony Orchestra (50 Performers). Conducted by Sir Dan Godfrey and Mr. Leigh Henry. Overture to "The Caliph of Bagdad" (Cornelius), Symphony, No. 4, in E minor (Brahms). Burlesque for Piano and Orchestra (Richard Strauss). Soloist, Miss Ethel Cobban. Welsh Elegy, "The Flamebearer" (Leigh Henry) (First performance at these Concerts).

4.30 p.m.—An Afternoon Concert. Relayed from Lozell's Picture House. (From Birmingham). The Orchestra, conducted by Paul Rimmer: Romantic Overture (Keler-Bela). Doris Lorton (Contralto): Sea Wrack (Harty), Pass Everyman (Sanderson). Orchestra: Fantasia on Verdi's "Il Trovatore" ("The Troubadour") (arr. Tavan), Entr'acte, "The Butterfly" (Bendix). Doris Lorton: The Second Minuet (Besly). Orchestra: Selection from "I Pagliacci" ("The Play-Actors") (Leoncavallo), Waltz — "Monte Carlo" (Komzak). Frank Newman (Organ): Little Modern Suite (Rosse), Ave Maria (Schubert), Grand March from "Tannhäuser" (Wagner).

5.45 p.m.—The Children's Hour. (*From Birmingham.*)

6.30 p.m.—Time Signal (Greenwich), Weather Forecast and First General News Bulletin.

6.45 p.m.—Dance Music. The London Radio Dance Band directed by Sidney Firman. Yvette Darnac (French Songs).

8.0 p.m.—A Military Band Concert. The Wireless Military Band. Conducted by B. Walton O'Donnell. Margaret Wilkinson (Soprano), Harry Costigan (Baritone). Band: Overture to "Zampa" (Herold). Margaret Wilkinson: Hark, the echoing air (Purcell), Here sits a bird (Peel), The Willow, To welcome you (Goring Thomas), A last year's rose (Quilter). Band: Three Symphonic Dances, Op. 64 (Grieg). Harry Costigan: Items from his Repertoire. Band: Selection from "Cavalleria Rusticana" (Mascagni). Margaret Wilkinson: My heart is like a singing bird, The child and the twilight, One silent night of late (Parry). Band: Two Irish Sketches, The Mountain Sprite, At the Pattern (B. Walton O'Donnell), The Ballet Music from "Masaniello" (Auber).

10.0 p.m.—Weather Forecast and Second General News Bulletin.

10.15 p.m.—Music and Shakespeare. (*From Birmingham.*) The Birmingham Studio Pianoforte Sextet (Leader, Frank Cantell). Selection of Sullivan's Songs (arr. Henley). Gladys Ward and Wortley Allen: Act II, Scenes 1 and 2, from "Macbeth" (Shakespeare).

10.38 p.m.—Sextet: An Eastern Romance (Haines). Gladys Ward and Wortley Allen: Act III, Scene 4, from "Hamlet" (Shakespeare).

10.53 p.m.—Sextet. Suite of Three English Folk Songs (Vaughan (Williams).

11.3—11.15 p.m.—Gladys Ward and Wortley Allen: Act IV, Scene I, from "The Merchant of Venice" (Shakespeare). Sextet: Intermezzo, "The Whispering of the Flowers" (Von Blon).

FRIDAY

3.0 p.m.—An Organ Recital by Harvey Grace, F.R.C.O., relayed from St. Mary-le-Bow Church. Adelaide Rind (Soprano). Harvey Grace: Andante con moto (Frank Bridge), Minuet and Trio (Wolstenholme). Adelaide Rind: Cradle Song (Byrd), Evening Hymn ("The Night is come") (Purcell), O let the merry bells ring round, O sleep, why dost thou leave me? O had I Jubal's Lyre (Handel). Harvey Grace: Fantazia of Foure parts (Orlando Gibbons, arr. John E. West), Choral, "Jesu, Joy of Man's desiring" (Bach, arr. Harvey Grace), March (Purcell), Adagio, Cantata No. 166, Sinfonia (Presto) from Cantata No. 29 (Bach, arr. Harvey Grace). Adelaide Rind: Why must I stay alone? (Saint-Saëns), Myrto (Delibes), Shoemaker's Song (Weingartner), Loneliness in the woods (Erich Wolff), Serenade (Richard Strauss). Harvey Grace: Carillon (Vierne), Tepdysage (Vonnet), Grande Chœur Sonata No 7 (Guilmant).

4.0 p.m.—Eugene Cruft and his Octet: Octet, Selection from "The Prodigal Child" (Wormser, arr. Woodhouse), Melody, "In Love" (Friml). Wedding Day at Troldhaugen (Grieg, arr. Tobani). Charles Stainer (Banjo). Solos. Octet: Melody and Syncopation (Part III) (arr. Eugene Cruft). Rex Evans: Songs at the Piano. Octet: Andante Cantabile (Tchaikovsky, arr. Schmid), Spanish Waltz, "Spain" (Waldteufel) (On Chabrier's Rhapsody). Charles Stainer: Solos. Octet: Melody and Syncopation (Part II) (Eugene Cruft). Rex Evans: More songs at the piano. Octet, Introduction to "La Traviata" (Verdi, arr. Tavan), The Busy Bee (Bendix), Softly awakes my heart ("Samson and Delilah") (Saint-Saëns), arr. Mouton), Dance of the Hours ("La Gioconda") (Ponchielli).

5.45 p.m.—The Children's Hour (*from Birmingham*).

6.30 p.m.—Time Signal (Greenwich), Weather Forecast, First General News Bulletin.

6.45 p.m.—Light Music, The Ernest Leggett London Octet: Dudley Stuart White (Baritone). Octet: Incidental Music to "The Merchant of Venice" (Frederick Rosse), "Naila" (Delibes), Pearl o' Mine—Lyrical Melody (Fletcher).

7.5 p.m.—Dudley Stuart White: Roadways (Löhr), I pitch my lonely caravan (Eric Coates), In Love (Löhr).

7.12 p.m.—Octet: Hungarian Dance, No. 5 (Brahms), Intermezzo, "Love in Cloverland" (Leo Peter), Song, "The Tea Caddy" (K. A. Wright), Two Characteristic Waltzes (Coleridge-Taylor), Prelude (Järnefelt).

7.30 p.m.—Dudley Stuart White: Shipmates o' Mine (Sanderson), Melisande (Alma Goetz), Passing By (Edward C. Purcell).

7.40 p.m.—Octet: Melody in F (Rubinstein), Waltz Suite (Fetras), Elegy (Massenet), Fantasia (Mendelssohn, arr. Urbach).

8.0 p.m.—A Symphony Concert (*from Birmingham*). Relayed from the Winter Hall, Leamington Spa. The Birmingham Studio Symphony Orchestra (Leader, Frank Cantell), conducted by Sir Henry Wood. Harold Williams (Baritone), Harriet Cohen (Pianoforte). Orchestra: Overture to "William Tell" (Rossini). Harriet Cohen and Orchestra: Fifth Brandenburg Concerto, in D (Bach). Harold Williams: Credo, from "Othello" (Verdi). Orchestra: Second "Wand of Youth" Suite (Elgar).

9.0 p.m. (approx.)—**Concert Interval,** during which Readings will be given from the Birmingham Studio by Lilian Cannon: Kubla Khan (S. T. Coleridge), La Belle Dame sans Mercie (Keats), The Lotus Eater (Tennyson), Romance (abridged version) (Margaret Sackville).

9.15 p.m.—Orchestra: Spanish Caprice (Rimsky-Korsakov), Concerto for Pianoforte and Strings, No. 1, in D Minor (Bach). Solo Pianoforte, Harriet Cohen. Harold Williams: Air, "Sulla poppa del mio brick" ("On the poop of my brig," from "The Prison of Edinburgh") (F. Ricci). Orchestra, Symphonic Poem, "Don Juan" (Strauss).

10.15 p.m.—Weather Forecast and News Bulletin.

10.30—11.15 p.m.—Dance Music: Kettner's Five, under the direction of Geoffrey Gelder, from Kettner's Restaurant.

SATURDAY

3.0 p.m.—Popular Chamber Music (*From Birmingham.*) The Leonard Hirsch String Quartet: Quartet in G (Serenata) (Mozart).

3.20 p.m.—Herbert Simmonds (Baritone): Christ is risen (Rachmaninov); First Loss (Medtner); Field-Marshal Death (Moussorgsky).

3.30 p.m.—Quartet: Quartet, Op. 18, No. 2 (Beethoven).

4.0 p.m.—Herbert Simmonds: The Wanderer (Schubert); Devotion (Schumann); Tune thy strings, O Gipsy (Dvorák).

4.10 p.m.—Quartet: Nocturne (Borodin); Musical Moment (Schubert); Andante Cantabile (Tchaikovsky); Cherry Ripe (arr. Frank Bridge); The Mill (Raff, arr. Pochov).

4.45 p.m.—Variety. (*From Birmingham.*) Thornley Dodge (in Monologues); The Two M's (Entertainers with a Piano); Raymond Green (Humorist-Entertainer); Harold Turley's Band, relayed from Wimbush's Prince's Café; Marie Saberonne (Siffleuse); Mabel Constanduros in a Character Sketch.

5.45 p.m.—The Children's Hour. (*From Birmingham.*)

6.30 p.m.—Time Signal (Greenwich), Weather Forecast and First General News Bulletin.

6.45 p.m.—Light Music. (*From Birmingham.*) Pattison's Salon Orchestra, directed by Thomas Jones, relayed from Corporation Street Restaurant: Overture to "Poet and Peasant" (Suppé); Londonderry Air (arr. O'Connor-Morris).

7.0 p.m.—Harry Sennett (Tenor): Now the shades of night are falling (Bizet). Orchestra: Selection of English Melodies, "The Rose" (arr. Myddleton). Harry Sennett: The Letter (Gambogi). Thomas Jones (Violin): Legend (Wieniawski).

7.30 p.m.—Orchestra: La Paloma (Yradier). Harry Sennett: The Song of the Windmill (Alison Travers). Orchestra: Fantasia on Puccini's "La Bohême."

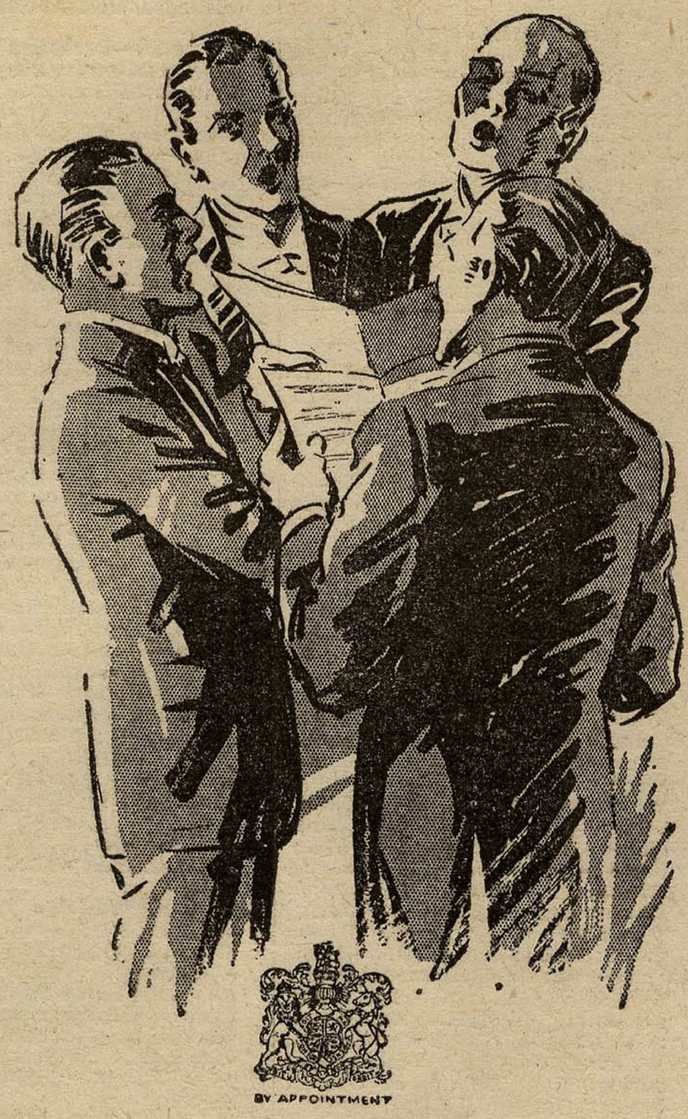
8.0 p.m.—Dancing Time. The London Radio Dance Band, directed by Sidney Firman. Patricia Rossborough (Songs at the Piano); Harold Harvey (Syncopated Songs with Banjo and Ukulele).

9.0 p.m.—"How to Dance the Yale Blues."—III. By Santos Casani.

9.20 p.m.—Dancing Time (contd.).

10.0 p.m.—Weather Forecast and Second General News Bulletin.

10.15—11.15 p.m.—"The Masque of Comus." By John Milton. (*From Birmingham.*) The Original Music by Henry Lawes, together with Incidental Music, Dances, etc., arranged by Sir Frederick Bridge. Speaking parts taken by: Stuart Vinden—Comus, W. J. Hughes—First Brother, Gladys Ward—The Lady, Henry Butlin—Second Brother, Vincent Curran—The Attendant Spirit. Singing parts taken by: Dorothy D'Orsay (Contralto), Geoffrey Dams (Tenor). The Birmingham Studio Orchestra, conducted by Joseph Lewis. Scene 1: A wild wood—the Attendant Spirit enters. Scene 2: A stately palace, set out with all manner of deliciousness; soft music and tables spread with all dainties. Comus appears with his rabble and the Lady, sitting in an enchanted chair. Scene 3: Ludlow Town and the President's Castle—then come in Country Dancers followed by the Attendant Spirit with the two Brothers and the Lady.



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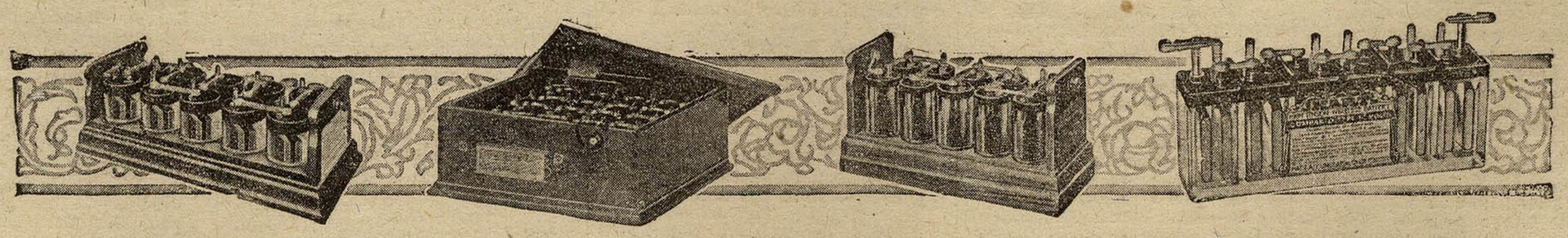
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Goodall Ad.

(5XX) DAVENTRY PROGRAMME (Nov. 27—Dec. 3)

(1604·3 metres: 187 kc.) (25 kw.)

SUNDAY

10.30 a.m.—Time Signal (Greenwich) and Weather Forecast.

3.30 p.m. — A Military Band Programme. The Wireless Military Band, Conducted by B. Walton O'Donnell. The British Vocal Quartet, Dorothy Bennett (Soprano), Esther Coleman (Contralto), Eric Greene (Tenor), Dale Smith (Baritone). Band: Overture to "Phaedra" (Massenet). Dorothy Bennett: The Rivulet, Over the Sea (Martin Shaw). Eric Greene: The Sea Gipsy (Michael Head), Phillida (Howard Fisher). Band: Five Humoresques (Dvorák). Quartet (with Strings and Piano): Song Cycle (various Composers, arr. Lane Wilson): Come, all ye lads and lasses (Quartet), My Cherubie (Soprano Song), Duet (Tenor and Baritone), The Sweetest Flower that Blows (Contralto Song), Meditation for Strings, My lovely Celia (Tenor), Phyllis has such charming graces (Tenor), Catch (unaccompanied Quartet), When dull care (Baritone), Carmena (Quartet). Band: Sixth Rhapsody ("Carnival in Pesth") (Liszt). Esther Coleman: I've been roaming (C. E. Horn, arr. Liza Lehmann), Spring goeth all in white (Robert Elkin), Comin' thro' the Rye (arr. J. K. Lees). Band: Three English Dances (Quilter). Dale Smith: The Little Cupid, The Cupboard, The Window, The Old Soldier (Victor Hely-Hutchinson). Band: Carnival in Paris (Svendsen).

5.20—5.30 p.m.—Tales from the Old Testament. Ahab and the Prophets, 1 Kings xx, verses 1-43.

8.0 p.m.—A Religious Service. From the Glasgow Studio, conducted by Rev. Prof. J. E. Davey.

8.45 p.m.—The Week's Good Cause: London Central Council for District Nursing. Appeal by Lady Blades (the ex-Lady Mayoress).

8.50 p.m. — Weather Forecast, General News Bulletin, Local Announcements and Shipping Forecast.

9.5 p.m.—Albert Sandler and the Grand Hotel, Eastbourne, Orchestra, relayed from the Grand Hotel, Eastbourne. John Thorne (Baritone). Orchestra: Tone Poem, "Finlandia" (by request) (Sibelius). John Thorne: Two Negro Spirituals—Steal away, Nobody knows the trouble I've seen (arr. H. T. Burleigh). Orchestra: Selection from "Merrie England" (German). Albert Sandler: Violin Solo—"Havanaise" (Saint-Saëns). John Thorne: Three Hungarian Folk Songs: Play on, Play on, Father was a thrifty man, Shepherd, see thy horse's foaming mane (Korbay). Orchestra: Grand Fantasia on Leoncavallo's "I Pagliacci" ("The Play-Actors")

10.30 p.m.—Epilogue.

MONDAY

10.30 a.m.—Time Signal (Greenwich), Weather Forecast.

11.0 a.m.—The Daventry Quartet and Walter Fennell (Baritone).

12.0 noon.—The Daventry Quartet and Kathleen Mitchell (Soprano), Grigori Tcherniak (Balalaika).

1.0—2.0 p.m.—An Organ Recital by Harold E. Darke. Relayed from **St. Michael's, Cornhill.** Overture to "Samson" (Handel), Psalm Prelude No. 2 (Howells), Chorale and Variations (Bach), Scherzo (Symphony No. 4) (Widor), Prelude and Fugue in C Minor (Bach), Andantino in G Minor (Franck), Pæan (Basil Harwood).

2.30 p.m.—Miss Rhoda Power: "Boys and Girls of the Middle Ages—The London Apprentice."

3.0 p.m.—Miss Mary Somerville: "Great Stories, Philemon and Baucis."

3.15 p.m.—An Afternoon Concert: Sydney Bowman's Trio, Ella Franck (Contralto), Alexander McCredie (Baritone), Olive Cloke (Pianoforte).

5.0 p.m.—Household Talk: Mrs. Cottington Taylor, "Christmas Cakes."

5.15 p.m.—The Children's Hour.

6.0 p.m. — Gramophone Recitals, arranged by Mr. Christopher Stone.

6.20 p.m.—Girls' and Boys' Clubs' Bulletins.

6.30 p.m.—Time Signal (Greenwich), Weather Forecast, First General News Bulletin.

6.45 p.m.—England *v.* Wales. An Eye-Witness Account of the International Association Football Match, by Mr. Stacey Lintott. (*S.B. from Manchester*).

7.0 p.m.—Mr. James Agate: "Dramatic Criticism."

7.15 p.m.—The Foundations of Music: Mendelssohn's Songs Without Words. Played by Harold Rutland (Pianoforte).

7.25 p.m.—Mr. F. Norman: "German Talk."

7.45 p.m.—A Recital of Folk Songs by Dale Smith (Baritone). Song of Lamentation, A Chicken's Grief (Nyassaland, collected by Ella Kidney, arr. by Theodore Holland), O Gin my love were yon Red Rose (Scottish, arr. by Michael Diack), Willie's gane to Melville Castle (arr. by Malcolm Lawson), The Wild Hills of Clara (Irish, arr. by Arthur Somervell), Kelly's Cat (Irish, arr. by C. Milligan-Fox), The Souling Song, Oliver Cromwell (English, arr. Lucy Broadwood).

8.0 p.m.—A National Symphony Concert: The National Symphony Orchestra, Conducted by Sir Landon Ronald, Guilhermina Suggia ('Cello). Orchestra: Overture to "Le Nozze de Figaro" (Mozart), Symphony in C (Schubert).

9.0 p.m.—Weather Forecast, Second General News Bulletin.

9.15 p.m.—Concert (continued). Orchestra: Third "Leonora" Overture (Beethoven). Guilhermina Suggia with Orchestra: Symphonic Variations (Boellmann), Rhapsody, "The Magic Harp" (Carnegie Collection) (Ina Boyle). Orchestra: Nocturne, "Festivities" (Fêtes) (Debussy).

10.15 p.m.—Prince D. S. Mirsky: "Russian Literature of To-day."

10.30 p.m.—Local Announcements, Shipping Forecast.

10.35 p.m.—A Variety Feature.

11.0 p.m.—12.0 midnight.—Dance Music: Jay Whidden's Band, from the Carlton Hotel.

TUESDAY

10.30 a.m.—Time Signal (Greenwich) and Weather Forecast.

11.0 a.m.—The Daventry Quartet and Gwen Lones (Violin).

12.0 noon—2.0 p.m.—Henry Sensicle Quintet. Greta Don (Mezzo-Soprano), Mackenzie Lang (Tenor), Dorothy Hesse (Pianoforte).

2.30 p.m.—Sir H. Walford Davies: "Elementary Music."

3.15 p.m. — M. E. M. Stephan: "Elementary French."

3.45 p.m.—Musical Interlude.

4.0 p.m.—William Hodgson's Marble Arch Pavilion Orchestra, from the Marble Arch Pavilion.

5.0 p.m.—Miss Eleanor E. Helme: "Women's Golf in 1927."

5.15 p.m.—The Children's Hour.

6.0 p.m.—The London Radio Dance Band, directed by Sidney Firman.

6.30 p.m.—Time Signal (Greenwich), Weather Forecast and First General News Bulletin.

6.45 p.m.—Band (contd.).

7.0 p.m.—Major J. W. Hills, M.P.: "Can we do without War?"

7.15 p.m.—The Foundations of Music: Mendelssohn's Songs Without Words, played by Harold Rutland.

7.25 p.m.—Mr. Norman Baynes: "Europe throughout the Ages: The Roman Empire in the History of Western Europe."

7.45 p.m.—A Recital of Muriel Herbert's Songs: Muriel Herbert (Soprano): Fountain Court, Contentment, The Lake Isle of Innisfree. Keith Falkner (Baritone): When Death to either shall come, Loveliest of Trees, Autumn, The Green Leaves of May.

8.0 p.m.—Dr. P. Sargant Florence: "Men and Machines: How we work and learn to work."

8.30 p.m. — Variety. Austin and Royce (Harmony and Whistling), Bobbie Saunders (in a Pot-pourri of Songs), Will Gardner (Character Sketches), Murray Ashford's Concert Party.

9.0 p.m.—Weather Forecast and Second General News Bulletin.

9.15 p.m.—Sir H. Walford Davies: "Music and the Ordinary Listener."

9.35 p.m.—Local Announcements and Shipping Forecast.

9.40 p.m.—Chamber Music. The London String Quartet: John Pennington (1st Violin), Thomas Petre (2nd Violin), H. Waldo Warner (Viola), C. Warwick Evans (Violoncello). Robert Maitland (Baritone). Bois Epais (Thick Woods) (Lully), Freisinn (Liberty), Ich grolle nicht (I'll not complain) (Schumann), Tho' I speak with the tongues of men (Brahms).

9.55 p.m.—Quartet in C sharp minor (Op. 131) (Beethoven).

10.40 p.m.—12.0 midnight.—Dance Music: Debroy Somers' Ciro's Club Dance Band, from Ciro's Club.

WEDNESDAY

10.30 a.m.—Time Signal (Greenwich) and Weather Forecast.

11.0 p.m.—The Daventry Quartet and Margaret Stewart (Soprano).

12.0 noon.—The London Radio Dance Band.

1.0—2.0 p.m.—Georges Haeck's Orchestra, from Restaurant Frascati.

2.30 p.m.—Mr. A. Lloyd James: "English Language."

2.50 p.m.—Musical Interlude.

3.0 p.m.—Mr. Aubrey de Selincourt: "Three Plays of Shakespeare—'Richard II.'"

3.30 p.m.—The Daventry Quartet.

3.45 p.m.—Mrs. C. P. Trevelyan: "How to Improve our Villages—Preservation of Beauty in the Countryside."

4.0 p.m.—A Light Classical Concert. The Daventry String Quartet and Lola Vasilkovska (Soprano); Edward Mitchell (Pianoforte).

5.15 p.m.—The Children's Hour.

6.0 p.m.—Organ Recital. By Pattmann from the Astoria Cinema.

6.20 p.m.—The Week's Work in the Garden

6.30 p.m.—Time Signal (Greenwich), Weather Forecast and First General News Bulletin.

6.45 p.m.—Organ Recital (contd.).

7.0 p.m.—Sussex Dialect Talk, arranged by Mr. E. Le Breton Martin.

7.15 p.m.—The Foundations of Music. Mendelssohn's Songs Without Words. Played by Harold Rutland.

7.25 p.m.—Mr. Kingsley Martin: "What Society Means—Propaganda and Proper Geese." (*From Manchester.*)

7.45 p.m.—St. Andrew's Night. An All-Scottish Programme, contributed by the four Scottish Stations of the B.B.C. Introduction: City of Aberdeen Police Pipe Band, conducted by Pipe-Major Henderson. March, "My Native Highland Home" (Trad.).

7.50 p.m.—Glasgow. The Orchestra: A Scots Fantasy, "A Near Thing." A Play by Joe Corrie. Erchie (Caven Watson), Wullie (Edward C. McRoberts)—Young Ploughmen; Postie, The Postman (James Anderson). Three Songs with Orchestral accompaniment. Andrew Shanks and Station Symphony Orchestra. The March of the Cameron Men (arr. and conducted by H. A. Carruthers). The Piper o' Dundee. The Deil's awa' (arr. and conducted by David Stephen).

8.20 p.m.—Edinburgh. Scottish and Gaelic Duets. Vocalists: English—Mrs. Neil Orr (Soprano); Helen Whitelaw (Contralto). Gaelic—Annie Steven (Contralto); Ernest McIntosh (Tenor). Charlie is my Darling, Mo. Nighean Chruinn Donn (My neat auburn maid) (arr. G. Short); Ye Banks and Braes (arr. Moffat); Simo Leannan Fhein a Fhann, There's nae luck aboot the hoose, Oran Mör Mhic Leoid (McLeod's Lament) (arr. G. Short).

8.35 p.m.—Dundee. "Off Davaar." A West Highland Fishing Episode by T. P. Maley. The Motor Skiff "Willing Lass" is heading for Campbeltown in a dense fog. Her skipper is steering; a young fisherman is anxiously on lookout. Peter McLachlan (the Skipper) (T. P. Maley); Neil McCrimmon (the Hand) (Athol Blair).

8.57 p.m.—Aberdeen. Hall Russell's Male Voice Choir, conducted by George A. Innes. Hail to the Chief (Bishop, arr. Curwen); Turn ye to me (Old Highland Rowing Tune) (arr. W. S. Roddie); I'll ay ca' in by yon Toon (Old Scottish Melody) (arr. Kenneth Finlay); Loch Leven Love Lament (arr. H. S. Roberton); The Road to the Isles (A Tramping Song) (arr. Kennedy-Fraser). The City of Aberdeen Police Pipe Band: Strathspey, "Monymusk" (Trad.); Reel, "The Grey Bob" (Trad.).

9.0 p.m.—Weather Forecast, and Second General News Bulletin.

9.15 p.m.—Ourselves as Others See Us—Herr Lion Feuchtwanger looks at us.

9.30 p.m.—Local Announcements and Shipping Forecast.

9.35 p.m.—"Tilly of Bloomsbury"—A Comedy in Three Acts, by Ian Hay. Adapted from the Author's Novel "Happy-Go-Lucky." Arranged and Abridged for Broadcasting. Produced by Gordon McConnel.

11.0 p.m.——12.0 midnight.—Dance Music: Teddy Brown's Band and Percival Mackey's Band from the Kit-Cat Restaurant.

THURSDAY

10.30 a.m.—Time Signal (Greenwich), Weather Forecast.

11.0 a.m.—The Daventry Quartet and Dorothy Stanton Lee (Soprano), Phyllis Nash (Violin).

12.0 noon.—The Daventry Quartet and Rowland Morfitt (Baritone), Maud Gold (Violin).

1.0—2.0 p.m.—New Gramophone Records.

2.30 p.m.—Mr. Eric Parker: "Out of Doors—Form and Bark of Trees."

3.0 p.m.—Evensong. Relayed from **Westminster Abbey.**

3.45 p.m.—Dr. C. W. Saleeby: "The Growing Generation—IV, Fresh Air and Sunlight."

4.0 p.m.—Fred Kitchen's Orchestra from the **Astoria Cinema.**

4.15 p.m.—Mr. A. S. E. Ackerman: "Engineering and Scientific Fallacies—Some Popular Errors and a few Mathematical Teasers."

4.30 p.m.—Orchestra (continued).

5.0 p.m.—Organ Recital by Pattman. From the Astoria Cinema.

5.15 p.m.—The Children's Hour.

6.0 p.m.—The London Radio Dance Band, directed by Sidney Firman.

6.15 p.m.—Market Prices for Farmers.

6.20 p.m.—Dance Band (continued).

6.30 p.m.—Time Signal (Greenwich), Weather Forecast, First General News Bulletin.

6.45 p.m.— Mr. Hubert Martin, Director of the International Bureau, will give a Christmas message to Boy Scouts and Wolf Cubs.

6.55 p.m.—Mrs. M. A. Hamilton: "New Novels."

7.10 p.m.—Prof. W. Cramp: "One Hundred Years of Electrical Engineering—The Romance of the Submarine Cable." (*From Birmingham*).

7.30 p.m.—A Halle Concert. Relayed from the Free Trade Hall. (*From Manchester*). **"Romeo and Juliet"** (Berlioz). *Cast*: Olga Haley, Leonard Gowings, William Anderson, The Halle Chorus, The Halle Orchestra, conducted by Sir Hamilton Harty.

8.50 p.m.—Weather Forecast, Second General News Bulletin.

9.0 p.m.—Halle Concert (continued). (*From Manchester*). Olga Haley: Rhapsody for Contralto, Male Chorus and Orchestra (Brahms). Orchestra: Variations on a Theme by Haydn (Brahms).

9.30 p.m.—Mr. A. G. Gardiner: "Some Personal Sketches—V., President Hindenburg."

9.45 p.m.—Local Announcements, Shipping Forecast.

9.50 p.m.—Variety: The Zaaloff Quartet (Russian Folk Songs), Walter Williams (Comedian), The Four Admirals (Syncopated harmony).

10.30 p.m.—12.0 midnight.—Dance Music.

FRIDAY

10.30 a.m.—Time Signal (Greenwich) and Weather Forecast.

11.0 a.m.—The Band of H.M. Royal Air Force (By permission of the Air Council), conducted by Flight-Lieut. J. Amers, relayed from the Motor Industries Exhibition, Holland Park.

12.0 noon.—Cyril Hellier (Violin), Clifford Hellier (Pianoforte): Sonata in F (Grieg), Sonata in B minor (Ivor Foster).

12.30 p.m.—An Organ Recital from St. Botolph's Church.

1.0—2.0 p.m.—Lunch-Time Music from the Hotel Metropole.

3.0 p.m. — Mr. Ernest Young, "Empire History and Geography." Mr. Clifford Collinson, "Travel Talk."

3.25 p.m.—Musical Interlude.

3.30 p.m.—Sir Ernest Gray, "How Reading and Writing Began."

3.45 p.m.—Musical Interlude.

3.50 p.m.—Transmission to Schools. The Drama "She Stoops to Conquer."

4.45 p.m.—Musical Interlude.

5.0 p.m.—Mrs. Marion Cran, "A Garden Chat."

5.15 p.m.—The Children's Hour.

6.0 p.m.—Frank Westfield's Orchestra from the Prince of Wales Playhouse, Lewisham.

6.30 p.m.—Time Signal (Greenwich), Weather Forecast and First General News Bulletin.

6.45 p.m. — Frank Westfield's Orchestra (contd.).

7.0 p.m.—Mr. G. A. Atkinson, "Seen on the Screen."

7.15 p.m.—The Foundations of Music. Mendelssohn's "Songs Without Words," played by Harold Rutland

7.25 p.m.—Mr. St. John Ervine, "The Modern Drama."

7.45 p.m.—Mr. and Mrs. Augustus Potts At Home. Written and arranged by Tyrone Power.

9.0 p.m.—Weather Forecast and Second General News Bulletin.

9.15 p.m.—Mr. Basil Maine, "Next Week's Broadcast Music."

9.30 p.m.—Local Announcements and Shipping Forecast.

9.35 p.m.—"The Rose of Persia," or "The Story-Teller and the Slave." A Musical Comedy by Basil Hood and Arthur Sullivan. Arranged and Abridged for Broadcasting.

11.0—11.15 p.m.—A Hand at Bridge.

11.15 p.m.—12.0 midnight.—Dance Music.

SATURDAY

10.30 a.m.—Time Signal (Greenwich), Weather Forecast.

1.0—2.0 p.m.—The London Radio Dance Band and Variety.

2.15 p.m.—The Oxford *v.* Cambridge Relay Races. A Running Commentary on the Inter-'Varsity Contest by Mr. H. M. Abrahams. Relayed from Oxford.

3.45 p.m.—A Military Band Concert. The Wireless Military Band, conducted by B. Walton O'Donnell.

5.15 p.m.—The Children's Hour (*from Manchester*).

6.0 p.m.—Raymond Newell (Baritone), Issay Schlaen (Violin). Issay Schlaen: Nocturne in E Flat (Chopin, arr. Sarasate), Valse Bluette (Drigo, arr. Auer). Raymond Newell: The Fishermen of England (from the "Rebel Maid") (Montagu Phillips), An old-style Rhyme (H. E. Hunt), Son of Mine (Freebooter Songs) (William Wallace). Issay Schlaen: Ballade and Polonaise (Vieuxtemps).

6.30 p.m.—Time Signal (Greenwich), Weather Forecast, First General News Bulletin.

6.45 p.m.—Lillian Braithwaite, in a selection of "Kiddi-logues," childish impressions, by Eileen de Mancha, and H. C. G. Stevens (at the Piano).

7.0 p.m.—Mr. R. W. Haddon, "The Cattle Show and the Christmas Dinner."

7.15 p.m.—The Foundations of Music. Mendelssohn's Songs without words Played by Harold Rutland.

7.25 p.m.—Sports Talk, An Eye-Witness Account by Mr. O. L. Owen, of the Rugby International Trial Match, played at Leicester. (*From Nottingham.*)

7.45 p.m.—Old Favourites. The Wireless Orchestra, conducted by John Ansell. Eric Marshall (Baritone). Orchestra: March from "The Prophet" (Meyerbeer), Overture to "Zampa" (Hérold).

8.0 p.m.—Eric Marshall and Orchestra: Airs, Even bravest heart ("Faust") (Gounod), Wolfram's Song (Like death's grim shadow, from "Tannhäuser") (Wagner).

8.10 p.m.—Orchestra: Album Leaf (Wagner), Prelude (Järnefelt), Funeral March of a Marionette (Gounod).

8.24 p.m.—Eric Marshall: Auf dem Kirchhofe (Brahms), Ich ersehnt ein Lied (Franz Mirorey), Gruppe aus dem Tartarus (Schubert).

8.34 p.m.—Orchestra: Prelude in C Sharp Minor (Rachmaninov), Military Polonaise (Chopin).

8.45 p.m.—Speech by H.R.H. The Prince of Wales at the Toc H Birthday Festival, relayed from the Royal Albert Hall.

9.0 p.m.—Weather Forecast, Second General News Bulletin.

9.15 p.m.—Writers of To-day: Mr. Alan Griff reading a short story, "The Castle."

9.30 p.m.—Local Announcements, Shipping Forecast.

9.35 p.m.—Variety, Tommy Handley, Elsie Carlisle, The Leonora Octet, Paula Cinquevalli and David Wilton (Entertainers).

10.30 p.m.—12.0 midnight.—Dance Music.

PROGRAMMES FOR SUNDAY (November 27)

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

IRELAND

CORK. Cork Broadcasting Station (6CK). *WL.* 400 m. (750 kc); 1.5 kw.
8.30 p.m.—The Second Army Band, Conducted by Lieut. A. Duff, Mus.B.
8.45 p.m. — Doreen Thornton (Soprano).
9.0 p.m.—The Second Army Band.
9.15 p.m.—Glynn Eastmann (Bass).
9.30 p.m.—The Second Army Band.
9.45 p.m.—Doreen Thornton.
10.0 p.m.—The Army Band.
10.15 p.m.—Glynn Eastmann.
10.30 p.m.—The Army Band.
11.0 p.m.—Close Down.

DUBLIN. Dublin Broadcasting Station (2RN). *WL.* 319.1 m. (940 kc); 1.5 kw.
3.30—11.0 p.m.—Programme from **Cork.**

AUSTRIA

VIENNA. Radio-Wien. *WL.* 578 m. and 517.2 m. (519 and 580 kc); 0.75 and 5 kw.
9.15 a.m.—**Choral Recital.**
10.0 a.m.—**Concert** by the Vienna Symphony Orchestra.
3.0 p.m.—**Concert.** 1. Fest-Polonaise (Joh. Strauss). 2. Aquarellen-Walzer (Joh. Strauss). 3. "O Indigo und die vierzig Räuber" (Joh. Strauss). 4. Selection from "Der Bettelstudent" (Millöcker). 5. Overture to "Light Cavalry" (Suppé). 6. Selection from "Gasparone" (Millöcker). 7. Prelude to "Das Modell" (Suppé). 8. Wine, Women and Song (Joh. Strauss).
5.15 p.m.—Talk. "Hawaii, Japan and the Philippines."
6.0 p.m.—**Chamber Music.** 1. Quartet for Pianoforte in G minor, Op. 25 (Brahms). 2. Chaconne (Bach).
7.5 p.m.—**Concert** of Opera Music from the Works of Offenbach.

BELGIUM

BRUSSELS. Radio Belgique. *WL.* 508.5 m. (590 kc.); 1.5 kw.
5.0 p.m.—**Dance Music.**
7.45 p.m.—Radio Chronique.
8.15 p.m.—**Concert.** 1. "Jean de Paris"—Overture (Boeildieu). 2. Tasso (Godart). 3. "Aida"—Aria (Verdi). 4. "Madame Butterfly"—Selection (Puccini). 5. Berceuse for 'Cello (Cui). 6. Fête à Aranjuez (Demessermann). 7. Soleil à midi (Jongen). 8. (*a*) Les Cloches (Debussy), (*b*) Eblouissement (Delune). 9. Spanish Serenade (Glazounov). 10. "Peer Gynt"—Selection (Grieg). 11. Melody for Clarionet (Coquart). 12. Extraits de Roma (Bizet).
10.15 p.m.—News.
10.30 p.m. (approx.).—Close Down.

CZECHO-SLOVAKIA

BRUENN. Komarov. *WL.* 441.2 m. (680 kc); 3 kw.
Transmits at intervals from 8.0 a.m.
3.30 p.m.—Orchestral Music.
4.30 p.m.—Relay from **Prague.**
5.0 p.m.—German Transmission.
5.30 p.m.—Sports News.
6.0 p.m.—"**Le Souris**" (Pailleron).
8.15 p.m.—Musical Selections.
9.0 p.m.—Relay from **Prague.**

PRAGUE. Strasnice. *WL.* 348.9 m. (860 kc); 5 kw.
Transmits at intervals from 8.0 a.m.
4.30 p.m.—**Orchestral Selections.**
5.0 p.m.—German Transmission.
6.20 p.m.—**Orchestral Selections.**
7.0 p.m.—**Concert.** 1. Nocturne in D flat major (Chopin). Songs, Violin Solos, and Hungarian Rhapsody (Liszt).
8.0 p.m.—**A Comedy.**
9.0 p.m.—Time, and **Orchestral Music.**
11.0 p.m.—Chimes.
11.30 p.m. (approx.).—Close Down.

DENMARK

COPENHAGEN. Copenhagen-Radio. *WL.* 337 m. (889 kc); 0.7 kw.
Programme relayed by **Kalundborg** on 1,153 m. (260 kc).
9.0 a.m.—**Divine Service.**
10.30 a.m.—German Lesson.
11.0 a.m.—Time.
1.0 p.m.—**Divine Service.**
2.0 p.m.—**Concert.**
4.30 p.m.—Children's Corner.
5.30 p.m.—Talk.
6.0 p.m.—News and Time.
6.30 p.m.—Talk.
7.0 p.m.—Time.
7.2 p.m.—**Faroe Islands Festival.** Folk Dances and Music, from the Royal Theatre, **Copenhagen,** followed by News.
10.0 p.m.—**Dance Music,** from Nimb's Restaurant.

FRANCE

PARIS. Ecole Supérieure (FPTT). *WL.* 458 m. (655 kc); 0.5 kw.
1.30 p.m.—**Concert** from the Works of Schubert, Pesse, Gillet and Tchaikovsky.
2.30 p.m.—**Concert.** Relayed from the "Salle des Fêtes du Journal."
5.15 p.m.—"**Pasdeloup**" **Symphony Concert.** Relayed from the Theatre Mogador.
6.0 p.m.—"Le Radio Journal de France."
8.30 p.m.—Talk on "Berck Plage."
9.0 p.m.—"**Cyrano de Bergerac**"—Drama (Rostand), followed by **Dance Music.** Relayed from the "Coliseum de Paris."
12.0 midnight.—Close Down.

PARIS. Eiffel Tower (FL). *WL.* 2,650 m. (113 kc.); 5 kw.
9.26 a.m.—Time Signal.
5.45 p.m.—Le Journal Parlé.
7.10 p.m.—Weather.
7.30 p.m.—**Orchestral and Vocal Concert.**
8.30 p.m.—Educational Programme.
10.26 p.m.—Time Signal.

PARIS. Petit-Parisien. *WL.* 340.9 m. (880 kc); 0.5 kw.
9.0 p.m.—**Concert** from the Works of Bizet. 1. "Patrie"—Overture. 2. Scherzo from "Roma." 3. "The Fair Maid of Perth." 4. "Carmen"—Orchestral Suite. 5. Jeux d'enfants—Orchestral Suite. 6. Don Procopro. 7. Carnaval de Rome.

PARIS. Radio-Paris (CFR). *WL.* 1750 m. (171 kc); 3 kw.
8.0 a.m.—News.
12 noon.—**Concert** of Sacred Music and Religious Address, followed by News.
12.30 p.m.—**Concert:** 1. "Agamemnon"—Overture (Smet). 2. Je vous aime (Bades). 3. Castellamare (Marcucci). 4. (*a*) Songs, (*b*) Bilboquet in Selections from his Repertory. 5. Selection from "La Traviata" (Verdi). 6. Pianoforte Solos, (*a*) Canto del moro (Seras), (*b*) Marchand chinois (Smet). 7. Véronique (Messager). 8. Albertito (Seras). 9. Spanish Dance (Granados). 10. Babs—Foxtrot (Waltham).
4.45 p.m.—News.
4.50 p.m.—**Dance Music.**
8.0 p.m.—Agricultural Report and News.
8.15 p.m.—"Science and Art" Programme—"The Colonies."
9.15 p.m.—**Dance Music** by Mario Cazes and his Orchestra. News in the intervals.

TOULOUSE. Radiophonie du Midi. *WL.* 391 m. (767 kc); 3 kw.
12.0 noon.—Time.
12.1 p.m.—**Divine Service.**
12.20 p.m.—**Recital** of Religious Songs.
12.30 p.m.—"When Day is Done."
12.45 p.m.—**Dance Music.**
2.10 p.m.—**Address.**
8.0 p.m.—Time, News and Weather.
8.30 p.m.—Talk on "Rouen, the Capital of Normandy."
8.45 p.m.—**Concert.** 1. Dans tes bras—Waltz for accordeon and banjo. 2. La Vagabonde—Java for accordeon and banjo. 3. Trudy—Foxtrot. 4. When the Red, Red Robin—Foxtrot. 5. Carnaval de Venise—Song. 6. Airs from "Les Noces de Jeannette" (Massé). 7. The Two Grenadiers (Schumann). 8. Selections from "Tristan and Isolde" (Wagner). 9. Dance Music Selections.

GERMANY

BERLIN. Koenigswusterhausen. *WL.* 1,250 m. (240 kc.); 8 kw.
8.0 a.m. — **1.30 p.m.** — Programme from **Voxhaus.**
1.30 p.m.—Chess Lesson.
2.0 — 5.0 p.m. — Programme from **Voxhaus.**
5.0 p.m.—Talk on "Modern Architecture."
5.15 p.m.—Talk on "The German House."
5.30 p.m.—Talk on "The German Village."
6.0 p.m.—Primitive Myths and Legends.
6.30 p.m.—Reading of Legends.
7.0 p.m.—Programme from **Voxhaus.**

BERLIN. Voxhaus. *WL.* 483.9 m. (620 kc.); 4 kw.
8.0 a.m.—**Morning Recital.**
10.30 a.m.—**Orchestral Concert.**
1.30 p.m.—Talk for Stamp Collectors.
2.0 p.m.—Talk.
2.30 p.m.—Talk for Children.
3.30 p.m.—**Orchestral Concert.** 1. "Idomenus"—Overture (Mozart). 2. Valse Romantique (Heineke). 3. Selection from "The Merry Wives of Windsor" (Nicolai). 4. Serenade (Stirz). 5. Prize Song from "The Mastersingers" (Wagner). 6. Romance (Rivelli). 7. Russian Dance (Bortkiewicz). 8. Selection from "Hansel and Gretel" (Humperdinck). 9. Elegy (Lincke). 10. Potpourri from "The Mikado" (Sullivan).
5.40 p.m.—Talk for Housewives.
6.5 p.m.—Talk on "Heinrich Seuse."
6.30 p.m.—Interview with Max Pechstein.
7.0 p.m.—Talk, "The Journalist."
7.30 p.m.—**Variety Concert.** Popular Songs, Instrumental Solos, Orchestral Music, &c.
9.15 p.m.—News and Weather.
9.30 p.m.—**Dance Music.**
11.30 p.m. (approx.).—Close Down.

BRESLAU. Schlesische Funkstunde. *WL.* 322.6 m. (930 kc.); 4 kw.
Transmits at intervals from 10.0 a.m.
11.0 a.m.—**Concert** from **Gleiwitz** (250 m., 1200 kc.).
1.0 p.m.—Competitions.
1.10 p.m.—Agricultural Talk.
1.40 p.m.—Chess Lesson.
2.20 p.m.—**Song Recital.**
3.0 p.m.—Children's Corner.
3.40 p.m.—Talk, "My Character and my Future."
4.10 p.m.—Literary Talk.
4.40 p.m.—Reading.
5.20 p.m.—**Concert.** 1. Choral Selection. 2. "William Tell"—Overture (Rossini). 3. Aria from "Madame Butterfly" (Puccini) 4. Selection (Wagner). 5. Ave Maria (Bach-Gounod). 6. Songs (Rollins). 7. Saxophone Selection (Stransky Trotter). 8 Never rang the Bells more Sweetly—Choral Christmas Carol. News in the Interval.
6.30 p.m.—**Programme in Honour of the 70th Birthday of Joseph Frh. von Eichendorff.** Talk and Reading from the Works of Eichendorff, with musical interludes.
8.15 p.m.—Sports relay from the "Jahrhunderthalle" Sports Stadium. Followed by News and **Dance Music.**
11.0 p.m. (approx.).—Close Down.

FRANKFURT am-MAIN. Südwestdeutscher Rundfunk. *WL.* 428.6 m. (700 kc.); 4 kw.
Transmits at intervals from 7.30 a.m.
6.30 p.m. — Talk, "Arthur Schnitzler."
7.0 p.m.—Transmission arranged by the Frankfurter Zeitung.
7.30 p.m.—**Variety Concert,** followed by Sports Notes and **Dance Music.**
11.30 p.m. (approx.).—Close Down.

HAMBURG. Norag (ha, in Morse). *WL.* 396 m. (757 kc); 4 kw.
Transmits at intervals from 7.25 a.m.
8.15 a.m.—**Morning Recital.**
10.0 a.m.—Esperanto Lesson.
10.30 a.m.—**Open-Air Concert** from **Hanover.**
11.30 a.m.—Talk on "World Economics."
1.15 p.m.—Children's Corner, from **Frankfurt.**
2.0 p.m.—**Variety Concert.**
3.0 p.m.—Talk.
3.30 p.m.—Talk, "The Swiss Journeys of a Humourist."
4.0 p.m.—Talk, "The Choice of a Career."
4.30 p.m.—**Concert** from the Café Wallhof.
6.10 p.m.—Talk, "Reminiscences of a World Correspondent."
6.40 p.m.—Sports Notes and Weather.
7.0 p.m.—"**Die lachende Norag,**" followed by Topical Talk and **Concert** from the Café Wallhof.
11.0 p.m. (approx.).—Close Down.

LANGENBERG. Westdeutscher Rundfunk. *WL.* 470 m. (638 kc.); 25 kw.
Transmits at intervals from 8.0 a.m.
Programme also relayed by **Muenster** on 241.9 m. (1,240 kc.).
10.0 a.m.—Talk on "Goethe," from **Cologne.**
10.20 a.m.—Talk on "Tolstoi," from **Cologne.**
10.45 a.m.—Agricultural Talk, from **Cologne.**
11.15 a.m.—Fritz Reuter Reading, from **Dusseldorf.**
12.0 noon.—**Orchestral Concert,** from **Cologne.**
1.45 p.m.—Literary Talk, from **Cologne.**
2.15 p.m.—Chess Lesson, from **Dortmund** (283 m., 1,060 kc.).
2.50 p.m.—Beethoven Pianoforte Sonata, from **Cologne.**
3.30 p.m.—Reading, from **Cologne.**
4.0 p.m.—**Symphony Concert,** from **Muenster.** 1. Leonore Overture No. 3 (Beethoven). 2. Pianoforte Concerto in E sharp major (Beethoven). 3. Fifth Symphony (Bruckner).
6.30 p.m.—Recitations from **Dortmund.**
7.0 p.m.—Sports Notes from **Cologne.**
7.10 p.m.—"**The Count of Luxembourg**" — Operetta (Lehár). Followed by Sports Notes and **Dance Music** from **Cologne.**
11.0 p.m. (approx.).—Close Down.

LEIPZIG. Mitteldeutscher Rundfunk. *WL.* 366.3 m. (818 kc); 4 kw.
7.30 a.m.—Organ Recital.
8.0 a.m.—Morning Recital.
10.0 a.m.—Book-keeping Lesson.
10.30 a.m.—Talk, "Financial Policy of Germany from 1871 to 1914."
11.0 a.m.—Instrumental Music.
2.30 p.m.—The Week's Events.
3.30 p.m.—"**Frau Holle**"—Play (Steingötter).
5.30 p.m.—Music Talk.
6.0 p.m.—Talk, "The Religious Belief in Cant."
6.30 p.m.—Talk, "Intellectual Germany in the 19th and 20th Centuries."
7.15 p.m.—"**Fatme**"—Comic Opera (Flotow).
9.0 p.m.—Sports Notes.
9.30 p.m.—**Dance Music.** Relayed from **Berlin.**

MUNICH. Deutsche Stunde in Bayern. *WL.* 535.7 m. (560 kc); 4 kw.
10.0 a.m.—Chimes from the Town Hall.
10.15 a.m.—Weather.
10.30 a.m.—Advent Recital.
11.35 a.m.—Weather and Time.
2.0 p.m.—Talk, "Hunting Reminiscences."
2.30 p.m.—**Variety Concert.**
6.15 p.m.—Sports News.
6.30 p.m.—Talk. "Gustav Theodor Fechner."
7.15 p.m.—"**Don Quixote**"—Tragi-Comedy (Beer-Walbrunn).
9.15 p.m.—News.
9.30 p.m.—**Dance Music.**
10.30 p.m. (approx.).—Close Down.

STUTTGART. Südwestdeutscher Rundfunk. *WL.* 380.7 m. (788 kc); 4 kw.
10.30 a.m.—Morning Recital.
3.0 p.m.—**Afternoon Concert.**
5.15 p.m.—Talks.
6.45 p.m.—Time and Sports News.
7.0 p.m.—**Sacred Music.** Relayed from St. Mark's Church.
8.15 p.m.—**Request Concert.**
9.40 p.m.—Sports News.
10.0 p.m. (approx.).—Close Down.

HOLLAND

HILVERSUM. Algemeene Nederlandsche Radio Omroep. *WL.* 1,060 m. (283 kc); 5 kw.
12.10 p.m.—Programme by the N.O.V.
4.10 p.m.—**Trio Concert.**
5.55 p.m.—**Divine Service.**
7.40 p.m.—Weather and News.
7.50 p.m.—"**Rigoletto**" — Opera (Verdi).
10.40 p.m. (approx.).—Close Down.

HUIZEN. *WL.* 1,840 m. (163 kc); 4 kw. (until 7.0 p.m.)
Transmits from 7.0 p.m. on 1,950 m. (154 kc).
9.30 a.m.—**Divine Service** relayed from **Hilversum.**
1.10 p.m.—**Concert** by the Winkel's Trio.
2.10 p.m.—**Concert** relayed from **Amsterdam.**
3.40 p.m.—Programme for Hospital.
5.0 p.m.—**Divine Service** relayed from **Hilversum.**
7.40 p.m.—**Concert.**
10.40 p.m.—Epilogue, Prayer and Benediction, followed by News.

HUNGARY

BUDAPEST. Magyar Radio Ujsag. *WL.* 555.6 m. (540 kc); 2 kw.
9.0 a.m.—High Mass.
10.30 a.m.—**Divine Service.**
11.35 a.m.—**Orchestral Concert.** 1. "Hans Heiling"—Overture (Marschner). 2. Scènes pittoresques (Massenet). 3. Songs. 4. Hungarian Dance (Brahms). 5. Symphony (Haydn).
12.45 p.m.—Agricultural Talk.
3.0 p.m.—Children's Stories.
4.0 p.m.—**Orchestral Selections.**
5.40 p.m.—Sports Notes.
6.0 p.m.—**Programme relayed from the Royal Hungarian Opera House.**
9.15 p.m.—Time and **Concert** of Gipsy Music.

ITALY

MILAN. Unione Radiofonica Italiana (1MI). *WL.* 317 m. (946 kc); 1.5 kw.
9.30 a.m.—**Concert** of Sacred Music.
12 noon.—Government Report.
4.2 p.m.—**Concert:** 1. Soprano Solos, (*a*) Ode Saffica (Brahms), (*b*) Scottish Song, (*c*) Canzone Finlandese, (*d*) Vous dansez Marquise (Lemaire), (*e*) Maman dites moi (Weckerlin). 2. Recital for Tenor of Popular Lithuanian Melodies. 3. Baritone Solos: (*a*) Don Giovanni (Mozart), (*b*) Aria from "Kovantchina" (Moussorgsky), (*c*) Aria from "Hérodiade" (Massenet). 4. Recital of Milanese Verse.
4.50 p.m.—Children's Corner.
7.45 p.m.—Time.
7.47 p.m.—**Concert:** 1. Selection from "Boris Godounov" (Moussorgsky). 2. Fantasia on the Works of Verdi for Pianoforte and Orchestra. 3. Tenor Solo from "Manon Lescaut" (Puccini). 4. Pianoforte Solos: (*a*) Ballade in G Minor (Chopin), (*b*) Two Francescan Sonnets (Rocca). 5. Contralto Solos (Rocca). 6. Selection from "Le Miracle" (Humperdinck). 7. "On with the Motley" from "I Pagliacci" (Leoncavallo). 8. Three Gipsy Songs for Contralto (Dvorák). 9. Sonata, Op. 31, No. 2 for Pianoforte (Beethoven). 10. Selection from "L'Ami Fritz" (Mascagni). 11. Where my Caravan has Rested—Tenor Solo in English (Ghil).
8.30 p.m.—(In the interval) News.

NAPLES. Unione Radiofonica Italiana (1NA). *WL.* 334 m. (898 kc); 1.5 kw.
12.0 noon.—Government Report.
4.0 p.m.—Children's Corner.
4.5 p.m.—**Vocal and Orchestral Concert.**
6.30 p.m.—Government Report.
7.55 p.m.—Wireless Talk.
8.0 p.m.—**Concert.** 1. "Don Juan"—Overture (Mozart). 2. Duet for Soprano and Bass from Act III. of "La Gioconda" (Ponchielli). 3. Tenor Solo from "Linda di Chamonix" (Donizetti). 4. Soprano Duet from Act II. of "Adrienne Lecouvreur" (Cilea). 5. Bass Solo from "La Sonnambula" (Bellini). 6. Duet for Soprano and Tenor from "L'Ami Fritz" (Mascagni). 7. Selection from "I compagnacci" (Riccitelli). 8. Duet for Soprano and Tenor from Act IV. of "Carmen" (Bizet). 9. Soprano Solo from "Il Miracolo" (Laccetti). 10. Bass Solo from "Don Carlos" (Verdi). 11. L'Arlésienne (Boito). 12. Quartet from Act II. of "Mephistopheles" (Boito). 13. "The Italian in Algiers"—Symphony (Rossini).
8.30 p.m.—In the interval: Time.
9.55 p.m.—News.

ROME. Unione Radiofonica Italiana (1RO). *WL.* 450 m. (666 kc); 3 kw.
9.15 a.m.—**Concert** of Sacred Music.
12 noon.—Government Report.
4.0 p.m.—**Dance Music.**
7.20 p.m.—Government Report.
7.30 p.m.—Time, News and Weather.
7.45 p.m.—**Concert:** 1. Guardando la Santa Teresa del Bernini (Mascagni). 2. Prelude to Act IV. of "William Ratcliffe" (Mascagni). 3. Dance from "Iris" (Mascagni). 4. "**Occhi a Lutto**"—Comedy (Quintero). 5. Selections from "Mephistopheles" (Boito).
9.50 p.m.—Sports Notes and News

LITHUANIA

KOVNO. Radio-Kaunas. *WL.* 2,000 m. (150 kc.); 15 kw.
2.10 p.m.—Time and Weather.
2.15 p.m.—Review of Books.
2.30 p.m.—Children's Corner.
3.30 p.m.—Health Talk.
4.0 p.m.—Agricultural Notes. In the Intervals: Music.
5.0 p.m.—Vilno Hour.
5.30 p.m.—Talk, "Experiments in the Strength of the Body."
6.0 p.m.—Time and Weather.
6.5 p.m.—Political Review.
6.30 p.m.—Two Sketches (Tchekov and Siurlioniene-Kimantaite), Followed by **Dance Music.**

PROGRAMMES FOR MONDAY (November 28)

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

IRELAND

CORK. Cork Broadcasting Station (6CK). *WL.* 400 m. (750 kc); 1.5 kw
2.30 p.m.—Weather, Stock Market Report and Gramophone Selections.
6.30—10.30 p.m.—Programme relayed from **Dublin.**

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DUBLIN. Dublin Broadcasting Station (2RN). *WL.* 319.1 m. (940 kc); 1.5 kw.
Transmits at intervals from 1.30 p.m.
6.15 p.m.—Children's Corner.
7.0 p.m.—Gramophone Records.
7.20 p.m.—Exchange and News.
7.30 p.m.—Irish Lesson by Mairead Ni Ghrada, M.A.
7.45 p.m.—Talk on Poultry Keeping, by Miss Hennerty, N.D.P.
8.0 p.m.—Laments, Lullabies and Love Songs by Alice Feely (Violin).
8.20 p.m.—The Station Orchestra.
8.45 p.m.—"Domenadh MacColligh" by Amhrain Ghaolacha.
9.0 p.m.—A Sketch by Godith Huggard and Company.
9.30 p.m.—Chamber Music by the Station Quartet.
9.45 p.m.—Irvine Lynch (Baritone).
10.0 p.m.—The Ceilidh Trio.
10.30 p.m.—News, Weather and Close Down.

AUSTRIA

GRAZ. Oesterr. Radioverkehr. *WL.* 357.1 m. (840 kc); 0.5 kw.
6.0 p.m.—Serb-Croatian Lesson.
6.35 p.m.—"**The Violet**"—Play (Molnar).
7.30 p.m.—**Concert** by the Orchestra of the Graz Opera House. 1. Symphony No. 3 in A minor, Op. 56 (Mendelssohn). 2. Pianoforte Concerto, Op. 11 in E minor (Chopin). 3. Symphony No. 8 in F major, Op. 93 (Beethoven). News and Weather.

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VIENNA. Radio Wien. *WL.* 578 and 517.2 m. (519 and 580 kc); 0.75 and 5 kw.
Transmits at intervals from 11.0 a.m.
5.15 p.m.—Talk on "Reminiscences of Great Painters and Architects of the Last Forty Years."
6.0 p.m.—"**The Prophet**"—Opera (Meyerbeer), relayed from the Vienna Opera House.

BELGIUM

BRUSSELS. Radio Belgique. *WL.* 508.5 m. (590 kc); 1.5 kw.
5.0 p.m.—**Orchestral Concert.**
6.0 p.m.—Shorthand Lesson.
7.45 p.m.—Radio Chronique.
8.15 p.m.—**Sonata for Pianoforte.**
8.30 p.m.—**Concert** by the "Société des Nouveaux Concerts et Royale Harmonie"—relayed from **Antwerp.** 1. Pasacaglia "La Grotte de Versailles"—Overture (Lully). 2. "Les Indes Galantes"—Invocation and "Hymn to the Sun" (Rameau). 3. Arias from "Dido and Æneas," for Soprano and Orchestra (Purcell). 4. Selections (Milhaud). In the Intervals: Topical Talk and News.
10.30 p.m. (approx.).—Close Down.

CZECHO-SLOVAKIA

BRUENN. Komarov. *WL.* 441.2 m. (680 kc); 3 kw.
Transmits at intervals from 11.15a.m.
5.25 p.m.—Talk.
6.0 p.m.—Wireless Talk.
6.40 p.m.—**English Lesson.**
7.0 p.m.—"**Mlle. Nitouche**"—Operetta (Hervé).
9.0 p.m.—Programme relayed from **Prague.**

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PRAGUE. Strasnice. *WL.* 348.9 m. (860 kc); 5 kw.
Transmits at intervals from 10.0 a.m.
6.15 p.m.—"**Orlov**"—Operetta (Granichstaedten).
9.0 p.m.—Time, News and Gramophone Records.

DENMARK

COPENHAGEN. Copenhagen Radio. *WL.* 337 m. (889 kc); 0.7 kw.
Programme relayed by **Kalundborg** on 1,153.8 m. (260 kc).
Transmits at intervals from 6.30 a.m.
6.0 p.m.—News and Exchange.
6.15 p.m.—Time.
6.20 p.m.—Talk, "A Belgian Schoolmaster and his School."
6.50 p.m.—Talk on the following Concert.
7.0 p.m.—"**Les Beatitudes**" for Soloists, Choir and Orchestra (Franck), relayed from the Oddfellows' Hall.
9.0 p.m. (approx.)—News.

FRANCE

PARIS. Ecole Supérieure (FPTT). *WL.* 458 m. (655 kc); 0.5 kw.
Transmits at intervals from 8.0 a.m.
6.0 p.m.—"Le Radio Journal de France."
8.0 p.m.—Legal Talk.
8.15 p.m.—Science Talk.
8.30 p.m.—Talk on "Animal Diseases Contagious to Man."
8.45 p.m.—Talk on "The Motor Show."
9.0 p.m.—**Symphony Concert** relayed from the "Salle Charpentier," followed by News.

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PARIS. Eiffel Tower (FL). *WL.* 2,650 m. (113 kc.); 5 kw.
9.26 a.m.—Time Signal.
5.45 p.m.—Le Journal Parlé.
7.10 p.m.—Weather.
7.30 p.m.—**Concert of Dance Music.**
8.30 p.m.—Educational Programme.
10.26 p.m.—Time Signal.

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PARIS. Radio-Paris (CFR). *WL.* 1,750 m. (171 kc); 3 kw.
Transmits at intervals from 8.0 a.m
12.30 p.m.—**Concert.** 1. Spleen (Canal). 2. Chanson du rouet (Canal). 3. Chanson pour Manon (Canal). 4. Trio Dances (Casadessus). 5. Prière d'amour (Chapelier). 6. Légende créole (Chapelier). 7. Ballet Music from "Lakmé" (Delibes). 8. Berceuse (Lefosse). 9. Airs de Ballet (Ganne). 10. Pavane d'angelo (Hahn). 11. Czardas (Michiels). News in the interval.
1.50 p.m.—Exchange Quotations.
4.30 p.m.—Exchange Quotations.
4.45 p.m.—**Literary and Musical Programme.** 1. "Rigaudon de Dardanus" (Rameau). 2. A Literary Salon in the Eighteenth Century. 3. Poems of the Eighteenth Century. 4. Songs: (*a*) Rêve d'artiste (Picheran), (*b*) Mon Pilote (Jolivet). 5. Scene from "Les Jeux de l'amour et du Hasard" (Marivaux). 6. Ballet Music from "Alceste" (Gluck).
7.45 p.m.—Book-keeping Lesson.
8.0 p.m.—Agricultural Report.
8.15 p.m.—Exchange and News.
8.30 p.m.—"**The Daughter of the Regiment**"—Opera-comique Selection (Donizetti). News in the Interval.

GERMANY

BERLIN. Koenigswusterhausen. *WL.* 1,250 m. (240 kc); 8 kw.
Transmits at intervals from 11.0 a.m.
5.30 p.m.—**English Lesson.**
6.0 p.m.—Programme relayed from **Voxhaus.**

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BERLIN. Voxhaus. *WL.* 483.9 m. (620 kc); 4 kw.
Transmits at intervals from 9.10 a.m.
5.50 p.m.—Introduction to the following Transmission.
6.0 p.m.—"**Doctor Faust**"—Opera (Busoni). Relayed from the Opera House.
9.15 p.m. (approx.).—News and Weather.
9.30 p.m. (approx.).—Close Down.

—□—

BRESLAU. Schlesische Funkstunde. *WL.* 322.6 m. (930 kc.); 4 kw.
Transmits at intervals from 10.15a.m.
5.15 p.m.—Educational Talk.
6.0 p.m.—Programme relayed from **Voxhaus.**

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FRANKFURT-am-MAIN. Südwestdeutscher Rundfunk. *WL.* 428.6 m. (700 kc); 4 kw.
Transmits at intervals from 10.55a.m.
5.15 p.m.—Wireless Notes.
5.45 p.m.—Talk, "Morocco of To-day."
6.10 p.m.—Talk on "Economics."
6.15 p.m.—"The Results of the War Finance Policy of the Large States."
6.45 p.m.—English Literary Selection.
7.15 p.m.—Dramatic Selection.

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HAMBURG. Norag (ha, in Morse). *WL.* 396 m. (757 kc); 4 kw.
Transmits at intervals from 5.55 a.m.
5.30 p.m.—**Elementary English Lesson,** relayed from **Koenigswusterhausen.**
6.0 p.m.—Orchestral Music.
6.25 p.m.—Talk, "Trade Unions."
6.55 p.m.—Weather.
7.0 p.m.—**Concert** relayed from the Music Hall (in celebration of the 60th Birthday of John Julia Scheffler).
8.15 p.m.—**Variety Concert,** followed by News.
9.30 p.m. (approx.).—Silent Night.

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LANGENBERG. Westdeutscher Rundfunk. *WL.* 470 m. (638 kc); 25 kw.
Transmits at intervals from 9.30 a.m.
Programme also relayed by **Muenster** on 241.9 m. (1,240 kc).
5.0 p.m.—Programme of Sonatas for Violin and Pianoforte (Viotti, Mayseder, Spohr and Hauptmann), from **Cologne.**
6.20 p.m.—Spanish Lesson from **Cologne.**
6.45 p.m.—Talk on "Building a Manger," from **Cologne.**
7.15 p.m.—**Orchestral Concert,** followed by Sports Notes and **Dance Music** from **Cologne.**
11.0 p.m. (approx.).—Close Down.

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LEIPZIG. Mitteldeutscher Rundfunk. *WL.* 366.3 m. (818 kc); 4 kw.
Transmits at intervals from 9 a.m.
6.0 p.m.—"Legal Regulations."
6.30 p.m.—Talk, "The First German Revolution, 1848-1849."
7.0 p.m.—Weather and Time.
7.15 p.m.—**Orchestral Concert.**
9.0 p.m.—News.
9.15 p.m.—**Dance Music.**
11.0 p.m. (approx.).—Close Down.

—□—

MUNICH. Deutsche Stunde in Bayern. *WL.* 535.7 m. (560 kc); 4 kw.
Transmits at intervals from 10.45a.m.
6.0 p.m.—**English Lesson.**
6.30 p.m.—Programme relayed from **Nuremberg** (303 m.; 990 kc).
8.30 p.m.—Oskar H. Schmitz reads his own Works.
9.5 p.m.—News.
9.20 p.m.—Chess Lesson.

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STUTTGART. Südwestdeutscher Rundfunk. *WL.* 380.7 m. (788 kc); 4 kw.
Transmits at intervals from 11.30a.m.
6.15 p.m.—Wireless Notes.
6.45 p.m.—Time and Weather.
7.0 p.m.—**Concert** of Recitations and Orchestral Music.
8.30 p.m.—**Concert** of Popular Airs, followed by News.

HOLLAND

HILVERSUM. Algemeene Nederlandsche Radio-Omroep. *WL.* 1,060 m. (283 kc); 5 kw.
11.40 a.m.—Police News.
12.15 p.m.—**Trio Concert.**
2.40 p.m.—Talk.
4.20 p.m.—Children's Corner.
5.40 p.m.—**Trio Concert.**
6.55 p.m.—**Elementary English Lesson**
7.25 p.m.—Police News.
7.50 p.m.—**Concert.** 1. (*a*) Selection (Dvorák) (*b*) The Angelus (Rennes). 2. Selections (Dvorák): (*a*) Die Flucht, (*b*) Der Frost, (*c*) Die Zuversicht. 4. Selections (Dalcroze): (*a*) J' voudrais bien me marier, (*b*) La chère maison, (*c*) Farandole, (*d*) "Chez nous," (*e*) L'oiselet à quitté sa branche, (*f*) Vivons en chantant.
8.40 p.m.—Talk on "The Indian Town—Soerabia."
9.10 p.m.—**Concert** of Popular Music. 1. The Rotterdam Flag (Veehallen). 2. Eva—Waltz (Lehár). 3. "William Tell" (Rossini).
9.40 p.m.—Weather and News.
9.50 p.m.—**Concert** (contd.). 4. Selection from "Faust" (Gounod). 5. Die Backfischparade (Lincke). 6. Rosenlieder (Eulenberg). 7. The Blue Danube—Waltz (Joh. Strauss). 8. Goldne Burschenzeit (Mannfred).
10.40 p.m. (approx.).—Close Down.

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HUIZEN. *WL.* 1,840 m. (163 kc); 4 kw. (until 7 p.m.)
Transmits from 7 p.m. on 1,950 m. (154 kc).
12.10 p.m.—**Concert.**
4.40 p.m.—Programme for Hospitals.
5.55 p.m.—Talk.
7.10 p.m.—Recitation.
7.40 p.m.—**Vocal and Instrumental Concert.**
7.40 p.m.—**Orchestral Concert.**
9.20 p.m.—News and Time.
9.40 p.m.—**Orchestral Concert.**

HUNGARY

BUDAPEST. Magyar Radio Ujsag. *WL.* 555.6 m. (540 kc); 2 kw.
Transmits at intervals from 8.30 a.m.
7.0 p.m.—German Lesson.

ITALY

MILAN. Unione Radiofonica Italiana (1MI). *WL.* 317 m. (946 kc); 7 kw.
Transmits at intervals from 11.15a.m.
7.45 p.m.—Time.
7.47 p.m.—History Talk.
8.0 p.m.—**Song Recital,** followed by a Short Comedy, and News.
10.0 p.m.—**Dance Music,** relayed from "La Fiaschetteria Toscana."
10.30 p.m. (approx.).—Close Down.

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NAPLES. Unione Radiofonica Italiana (1NA). *WL.* 334 m. (898 kc); 1.5 kw.
Transmits at intervals from 12 noon.
7.55 p.m.—News.
7.58 p.m.—Harbour Notes.
8.0 p.m.—Vocal and **Instrumental Concert.**
8.30 p.m.—"**Maestrina**"—Comedy (Niccodemi).
9.30 p.m.—**Concert.** In the interval, Time.

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ROME. Unione Radiofonica Italiana (1RO). *WL.* 450 m. (666 kc); 3 kw.
Transmits at intervals from 12 noon.
7.20 p.m.—French Lesson.
7.30 p.m.—Time, News, Exchange and Weather.
7.40 p.m.—Astronomy Lesson.
8.0 p.m.—**Programme relayed from a Theatre.** In the Interval—Verse Recital, News.

LITHUANIA

KOVNO. Radio-Kaunas. *WL.* 2,000 m. (150 kc); 15 kw.
5.0 p.m.—Talk on "The Lithuanian Renaissance."
5.30 p.m.—Esperanto Talk.
6.0 p.m.—Time, Weather and News.
6.30 p.m.—**Orchestral Concert.**

NORWAY

BERGEN. Kringkastingselskap. *WL.* 370.4 m. (810 kc.); 1.5 kw.
Transmits at intervals from 10.15a.m.
6.0 p.m.—The Boys' Hour.
7.5 p.m.—Organ Recital.
7.40 p.m.—Pianoforte Selections.
8.0 p.m.—Talk.
8.30 p.m.—German Lesson.
9.0 p.m.—Weather, News and Time.
9.15 p.m. (approx.).—Close Down.

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OSLO. Kringkastingselskapet. *WL.* 461.5 m. (650 kc.); 1.5 kw.
Transmits at intervals from 10.10a.m.
Programme relayed by **Hamar** on 566 m. (530 kc.); **Porsgrund,** 504 m. (594.5 kc.); **Fredriksstad,** 434.8 m. (690 kc.); **Notodden,** 423 m. (709 kc.); and **Rjukan,** 448 m. (670 kc.).
6.15 p.m.—News.
6.30 p.m. — Elementary German Lesson.
7.0 p.m.—Time.
7.2 p.m.—Review of Foreign Affairs.
7.30 p.m.—'**Cello Recital.** 1. Kol Nidrei (Bruch). 2. Air de Ballet (Massenet). 3. Chanson triste (Tchaikovsky). 4. Ved springvandet (Davidoff).
8.0 p.m.—Talk.
8.30 p.m.—**Quartet Concert.** 1. Kaeraste bröder (Bellmann). 2. Tröst (Merikanto). 3. Berceuse (Eriksson). 4. Song (Geijer). 5. Du Rossignol (Kierulf). 6. Spring Song (Gustaf).
9.0 p.m.—News and Weather.
9.15 p.m. (approx.).—Close Down.

POLAND

CRACOW. Polskie Radio. *WL.* 500 m. (600 kc.); 1.5 kw.
Transmits at intervals from 11.0 a.m.
6.0 p.m.—Agricultural Report.
6.15 p.m.—Variety.
6.35 p.m.—Talk on "The History of the Polish Nobility."
7.0 p.m.—News.
7.30 p.m.—Programme from **Warsaw.**

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WARSAW. Polskie Radio. *WL.* 1,111.1 m. (270 kc); 10 kw.
Transmits at intervals from 11.0 a.m.
6.0 p.m.—Agricultural Report.
6.15 p.m.—Variety.
6.35 p.m. — Elementary French Lesson.
7.30 p.m.—**Chamber Music** and Songs. In the interval: News in French.
9.0 p.m.—Time and Weather.
9.30 p.m. (approx.)—Close Down.

SPAIN

BARCELONA. Radio-Barcelona (EAJ1). *WL.* 343.2 m. (874 kc); 2 kw.
Transmits at intervals from 11.0 a.m.
8.30 p.m.—Talk, "Where was Atlantis?"
8.45 p.m.—Talk in Esperanto.
9.0 p.m.—Chimes and Weather.
9.5 p.m.—Exchange and News.
9.10 p.m.—Humorous Review of the Week's Events.
9.20 p.m.—**Programme of Sardanas** from the Works of Perez Moya.
10.0 p.m.—Exchange Closing Prices.
10.5 p.m.—**Pianoforte Solos.** 1. Rondo capriccioso (Mendelssohn). 2. Spanish Caprice (Moszkovsky). 3. Romance without words (Tchaikovsky). 4. Roumanian Dance (Alfano).
10.40 p.m.—**Quintet Selections.** 1. Cradle Song from "Jocelyn" (Godard). 2. "The Ruins of Athens"—Turkish March (Mendelssohn).
11.0 p.m. (approx.).—Close Down.

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MADRID. Union Radio (EAJ7). *WL.* 373 m. (804 kc.); 3 kw.
Transmits at intervals from 11.45a.m.
7.0 p.m.—**Orchestral Selections.** 1. "The Blue Spider"—Selection (Calleja). 2. Benamor—Selection (Luna). 3. "The Little Duke"—Selections (Vives). 4. "Moors and Christians" — Selection (Serrano). Interlude by Luis Medina.
9.30 p.m.—French Lesson.
10.0 p.m. (approx.).—Close Down.

SWEDEN

STOCKHOLM. Radiotjänst (SASA). 454.5 m. (660 kc); 1.5 kw.
Programme relayed by **Motala,** 1,320 m. (227 kc); **Goteborg,** 416.7 m. (720 kc); **Malmo,** 260.9 m. (1,150 kc); and **Sundsvall,** 545.6 m. (550 kc).
Transmits at intervals from 11.35a.m.
6.45 p.m.—**Elementary English Lesson.**
7.15 p.m.—Literary Recital.
7.35 p.m.—**Concert** of Finnish Folk Music. Followed by Talk.
9.10 p.m. (approx.).—Close Down.

SWITZERLAND

BERN. Radio-Bern. *WL.* 411 m. (730 kc); 1.5 kw.
Transmits at intervals from 12.0noon.
6.30 p.m.—Time and Weather.
6.35 p.m.—Talk from **Zurich.**
7.0 p.m.—**Orchestral Concert** from **Zurich.**
7.35 p.m.—**Symphony Concert** from **Geneva.**
8.50 p.m.—News and Weather.
9.5 p.m.—The Kursaal Orchestra.
9.30 p.m. (approx.).—Close Down.

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GENEVA. Radio-Geneva. *WL.* 760 m. (395 kc); 0.5 kw.
5.0 p.m. — Exchange, Time and Weather.
5.5 p.m.—Gramophone Records.
7.15 p.m.—News.
7.20 p.m.—**English Lesson.**
7.35 p.m.—**Concert.** Relayed from the Victoria Hall. News in the interval.

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ZURICH. Radio-Genossenschaft. *WL.* 588.2 m. (510 kc); 2 kw.
Transmits at intervals from 11.30a.m.
6.30 p.m.—Time and Weather.
6.32 p.m.—Talk, "The Spanish Dominions from California to Patagonia."
7.0 p.m.—**Orchestral Concert.**
9.0 p.m.—Weather and News.
9.10 p.m. (approx.)—Close Down.

U.S.A.

PITTSBURGH. Westinghouse Electric (KDKA). *WL.* 315.6 m. (950 kc).
3.0 p.m.—**3.30 a.m.** (approx. Tuesday)—Programme of Reports and Variety, etc.
Programme relayed on 62.5 m. (4,800 kc) from 11.0 p.m.

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SCHENECTADY, N.Y. General Electric Company (WGY). *WL.* 379.5 m. (790 kc); 100 kw.
11.45 a.m. (Monday)—**4.0 a.m.** (Tuesday).—Programme of Exercises, Reports, and Variety, etc.
Programme relayed by 2XAD on 21.96 m. (13,661 kc) from 11.0 p.m.

PROGRAMMES FOR TUESDAY (November 29)

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

IRELAND

CORK. Cork Broadcasting Station (6CK). *WL.* 400 m. (750 kc); 1.5 kw.
2.30 p.m.—Weather, Stock Market Report and Gramophone Selections.
6.30—10.30 p.m.—Programme relayed from **Dublin.**

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DUBLIN. Dublin Broadcasting Station (2RN). *WL.* 319.1 m. (940 kc); 1.5 kw.
Transmits at intervals from 1.30 p.m.
6.15 p.m.—Children's Corner.
7.0 p.m.—Gramophone Records.
7.20 p.m.—Exchange and News.
7.30 p.m.—Fainne Talk by Seoirse Mac Thomais.
7.45 p.m.—Spanish Lesson by W. Starkie, LL.D.
8.0 p.m.—The Station Orchestra.
8.15 p.m.—John Long (Baritone).
8.25 p.m.—Request Music by the Station Orchestra.
8.40 p.m.—Amhrain Ghaolacha by Mairead Ni Annagain.
8.55 p.m.—Joseph Schofield ('Cello) and Mary Maguire (Mezzo-Soprano)
9.25 p.m.—Harry O'Donovan and Company in a Sketch.
10.20 p.m.—"A Cheery Number" by the Station Orchestra.
10.30 p.m.—News, Weather and Close Down.

AUSTRIA

VIENNA. Radio-Wien. *WL.* 578 and 517.2 m. (519 and 580 kc.); 0.75 and 5 kw.
Transmits at intervals from 10.0 a.m.
6.0 p.m.—Advanced French Lesson.
6.30 p.m. — Advanced English Lesson.
7.5 p.m.—Concert. 1. Van Aaken—March (Sonns). 2. "Marinella"—Overture (Fucik). 3. Lebensmärchen—Waltz (Fucik). 4. Selection from "Aïda" (Verdi). 5. Songs. 6. Selection for Flute on the theme of "Gute Nacht, due mein herziges Kind" (Popp). 7. Heinzelmannchen (Hellmesbeger). 8. Songs. 9. Künstleberleben—Waltz (Joh. Strauss). 10. Deutsche Lieder (Kohlmann). 11. Songs. 12. Air from "Alles aus Liebe" (Benatzky). 13. Nören sie zu (Borchert). 14. Gradl--Marsch (Wolf).

BELGIUM

BRUSSELS Radio-Belgique. *WL.* 508.5 m. (590 kc); 1.5 kw.
5.0 p.m.—Dance Music.
6.0 p.m.—French Lesson.
7.45 p.m.—Radio Chronique.
8.15 p.m.—Concert. 1. "The Thieving Magpie"—Overture (Rossini). 2. Noces dans les Indes (Percy). 3. Suite (Chaminade). 4. "Czar and Carpenter"—Selection (Lortzing). 5. Concerto suédois (Popp). 6. "Pas sur la Bouche"—Selection (Yvain). 7. La Petite foncionnaire (Messager). 8. Spanish Dance (Granados). In the intervals: Address by M. Roussel, and Reading from a Chapter of "Coeur en Evantail"—Novel (Delhaye).
10.0 p.m.—Dance Music.
10.15 p.m.—News.
10.30 p.m. (approx.).—Close Down.

CZECHO-SLOVAKIA

BRUENN. Komarov. *WL.* 441.2 m. (680 kc); 3 kw.
Transmits at intervals from 11.15a.m.
6.0 p.m.—Concert.
6.40 p.m.—English Lesson.
7.0 p.m.—Short Comedy.
7.30 p.m.—Concert.
9.0 p.m.—Relay from **Prague.**

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PRAGUE. Strasnice. *WL.* 348.9 m. (860 kc); 5 kw.
Transmits at intervals from 10.0 a.m.
6.15 p.m.—Popular Music.
6.45 p.m.—Talk.
7.0 p.m.—Weather and News.
7.10 p.m.—Orchestral Concert.
8.0 p.m.—Programme in Commemoration of Puccini.
9.0 p.m.—Time, News and Orchestral Selections.

DENMARK

COPENHAGEN. Copenhagen Radio. *WL.* 337 m. (889 kc); 9.7 kw.
Programme relayed by **Kalundborg** on 1,153.8 m. (260 kc).
Transmits at intervals from 6.30 a.m.
6.0 p.m.—News and Exchange.
6.15 p.m.—Time.
6.30 p.m.—Talk on "Old Relics found near Ginderup."
7.0 p.m.—Time.
7.2 p.m.—Danish Music and Poetry Programme.
8.15 p.m.—News.
8.30 p.m.—Talk and Songs.
9.15 p.m. (approx.)—Close Down.

FRANCE

PARIS. Ecole Supérieure (FPTT). *WL.* 458 m. (655 kc); 0.5 kw.
Transmits at intervals from 8.0 a.m.
6.0 p.m.—"Le Radio Journal de France."
8.0 p.m.—English Lesson.
9.0 p.m.—Gala Concert: Selections from the Works of Hérold, etc., and **"Odette Depeche toi"**—Comedy.
10.0 p.m.—Talk on "Foreign Affairs" followed by News, Time and Weather.

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PARIS. Eiffel Tower (FL). *WL.* 2,650 m. (113 kc); 5 kw.
9.26 a.m.—Time Signal.
5.45 p.m.—Le Journal Parlé.
7.10 p.m.—Weather.
7.30 p.m.—Concert of Russian Music.
8.30 p.m.—Educational Programme.
10.26 p.m.—Time Signal.

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PARIS. Petit-Parisien. *WL.* 340.9 m. (880 kc); 0.5 kw.
9.0 p.m.—Concert from the Works of Leroux. 1. "Harald"—Overture. 2. Suite des Perses. 3. Le Chemineau. 4. La Reine flammette. 5. La plus forte.

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PARIS. Radio-Paris (CFR). *WL.* 1,750 m. (171 kc); 3 kw.
Transmits at intervals from 8.0 a.m.
12.30 p.m.—Orchestral Concert. News in the interval.
1.50 p.m.—Exchange Quotations.
4.30 p.m.—Exchange Quotations.
4.45 p.m.—Concert. 1. Vieille Chanson espagnole (Aubert). 2. Sonata for Violin (Fauré). 3. Pianoforte Solos: (*a*) Printemps (Grieg), (*b*) Spanish Dance (Moszkovsky). 4. 'Cello Solos: (*a*) Berceuse (Villa), (*b*) Vocalise (Auric), (*c*) Source (Schumann). 5. Tarantelle (Filipucci).
7.45 p.m. — Elementary English Lesson.
8.0 p.m.—Agricultural Report.
8.15 p.m.—Exchange Quotations.
8.20 p.m. (approx.).—Literary Talk.
8.30 p.m.—Concert. 1. Programme from the Works of Hahn. 2. **"Un client serieux"** (Courteline). 3. **"Les Deux Pecheurs"** (Offenbach). News in the interval.

GERMANY

BERLIN. Koenigswusterhausen. *WL.* 1,250 m. (240 kc); 8 kw.
Transmits at intervals from 11.0 a.m.
5.30 p.m.—Spanish Lesson.
5.55 p.m.—Reading.
6.20 p.m.—Talk on "Vienna and Viennese Music."
7.30 p.m.—Programme relayed from **Voxhaus.**

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BERLIN. Voxhaus. *WL.* 483.9 m. (620 kc); 4 kw.
Transmits at intervals from 9.10 a.m.
6.5 p.m.—Education Talk.
6.30 p.m.—Talk on "Berlin Mutual Aid Societies."
6.55 p.m.—Talk on "The Occult."
7.30 p.m.—"Eine Tolle Nacht"—Play (Freund and Mannstaedt).
9.15 p.m.—News and Weather.
9.30 p.m. (approx.).—Close Down.

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BRESLAU. Schlesische Funkstunde. *WL.* 322.6 m. (930 kc); 4 kw.
Transmits at intervals from 10.15a.m.
6.0 p.m.—Talk, "The Nineteenth Century and Ourselves."
6.30 p.m.—Art and Literature Talk.
7.15 p.m.—Orchestral Concert. 1. Suite in D major No. 3 (Bach). 2. Eine kleine Nachtmusik (Mozart). 3. Serenade, Op. 78 (Hoffmann). 4. Suite for Flute and String Orchestra, Op. 14 (Bartels). 5. Variations on the Kaiser Quartet (Haydn). Followed by Wireless Club Notes.
9.30 p.m. — Dancing Lesson — the Tango.
10.30 p.m. (approx.).—Close Down.

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FRANKFURT-am-MAIN. Südwestdeutscher Rundfunk. *WL.* 428.6 m. (700 kc.); 4 kw.
Transmits at intervals from 10.55a.m.
5.30 p.m.—Talk: "Home-made children's toys for Christmas," relayed from **Cassel** (272.7 m., 1,100 kc.)
5.45 p.m.—Agricultural Talk, relayed from **Cassel.**
6.10 p.m.—Finance Notes.
6.15 p.m.—Talk, "Frankfurt Rescue Work."
6.45 p.m.—Talk by Alfred Auerbach.
7.15 p.m.—Klaus Groth Programme.
8.15 p.m.—"The Dance through Life"—A merry Gustav Jacoby Evening in Word and Song, followed by Gramophone Selections

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HAMBURG. Norag (ha, in Morse). *WL.* 396 m. (757 kc.); 4 kw.
Transmits at intervals from 5.55 a.m.
6.0 p.m.—Talk, "Matrimonial Conflicts of the Present Day."
6.25 p.m.—Talk, "The Reclamation of Moorland."
6.55 p.m.—Weather.
7.0 p.m.—Talk, "World Economics"
7.15 p.m.—Concert of German Music.
8.30 p.m. (approx.).—Topical Talk, followed by News and **Concert,** from Café Wallhof.
10.30 p.m.—Dance Music.
11.30 p.m. (approx.).—Close Down.

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LANGENBERG. Westdeutscher Rundfunk. *WL.* 470 m. (638 kc); 25 kw.
Transmits at intervals from 9.30 a.m.
Programme also relayed by **Muenster** on 241.9 m. (1,240 kc).
6.20 p.m.—French Lesson from **Cologne.**
6.40 p.m.—Economics Talk from **Cologne.**
7.10 p.m.—Variety Programme from **Cologne.** Music from the Works of Weber, Mozart, Meyerbeer, Kalman, Lehár, etc., and **"Der Morder"**—Sketch (Goetz).
9.20 p.m.—Silent Night.

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LEIPZIG. Mitteldeutscher Rundfunk. *WL.* 366.3 m. (818 kc); 4 kw.
Transmits at intervals from 9 a.m.
5.30 p.m.—Elementary Spanish Lesson. Relayed from **Koenigswusterhausen.**
6.0 p.m.—Talk: "New Lyrics."
6.30 p.m.—Talk on the following transmission.
8.15 p.m.—"The Tempest"—Play (Shakespeare).
9.0 p.m.—News.
9.15 p.m.—Dancing Lesson.
9.30 p.m.—Dance Music.
11.0 p.m. (approx.).—Close Down.

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MUNICH. Deutsche Stunde in Bayern. *WL.* 535.7 m. (560 kc) 4 kw.
Transmits at intervals from 10.45 a.m.
5.30 p.m.—Italian Lesson
6.0 p.m.—Talk: "Personalities of Mediæval Times."
6.15 p.m.—Orchestral Concert.
7.15 p.m.—"Gotz von Berlichingen"—Drama (Goethe).
9.25 p.m.—News.
9.40 p.m. (approx.).—Close Down.

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STUTTGART. Südwestdeutscher Rundfunk. *WL.* 830.7 m. (788 kc); 4 kw.
Transmits at intervals from 11.30a.m.
6.15 p.m.—Talk, "The German Influence in Stockholm."
6.45 p.m.—Time, Weather, and Wireless Notes.
7.0 p.m.—Symphony Concert. 1. Pianoforte Concerto (Mozart). 2. The Fourth Symphony (Mendelssohn).
8.0 p.m.—"Le Mariage de Figaro"—Comedy (Beaumarchais), with Orchestral Interludes, and followed by News.

HOLLAND

HILVERSUM. Algemeene Nederlandsche Radio Omroep. *WL.* 1,060 m. (283 kc); 5 kw.
11.40 a.m.—Police News.
12.15 p.m.—Trio Concert.
2.40 p.m.—Fashion Talk.
5.10 p.m.—Orchestral Concert: 1. "La Princesse Jaune"—Overture (Saint-Saëns). 2. Petite Suite (Debussy). 3. Soprano Solos: (*a*) Seguidilla from "Carmen" (Bizet), (*b*) Le manoir de Rosamunde (Duparc). 4. La jota aragonesa (Saint-Saëns). 5. Gipsy Love (Schumann). 6. Soprano Solos: (*a*) Ueber Nacht (Wolf) (*b*) Two Old Dutch Songs (Kuiler and Pijper). 7. Dance from "The Czar and Carpenter" (Lortzing). 8. Der Brautwerver (Becker). 9. Poranek—Waltz (Lindsay-Theimer). 10. Ave Maria (Gounod). 11. Flower Song (Lange). 12. Finale.
6.55 p.m.—English Conversation Lesson.
7.50 p.m.—Literary Talk.
8.40 p.m.—Concert by Russian Artistes: 1. Concerto in C for Violin and Pianoforte (Vivaldi-Kreisler). 2. Baritone Solos: (*a*) Rachel's Tomb (Gnessin), (*b*) Ruth and Boas (Gladstein). 3. Suite in "Old Style" for Violin and Pianoforte (Zimbalist).
9.40 p.m.—Weather and News.
9.50 p.m.—Baritone Solos: (*a*) Canzonetta (Achron), (*b*) Kaddisch (Ravel).
10.10 p.m.—Franz Lehar Concert.

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HUIZEN. *WL.* 1,840 m. (163 kc) 4 kw. (until 7 p.m.)
Transmits from 7 p.m. on 1,950 m. (154 kc).
12.10 p.m.—Trio Concert.
6.10 p.m.—Esperanto Lesson.
6.40 p.m.—English Lesson.
7.10 p.m.—Ecclesiastical Latin Lesson.
7.40 p.m.—Concert. Choral and Orchestral Music and Talks.

HUNGARY

BUDAPEST. Magyar Radio Ujsag. *WL.* 555.6 m. (540 kc); 2 kw.
Transmits at intervals from 8.30 a.m.
6.0 p.m.—Programme relayed from the Royal Hungarian Opera House.
9.10 p.m.—Time and News.
9.30 p.m.—Concert of Gipsy Music.

ITALY

MILAN. Unione Radiofonica Italiana (1MI). *WL.* 317 m. (946 kc); 7 kw.
Transmits at intervals from 11.15a.m.
7.45 p.m.—Time.
7.47 p.m.—Technical Wireless Talk.
8.0 p.m.—Programme dedicated to Puccini, in commemoration of the Third Anniversary of his Death. **"Suor Angelica"**—Opera. News.

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NAPLES. Unione Radiofonica Italiana (1NA). *WL.* 334 m. (898 kc); 1.5 kw.
Transmits at intervals from 12 noon.
7.55 p.m.—News.
7.58 p.m.—Harbour Notes.
8.0 p.m.—Concert from the Works of Puccini.

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ROME. Unione Radiofonica Italiana (1RO). *WL.* 450 m. (666 kc.); 3 kw.
Transmits at intervals from 12.0 noon
7.20 p.m.—English Lesson.
7.30 p.m.—Time, News, Exchange and Weather.
7.40 p.m.—Programme dedicated to Puccini, in Commemoration of the third anniversay of his death.

NORWAY

BERGEN. Kringkastingselskap. *WL.* 370.4 m. (810 kc); 1.5 kw.
Transmits at intervals from 10.15a.m.
5.55 p.m.—Wireless Talk.
6.15 p.m.—Talk on the following relay from the Royal Opera House, **Stockholm.**
6.30 p.m.—"Le Mariage de Figaro"—Opera (Mozart) with explanatory comments from **Stockholm.** News in the intervals.

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OSLO. Kringkastingselskapet. *WL.* 461.5 m. (650 kc); 1.5 kw.
Programme relayed by **Hamar** on 566 m. (530 kc); **Porsgrund,** 504 m. (594.5 kc); **Fredriksstad,** 434.8 m. (690 kc); **Notodden,** 423 m. (709 kc); and **Rjukan,** 448 m. (670 kc).
Transmits at intervals from 10.10a.m.
5.0 p.m.—Orchestral Concert.
6.55 p.m.—News.
6.30 p.m.—"Le Mariage de Figaro"—Opera (Mozart), relayed from **Stockholm.**
7.0 p.m. (approx.).—Time.

POLAND

CRACOW. Polskie Radio. *WL.* 500 m. (600 kc); 1.5 kw.
Transmits at intervals from 11.0 a.m.
6.0 p.m.—Agricultural Report.
6.15 p.m.—Variety.
6.35 p.m.—Talk on "The Problem of Immorality."
7.0.pm.—News.
7.30 p.m.—Programme from **Warsaw.**
9.30 p.m.—Concert from the "Pavillon" Restaurant.

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WARSAW. Polskie Radio. *WL.* 1,111.1 m. (270 kc.); 10 kw.
Transmits at intervals from 11.0 a.m.
6.0 p.m.—Agricultural Report.
6.15 p.m.—Variety.
6.35 p.m.—Talk on "The Anniversary of the Insurrection in the Month of November, 1863."
7.30 p.m.—"La Nuit de Novembre" (Wyspianksi). In the Interval: News in French.
9.0 p.m.—Time and Weather.
9.30 p.m.—Dance Music.
10.30 p.m. (approx.).—Close Down.

SPAIN

BARCELONA. Radio-Barcelona (EAJ1). *WL.* 343.2 m. (874 kc); 2 kw.
Transmits at intervals from 11.0 a.m.
8.40 p.m.—English Lesson.
9.0 p.m.—Chimes and Weather.
9.10 p.m.—Quintet Selections.
9.30 p.m.—Talk.
9.45 p.m.—Quintet Selections.
10.0 p.m.—Market Prices.
10.5 p.m.—Relay of the Second Half of **"Une nuit de mai"**—Opera (Rimsky-Korsakoff).

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MADRID. Union Radio (EAJ7). *WL.* 373 m. (804 kc); 3 kw.
Transmits at intervals from 11.45a.m.
7.0 p.m.—Orchestral Selections. 1. "La Mazorca Roja"—Selection (Serrano). 2. "Robert le Diable"—Selection (Meyerbeer). Interlude by Luis Medina.
8.0 p.m.—Dance Music, relayed from the "Alcazar."
9.30 p.m.—English Lesson.
9.45 p.m.—Medical Talk.
10.0 p.m.—Programme relayed by **Seville,** EAJ5 (400 m.; 750 kc) and **San Sebastian** (335 m.; 895 kc). 1. "Rosamunde" — Overture (Schubert). 2. Pianoforte Solos: (*a*) Variations, Op. 54 (Mendelssohn), (*b*) "Villa d'este" (Liszt); (*c*) Song and Dance (Monpou). 3. Talk and Reading from "La Copla Charruna," with Musical Illustrations. 4. Pianoforte Solos: (*a*) Scherzo in C Minor (Chopin), (*b*) Nocturne No. 3 (Liszt), (*c*) Variations on a "Paganini" Theme, Op. 35 (Brahms). 5. Madrigal (Catarineu). 6. Adagio Cantabile, Op. 1 (Beethoven). News.
12.30 a.m. (Wednesday, approx.).—Close Down.

SWEDEN

STOCKHOLM. Radiotjänst (SASA). *WL.* 454.5 m. (660 kc); 1.5 kw.
Programme relayed by **Motala,** 1,320 m. (227 kc); **Goteborg,** 416.7 m. (720 kc); **Malmo,** 260.9 m. (1,150 kc); and **Sundsvall,** 545.6 m. (550 kc).
Transmits at intervals from 11.35a.m.
6.15 p.m.—Introductory Talk to the following transmission.
6.30 p.m.—"Le Mariage de Figaro"—Opera (Mozart), from the Royal Opera House.
10.0 p.m. (approx.).—Close Down.

SWITZERLAND

BERN. Radio-Bern. *WL.* 411 m.; (730 kc); 1.5 kw.
Transmits at intervals from 12.0noon.
6.30 p.m.—Time and Weather.
6.35 p.m.—Talk, "Modern Marriage Questions."
7.0 p.m.—Concert of Operetta Music.
8.50 p.m.—News and Weather.
9.5 p.m.—Concert of Light Music.
9.30 p.m. (approx.).—Close Down.

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LAUSANNE. Société Romande de Radiophonie (HB2). *WL.* 680 m. (441 kc.); 0.6 kw.
Transmits at intervals from 6.45 a.m.
7.0 p.m.—Weather.
7.1 p.m.—Talk on "Dental Hygiene for Schoolchildren."
7.20 p.m.—Chamber Music. 1. Quartet (Haydn). 2. Quartet (Mozart). 3. (*a*) Sposalizio (Liszt), (*b*) Deux études (Chopin). 4. Mélodie (Bloch). 5. Cordoba (Albeniz).
8.20 p.m.—Literary Talk.

U.S.A.

PITTSBURGH. Westinghouse Electric (KDKA). *WL.* 315.6 m. (950 kc).
3.0 p.m.—3.30 a.m. (approx., Wednesday).—Programme of Reports and Variety, etc.
Programme relayed on 62.5 m. (4,800 kc) from 11.0 p.m.

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SCHENECTADY, N.Y. General Electric Company (WGY). *WL.* 379.5 m. (790 kc); 100 kw.
11.45 a.m. (Tuesday)—**4.30 a.m.** (Wednesday). — Programme of Exercises, Reports, Talks and Variety, etc.
Programme relayed by 2XAF on 32.77 m. (9,155 kc) from 11.0 p.m.

PROGRAMMES FOR WEDNESDAY (November 30)

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

IRELAND

CORK. Cork Broadcasting Station (6CK). *WL.* 400 m. (750 kc); 1.5 kw.
2.30 p.m.—Weather, Stock Market Report and Gramophone Selections.
6.30—10.30 p.m.—Programme relayed from **Dublin.**

DUBLIN. Dublin Broadcasting Station (2RN). *WL.* 319.1 m. (940 kc); 1.5 kw.
Transmits at intervals from 1.30 p.m.
6.15 p.m.—Children's Corner.
7.0 p.m.—Talk for Women.
7.20 p.m.—Exchange and News.
7.30 p.m.—Irish Lesson by M. O'Maolain.
7.45 p.m.—German Lesson by Olga von Wenckstern.
8.0 p.m.—"**St Andrews's Day Programme.**" The Station Orchestra, The Pipe Band, The Choir of Scot's Church, and the Caledonian Male Choir.
10.30 p.m.—News, Weather and Close Down.

AUSTRIA

VIENNA. Radio Wien. *WL.* 578 and 517.2 m. (519 and 580 kc); 0.75 and 5 kw.
Transmits at intervals from 10.0 a.m.
6.0 p.m.—Elementary Italian Lesson.
6.30 p.m.—Health Talk, "Sleep."
7.0 p.m.—Programme Announcements.
7.5 p.m.—**English Literary Lesson.**
7.30 p.m.—Reading of Anzengruber's Novels and "**Die umkehrte Freit**"—Play (Anzengruber), followed by **Concert** of Light Music.

BELGIUM

BRUSSELS. Radio Belgique. *WL.* 508.5 m. (590 kc); 1.5 kw.
5.0 p.m.—**Dance Music.**
7.45 p.m.—Radio Chronique.
8.15 p.m.—Nocturne and Waltz for Pianoforte (Chopin).
8.30 p.m.—**Concert** by the Orchestra of the Royal Zoological Society, **Antwerp**: 1. "The Youth of Hercules" (Saint-Saëns). 2. Symphony No. 2 (Borodine). 3. Carneval (Meulemans). 4. "The Flying Dutchman"—Overture (Wagner).
10.15 p.m.—News.
10.30 p.m. (approx.)—Close Down.

CZECHO-SLOVAKIA

BRUENN. Komarov. *WL.* 441.2 m. (680 kc); 3 kw.
Transmits at intervals from 11.15 a.m
6.0 p.m.—Fantasia for Flute (Fauré).
6.10 p.m.—Recitation.
6.40 p.m.—Esperanto Lesson.
7.0 p.m.—Richard Strauss Programme—Music and Talk.
8.10 p.m.—Orchestral Music.
9.0 p.m.—Relay from **Prague.**

PRAGUE. Strasnice. *WL.* 348.9 m. (860 kc); 5 kw.
Transmits at intervals from 10.0 a.m.
5.45 p.m.—**Czechoslovakian—Yugoslavian Friendship Programme.**
8.0 p.m.—**Dramatic Selections.**
9.0 p.m.—Time, News and **Orchestra. Selections.**

DENMARK

COPENHAGEN. Copenhagen Radio. *WL.* 337 m. (889 kc); 0.7 kw.
Programme relayed by **Kalundborg** on 1,153.8 m. (260 kc).
Transmits at intervals from 6.30 a.m.
6.0 p.m.—News, Exchange and Time.
6.30 p.m.—Talk, "New Theories of Atoms."
7.0 p.m.—Time.
7.2 p.m.—**Orchestral Concert**: 1. March (Eilenberg). 2. Invitation à la Mazurka (Ramsoe). 3. Serenade (Jespersen). 4. Violin Solo (Hubay). 5. Selection from "La Traviata" (Verdi). 6. Légende (Gonrdahl). 7. Fantasia on Verdi's Opera (Bassi). 8. Russian Dance.
8.15 p.m. (approx).—News.
8.30 p.m.—Septet in E Flat Major, Op. 20 (Beethoven), and Quintet for Pianoforte in E Flat Major (Mozart).
9.45 p.m. (approx.)—Close Down.

FRANCE

PARIS. Ecole Supérieure (FPTT). *WL.* 458 m. (655 kc); 0.5 kw.
Transmits at intervals from 8.0 a.m.
6.0 p.m.—"Le Radio Journal de France."
8.15 p.m.—Cinema Talk.
8.30 p.m.—Fashion Talk.
8.45 p.m.—Literary Talk.
9.0 p.m.—**Concert** from the Works of Bizet and Massenet, followed by **Dance Music** from the **Coliseum de Paris.**
12 midnight (approx.)—Close Down.

PARIS. Eiffel Tower (FL). *WL.* 2,650 m. (113 kc); 5 kw.
9.26 a.m.—Time Signal.
5.45 p.m.—Le Journal Parlé.
7.10 p.m.—Weather.
7.30 p.m.—**Orchestral and Vocal Concert.**
8.30 p.m.—Educational Programme.
10.26 p.m.—Time Signal.

PARIS. Radio-Paris (CFR). *WL.* 1,750 m. (171 kc); 3 kw.
Transmits at intervals from 8.0 a.m.
12.30 p.m.—**Orchestral Concert.** News in the Interval.
1.50 p.m.—Exchange Quotations.
4.30 p.m.—Exchange Quotations.
4.45 p.m.—**Concert.** 1. March from "Sigurd Jorsalfar" (Grieg). 2. Suite for 'Cello (Abbiate). 3. Pianoforte Solos: (*a*) Sunrise Over the Ocean (Grecourt); (*b*) Valse (Chopin). 4. Violin Solos (Kreisler): (*a*) Romance; (*b*) Caprice Viennois. 5. Madrilene (Infante).
8.0 p.m.—Agricultural Report.
8.15 p.m.—Exchange and News.
8.30 p.m.—**Concert.** 1. "Oberon"—Overture (Weber). 2. Melodies. 3. Scene from "**Amphytrion**" (Molière). 4. Pieces for two pianos. 5. Miarka (Georges). News in the Interval.

GERMANY

BERLIN. Koenigswusterhausen. *WL.* 1250 m. (240 kc); 8 kw.
Transmits at intervals from 11.0 a.m.
5.0 p.m.—Technical Talk.
5.30 p.m.—French Lesson.
5.55 p.m.—Talk on "Social Politics."
6.20 p.m.—Talk for Veterinary Surgeons.
7.0 p.m.—Programme relayed from **Munich.**
9.0 p.m.—Programme relayed from **Voxhaus.**

BERLIN. Voxhaus. *WL.* 483.9 m. (620 kc); 4 kw.
Transmits at intervals from 9.10 a.m.
5.45 p.m.—Talk on "Gas—Everybody's Servant."
6.5 p.m.—Talk on "Socrates and Plato."
6.40 p.m.—Introductory Talk to the following Transmission.
7.0 p.m.—**Concert,** relayed from the Singing Academy. 1. String Quartet, No. 4 (Hindemith). 2. Sonata for Pianoforte No. 4. (Jarnach). 3. Three Rhapsodies for Violin and Pianoforte (Jarnach). 4. Two Suites for Pianoforte (Krenek). 5. O Lacrymosa—Song with Harp and Wind Instrument Accompaniment (Krenek). 6. String Quartet No. 3 (Krenek).
9.15 p.m.—News and Weather.
9.30 p.m.—**Concert.** 1. "Flotte Bursche"—Overture (Suppé). 2. Soprano Solos. 3. Potpourri from "The Count of Luxembourg" (Lehár). 4. Soprano Solos. 5. Boston (Kollo). 6. Soprano Songs (Jones and Strauss). 7. March (Herzer).
10.30 p.m. (approx.).—Close Down.

BRESLAU. Schlesische Funkstunde. *WL.* 322.6 m. (930 kc); 4 kw.
Transmits at intervals from 10.30 a.m.
6.30 p.m.—Economics Talk.
7.10 p.m.—Hermann Stehr Reading.
8.0 p.m.—"**Toby**" and "**Lohengrin**"—Humorous Sketches (Goetz). Followed by Theatre Talk.
9.30 p.m.—Gramophone Concert.

FRANKFURT-am-MAIN. Südwestdeutscher Rundfunk. *WL.* 428.6 m. (700 kc); 4 kw.
Transmits at intervals from 10.55a.m.
6.0 p.m.—Shorthand Lesson.
6.25 p.m.—Finance Notes.
6.30 p.m.—Chess Lesson.
7.0 p.m.—Natural Science Talk.
7.15 p.m.—**Chamber Music.** 1. String Quartet op. 135 (Beethoven). 2. String Quartet (Wladimir Vogel).
8.15 p.m.—**Rinkens Evening,** relayed from **Cassel** (272.7 m.; 1,100 kc). 1. Pianoforte Music op. 43. 2. Three songs for Baritone. 3. Theme and variations, op. 38 for trio. 4. German Suite for Pianoforte. 5. Two songs for Baritone. 6. Trio.
9.15 p.m. (approx.).—Silent Night.

HAMBURG. Norag (ha, in Morse). *WL.* 396 m. (757 kc); 4 kw.
Transmits at intervals from 5.55 a.m.
6.0 p.m.—Talk, "The Lower Saxon Dialect."
6.55 p.m.—Weather.
7.0 p.m.—**Instrumental Concert.** 1. Wanderlieder March (Lindemann). 2. Ein Walzerabend bei Suppé (Thiele). 3. (*a*) Zwergparade (Ernst); (*b*) Auf der Alm (Löffelmeier). 4. Comedy Overture (Leler-Bela). 5. Ganz allerliebst—Waltz (Waldteufel). 6. Grossmütterchen erzählt (Pörschmann). 7. (*a*) Immer Nobel—Polka (Fischer); (*b*) Hochzeitsreigen—Waltz (Schricker). 8. (*a*) Der Negers Traum (Middleton); (*b*) Christnachtspuk im Spielwarenladen (Kanter). 9. (*a*) Aufzug der Stadtwache (Jessel); (*b*) Florentiner March (Fucik). 10. (*a*) Serare Invernale (Sartori); (*b*) March (Tichy).
9.30 p.m. (approx.)—**Concert** from Café Continental, **Hanover** and News.
10.30 p.m.—**Dance Music.**
11.30 p.m. (approx.).—Close Down.

LANGENBERG. Westdeutscher Rundfunk. *WL.* 470 m. (738 kc); 25 kw.
Transmits at intervals from 9.30 a.m.
Programme also relayed by **Muenster** on 241.9 m. (1240 kc).
6.15 p.m.—Recitations from **Cologne.**
6.45 p.m.—Talk on "Phosphorescent Animals" from **Cologne.**
7.15 p.m.—**Symphony Concert** from **Cologne**: 1. Symphonic Variations on a Children's Song (Hausegger). 2. Variations and Fugue on a Theme by Bach (Reger-Pillney). 3. Symphonic Variations on an Original Theme (Elgar). Followed by Sports Notes and Music from **Cologne.**
11.0 p.m. (approx.)—Close Down.

LEIPZIG. Mitteldeutscher Rundfunk. *WL.* 366.3 m. (818 kc); 4 kw.
Transmits at intervals from 9 a.m.
5.30 p.m.—Elementary French Lesson. Relayed from **Koenigswusterhausen.**
6.0 p.m.—Talk, "Short Stories and Novels."
6.30 p.m.—"Porcelain and Plastic."
7.0 p.m.—Weather, Time, and Labour Exchange Notes.
7.15 p.m.—**Concert** from works of Mozart.
9.0 p.m.—News.
9.15 p.m.—**Cabaret Concert.**

MUNICH. Deutsche Stunde in Bayern. *WL.* 535.7 m. (560 kc); 4 kw.
Transmits at intervals from 10.45 a.m.
6.15 p.m.—Irene Triesch Recital.
7.0 p.m.—**Orchestral Concert.**
9.5 p.m.—News.
9.20 p.m.—Relay of Other Stations with Technical Explanations.
10.0 p.m. (approx.).—Close Down.

STUTTGART. Südwestdeutscher Rundfunk. *WL.* 380.7 m. (788 kc); 4 kw.
Transmits at intervals from 11.30a.m.
5.45 p.m.—Talk, "Why Should You Train for a Career?"
6.15 p.m.—**English Lesson.**
6.45 p.m.—Time and Weather.
7.0 p.m.—"**The Queen of the Air**"—Operetta (Schwartz), followed by News.

HOLLAND

HILVERSUM. Algemeene Nederlandsche Radio-Omroep. *WL.* 1,060 m. (283 kc); 5 kw.
11.40 a.m.—Police News.
12.15 p.m.—**Trio Concert.**
5.10 p.m.—**Concert.** 1. "Egmont"—Overture (Beethoven). 2. Ballet Music from "Rosamunde" (Schubert). 3. Bass Solos: (*a*) Recitative and Aria from "The Seasons" (Haydn), (*b*) Aria from "St. Paul" (Mendelssohn). 4. Romance—Violin Solo (Beethoven). 5. Bass Solos: (*a*) Das Wirtshaus (Schubert), (*b*) tränenregen (Schubert), (*c*) O liebliche Wangen (Brahms). 6. Waltz (Brahms). 7. A Dutch Country Wedding (Scouten). 8. Valse phantastique (Heinecke). 9. Lustige Brüder (Volstedt).
6.55 p.m.—Talk.
7.25 p.m.—Police News.
7.50 p.m.—Programme arranged by the VPRO.
9.10 p.m.—**Concert** by English Artistes. 1. Songs (Vaughan Williams) by **Arthur Cranmer** (Baritone). 2. Folk Songs of the Hebrides by **Astra Desmond** (Contralto). 3. "England's Helicon"—Elizabethan Poems for Vocal Quartet and Pianoforte. 4. English Songs by **Elsie Suddaby** (Soprano). 5. English Folk Songs (Vaughan Williams) by **Stuart Wilson** (Tenor).
10.40 p.m. (approx.).—Close Down.

HUIZEN. *WL.* 1840 m. (163 kc); 4 kw. (until 7 p.m.)
Transmits from 7 p.m. on 1950 m. (154 kc).
12.10 p.m.—**Trio Concert.**
4.55 p.m.—Children's Corner.
6.40 p.m.—Lesson.
7.10 p.m.—Talk.
7.40 p.m.—**Concert**: Songs, Instrumental Music and Talks.

HUNGARY

BUDAPEST. Magyar Radio Ujsag. *WL.* 555.6 m. (540 kc); 2 kw.
Transmits at intervals from 8.30 a.m.
6.0 p.m.—Dialogue in Dialect.
7.45 p.m.—Time and News.
8.0 p.m.—**Pianoforte Quartet Recital.** 1. Quartet in A Major (Brahms). 2. Quartet in B Minor (Mendelssohn).
10.0 p.m.—**Dance Music** from the Hotel Ritz.

ITALY

MILAN. Unione Radiofonica Italiana (1MI). *WL.* 317 m. (946 kc); 7 kw.
Transmits at intervals from 11.15a.m.
7.45 p.m.—Time.
7.47 p.m.—**Relay of an Operetta.** News.

NAPLES. Unione Radiofonica Italiana (1NA). *WL.* 334 m. (898 kc); 1.5 kw.
Transmits at intervals from 12 noon.
7.55 p.m.—News.
7.58 p.m.—Harbour Notes.
8.0 p.m.—"**Norma**"—Opera (Bellini). In the interval: Time.

ROME. Unione Radiofonica Italiana (1RO). *WL.* 450 m. (666 kc); 3 kw.
Transmits at intervals from 12 noon.
7.20 p.m.—German Lesson.
7.30 p.m.—Time, News, Exchange and Weather.
7.40 p.m.—**Vocal and Instrumental Concert.** 1. Scènes Napolitaines (Massenet). 2. William Ratcliff—Selections (Mascagni). 3. Topical Review. 4. "Faust"—Selection (Gounod). 5. Concerto in G Minor (Bruch). 6. **Talk,** "Old Roman Wards—the "Trastevere." 7. Gavotte (Martini). 8. Rondo in the Hungarian Style (Haydn). 9. "I Puritani"—Selections (Bellini). 10. Marche Héroique (Vittadini). News.

NORWAY

BERGEN. Kringkastingselskap. *WL.* 370.4 m. (810 kc); 1.5 kw.
Transmits at intervals from 10.15a.m.
6.0 p.m.—Bible Hour.
7.0 p.m.—Talk, "The Treatment of Milk."
7.30 p.m.—**The Wireless Orchestra.** 1. Valse Caprice (Rubinstein). 2. Prelude (Rachmaninoff).
7.40 p.m.—Physics Talk.
8.10 p.m.—**The Wireless Orchestra.** "Djamileh"—Fantasia (Bizet).
8.30 p.m.—French Lesson.
9.0 p.m.—Weather, News and Time.
9.15 p.m. (approx.).—Close Down.

OSLO. Kringkastingselskapet. *WL.* 461.5 m. (650 kc); 1.5 kw.
Programme relayed by **Hamar** on 566 m. (530 kc); **Porsgrund,** 504 m. (594.5 kc); **Fredriksstad,** 434.8 m. (690 kc); **Notodden,** 423 m. (709 kc); and **Rjukan,** 448 m. (670 kc).
Transmits at intervals from 10.10a.m.
5.40 p.m.—Elementary French Lesson
6.15 p.m.—News.
6.30 p.m.—Talk for Boys.
7.0 p.m.—Time.
7.1 p.m.—Agricultural Talk.
7.30 p.m.—Talk on "Modern Literature."
8.0 p.m.—**Orchestral Concert.** 1. "La Dame Blanche"—Overture (Boieldieu). 2. Selection from "The Little Dutch Girl" (Kalman) 3. Dreams (d'Ambrosio.) 4. Love Dream after the Ball (Czibulka). 5. Prelude (Järnefeldt). 6. Barbarina (Lindsay-Theimer).
9.0 p.m.—News and Weather.
9.15 p.m.—**Song Recital.**
9.45 p.m.—**Dance Music.**
11.0 p.m. (approx.).—Close Down.

POLAND

CRACOW. Polskie-Radio. *WL.* 500 m. (600 kc); 1.5 kw.
Transmits at intervals from 11.0 a.m.
6.0 p.m.—Agricultural Report.
6.15 p.m.—Variety.
6.35 p.m.—Talk, "The Poles in Java."
7.0 p.m.—News.
7.30 p.m.—**Concert** of French Music.
9.0 p.m.—Programme from **Warsaw.**
9.30 p.m.—**Concert** from the Pavillon Restaurant.
10.30 p.m. (approx.).—Close Down.

WARSAW. Polskie Radio. *WL.* 1,111.1 m. (270 kc.); 10 kw.
Transmits at intervals from 11.0 a.m.
6.0 p.m.—Agricultural Report.
6.15 p.m.—Variety.
6.35 p.m.—Agricultural Talk.
7.30 p.m.—"**La Bayadere**"—Operetta (Kalman). News in French in the Interval.
9.0 p.m.—Time and Weather.
9.30 p.m.—**Dance Music.**
10.30 p.m. (approx.).—Close Down.

SPAIN

BARCELONA. Radio Barcelona (EAJ1). *WL.* 343.2 m. (874 kc); 2 kw.
Transmits at intervals from 11.0 a.m.
8.30 p.m.—Castilian Grammar Lesson.
9.0 p.m.—Chimes and Weather.
9.5 p.m.—Exchange and News.
9.10 p.m.—**Quintet Selections.**
9.30 p.m.—Astronomy Talk.
9.45 p.m.—**Quintet Selections.**
10.0 p.m.—Exchange Closing Prices.
10.30 p.m.—**Guitar Music.** 1. Andante (Haydn). 2. Minuet in F (Ferrer). 3. Gavotte (Tarrega). 4. Marche Funèbre (Sor). 5. Etude (Nogues Pon).
11.0 p.m. (approx.)—Close Down.

MADRID. Union Radio (EAJ7). *WL.* 373 m. (804 kc); 3 kw.
Transmits at intervals from 11.45a.m.
7.0 p.m.—**Orchestral Selections.** 1. El molinero de Subiza—Selection (Oudrid). 2. "Sapho"—Selection (Massenet). 3. "La Indiana"—Selection (del Valle). 4. "Mireille"—Selection (Gounod). Interlude by Luis Medina.
9.30 p.m.—History Talk.
10.0 p.m.—Time and Exchange.
10.10 p.m. (approx.)—**Popular Concert**—Selections from Operetta and Musical Plays. News.
12.30 a.m. (Thursday), approx.—Close Down.

SWEDEN

STOCKHOLM. Radiotjänst (SASA). *WL.* 454.5 m. (660 kc); 1.5 kw.
Programme relayed by **Motala** 1,320 m. (227 kc); **Goteborg** 416.7 m. (720 kc); **Malmo,** 260.9 m. (1,150 kc); and **Sundsvall,** 545.6 m. (550 kc).
Transmits at intervals from 11.35a.m.
6.15 p.m.—German Lesson.
6.45 p.m.—**Symphony Concert.**
8.40 p.m.—**Dance Music** from the Grand Hotel Royal.
11.0 p.m. (approx.).—Close Down.

SWITZERLAND

BERN. Radio-Bern. *WL.* 411 m. (730 kc); 1.5 kw.
Transmits at intervals from 12 noon.
6.30 p.m.—Time and Weather.
6.35 p.m.—Talk, "Radium and X Ray Treatment of Cancer."
7.0 p.m.—**Sonata Recital** and Orchestral Selections.
8.50 p.m.—News, Weather and Close Down.

YUGOSLAVIA

ZAGREB. Radioklub-Zagreb. *WL.* 310 m. (967 kc); 0.35 kw.
Transmits at intervals from 12.15p.m.
6.0 p.m.—French Lesson.
6.30 p.m.—Programme from **Prague,** followed by News.

U.S.A.

PITTSBURGH. Westinghouse Electric (KDKA). *WL.* 315.6 m. (950 kc).
3.0 p.m.—**3.30 a.m.** (approx., Thursday).—Programme of Reports, Concerts, and Talk, etc.
Programme relayed on 62.5 m. (4,800 kc) from 11.0 p.m.

SCHENECTADY, N.Y. General Electric Company (WGY). *WL.* 379.5 m. (790 kc); 100 kw.
11.45 a.m. (Wednesday)—**3.45 a.m.** (Thursday).—Programme of Reports, Exercises, Talks and Variety, etc.
Programme relayed by 2XAD on 21.96 m. (13,661 kc) from 11.0 p.m.

PROGRAMMES FOR THURSDAY (December 1)

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

IRELAND

CORK. Cork Broadcasting Station (6CK). *WL.* 400 m. (750 kc); 1.5 kw.
2.30 p.m.—Weather, Stock Market Report and Gramophone Selections.
6.30—10.30 p.m.—Programme relayed from **Dublin.**

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DUBLIN. Dublin Broadcasting Station (2RN). *WL.* 319.1 m. (940 kc); 1.5 kw.
Transmits at intervals from 1.30 p.m.
6.15 p.m.—Children's Corner.
7.0 p.m.—Gramophone Records.
7.10 p.m.—Exchange, Market Report and News.
7.30 p.m.—French Lesson by Mlle. Giudicelli.
7.45 p.m.—History Talk, by Seamus MacCathmhaoil.
8.0 p.m.—**Concert** by the Waterford Instrumental Society and Two Vocalists. Interval Talk on "Musical Societies in Ireland," by Harold White.
10.30 p.m.—News, Weather and Close Down.

AUSTRIA

VIENNA. Radio-Wien. *WL.* 578 and 517.2 m. (519 and 580 kc); 0.75 and 5 kw.
Transmits at intervals from 10.0 a.m.
5.45 p.m.—Esperanto Lesson.
6.0 p.m.—Advanced French Lesson.
6.30 p.m.—**Advanced English Lesson.**
7.5 p.m.—Franz Schreker Programme

BELGIUM

BRUSSELS. Radio-Belgique. *WL.* 508.5 m. (590 kc); 1.5 kw.
5.0 p.m.—Children's Corner.
6.0 p.m.—Flemish Lesson.
7.45 p m.—Radio Chronique.
8.15 p.m.—**Orchestral Concert.** 1. "La Belle Galathée"—Overture (Suppé). 2. Song. 3. Dans la Montagne (Fourdrain). 4. Clarinette Selection (Reuschel). 5. Egyptian Ballet (Luigini). 6. Gramophone Records. 7. "Hans the Flute Player"—Selection (Ganne). 8. Romance for Violin (Sitt). 9. Selections from Flemish Literature. 10. Piece in D (Büsser). 11. Dances (Moszkovsky). 12. Suite for 'Cello (Gilson). 13. Suite (Siége). In the interval—Topical Talk.
10.15 p.m.—News.
10.30 p.m. (approx.).—Close Down.

CZECHO-SLOVAKIA

BRUENN. Komarov. *WL.* 441.2 m. (680 kc); 3 kw.
Transmits at intervals from 11.15a.m.
6.0 p.m.—**Concert:** 1. Duet (Haydn). 2. Songs (Wolf). 3. Three Waltzes (Weber). 4. Five Poems (Wagner).
6.30 p.m.—Relay from **Prague.**

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PRAGUE. Strasnice. *WL.* 348.9 m. (860 kc); 5 kw.
Transmits at intervals from 10 a.m.
6.30 p.m.—**Symphony Concert:** 1. Selection (Dvorák). 2. Concerto in A Minor (Dvorák). 3. Symphony in F Major (Fibich).
9.0 p.m—Time and News.

DENMARK

COPENHAGEN. Copenhagen Radio. *WL.* 337 m. (889 kc); 0.7 kw.
Programme relayed by **Kalundborg,** on 1,153.8 m. (260 kc).
Transmits at intervals from 6.30 a.m.
6.0 p.m.—Exchange, News and Time.
6.30 p.m.—Talk. "Protection of Wild Birds."
7.0 p.m.—**Orchestral Concert.**
8.0 p.m.—"**En Student en Jomfru**"—Marionet Comedy (Winther).
8.30 p.m.—News.
8.45 p.m.—Recital of Vocal Duets.
9.30 p.m.—**Dance Music.**
11.0 p.m.—Chimes.
11.30 p.m. (approx.).—Close Down.

FRANCE

PARIS. Ecole Supérieure (FPTT). *WL.* 458 m. (655 kc); 0,5 kw.
Transmits at intervals from 8.0 a.m.
6.0 p.m.—"Le Radio Journal de France."
8.0 p.m.—Esperanto Lesson.
8.30 p.m.—Review of Periodicals.
8.45 p.m.—Legal Talk.
9.0 p.m.—"**Tannhauser**"—Opera Selection (Wagner).

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PARIS. Eiffel Tower (FL). *WL.* 2650 m. (113 kc); 5 kw.
9.26 a.m.—Time Signal.
5.45 p.m.—Le Journal Parlé.
7.10 p.m.—Weather.
7.30 p.m.—**Concert:** 1. Organ Prelude (Bach). 2. Adagio (Beethoven). 3. Two Preludes (Chopin). 4. La Fille aux cheveux de lin (Debussy). 5. Tango (Albeniz). 6. La Ronde qui passe (Netto). 7. Le petit âne blanc (Ibert). 8. Pavane pour une infante defunte (Ravel).
8.30 p.m.—Educational Programme.
10.26 p.m.—Time Signal.

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PARIS. Petit Parisien. *WL.* 340.9 m. (880 kc); 0.5 kw.
9.0 p.m.—**Concert** from the works of Bach. 1. Overture to the Suite in C. 2. Trio in B Minor for two Violins and 'Cello. 3. Suite in B Minor for Flute. 4. Symphony in D Major. 5. Suite in D Major for Trumpet. 6. Concerto in A Minor for Pianoforte and 'Cello. 7. Concerto No. 19 in C Minor. 8. Gavotte in D from the English Suite.

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PARIS. Radio-Paris (CFR). *WL.* 1750 m. (171 kc); 3 kw.
Transmits at intervals from 8.0 a.m.
12.30 p.m.—**Concert.** News in the interval.
1.50 p.m.—Exchange Quotations.
4.30 p.m.—Exchange Quotations.
4.45 p.m.—"**Le Depit amoureux**"—Play (Molière).
7.45 p.m.—Book-keeping Lesson.
8.0 p.m.—Agricultural Report.
8.15 p.m.—Exchange Quotations.
8.20 p.m. (approx.)—Esperanto Talk.
8.30 p.m.—**Concert:** 1. Pianoforte Solos: (*a*) Idylle (Chabrier), (*b*) Ondine (Ravel), (*c*) Seguidilla (Albeniz). 2. "**La Gloire**"—Dramatic Selection (D'Annunzio). 3. "**The Magic Flute**"—Opera Selection (Mozart). News in the interval.

GERMANY

BERLIN. Koenigswusterhausen. *WL.* 1,250 m. (240 kc); 8 kw.
Transmits at intervals from 1.20 p.m.
5.0 p.m.—Talk on "Carl Ferdinand Appun—a German Explorer in Venezuela and Guiana."
5.30 p.m.—Spanish Lesson.
5.55 p.m.—Agricultural Talk.
6.20 p.m.—Talk on "The Folksong."
7.10 p.m.—Programme relayed from **Voxhaus.**

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BERLIN. Voxhaus. *WL.* 483.9 m. (620 kc); 4 kw.
Transmits at intervals from 9.10 a.m.
6.5 p.m.—**English Talk, "The English Newspaper."**
6.30 p.m.—Talk, "The Psychology of the Young."
7.10 p.m.—**Concert in Honour of General von Steuben.** 1. Talk. 2. Recitation, "The German Song" (Schurz). 3. "The German Song," for Chorus. 4. Talk. 5. Talk on "General von Steuben," by Professor Schrieber of Yale University, U.S.A. 6. Recitation, Kein Baum gehörte mir in deinen Wäldern (Krez). 7. Talk. 8. Two Choral Selections.
9.15 p.m.—News and Weather.
9.30 p.m.—**Dance Music.**
10.30 p.m. (approx.)—Close Down.

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BRESLAU. Schlesische Funkstunde. *WL.* 322.6 m. (930 kc); 4 kw.
Transmits at intervals from 10.15a.m.
6.20 p.m.—Reading from "Robinson Crusoe" (Defoe).
6.50 p.m.—Topical Talk.
7.15 p.m.—Pianoforte Recital from the Works of Walter Niemann.
8.15 p.m.—Recitations. Followed by Answers to Correspondents.
9.30 p.m.—Dancing Lesson—The Tango.
10.30 p.m. (approx.)—Close Down.

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FRANKFURT-am-MAIN. Südwestdeutscher Rundfunk. *WL.* 428.6 m. (700 kc); 4 kw.
Transmits at intervals from 10.55a.m.
6.10 p.m.—Talk on Economics.
8.15 p.m.—Literary Talk.
6.45 p.m.—Transmission arranged by the Frankfurter Zeitung.
7.15 p.m.—"**Michael Kramer**"—Drama (Gerhart Hartmann).

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HAMBURG. Norag (ha, in Morse). *WL.* 396 m. (757 kc); 4 kw.
Transmits at intervals from 5.55 a.m.
6.0 p.m.—"Woman's Influence as Incentive to Art."
6.25 p.m.—Talk, "Nervous Indispositions as the Result of Accidents."
6.55 p.m.—Weather.
7.0 p.m.—"**The Forum Laughs**"—Ovid, Martinal, Horace, Juvenal, Petronius and Lucian.
8.0 p.m.—**Request Programme.** 1. (*a*) Per aspera ad astra (Urbach); (*b*) Hoch Heidecksburg (Scherzer). 2. "Euryanthe"—Overture (Weber). 3. Scenes from "Il Trovatore" (Verdi). 4. Selection from "Samson and Delilah" (Saint-Saëns). 5. Goldregen (Waldteufel). 6. Dornröschens Brautfahrt (Rhode). 7. Deutschemeister Regimentsmarsch (Jurek). 8. Der Torgauer—March. 9. "Light Cavalry"—Overture (Suppé). 10. Potpourri from "The Bird Fancier" (Zeller). 11. Mondnacht auf der Alster (Fetras). 12. Die Mühleseim Schwarswald (Eilenberg). 13. Potpourri of Students' Songs (Kuhlmann). 14. (*a*) Der Hohenfriedberger; (*b*) Schleswig-Holstein—March (Funk).
10.0 p.m.—**Dance Music.**
11.30 p.m. (approx.)—Close Down.

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LANGENBERG. Westdeutscher Rundfunk. *WL.* 470 m. (638 kc); 25 kw.
Transmits at intervals from 9.30 a.m.
Programme also relayed by **Muenster** on 241.9 m. (1,240 kc).
6.15 p.m.—Talk on "Russian Culture" from **Cologne.**
7.0 p.m.—**Concert of German Music and Ballads** from **Cologne.** 1. Introductory Talk. 2. Orchestra, Partita in F major (Krieger). 3. Songs by Silcher and Ochsenkuhn. 4. Recitations: (*a*) Die Nibelungen (Miegel), (*b*) Der König in Thule and Heidenröslein (Goethe), (*c*) Der Wirtin Töchterlein (Uhland), (*d*) Pidder Lüng (Liliencron). 5. Songs by Weber, Schubert and Brahms. 6. Recitations (Möricke and Eichendorff). 7. Orchestra, Shepherd's Dance from "Wie Euch gefällt" (Wetzler). 8. Songs. 9. Recitations. 10. Evensong for 'Cello and Orchestra (Schumann). Followed by Sports Notes and Music from **Cologne.**
11.0 p.m. (approx.).—Close Down.

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LEIPZIG. Mitteldeutscher Rundfunk. *WL.* 366.3 m. (818 kc); 4 kw.
Transmits at intervals from 9 a.m.
5.30 p.m.—Advanced Spanish Lesson. Relayed from **Koenigswusterhausen**
6.0 p.m.—Talk, "Agricultural Organisation."
6.30 p.m.—Psychology Talk.
7.0 p.m.—Weather and Time.
7.15 p.m.—**Concert** from works of Leipzig Composers.
8.15 p.m.—**Mandoline Concert.**
9.15 p.m.—Miscellaneous.
9.20 p.m.—News.
9.30 p.m.—Silent Night.

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MUNICH. Deutsche Stunde in Bayern. *WL.* 535.7 m. (560 kc); 4 kw.
Transmits at intervals from 10.45 a.m.
6.30 p.m.—**Orchestral Concert.**
7.30 p.m.—Talk, "Life in the Middle Ages."
8.0 p.m.—**Orchestral Concert.** Symphonie fantastique, Op. 14 (Berlioz)
9.5 p.m.—Announcements and News.
9.15 p.m. (approx.).—Close Down.

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STUTTGART. Südwestdeutscher Rundfunk. *WL.* 380.7 m. (788 kc); 4 kw.
Transmits at intervals from 11.30a.m.
5.45 p.m.—Medical Talk.
6.15 p.m.—Talk, "Theatre and Critic."
6.45 p.m.—Time and Weather.
7.0 p.m.—**Concert** of Alsatian Selections.
8.30 p.m.—**Programme of German Verse and Prose** of the last Century, followed by News.

HOLLAND

HILVERSUM. Algemeene Nederlandsche Radio Omroep. *WL.* 1,060 m. (283 kc); 5 kw.
11.40 a.m.—Police News.
12.15 p.m.—**Trio Concert.**
2.40 p.m.—Programme for Hospitals.
3.40 p.m.—Women's Hour.
5.10 p.m.—**Concert:** 1. "Light Cavalry"—Overture (Suppé). 2. Dream Waltz from "Der Feldprediger" (Millöcker). 3. Selection from "The Little Dutch Girl" (Kalman). 4. Tenor Solos: (*a*) Air from "Mitternachtswalzer" (Stolz), (*b*) Air from "Countess Maritza" (Kalman). 5. Selection from "Der Zarewitsch" (Lehár). 6. Tenor Solos: (*a*) Air from "Paganini" (Lehár), (*b*) Only you—Waltz Song (Lehár). 7. Waltz from "Die Czardasfürstein" (Kalman). 8. March from "The Merry Widow" (Lehár).
6.55 p.m.—**Advanced English Lesson.**
7.25 p.m.—Police News.
7.50 p.m.—**Symphony Concert** from the **Amsterdam Concert Hall:** 1. Pucinella Suite (Stravinsky). 2. Concerto in E Minor for Violin and Orchestra (Mendelssohn). 3. Symphonia Domestica, Op. 53 (Rich. Strauss).
10.10 p.m.—Weather and News.
10.25 p.m. (approx.)—Close Down.

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HUIZEN. *WL.* 1840 m. (163 kc); 4 kw. (until 7 p.m.)
Transmits from 7 p.m. on 1950 m. (154 kc).
12.10 p.m.—**Concert.**
7.25 p.m.—**Concert** of Vocal and Instrumental Music and Talks.

HUNGARY

BUDAPEST. Magyar Radio Ujsag. *WL.* 555.6 m. (540 kc); 2 kw.
Transmits at intervals from 8.30 a.m.
7.0 p.m.—"**Csongor es Tunde**"—Play (Vörösmarty).
9.45 p.m.—Time and News.
10.0 p.m.—Gramophone Records.

ITALY

MILAN. Unione Radiofonica Italiana (1MI). *WL.* 317 m. (946 kc); 7 kw.
Transmits at intervals from 11.15a.m.
7.15 p.m.—Time.
7.47 p.m.—Scientific Talk.
8.0 p.m.—**Concert.** 1. "Sicilian Vespers"—Symphony (Verdi). 2. Military Symphony (Haydn). 3. Talk on and Reading from a chapter of "The Divine Comedy." 4. "Anacreonte"—Overture (Cherubini). 5. Kol Nidrei (Bruch). 6. Romance for Violin and Orchestra (Svendsen). 7. Danse Macabre (Saint-Saëns). 8. News. 9. "Raymond"—Overture (Thomas). 10. An Evening in Tuscany" (Limenta). 11. "The Bartered Bride"—Song (Smetana).
10.0 p.m.—**Dance Music,** relayed from "La Fiaschetteria Toscana."
10.30 p.m. (approx.).—Close Down

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NAPLES. Unione Radiofonica Italiana (1NA). *WL.* 334 m. (898 kc); 1.5 kw.
Transmits at intervals from 12 noon.
7.55 p.m.—News.
7.58 p.m.—Harbour Notes.
8.0 p.m.—**Request Concert.**

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ROME. Unione Radiofonica Italiana (1RO). *WL.* 450 m. (660 kc); 3 kw.
Transmits at intervals from 12 noon.
7.20 p.m.—French Lesson.
7.30 p.m.—Time, News, Exchange and Weather.
7.40 p.m.—**Instrumental Music.** 1. "The Daughter of the Regiment"—Symphony (Donizetti). 2. Nocturne No. 6 (Chopin). 3. Air de Ballet—Scherzo (Moszkovsky). 4. Novelette (Martucci). 5. Andalusian Romance (Sarasate). 6. Moorish Rhapsody (Saint-Saëns). 7. "**A-E-I**"—Short Comedy (Lopez). 8. Wagner Selections. 9. Arabesque (Debussy). 10. Hungarian Rhapsody (Liszt). 11. Review of Books. 12. Selections (Sibelius). 13. Carnival in Rome—Overture (Berlioz). News.

LITHUANIA

KOVNO. Radio-Kaunas. *WL.* 2000 m. (150 kc); 15 kw.
5.0 p.m.—French Talk, "La Musique Lithuanienne."
5.30 p.m.—Talk on "Sport."
6.0 p.m.—Time, Weather and News.
6.30 p.m.—**Concert.**

NORWAY

BERGEN. Kringkastingselskap. *WL.* 370.4 m. (810 kc); 1.5 kw.
Transmits at intervals from 10.15a.m.
7.0 p.m.—**The Wireless Orchestra.**
7.30 p.m.—Talk.
8.0 p.m.—**The Wireless Orchestra.** 1. Swedish Sketches (Torsten). 2. Najada—Intermezzo (Richter).
8.15 p.m.—Recitations.
8.30 p.m.—**Viola Recital.**
9.0 p.m.—Weather, News and Time.
9.15 p.m.—**English Lesson** by Mr. F. L. M. Somerville.
9.30 p.m. (approx.)—Close Down.

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OSLO. Kringkastingselskapet. *WL.* 461.5 m. (650 kc); 1.5 kw.
Programme relayed by **Hamar** on 566 m. (530 kc); **Porsgrund,** 504 m. (594.5 kc); **Fredriksstad,** 434.8 m. (690 kc); **Notodden,** 423 m. (709 kc); and **Rjukan,** 448 m. (670 kc).
Transmits at intervals from 10.10a.m.
5.55 p.m.—Shorthand Lesson.
6.15 p.m.—News.
6.30 p.m.—Elementary German Lesson.
7.0 p.m.—Time.
7.1 p.m.—Talk on "The Norwegian Town—Kragerö."
7.30 p.m.—Recitation and Play.
8.30 p.m.—**Recital** of Norwegian Folk Songs.
9.0 p.m.—News and Weather.
9.15 p.m. (approx.)—Close Down.

POLAND

CRACOW. Polskie Radio. *WL.* 500 m. (600 kc); 1.5 kw.
Transmits at intervals from 11.0 a.m.
7.30 p.m.—Programme from **Warsaw.**
9.30 p.m.—**Concert** from the **Pavilion Restaurant.**
10.30 p.m. (approx.)—Close Down.

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WARSAW. Polskie Radio. *WL.* 1,111.1 m. (270 kc.); 10 kw.
Transmits at intervals from 11.0 a.m.
6.15 p.m.—Variety.
6.35 p.m.—**Elementary English Lesson.**
7.30 p.m.—**Orchestral Concert.** In the Interval: News in French.
9.0 p.m.—Time and Weather.
9.30 p.m. (approx.).—Close Down.

SPAIN

BARCELONA. Radio Barcelona (EAJ1). *WL.* 343.2 m. (874 kc); 2 kw.
Transmits at intervals from 11.0 a m.
8.30 p.m.—Health Report for the Town of Barcelona.
8.40 p.m.—**English Lesson.**
9.0 p.m.—Chimes and Weather.
9.5 p.m.—Exchange and News.
9.10 p.m.—**Opera relay** from "**El Gran Teatro del Liceo.**" In the interval—Exchange Closing Prices.

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MADRID. Union Radio (EAJ7). *WL.* 373 m. (804 kc); 3 kw.
Transmits at intervals from 11.45a.m.
7.0 p.m.—**Orchestral Selections.** 1. "Maria de los Angeles"—Selection (Chapi). 2. "Andrea Chénier"—Selections (Giordano). 3. "Miguel Andres"—Selection. 4. Dinorah"—Selection (Meyerbeer).
9.30 p.m.—French Lesson.
10.0 p.m.—Time and Exchange.
10.10 p.m. (approx.)—**Relay of the Second Act of an Opera** from "El Gran Teatro del Liceo"—**Barcelona,** followed by Talk on the Composer Chapi, with illustrations from his Works. News.
12.30 a.m. (approx., Friday)—Close Down.

SWEDEN

STOCKHOLM. Radiotjänst (SASA). *WL.* 454.5 m. (660 kc); 1.5 kw.
Programme relayed by **Motala,** 1,320 m. (227 kc); **Goteborg,** 416.7 m. (720 kc); **Malmo,** 260.9 m. (1,150 kc); and **Sundsvall,** 545.6 m. (550 kc).
Transmits at intervals from 11.35a.m.
6.15 p.m.—Talk.
6.45 p.m.—**Concert** from **Gavle.**
7.45 p.m.—Meteorological Talk.
8.40 p.m.—**Recital** of Danish Poetry.
9.0 p.m. (approx.).—Close Down.

SWITZERLAND

BERN. Radio-Bern. *WL.* 411 m. (730 kc); 1.5 kw.
Transmits at intervals from 12(noon).
6.35 p.m.—Wireless Talk from **Basle** (1,100 m., 273 kc).
7.0 p.m.—Vocal and Mandolin Concert from **Basle.**
8.20 p.m.—**Orchestral Concert.**
8.50 p.m.—News and Weather.
9.5 p.m.—The Kursaal Ochestra.
9.30 p.m. (approx.)—Close Down.

U.S.A.

PITTSBURGH. Westinghouse Electric (KDKA). *WL.* 315.6 m. (950 kc).
3.0 p.m.—**3.30 a.m.** (approx., Friday)—Programme of Reports and Variety, etc.
Programme relayed on 62.5 m. (4,800 kc) from 11.0 p.m.

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SCHENECTADY, N.Y. General Electric Company (WGY). *WL.* 379.5 m. (790 kc); 100 kw.
11.45 a.m. (Thursday)—**5.30 a.m.** (Friday)—Programme of Exercises, Reports, Talks, Variety and Dance Music, etc.
Programme relayed by 2XAF on 32,77 m. (9,155 kc) from 11.0 p.m.

PROGRAMMES FOR FRIDAY (December 2)

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

IRELAND

CORK. Cork Broadcasting Station (6CK). *WL.* 400 m. (750 kc); 1.5 kw.
2.30 p.m.—Weather, Stock Market Report and Gramophone Selections.
6.30—10.30 p.m. — Programme relayed from **Dublin.**

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DUBLIN. Dublin Broadcasting Station (2RN). *WL.* 319.1 m. (940 kc) 1.5 kw.
Transmits at intervals from 1.30 p.m.
6.15 p.m.—Children's Corner.
7.0 p.m.—Gramophone Records.
7.20 p.m.—Exchange and News.
7.30 p.m.—Talk on Gardening by G. O. Sherrard.
7.45 p.m.—Talk on "Christmas Presents and How to Give Them," by Claire Cooke.
8.0 p.m.—Welsh Instrumental Offerings by the Station Orchestra.
8.15 p.m.—**Welsh Concert** by S. W. Gwynn Williams and Artistes.
9.45 p.m.—"La Neige"—Overture (Auber).
9.50 p.m.—"The Matchmakers." Sketch by Cathal MacGarvey and Company.
10.10 p.m.—Baritone Solos, by P. J. Duffy.
10.25 p.m.—The Station Orchestra.
10.30 p.m.—News, Weather and Close Down.

AUSTRIA

VIENNA. Radio-Wien. *WL.* 578 and 517.2 m. (519 and 580 kc.); 0.75 and 5 kw.
Transmits at intervals from 10.0 a.m.
6.0 p.m.—Elementary Italian Lesson.
6.30 p.m.—Talk, "Skin Diseases and the Healthy Functioning of the Skin."
7.0 p.m.—**English Literature Lesson.**
7.30 p.m.—**Chamber Music.** 1. String Quartet in D major, Op. 20 (Glière). 2. String Quartet in D major, Op. 11 (Tchaikovsky).

BELGIUM

BRUSSELS. Radio Belgique. *WL.* 508.5 m. (590 kc); 1.5 kw.
5.0 p.m.—Trio Music.
6.0 p.m.—Esperanto Lesson.
7.45 p.m.—Radio Chronique.
8.15 p.m.—"**The Daughter of the Regiment**" — Opera Selection (Donizetti).
10.15 p.m.—News.
10.30 p.m. (approx.)—Close Down.

CZECHO-SLOVAKIA

BRUENN. Komarov. *WL.* 441.2 m. (680 kc.); 3 kw.
Transmits at intervals from 11.15a.m.
6.0 p.m.—**Concert.**
6.40 p.m.—**English Lesson.**
7.0 p.m.—Songs.
7.30 p.m.—Recitations.
8.0 p.m.—**Concert** of Modern Music.
9.0 p.m.—Relay from **Prague.**

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PRAGUE. Strasnice. *WL.* 348.9 m. (860 kc.); 5 kw.
Transmits at intervals from 10.0 a.m.
6.45 p.m.—Talk.
7.0 p.m. — Weather, News and **Popular Concert.**
8.0 p.m.—**Tambourin Music.**
8.30 p.m.—**A Short Comedy.**
9.0 p.m.—Time, News and **Orchestral Selections.**

DENMARK

COPENHAGEN. Copenhagen Radio. *WL.* 337 m. (889 kc); 0.7 kw.
Programme relayed by **Kalundborg,** on 1,153.8 m. (260 kc).
Transmits at intervals from 6.30 a.m.
6.0 p.m.—Exchange, News and Time.
6.30 p.m.—Talk on "Horse Breeding in Denmark."
7.0 p.m.—Time.
7.2 p.m.—"**Gamle Melodier.**" Play (Nielsen-Weyse).
9.45 p.m.—News and Close Down.

FRANCE

PARIS. Ecole Supérieure (FPTT). *WL.* 458 m. (655 kc); 0.5 kw.
Transmits at intervals from 8.0 a.m.
6.0 p.m.—"Le Radio Journal de France."
8.0 p.m.—Spanish Lesson.
8.30 p.m.—Education Talk.
9.0 p.m.—**Concert,** followed by News, Time and Weather.

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PARIS. Eiffel Tower (FL). *WL.* 2,650 m. (113 kc); 5 kw.
9.26 a.m.—Time Signal.
5.45 p.m.—Le Journal Parlé.
7.10 p.m.—Weather.
7.20 p.m.—**Orchestral and Vocal Concert.**
8.30 p.m.—Educational Programme.
10.26 p.m.—Time Signal.

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PARIS. Radio-Paris (CFR). *WL.* 1750 m. (171 kc); 3 kw.
Transmits at intervals from 8.0 a.m.
12.30 p.m.—**Concert**: 1. The Two of Us—Foxtrot (Phillips). 2. "Le Mariage de Figaro"—Overture (Mozart). 3. (*a*) Canzonetta (D'Ambrosio), (*b*) En Badinant (D'Ambrosio). 4. Songs: (*a*) Air from "Zerline" (Mozart), (*b*) Triste est la steppe (Gretchaninov). 5. Tambourin—Violin Solo (Leclair). 6. The Jupiter Symphony (Mozart). 7. Adagio for 'Cello (Tattini). 8. Tendre poème (Deleau). 9. Finale from the Sonata for Violin (Grieg). 10. Mélodie Symphonique (Bouter). 11. The British Patrol (Asch). News in the interval.
1.50 p.m.—Exchange Quotations.
4.30 p.m.—Exchange Quotations.
4.45 p.m.—**Literary and Musical Programme**: 1. Adoration (Filipucci). 2. "A Poet—Fagus" by M. Maurice Landeau. 3. Poems by Fagus. 4. Songs: (*a*) Phidylé (Duparc), (*b*) Salammbo (Reyer). 5. Scene from "**Ronsard, epoux des nymphes**" (Feret). 6. Menuet gothique (Boellmann).
7.45 p.m.—**Elementary English Lesson**
8.0 p.m.—Agricultural Report.
8.15 p.m.—Exchange and News.
8.30 p.m.—**Concert**: 1. "**L'Avare**" (Molière). 2. "**Le Mariage Secret**" (Cimarosa). News in the interval.

GERMANY

BERLIN. Koenigswusterhausen. *WL.* 1,250 m. (240 kc); 8 kw.
Transmits at intervals from 1.20 p.m.
5.30 p.m.—**English Lesson.**
5.55 p.m.—Talk on "Coal."
6.20 p.m.—Talk for Physicians.
7.15 p.m.—Programme relayed from **Leipzig.**
9.0 p.m.—Programme relayed from **Voxhaus.**

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BERLIN. Voxhaus. *WL.* 483.9 m. (620 kc.); 4 kw.
Transmits at intervals from 9.10 a.m.
6.5 p.m.—Italian Lesson.
6.30 p.m. — Talk on "Johann Strauss."
7.0 p.m.—Talk on "American Industrial Methods."
7.30 p.m.—Talk.
8.0 p.m.—**Orchestral Concert.** 1. Symphony in D major (Ph. E. Bach). 2. Ballet Suite (Grétry-Mottl). 3. Concerto for Three Violins (Vivaldi). 4. Symphony 12, Op. 5, No. 2 (Stamitz).
9.15 p.m.—News and Weather.
9.30 p.m.—**Orchestral Concert.** 1. Japanese Sunset (Doppler). 2. Pas des Echarpes (Chaminade). 3. Tango (Delfino). 4. Africa (Profés). 5. Selection (Bryan). 6. Tango (Fusella). 7. Liebesklänge (Williams). 8. Selection. 9. Tango (Benza). 10. The Vagabond (Friml). 11. Mongolian Foxtrot (Polla).
10.30 p.m. (approx.).—Close Down.

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BRESLAU. Schlesische Funkstunde. *WL.* 322.6 m. (930 kc); 4 kw.
Transmits at intervals from 10.15a.m.
6.20 p.m.—Interview with Wilhelm von Scholz—President of the Academy of Literature.
6.35 p.m.—Talk, "The Fate of a Christmas Parcel," by Oberpostinspektor Majowsky.
7.15 p.m.—Orchestral Music.
8.15 p.m.—Quartet Selections from the Works of Kehldorfer, relayed from **Gleiwitz** (250 m.; 1,200 kc). Followed by Esperanto Talk.
9.30 p.m.—Gramophone Concert.

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FRANKFURT-am-MAIN. Südwestdeutscher Rundfunk. *WL.* 428.6 m. (700 kc); 4 kw.
Transmits at intervals from10.55 a.m.
6.0 p.m.—Wireless Club News.
6.30 p.m.—Science and Technology.
6.50 p.m.—Film Notes.
7.0 p.m.—**Concert** by the Museum Society, followed by **Concert,** relayed from **Cassel** (272.7 m.; 1,100 kc).

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HAMBURG. Norag (ha, in Morse). *WL.* 396 m. (757 kc.); 4 kw.
Transmits at intervals from 5.55a.m.
5.30 p.m. — **Elementary English Lesson,** relayed from **Koenigswusterhausen.**
6.0 p.m.—Orchestral Music.
6.25 p.m.—Talk, "Woman in Agricultural Undertakings."
6.55 p.m.—Weather.
7.0 p.m.—"**Kramer Krev**"—Dialect Comedy (Hermann Bossdorf), followed by Topical Talk, News and **Concert** from Café Deutschland, **Altona.**
10.30 p.m.—**Dance Music.**
11.30 p.m. (approx.).—Close Down.

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LANGENBERG. Westdeutscher Rundfunk. *WL.* 470 m. (638 kc); 25 kw.
Transmits at intervals from 9.30 a.m.
Programme also relayed by **Muenster** on 241.9 m. (1,240 kc).
6.15 p.m.—**English Lesson** from **Cologne.**
6.50 p.m.—Introductory Talk to the Following Transmission from **Essen.**
7.0 p.m. — "**Idomenus**" — Opera (Mozart), from the Municipal Theatre, **Essen.**
9.20 p.m. (approx.).—Sports Notes and Dance Music from **Cologne.**
11.0 p.m. (approx.).—Close Down.

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LEIPZIG. Mitteldeutscher Rundfunk. *WL.* 366.3 m. (818 kc); 4 kw.
Transmits at intervals from 9 a.m.
5.30 p.m.—**Elementary English Lesson.** Relayed from **Koenigswusterhausen.**
6.0 p.m.—Talk, "The Structure and Care of the Ear."
7.0 p.m.—Time and Weather.
7.15 p.m.—**Symphony Concert.**
9.0 p.m.—News.
9.15 p.m.—Dancing Lesson.
9.30 p.m.—**Dance Music.**
11.0 p.m. (approx.).—Close Down.

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MUNICH. Deutsche Stunde in Bayern. *WL.* 535.7 m. (560 kc); 4 kw.
Transmits at intervals from 10.45a.m.
5.15 p.m.—Talk, "What is a Cheque?"
5.30 p.m.—Sports Review.
5.45 p.m.—Talk on the following Opera.
6.0 p.m.—"**The Magic Flute**"—Opera (Mozart).
8.45 p.m.—Wireless News.
9.0 p.m.—News.
9.15 p.m.—Review of Christmas Literature.
9.30 p.m. (approx.)—Close Down.

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STUTTGART. Südwestdeutscher Rundfunk. *WL.* 380.7 m. (788 kc); 4 kw.
Transmits at intervals from 11.30a.m.
6.15 p.m.—Esperanto Talk on forthcoming events, followed by Time and Weather.
7.0 p.m.—**Friday Concert** of the Frankfurt Museum Society, followed by News and Silent Night.

HOLLAND

HILVERSUM. Algemeene Nederlandsche Radio Omroep. *WL.* 1,060 m. (283 kc.); 5 kw.
11.40 a.m.—Police News.
12.15 p.m.—**Trio Concert.**
5.10 p.m.—**Concert.** 1. "Le roi d'Yvetot"—Overture (Adam). 2. Ballet Music from "La Source" (Delibes). 3. Baritone Solos: (*a*) Air from "Henry VIII" (Saint-Saëns), (*b*) Le beau rêve (Flégier). 4. Selection from "Mignon" (Thomas). 5. Baritone Solos: (*a*) Air from "Benvenuto" (Diaz), (*b*) On Primavera (Tirandelli). 6. Serenata—Violin Solo (Clément). 7. Espana—Waltz (Chabrier). 8. Largo (Handel). 9. In Adam's Paradise—Medley (Urbach).
6.55 p.m.—Agricultural Talk.
7.25 p.m.—Police News.
7.50 p.m.—Talk on "Inland Navigation."
8.15 p.m.—**Chamber Music.** 1. String Quartet in F major (Giardini). 2. Rispetti e Trambotti (Malipiero). 3. String Quartet in C major (Boccherini).
9.40 p.m. (In the interval).—Weather and News.
10.10 p.m.—Programme by the N.O.V.

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HUIZEN. *WL.* 1840 m. (163 kc); 4 kw. (until 7 p.m.)
Transmits from 7 p.m. on 1950 m. (154 kc).
12.10 p.m.—**Trio Concert.**
2.40 p.m.—Programme for Women.
3.40 p.m.—Gramophone Selections.
4.40 p.m.—Talk.
5.40 p.m.—Gramophone Selections,
6.5 p.m.—Talk, "The History of the Church."
7.10 p.m.—**Concert,** followed by News.

HUNGARY

BUDAPEST. Magyar Radio Ujsag. *WL.* 555.6 m. (540 kc.); 2 kw.
Transmits at intervals from 8.30 a.m.
6.0 p.m.—Programme relayed from the Royal Hungarian Opera House.
9.10 p.m.—Time and News.
9.30 p.m.—**Concert** of Gipsy Music.

ITALY

MILAN. Unione Radiofonica Italiana (1MI). *WL.* 317 m. (946 kc.); 7 kw.
Transmits at intervals from 11.15a.m.
7.45 p.m.—Time.
7.47 p.m.—**Variety Concert.** 1. "Maritana"—Overture (Wallace). 2. Delysia (Beethoven). 3. Pianoforte Solo. 4. Tenor Songs (Brogi and Macagni). 5. Reading. 6. "Mephistopheles" — Selection (Boito). 7. Pianoforte Solo. 8. (*a*) In Sogno (Catalani), (*b*) Il fabbro (Longo). 9. News. 10. "Lucia di Lammermoor" — Tenor Song (Donizetti). 11. "Il Trovatore"—Baritone Song (Verdi). 12. Hungarian Dances Nos. 3 and 6 (Brahms).
10.0 p.m.—**Dance Music,** relayed from "La Fiaschetteria Toscana."
10.30 p.m. (approx.).—Close Down.

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NAPLES. Unione Radiofonica Italiana (1NA). *WL.* 334 m. (898 kc); 1.5 kw.
Transmits at intervals from 12 noon.
7.55 p.m.—News.
7.58 p.m.—Harbour Notes.
8.0 p.m.—"**Mephistopheles**"—Opera (Boito). In the interval: Time.

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ROME. Unione Radiofonica Italiana (1RO). *WL.* 450 m. (666 kc.); 3 kw.
Transmits at intervals from 12.0 noon
7.20 p.m.—**English Lesson.**
7.30 p.m.—Time, News, Exchange and Weather.
7.40 p.m.—**Concert** of Light Music. 1. The Eagle of Italy—March (Malzezzi). 2. Nel Giappone (Ganne). 3. Serenate gelata (Buzzi-Peccia). 4. Baritone Song (Frontini). 5. Tango (Casella). 6. Notti Algerine (Gregh). 7. Scugnizza—Selections (Costa). 8. Zingaresca—Duet (Rulli). 9. "A Waltz Dream" (Strauss). 10. **Humorous Monologue.** 11. Tango Blu (Bonovolonta). 12. Selection (Travisi). 13. Nulla diro (Candiolo). 14. Fandango (Aguado). 15. Tarantelle (Mertz). 16. Tenor Song (Lugelli). 17. Rita la bella Fioraia (Raimondi). 18. Serenade (Lattuada). 19. Jazz Music (Escobar). 20. Selection (Granichstaedchen). 21. Soprano Song (Rulli). News.

NORWAY

BERGEN. Kringkastingselskap. *WL.* 370.4 m. (810 kc.); 1.5 kw.
Transmits at intervals from 10.15a.m.
6.30 p.m.—Wireless Talk.
7.0 p.m.—Pianoforte Selection.
7.40 p.m.—Talk, "A few words about Classical Music."
8.0 p.m.—**The Wireless Orchestra.** 1. "Si j'étais roi"—Overture (Adam). 2. Der Stier von Olivera—Fantasia (d'Albert).
8.30 p.m. — Talk, "The King's Mirror."
9.0 p.m.—Weather, News and Time.
9.15 p.m.—**English Lesson** by Mr. F. L. M. Somerville.
9.30 p.m. (approx.).—Close Down.

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OSLO. Kringkastingselskapet. *WL.* 461.5 m. (650 kc.); 1.5 kw.
Programme relayed by **Hamar** on 566 m. (530 kc.); **Porsgrund,** 504 m. (594.5 kc.); **Fredriksstad,** 434.8 m. (690 kc.); **Notodden,** 423 m. (709 kc.); and **Rjukan,** 448 m. (670 kc.)
Transmits at intervals from 9.0 a.m.
5.40 p.m. — Elementary French Lesson.
6.15 p.m.—News.
6.30 p.m. — **Elementary English Lesson.**
7.0 p.m.—Time.
7.2 p.m.—**Symphony Concert** from the Works of Beethoven. 1. "Prometheus"—Overture. 2. Concerto in E flat major. 3. The Seventh Symphony.
8.30 p.m.—Talk.
9.0 p.m.—Weather and News.
9.15 p.m.—**Song Recital.**
9.45 p.m. (approx.).—Close Down.

POLAND

CRACOW. Polskie-Radio. *WL.* 500 m. (600 kc); 1.5 kw.
Transmits at intervals from 11.0 a.m.
6.0 p.m.—Agricultural Report.
6.15 p.m.—Variety.
6.35 p.m.—Talk.
7.0 p.m.—News.
7.15 p.m.—Programme from **Warsaw.**

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WARSAW. Polskie Radio. *WL.* 1,111.1 m. (270 kc.); 10 kw.
Transmits at intervals from 11.0 a.m.
6.0 p.m.—Agricultural Report.
6.15 p.m.—Variety.
6.30 p.m. — Talk on "The Educational Importance of Sport."
6.55 p.m.—Talk on "The History of Music."
7.15 p.m.—**Symphony Concert** from the Philharmonie de Varsovie. In the Interval: News in French.
9.0 p.m.—Time and Weather.
9.30 p.m. (approx.).—Close Down.

SPAIN

BARCELONA. Radio Barcelona (EAJ1). *WL.* 343.2 m. (874 kc); 2 kw.
Transmits at intervals from 11.0 a.m.
8.30 p.m.—**Elementary Music Lesson.**
9.0 p.m.—Chimes and Weather.
9.5 p.m.—Exchange and News.
9.10 p.m.—**Quintet Selections.**
9.30 p.m. — "**Carmen**" — Opera (Bizet). In the interval—Exchange Closing Prices.

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MADRID. Union Radio (EAJ7). *WL.* 373 m. (804 kc.); 3 kw.
Transmits at intervals from 11.45a.m.
7.0 p.m.—**Chamber Music.** 1. Quartet No. 22 (Mozart). 2. Italian Songs by Mary Mariny. 3. Trio No. 18 in E minor (Haydn). 4. Songs.
9.30 p.m.—French Lesson.
9.45 p.m.—Lesson in Practical Law.
10.0 p.m.—Time and Exchange.
10.10 p.m.—**Popular Concert** from the Works of Wagner. 1. "Parsifal" — Prelude. 2. "Lohengrin" — Legend of the Grail. 3. Soprano Song from "Lohengrin." 4. Duet from "Lohengrin." 5. "Siegfried"—Forest Murmurs. 6. "The Valkyrie"—Incantation and Ride of the Valkyries, Spring Song, Wotan's Farewell, and Battle Cry. 7. "Tristan and Isolde"—Prelude and Minuet. 8. Duet from "Tristan and Isolde." 9. "Lohengrin"—Song. 10. "Rienzi"—Overture. News.
12.30 a.m. (Saturday, approx.).—Close Down.

SWEDEN

STOCKHOLM. Radiotjänst (SASA). *WL.* 454.5 m. (660 kc); 1.5 kw.
Programme relayed by **Motala,** 1,320 m. (227 kc); **Goteborg,** 416.7 m. (720 kc); **Malmo,** 260.9 m. (1,150 kc); and **Sundsvall,** 545.6 m. (550 kc).
Transmits at intervals from 11.35a.m.
6.15 p.m.—**Advanced English Lesson.**
6.45 p.m.—**Concert.**
8.40 p.m.—Relay of Foreign Stations.
11.0 p.m. (approx.).—Close Down.

SWITZERLAND

BERN. Radio-Bern. *WL.* 411 m. (730 kc); 1.5 kw.
Transmits at intervals from 12 noon.
6.30 p.m.—Time and Weather.
6.35 p.m.—Music Review.
7.0 p.m.—Wireless Talk.
7.20 p.m.—**Concert** from **Geneva.**
8.20 p.m.—The Kursaal Orchestra.
8.50 p.m.—In the interval—News and Weather.
9.30 p.m. (approx.)—Close Down.

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GENEVA. Radio-Geneva. *WL.* 760 m. (395 kc); 0.5 kw.
5.0 p.m.—Exchange, Time and Weather.
5.5 p.m.—Gramophone Records.
7.15 p.m.—News.
7.20 p.m.—**Vocal and Instrumental Concert.**
8.20 p.m.—Talk on "Celebrated Comediennes—Rachel."
8.35 p.m.—News.

U.S.A.

PITTSBURGH. Westinghouse Electric (KDKA). *WL.* 315.6 m. (950 kc).
3.0 p.m.—**4.30 a.m.** (approx. Saturday).—Programme of Reports, Concerts, Talk, and Dance Music, etc.
Programme relayed on 62.5 m. (4800 kc) from 11.0 p.m.

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SCHENECTADY, N.Y. General Electric Company (WGY). *WL.* 379.5 m. (790 kc); 100 kw.
11.45 a.m. (Friday).—**4.0 a.m.** (Saturday).—Programme of Reports, Exercises, Talks, Variety and a Play, etc.
Programme relayed by 2XAD on 21.96 m. (13,661 kc) from 11.0 p.m.

PROGRAMMES FOR SATURDAY (December 3)

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

IRELAND

CORK. Cork Broadcasting Station (6CK). *WL.* 400 m. (750 kc); 1.5 kw.
2.30 p.m.—Weather, Stock Market Report and Gramophone Selections.
7.20—10.30 p.m.—Programme relayed from **Dublin.**

DUBLIN. Dublin Broadcasting Station (2RN). *WL.* 319.1 m. (940 kc); 1.5 kw.
1.30 p.m.—Weather and Gramophone Records.
7.20 p.m.—News.
7.30 p.m.—Monologues, "The Preternatural in Castleton," by Prof. MacLoughlin.
7.45 p.m.—Irish Talk by Seamus O'Duirinne.
8.0 p.m.—Petite Suite (Debussy).
8.15 p.m.—Idris Daniels (Baritone).
8.30 p.m.—"Dances from Many Lands"—"Suite of Serenaders" (Herbert), by the Augmented Station Orchestra.
8.50 p.m.—Idris Daniels.
9.0 p.m.—Lecture Recital on Irish Music.
9.40 p.m.—"**The Romantic Lover**" (Bernard McCarthy) by the Hilarian Players.
10.10 p.m.—Alice Blair Dunlop (Contralto).
10.20 p.m.—The Augmented Station Orchestra.

AUSTRIA

GRAZ. Oest. Radio-Verkehrs. *WL.* 357.1 m. (840 kc); 0.5 kw.
3.0 p.m.—**Orchestral Concert.**
4.25 p.m.—"**Das einfaltige Bruderlein**"—Play (Blachetta).
5.0 p.m.—Talk.
5.30 p.m.—Shorthand Lesson.
6.0 p.m.—Lesson in Serb-Croatian.
6.45 p.m. (approx.).—Programme from **Vienna.**

VIENNA. Radio-Wien. *WL.* 578 and 517.2 m. (519 and 580 kc.); 0.75 and 5 kw.
10.0 a.m.—Musical Selections.
3.0 p.m.—**Concert.** 1. Entry of the Gladiators—March (Fucik). 2. My Dream—Waltz (Waldteufel). 3. "Der Freischütz"—Overture (Weber). 4. Selection from "Faust" (Gounod). 5. Anna—Valsette (Schieder). 6. Selection from "The Czardas Princess" (Kalman). 7. Ein bitschen Feuer—Tango (Benatzky). 8. Paris—Onestep (Padilla).
4.45 p.m.—Foreign Review.
5.0 p.m.—Stlezhamer Recital.
5.45 p.m.—Talk, "Christmas in the Austrian Alpine Districts."
6.15 p.m.—Talk on "International Law."
6.45 p.m. — "**Die Konigin**" — Operetta (Oscar Strauss), followed by **Dance Music,** from the Hotel Bristol.

BELGIUM

BRUSSELS. Radio Belgique. *WL.* 508.5 m. (590 kc); 1.5 kw.
5.0 p.m.—**Dance Music**
6 0 p.m.—**Elementary English Lesson.**
6 25 p.m.—**Advanced English Lesson.**
7 45 p.m.—Radio Chronique.
8 15 p.m.—**Gala Programme**—dedicated to the Poet Emile Polak—Talk on the Poet, and Recital of his Poems.
9 .0 p.m.—Topical Talk.
9.15 p.m.—**Dance Music.**
10.15 p.m.—News.
10.30 p.m. (approx.)—Close Down.

CZECHO-SLOVAKIA

BRUENN. Komarov. *WL.* 441.2 m. (680 kc); 3 kw.
Transmits at intervals from 11.15 a.m.
5.40 p.m.—Talk.
6.15 p.m.—Relay from the Slovakian National Theatre.
9.30 p.m.—Relay from **Prague.**

PRAGUE. Strasnice. *WL.* 348.9 m. (860 kc); 5 kw.
10.35 a.m.—Agricultural Report.
12.5 p.m.—Trade and Industry Notes.
12.35 p.m.—Market Prices.
2.30 p.m.—**Puppet Play.**
3.30 p.m.—**Dance Music.**
4.30 p.m.—**German Transmission.**
5.0 p.m.—Agricultural Report.
5.15 p.m.—Talk for Labourers.
6.15 p.m.—Programme relayed from **Bratislava** (263.2 m.; 1,140 kc).
9.30 p.m.—Time, News and **Orchestral Music.**

DENMARK

COPENHAGEN. Copenhagen Radio. *WL.* 337 m. (889 kc); 0.7 kw.
Transmits at intervals from 6.30 a.m.
2.0 p.m.—**Concert.**
5.30 p.m.—French Talks.
6.0 p.m.—News, Exchange and Time.
6.20 p.m.—Danish Programme Announcements in Esperanto.
6.30 p.m.—Talk, "Politics During the Month of November."
7.0 p.m.—Time.
7.2 p.m.—**Concert.**
8.15 p.m.—News.
8.30 p.m.—**Orchestral Concert** of Old Revues.
10.0 p.m.—**Dance Music.**
11.0 p.m.—Chimes.
11.30 p.m. (approx.)—Close Down.

FRANCE

PARIS. Ecole Supérieure (FPTT.) *WL.* 458 m. (655 kc); 0.5 kw.
Transmits at intervals from 8.0 a.m.
1.0 p.m.—Literary Talk in **English.**
2.0 p.m.—**Concert** from the works of Brahms and Rossini.
2.30 p.m.—**Relay of the Ceremony of the Annual Public Meeting of the Academie des Beaux Arts.**
5.15 p.m.—"**Pasdeloup**" **Symphony Concert** relayed from the Theatre Magador.
7.30 p.m.—"Le Radio Journal de France."
8.30 p.m.—Sports Review.
9.30 p.m.—**Concert.**

PARIS. Eiffel Tower (FL). *WL.* 2,650 m. (113 kc); 5 kw.
9.26 a.m.—Time Signal.
5.45 p.m.—Le Journal Parlé.
7.10 p.m.—Weather.
7.30 p.m.—**Orchestral and Vocal Concert.**
8.30 p m.—Educational Programme.
10.26 p.m.—Time Signal.

PARIS. Petit-Parisien. *WL.* 340.9 m. (880 kc); 0.5 kw.
9.0 p.m.—**Concert** from the Works of Adam.

PARIS. Radio-Paris (CFR). *WL.* 1,750 m. (171 kc); 3 kw.
Transmits at intervals from 8.0 a.m.
12.30 p.m.—**Concert.** 1. Nuits à Lisbonne (Saint-Saëns). 2. Chanson à bercer (Schmitt). 3. Prelude to "Toby" (Silver). 4. Overture to "Le Cid" (Thomas). 5. Clair de Lune (Thomé). 6. Selection from "The Flying Dutchman" (Wagner). 7. Variation japonaise (Vidal). 8. "Preciosa"—Overture (Weber). News in the interval.
1.50 p.m.—Exchange Quotations.
4.30 p.m.—Exchange Quotations.
4.45 p.m.—**Dance Music.**
8.0 p.m.—Agricultural Report.
8.15 p.m.—Talk.
8.25 p.m. (approx.).—Exchange Quotations.
8.30 p.m.—**Gala Concert.** Organised by "Le Matin." News in the intervals.

GERMANY

BERLIN. Koenigswusterhausen. *WL.* 1,250 m. (240 kc); 8 kw.
Transmits at intervals from 11.0 a.m.
2.0 p.m.—**English Literature Lesson.**
2.35 p.m.—Weather and Market Prices.
3.0 p.m.—Talk on "The Philosophy of Plato."
3.30 p.m.—Review of Educational Periodicals.
4.0 p.m.—Talk on "Officials."
4.30 p.m.—Talk on "The Work of Women in the Life of the People."
5.0 p.m.—Technical Talk.
5.30 p.m.—French Lesson.
5.55 p.m.—**English Lesson.**
6.20 p.m.—Art Talk.
7.0 p.m.—Programme relayed from **Voxhaus.**

BERLIN. Voxhaus. *WL.* 483.9 m. (620 kc.); 4 kw.
Transmits at intervals from 9.10 a.m.
3.0 p.m.—Medical Hygiene Talk.
3.30 p.m.—Reading.
4.0 p.m.—**Orchestral Concert.** 1. "Tempelweihe" — Overture (Keler-Bela). 2. In a Moonlit Garden (Zamecnick). 3. Selection (Koch). 4. Joy (Lindner). 5. Selection from "Das Glöckchen des Eremiten" (Maillart). 6. Bird and Butterfly (Vely). 7. Ballet des Parfums (Popy). 8. Anbetung (Wenneis). 9. Lovesong (Varnier). 10. Whimsical Charms (Fresco). 11. Saxophone Solo — Elegy (Königsberger). 12. Three Selections from the Works of Edward Macdowell.
6.5 p.m.—Talk, "Our Daily Bread."
6.30 p.m.—Talk, "Man and Men."
7.0 p.m.—"**Eine Nacht in Venedig**"—Play, with Music by Strauss.
9.15 p.m.—News and Weather.
9.30 p.m.—**Dance Music.**
11.30 p.m. (approx.).—Close Down.

BRESLAU. Schlesische Funkstunde. *WL.* 322.6 m. (930 kc); 4 kw.
Transmits at intervals from 10.15a.m.
2.45 p.m.—Review of Books.
3.15 p.m.—**Orchestral Concert.**
4.45 p.m.—Cinema Talk.
5.0 p.m.—Commerce Talk.
5.30 p.m.—Relay from **Koenigswusterhausen.**
5.55 p.m.—Weather.
6.0 p.m.—Recitation.
6.30 p.m.—**English Lesson.**
7.10 p.m.—**Variety Concert.** 1. Burattini—Onestep (Tagliaferri). 2. Humorous Interlude. 3. Orchestral Selection, Manschenkt sich Rosen, wenn man verliebt ist (Egen-Doelle). 4. Humorous interlude. 5. Auf wiederhören!—Potpourri (Weninger). 6. Humorous Interlude. 7. Jeder einmal in Berlin—March and Song (Hirsch). Followed by News.
11.0 p.m.—**Dance Music.**

FRANKFURT-am-MAIN. Südwestdeutscher Rundfunk. *WL.* 428.6 m. (700 kc.); 4 kw.
Transmits at intervals from 10.55a.m.
3.30 p.m.—**Concert** of Operetta Music. 1. "The Gipsy Baron"—Overture (Strauss). 2. Potpourri from "The Geisha" (Jones). 3. Waltz from "The Mikado" (Sullivan). 4. Ballet Music — "Giroflé-Girofla" (Lecocq). 5. "Gasparone"—Overture (Millöcker). 6. Potpourri from "Orpheus in the Underworld" (Offenbach). 7. Barataria March from "The Gondoliers" (Sullivan).
5.45 p.m.—Reading.
6.15 p.m.—Wireless Notes.
6.20 p.m.—Medical Talk.
6.50 p.m.—Notes on the following opera.
7.0 p.m.—"**Der Freischutz**"—Opera (Weber), followed by **Dance Music.**
11.30 p.m. (approx.).—Close Down.

HAMBURG. Norag (ha, in Morse). *WL.* 396 m. (757 kc.); 4 kw.
Transmits at intervals from 5.55 a.m.
6.0 p.m.—Inaugural Programme of the School of Gymnastics, relayed from the Exhibition Hall of the Zoo, Hamburg.
6.55 p.m.—Weather.
7.0 p.m.—"**The Norag Weekly Ball,**" followed by **Concert** from Restaurant Ostermann, and News.
11.0 p.m. (approx.).—Close Down.

LANGENBERG. Westdeutscher Rundfunk. *WL.* 470 m. (638 kc); 25 kw.
Transmits at intervals from 9.30 a.m.
Programme also relayed by **Muenster** on 241.9 m. (1,240 kc).
12.5 p.m.—**Orchestral Concert** from **Cologne**: 1. Pierrot March (Bosc). 2. Wind's Wedding (Hall). 3. "The Caliph of Bagdad"—Overture (Boieldieu). 4. Pierrot's Birthday (Monti). 5. Träumerei (Vieuxtemps). 6. Fantasia on Beethoven's Works (Urbach). 7. Rustle of Spring (Sinding).
1.30 p.m.—Health Talk from **Cologne.**
2.45 p.m.—Wireless Talk from **Cologne.**
3.15 p.m.—Reading of "Erstes Erlebnis" (Stefan Zweig), from **Dortmund** (283 m. 1060 kc).
4.0 p.m.—Relay from **Koenigswusterhausen.**
4.30 p.m.—**English Lesson** from **Muenster.**
5.0 p.m.—**Orchestral Concert**: 1. "Nabucco"—Overture (Verdi). 2. Aria from "The Force of Destiny" (Verdi). 3. Tenor Song from "Aida" (Verdi). 4. Prelude to the Third Act of "A basso porto" (Spinelli). 5. (*a*) Aria from "Gioconda" (Ponchielli), (*b*) Aria from "Manon Lescaut" (Puccini). 6. Ballet Music from "Sicilian Vespers" (Verdi). 7. Duet from "Madame Butterfly" (Puccini).
6.15 p.m.—Reading from **Cologne.**
7.0 p.m.—Variety Programme from **Dortmund,** followed by Sports Notes and **Dance Music** from **Cologne.**
12 midnight (approx.)—Close Down.

LEIPZIG. Mitteldeutscher Rundfunk. *WL.* 366.3 m. (818 kc); 4 kw.
Transmits at intervals from 9 a.m.
6.0 p.m.—Talk, "The Effect of an Increased Milk Supply on Man and Animal."
6.30 p.m.—Psychology Talk.
7.0 p.m.—Weather and Time.
7.15 p.m.—News.
9.15 p.m.—**Dance Music.**

MUNICH. Deutsche Stunde in Bayern. *WL.* 535.7 m. (560 kc); 4 kw.
Transmits at intervals from 10 45 a.m.
3.0 p.m.—Orchestral Concert.
4.30 p.m.—**Organ Recital.**
5.15 p.m.—Commerce Notes.
5.30 p.m.—Wireless Lesson.
6.0 p.m.—Letter Box.
6.30 p.m.—**Tenor Recital of Schubert Songs by Dr. Karl Bayer of Vienna.**
7.0 p.m.—"**The Love-Letter**"—Sketch (Awertschenko).
7.30 p.m.—**Russian Variety Programme.** 1. Polonaise (Tchaikovsky). 2. Selection (Gogol). 3. Mazurka (Glinka). 4. Natascha's First Ball (Tolstoi). 5. Mazurka (Gretchaninov). 6. Serenade for Violin (Gallin). 7. Choral Selection—Folksong. 8. Gopak (Moussorgsky). 9. Reading (Tchekov). 10. Pianoforte Solo—Im Dorf (Moussorgsky). 11. Choral Folk Song. 12. Krakowiak (Glinka 13. Selection (Remisov). 14. 'Cello Solo (Borodine). 15. Song—On the Dnieper (Moussorgsky). 16. Choral Selection — Cossack Cradle Song. 17. Orchestral Selection (Borodine). 18. Song, Die Soldatenfrau (Rachmaninoff). 19. Reading (Dostoievsky). 20. Song (Gretchaninov). 21. Pianoforte Solo, Siberian Snowstorm (Namretsw). 22. Choral Folk Song. 23. Trepak (Tchaikovsky).
9.15 p.m.—News.
9.30 p.m.—Dance Music. Relayed from the Savoy Hotel, London through **Daventry.** (1,604 m.; 187 kc).
11.0 p.m. (approx.).—Close Down.

STUTTGART. Südwestdeutscher Rundfunk. *WL.* 380.7 m. (788 kc); 4 kw.
Transmits at intervals from 12 noon.
5.0 p.m.—Time and Weather.
5.15 p.m.—Talk, "The Economic Life of America."
5.45 p.m.—Time, Weather, and Sports News.
7.0 p.m.—**Dialect Programme,** including two short Plays: (*a*) Waldfrieden (Ludwig Thoma), (*b*) "D'Holdiab" (Wh. Seyther).
9.45 p.m.—News.
10.0 p.m.—**Dance Music.**
11.0 p.m. (approx.).—Close Down.

HOLLAND

HILVERSUM. Algemeene Nederlandsche Radio Omroep. *WL.* 1,060 m. (283 kc.); 5 kw.
11.40 a.m.—Police News.
12.15 p.m.—**Trio Concert.**
1.30 p.m.—**Concert,** relayed from **Amsterdam.**
3.40 p.m.—Italian Lesson.
4.10 p.m.—French Lesson.
4.55 p.m.—German Lesson.
5.40 p.m.—**Concert.** 1. "A Life for the Czar"—Overture (Glinka). 2. Russian Folk Music (Bernards). 3. Baritone Solos: (*a*) Heimatlied (Gretchaninov), (*b*) O winde, keine duft'ge Bläte (Glière), (*c*) Lebenslied (Malschkin), (*d*) Troika (Boriskov). 4. Lass ab vergeblich mich zu küssen—Duet (Glinka). 5. (*a*) Russian Mazurka (Glinka), (*b*) Gopak (Moussourgsky). 6. Vocal Solos. 7. The Entry of the Boyards (Halvorsen).
6.55 p.m.—Horticultural Talk.
7.25 p.m.—Police News.
7.50 p.m.—Instrumental and Choral Concert arranged by the Workers' Radio Society.
9.40 p.m.—Weather and News.
10.40 p.m. (approx.).—Close Down.

HUIZEN. *WL.* 1,840 m. (163 kc); 4 kw. (until 7 p.m.)
Transmits from 7 p.m. on 1,950 m. (054 kc).
12.10 p.m.—**Trio Concert.**
2.40 p.m.—Children's Corner.
5.40 p.m.—Organ Recital.
6.40 p.m.—Dutch Lesson.
7.10 p.m.—Talk.
7.40 p.m.—**Concert** of Operatic Selections.

HUNGARY

BUDAPEST. Magyar Radio Ujsag. *WL.* 555.6 m. (540 kc.); 2 kw.
Transmits at intervals from 8.30 a.m.
3.15 p.m.—Legal Talk.
3.45 p.m.—Time and Weather.
4.0 p.m.—Talk.
7.15 p.m.—**Concert.** 1. Minuet, (Boccherini). 2. Pizzicato—Polka (Delibes). 3. Csak egy kislány van a világon. 4. The Second Rhapsody Liszt). 5. Die letzte Rose (Flotow). 6. Folk Songs. 7. "Divine Aida" from "Aida" (Verdi). 8. Scènes pittoresques (Massenet). 9. Aira from "The Trumpeter of Säckingen." 10. Potpourri (Wagner).
9.0 p.m.—Time and News.
9.20 p.m.—**Light Orchestral Concert.**

ITALY

MILAN. Unione Radiofonica Italiana (1MI). *WL.* 317 m. (946 kc.); 7 kw.
11.15 a.m.—News.
5.0 p.m.—Exchange and News.
4.0 p.m.—**Concert,** relayed from the Café Biffi.
4.50 p.m.—Children's Corner.
5.15 p.m.—Agricultural Notes.
7.45 p.m.—Time.
7.47 p.m.—Technical Wireless Lesson.
8.0 p.m.—"**La Traviata**"—Opera (Verdi).
10.0 p.m.—**Dance Music,** relayed from "La Fiaschetteria Toscana."
10.30 p.m. (approx.).—Close Down.

NAPLES. Unione Radiofonica Italiana (1NA). *WL.* 334 m. (898 kc); 1.5 kw.
1.0 p.m.—Exchange Quotations and News.
4.0 p.m.—Weather and News.
4.8 p.m.—Chamber of Commerce Notes.
4.10 p.m.—**Variety Concert.** Music from the works of Nozzetti, Bettinelli, Criscuolo, Schinelli, Romano, Rampoldi, Spinelli, Kálmán and Lehár.
7.55 p.m.—News.
7.58 p.m.—Harbour Notes.
8.0 p.m.—**Light Music.** 1. "Pique Dame"—Overture (Suppé). 2. Il re della reclame (Bettinelli). 3. Dance (Ponchielli).
8.30 p.m.—**Relay from a Theatre.** In the interval, Time.

ROME. Unione Radiofonica Italiana (1RO). *WL.* 450m. (666 kc.); 3 kw.
1.0 p.m.—Exchange Closing Prices and News.
3.50 p.m.—Wireless Notes.
4.15 p.m.—Agricultural Notes.
4.30 p.m.—**Vocal and Instrumental Concert.** 1. Sonata, Op. 4, for Pianoforte and 'Cello (Di Donato). 2. Bella porta di rubini (Respighi). 3. Tarantelle (Bizet). 4. Trio in D minor (Bossi). 5. Trio in F major, Op. 18 (Saint-Saëns). 6. Soprano Song (Pizzetti). 7. Alla stagion dei fiori (Moro Lin). 8. Sonata in G minor, Op. 78 for Violin and Pianoforte (Brahms).
7.20 p.m.—German Lesson.
7.30 p.m.—Time, News Exchange Quotations and Weather.
7.40 p.m.—**Talk in English,** "The Appian Way—from the earliest times, the Capena Gate and District."
8.0 p.m.—**Programme relayed from a Theatre.** In the Interval—Review of Books. News.

LITHUANIA

KOVNO. Radio-Kaunas. *WL.* 2,000 m. (150 kc); 15 kw.
4.45 p.m.—Report of the Ministry of Interior.
5.10 p.m.—Radio Patarejas.
6.0 p.m.—Time, Weather and News.
6.30 p.m.—Relay from the National Theatre.

NORWAY

BERGEN. Kringkastingselskap. *WL.* 370.4 m. (810 kc.); 1.5 kw.
Transmits at intervals from 10.15a.m.
5.0 p.m.—Children's Corner.
7.0 p.m.—Talk, "Old Norwegian Royal Castles."
7.30 p.m.—**The Wireless Orchestra.**
8.0 p.m.—Talk, "Ludwig Holberg and Ourselves."
8.30 p.m.—**The Wireless Orchestra.** 1. Chin. Wachtparade (Neumann). 2. "Die schöne Galathée"—Overture (Suppé). 3. Schön Japan—Mazurka (Ganne). 4. Waiting for You—Intermezzo (Sciacca).
9.30 p.m.—Weather, News and Time.
9.15 p.m.—**Concertina Concert.**
9.35 p.m.—**Dance Music** from Hotel Norge.

OSLO. Kringkastingselskapet. *WL.* 461.5 m. (650 kc.); 1.5 kw.
Programme relayed by **Hamar** on 566 m. (530 kc.); **Porsgrund,** 504

CONTINUED ON NEXT PAGE.

PROGRAMMES FOR SATURDAY—(Cont.)

m. (594.5 kc.); **Fredriksstad,** 434.8 m. (690 kc.); **Notodden,** 423 m. (709 kc.); and **Rjukan,** 448 m. (670 kc.).
Transmits at intervals from 10.10a.m.
5.0 p.m.—Children's Corner.
6.0 p.m.—Birthday Greetings for Children.
6.15 p.m.—News.
6.30 p.m.—Reading of Prose and Poetry by Mr. Ingjeld Haaland, Director of the Oslo Theatre.
7.0 p.m.—Time.
7.1 p.m.—Talk on "The Old Fort Tunsberg hus."
7.30 p.m.—Reading.
8.0 p.m. — Orchestral Concert. 1. "Die Fledermaus" — Overture (Joh. Strauss). 2. Soljanka (Wilke). 3. Entr'acte Gavotte (Gileet). 4. Wenn Du mich liebst (Denza). 5. Geschichten aus dem Wiener Wald (Joh. Strauss).
9.0 p.m.—News and Weather.
9.15 p.m.—Songs to the Lute and Reading.
9.45 p.m.—Dance Music from the Hotel Bristol.
11.0 p.m. (approx.).—Close Down.

POLAND

CRACOW. Polskie Radio. *WL.* 500 m. (600 kc); 1.5 kw.
Transmits at intervals from 9.0 a.m.
4.20 p.m.—Programme from **Warsaw.**
6.0 p.m.—Agricultural Report.
6.15 p.m.—Variety.
6.35 p.m.—Talk on "Foreign Politics."
7.0 p.m.—News.
7.30 p.m.—Programme from **Warsaw.**
9.30 p.m.—Concert from the Pavillon Restaurant.
10.30 p.m. (approx.)—Close Down.

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POSEN. Polskie-Radio. *WL.* 344.8 m. (870 kc); 1.5 kw.
Transmits at intervals from 11.45 a.m.
6.10 p.m.—French Lesson.
6.35 p.m.—Talk "The Preservation of Historical Monuments."
7.0 p.m.—Finance Notes.
7.20 p.m.—Weather.
7.30 p.m.—Concert of Light Music.
9.0 p.m.—Time.
9.30 p.m.—Dance Music from the Carlton Restaurant.
11.0 p.m. (approx.).—Close Down.

WARSAW. Polskie-Radio. *WL.* 1,111.1 m. (270 kc); 10 kw.
Transmits at intervals from 11.0 a.m.
4.45 p.m.—Children's Corner.
6.0 p.m.—Agricultural Report.
6.15 p.m.—Variety.
6.35 p.m.—Wireless Talk.
7.30 p.m.—Concert of Operetta Music.

SPAIN

BARCELONA. Radio-Barcelona (EAJ1). *WL.* 343.2 m. (874 kc); 2 kw.
11.0 a.m.—Chimes and Weather.
5.30 p.m.—Exchange Quotations.
5.40 p.m.—Quintet Selections. 1. "Il Guarany"—Overture (Gomez). 2. "Endlich Allein"—Selection (Lehár). 3. La Suegra (Coto). 4. Mes Larmes—Waltz (Valis). 5. The Diplomat—March (Sousa).
8.30 p.m. — Elementary French Lesson.
9.0 p.m.—Chimes and Weather.
9.5 p.m.—Exchange and News.
9.10 p.m.—"Cosi fan Tutte"—Overture (Mozart).
9.20 p.m.—Dance Music by the "Demons' Jazz Orchestra." 1. Orgie—Foxtrot (Fors). 2. Harry Wills—Black Bottom (Demon). 3. Nice About You—Charleston (Wendling). 4. Oro muerto (Navarrine). 5. Julius—Foxtrot (Meyer). 6 Mandoza—paso-doble (Gales).
10.0 p.m.—Exchange Closing Prices.
10.5 p.m.—Programme relayed from **Madrid** (EAJ7).

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CADIZ. Union-Radio (EAJ3). *WL.* 400 m. (750 kc); 0.55 kw.
7.5 p.m.—Concert. 1. "Peer Gynt"—Suite for Pianoforte (Grieg). 2. Songs and 'Cello Solos.
7.50 p.m.—News and Time.
8.2 p.m.—Pianoforte Solos of Spanish Music.
8.40 p.m.—Argentine Tangos.
8.50 p.m.—Dance Music.
9.0 p.m. (approx.).—Close Down.
12.0 midnight.—Experimental Transmission.

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MADRID. Union Radio (EAJ7). *WL.* 373 m. (804 kc.); 3 kw.
11.45 a.m. — Astronomy Notes, Saints' Calendar, and Cookery Recipes.
12.0 noon.—Time, News, Exchange and Programme Notes.
12.15 p.m.—Time.
2.0 p.m.—Orchestral and Vocal Concert. 1. Madrid de los Alegrias (Sanz). 2. Canto a Espana (Romero). 3. Junto a la reja—Serenade (Gomez). 4. Hijo del sol—Selection (Quislant). 5. Songs. 6. Review of Books. 7. Melody (Franck). 8. A Masked Ball—Selection (Verdi). 9. In the Interval Weather and Theatre Notes.
3.15 p.m. (approx.).—News and "Alwgrias toreras"—March (San Miguel).
7.0 p.m.—Orchestral Selections. 1. "El Juramento"—Selection (Gaztambide). 2. Lucia di Lammermoor" — Selection (Donizetti). Interlude by Luis Medina.
8.0 p.m.—Dance Music, relayed from the "Alcazar."
9.30 p.m.—Lesson in Oceanography.
10.0 p.m.—Selection from "**The Two Princesses**"—Musical Play (Caballero), relayed by **Barcelona** (EAJ1), **Sevilla** (EAJ5), 400 m. (750 kc.), **San Sebastian** (EAJ8), 335 m. 895 kc.), and **Bilbao** (EAJ9), 438 m. (685 kc.). News.
12.30 a.m. (Sunday).—Close Down.

SWEDEN

STOCKHOLM. Radiotjänst (SASA). *WL.* 454.5 m. (660 kc); 1.5 kw.
Programme relayed by **Motala,** 1,320 m. (227 kc); **Goteborg,** 416.7 m. (720 kc); **Malmo,** 260.9 m. (1,150 kc); and **Sundsvall,** 545.6 m. (550 kc).
Transmits at intervals from 11.35a.m.
4.0 p.m.—Concert of Light Music.
5.0 p.m.—Children's Corner.
5.30 p.m.—Old Time Dance Music.
6.30 p.m.—Play by G. Bernard Shaw.
7.15 p.m.—Talk, "Professions and Professionals."
7.30 p.m.—Cabaret Concert.
8.40 p.m.—Topical Talk.
9.0 p.m.—Dance Music.
11.0 p.m. (approx.).—Close Down.

SWITZERLAND

BASLE. Basler-Radio-Genossenschaft. *WL.* 1,100 m. (273 kc); 0.25 kw.
6.30 p.m.—Time and Weather.
6.35 p.m.—Talk, "The Work of a Food Inspector."
7.0 p.m.—Concert of Columbia Gramophone Records.
8.50 p.m.—News and Weather.
9.5 p.m.—Dance Music.
10.0 p.m. (approx.).—Close Down.

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BERN. Radio-Bern. *WL.* 411 m. (730 kc); 1.5 kw.
12.0 noon.—Time, Weather, Exchange and Gramophone Records.
2.56 p.m.—Time.
3.0 p.m.—The Kursaal Orchestra.
3.30 p.m.—The Children's Corner.
4.0 p.m.—The Kursaal Orchestra.
4.30 p.m.—Esperanto Lesson.
6.30 p.m.—Time and Weather.
6.35 p.m.—Reading.
7.0 p.m.—Variety Concert.
8.20 p.m.—Vocal and Instrumental Concert.
8.50 p.m.—In the interval: News and Weather.
9.30 p.m.—Dance Music.
11.0 p.m. (approx.).—Close Down.

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GENEVA. Radio-Geneva. *WL.* 760 m. (395 kc); 0.5 kw.
5.0 p.m.—Exchange, Time and Weather.
5.5 p.m.—Dance Music from the "MacMahon."
7.15 p.m.—News.
7.20 p.m.—Culinary Talk.
7.40 p.m.—Concert of Light Music.
8.50 p.m.—News.
9.0 p.m.—Dance Music from the "Fantasio."
10.0 p.m. (approx.)—Close Down.

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LAUSANNE. Société Romande de Radiophonie (HB2). *WL.* 680 m. (441 kc); 0.6 kw.
Transmits at intervals from 6.45 a.m.
7.0 p.m.—Weather.
7.1 p.m.—Orchestral Concert. 1. "Alphonse and Estrella"—Overture (Schubert). 2. Pomone—Waltz (Waldteufel). 3. Mélodie (Hahn). 4. Scènes champêtres (Gillet). 5. Rêverie du soir à Blidah (Saint-Saëns). 6. Rêve de Bonheur (Flégier).
8.30 p.m.—Gramophone Records.

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ZURICH. Radio-Genossenschaft. *WL.* 588.2 m. (510 kc); 2 kw.
Transmits at intervals from 11.30 a.m.
6.30 p.m.—Time and Weather.
6.32 p.m.—Talk.
7.0 p.m.—Song Recital.
8.50 p.m. (approx.).—**Concert** of Zither Selections.
9.0 p.m.—Weather and News.
9.10 p.m.—Dance Music from Hotel Baur au Lac.

YUGOSLAVIA

ZAGREB. Radioklub-Zagreb. *WL.* 310 m. (967 kc); 0.35 kw.
12.15 p.m.—Gramophone Records.
12.30 p.m.—Exchange.
4.0 p.m.—Children's Stories.
4.30 p.m.—Dance Music from the "Club Bar."
7.0 p.m.—French Lesson.
7.15 p.m.—Lesson in Croatian.
7.30 p.m.—Chamber Music from the works of Haydn, Verdi and Mozart.

U.S.A.

PITTSBURGH. Westinghouse Electric (KDKA). *WL.* 315.6 m. (950 kc).
Transmits at intervals from 3.0 p.m.
Programme relayed on 62.5 m. (4,800 kc) from 11.0 p.m.
11.0 p.m.—Time, Football Scores and **Orchestral Concert.**
12.0 midnight.—Time and **Address** arranged by the University of Pittsburgh.
12.15 a.m. (Sunday).—Weekly Meeting of the Home Radio Club.
12.30 a.m.—Concert.
1.0 a.m.—"R.C.A. Radiotron." Programme from WJZ, **New York.**
2.0 a.m.—"Philco Hour," from WJZ, **New York.**
3.0 a.m.—Weather and Time.

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SCHENECTADY, N.Y. General Electric Company (WGY). *WL.* 379.5 m. (790 kc); 100 kw.
Transmits at intervals from 11.45 a.m.
Programme relayed by 2XAD on 21.96 m. (13,661 kc) from 6.30—9.0 p.m. and by 2XAF on 32.77 m. (9,155 kc) from 11.0 p.m.
11.30 p.m.—Concert from the Hotel Onondaga, **Syracuse.**
12.30 a.m. (Sunday).—"The High Jinkers," from **New York.**
1.30 a.m.—"Old Gold on Broadway" from **New York.**
4.0 a.m.—Dance Music from the Hotel Ten Eyck, **Albany.**
5.0 a.m. (approx.).—Close Down.

PROGRAMMES FOR SUNDAY

(*Continued from page* 568.)

NORWAY

BERGEN. Kringkastingselskap. *WL.* 370.4 m. (810 kc.); 1.5 kw.
9.30 a.m.—Divine Service.
11.30 a.m.—Weather and News.
4.0 p.m.—Concert.
6.30 p.m.—Concert.
7.0 p.m.—Humorous Reading.
7.30 p.m.—The Wireless Orchestra.
8.0 p.m.—Organ Recital.
8.30 p.m.—Choral Selections.
9.0 p.m.—Weather, News and Time.
9.15 p.m.—Soprano Solos.
9.35 p.m.—Dance Music from Café Boulevard

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OSLO. Kringkastingselskapet. *WL.* 461.5 m. (650 kc.); 1.5 kw.
Programme relayed by **Hamar** on 566 m. (530 kc.); **Porsgrund,** 504 m. (594.5 kc.); **Fredriksstad,** 434.8 m. (690 kc.); **Notodden,** 423 m. (709 kc.); and **Rjukan,** 448 m. (670 kc.).
9.30 a.m.—Chimes and **Divine Service**
4.15 p.m.—Choral Concert.
5.0 p.m.—Divine Service.
6.15 p.m.—News.
6.30 p.m.—Talk on "The Valley of Setedal."
7.0 p.m.—Time.
7.2 p.m.—Talk on "The History of Acting—The Middle Ages."
7.30 p.m.—Orchestral Concert.
8.30 p.m. — "**Hok over Hok**" — Drama.
9.0 p.m.—News and Weather.
9.15 p.m.—Dance Music, from the Hotel Bristol.
11.0 p.m. (approx.).—Close Down.

POLAND

CRACOW. Polskie Radio. *WL.* 500 m. (600 kc.); 1.5 kw.
Transmits at intervals from 9.15 a.m.
1.0 p.m.—Agricultural Talks.
2.15 p.m.—Programme from **Warsaw.**
5.45 p.m.—Talk.
6.35 p.m.—Talk from **Warsaw.**
7.30 p.m.—Vocal Concert.
9.0 p.m.—Programme from **Warsaw.**
9.30 p.m. — Concert from the Pavillon Restaurant.
10.30 p.m. (approx.).—Close Down.

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POSEN. Polskie Radio. *WL.* 344.8m. (870 kc); 1.5 kw.
11.0 a.m.—Agricultural Talk.
11.50 a.m.—Concert on the Occasion of the 300th Anniversary of the Polish Naval Victory near Olova.
2.10 p.m.—Concert relayed from **Warsaw.**
4.40 p.m.—Relay from **Warsaw.**
5.30 p.m.—Children's Corner.
6.10 p.m.—Stanislas Wyspianski Memorial Programme.
7.30 p.m.—Variety Concert.
9.0 p.m.—Time and Sports News.
9.30 p.m.—Dance Music from the **Carlton Restaurant.**
11.0 p.m. (approx.)—Close Down.

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WARSAW. Polskie Radio. *WL.* 1,111.1 m. (270 kc); 10 kw.
Transmits at intervals from 9.15 a.m.
11.10 a.m.—Concert from the **Philharmonie de Varsovie.**
1.0 p.m.—Agricultural Talk.
2.0 p.m.—Weather.
2.15 p.m.—Concert from the **Philharmonie de Varsovie.**
4.20 p.m.—Variety.
4.40 p.m.—Literary Talk.
5.30 p.m.—News.
5.45 p.m.—Talk.
6.35 p.m.—Talk on "The Lake of Hvitarvatu."
7.30 p.m.—Concert.
9.0 p.m.—Time, Weather and News.
9.30 p.m.—Dance Music.
10.30 p.m. (approx.)—Close Down.

SPAIN

BARCELONA. Radio Barcelona (EAJ). *WL.* 343.2 m. (874 kc); 2 kw.
11.0 a.m.—Chimes and Weather.
5.30 p.m.—"**Rigoletto**"—Acts III. and IV. Relayed from "**El Gran Teatro del Liceo.**" In the intervals Exchange and Market Prices.
8.0 p.m.—Selections from Plays.
8.15 p.m.—Quintet Selections: 1. "La Gran Via" — Selection (Chueca). 2. Moment Musical (Schubert). 3. Hungarian Dance No. 6 (Brahms).
8.40 p.m.—Sports Notes.
9.0 p.m. (approx.)—Close Down.

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CADIZ. Union-Radio (EAJ3). *WL.* 400 m. (750 kc); 0.55 kw.
7.5 p.m.—Concert. 1. Overture for Pianoforte to "The Barber of Bagdad" (Cornelius). 2. Adagio for Organ from the "Sonata pathétique" (Beethoven). 3. Italian Songs. 4. The Second Hungarian Rhapsody—for Pianoforte (Liszt). 5. Aria from "Aida" (Verdi). 6. Moorish Serenade—Pianoforte Solo (Elgar).
8.0 p.m.—Time.
8.2 p.m.—Orchestral Concert.
9.0 p.m. (approx.).—Close Down.

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MADRID. Union Radio (EAJ7). *WL.* 373 m. (804 kc.); 3 kw.
11.30 a.m.—Concert by the Municipal Band.
2.0 p.m.—Orchestral and Vocal Concert.
7.0 p.m.—Children's Corner.
7.30 p.m. (approx.). — **Orchestral Selections.**
10.0 p.m.—Popular Concert, relayed by San Sebastian (EAJ8), 335 m. (895 kc.), and Bilbao (EAJ9), 438 m. (685 kc.). Songs and Selections by a Regimental Band. 1. Jugar con Fuego—Selection (Barbieri). 2. El gall de Ripollsardana (Rivas). 3. Three Songs: (*a*) Asi tie que ser (Valverde), (*b*) Frivola ideal (Alarcos), (*c*). La Feotona (Feliu-Tabares). 4. Mendi-Mendiyan (Usandizaga). 5. Spanish caprice (Mouller). 6. Asturian Songs (Villa). 7. Songs: (*a*) Munequita de amor (Ramuncho), (*b*) La cieguita (Ramuncho), (*c*) La Destinera (Alarcos). 8. In the Alhambra (Bretón). 9. Alboradax gallega (Espinosa). 10. Madrid comice—Jota (Zabala).
12.0 midnight.—Dance Music, relayed from the "Alcazar."
12.30 a.m. (Monday, approx.).—Close Down.

SWEDEN

STOCKHOLM. Radiotjänst (SASA). *WL.* 454.5 m. (660 kc); 1.5 kw.
Programme relayed by **Motala,** 1,320 m. (227 kc); **Goteborg,** 416.7 m. (720 kc); **Malmo,** 260.9 m. (1,150 kc); and **Sundsvall,** 545.6 m. (550 kc).
10.0 a.m.—Divine Service.
12.15 p.m.—Symphony Concert.
5.0 p.m.—Divine Service.
6.15 p.m.—"**The Nuremberg Doll**"—Opera-comique (Adam).
7.25 p.m.—Literary Recital and Opera Arias and Duets.
8.45 p.m.—Concert from **Goteborg.**
9.45 p.m. (approx.).—Close Down.

SWITZERLAND

BASLE. Basler-Radio-Genossenschaft. *WL.* 1,100 m. (273 kc); 0.25 kw.
6.30 p.m.—Time and Weather.
6.32 p.m.—Chamber Music.
7.0 p.m.—Programme of Viennese Variety.
8.10 p.m. (approx.).—**Orchestral Concert.**
9.0 p.m.—News and Weather.

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BERN. Radio-Bern. *WL.* 411 m. (730 kc); 1.5 kw.
10.0 a.m.—Address.
12.0 noon.—Time and Weather.
12.5 p.m.—Orchestral Concert.
1.30 p.m.—Agricultural Talk.
2.30 p.m.—The Kursaal Orchestra.
3.0 p.m.—Concert from **Grenchen.**
6.30 p.m.—Time and Weather.
6.35 p.m.—Dramatic Talk.
7.10 p.m.—Concert from **Grenchen.**
8.50 p.m.—News, Sports Notes and Weather.
9.5 p.m.—The Kursaal Orchestra.
9.30 p.m.—Dance Music from **Grenchen.**
10.0 p.m. (approx.).—Close Down.

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GENEVA. Radio-Geneva. *WL.* 760 m. (395 kc); 0.5 kw.
9.0 a.m.—Address from the Victoria Hall.
7.15 p.m.—Sports Review.
7.25 p.m.—Address relayed from the Temple du Carouge.
8.0 p.m.—Concert relayed from the Temple de la Fusterie. 1. Concerto Brandebourgeois (Bach). 2. Sonate (Hervelois). 3. Symphony (Haydn).

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ZURICH. Radio-Genossenschaft. *WL.* 588.2 m. (510 kc); 2 kw.
10.0 a.m.—Concert from the Capitol Theatre.
11.0 a.m.—Weather.
11.30 a.m.—Orchestral Concert.
2.15 p.m.—Swiss Poetry Programme.
3.0 p.m.—Orchestral Concert.
4.10 p.m.—Protestant Address.
6.30 p.m.—Time and Weather.
6.32 p.m.—Chamber Music.
7.0 p.m.—Viennese Programme.
8.0 p.m.—Orchestral Concert.
9.0 p.m.—Weather and News.
9.10 p.m. (approx.).—Close Down.

YUGOSLAVIA

ZAGREB. Radioklub-Zagreb. *WL.* 310 m. (967 kc); 0.35 kw.
4.0 p.m.—Dance Music.
7.30 p.m.—Concert of Light Music.
8.45 p.m.—News.
9.0 p.m.—Concert from the Café Corso.

U.S.A.

PITTSBURGH. Westinghouse Electric (KDKA). *WL.* 315.6 m. (950 kc).
Programme relayed on 62.5 m. (4800 kc) and 26 m. (11,194 kc) from 11.0 p.m.
Transmits at intervals from 3.45 p.m.
11.0 p.m.—Symphony Concert.
12 midnight.—Time and **Divine Service.**
1.15 a.m. Monday. — "Collier's Radio Hour" from WJZ, **New York.**
2.15 a.m.—Concert from WJZ, **New York.**
3.15 a.m.—Programme by the American Maize Products Company, from WJZ, **New York.**

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SCHENECTADY, N.Y. General Electric Company (WGY). *WL.* 379.5 m. (790 kc); 100 kw.
Transmits at intervals from 3.45 p.m.
Programme relayed by 2XAD on 21.96 m. (13,661 kc) from 12.20 a.m. (Monday).
10.30 p.m.—"Crosley Hour," by the Moscow Art Orchestra, from **New York.**
12.20 a.m. (Monday).—"Capitol Theatre." Programme from **New York.**
2.15 a.m.—Time.
2.16 a.m.—"Atwater Kent" Programme from **New York.**
3.15 a.m.—Talk on "Our Government."
3.30 a.m. (approx.).—Close Down.

STATIONS IN ORDER OF WAVELENGTHS AND FREQUENCIES.

EUROPEAN.

M.	Kc.	
4000	75	Berlin (Koenigswusterhausen) AFP, 8 kw.
2900	103	
2650	113	—Paris (Eiffel Tower), FL, 5 kw.
2525	119	—Berlin (Wolff's Bureau). Intermittent News during the day.
2000	150	—Kovno (Lithuania), 15 kw.
1950	154	—Scheveningen Haven (Holland), 2.5 kw.
1870	160	—Kosice (Czecho-Slovakia), 5 kw. DAILY—**6.30—9.0 p.m.**
1840	163	Huizen (Holland) 4 kw. (Till 7 p.m.)
1950	154	Huizen (From 7 p.m. till closing down.)
1829	164	—Norddeich (Germany). WEEKDAYS—**12.0 midnight,** Weather Report.
1800	167	—Angora (Turkey), 6 kw.
1750	171	—Paris (Radio-Paris) CFR, 3 kw.
1700	176	—Kharkov (Russia), 4 kw.
1604.8	187	—Daventry (5XX), 25 kw.
1450	207	—Moscow (Old Komintern), RAI, 20 kw. DAILY—**2.0 p.m.**
1320	227	—Motala (Sweden), 30 kw. Relays Stockholm.
1250	240	—Berlin (Koenigswusterhausen), AFT, 8 kw. Relays Voxhaus.
1200	250	—Boden (Sweden), 1 kw
1180	254	—Stamboul (Turkey) 15 kw.
1153.8	260	—Kalundborg, 7 kw.
1150	261	—Ryvang (Denmark), 1 kw.
1117	269	—Novosibersk (Russia), RA 33, 4 kw. **5 p.m.**
1111.1	270	—Warsaw (Poland), 10 kw.
1110	270	—Kbely (Czecho-Slovakia), 1 kw. Transmits DAILY—**6.0—7.30 p.m.**
1100	273	—Basle (Switzerland), 0.25 kw. DAILY—**7.30—9.5 p.m.**
1100	273	—De Bilt (Holland). WEEKDAYS—**8.15 p.m.,** Weather.
1060	283	—Hilversum (Holland) ANRO, 5 kw.
1000	300	—Leningrad (Russia), 10 kw. WEEKDAYS—**5 p.m., Lecture: 6.0 p.m.,** News. **6.30 p.m., Concert** or **Opera.** SUNDAY—**5.0 p.m., Lecture, 6.0 p.m.,** News. **6.30 p.m., Concert.**
870	309	—Tiflis (Russia), 4 kw.
860	349	—Nijni Novgorod (Russia), 1.2 kw.
850	353	—Rostov/Don (Russia), 4 kw. **3.10 p.m.**
820	366	—Kiev (Russia), 1 kw.
760	395	—Geneva (Radio-Genève), 0.5 kw. WEEKDAYS—**7.40 p.m., Concert** and News.
720	416	—Östersund (Sweden), 2 kw. Relays Sundsvall.
680	441	—Lausanne (Switzerland), HB2, 0.6 kw. DAILY—**8.0 p.m., Concert.** Talk.
675	444	—Moscow (Popoff).
588.2	510	—Zürich (Switzerland), 2 kw.
578	519	—Vienna (Stubenring), 0.75 kw.
573.6	523	—Freiburg (Germany), 0.75 kw.
566	530	—Augsburg (Germany), 1.5 kw. Relays Munich.
566	530	—Bloemendaal (Holland), 0.05 kw. SUNDAYS—**9.40 a.m.** and **4.40 p.m., Church Service.**
566	530	—St. Michel (Finland).
566	530	—Hamar (Norway), 0.7 kw.
555.6	540	—Budapest (Hungary), 2 kw.
545.6	550	—Sundsvall (Sweden), 1 kw.
535.7	560	—Munich (Germany), 4 kw. SUNDAY—**10.30 a.m Concert.**
526.5	570	—Riga (Latvia), 2 kw. DAILY—**10.35—11.0 a.m.** and **5.0—8.30 p.m., Concert,** News, Weather.
517.2	580	—Vienna (Rosenhugel), 5 kw.
508.5	590	—Brussels, 1.5 kw.
504	594.5	—Porsgrund (Norway), 1 kw. Relays Oslo.
500	600	—Cracow (Poland). 1.5 kw.
500	600	—Aberdeen (2BD), 1.5 kw.
500	600	—Uppsala (Sweden), 0.25 kw. Relays Stockholm.
500	600	—Linköping (Sweden), 0.25 kw. Relays Stockholm.
491.8	610	—Daventry Experimental (5GB), 14 kw.
483.9	620	—Berlin (Witzleben), 4 kw.
480	624	—Lyons (France) (La Doua), PTT, 1 kw. MON., WED., and FRI.—**9.45 p.m., Concert.** SUN., TUES., THURS., and SAT.—Relays Ecole Supérieure.
470	638	—Langenberg (Germany), 25 kw.
462	649	—Barcelona (Spain) (Radio Catalana) EAJ13, 2 kw.
461.5	650	—Oslo (Norway), 1.5 kw.
458	655	—Paris (Ecole Supérieure), FPTT, 0.5 kw.
454.5	660	—Stockholm, 1.5 kw.
450	666	—Rome (1RO), 3 kw.
450	666	—Moscow (Trades Union), RA2, 4 kw. **3.0 a.m.—8.0 p.m.**
448	670	—Rjukan (Norway), 0.1 kw. Relays Oslo.
441.2	680	—Bruenn (Czecho-Slovakia), 3 kw. DAILY—**6.0 p.m., Concert** and News. THURS.—**4.40 p.m.,** Talk for Women. SUN.—**10.0 a.m., Concert.**
438	685	—Bilbao (Spain) EAJ9, 0.5 kw.
434.8	690	—Fredriksstad (Norway), 0.7 kw. Relays Oslo.
428.6	700	—Frankfurt-on-Main (Germany), 4 kw.
423	709	—Notodden (Norway). 0.7 kw. Relays Oslo.
422.5	710	—Katowitze (Poland), 5 kw.
416.7	720	—Göteborg (Sweden), 1 kw.
411	730	—Berne (Switzerland), 1.5 kw.
408	735	—Tallinn (Reval), Esthonia, 2.2 kw.
405.4	740	—Glasgow (5SC), 1.5 kw.
405	741	—Salamanca (Spain), EAJ22, 0.5 kw. DAILY—**9.30 p.m., Concert. 10.30 p.m., Dance Music.**
400	750	—Cadiz (Spain), EAJ3, 0.55 kw. Experimental Concert.
400	750	—Mont de Marsan (France), 4 kw.
400	750	—Aix-la-Chapelle (Germany) 0.75 kw.
400	750	—Madrid (Radio España) (EAJ2).
400	750	—Cork (Irish Free State), 6CK, 1.5 kw.
400	750	—Plymouth (5PY), 0.2 kw.
400	750	—Tammerfors (Finland), Relays Helsingfors, 0.25 kw.
400	750	—Seville (Spain) (Union Radio). EAJ5 1 kw.
396	757	—Hamburg (ha, in Morse), 4 kw.
391	767	—Toulouse (France) (Rad. du Midi), 3 kw. DAILY—**12.40 p.m., Concert. 8.50 p.m., Concert.**
384.6	780	—Manchester (2ZY), 1.5 kw.
380.7	788	—Stuttgart (Germany), 4 kw.
375.9	798	—Helsingfors (Finland), 1.2 kw. **8.0 a.m.** Exchange Quotations. DAILY—**4.0—7.0 p.m. Concert.**
373	804	—Madrid (Union Radio), EAJ7, 3 kw.
370.4	810	—Bergen (Norway), 1.5 kw.
370	811	—Paris (Radio LL), 0.5 kw. MONDAY, WEDNESDAY, and FRIDAY—**10.0 p.m., Concert.**
366.3	819	—Leipzig (Germany), 4 kw.
361.4	830	—London (2LO), 3 kw.
357.1	840	—Graz (Austria), 0.5 kw. Usually relays Vienna.
357	840	—Falun (Sweden), 2 kw.
353	850	—Cardiff (5WA), 1.5 kw.
348.9	860	—Prague (Czecho-Slovakia), 5 kw. DAILY—**7.0 p.m., Concert.**
344.8	870	—Posen (Poland), 1.5 kw.
343.2	874	—Barcelona (Spain) Radio Barcelona, EAJ1, 2 kw.
340.9	880	—Paris (Petit Parisien), 0.5 kw.
337	890	—Copenhagen, 0.7 kw.
335	895	—San Sebastian (Spain), EAJ8, 2 kw.
334	898	—Naples (1NA), 1.5 kw.
333.3	900	—Reykjavik (Iceland), 1 kw.
330.3	908	—Koenigsberg (Germany), 1 kw. DAILY—**7.10 p.m., Concert.** Birmingham (5IT). For programme see Daventry Experimental.
326.1	920	—Bournemouth (6BM), 1.5 kw.
322.6	930	—Breslau (Germany), 4 kw.
322	932	—Almeria (Spain), EAJ18.
319.1	940	—Dublin 2RN, 1.5 kw.
318	943	—Lahtis (Finland).
317	946	—Milan (1MI), 7 kw.
312.5	960	—Newcastle (5NO), 1.5 kw.
310	967	—Zagreb (Yugoslavia), 0.35 kw. DAILY—**6.0 p.m.**
309	970	—Marseilles PTT, 0.5 kw. WEEKDAYS—**9.0. p.m. Concert.**
306.1	980	—Belfast (2BE), 1.5 kw.
304	986	—Björneborg (Finland). Relays Helsingfors.
303	990	—Nürnberg (Germany), 4 kw. Relays Munich.
302	993	—Paris (Radio Vitus), 1 kw. WEDNESDAYS, FRIDAYS, and SUNDAYS. From **9—10.45 p.m., Concert.**
300	1000	—Carthagena EAJ16, 1 kw.
297	1010	—Agen (France), 0.25 kw. TUES. and FRI.—**9.30 p.m., Concert.**
297	1010	—Liverpool (6LV), 0.2 kw.
297	1010	—Hanover (Germany), 0.7 kw. Relays Hamburg.
297	1010	—Varberg, 0.2 kw. Relays Göteborg.
297	1010	—Jyvaskyla (Finland), 0.2 kw. Relays Helsingfors.
294.1	1020	—Hull (6KH), 0.2 kw.
294.1	1020	—Dundee (2DE), 0.2 kw.
294.1	1020	—Stoke (6ST), 0.2 kw.
294.1	1020	—Swansea (5SX), 0.2 kw.
294.1	1020	—Uddevalla (Sweden), 0.25 kw. Relays Göteborg.
294.1	1020	—Innsbruck (Austria), 0.5 kw. Relays Vienna.
294.1	1020	—Rennes (France), 0.5 kw.
291.3	1030	—Lyons (Radio-Lyon), 1.5 kw. WEEKDAYS—**7.15 p.m.,** News. WEEKDAYS (except MON.), **7.45 p.m., Concert.**
288.5	1040	—Edinburgh (2EH), 0.2 kw.
287.9	1042	—Lille, 0.5 kw. PTT.
283	1060	—Dortmund (Germany), 1.5 kw. Relays Muenster.
280	1071	—Oviedo (Spain), 0.75 kw.
278	1079	—Grenoble, 1 kw. WED. and SAT. only.
277.8	1080	—Leeds (2 LS), 0.2 kw.
277.8	1080	—Trollhättan (Sweden), 1 kw. Relays Göteborg.
275.2	1090	—Dresden (Germany), 0.7 kw. Relays Leipzig.
275.2	1090	—Jacobstad (Finland).
275.2	1090	—Nottingham (England), 5NG, 0.2 kw.
275.2	1090	—Norrköping(Sweden), 0.25 kw. Relays Stockholm.
275	1090	—Bordeaux (Lafayette), PTT, 1 kw.
273	1098	—Limoges (France), 0.5 kw.
272.7	1100	—Sheffield (6FL), 0.2 kw.
272.7	1100	—Danzig, 0.75 kw. DAILY—**10.0 a.m.,** Weather. **10.30 a.m., Concert. 1.15 p.m.,** Exchange Quotations. **3.0 p.m.,** Relays Koenigsberg.
272.7	1100	—Hudiksvall, 0.25 kw. Relays Stockholm.
272.7	1100	—Klagenfurt (Austria), 1.5 kw. Relays Vienna.
272.7	1100	—Cassel (Germany), 0.7 kw. Relays Frankfurt.
268	1119	—Lisbon (Portugal).
263.2	1140	—Bratislava (Czecho-Slovakia), 0.5 kw.
260.9	1150	—Malmö (Sweden), 1 kw.
259	1160	—Toulouse (France) PTT, 0.5 kw.
256	1172	—Kiel (Germany), 0.7 kw. Relays Hamburg.
254.2	1190	—Kalmar (Sweden), 0.25 kw. Relays Stockholm.
252.1	1190	—Bradford (2LS) 0.2 kw. Transmits Leeds Programmes.
252.1	1190	—Montpellier (France), 1 kw. WEEKDAYS—**8.45 p.m.,** News. **9.0 p.m., Concert** or Talk.
252.1	1190	—Bremen (Germany), 0.75 kw. Relays Hamburg.
252.1	1190	—Säffle (Sweden), 0.5 kw. Relays Stockholm.
250	1200	—Eskilstuna (Sweden), 0.25 kw. Relays Stockholm.
250	1200	—Gleiwitz (Germany), 0.7 kw. Relays Breslau.
250	1200	—Uleaborg (Finland). Relays Helsingfors, 0.2 kw.
243.9	1230	—Trondhjem (Norway).
241.9	1240	—Muenster (Germany) m.s. in Morse, 1.5 kw.
238.1	1260	—Kiruna (Sweden), 0.25 kw. Relays Boden.
237	1265	—Bordeaux, 1.5 kw.
236.2	1270	—Örebro, 0.25 kw. Relays Stockholm.
236.2	1270	—Stettin (Germany) Relays Berlin, 0.75 kw.
230.2	1303	—Boras (Sweden), 1 kw. Relays Göteborg.
229	1310	—Hälsingborg, 0.25 kw. Relays Malmö.
229	1310	—Umea, 0.25 kw. Relays Stockholm.
225.6	1330	—Belgrade (Serbia), 2 kw.
222.2	1350	—Strasbourg, 0.1 kw. TUESDAY and THURSDAY—**10.0 p.m., Concert,** Talk and News.
220.6	1360	—Karlstad (Sweden), 0.25 kw. Relays Stockholm
217.4	1380	—Luxembourg, 0.25 kw.
215.8	1390	—Halmstad (Sweden), 0.25 kw. Relays Malmö.
214.3	1400	—Viborg (Finland), 0.7 kw.
204.1	1470	—Gävle (Sweden), 0.25 kw. Relays Stockholm.
202.7	1480	—Kristinehamn (Sweden), 0.1 kw. Relays Stockholm.
201.3	1490	—Jönköping (Sweden), 0.5 kw. Relays Stockholm.
200	1500	—Biarritz (Côte d'Argent, France), 0.25 kw.
196	1530	—Kariskrona (Sweden), 0.25 kw. Relays Stockholm.
187.5	1600	—Örnskoldsvik, 0.25 kw. Relays Sundsvall.
158	1899	—Beziers (France), 0.5 kw.
45	6666	—Rome (1AX).
37	8108	—Radio Vitus (Paris).
32	9375	—Berne (Switzerland), EH90C, 1.005 kw.
32	9375	Radio Club of Zurich, EH9XD.
85	3529	
31	9677	—Eindhoven (Holland) (Experimenting) PCJJ TUES. and THURS. (Closed temporarily
24	12500	—Chelmsford (5SW), 15 kw.

U.S.A.

M.	Kc.	
526	570	—Chicago (KYW), 2.5 kw.
491.5	610	—New York (WEAF), 50 kw.
491.5	610	—Portland (KGW), 1 kw.
468.5	640	—Los Angeles (KFI), 5 kw.
454.3	660	—Boundbrook, N.Y. (WJZ), 30 kw.
440.9	680	—Detroit (WJR), 5 kw.
440.9	680	—Detroit (WCX), 5 kw.
428.3	700	—Cincinnati (WLW), 5 kw.
405.2	740	—Minneapolis (WCCO), 5 kw.
399.8	750	—Cleveland (WTAM), 3.5 kw.
389.6	770	—Chicago (WBBM), 1 kw.
384.4	780	—Oakland (KGO), 5 kw.
379.5	790	—Schenectady (WGY), 100 kw.
352.7	850	—Davenport (WOC), 5 kw.
344.6	870	—Chicago (WLS), 5 kw.
344.6	870	—Zion, Ill. (WCBD), 5 kw.
333.1	900	—Springfield (WBZ), 15 kw.
325.9	920	—Denver (KOA), 5 kw.
315.6	950	—Pittsburgh East (KDKA)
305.9	980	—Chicago (WGN), 15 kw.
299.8	1000	—San Francisco (KPO), 1 kw.
285.5	1050	—Baltimore Md. (WBAL), 3 kw.
272.6	1100	—Atlantic City (WPG), 2.5 kw.
270.1	1110	—Shenandoah, Iowa (KFNF), 1 kw.
256.2	1170	—Staten Island, N.Y. (WBBR), 1 kw.
238	1260	—Michigan—Radio Lighthouse (WEMC), 1 kw.
90	3333	—Bournbrook N.J. (3XL).
65.18	4600	—Newark, N.J. 0.25 kw, 2XBA (S.W. of WAAM). Transmits between **12 mnt.** and **5 a.m.** TUESDAYS, THURSDAYS and SATURDAYS.
64	4687	—Richmond Hill, N.Y. (WABC), 0.5 kw.
62.5	4800	—Pittsburgh East (Westinghouse Electric) KDKA
54	5555	—Brooklyn, N.Y. (WCGV), 0.5 kw.
52.02	5767	—Cincinnati (WLW). Relays medium wave transmissions from **11.50 a.m.** G.M.T. Except SUN. and FRI.
43.35	6920	—New Brunswick (WIZ). Experiments occasionally.
32.77	9155	—Schenectady (General Electric Co.) 2XAF. TUESDAYS, **11 p.m.** to **4.30 a.m.** THURSDAYS, **11 p.m.** to **3.30 a.m. G.M.T.**
30.91	9706	—New York (WRNY).
26	11,539	—Pittsburgh East (Westinghouse Electric) (KDKA).
22.8	13,158	—Fort Wayne Ind. (WOWO) 1 kw.
22.1	13574	—2XE (S.W. of WABC). Richmond Hill, N.Y.
21.96	13,661	—Schenectady (General Electric Co.), 2XAD. MONDAY, WEDNESDAY and FRIDAY, **11 p.m.** to **4 a.m.** SATURDAYS, **7 p.m.** to **10 p.m., G.M.T.**
16.02	18,726	—Rocky Point (2XG). MON. and FRI., after **5 p.m.**

CANADA.

516.0	580	—Edmonton (CNRE), 0.5 kw.
434.5	690	—Ottawa (CNRO), 0.5 kw.
434.3	690	—Calgary (CNRC), 0.5 kw.
411	730	—Montreal (CKAC), 1.5 kw.
411	730	—Montreal (CNRM), 0.5 kw.
384.4	781	—Winnipeg (CNRW), 0.5 kw.
384.4	781	—Winnipeg (CKY), 0.5 kw.
357	840	—Toronto (CFCA), 0.5 kw.
356.9	841	—Toronto (CKCL), 0.5 kw.
356.9	841	—Toronto (CNRT), 0.5 kw.
340.7	880	—Quebec (CNRQ).
329.5	911	—Saskatoon (CNRS), 0.5 kw.
322.4	930	—Moncton, N.B. (CNRA), 0.5 kw.
312.3	960	—Regina (CNRR), 0.5 kw.
201	1030	—Vancouver (CNRV), 0.5 kw.

SOUTH AMERICA.

380	789	—Lima, Peru (OAX), 6 kw.

SOUTH AFRICA.

443.5	676	—Johannesburg (JB), 0.5 kw.
400	750	—Durban, 1.5 kw.
375	800	—Cape Town, 1.5 kw.

AFRICA.

1850	162	—Radio Carthage (Tunis) TNV, 5 kw. News, **4.0—5.20 p.m.; Concert, 6.0—9.0 p.m.**
310	967	—Algiers (PTT), 2 kw.—**Concert, 6.10 p.m.**
305	984	—Radio Casa-Blanca (Morocco), 2.5 kw.—SUNDAY, **7.0 a.m.—11.0 a.m.; 1.0—3.0 p.m.;** Dance Music, **7.0—11.0 p.m.** WEEKDAYS **6.0—9.0 p.m.**

AUSTRALIA.

1250	240	—Perth (6WF), 5 kw.
481	620	—Melbourne (3AR), 3 kw.
442	678	—Sydney (2FC), 5 kw.
395	759	—Adelaide (5CL), 5 kw.
385	779	—Brisbane (4QG), 5 kw.
371	808	—Melbourne (3LO), 5 kw.
358	850	—Sydney (2BL), 5 kw.
28.5	10526	—Sydney (2FC).

NEW ZEALAND.

463	647	—Dunedin (4YA), 0.25 kw.
420	714	—Wellington (2YA), 5 kw.
333	901	—Auckland (1YA), 0.5 kw.
306	980	—Christchurch (3YA), 0.5 kw.

INDIA.

370.4	810	—Calcutta (7CA), 3 kw.
357.1	840	—Bombay (7BY), 3 kw.
350	857	—Rangoon, Burma (2HZ), 0.35 kw.

JAPAN.

375	800	—Tokyo (JOAK), 1 kw.

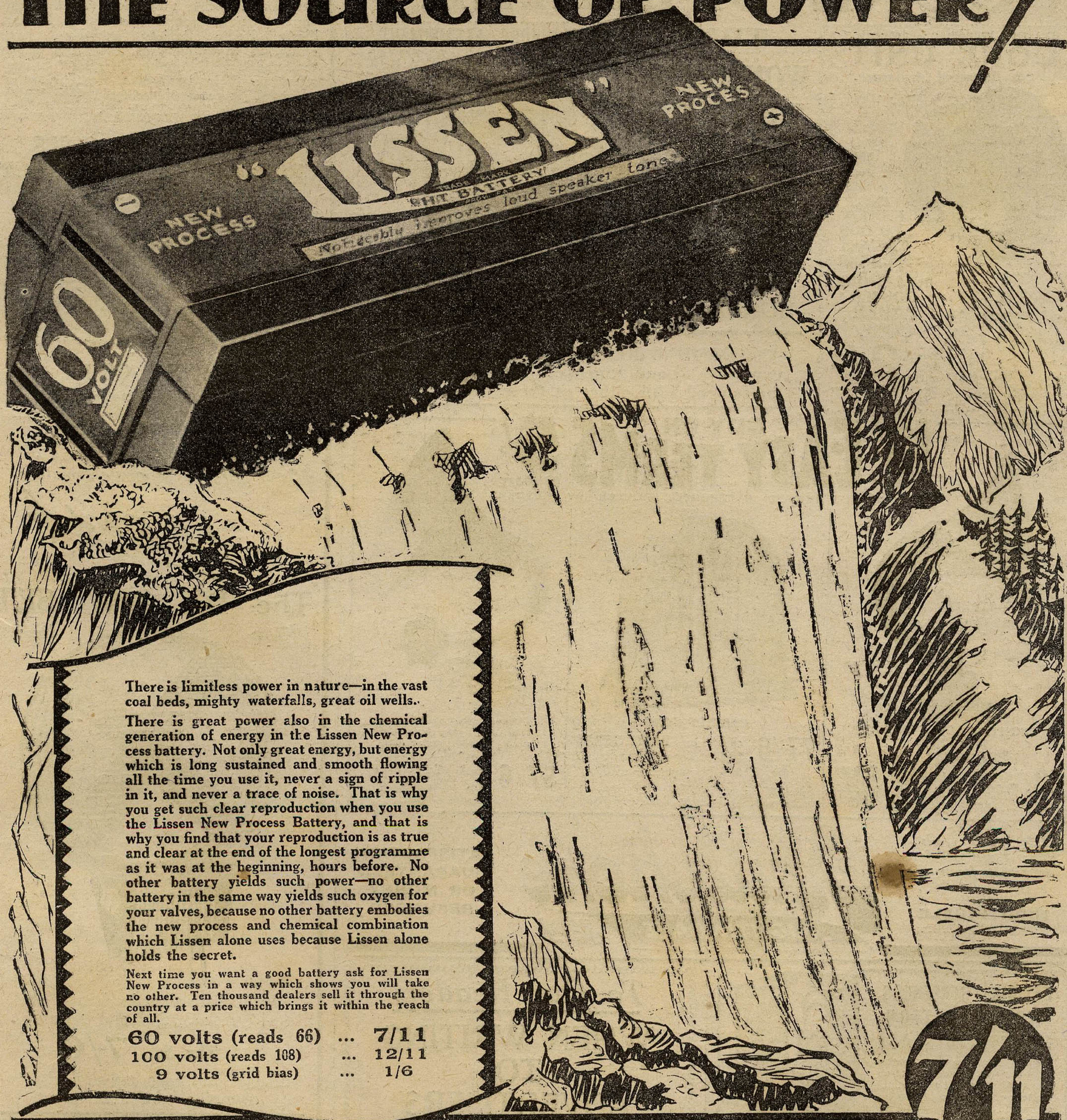
CEYLON.

800	375	—Colombo (Ceylon), 1.75 kw.

DUTCH EAST INDIES.

17	17,647	—Bandoeng (Java) (ANH) (Radio Malabar). MONDAY, WEDNESDAY and FRIDAY, **7.0 a.m.** to **12 noon.** TUESDAY, THURSDAY and SATURDAY, **12 noon—5.0 p.m.**

THE SOURCE OF POWER!



There is limitless power in nature—in the vast coal beds, mighty waterfalls, great oil wells..

There is great power also in the chemical generation of energy in the Lissen New Process battery. Not only great energy, but energy which is long sustained and smooth flowing all the time you use it, never a sign of ripple in it, and never a trace of noise. That is why you get such clear reproduction when you use the Lissen New Process Battery, and that is why you find that your reproduction is as true and clear at the end of the longest programme as it was at the beginning, hours before. No other battery yields such power—no other battery in the same way yields such oxygen for your valves, because no other battery embodies the new process and chemical combination which Lissen alone uses because Lissen alone holds the secret.

Next time you want a good battery ask for Lissen New Process in a way which shows you will take no other. Ten thousand dealers sell it through the country at a price which brings it within the reach of all.

60 volts (reads 66)	...	7/11
100 volts (reads 108)	...	12/11
9 volts (grid bias)	...	1/6

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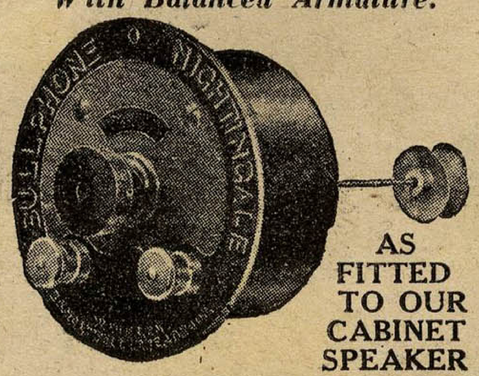
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MAKE YOUR OWN CONE SPEAKER

The New Wonder "Nightingale"

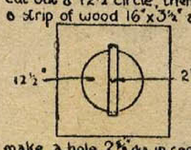
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With Balanced Armature.



AS FITTED TO OUR CABINET SPEAKER

From a 3 ply board, 3ft square cut out a 12½" circle, then cut a strip of wood 16"x3¾" and



make a hole 2⅝" dia in centre, this will carry the unit. Fix strip to board as shown.

BULLPHONE DOUBLE PAPER CONE

Post 3d. extra. **2/-**

As fitted to our own speakers.

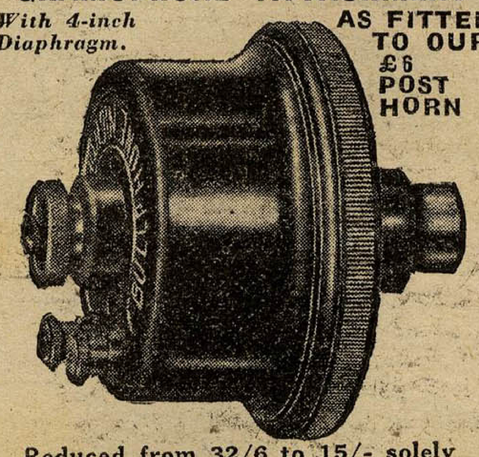
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With 4-inch Diaphragm.

AS FITTED TO OUR £6 POST HORN



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ASTONISHING RESULTS, equal to the most expensive Loud Speakers yet made, are guaranteed with either of these Units.

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SEND DEPOSIT NOW—NO REFERENCES—SPEAKER BY RETURN



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Size 17 ins. high by 15 ins., in Mahogany, Walnut or Rosewood finish.



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21 ins. high, with 14-inch Bell, Mahogany finished, with plated arm and stand.

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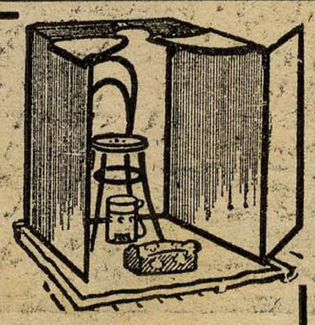
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It provides hot air, vapour, and medicated baths in the privacy of home. It purifies the body outwardly and inwardly, vitalises the blood, relieves the organs, drives out disease, establishes health, and fortifies the body alike against wintry weather and the microbes of summer fevers. It does wonders, as thousands testify. Used and recommended by medical men and the editors of the various health magazines. Booklet post free.

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DX STANDARD COILS.

CROSS-CUT PINS—PERFECT FITTING.

No. 25	1/-	No. 125	1/10
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No. 35	1/2	No. 175	2/2
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DX "X" COILS.

Tapped at ¼ and ½, fitted reversible pin, giving ¼, ½ and ¾.

Four sizes.

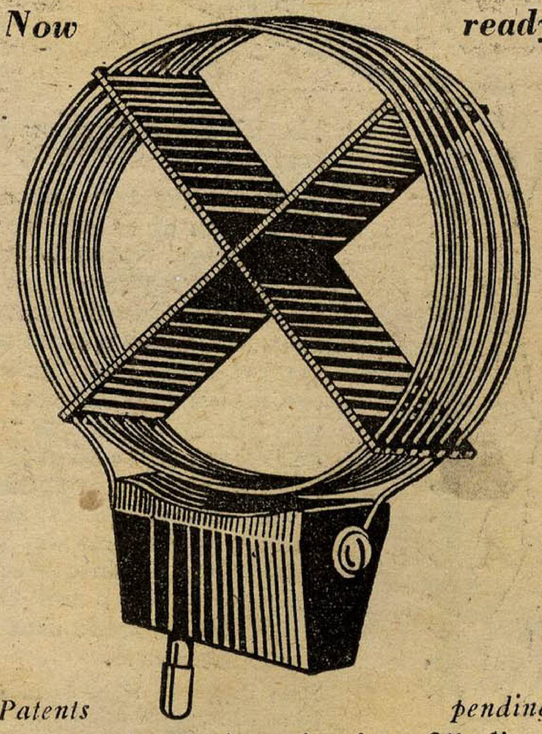
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4 sizes : 3, 5, 7 and 9 turns.

The Set 7/6

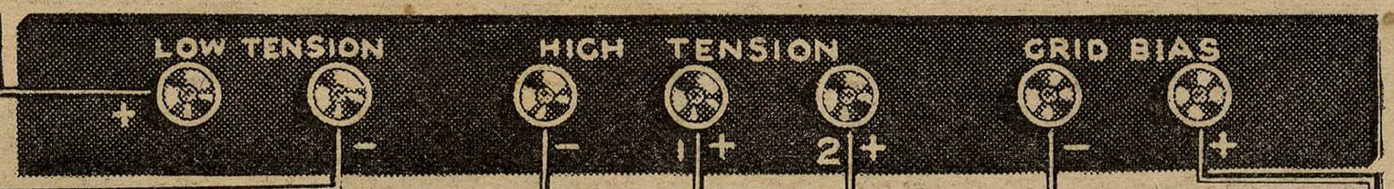
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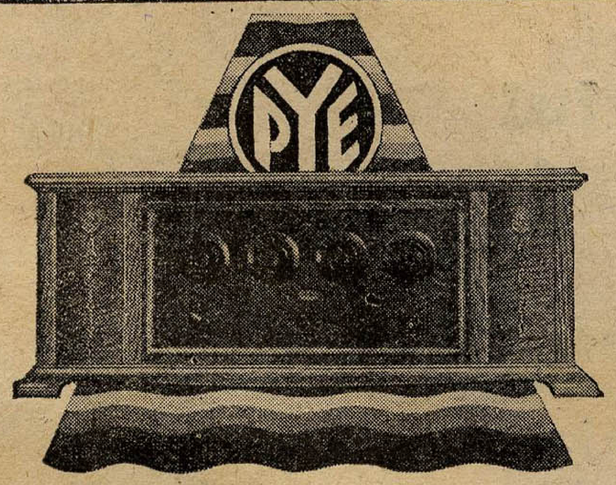
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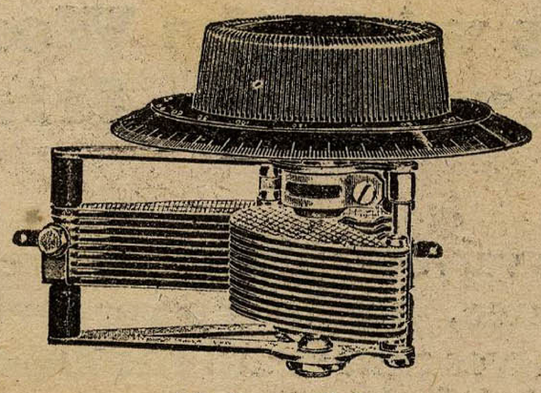


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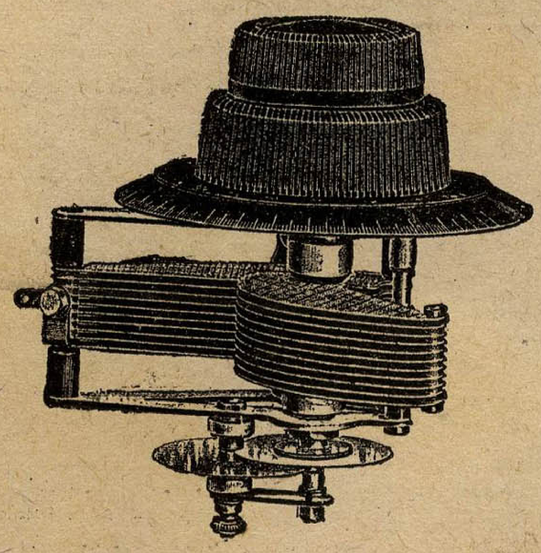
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