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FRIDAY, JULY 8, 1927.

Two Pence.

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WORLD-RADIO

Station Identification Panel (No. 70.)

RADIO-VITUS (Paris).

Wavelength: 322.6 m. Power: 350 w. Frequency: 930 kc.

Approximate distance from London: 212 miles.

Opening Signal: Ticking of metronome. Call: Allo! Allo! Ici le poste de Montmartre Radio-Vitus.

Interval Signal: The ringing of two bells: F sharp, D sharp, and abbre-viated call: "Radio-Vitus."

Closes down with Marseillaise (when the orchestra is in studio) and usual French formula.

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From the Swiss

A Review of European Programmes

By YODELLER

LAMING" June is now at an end, and here in Switzerland it has done its best to live up to its reputation for sunshine, and for radio reception the month has been passably I have managed to pick up some wonderful operatic items, and for the lover of opera Switzerland is indeed a paradise, being within easy reaching-out distance of such places as Rome; Vienna, with its magnificent Grand Opera House; Milan, and the Scala Theatre; and all the German operaloving cities. Space does not permit of my discussing all the operas and other items of note I have heard in this past month, so I must content myself with mention of just a few of the outstanding

Sunday, June 12: I picked up a fine performance of Verdi's Rigoletto, relayed from the New Theatre, Leipzig, and, on the Tuesday following, Suppe's comic opera Poet and Peasant from the same station. Later on in the evening I turned over to Radio Paris for a studio version of Samson and Delilah, with several of the stars from the Paris

Opera taking the leading parts.

Wednesday, June 15; During the lunch hour, tuned in Lausanne for the usual hour's gramophone music, and was much surprised to hear coming from a Swiss station the stirring strains of Elgar's Land of Hope and Glory, played by a Guards band. Early this same evening picked up a recital of Italian music by the Leipzig Symphony Orchestra, a very fine combination indeed. About 9 p.m. went over to Bruenn for Verdi's opera Aida, relayed from the Bratislava National Theatre, and

thoroughly enjoyed the whole performance.

The next day I heard what to me was one of the best things of the month—a concert from Munich. The executants were a wonderful trio whose names I am unable to find out, but whose playing of the piano, 'cello, and violin was indeed a revelation.

Saturday, June 18: I was listening to Daventry and the community singing of the children at the "Gug Nuncs" party, and thought how thoroughly the youngsters were enjoying themselves. One young gentleman in particular seemed to be putting his whole soul into his vocal efforts; he may be pleased to know that he was heard in Switzerland. In the evening picked up a truly splendid rendering of The Geisha from Vienna, an opera

rendering of *The Geisha* from Vienna, an opera this station seems particularly fond of, and later on found Langenberg doing *I Pagliacci*.

The next day, Sunday, during the afternoon, found Breslau coming in with great strength, with a concert of Balalaika music, played by a Russian orchestra—quite a pleasing little broadcast.

For some time I have noticed the Eiffel Tower comes in at simply terrific strength in the evenings.

comes in at simply terrific strength in the evenings after 8 p.m., and on Monday, the 20th, turned on this station and received a very fine concert of operatic selections from all the well-known operas.

One of the best light opera performances of the month came from Frankfurt-on-Main the following night, The Count of Luxemburg, and one could not help admiring the wonderful playing of the orchestra with its perfect rhythm and balance. This same evening a little earlier I had been listening to the first half of A Midsummer Night's Dream from Daventry, and found it absolutely perfect, using only two valves and headphones, no atmospherics

whatever being present.

Wednesday, June 22: In the evening picked up
the 3rd and 4th Acts of Carmen from Milan, a station whose operas are always as near perfect as possible. Two days later, from Berne, I heard an Englishwoman, Miss Olga Thomas, of London, giving a piano recital, quite a welcome surprise, for one so seldom hears anything of English performers on the Continent.

The last few days of the month the principal items were the following: A performance of Handel's Messiah by a huge choir from Stuttgart; La Traviata from the Scala, Milan; the German Derby, and sounds of racing motors, relayed from Koenigswusterhausen, the German high-power station; and a yodelling concert from Berne.

I have also picked up several mandoline, zither, and accordion concerts, and, late at night, dance music and cabaret performances can be heard from most of the German stations.

SUMMARY.

On only two nights during this month have I been absolutely prevented from listening, and then the causes were terrific thunderstorms when only (Continued on page 27.)



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(Continued from Page 25.)

madman would have turned on his wireless. Many times atmospherics have been so bad as to prevent listening to some stations with any degree of comfort, but always I have been able to get out of this difficulty by using my indoor aerial (consisting of a length of ribbon gauze slung round the ceiling) and dropping down to a low wavelength, or turning over to Lausanne, my local station, from which atmospherics are seldom heard.

Broadcasting during the day-time has been particularly good, and I have been astonished at the number of quite small-power stations which I have been able to pull in before sunset, and it seems that it has been only after that hour that static interference has been so bad. Some of the smaller French stations have been making themselves heard before dusk, the best of which have been Radio Lyon, and Lyon PTT, both of which will work my haut parleur on three valves.

Daventry, too, has been doing well in the daylight, and the morning concerts have been coming in with almost greater strength than those at night. I am told that great alterations are to be made in the Italian broadcasting stations shortly, and that new stations are to be built, and the existing ones will have their power increased; if these plans mature Italy should find a very prominent place in the Continental ether.

(Continued from column 3.)

nection while they are really loose or the coils in transformers are shorting, or the aerial wire has frayed by continual waving about in the wind. Insulation has been known to give way gradually, and all these troubles will cause noises to come out of the loud speaker. The tracing of a fault of this kind is the most irritating and difficult job, but a few general rules may help the user to locate the more obvious.

Aerial or Set?

The first question to be asked is, "Are these extraneous noises coming from the aerial, or are they somewhere in the set?" A test is extremely

Remove the aerial and if the noises stop, the aerial is responsible. If the noises go on the set is responsible. If the aerial is responsible leave it on and get somebody to waggle it about at various places and you will soon find the cause of the trouble. If the aerial is not responsible it may be the H.T. battery. Quite a good test for this is the removing of the H.T. batteries one by one, and if you have a high-resistance loud-speaker, clap the batteries straight across the loud-speaker. If there is just one great plonk as you put the battery across the loud-speaker and then silence, the battery is all right. If there are crackles, provided you make a good connection, the battery that makes the crackles is wrong.

Do not leave the batteries too long, because

there is rather a high discharge rate, and if possible put a battery on step by step, a few volts first when

you may find the fault quickly.

If it is in the set it may be in the high frequency or the low frequency. You can, at any rate, find it if it is in the low frequency by moving the high-frequency valves and seeing if it still goes on. The judicious pulling about of connections one by one (so that the pulling about does not affect other connections) is not a bad way of locating the trouble, and very often a bad joint can be discovered in this

Conclusion.

It is impossible in a short article, and it would be very difficult in a long one, to indicate how to trace faults certainly, and one has to cultivate the detective instinct before one can be absolutely certain of finding a fault. The above, however, may be of help in locating the more obvious troubles.

A Terrible Threat.

A broadcast listener at Long Beach, California, has sent out a circular letter to all American broadcasting stations giving notice that unless all jazz is immediately discontinued he will scrap his set.—Radio News of Canada.

TECHNICAL CONSIDERATIONS.

By Capt. P. P. ECKERSLEY.

XIV.—Fault Finding and Receiver Maintenance.

ANY sets which are in use may be quite well designed, but may suffer from bad main-tenance, not necessarily because the user does not want to keep them in good condition, but more because he does not know how. To take points in detail.

High Tension.

Most people use high-tension batteries, and the voltages that are supposed to be given by these batteries are labelled on them, and it is fair to the set to expect that these voltages shall be maintained within 15 per cent., that is, 15 parts in 100, or, say, about 10 volts in 60. To wet one's fingers and find the degree of shock is one way of testing the

added up comes to, shall we say, 2 ampères? This means that the LT battery should last for 20 hours. In other words, you divide the ampère capacity by the current taken up by the valves, and you get the length of life of the battery or the time between charges.

Valves:

I am only talking of maintenance in this article; therefore the choice of valves is not dealt with, but there is one point which is rather important and that is whether valves continue to give their emission. I have been very severely "had" with bad quality, owing to a very old valve maintaining itself quite well as a lamp, but not as a valve. The passing of the current through the filament makes the filament hot, and this filament gives off electrons which are attracted by the H.T. battery through

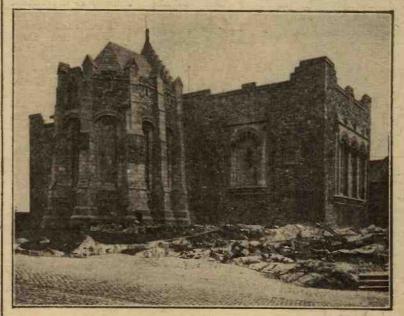
the vacuous space between the filament and the anode. If the supply of electrons from the filament is not enough, then the H.T. current is also not enough, and limiting sets in. This is somewhat difficult to test, but it is not a bad idea to take this same volt meter and connect it in series with the H.T. battery. This is quite conveniently done by removing one of the H.T. plugs and putting it into one terminal of the volt meter and taking the other terminal of the volt meter and putting it on to the socket where the plug was removed from. The volt meter will then read something probably and a note of this reading should be taken. From time to time it is as well to see that provided the H.T. battery is up and provided the L.T. battery is up, and provided the grid battery is the same voltage as normally this reading should stay the same. If it does not stay

the same, and if all the batteries are in their right condition, the valve filament is not giving enough emission, and the valve should be renewed. Some valves lose their emission before they burn out. The user need not be so fearful of this happening, unless he is using a power valve up to somewhere near the limit of that valve's capacity.

Grid Battery. There is a theory that the grid battery—that is, that battery which maintains constant negative potential on the grid of the low-frequency amplifier valves-takes no load and therefore never wears Unfortunately this is not so, and this battery, anything from 2 to 15 volts usually, requires testing from time to time. Probably it should last about six months. As this battery is only about 10 volts, and as the L.T. battery or accumulator is usually 2 to 6 volts, and as the H.T. battery is 60 volts it is as well to buy a volt meter which has two ranges, one up to, say, 15 volts, and one to

Assuming the H.T., L.T., grid negatives and the valves are right nothing should go wrong with the set except bad connections inside or outside it.

Soldered joints are apt to give trouble at times, and may look as if they are making a perfect con(Continued in column 1.)



Scottish War Memorial, Edinburgh Castle. The Opening ceremony, which will be broadcast (see Daventry Programme), on Thursday, July 14.

battery, but not a highly accurate one, and the writer advises that the user of a wireless set get hold of a volt meter of a quite cheap design, reading up to 100 volts, so that he may from time to time test his batteries quantitatively. There is one point about this: test the batteries when the set is switched on, not as it is called "on open circuit"that is to say, let the batteries be doing some work because they are apt to be fairly optimistic about themselves when they have got nothing to do, but after some months' use they get tired when nothing is demanded of them. Thus by this small volt meter (which looks like a watch with a straggly chain), switch on the set, put one terminal of the volt meter on one side of the battery, and the other terminal on the other, see if the reading on the volt meter corresponds within 15 per cent. of that labelled on the battery. If there is a gross discrepancy, the battery is finished, and a new battery is required.

It is as well, incidentally, to find out the best way of buying batteries. Sometimes it pays to buy a high capacity battery because it will last so much longer under a given load.

Low Tension.

Say a battery is labelled that it has so many ampères capacity. Shall we say 40? Your valves are labelled that they take so much current which

Langenberg Station and its Announcers.

FROM being a small unimportant town with only about 9,500 inhabitants, Langenberg, in the Deilbach Valley, in a few weeks

attained international renown.

Munich was opened as the first broadcasting station in West Germany, on October 10, 1924.

Dortmund and Elberfeld followed on September 18 and 19, 1924, each with one station. The stations were equipped with from 1 to 3 kw. power. During the military occupation of the

stand the stress of wind and weather. This slender construction has, however, been chosen with wise foresight, to offer the least possible resistance. At a height of 90 feet from the ground a platform is built into the tower, on which are the hoists for raising the aerials. Halfway between the towers is the transmitting station (135 feet long by 72 feet wide) with all the rooms and apparatus necessary for reception of the broadcasts from the studios, control, amplifying, and retransmission

rooms, offices and sleeping apartments.

Two New Stations.

The opening ceremony took place on January 15. At the same time the station in Elberfeld was closed down, leaving the two stations in Dortmund and Muenster.

At the present time therefore there are three stations at the disposal of the Westdeutsche Rundfunk: Langenberg, Muenster, and Dortmund. On October 15 it is proposed to open two further stations, in Cologne and Aix-la-Chapelle respectively, and with these the Rhenish - Westphalian industrial areas will have an adequate broadcast service for the present.

There are studios in Muenster, Dortmund,

and Elberfeld (although Elberfeld station is no longer used, the studio has been retained). To these have been added studios in Düsseldorf and Cologne. In Cologne, as the largest town in the district (with approximately three-quarters of a million inhabitants), is centred the entire management of the Westdeutsche Rundfunk. Most transmissions are sent from the station in Cologne for relay, and are then broadcast by all three stations. It is seldom that the station in Muenster or Dortmund gives an individual broadcast of a more local character. Elberfeld is connected with Langenberg by a special cable. In case of the failure of any of the lines a microphone is installed at the Langenberg station for direct transmission.

The geographical situation of the Langenberg station is 51° 15′ north latitude, 7° 10′ east longitude.

Announcers and Calls.

There are two principal announcers: (1) Dr. Siegfried Anheisser, who possesses a sonorous voice which carries well and a slow delivery; he introduces the important orchestral and opera items; (2) Herr Alexander Maass, a gentleman with a high-pitched voice and quicker delivery, who announces the ordinary programme items.

with a high-pitched voice and quicker derivery, who announces the ordinary programme items.

The usual announcement is as follows:

"Achtung! Achtung! für die Westdeutschen Sender, Langenberg auf Welle 468.8, Muenster auf Welle 241.9, and Dortmund auf Welle 283. Meine Damen und Herren—Köln beginnt mit seinem Abendprogramm, und bringt Ihnen..."

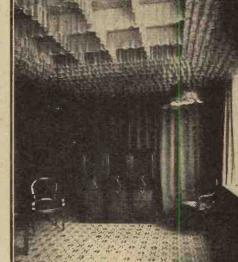
Abendprogramm, und bringt Thnen . . ."

("Hallo, Hallo, the West German Station, Langenberg, on wavelength 468.8, Muenster on wavelength 241.9, and Dortmund on wavelength 283. Ladies and Gentlemen—Cologne is beginning its evening programme with . ."

After the item follows the announcement:

"Sie hörten soeben aus Köln über die Sender Langenberg, Muenster, und Dortmund . . " ("You have just heard from Cologne through the stations Langenberg, Muenster, and Dortmund . .") or "Zum Schluss des heutigen-Konzertes hörten Sie aus Köln über Langenberg, Muenster, und Dortmund die letzten Meldungen und Sportberichte. Daran anschliessend kommt Dörtmund für die





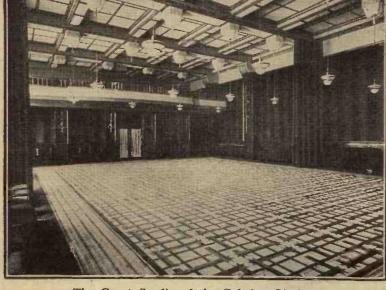
Sender Langenberg, Dortmund, und Muenster mit der Ubertragung des . . . -Konzertes wieder.

The Small Studio at Cologne.

Cologne through Langenberg, Muenster, and Dortmund. Then follows Dortmund for the Langenberg, Dortmund, and Muenster stations, relaying the . . . -Concert again. Ladies and Gentlemen, adieu—lit. 'to the next hearing.''')

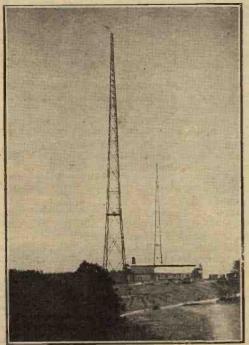
As a rule when a large orchestra is contributing to the programme the Deutschlandlied (German national anthem) follows this announcement.

(Continued at foot of page 29, column 2.)



The Great Studio of the Cologne Station.

Düsseldorf and Cologne areas broadcasting was forbidden, and when these districts were freed it became apparent that the three stations were by no means adequate for the thickly populated Rhenish-Westphalian industrial area. After careful consideration it was decided to build a high-power station of 60 kw. total input to the valves and a 25 kw. rating for telephony. The site chosen was the plateau on the Hordt, near Langenberg (some 750 feet above sea-level) for the largest of the broadcasting station. Here stand the two transmitting towers, 750 feet apart and 300 feet high, almost too slight, it would seem, to with-



Masts of the Langenberg Station.



Dr. Siegfried Anheisser, one of the Announcers

Summer Time Searching.

IT is quite likely that the fact that we are now almost at the maximum sunspot period is to blame for the lavish way in which atmospherics have been dealt out to us this summer. The last minimum period occurred in 1922-23, when, readers may remember, wireless reception was extraordinarily good, the medium-wave U.S.A. broadcasting stations being regularly heard by amateurs all over this country with quite small sets. None of these stations was then rated at more than about 1.5 kilowatt. It was prophesied by some that long-distance conditions would gradually deteriorate until the sunspot maximum was reached, after which an improvement would set in.

Improvement in the Autumn.

The first part of this prophecy at any rate has been fulfilled. Despite the enormously increased power of the American stations it has become more and more difficult to receive them, even in winter time, upon the 200 to 550 metre band, and this in spite of the fact that each year has seen more and more efficient receiving apparatus in general use. I am amongst those who expect to see a steady improvement from this autumn onwards as the intensity of the sunspot outbreak begins to decline. Certainly, it seems reasonable to connect atmospherics with the terrific outbursts of energy that are now taking place on the sun's surface, and atmospherics are the long-distance man's worst enemies; when they are powerful he cannot use his set in a sensitive condition with any comfort and he therefore misses the first faint indications of many distant signals.

During the past week we have certainly had our share of atmospherics. On every evening except Saturday they were of a powerful and incessant brand during the earlier hours. Later on, however, it was often possible to try successfully for the distant stations. Amongst those that I have heard best of late have been Barcelona EAJ1, Madrid Union Radio, Toulouse Midi, Leipzig, Breslau, Kiel, Dortmund, and—one or twice—Langenburg.

Short Wave Successes.

Luckily, there are usually compensations in nature. If she spanks you with one hand she frequently offers sugar plums with the other. If medium and long-wave reception has been bad of late, that upon the very short waves has been wonderfully good. So reliable, in fact, have 2XAF and 2XAD been that I have several times asked friends to come round specially to hear them, and so far these stations have never disappointed. 2XAF, by the way, sometimes starts operations before his advertised time. Last Friday night, for example, I picked up a musical programme from him some time before 11 p.m.

One of the week's most interesting experiences was the relaying of CNRO's broadcast of the Ottawa

One of the week's most interesting experiences was the relaying of CNRO's broadcast of the Ottawa Jubilee Celebrations via the Marconi beam station at Quebec. The transmission was made on 26.18 metres and came through exceedingly well, especially during the last three-quarters of an hour from 9.30 to 10.15 p.m., at which time it closed down. I was, in fact, able to obtain excellent loud-speaker reproduction of the comments in English and French by the two announcers, the military bands as the troops moved off parade, the cheering of the crewd, and, best of all, the wonderful pealing of the bells of the new great carillon.

The Uses of Harmonics.

I wonder if it has occurred to readers to notice the extraordinary number of harmonics of broadcasting stations that one meets with between 70 and 100 metres? With me Radio Vitus provides a very strong harmonic at just over 80 metres and I also hear those of many other Continental stations from France, Germany, Italy, and occasionally Sweden. These harmonics vary considerably in strength, and sometimes when atmospherics are bad on the ordinary broadcast band one can receive a transmission better by way of a harmonic

Woman Manager of WJZ.

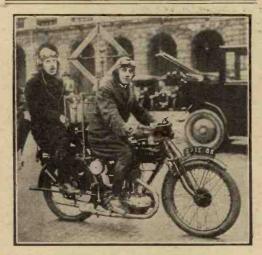


Miss Bertha Brainard, Manager of WJZ, New York.

WJZ, owned by the Radio Corporation of America ("key" station of the National Broadcasting Company's "Blue Network") is managed by Miss Bertha Brainard, who is said to be one of the pioneers in the radio broadcasting industry and to be thoroughly versed in all its branches.

After the war, during which Miss Brainard served with the motor ambulance section of the American Red Cross, she entered upon a literary career. When WJZ

came into being Miss Brainard conducted a weekly review of current New York plays from the Newark studio. She quickly acquired a thorough knowledge of the broadcasting methods then existing and became so popular with listeners that she was offered the post of representative of WJZ in New York City. From the outset, Miss Brainard proved exceptionally capable, and after acting for a period as assistant manager, she was, in 1926, made manager of the station. To-day she is one of the outstanding women in the broadcasting world, and the only woman managing a station of the size of WJZ.



A radio-equipped motor-bicycle, seen recently in Paris.

(Continued from page 28.)

When talks or speeches are given from Düsseldorf Bonn (e.g., the Beethoven Celebrations) or other towns the announcement runs as follows:

"Um 20.00 Uhr bis 21.30 bringt Düsseldorf...
für die Sender Langenberg und Dortmund.
Muenster bringt nur für den Sender Muenster...
Achtung für den Westdoutschen Rundfunk—Sie
hören über den Sender Langenberg auf Welle 468.8,
Muenster auf Welle 241.9, und Dortmund auf
Welle 283 aus Bonn..."
("From 8 p.m. till 9.30 p.m. Düsseldorf transmits

("From 8 p.m. till 9.30 p.m. Düsseldorf transmits . . . for the Langenberg and Dortmund stations. Muenster transmits only for Muenster station . . . Attention for the Westdeutsche Rundfunk. You will hear from Langenberg station on wavelength 468.8, Muenster on wavelength 341.9, and Dortmund on wavelength 283 from Bonn . . .")

The announcements of programme times follow after the 24-hour time. "Von 16.30 bis 18.00 Uhr—also von 4.30 bis 6.00 Uhr—hören Sie aus . . ." ("From 16.30 till 18 o'clock—that is from 4.30 till 6 o'clock—you will hear from . . .") As interval signal a four-note chime is given from Cologne for the Westdeutschen Rundfunk—called in jest by listeners "The Cologne Cathedral bells."

"U.S.A. Notes"

(From our New York Correspondent.)

A Broadcasting Anniversary.

The eleventh anniversary of the broadcasting of one of the first radio programmes was celebrated in New York recently. On June 11, 1916, officials of the Marconi Wireless Telegraph Company talked over a distance of sixty miles from the company's experimental station at Aldine, New Jersey, to listeners on board the steamship Bunker Hill. Conversation and phonograph music were successfully reproduced.

Chicago's Coming Station.

The National Broadcasting Company will open a radio studio in Chicago, Illinois, next autumn, according to an official of the Company. Arrangements to that end have just been completed. The new station will supply programmes to stations of the Company's Red, Blue, and Pacific Coast networks.

Lindbergh's Ovation in New York.

The reception given in the United States to Colonel Charles A. Lindbergh, the youthful trans-Atlantic flier, was probably the greatest given to any individual in the history of the country, and radio played a most important part in the proceedings. After the welcome given to Lindbergh in Washington, the nation's capital, where he landed first, the airman's departure for New York City was broadcast. His landing in an aeroplane at Mitchel Field outside of New York was announced. The great audience heard the whistles of hundreds of boats as Lindbergh landed from a city boat at the Battery in New York. Farmers a thousand miles away were thrilled by the ceremonies at New York's City Hall. They could almost visualise Governor Smith, of New York State, pinning the State's medal upon the youth in Central Park, New York. The entire welcome was a magnificent demonstration of the service radio performs.

The International Radio Conference.

President Coolidge has appointed Herbert Hoover, Secretary of Commerce, as the head of the American delegation to the International Radio Telegraph Conference, to be held in Washington on October 4. Nearly every nation of the world will be represented.

Wavelength Re-allocation Controversy.

The order of the Federal Radio Commission compelling 562 radio stations in the United States to change their waves on June 15, made it necessary for listeners to re-log practically the entire list of stations. The new permits issued by the Commission cover a period of sixty days. During that time the Commission will observe the general operation of the new plan and determine its effectiveness. The Commission issued another order a short time ago allowing broadcasters who suffered from "unreasonable and injurious interference" caused by simultaneous operation of another station, to ask for a hearing after July 15. The Broadcast Owners' Association is expected to make formal protest against the re-allocations. If unsuccessful, efforts may be made to enjoin the Government from continuing the operation of the new plan.

(Continued from column 1.)

than by tuning in the fundamental. But really I think that the queerest harmonic that I have ever heard was that of the short-wave KDKA, which I picked up on the Tuesday night on exactly half his wavelength. KDKA transmits sometimes on 14 metres. I have never been lucky enough to light upon one of these transmissions, but a correspondent tells me that he did so recently. An interesting experience on the Friday night was to hear in the course of WGY's new bulletin, relayed by 2XAD, the very latest news of the end of the Byrd trans-Atlantic flight.

(Continued at foot of column 3.)

R. W. H.

Broadcasting and Languages.

SPANISH TALK.—XX.

(To be broadcast through Daventry from the Manchester station by Mr. W. F. Bletcher on Monday, July 11, at 7.25 p.m. S.B. to all stations except Liverpool.)

Señores: Siendo ésta mi charla final, no quiero despedirme sin antes contestar a varias preguntas que he recibido de mis oyentes durante la quincena

Uno me consulta sobre las expresiones echar mano de y aquí no cabe emplear. "Echar mano de"

quiere decir to lay hold of, to make use of, como en:
"echamos mano del verbo ver." En la frase "aquí
no cabe emplear la palabra, etc." caber se usa en el sentido de to be admissible, de modo que "no cabe emplear" puede traducirse por: it is inadmissible to use. De la misma manera decimos: no cabe duda (doubt is inadmissible o there is no room for doubt).

Otro oyente me pregunta:—¿Cómo llega la expresión: / quien supiera / a tener el significado de: "I wish I could!"? Ocurre en su última charla y también en "Pepita Jimenez."

No lo sé con certeza, pero me figuro que debe de tener su origen en frases como :--;Dichoso (sería) quien (o el que) supiera el español ! = Happy (would be) he who could speak Spanish! De modo que quien supiera español! podría traducirse muy bien por : If one could only speak Spanish

Otro estudiante quiere saber si, hablando de mercancías, se puede decir: se las fabrica en Italia. No, señor; sería un galicismo emplear se como en francés se emplea on, porque en español, tratándose de objetos inanimados, o se emplea la forma reflexiva, como en: se fabrican (las mercancias) en Italia, o la voz pasiva: son fabricadas en Italia. Pero si el objeto es personal, como en: she was seen yesterday, entonces sí que se emplea se como sujeto indefinido y decimos: se la vió ayer.

Otras preguntas que se me han sometido son :-¿Cómo se traduce :-

I have no money to spare for such things. (No me sobra dinero para tales cosas.)

Can you spare me for a few days?
(¿Puede Vd. pasarse sin mí por unos días?) We shall spare no effort to oblige you.

(No perdonaremos esfuerzo para complacerle a Vd.)

It will not pay us to sell at this price. (No nos tendrá cuenta vender a este precio.) Finalmente, un oyente me pide que le traduzca

una cartita que desea dirigir a una librería española. Pues ahí va :-

"Muy señor mío: Agradeceré a Vd. me envíe un ejemplar de (tal libro) por (tal autor), diciéndome

su precio: (1) nuevo, (2) de lance, e indicándome al mismo tiempo como se ha de efectuar el pago por correo. En Inglaterra la Administración de Correos exige las señas completas del receptor y la dirección de la casa de correos más cercana."

.

En mi última charla prometí continuar esta noche el relato de "Un dia en Toledo," pero siendo ésta mi charla de despedida, prefiero hablar con Vds. directamente y en tono más íntimo.

Contando la presente charla, son ya 212 las veces que he aprarecido delante del micrófono en esta estación emisora de Manchester para dar mis charlas españolas. Al decir esta estación no hablo con absoluta exactitud, pues la estación de hoy es la tercera y difiere enormemente de la diminuta estación primitiva de donde el 17 de Mayo de 1923, o sea, hace cuatro años y dos meses, me dirigi por vez primera a mi auditorio desconocido e invisible. Pero yo no fuí el primero de los conferencistas sobre lenguas extranjeras, pues cuando yo principié mis "charlas," esta estación ya radiaba semanalmente dos lecciones de francés y una de alemán, de modo que con las dos charlas españolas que no vaciló en asignarme a mí el entonces director, iteníamos nada menos que cinco lecciones de idiomas extranjeros cada semana! Desde entonces ha habido muchos cambios, y mis pobres charlas han sufrido la mar de peripecias (ups and downs), pues con el desarrollo de la radiodifusión y la gradual centralización de las emisiones, se ha venido reduciendo el tiempo disponible para charlas educativas de esta clase, cosa que siento mucho.

Hace tres años ya que con la idea de ayudar a mis oyentes tanto en Inglaterra como en España, establecí el sistema de correspondencia internacional entre ingleses que estudiaban el español y españoles que estudiaban el inglés. Un número bastante crecido de mis oyentes se han aprovechado de esta oportunidad, y últimamente varios de ellos me han escrito en tono muy agradecido diciéndome que el intercambio de cartas y de ideas ha dado lugar a amistades de carácter muy intimo, tanto que en muchos casos los oyentes españoles han invitado muy cordialmente a sus corresponsales ingleses a hacerles una visita y pasar algún tiempo con ellos como convidados suyos. Varios han

aceptado y han ido a pasar sus vacaciones en compañía de sus hospitalarios amigos españoles.

Todo esto es bueno, muy bueno. Y a mí me enorgullece mucho el haber contribuido mi pequeña cuota hacia un mayor acercamiento de los dos pueblos. Pues sólo con el fomento de la amistad y fraternidad internacional puede ahora progresar el mundo. El antiguo orden se ha ido para no volver más. El odiado extranjero es ya el respetado vecino. En España a menudo oimos la expresión "honor inglés" o "honradez inglesa," y ahora nosotros, a nuestra vez, empezamos a reconocer que no monopolizamos todas las virtudes, sino que tenemos mucho que aprender hasta del español, cuyo temperamento impulsivo y cuyo innato amor a las corridas de toros han creado una impresión completamente errónea de su verdadero carácter. ol cual, en muchos sentidos, y a pesar de todos sus defectos, es realmente hermoso, como lo atestiguan casi sin excepción los que han viajado por España y publicado sus experiencias.

N.B.-Listeners are advised to provide themselves beforehand with paper and pencil, as a short dictation test in Spanish and two English sentences for translation will be given at the end of the talk.

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

FRENCH TALK.—XVIII.

The following is the text of the dictation test and the translation of the test sentences given at the end of the French Talk on July 4:-

Un vieux médecin, autrefois célèbre, avait peu à peu perdu la mémoire en vieillissant. Il n'avait plus de clients. Parfois cependant il demandait à ses domestiques pourquoi on ne venait plus le chercher. "Monsieur, lui répondait-on, il n'y a plus de malades, vous avez guéri tout le monde." Et le vieillard était satisfait.

Erratum.-We regret certain obvious errors which by an oversight appeared in the printed text of the last French dictation.

Translation of Test Sentences.

- (a) We are delighted that you have succeeded. Nous sommes enchantés que vous ayez réussi.
- (b) I am surprised that you have not read the paper. Je m'étonne (or Je suis étonné) que vous n'ayez pas lu le journal.

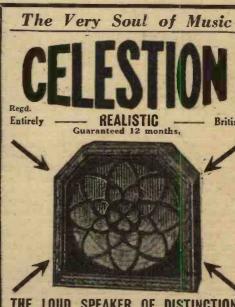
We reprint below two lists of subjects set for the Foreign Language Competition, from which intending competitors may make a choice.

French.

- (1) Study the characters of M. Jourdain and Madame Jourdain in Le Bourgeois Gentilhomme.
- (2) A certain critic says: "At a time when both poetry and prose had come to be the expression of personal experience and emotion Mérimée is, throughout his work, strictly impersonal." Discuss this statement with reference to Mateo Falcone.
- Which of the tales broadcast from Alphonse Daudet's Lettres de mon Moulin do you prefer? Give the reasons for your choice.

Spanish.

- (1) Spanish Hospitality.
- (2) Spanish and English Sport Compared.
- (3) The Spanish Señorita.



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CONDITIONS OF ENTRY.

- (1) Entries must be received not later than the
- first post on Saturday, October 1 next.

 (2) The competitor must hold the Post Office listener's licence.
- (3) He must become a registered reader of World-Radio for at least 6 calendar months.
- (4) No member of the B.B.C. staff is eligible.
 (5) No competitor shall write the essay in his mother tongue.
- (6) Qualified competitors can select their subjects from a list of six which will be found on the opposite page. The subjects announced bear upon the talks given throughout the preceding period.

 (7) The decision of the Editor of World-Radio
- shall be final.
- (8) Entry into the competition involves acceptance

of these conditions.

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Continental Programme

NOTE: An alteration has been made in the Langenberg programme for Saturday, July 9, at 8 p.m. as follows:—Instead of the Beethoven Chamber Music, as published last week, there will be a relay from the Stadt Theater, Coblenz, followed at 9.80 by a popular programme of prose, verse and song.

Sunday, July 10.

3 p.m.-Koenigswusterhausen (and other Ger-

man Stations). Relay of Hamburg Regatta.

5.30 p.m.—Berlin, Hamburg, Langenberg, Muenster, Dortmund.—International Football Match, Germany v. Russia, relayed from the Victoria Sports Ground, Hamburg.

p.m.—Copenhagen. (Soroe) —Danish Evening.

8.15 p.m.—Langenberg, Muenster, Dortmund.—
"Don Cesar" (Dellinger).
8.45 p.m.—Vocal Concert given

by Artists from the local Theatres.

p.m.-Berlin.-Military Marches.

9.10 p.m.—Rome.—Symphony Concert, followed by the Opera "Magia" (Pio di Pietro).

Monday, July 11.

8 p.m.—Hamburg, Frankfurt.—Concert by the Thomaner Choir, relayed from the International Music Exhibition, Frankfurt.

8.10 p.m.—Berlin.—"The Street Singer," Oper-

etta by Leo Fall.
8.15 p.m.—Leipzig.—West Slavian Folksongs.



Franz Lehar, Composer of "The Merry Widow."

(See " Austria," page 35.)

8.30 p.m.—Langenberg, Dortmund, Muenster.— Organ Recital from the Reinoldi Church in Dortmund.

8.30 p.m.-Radio-Paris.-" Romeo and Juliet" (Gounod).

8.30 p.m.-Bruenn.-Russian Songs.

Tuesday, July 12.

8 p.m.—Copenhagen.—Symphony Concert. 8.10 p.m.—Breslau.—Wagner Evening. 8.30 p.m.—Radio-Paris.—"Lakme" (Delibes).

Wednesday, July 13.
7.45 p.m.—Munich.—Symphony Concert.
8 p.m.—Brussels.—"Manon" (Massenet).
8 p.m.—Hamburg.—Concert by the

German Bugle Quartet: The Hunt. 8.15 p.m.—Leipzig.—Old Hebrew Music, showing the Historical Development of Synagogue Music.

8.15 p.m.—Frankfurt.—"Der liebe Augustin,"
Operetta by Leo Fall.

8.30 p.m.—Berlin.—Music of the 17th and 18th Centuries.

8.30 p.m.—Langenberg, Muenster, Dertmund (relayed from Düsseldorf).—To-day's "Volks-

9 p.m.-Milan.-" Madame Butterfly" (Puccini), Acts II. and III.

9.20 p.m.-Koenigsberg.-Classical Dance Music for Wind Instruments.

9.30 p.m.-Copenhagen.-Modern Danish Music.

Thursday, July 14 (French National Festival).

8 p.m.-Copenhagen, Brussels, Posen.-French Evening.

8.10 p.m. Koenigsberg. Opera, "Alessandro Stradella " (von Flotow).

8.15 p.m.—Leipzig.—A Journey round the World

in Music and Verse.

p.m.—Naples.—Neapolitan Songs.

9.10 p.m.—Rome.—Vocal and Instrumental Concert, including Acts II. and III. of "Fedora" (Puccini).

Friday, July 15.

7.15 p.m.—Langenberg, Muenster, Dortmund.— Opening Ceremony of the Cycling Race for the World's Championship, 1927, relayed from the Neumarkt in Cologne.

p.m.—Munich.—"Don Quixote," a Musical Tragi-Comedy by Georg Fuchs.

p.m.-Frankfurt, Stuttgart.-Concert of the Deutschen Kammermusik Baden-Baden, 1927, relayed from Baden Baden.

9 p.m.—Naples.—" Suori Angelica" (Puccini).

9.5 p.m.—Koenigsberg.—Franz von Suppé Programme, including the Comic Opera "The Beautiful Galathea."

10.30 p.m.—Berlin.—Folk Songs and Dances.

Saturday, July 16.

p.m.—Langenberg, Muenster, Dortmund.—Cycling Race for the World's Championship, 1927.

p.m.—Berne.—Popular Evening: Yodelling Songs by the Yodeller Club. 30 p.m.—Milan.—"I Dispettosi Amanti"

(Attilo Parelli).

Correspondence

Listening to Aeroplanes.

To the Editor of the World-Radio.

Sir,—Your article, "Listening to Aeroplanes" was most interesting. I can testify to the fascination of following these "birdmen," not only of our own, but also of most of the big Continental countries.

I successfully picked up the escort of Captain Lindbergh on the Sunday afternoon of May 29 at Brussels and followed them (not by earphones. but loud speaker at full strength) via Östend, Dunkirk, Calais, Margate, Isle of Grain, Chatham, Tilbury, Woolwich and St. Paul's, and here, unfortunately, I lost them completely. As they approached Margate I misunderstood the airman to say Moorgate, which, of course, sounded rather a quick jump from Calais. Le Bourget evidently made the same error, as he asked Croydon to spell it, which he did, of course, putting me right.—Yours faith-

Hythe, Kent. W. E. MARTIN.

To the Editor of WORLD-RADIO.

SIR,—With reference to Mr. Boulton's letter in connection with the Chamberlin Flight, I would say that I chanced to pick up Croyden Aerodrome in communication with Rotterdam aerodrome, soon after 9 a.m. on Monday, June 6.

Croydon called Rotterdam and asked for the latest information regarding the flight. Rotterdam replied saying that the airmen had descended at a place near Halle, 150 kilometres S.W. of Berlin. About a quarter of an hour later Rotterdam informed Croydon that the airmen had refuelled and

were continuing the flight.—Yours faithfully,
GEO. A. PEARSE (age 18).
3, Rita Road, S. Lambeth, S.W.8, July 4, 1927.

"Viâ Ether"

ERLIN has revived its annual summer seven weeks' course of early morning health exercises. On weekdays the instructor booms out his orders on the stroke of 6 a.m.; on Sundays listeners are given a respite, inasmuch as a band transmission is offered from 6 to 8 a.m., the interval being reserved only for "physical jerks." As an encouragement, these wearisome contortions are carried out to the accompaniment of suitable melodies. able" is an elastic word; studio and listeners may not agree as to its precise No doubt, for these running accompaniments we shall hear-provided we are out of bed betimes—that peculiar class of operatic overture so prized by seaside brass bands and circus proprietors. Personally, for physical jerks, provided the tempo were not exaggerated, I might pass Light Cavalry and The Bronze Horse, but having reached middle age I should emphatically object to the adoption of the quicker movements of the overture to William Tell. And so would you.

To-night, at 7 p.m., Naples will broadcast excerpts from Verdi's Il Trovatore. This opera, one of the most famous of this composer's works, was first produced in 1853. It was owing to its instantaneous success that Verdi was impelled to write La Traviata within a month. He was a prolific worker; he composed twenty-eight operas. It was with his fourth, I Lombardi, presented in 1843, that he established his fame. Vienna, at 7 p.m., relays Carmen from the State Opera House. Following a performance at 8 p.m. of Gerhart Hauptmann's "thievish" comedy, The Beaver Mantle, Langenberg will take you over at 10.15 p.m. to the Cologne Riehl open-air cycle track, for the finals of the endurance races.

Apparently the wet spell from which we have been suffering has affected Germany to the same degree, and although the Voxhaus studio has advertised for to-morrow evening (8.30 p.m.) a visit to the Luna Park, we have no assurance that the weather will permit this performance. The Berlin amusement park lies at the extreme end of the West End portion of that capital, or, as a matter of fact, in Charlottenburg. It enjoys the same popularity as Earl's Court did here in pre-War years. It comprises cabarets, concert halls, dance palaces, and innumerable side-shows, similar to those which adorned (?) our Western Gardens, but in addition it possesses one advantage, that of a small lake, the Halensee, on which, on any fine evening, you may see canoes and small launches festooned with Chinese paper lanterns, each craft carrying homely citizens who do their utmost to imagine they are in gondolas on the Venetian canals. On one side of the lake is ranged an amphitheatre of large terraces with restaurants and cafés, from which, during the meals, one may listen to concerts by excellent orchestras such as most German cities offer, or witness ballets performed on an open-air stage. The microphone, on this occasion,

will be taken to various points at Luna Park, accompanied by the—now proverbial—commentator. It should be an interesting entertainment.

To-morrow night gives us a very varied programme, and we may pick and choose at our leisure. From Kiel, at 5.15 p.m., we may hear Offenbach's Tales of Hoffman; from Hamburg, at 8 p.m., Bruederlein Fein, a one-act operetta by Leo Fall, followed by a Summer Night Ball; Leipzig, at 8 p.m., relays from the Weimar Theatre, Ambroise Thomas's opera Mignon, and Brussels, at 9 p.m., a concert from the Ostend Kursaal. We may then turn to Milan for Acts I, and II. of Madame Butterfly, after which we tune in to Hilversum at 10.15 p.m. for a revue performed at an Amsterdam Theatre. Tired? Try Madrid (EAJ7) for excerpts from Serrano's operetta The Little Dog.

Radio Paris, during the coming week, has chosen for its operatic transmissions Gounod's Romeo and Juliet (Monday, July 11) and Lakmé, for the following evening. Delibes, its composer, was a Frenchman; he died in 1891. So far as I know, the only operas he wrote were Lakmé, produced in 1883, and a lesser-known work Le Roi l'a dit (1873). His name is more closely associated with ballets; extracts of Coppelia and Sylvia are usually chosen as the pièce de résistance of most light popular orchestral programmes, and beloved of military bands.

As has been pointed out by the writer of "Summer Time Searching," Brussels, for the moment, is one of the best of the European transmissions, and of the forthcoming week's programmes, I have made a special note of Radio Belgique's Sunday fare. At 9 p.m. on July 10, the station will go over to the Ostend Kursaal for a concert, some Loie Fuller ballets, and an hour's dance music by Nico Fusly's band. On Tuesday, at 8 p.m., you will again be given an excellent performance by the orchestra of the Royal Zoological Gardens at Antwerp, and on the following evening the studio presents Massenet's opera Manon; on Saturday, July 16, at 9 p.m., a further visit to Ostend.

Franz Lehar, that very popular composer of some of Vienna's best operettas produced of recent years, including, of course, The Merry Widow, will conduct in person the programme to be broadcast in that city at 8 p.m. on Monday, July 11, an item of which will be the Volga Song of his latest success The Tsarevitch. A portrait of Herr Lehar will be found on another page. On July 16, at 7.45 p.m., if you turn to the same station, you may hear Dorine and Chance, an operetta by Gilbert. Flotow's opera Martha is down for presentation at 8 p.m. on Sunday, July 17. It will be a studio version, as there will be no more relays from the Opera House until next autumn.

The Waltz Dream merrily turns up again this week—in this instance at Hilversum,

on Tuesday, July 12, at 7.50 p.m. It has been a popular hit from the day it was produced; during the last few weeks it has been broadcast by many Continental stations.

With the development of the German broadcasting system, I notice that week by week more use is made of entertainments provided at popular watering and seaside resorts, for the benefit of radio-listeners. To-night, from 5 to 9 p.m., Koenigsberg takes its entire programme from the Zoppot Kurhaus, of which, in previous issues, I have made full mention in these notes. To-morrow, also, at 10.30 p.m., Breslau will relay the dance competitions to be held at Bad Salzbruenn, for the Silesian Choregraphica good word that !- Championship. Salzbruenn, by the way, is one of the most fashionable watering towns in Silesia. It lies about fifty miles to the south-west of Breslau on the fringe of the giant mountains (Riesengebirge). It is not a new place by any means; the fame of its curative waters dates back to 1316, although, in reality, it again came back into prominence only some ninety years ago.

En passant, I might also mention that at Swinemuende, on the base of the Baltic, a seaside resort, which, amongst Berliners, vies in popularity with Heringsdorf and Norderney, the local authorities have installed a small wireless receiving station with a view to the distribution of entertainments from the capital, by loud speakers, throughout the Kurhaus, main hotels, and promenades.

It would be wise to remember that July 14 is the French National Fête, held in celebration of the storming of the Bastille in 1789; on that day the entire country echoes to the strains of the Marseillaise. At the time these notes are penned I have been unable to secure details of what the various broadcasting stations will offer, but you may take it from me that special efforts are made, and if you can do so, revert to each in turn during the evening, as their programmes are usually fraught with surprises. On previous occasions Radio Paris gave its microphone the opportunity of picking up the atmosphere of the boulevard, and I do not doubt that the Ecole Supérieure has a stunt of this kind up its sleeve. Le Quatorze Juillet, in Paris, Toulouse, Lyons, and particularly Marseilles. is sure to be feted in a noisy and boisterous manner, and will probably provide you with many interesting items. Brussels, also, at 8 p.m. on Thursday, will broadcast a gala concert for the same commemoration.

From a "Which Station was That?" query: "At 9.48 p.m. on Sunday last, on a wavelength of 350-960 metres, I heard a loud buzz; I was using three valves. Could you assist me?"

Yes, the buzz would have been louder with an additional two stages of note magnification; probably an echo of *The Bee's Wedding*!

JAY COOTE.

"Don Cesar."

(To be Broadcast through Langenberg.)

On July 10, at 8.15 p.m., listeners will have an opportunity, conditions being favourable, of hearing an operetta which, though seldom heard nowadays, was undoubtedly one of the really great successes of the Viennese operettas at the time of Johann Strauss. Don Cesar was the first, and only great, work of Rudolf Dellinger. It was first produced in Hamburg in 1885, where it had an immediate success.

In the opening act we are shown the market square of Madrid in the Middle Ages. A crowd

of the lady, the guard appears. Don Cesar intervenes to prevent the arrest of these disturbers of the peace, but is overpowered.

In the second act we find Don Cesar in prison. Archivar approaches him with the proposal that he, masked, shall go through a wedding ceremony with a veiled woman, his reward to be a soldier's death instead of the gallows. He consents, and the wedding takes place. Pueblo meantime has bribed the guard to unload his flint, and warned Don Cesar to feign death when "shot." All goes well, and he escapes. When he arrives at his castle he finds that Maritana has been taken there, guesses that she is his bride, and claims her. Warned by Pueblo tbat it is the King who has borrowed his identity, he decides to exchange roles. Finally, the King, to avoid a scandal, is

forced to relinquish his plan and pardon Don Cesar, whom he makes Governor of Granada, and thither he and Maritana depart, well satisfied with the change in their fortunes.

German "Volkslieder."

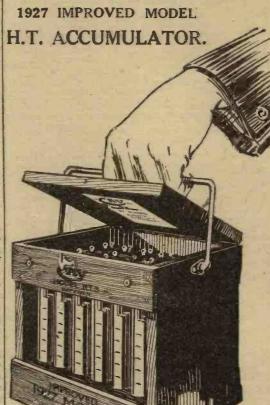
Every week among the items offered by German stations the Volkslied is well represented. On Wednesday next from 8.30 to 10.15 p.m. Langenberg is giving a programme of the Volkslied of Tooday.

The Volkslied is something quite typically German, differing in both matter and form from anything known in other countries. The people of Germany have always possessed a depth of feeling that finds expression in little thoughtful, casily sung melodies. These Volkslieder are natural songs as opposed to cultural songs. The girl on the land sings them with as much pleasure as the milliner of the big towns. The German song is a heart and soul affair, it is the truest and deepest expression on the inward being. The Volkslied is no song composed on a festive occasion for festive occasions. It belongs to everyday life, and is almost constantly in use, a practical art in the highest sense. Words and melody in the Volkshed are welded into an indivisible whole. Its value is not recognised by individual singers in its fullest sense, but almost instinctively they feel without consciously recognizing it. The people sing these songs, because in this way they satisfy a quiet inward longing.

Some instinctive urge forces them to give their feelings this expression. The Volkslieder belong to no special age; they are the songs of all time that have been taken by the people to meet their need.

Realistic Baby's Cry.

Startling evidence of the realistic baby's cry which was a part of the "Baby Polka" in a recent concert is offered by a letter received at WEAF of the National Broadcasting Company, a few days ago. The communication, from an Ohio radio fan was relayed to WEAF by WTAM of Cleveland, one of the associated stations of the National Broadcasting Company's Red Network. The epistle came from a mother who stated that when the concert was on the air, calls that sounded like "ma ma" caused her to run from the kitchen to the bedroom upstairs to see what her little daughter wanted She was very much mystified to find the child sound asleep, and could not understand where the calls came from until, upon returning to the lower part of the house a few minutes later, she heard their repetition in the broadcasting programme.



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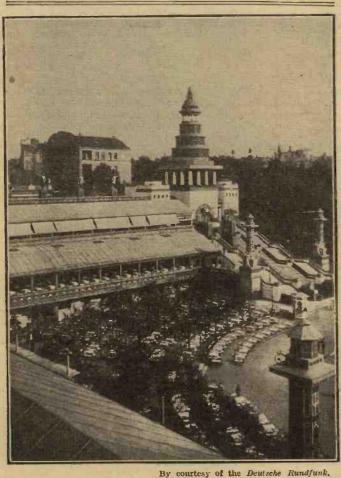
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By courtesy of the Deutsche Rundf A Corner of Luna Park (Berlin's Playground).

(See "Via Ether," page 32.)

listens to a beautiful street-singer, Maritana, who is interrupted by an official proclamation that with the sounding of a bell that evening a silent week begins. From then on noise in the street is forbidden, any disturbance such as fights or quarrels being punishable by death on the gallows. The crowd disperses. One onlooker alone remains. The king, disguised as a nobleman, had mingled with the crowd in search of adventure. Maritana has bewitched him. Seeing two of his ministers approaching, he hurries after Maritana, who, however, eludes him. Returning, he finds that he has been recognised, and instructs Archivar, the Keeper of the Archives, to court Maritana on his behalf. A little later Archivar finds an opportunity, when he overhears Maritana singing of her loneliness and unhappiness and her longing that the fulfilment of a prophecy that she should one day wed a nobleman may not be long delayed. Maritana will not, however, hear anything of the amour proposed. Archivar suggests to the King that a mock wedding shall be arranged.

Evening comes, and with it a rout of merry pages on their way to serenade Archivar's daughter. Don Cesar, the impecunious Graf von Irun, joins them. Their leader, Pueblo, strikes up the song "Komm herab, o Madonna Teresa," but instead

"Which Station Was That?"

Which Station Was Inat.

3 Valves (Malton): Yes, Motala relaying special Church service from the Waesteraser Cathedral. M. Four:
(1) Milan, orchestral concert followed by relay of dance music from the Flascheteria Toscana, (2) Motala relaying dance music from Stockholm until 1.15 a.m., June 24, 1927. (Proprietary names must not be used as pen names). Safety (Bexhill): This is PTT Paris (Ecole Supérieure des Postes et Telegraphes). 41161910 (Southssa): (1) Eiffel Tower relaying afternoon concert from PTT Paris; from 6.45 p.m., its own entertainment, (2) Yes, Berlin Press, (3) Radio-Paris. 2VHV (81): Nuremberg relaying orchestral concert of the works of Weber from Munich, (82) Langenberg relaying orchestral concert from the Rheinterrasse, Düsseldorf, until midnight. Don (Sebastopol): 5GB B.B.C. experimental station at Daventry. Pixie (Grawley): Eiffel Tower, relaying PTT Paris. English talk, followed by news. Silvester: Falun relaying dance music from Stockholm until 1.15 a.m., June 24, 1917. L. Gay (Bath): Dublin relaying Cork. Call: "Baile Atha Cllath, ag Glaohach" (pronounced: egg Glay-ock). This you may have mistaken for "9 o'clock." Cosy (Edinburgh): Naples relaying concert from Hot Trocadero Music Hall. M. A. Richmond (Llanelly): Yes, this was Modala (1,320 m.). The military concert from Göteborg was postponed to 8.15 p.m., and the entertainment you heard was from Stockholm. E.S.M. 3 V. (Stoke-on-Trent): (1) Frankforton-Main (428 m.) (20/6) News, (21/6) The Bird Fancier, an operetta by Karl Zeller, (2) If WL. correct, Barcelona (EAJ13), (3) WL. must be wrong; Leipzig (relayed by Dresden) was the only German station giving dance music on that night. 3 Valve (Surbiton): Yes, Lyons PTT relaying PTT Paris. H. E. Potter (Malton), Jacko (Chesterfield): On June 28, 29, and 30, Koenigswusterhausen, Berlin, Langenberg, and Stuttgart broadcast a programme of gramophone records from 4.30 to 7.30 a.m. You heard Stuttgart and Koenigswusterhausen. See Eclipse list of foreign transmission in World-Radio, issue 24/6/27, No

Company, Schenectady, New York. Tadcarwen (Gaernarvon);

(1) Yes, this was Warsaw News, followed by a relay of dance music from the Restaurant Rydz; (2) Yes, Sorö, which was relaying dance music from the Restaurant Nimb until 12.30 a.m., 27/6/27. Skylark (Norfolk): If WL. correct, possibly Belgrade testing (on about 1,650 m.), Schnell O-V-2 (Liverpool): (1) Amateur transmitter (West Hill, Putney) on about 44 m.; (2) Too vague, cannot trace; (3) Dutch Posts and Telegraphs (The Hague) if WL. is correct; (4) No definite times for this short-wave transmission are given; why not write to the station?; (5) All that you need is the morse alphabet; the rest is a question of practice Stuart (Guildord): Nuremberg relaying dance music from Munich. Ambrose (Bexhill): (1) Rather vague; most probably Göteborg relaying Stockholm; (2) Cannot trace; either direction or wavelength wrong. Xerxes (Devonport): Stuttgart gave a transmission of gramophone records during Eclipse tests. Twin Valve (Harpenden): Would tally with 2XAF, General Electric Co's. short wave transmission of WGY (Schenectady) programme. Wavelength 32.77 m. R. W. A. (Dover): Apparently a test; probably Sorö (Denmark). Ultra Short Wave (Alfold): Cannot trace; we do not recognise the call-sign. Ogo (Wallasey): Dortmund relaying late dance transmission from Langenberg (Rhineland). Sparks (Rochdale): Somewhat vague, but this was possibly one of the tests made by the Bell Telephone Company of Canada working in connection with the Marconi high power beam transmitter at Drummondville (28.18 m.) prior to Dominion broadcast.

WORLD-RADIO (No. 102).

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 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-Radia 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 unmbered, in order to facilitate reply. Letters must be addressed to the Editor, "World-Radio," Savoy Hill, London, W.C. 2; enveloppes 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 at the foot of these columns.

Do not Spend Money on Expensive & Troublesome Apparatus for H.T. Supply

This is an extraci from a letter recently received:-

"Much is written in the wireless press on high tension supply, accumulator, rectifiers and smoothers for main A.C. and D.C. current, and so on, but from my own experience it would be futile to try any other method than that of your high tension batteries. It certainly is the 'no bother' source of energy, and the 'Ever Ready' servant of,

Yours faithfully."

SAVE MONEY AND USE

IRREA

BRITAIN'S BEST BATTERIES

SERVICE DEPT. H. K., HERCULES PLACE, HOLLOWAY, LONDON, N. 7.

'ARE SAFE PUREST IN TONE CLEANEST IN USE FREE FROM TROUBLE LESS IN COST than any other form of High Tension supply.

Dominion and Foreign Broadcasting ------ Intelligence ------

AUSTRIA

(From our Vienna Correspondent.)

Drama Broadcast from Stage.

The radio event of this week in Austria has been the relay of the drama written around the life of the composer, Anton Bruckner, by Professor Ernst Decsey and Herr Victor Leon, the microphones being placed actually upon the stage at the Deutsches Volksactually upon the stage at the Deutsches This was the first attempt in Austria to transmit a spoken drama from the stage of an ordinary theatre and on the whole it was remarkably successful. Herr Wilhelm Klitsch as Bruckner, the venerable composer who died on October 11th, 1896, and for whom thousands of his admirers claim not only immortal fame, but a place in the very foremost rank of composers, spends much time during the action of the play at his harmonium, and the musical features lend themselves readily to transmission. The play is called Der Musikant Gottes (God's Musician). What all Austrian radio listeners are hoping is that other drama theatres in Vienna, and especially the Burgtheater, the principal State drama house, will soon be included in the scope of Ravag relays. Many difficulties have to be surmounted.

Lehar to Conduct Latest Operetta.

The popular composer, Franz Lehár, will himself conduct the "Volga Song" and a "Russian Ballet" from his latest operetta The Tsarevitch during a concert entitled "Austrian Composers Evening," on Monday, July 11, at 8 p.m. It will be the first appearance of the veteran composer before a microphone, and the first "public" performance of the compositions.

The Cult of "Slimth."

Very many Austrian radio subscribers want the Berlin radio course of physical exercises, daily at 6 a.m., and 6.45 a.m. on Sundays, imitated in Vienna. The idea is that every member of each household turns out punctually at six, to follow in unison the precise instructions which emanate from the loud speaker. This can be placed on a lawn or on a flat roof. The orchestra necessary to make the six weeks' course of exercises sufficiently entertaining and alluring could no doubt easily be furnished. The cult of "Slimth" has many ardent adherents in Vienna, but most of them would prefer to bend and twist and turn at 7 or 8 rather than 6.

"Possession" and the Law.

The Austrian Postal Administration notifies all and sundry that all persons possessing a radio apparatus not in use must take out a fresh licence to own it within 14 days of June 30, when all such existing licences expire. If people want to use their apparatus they must pay the monthly tax for subscription to the Ravag, graduated according to their incomes. But if they do not use their sets, or portions of sets, they are breaking the law if they do not take out post-office licences to "possess" them, and are liable to fines up to about £20, or up to a month's imprisonment, besides the confiscation of all sets or parts.

Broadcast "Home-Lessons."

French and English conversation courses have now come to an end for this season, and Esperanto begins, as a sort of holiday "home task." In the autumn, Italian is to be added to the Vienna radio curriculum, and later Spanish and Russian. There is already an Italian course at Graz, by Captain (Naval) Josef Debelich, which is highly successful.

Herr Walter Smital's Esperanto lessons in Vienna are each Tuesday and Thursday at 7.30.

BELGIUM

Concerts from Ostend Kursaal.

In accordance with an agreement, Radio-Belgique is to transmit two concerts weekly from the Kursaal at Ostend, which is one of the most noted spas in Europe. The Ostend Kursaal is famous not only because of its building, which contains a spacious gaming room, reading room, restaurant, theatre and dancing saloon, but also a concert hall capable of accommodating more

Foreign Radio Humour

GERMANY.



"But, Charlie, what is the matter with you?"

"I am just taking part in the finish of the Hamburg Derby."

Deutsche Rundfunk, Berlin.

than 10,000 persons. Noted travelling artists of world-wide fame take part in the concerts, and there is a famous orchestra of more than one hundred musicians, under the direction of Monsieur François Rasse, Director of the Conservatoire Royal of Liége, and Monsieur Toussaint de Sutter. Listeners to Radio-Belgique will be interested to follow the series of concerts which will be given during the months of July and August.

GERMANY

(From a Correspondent.)

Berlin Radio Exhibition Prizes.

In connection with the annual Wireless Exhibition at Witzleben, the Reichs Rundfunk Gesellschaft is offering prizes to the value of 7,950 marks (about £400) for six sets built by German amateurs. Three of the six sets (each of which will gain five classified prize) are to be used for reception of alternating current from electric light mains by (a) high tension battery, (b) high and low tension batteries, and (c) both batteries in conjunction with a broadcast receiver. The other three sets are a crystal detector with amplifier, a valve receiver

with not more than four valves, and a three-valve long-distance receiver embodying manifold valves. (A super-het is the favourite circuit for this combination.) The highest prize, 800 marks (£40) is for the last-named set and for the complete receiver working from the mains. The winning sets will remain the property of their constructors.

Sports Relays:

An interesting relay of a German Regatta will be made on Sunday, July 10, at 3 o'clock, when a number of German stations, including the highpower station at Koenigswusterhausen, will broadcast the Regatta at Hamburg, one of the events in which is the "Hamburg Senate" race, the prize (similarly to that of the celebrated Kaiservierer of Grünau fame, in which, however, four victories are necessary) being awarded to the winner of the event in three successive years. Last year's winner was the Berliner Ruderklub, whose crew will therefore make a special effort this year. Those who miss this transmission may be in time for the International Football Match between Russia and Germany, which is to be broadcast by Hamburg on the same day at 5.30.

St. Swithin Retrospective?

There can be little doubt that ample opportunity has been afforded this year to test the validity of a belief which is persistent here, that rain affects the quality of broadcast transmission. Exactly how this belief arose is not quite clear. There are many recognised beliefs concerning the weather in Germany—eighty-four, in fact—all calendar affairs and known as Lostage. On June 27, for instance, the Lostag is the Gedüchtnistag of the Seven Sleepers, who, it will be remembered, went to sleep for a couple of hundred years or so in a mountain cave of Ephesus. Similarly to the English legend, which has it that—

St. Swithun's Day, if thou be fair, For forty days 'twill rain no mair, the promise held out by the Seven Sleepers is of

seven weeks' rain or fine weather, according to the weather on the day in question. The day attracted an unusual amount of attention this year, partly on account of the fact that it had already rained for seven weeks and partly because of the excessive downpour which occurred from dawn to midnight. The hope was expressed that this time Jupiter Pluvius might consent to seven weeks in retrospect.

A Nearly Cancelled Race.

On the 26th, when the German Derby was run at Hamburg, and relayed by the Deutschlandsender, Langenberg, and most of the German stations, the Hamburg announcer said it had been seriously, considered in the morning whether the race would not have to be called off—an unusual decision in the case of such an important event. The jolly gallop-past to the start after the parade was, however, thrillingly alive, in spite of the soddened ground.

Reality Rivals Wireless Account.

Up to an hour before the total eclipse on the 29th the skies were grey. Then, suddenly, the sun reappeared and many broadcast listeners, realising that it was not to be an exclusively wireless affair, deserted their sets to observe the phenomenon. The others will no doubt be able to provide some sort of data in regard to reception of the signals of the English stations, whose programme of transmissions was announced at intervals after 4.30 a.m. by Koenigswusterhausen and Witzleben.

Wireless Step by Step.

By "DICTRON."

XIV.—Electron Emission.

WE have now mastered the elementary principles of transmission and reception in their simplest forms, namely, the damped wave system. Before progressing to a study of the use of continuous waves and from that to wireless telephony, it is necessary to digress and undertake a study of the thermionic valve. For this we must go back for a short space almost to the beginning of our studies.

As was outlined in the beginning of this series of articles, every substance, whether an electrical conductor or an insulator, is composed of atoms of matter. Except when a particle of matter is at absolute zero temperature, the atoms of which it is composed are constantly in a state of agitation and movement. The movement of one atom has no relation to the movement of another, that is to say, they do not move in co-ordinated masses. The electrons in the particle of matter, whether they are actually adhering to an atom or whether they are what are termed "free electrons," are, like the atoms, in a state of perpetual motion.

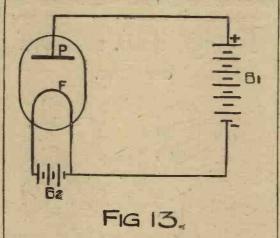
If a particle of metal is heated to a high temperature there is a marked tendency for the atoms to separate from one another. The higher the temperature the more marked is the tendency. It is really the same thing as the evaporation of water. As in the case of water, evaporation of metals takes place under the influence of intense heat. Now the process of evaporation consists merely of a state of separation of atoms which become so violently agitated that the more rapidly moving ones break right away from the mass of the metal. It follows then that if atoms can break away so also can electrons. This is the basic principle on which the thermionic valve operates.

If a piece of tungsten steel in the form of a very thin wire is supported in a vacuum tube and heated to incandescence, a number of electrons will be emitted from the wire. It might be thought that quite a large amount of electrical current could be generated in this way by heating the tungsten steel to an adequate temperature. This is not so, because although a relatively large number of electrons are emitted by the filament, as it is

properly called, into a vacuum surrounding it, they must at once re-enter the surface from which they were emitted because there is nothing else in their immediate vicinity to attract them.

The Plate.

Suppose however, that a metal plate having a positive charge is introduced into a vacuum tube and placed close to the heated filament, there will then be two influences at work on the emitted electron, one from the filament attracting it back again and the other from the positively charged plate. If the potential of the plate or "anode" is made sufficiently positive in relation to the filament, the electrons emitted from the heated



surface of the latter will be attracted to the plate and will adhere to it instead of re-entering the surface of the filament. If there is an external connection between the plate and the heated filament, it is obvious that a continuous flow of current can be maintained through the valve.

The plate and the filament are termed "electrodes." The filament may consist of one of several metals which may be coated with various substances having different effects upon its power to emit

electrons at higher or lower temperatures. The filament is heated electrically—that is to say, one external connection from the vacuum tube is attached to the positive terminal of a battery and the other to the negative terminal. If a variable resistance is inserted in this filament heating circuit, the extent to which the filament will emit electrons can be controlled by the amount of current which is allowed to pass through it, which is the same thing as saying that it is controlled by the temperature of the metal forming the filament. The greater the temperature the greater the number of electrons emitted, the only limiting factor being the heat which the filament will stand without melting.

The higher the positive potential of the plate the greater the number of electrons which it will attract from the filament. Therefore the greater the flow of current through the whole circuit.

Saturation Current.

There is, however, no object in increasing the plate potential beyond the point at which all the electrons emitted by the filament are being collected and none allowed to fall back again. Obviously, when this occurs the maximum current is passing and no increase of plate potential will add to it. This is called the "saturation current."

If it were so arranged that the difference of potential between the two electrodes were reversed, making the plate negative in respect to the filament, there would be no flow of current in the reverse direction, since the plate would repel the emitted electrons. The valve can only pass current in one direction. This is an important point to remember and we shall be intimately concerned with it in the future when we come to consider the valve as a rectifier of alternating currents.

The valve is shown diagrammatically in Fig. 13. F is the filament, P the plate. The circuit is completed externally through the battery B 1. Battery B 2 is solely concerned with heating the filament to the correct temperature, and it is important to bear in mind that this is its only function. It is not concerned in any way with the action of the valve.

The phenomenon of electron emission in a vacuum was first introduced in 1884 as the property of the Edison lamp. About 1896 the matter was taken up by Fleming, who made an exhaustive study of the passage of current through a vacuum, which enabled him in 1906 to patent a two electrode valve as a detector of damped high frequency waves. In this capacity we will consider it and its modern adaptation in the next article of this series.

VILLAGE LIFE IN BELGIUM.



A Milk Inspector interrogating the owner of a fine five-in-hand milk delivery cart,

The next of the series of talks on "Village Life in other Lands" (broadcast through Daventry) will be given by Miss Pratt, at 3.45 p.m., next Wednseday.



A Young Flemish Lace-maker.

(5XX)

(1604:3 metres: 187 kc.)

DAVENTRY PROGRAMME

(July 10—16)

SUNDAY.

10.30 a.m.—Time Signal (Greenwich),
Weather Forecast.
S.B. from London:—
3.30 p.m.—A Military Band Programme. W. H. Squire (Violoncello); The English Singers;
The Wireless Military Band, conducted by Lieut. B. Walton O'Donnell, R.M.
5.15 p.m.—5.30 p.m.—Mr. Harold King, reading Milton's "L'Allegro,"
"On May Morning," and lines on "Evening," from "Paradise Lost."

Lost."

O p.m.—St. Martin-in-the-Fields.
The Bells and the Organ.

10 p.m.—A Religious Service.
Relayed from St. Martin-in-the
Fields. Address by the Rev.
W. P. G. McCormick.

Fields. Address by the Rev. W. P. G. McCormick.

8.55 p.m.—The Week's Good Cause. Appeal for The Nurses' Fund for Nurses, by Mr. S. Monckton Copeman, late Medical Inspector of the Ministry of Health.

9.0 p.m.—Weather Forecast, News.

9.10 p.m.—Weather Forecast, News.

9.10 p.m.—Time Signal.

3.15 p.m.—Oid Favourites. Olive Kavann (Contralto); The Wireless Orchestra, conducted by Stanford Robinson. The Orchestra: Overture to "William Tell" (Rossinl); Olive Kavann (with Orchestra) Softly Awakes my Heart, from "Samson and Delliah" (Saint-Saëns); Love's Old Sweet Song (Molloy).

9.40 p.m.—The Orchestra: Praeludium (Jarnefelt); Legende (Wieniawski); Perpetual Motion (Paganini) (arranged by Percy Pitt); Waltz, "Hydropathen" (Gunz'l).

10.5 p.m.—Olive Kavann: The Sweetest Flower that Blows (Hawley); The Kerry Dance (Roeckel).

10.15 p.m.—The Orchestra: "Nut cracker" ("Casse Nolsette"); Suite (Tchalkovsky); Miniature Overture: Characteristic Dances March; Dance of the Sugar-Plum Fairy; Russian Trepak; Arab Dance; Chinese Dance; Reed-Pipe Dance; Flower Waltz.

10.45 p.m.—Epilogue.

8. B. from Cardiff:—

10.55 p.m.—Epilogue.

10.55 p.m.—1 Fellowship.

MONDAY.

Weather Forecast.

1.0 a.m.—Time Signal, Greenwich;
Weather Forecast.

1.0 a.m.—Time Signal (Big Ben).
The Daventry Quartet and Agnes
Clarke (Soprano); Leslie Holmes
(Baritone); Audrey Richardson
(Violin); Leslie Bridgewater
(Pianoforte).

S. R. trong London;

(Pianoforte).

S.B. from London:

(1.0 p.m.—Time Signal, Big Ben.)

1.0—2.0 p.m.—Organ Recital by Harold E. Darke. Relayed from St. Michael's, Cornhill.

2.55 p.m.—Reading: "Rural Rides" (Cobbett).

3.0 p.m.—Marjorie and C. H. B. Quennell: "Everyday Things of the Past—The Later Renaissance."

3.45 p.m.—The London Radio Dance Band, directed by Sidney Firman, Thornley Dodge (Entertainer).

5.0 p.m.—Miss Marjorie Guy, "Pastries."

5.0 p.m.—Miss Marjorie Guy, "Pastries."
5.15 p.m.—The Daventry Quartet.
6.0 p.m.—He Daventry Quartet.
6.25 p.m.—Boys' Brigade and Church
Lads' Brigade Bulletin.
6.30 p.m.—Weather Forecast, First
General News Builetin.
6.45 p.m.—The Daventry Quartet.
7.0 p.m.—Mr. James Agate: Dramatic Criticism.
7.15 p.m.—Mr. James Agate: Dramatic Criticism.
7.15 p.m.—Mr. James Agate: Dramatic Criticism.
7.15 p.m.—Mr. James Agate: Properties of the Pannes of the P

Announcements

9.15 p.m.—Shipping Forecast:
S.B. from London:
9.20 p.m.—Major J. W. Hills, M.P.:
"Dry Fly-Fishing."

Programme. The Station Orchestra, conducted by Joseph Lewis. Overture to "The Song of Hiawatha." "A Vale of Old Japan." A Cantata for Solo Volces, Chorus and Orchestra: Doris Vane (Soprano); Esther Coleman (Contralto); Eric Green (Tenor); John Thorne (Baritone): Orchestral Suite. "Petite Suite de Concert." Nigel Dallaway (Planoforte): A Negro Love Song, Negro Dance (from "African Suite"). Orchestra Processional March from the Incidental Music to "Nero."

11.0 p.m.—12 (midnight.) — Dance Music: Lou Raderman and his Embassy Club Orchestra.

TUESDAY.

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

11.0 a.m.—Time Signal (Big Ben).
The Daventry Quartet and Leonore Weeple (Contralto), Trevor Havard (Baritone), Arthur Thompson (Violin), Jean Melville (Songs at the Piano).

(Violin), Jean Melvine (songs as the Piano).

S.B. from London:—
(1.0 p.m.—Time Signal, Big Ben)

1.0—2.0 p.m.—Corelli Windeatt's Band and Ivor Walters (Tenor).

2.55 p.m.—Reading, "Pride and Prejudice" (Jane Austen).

3.0 p.m.—Sir H. Walford Davies, "Elementary Music."

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

4.15 p.m.—William Hodgson's Marble Arch Pavillon Orchestra from the Marble Arch Pavillon. Le Grand: "In the Footsteps of William the Conqueror."

Conqueror."
5.15 p.m.—The Children's Hour.

"In the Footsteps of William the Conqueror."
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.—The London Radio Dance Band (contd.).
7.0 p.m.—Mr. E. J. Burrow: The Mystery of Wansdyke.
7.15 p.m.—Brahms' Songs. Sung by Dale Smith.
S.B. from Edinburgh:—
7.25 p.m.—Prof. D'Arcy Thempson:
"Nature and her Limitations."
S.B. from Cardiff:—
7.45 p.m.—Sea and Sky. Louise Regnis: Reading, "Ecstasy"—
A Poem by W. J. Turner. The Station Augmented Orchestra, conducted by Warwick Braithwaite: Overture—"Fingal's Cave" (Mendelssohn). William Primrose (Violin) aud Orchestra: The Lark Ascending (Vaughan Williams), Herbert Heyner (Baritomo): The Sky above the Roof (Vaughan Williams), Once in a Blue Moon (Wilchy). Hubert Pengelly (Pianoforte): Nuages (Clouds) (Debussy). Orchestra: Fantasia on Sea Songs (Henry J. Wood). Herbert Heyner, The Lyrian Singers and Orchestra: Songs of the Sea (Stanford)—Drake's Drum, Homeward Bound, The Old Superb. Louise Regnis: Reading, "The Poetry of Flight." William Primrose: Hymn to the Sun ("The Golden Cockere!") (Binnsky-Korsakov). Orchestra: Overture, "Plymouth Hoe" (Ansell). Herbert Heyner and Orchestra: Wayfarer's Night Song (Easthope Martin), Morning Watch, Casey's Concertina ("The Way of a Ship") (Easthope Martin). Lyrian Singers and Orchestra: Rule, Britannia.

9.0 p.m. — Weather Forecast and

News.

9.15 p.m.—Shipping Foreast.

9.26 p.m.—Sir H. Waltord Davies:

"Music and the Ordinary Listener"

9.40 p.m.—" L'Mistoire du Soldat,"
relayed from the Arts Theatre
Club, London, The Text by C. F.
Ramuz, English Version by Rosa
Newmarch. The Music by Igor
Stravinsky. The Reader, Frank
Cochrane; The Soldier, Ivan
Firth; The Devil and The Princess, Lydia Lopokova. The
Orchestral Players, conducted by
Edward Clark. Staged by R. E.
Jeffrey.

Jeffrey.

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

WEDNESDAY.

9.20 p.m.—Major J. W. Hills, M.P.: 1.030 a.m.—Time Signal (Greenwich), Weather Forecast.

S.B. from Birmingham:—
9.35-11.0 p.m.—Coleridge-Taylor 11.45 a.m.—Light Classical Concert.

The Daventry Quartet with Viola, and Winifred Bury (Soprano), Gwilym Wigley (Tenor); Short Recital by Vyyyan Lewis and Clifton Helliwell (Violoncello and Piano).

Piano).

Piano).

O (noon)—Opening of the New
Leas Cliff Payllion, Folkestone.

Speech by H.B. H. Prince Henry.
Relayed from Leas Cliff Payllion,
Folkestone.

12.30 p.m. (approx.)—Concert (cont.)

S. B. from London:—

(1.0 p.m.—Time Signal, Big Ben).

1.0 — 2 p.m. — Camille Couturier's Orchestra from Restaurant
Frascati.

rier's Orchestra from Restaurant
Frascati.
2.55 p.m.—Reading, "David Copperfield" (Dickens).
3.0 p.m.—Mr. Aubrey de Selincourt,
"Three Plays of Shakespeare—
HI, "King Henry IV."
3.45 p.m.—Miss Pratt, "Village Life
In Other Lands—Belgium."
4.0 p.m.—The Daventry Quartet and
Samuel Saut (Baritone). Bessic
Spence (Vlolin).
5.15 p.m.—The Children's Hour.
6.0 p.m.—Organ Recitel by Madame

6.0 p.m.—Organ Recitel by Madame de Jong. Relayed from the New Gallery Kinema. 6.20 p.m.—The Week's Work in the

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

6.45 p.m.—Organ Recital by Madame de Jong. Relayed from the New Gallery Kinema.

7.0 p.m.—Dr. Cyril Norwood (under the auspices of the League of Nations Union), "Can the Nations Safely Disarn?"
7.15 p.m.—Brahms' Songs, Sung by Dale Smith.

Dale Smith.

S. B. from Birmingham:

7.25 p.m.—Dr. Potts, "The Nervous Child."

S. B. from London:

7.45 p.m.—A Recital of Martin Shaw's Songs, sung by Marian Carew (Soprano): The Caravau, Summer, The Rivulet, At Columbine's Grave, Trees, Song of the Palanquin Bearers, accompanied by the Composer.

8.0 p.m.—Revue Memories. F. Morton-Howard, Peter Cheyney, L. Racker-Hudson.

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

9.15 p.m.-Shlpping Forecast.

9.15 p.m.—Shipping Forecast.

S.B. from London:

9.20 p.m.—Topical Talk.

9.35 p.m.—An Instrumental Concert
Aubrey Brain (French Horn);
Jack Mackintosh (Cornet); The
Wireless Orchestra, conducted by
Edward Clark. Orchestra; Overture to "The Theatre Director"
(Mozart); Concerto for Horn and
Orchestra, No. 4, in E Flat (K.
495) (Mozart); Allegro moderato;
Romanza, Andante; Rondo,
Allegro Vivace. Solo Horn,
Aubrey Brain.

Romanza, Andante; Rondo, Allegro Vivace. Solo Horn, Aubrey Brain.

9.55 p.m.—"The Mists of Morning," A short one-act Play with Music by P. Bliton. Characters: Mr. Pemberton (an Organist), Gilbert Heron; Mrs. Pemberton (his Wife), Viola Compton; Julie (their cldest daughter), Joyce Blaud); David Gardiner and Barry Lawsou (his Pupils), Andre Van Gyseghem and Wallace Evennett.

nett.
10.25 p.m.—Orchestra: Overture to
"The Barber of Seville" (Rossini):
10.35 p.m.—Jack Mackintosh (with
Orchestra): Una Voce Poco Fa
("A voice I heard just now")
(from "The Barber of Seville")
(Rossint)

("A voice I heard just now")
(from "The Barber of Seville")
(Rossini).

10.40 p.m.—Orchestra: March,
"The Regiment of Sambre and
Meuse" (Planquette): March,
"Amour noir et blane" ("Black
and White Love") (Christine).

10.50 p.m.—Jack Mackintosh with
Orchestra.

Orchestra.

10.55 p.m.—Orchestra: Patrol, "The Wee Macgregor" (Amers),

—<u></u>
____ .0 p.m.—12.0 (midnight)— Bance Music: Alfredo's Original Band and Hal Swain and his New Princes Orchestra.

THURSDAY.

10.30 a.m.—Time Signal and Weather Forecast.
S.B. from Edinburgh:
10.45 p.m.—Opening of The Scottish National War Memorial.

10.20 a.m.—Preliminary description by Major Beith ("Ian Hay") of the Memorial (which stands on the historic Castle Rock overlooking Edinburgh) and the Castle.

10.30 a.m.—The Colours of the various Scottish Regiments, which are to rest in the respective bays of the Memorial, will be played into Crown Square.

10.45 a.m.—Arrival of the Prince of Wales.

10.50 a.m. (approx.).—The Dedication Service.

11.42 a.m.—The Arrival of Their Majesties The King and Queen.

12.0 noon (approx.).—The Daventry Quartet and Hilda Searle (Mezzo-Soprano), John Atkinson (Violin).

S.B. from London:—

1.0—2.0 p.m.—New Gramophone Records.

2.25 p.m.—Reading, "Natural His-

Quartet and Hilda Searle (Mezzo-Soprano), John Atkinson (Violin).

S.B. from London:

1.0—2.0 p.m.—New Gramophone Records.

2.25 p.m.—Reading, "Natural History of Selborne" (Gilbert White).

2.30 p.m.—Mr. E. Kay Robinson, "How Things Grow — Things which Bud or Split Themselves."

3.0 p.m.—Evensong, relayed from Westminster Abbey.

3.45 p.m.—Miss E. M. Hewitt: Mr. Philip Gawdy, A Prince of Shoppers.

Philip Gawdy, A Prince or Shoppers.
4.0 p.m.—Eugene Crutt's Sextet and Gladys Courtland (Mezzo-Soprano), W. E. Turner (Tenor).
5.15 p.m.—The Children's Hour.
6.0 p.m.—Ministry of Agriculture Fortnightly Bulletin.
6.15 p.m.—Market Prices for Farmers 6.20 p.m.—The London Radio Dance Band, directed by Sidney Firman.

6.20 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.—The London Radio Dance
Band (contd.).
7.0 p.m.—Mr. Frank Morley, "How
a Whale is Caught."
7.15 p.m.—Brahms' Songs, Sung hy
Dale Smith.
S.B. from Leeds:—
7.25 p.m.—Prof. Lascelles Abercrombie: "Religious Poets."
S.B. from Aberdeen:—
7.45 p.m.—Variety.

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9.0 p.m. - Weather Forecast and

9.0 p.m.— Weather Forecast and News.
9.15 p.m.—Shipping Forecast.
S.B. from London:—
9.20 p.m.—Mr. M. Charles Woods,
"Capitals of Europe — Sofia,
Bucharest. Tirana."
9.35 p.m.—Music for Wind Instruments. The Wind Instruments of The Wireless Orchestra, conducted by Edward Clark. Olive Groves (Soprano). Wind Instruments:
Little Symphony (Gounod). Olive Groves: In the Silent Night, Before my Window (Rachmannov), The Nightingale, Lullaby (Grechannov). Wind Instruments: Rondino (Beethoven). Olive Groves: A Dream (Grieg), The Virgin's Sinmber Song (Reger), Serenade (Strauss). Wind Instruments: Serenade, Op. 7 (Strauss).
10.30 p.m.— 12.0 midnight.— Dance Music.

FRIDAY.

10.30 a.m .- Time Signal, Weather

10.30 a.m.—Time Signal, Weather Forecast.
11.0 a.m.—Time Signal, Big Ben. The Daventry Quartet and Gertrude Wood (Contraito); H. Temple Wickham (Tenor); Cecil Baumer (Pianoforte).
12.30 p.m.—Organ Recital, by Eric Brough. Relayed from St. Mary-le-Bow Church.
S.B. from London:—
12.45 p.m.—Address by Dr. Parkes Cadman, of Brooklyn, New York. Relayed from St. Martin-in-the-Fields.

Relayed from St. Martin-in-theFields.

S.B. from Dundee:

S.B. Arom Dundee:

1.15 p.m.—Time Signal. The Open
Golf Championship at St. Andrews.
An Eye-Witness Account by
Bernard Darwin.

S.B. from London:

1.30—2.0 p.m.—Luuch-Time Music
by The Orchestra Cotombo (Leader:
A. Mantovani). Relayed from the
Hotel Metropole.

2.55 p.m.—Reading: "An Inland
Voyage" (Stevenson).

3.0 p.m.—Sir Ernest Gray: "An
M.P.'s Day in the House."

3.30 p.m.—Mr. Clifford W. Gollinson:
"Let's go round the World."

3.50 p.m.—Folk Dances and Music.
By arrangement with The English
Folk Dance Society.

7.55 p.m.—The Open Golf Championship.

S.B. from London:

S.B. from London:

8.10 p.m.—"Les Cloches de Corneville." A Comic Opera in Three Acts. English Version by H. B. Farnic and R. Reece. Revised Version by Harold Simpson.

Music composed by Robert Planquette. Produced by Harold Rose.

8.0 p.m.—Weather Forecast, Second General News Bulletin; Local Announcements.

Announcements.

9.15 p.m.—Shipping Forecast.

S.B. from London:

9.20 p.m.—"Less cloches de Corneville" (continued).

10.20 p.m.—Leonard and Virginia Woolf: "Are too many books written and published?"

10.35—11.0 p.m.—"Four Songs of Morocco," by Whittaker-Wilson. Sung by Dorothy Whybrow with Orchestra. Conducted by the Composer. Lafla, Fair Moon; Pepper Trees; Ourleda, Little Rose; Garden of Stars.

11.0 p.m.—12 (midnight).—Dance Music: Riviera Club Dance Band.

SATURDAY.

SATURDAY.

10.30 a.m.—Time Signal, Greenwich; Weather Forecast.

S.B. from London:—

2.15 p.m.—Surrey v. Lancashire—A Running Commentary on the County Champlonship Match, relayed from Kennington Oval. The Andrew Brown Quintet.

3.30 p.m.—Commemoration of the 800th Anniversary of the Foundation of Furness Abbey, relayed from Abbey Park, Barrow-In-Furness. Service conducted by The Rt. Rev. the Bishop of Carlisle (Dr. H. H. Williams). Address by The Rt. Rev. the Bishop of Durham (Dr. H. Hensley Henson).

S.B. from London—

4.0 p.m.—Surrey v. Lancashire Match from the Oval, and Music by the Andrew Brown Quintet (continued).

5.15 p.m.—The Children's Hour.

6.30 p.m.—Surrey v. Lancashire Match (continued).

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

6.45 p.m.—Brahms' Songs, Sung by Dale Smith.

7.25 p.m.—Brahms' Songs, Sung by Dale Smith.

7.25 p.m.—Brahms' Songs, Sung by Dale Smith.

Dale Smith.

7.25 p.m.—Sports Talk.

7.25 p.m.—Sports Talk.

7.45 p.m.—The Black Dyke Mills

Band. Bandmaster: A. O. Pearce.

Tom Kinniburgh (Bass).

8.45 p.m.—Song Recital by Heddlo

Nash (Tenor): Elegie (with Violin

obligato), (Massenet), A Mood

(Alison Travers), Sally in our

Alley (Carcy), At Dawning (Cad
man), Eleanore (Coleridge Taylor).

9.0 p.m.—Weather Forecast;

Second General News Bulletin;

Local Announcements; Eports

-Bulletin.

9.15 p.m.—Shipping Forecast.
S.B. from London:—
9.20 p.m.—Writers of To-day: Mr.
Stacy Aumonier reading a Short

Story.

9.35 p.m.—Variety: Lancelot Quinn (Irish Ballads), Harry Shalsten (Syncopation), Sydney Fairbrother (Cockney Character), John Henry, Gable and Banks (Songs and Animal Imitations), accompanied by The Revue Band.

10.30 p.m.—12.0 (midnight).—Dance Musice

PROGRAMMES FOR SUNDAY

(July 10)

IRELAND

Cork Broadcasting Station WL. 400 m. (750 kc)-;

1.5 kw.

8.0 p.m.—Muslc by the Station Quintet.

8.15 p.m.—'Alste Beag Gaedhilge.''

8.35 p.m.—Songs by George Hill (Baritone).

8.45 p.m.—"The Warblers' Concert Party.''

9.45 p.m.—Baritone Songs (contd.).

10.0 p.m.—Station Quintet.

10.30 p.m. (approx.).—Close Down.

DUBLIN. Dublin Broadcasting
Station (2RN). WL. 319.1 m.
(940 kc.); 1.5 kw.
Programme relayed from Cork
(400 m., 750 kc.).

AUSTRIA

GRAZ. Oest-Radio Verkehrs. WL. 356 m. (840 kc); 5 kw. 6.30 p.m.—Talk, "The Problems of a Judge." 7.0 p.m.—"Una partita scachi"—One-Act Comedy (Giacosa) (in Italica) One-Act Italian).

Italian).

Musical Folk Play (Sauer).

pum.—"Love Letters in Poem and Song"—Reading from the Works of Alfons Blumel and Musical Poem and Song and S

and Song "—Reading from the Works of Alfons Blumel and Willi Vesper.

1.40 p.m.—Orchestral and Vocal Concert.

1. "High Tyro!"—March (Mahr).

2. Overture to "Prince Methusalem" (J. Strauss).

3. "Künstlerleben" (Strauss).

4. "Festzug populärer Wiener Figuren" (Bednarz).

5. "Kinder-lieder"—March (Ziehrer).

6. Radio Graz—March (Hexmann), followed by News and Weather.

1ENNA. Radio-Wien. WL. 577 m. and 517.2 m. (520 and 580 kc); 1.5 and 5 kw. 1.0 a.m.—Concert by the Vienna VIENNA.

580 kc); 1.5 and 5 kw.

11.0 a.m.—Concert by the Vienna Symphony Orchestra. 1. Symphony No. 3 in A minor (Mendelssohn). 2. Concerto for Planoforte in C major (Mozart). 3. Songs by Paula Hentke: (a) "The Shepherd King" (Mozart), with Violin Obligato, (b) "H Penseroso" (Handel), with flute obligato. 4. Variations on a theme by Haydn (Brahns).

8.0 p.m.—Dance Music. 1. Barcelona—Foxtrot (Evans). 2. Spanish Shawl (Schoebel). 3. Calling—Yoxtrot (Golden). 4. After I say I'm Sorry—Foxtrot (Wonaldson). 5. "Mammy"—Blues (Wottitz). 6. Jelly Roll—Blues (Marton). 7. Deep Henderson (Rose). 8. "Stockholm" (Pettis). 9. Foxtrot form "I Lost my Heart in Heldelberg" 10. Macaroni—Charleston (Benes). 11. Al Serena (Paka). 12. Where do you work?—One-Step (Marks). 6.0 p.m.—Programme of Sonatas. 1. Sonata in D minor (Reger). 2. Sonata in E flat major (Mozart).

Step (Marks).

D.m.—Programme et Sonatas. 1.

Sonata in D minor (Reger). 2.

Sonata in E flat major (Mozart).

D.m.—"Der Hund, das Hirn, der

Hahn und das Tod" (Gotz).

BELGIUM

BRUSSELS. Radio-Belgique. WL. 508.5 m. (590 kc); 1.5 kw.

BRUSSELS. Radio-Belgique. WL.
508.5 m. (590 kc); 1.5 kw.
5.0 p.m.—Dance Music.
7.30 p.m.—"Radio-Chronlque."
8.0 p.m.—Orchestral Concert. 1.
The Italian in Algiers—Overture
(Rossini). 2. (a) Canzonetta
(Haydn); (b) Chanson Provençale
(Dell'Acqua). 3. Sylvia (Delibes).
4. Chant d'amour (Albeniz). 5.
Chant sans Paroles (Tchalkovsky).
6. Variations (Proch). 7. Conte
d'Avril (Widor).
3.0 p.m.—Goncert. Relayed from the
Kursaal, Ostend.
10.20 p.m.—Dance Music. Relayed
fron the Kursaal, Ostend.
11.0 p.m.—Close Down.

CZECHO-SLOVAKIA
BRUENN. Komarov. W.L. 441.2 m
(680 kc); 2.4 kw.
11.30 a.m.—Orchestral Concert. 4.30—6.0 p.m.—Programme relayed from Prague, 348.9 m. (859 kc). 6.0 p.m.—German Transmission. 8.0 p.m.—Programme from Prague.

DENMARK

GOPEN HAGEN. Copenhagen-Radio. W.L. 337 m. (890 kc); 9.7 kw. Programme relayed by Soro (1,153 m.

(260 kc). 10.0 a.m.—Divine Service.

2.0 p.m.—Divine Service from the Cathedral.

Cathedral.
4.9 p.m.—Concert from the Rosenborg Gardens.
7.0 p.m.—News and Time.
7.30 p.m.—Talk, "Andreas Hofer."
8.0 p.m.—Danish Concert with Taik on the "Dyrehave."
10.0 p.m.—News.
10.45 p.m.—Danse Music from the

10.45 p.m.—Dance Music from the Nimb Restaurant. 12.0 midnight.—Chimes from the Town Hall and Close Down.

FRANCE

PARIS. Ecole Supérieure (FPTT). W.L. 464 m. (646 kc); 0.5 kw. Transmits at intervals from 8.0 a.m. 2.0 p.m.—Concert arranged by the Transmits at intervals from 8.0 a.m.
2.0 p.m.—Concert arranged by the
General Wireless Association. 1.
"Les Cloches de Corneville"—
Overture (Planquette). 2. Sérénade
Madriléne (Mosquita). 3. Selection
from "La Traviata" (Verdi). 4.
Selection from "Romeo and
Juliet" (Gounod).
6.0 p.m.—"Radio Journal de France"
8.45 p.m.—Talk, "An African Tour."
9.0 p.m.—Concert from the Works of
Méhul, Audran, Planquette, and
Rameau, followed by News and
Dance Music.
12.0 (midnight, approx.)—Close
Down.

Down.

PARIS. Eiffel Tower (FL). WL. 2.650 m. (113 kc); 5 kw. 10.26 a.m.—Time Signal.
6.45 p.m.—'The Signal.
6.45 p.m.—'Le Journal Parlé.''
Talks on "The Establishment, of the Currency in Morocco," "Health," "Parisian Life," "Police Ancedotes," etc.
8.0 p.m.—Weather.
8.5 p.m.—Concert. 1. Ballet Music from "Rosanunde" (Schubert).
2. Légende—'Cello Solo (Chanaud).
3. Songs: (a) La Carmélite (Hahn), (b) Santuzza's Aria from "Cavalleria Rustleana" (Mascagni). 4. Annour de Princesse (Urgel). 5. Le Cygne—'Cello Solo (Saint-Saéns).
6. Songs: (a) "Sur la mer calmée from "Madame Butterfly" (Puccini), (b) "Art et Amour" from "La Tosca" (Puccini), 7. Moment Musicale—Violin Solos (Schubert).
8. Selection from "La Bayadère" (Kalnuan).
9.15 p.m.—Educational Programmes

8. Selection from La Lagrange (Kalman).
9.15 p.m.—Educational Programme:
Talks on "The Family," "The Modern Village," "Devéria," "The Italian Academy of Letters,"
"Architecture."
11.26 p.m.—Time Signal.

1.26 p.m.—Time Signal.

ARIS. Petit Parisien. WL.
340.9 m (880 kc); 0.5 kw.
0 p.m.—Concert. 1. "Prince Igor"
Overture (Borodine). 2. Aragonaise from "Carmen" (Bizet). 3.
"Tannhäuser"—Selection (Wagner). 4. La Jota aragonaise (Saint-Saēns). 5. Slavonic Dance No. 6 (Dvorák). 6. "La Freya "from the Ballet "Hamlet" (Thomas). 7.
"Scènes napolitaines" (Massenet).

PARIS. Radio-Paris (CFR). W.L. 1,760 m. (176 kc); 3 kw. 12.0 noon.—Sacred Music and

12.0 noon.—Sacred Music and Address.
12.45 p.m.—Goncert. 1. Vampire—Foxtrot (Waltham). 2. El Mamao—Tango (Seras). 3. Pas des Fleurs (Delibes). 4. Bilboquet in his repertory. 5. Carnaval des animaux (Saint-Saéns). 6. Florentina (Reynaud). 7. Dansc Espagnole (Granados). 8. Roses et coeurs (Bound). 9. Menuet Breton (Eggstone). 10. Sung South (Christian).
4.45 p.m.—Dance Music.
8.15 p.m.—Dance Music.
8.15 p.m.—News.

(Christian).
4.45 p.m.—Dance Music.
8.15 p.m.—News.
8.30 p.m.—Dance Music by Mario Cazes and his Orchestra. In the intervals: News.

TOULOUSE. Radiophonie du Midi.
WL. 389.6 m. (770 ke): 3 kw.
10.15 a.m.—News and Market Prices.
12 noon.—Religious Address followed

10.15 a.m.—News and Market Prices.
12 noon.—Religious Address followed
by Recital of Sacred Songs.
12.45 p.m.—Concert: 1. Waltz
(Translateur). 2. "Cantiliena
d'amour" (Audessin). 3. Fantoches et Pantins (Razigade). 4.
11 Madrigal (Bolzani). 5. Aubade
fleurie (Ganne). 6. Selection from
"The Tales of Hoffmann" (Offenbach). 7. Ballet des sylphes
(Berlioz). 8. Sérenade (Chaminade).
9. Viatka (Barch). 10. "The
Poet's Dream" (Beethoven). 11.
Allah—Foxtrot (Combelle).
2.10 p.m.—Religious Address, followed by Sung Psalms.
8.30 p.m.—Talk: "Senlis."
8.45 p.m.—Gala Concert, arranged

by "La Dêpeche": 1. "L'Enfant du Regiment"—March (Fucik). 2. Intermezzo (Baton). 3. "Who" -Foxtrot (Kern). 4. Beau soir (Debussy). 5. Selection from "Werther" (Massenet). 6. "La Chaise à porteurs" (Chaminade). Chaise à porteurs " (Chaminade).

7. Intermezzo from "Cavalleria
Rusticana" (Mascagni).

8. Musette (Pfeiffer).

9. La Madriparivienne (Gregh).

10. "Algerian
Nights"—Suite (Gregh).

GERMANY

BERLIN. Koenigswusterhausen.

W.L. 1,250 m. (240 kc.); 8 kw.
6.30 a.m.—12.30 a.m. (Monday, July
11th).—Programme relayed from
Vorbaus.

BERLIN. Voxhaus. W.L. 566 and 483.9 m. (530 and 620 kc.); 2 and 4 kw.

483.9 m. (530 and 620 kc.); 2 and 4 kw.

Programme relayed by Koenigswusterhausen on 1,250 metres
(240 kc.) and 8 kw.

Transmits at intervals from 6.30 a.m.

9.0 a.m.—Morning Recital.

11.30 a.m.—Orchestral Concert. 1.
Mignon—Overture (Thomas). 2.
Hofballtänze (Lanner). 3. Selection from "Der Freischütz"
(Weber). 4. Melody No. 1 and 2 (Rubinstein). 5. Intermezzo from
"Cavalleria Rusticana" (Mascagni). 6. Ein Souper bei Supps (Morena). 7. The Fourteenth Rhapsody (Liszt).

1.30 p.m.—Talk: "Poultry and its Commercial Value."

2.30 p.m.—Recital in Commemoration of the 250th Anniversary of the Death of Johann Scheffler (Angelus Silesius).

3.30 p.m.—Reading of Fairy Stories, including Kipling's "The Cat that Walked by Itself."

4.0 p.m.—Orchestral Concert.
1. Festival Overture in E major (Leutner). 2. Im Puppenladen—Waltz (Bayer). 3. "Dance of the Waves" from "Lorelei" (Catalani). 4. Was'blumen träumen (Translateur). 5. Das Zauberlied (Meyer-Helmund). 6. Selection from "Grigri" (Lincke).

7. Herbstlied (Zerkovitz).

5.30 p.m.—Relay of the Football Match, Germany v. Russia, from

30 p.m.—Relay of the Football Match, Germany v. Russia, from the Victoria Sports Arena, Ham-

match, Germany v. Russia, from the Victoria Sports Arena, Hamburg.

7.30 p.m.—Talk on "A Mediterranean Trip" (from Berlin to the Balearic Isles).

8.0 p.m.—Talk on "Wild Beasts as their own Physicians."

8.30 p.m.—Eetital of Poems.

9.0 p.m.—Concert of Old and New March Music.

1. The Second Artillery March. 2. Des Grossen Kurfürsten Reitermarsch (Moltke).

3. Parade March No. 1 (Möllendorf).

4. (a) Military March No. 55 (Princess Charlotte), (b) Die Marketenderin (Strauss).

5. Fehrbelliner Reitermarsch (Henrion).

6. Grosse Zeit, Neue Zeit (Brase).

7. Marsch der Finnländischen Reiterei aus dem 300 jährigen Kriege (Brase).

8. Parade March (Fischer).

11. Kürassier—March (Simon).

12. Parade March (Fischer).

11. Kürassier—March (Simon).

12. Parade March of the Eighteenth Hussars (Moller).

10.15 p.m.—Dance Music.

12.30 a.m. (Monday, July 11th).—Close Down.

Close Down.

Close Down.

| Close Down. | Close | C

Stevenson.

op.m.—Talk: "Rambles in the Strehlener Mountains."

35 p.m.—Talk: "Blind, Deaf and Dumb—A Study of Helen Keller."

D BRITISH SUMMER TIME.

3.15 p.m.—Classical Concert of Vocal Muslo (oratorlo and opera) 250 from Gleiwitz:

1. Duet: "Mein Freund ist mein" from "Wachet auf" (Bach). 2. Terzet: "Zu dir, o Herr" from the "Creation" (Haydn). 3. Duet: "Ihr Schönen aus der Statt" from "Die Jahreszeiten" (Haydn). 4. Duet: "Denn also hat uns der Herr geboten" from "Paulus" (Mendelssohn). 5. Terzet: "Soll ich dich, Teurer, nicht mehr sehn "from "The Magic Flute" (Mozart).

6. Duet: "Bei Männern; weiche Liebe fühlen" from "The Magic Flute", 7. Terzet: "Wie, was hör ich "from "The Mariage of Figaro." (Mozart).

8. Duet: "Nur hurtig fort, nur frisch gegraben" from "Fidelio" (Beethoven).

9. Terzet: "Euch werde Lohn in bess 'ren Welten' from "Fidelio" (Duet: "Sohelm, halt fest" from "Der Terzet." (Terzet.) werde Lohn in bess 'ren Welten''
from "Fidello" 10. Duet:
"Schelm, halt fest" from "Der
Freischütz" (Weber). 11. Terzet:
"Wie, was, Entsetzen' from
"Der Freischütz." 12. Duet:
"Nun bist du mein "from "Hans
Heiling" (Marschner) Terzet: "Ja,
hier sind wir" from "Das Glöckchen d Eremiten" (Maillart).

10.30 p.m.—Dance Music.

FRANKFURT. Südwestdeutscher Rundfunk. W.L. 428.6 m. (700 kc);

* AW. 8.0 a.m.—Morning Recital. 11.30 a.m.—Talk for Parents. 12.0 noon.—Chimes from Darmstadt

Castle.

12.5 p.m.—Concert from the Café
Rumpelmeyer.

4.0 p.m.—Concert of the First
Friedberg Double-Quartet.

6.0 p.m.—Talk and Reading from
Works of Freiherr von Stein.

7.0 p.m.—Reading from His Own
Works by Johannes R. Becher.

8.0 p.m.—Transmission Arranged by
the Frankfurter Zeitung.

8.30 p.m.—Variety Concert. Followed
by Sports News and Dance Music.

12.30 a.m. (approx.) (Monday,
July 11th).—Close Down, -17-

HAMBURG. Norag (ha, in Morse).

WL. 395.25 m. (759 kc); 4 kw.

Transmits at intervals from 8.30 a.m.

9.15 a.m.—Morning Recital.

9.30 a.m.—Concert by the North
German Choral Society on the
occasion of the 59th Song Festival
in Bremen, relayed from The
Stadium, Bremen.

11.0 a.m.—Esperanto Lesson.

11.30 a.m.—Open-Air Concert from

Hanover.

12.30 p.m.—Wireless Talk.

12.55 p.m.—Time Signal from Neuchatel.

1.5 p.m.—Orchestral Concert.

12.55 p.m.—Inne Signai from Neuchatel.
1.5 p.m.—Orchestral Concert.
2.0 p.m.—Fairy Tales.
3.0 p.m.—Relay of the Hamburg
Rowing Regatta.
4.0 p.m.—Variety Concert.
5.30 p.m.—Relay of International
Football Match, Germany v. Russla.
7.25 p.m.—Talk: "The Swiss
Travels of a Humorist."
7.50 p.m.—Sports Notes and Weather.
8.0 p.m.—Instrumental Concert.
10.30 p.m. (approx.)—Concert from
the Café Wallhof and News.
12 midnight (approx.)—Close Down.
LANGENBERG. Westdeutscher

12 midnight (approx.)—Close Down.

LANGENBERG. Westdeutscher
Rundfunk. W.L. 468.8 m. (640 kc);
25 kw.
Programme also relayed by Muenster
on 241.9 m. (1.240 kc)
9.0 a.m.—Catholic Morning Recital,
relayed from Cologne. 1. "Caro
mio ben" (Giordano). 2. "Kyrie
eleison," from "Missa Brevis"
(Palestrina). 3. "Ave Maria"
(Bruckner). 4. "Sanctus," from
the "Missa Brevis" (Palestrina).
5. Address. 6. "The Heavens
proclaim the Glory of God," from
"The Creation" (Haydn), for
Cholr and Soloists. 7. "La Consolotione" (Locatelli).
10.40 a.m.—Talk on "Goethe," from
Cologne.

Cologne.

11.0 a.m.—Talk from Cologne. "Natural and Artificial Feeding—Its Importance for the Child."

11.35 a.m.—Talk from Cologne, "Gregorian Chants," with illustrations

rations.

12.30 p.m.—Reading by Rudolf Rieth
—from the Works of Goethe,
Hafts, and Li-Tai-Pe-from Cologne.

1.5 p.m.—Orchestral Concert.

1. (P.M.)

"Poet and Peasant"—Overture (Suppé). 2. "Walzerflut" (Fetras). 3. "Zaza"—Selection (Leoncavallo). 4. Northern caprice

(Donlsch). 5. Helsse Liebe (Wappaus). 6. "Spring Song" (Grieg). 7. Wien bei nacht (Komzak). 8. Volga—Waltz (Cassau). 9. "Frühlingskinder"—March (Blanken-

2.30 p.m.-Literary Talk from Muenster.
3.0 p.m.—Chess Lesson from Dussel-

3.30 p.m.—Economics Talk, from Muenster.

3.30 p.m.—Economics Talk, from Muenster.
4.0 p.m.—Programme relayed from the Saalbau, Essen. Sacred Music by the South Rhine Choir. Proceeds in aid of the Barnen China Mission, and the New Church Africa Mission. 1. Organ Prelude, 2. Chorai Music. 3. "Sollt ich mein Gott nicht singen" (Bach).
4. Psalm 40 (Everts). 5. Three Songs (Becthoven): (a) Vom Tode, (b) Bitten, (c) Busslied. 6. Talk—"The Work of the Ailled Chinese Mission." 7. "Nimm Christum in dein Lobenschiff" (Stapf). 8. Jesus lebt (Sponheimer). 9. Psalm 43—Music by Mendelssohn. 10. Talk—"The Newchurch Mission in German East Africa." 11. Psalm 13—Music by Everts. 12. Second and Third Movements from the Solo-cantata (Bach). 13. "Hallelujah," from the "Messiah" (Handel).
8.15 p.m.—"Don Caesar" — Operetta (Dellinger) from Cologne, followed by News and Dance Music.
42.0 midnight (approx.).—Close

midnight (approx.).-Close Down.

12.0 midnight (approx.).—Close Down.

LEIPZIG. Mitteldeutscher Rundfunk.

WL. 365.8 m. (820 kc); 4 kw.
9.0 a.m.—Morning Recital.
10.0 a.m.—Talk.
10.30 a.m.—Talk: "The Aboriginal American Indians."
11.0 p.m.—Open Air Concert. Relayed from the "Halle."
12 Noon.—Address by Prof. Dr. Amsel. Relayed from the Hotel Schwan. on the occasion of the Forty-Eighth Meeting of the Sachsen-Anhalf Shorthand Society.
4.30 p.m.—Variety Concert—including Songs to the Lute, Bandonion Music, Children's Choir and Selections by Fritz Bunge (the Blind Fiddler).
6.30 p.m.—Music Talk.
7.0 p.m.—Talk: "Physic and Medicine."
7.30 p.m.—Talk: "Physic and Medicine."
7.30 p.m.—Talk: "Overture (Auber). 2. Variations on a Theme by Mozart (Adam). 3. March from "Turandot" (Weber). 4. Berceuse (Järnefelt). 6. Parla-walzer (Arditl). 6. Airs from "The Daughter of the Regiment" (Donizetti). 7. "Philin's Aria from "Mignon" (Thomas). 8. Minuet and Gavotte from "Manon" (Massenct). 9. Songs with Pianoforte Accompanient: (a) "Der (Donizetti). 7. "Phillin's Aria from "Mignon" (Thomas). 8. Minuet and Gavotte from "Manon" (Massenct). 9. Songs with Planoforte Accompaniment: (a) "Der Kleine Fritz" (Weber); (b) Einschneiderlied (Lowe); (c) Hänschen (Heinemann); (d) Storchenlied (Hoffmann); (e) Zwel Gänse (Weingartner). 10. Old and Modern Weltzes.

(weingartner). 10. Old and Modern Waltzes.

10.0 p.m.—Sports Notes.

10.30 p.m.—Dance Music.

12.30 a.m. (approx.).—Monday, July

11th).—Close Down.

HOLLAND

HILVERSUM. Algemeene-Nederlandsche Radio Omroep. WL.
1,067 m. (281 kc); 5 kw.
8.10 a.m.—Divine Service.
9.40 a.m.—Church Service.
6.25 p.m.—Church Service.
7.40 p.m.—Weather and News.
7.50 p.m.—Concert arranged by the Roman Catholic Radio Society.
10.30 p.m. (approx.).—Close Down.

ITALY

MILAN. Unione Radiofonica Italiana (1MI). WL. 322.6 m. (930 kc); 1.5 kw. 10.30 a.m.—Vocal and Instrumental Concert of Sacred Music. 10. p.m.—News. 4.15 p.m.—Vocal and Instrumental Concert. 5.15 p.m.—Children's Corner.

5.15 p.m.—Children's Corner. 5.45 p.m.—Forestry Notes and News.

News.
30 p.m.—Opening Signal.
45 p.m.—Time.
47 p.m.—Concert: 1. "The Force of Destiny "—Selection (Verdl). 2.
Talk: "The History of Opera—
Comique." 3. Contratto Songs (Zandonai and Benvenuto). 4.
(Continued on page 45.)

PROGRAMMES FOR MONDAY

(July 11)

IRELAND

CORK. Cork Broadcasting Station (6CK). WL. 400 m. (750 kc); 1.5 kw. 2.30 p.m.—Weather, Stock Market Report and Grannophone Records. 6.30—10.30 p.m.—Programme re-.30—10.30 p.m.—Programme re-layed from Dublin, 319.1 m. (940 kc).

DUBLIN. Dublin Broadcasting Station (2RN). WL. 319.1 m. (940 kc);

tion (2RN). W L. 319.1 m. (940 ke);
1.5 kw.
1.30 p.m.—Exchange, Weather and
Gramophone Concert.
7.0 p.m.—Gramophone Music.
7.20 p.m.—Exchange and News.
7.30 p.m.—Irish Lesson by Conaill

7.30 p.m.—Irish Lesson by Count.
Cearnach.
7.45 p.m.—Gardening Talk, by G. O.
Sherrard.
8.0 p.m.—Concert by the Station
Orchestra, Mrs. A. K. Hughes
(Contralto), Mary O'Hea and Company (Dramatic Selections), George
Hill (Baritone), and the Traditional

Trio.
10.30 p.m.—News and Weather.
10.35 p.m. (approx.).—Close Down.

AUSTRIA

VIENNA. Radio-Wien. W.L. 577 and 517.2 m. (520 and 580 kc); 1.5 and 5 kw.

Transmits at intervals from 11 a.m.
6.20 p.m.—Talk—"Hereditary Degeneracy."
6.50 p.m.—Talk on "Poultry Breed-

7.30 p.m. Talk — "Our Native Snakes." 8.5 p.m. — Concert of Austrian Music.

BELGIUM

BELGIUM

BRUSSELS. Radio-Belgique. WL.
508.5 m. (590 kc); 1.5 kw.
5.0 p.m.—Concert.
7.30 p.m.—"Radio-Chronlque."
6.0 p.m.—Orchestral Concert.
1. La Belle Hélène—Overture (Offenbach). 2. La chasse aux papillons (Keler-Bela). 3. Concert for Flute (Duvernois).
4. Sérénade Hongroise (Joncières). 5. Reading from the works of the Belgian Poet, Valère Gille. Introductory Talk by M. Theo Fleischmann.
6. Wedgwood Blue (Ketelby).
7. Samson and Delilah (Saint-Saëns).
8. Gaimont (Staub).
9. Topical Talk.
10. Ruse d'amour (van Luck).
11. Reading of Poems by Valère Gille.
12. Petite Suite (Chaminade).

Talk. 10. Ruse d'amour (var Luck). 11. Reading of Poems by Valère Gille. 12. Petite Suite (Chaminade). 9.30 p.m.—Dance Music. 10.30 p.m.—News. 40.45 p.m. (approx.)—Close Down.

CZECHO-SLOVAKIA
BRUENN. Komarov. WL. 441.2 m.
(680 kc); 2.4 kw.
Transmits at intervals from 12.15 p.m. 1 ransmits at intervals from 12.13 p.m. 8.0 p.m.—Dramatic Selections.
8.30 p.m.—Song Recital.
9.0 p.m.—Programme realyed from Prague, 348.9 m. (859 kc).

DENMARK

COPENHAGEN. Copenhagen Radio.

W.L. 337 m. (890 kc); 0.7 kw.

Programme relayed by Soro (1,153.8 m.; 260 kc).

7.0 p.m.—News, Exchange and Time.

7.30 p.m.—Talk, "Beauty in the Home."

Home. p.m.—Selection of Light String

Music

Music.
8.30 p.m.—Dramatic Transmission.
9.0 p.m.—News.
9.30 p.m.—Orchestral Concert.
11.0 p.m. (approx.).—Close Down.

FRANCE

PARIS. Ecole Supérieure (FPTT)
WL. 464 n. (646 kc); 0.5 kw.
Transmits at intervals from 8.0 a.m.
2.0 p.m.—Concert arranged by the
General Wireless Association. 1.
"Fidello"—Overture (Beethoven).
2. Gavotte (Luigini). 3. "Galathé"
—Selection (Massé). 4. Aubade and
Minuet (Eyssinann). 5. Selection
from "Le Roi d'Ys" (Lalo).
6.0 p.m.—"Radio Journal de
France."
8.0 p.m.—Legal Talk.
8.15 p.m.—Talk, "Animal Diseases
which are infections to Man."
8.30 p.m. (approx.)—Marcelin Berthelot Gentenary Talk.
9.0 p.m.—Vocal and Instrumental
Concert.
11.0 p.m.—News.

11.0 p.m.—News.
11.15 p.m. (approx.)—Close Down.

NOTE: THE HOURS OF TRANSMISSION ARE REDUCED TO BRITISH SUMMER TIME.

PARIS. Eiffel Tower (FL). W.L. 2,650 m. (113 kc); 5 kw. 10,26 a.m.—Time. 6.45 p.m.—"Le Journal Paris."

10,28 a.m.—1110.
6.45 p.m.—'Le Journal Part.
8.0 p.m.—Weather.
8.5 p.m.—Gencert. 1. Faust (Schumann-Torrandell). 2. Ptanofortc Solos: (a) Valse in B minor (Chopin), (b) Etude, Op. 10 (Chopin). 3. Chants Polonais (Chopin). 4. L'Abeille—Violin 5. Songs le repos, (Chopin). 4. L'Abeille—Vlolin Solo (Schubert). 5. Songs (Schubert): (a) Tu es le repos, (b) Pour chanter au bord de l'eau. 6. Euryanthe (Weber). 7. Mazurka, Op. 7 for Pianoforte (Chopin). 8. Chants Polonais. 9. Wiegenlied (Brahms). 10. Tristan and Isolde (Wagner). 9.15 p.m.—Educational Programme. 11.26 p.m.—Time.

PARIS. Radio-Paris (CFR). WL.

PARIS. Radio-Paris, (CFR). W.L. 1,760 m. (176 kc); 3 kw. 10.30 a.m.—News and Musical Sclections.

12.30 a.m.—Concert. 1. Viva Geana-Paso Doble (Alonso). 2. Valse des Blondes (Ganne). 3. Danse Espagnole (Michiels). 4. Giroffé-Girofia—Overture (Lecocq). 5. Sonata (Pierné). 6. Le Colibri (Chausson). 7. Samson and Delilah—Selection (Saint-Saèns). 8. Prélude (Rachmaninoff). 9. Crépuscule (Massenet). 10. Les vieilles de chez nous (Levade). 11. Aria (Bach). 12. Two Russian Songs (Krein).

Songs (Krein). 1.50 p.m.—Exchange Quotations and

1.50 p.m.—Exchange Quotations and News.
4.30 p.m.—Exchange Quotations.
4.45 p.m.—Concert arranged by the "Wireless Amateurs' Association."
5.35 p.m.—Market Prices.
7.30 p.m.—Colonial Notes.
7.40 p.m.—News.
8.30 p.m.—Concert arranged by "Radio Selection." "Romeo and Juliet"—Selection (Gounod). News in the Intervals.

GERMANY

in the Intervals.

BERLIN. Koenigswusterhausen.

WL. 1,250 m. (240 kc.); 8 kw.
Transmits at intervals from 12 noon.
5.0 p.m.—Chess Lesson.
6.0 p.m.—Talk on "World Politics."
6.30 p.m.—Elementary English

30 p.m.—Elementary Lesson.

Lesson.
6.55 p.m.—Talk on "Retail Trade Questions."
7.20 p.m.—Travel Talk: "The Saal Valley."
8.0 p.m.—Programme relayed from Frankfurt (428.6 m., 700 kc.).

BERLIN. Voxhaus. W.L. 566 and 483.9 m. (530 and 620 kc.); 2 and 4 kw.

Fransmits at intervals from 6.0 a.m. 5.30 p.m.—Orchestral Concert. 6.40 p.m.—Talk on "The Street Singer," to be broadcast on July

Singer," to be broadcast on July 12th.
7.5 p.m.—Talk on "Officials Mutual Help Society."
7.30 p.m.—Talk on "Masters of Classical Art—Goya."
7.55 p.m.—Talk: "Common Sense and Happiness—The Way to Content."
8.30 p.m.—Erich Weinert Recital.
1. Talk about the Author. 2. The Author reads from his own Works.
9.0 p.m.—Chamber Music Concert.
1. Trio in D minor, Op. 107 (Bossi). 2. Trio in A minor, Op. 50 (Tchaikovsky).
10.15 p.m.—Weather and News.

BRESLAU. Schlesische Funkstunde.

WL. 315.8 m. (950 kc); 4 kw.
Transmits at intervals from 11.15 a.m.
6.0 p.m.—Literary Talk, "Angelus
Silesius on his 250th Anniversary."
7.0 p.m.—Talk, "Silesian Philosophy
in the Light of Proverbs and
Mottoes."

.35 p.m.—Talk, "Wonderful Lands."

Lands."
8.10 p.m.—Hans Mühlhofer (Elocutionist): "Automobile Stories."
9.0 p.m.—Marteau Concert. 1.
Terzet for Flute, Violin and Viola.
2. String Quartet No. 3 in C major,

FRANKFURT. Südwestdeutscher Rundfunk. W.L. 428.6 m. (700 kc); 4 kw.

4 kw.

Transmits at intervals from 12.0 noon.
6.15 p.m.—Talk, "Ernst Tröltsch
and Philosophy."
6.45 p.m.—Talk, "Protection of the
Handicraftsman."
7.15 p.m.—Talk, "Spanish Novels of
Chivalry."
8.0 p.m.—Concert from the Exhi8.30 p.m.—Opening Signal:

bition of Music by the Thomaner Choir, Leipzig, followed by Orchestral Music.

HAMBURG. Norag (ha, in Morse).

W.L. 395.25 m. (759 kc.); 4 kw..

Transmits at Intervals from 5.45 am.

4.15 p.m.—Orchestral Concert, from

LANGENBERG. Westdeutscher Rundfunk. WL. 468.8 m. (640 Rundfunk. WL. 468.8 m. (640 kc.); 25 kw.
Transmits at intervals from 10.30a.m.

Programme also relayed by Muenster on 241.9 m. (1,240 kc.).
6.30 p.m.—Talk: "The Care of the Skin," from Elberfeld.
7.20 p.m.—Spanish Lesson, from Cologne.

Skin," from Elberfeld.
7.20 p.m.—Spanish Lesson, from Cologne.
7.45 p.m.—Talk for Parents, from Cologne.
8.10 p.m.—Talk: "The Training and Care of Sheep-Dogs," from Cologne.
8.10 p.m.—Talk: "What every Wireless Amateur should know," from Dortmund (283 m., 1,060 kc.)
8.30 p.m.—Organ Recital, relayed from the Reinoldikirche, Dortmund.
1. Organ Concerto in A major (Handel). 2. Chaconne for Violin with Organ accompaniment (Vitali). 3. Three Songs (Franck, Hendel and Wolff).
4. "Lamentation"—Organ Solo (Guilmant). 5. Sonata for Violin Op. 91, No. 2 (Reger). 6. Three Songs (Wolff and Mendelssohn).
7. Prelude for Violin and Organ (Reger) and "Sanctus" for Violin 2. Preclude for Violin Songs (Wolff and Mendelssohn).
9. Toccata from the Flith Symphony (Widor).
10.20 p.m.—News and Sports Notes from Cologne.
10.30 p.m.—Concert, relayed from the "Rheinterrasse," Dusseldorf.
12.0 midnight (approx.).—Close Down Luck (Mandels).

LEIPZIG. Mitteldeutscher Rundfunk. W.L. 365.8 m. (820 kc); 4 kw. Transmits at intervals from 10.0 a.m. 3.30 p.m.—Elementary English Lesson. Relayed from Koenigswusterhausen, 1,250 m. (240 kc). 7.0 p.m.—Talk, "Climbing and Touring in Saxon Switzerland"

hand."
7.30 p.m.—Dramatic Talk.
8.0 p.m.—Weather and Time.
8.15 p.m.—Concert of Folk Music.
10.0 p.m.—News.
10.15 p.m.—Dance Music.
12.0 midnight(approx.).—Close Down

HOLLAND

HOLLAND

HILVERSUM. Algemeene-Nederlandsche Radio Omroep. WL.
1,067 m. (281 kc); 5 kw.
Transmits at intervals from 11.40a.m.
3.10 p.m.—Talk for Women.
4.40 p.m.—Children's Corner.
5.55 p.m.—Regimental Concert.
7.50 p.m.—Concert.
7.50 p.m.—Regimental
7

10.30 p.m. (approx.)—Close Down.

HUNGARY

BUDAPEST. Magyar Radio Ujsag. WL. 555.6 m. (540 kc.); 3 kw. Transmits at intervals from 9.30 a.m. 7.0 p.m.—Symphony Concert. 8.30 p.m.—Time and News. 9.0 p.m.—Pianoforte Recital. 10.30 p.m.—Gipsy Music relayed from the Café Emke. 12.0 midnight (approx.).—Close Down

O BRITISH SUMMER TIME.

8.45 p.m.—Time.

8.47 p.m.—Talk, "Milan from Day to Day."

9.0 p.m.—Concert of Light Music, Variety Items, and a Short Comedy.

11.0 p.m.—Dance Music. Relayed from "La Flaschatteria Toscana."

11.30 p.m. (approx.).—Close Down.

NAPLES. Unione Radiofonica Italiana (INA). WL. 333.3 m.

(900 kc); 1.5 kw.

Transmits at intervals from 1.0 p.m.

8.55 p.m.—News.

9.0 p.m.—Relay from the Alhambra Theatre. Concert of Italian Music.

9.30 p.m. (in the Interval).—Time.

11.0 p.m. (approx.).—Close Down.

11.0 p.m. (approx.).—Close Down.

RO\$1E. Unione Radiofonica Italiana (1RO). WL. 450 m. (667 kc); 3 kw. Transmits at intervals from 1.0 p.m. 9.0 p.m.—Time and News.

9.10 p.m.—Symphony Concert. Book Review in the Interval.

11.25 p.m.—News.

11.30 p.m. (approx.).—Close Down.

LITHUANIA

KOVNO. Radio-Kaunas. WL. 2,000 m. (150 kc); 7 kw. 6.30 p.m.—Variety Hems. 7.0 p.m.—Talk in French, "Meniel." 7.30 p.m.—Time, Weather and News.

NORWAY

BERGEN. Kringkastingselskap. WL. 370.4 m. (810 kc); 1 kw. Transmits at intervals from 11.15a.m. 8.25 p.m.—Fishing News. 8.30 p.m.—Orchestral Selections. 9.0 p.m.—Talk, "Sport and Training."

9.30 p.m.—Orchestral Selections.
9.40 p.m.—Baritone Solos.
10.0 p.m.—Weather, News and Time.

10.0 p.m.—Weather, News and Time.

OSLO. Kringkastingselskapet. WL.

461.5 m. (650 kc); 1.5 kw.
Programme also relayed by Porsgrund, 504 m. (595 kc), Hamar,
566 m. (530 kc), Frederiksstad,
434.8m. (690 kc), Rjukan, 476 m.

(709 kc).

7.45 p.m.—News.
8.0 p.m.—Time.
8.2 p.m.—Concert by the Grand Cafe Orchestra. 1. Selection from "The Valkyrie" (Wagner). 2. "Dorfschwalben aus Osterreich" (J. Strauss). 3. "Finlandia"—Symphonic Poem (Sibelius). 4. Wedding March (Kunla). 5. "Rhapsody No. 1" (Svendsen).

9.0 p.m.—Talk on "Morocco."

9.30 p.m.—Programme of Opera Arias.

10.0 p.m.—News and Weather.

10.0 p.m.—News and Weather. 10.15 p.m.—Close Down.

POLAND

POLAND
POSEN. Radio-Posnan. WL.
270.3 m. (1,100 kc); 1.5 kw.
Transmits at intervals from 2.0 p.m.
7.0 p.m.—Variety Items.
7.15 p.m.—Talk,
7.40 p.m.—Talk, "The Rebellion in East Poland in 1918."
8.30 p.m.—Concert. Relayed from Warsaw, 1,111.1 m. (270 kc).
10.0 p.m.—Aviation Notes.
10.20 p.m.—Dance Music.
12.0 midnight (approx.).—Close Down.

SPAIN

BARCELONA. Radio-Barcelona (EAJ1). WL. 344.8 m. (870 kc);

2 kw.
2.0 noon.—Chimes and Weather.
5.30 p.m.—Exchange Quotations and News.
8.30 p.m.—Talk, "The Voice and Voice-Production."
9.0 p.m.—Exchange Quotations and News.

News.

9.5 p.m.—Humorous Review of the Week in Verse.

9.20 p.m.—Dance Music. Relayed from the "Palais de Danse."

10.0 p.m.—Chimes and Weather.

10.5 p.m.—Exchange Closing Prices.

10.10 p.m.—Pianoforte Recital. 1 "Pastorale and Caprice" (Scarlatti). 2. Impromptu No. 4 (Schubert). 3. "Liebestraum" (Liszt). 4. Waltz No. 5 (Chopin).

5. Papillons (Olsen).

11.0 p.m. (approx.).—Close Down.

MADRID. Union Radio (EAJ 7).

WL. 375 m. (800 kc); 3 kw.

Transmits at intervals from 11.45a.m.

7.0 p.m.—Orchestral Concert, talk
by Luis Medina in interval.

8.30 p.m. (approx.)—Close Down.

SWEDEN

STOCKHOLM. Radiotjānst (SASA)

WL. 454.5 m. (660 kc); 1.5 kw.

Programme also relayed by Motala,
1,320 m. (227 kc); Goteborg
416.7 m. (720 kc); and Malmo,
260.9 m. (1,150 kc).

Transmits at intervals from 12,35 p.m.
7.45 p.m.—Memorial Talk of the
André Expedition. Relayed from
Varberg.

André Expedition. Relayed from Varberg.

8.15 p.m.—Concert. 1. Suite (Nordqvist). 2. Prélude, Minuet, Intermezzo and Gavotte (Nordqvist). 3. Synneves sang (Klerulf). 4.
Polacea (Dannstrom). 5. Mademoiselle Rococo (Malartin). 6.
Arabian Song (Rimsky-Korsakoff). 7. On the Wings of Song (Mendelssohn). 8. Two Pianoforte Solos (Nordqvist). 9. Bel nome (Cimarosa). 10. La Traviata—Aria (Verdi). 11. Sicilienne et Rigaudon (Francoeur-Kreisler). 12. Berceuse (Fauré). 13. Hungarian Dance in G minor (Brahms).

9.15 p.m.—News.
9.30 p.m.—Weather.
9.40 p.m.—Talk, "Six Years among African Savages: A Mortal Combat."

SWITZERLAND

BERN. Radio-Bern. W.L. 411 m. (730 kc.); 1.5 kw.
Transmits at intervals from 1.0 p.m. 8.0 p.m.—Time and Weather.
8.5 p.m.—Concert of Ballads with Orchestral Interludes from the Bern Kursaal.
9.50 p.m.—News and Weather.
10.5 p.m.—Orchestral Music.
10.30 p.m. (approx.).—Close Down.

GENEVA. Radio-Geneva. WL. 760 m. (395 kc); 0.5 kw. 8.30 p.m.—Exchange, Time and Weather. 8.32 p.m.—Sports News. 8.45 p.m.—Concert from the Café du

Nord. 9.50 p.m.—News. 10.0 p.m. (approx.)—Close Down.

Radiophonie. W.L. 850 m.

LAUSANNE. Soci té Romande de Radiophonie. W.L. 850 m. (353 kc); 0.6 kw.
Transmits at intervals from 7.0 a.m. 8.30 p.m.—Weather.
8.31 p.m.—Talk, "In North Greece." 9.0 p.m.—Orchestral Music from the Old India Restaurant. 1. Trésor—Waltz (Strauss). 2. "Le Roi l'a dit"—Overture (Delibes). 3. Chanson piémontaises No. 1 (Sinigaglia). 4. Suite Caucasienne (Ivanow). 5. Marche héroique (Saint-Saëns).

ZURICH. Radio-Genossenschaft,
WL. 496 m. (605 kc); 1 kw.
Transmits at intervals from 12.28p.m.
7.58 p.m.—Weather and Time.
8.0 p.m.—Talk, "Acoustics and the
Microphone."
8.30 p.m.—Concert of "Rococo"
Music.
9.30 p.m. (approx.)—Popular Orchestral Concert.
10.10 p.m.—News and Weather.
10.20 p.m. (approx.)—Close Down.

U.S.A.

V.S.A.
PITTSBURGH. Westinghouse Electric (KDKA). WL. 309 m.
(970 kc); 25 kw.
Transmits at intervals from 4.0 p.m.
Programme relayed on 64 m.
(4,687 kc) from 11.0 p.m.
11.0 p.m.—Baseball Scores.
11.10 p.m.—Goncert by the String Wood Ensemble.
11.55 p.m.—Baseball Scores.
12.0 midnight.—Programme arranged by the Duquesne Opera Company.
12.20 a.m.—Report of Road Conditions.

12.20 a.m.—Report of Road Conditions.

12.30 a.m.—Roxy's Gang, from WJZ, New York.

2.0 a.m.—Spotlight WJZ, New York.

4.0 a.m.—Weather and Baseball Scores.

Scores.

SCHENECTADY, N.Y. General Electric Company (WGY). WL. 379.5 m. (790 kc). 60 kw.
Transmits at intervals from 11.45a.m. Relayed by 2XAD on 22.02 m. (13,623 kc).

11.0 p.m.—Stock Exchange Quotations and Naws

(13,623 kc).

11.0 p.m.—Stock Exchange Quotations and News.

11.25 p.m.—Baseball Scores.

11.30 p.m.—The Hotel van Curler Orchestra.

12.25 a.m. (Tuesday, July 12th)—Baseball Scores.

12.30 a.m. (approx.)—Close Down.

PROGRAMMES FOR TUESDAY

(July 12)

IRELAND

ORK. Cork Broadcasting Station (6CK). WL, 400 m. (750 kc); 1.5 kw.

p.m .- Weather, Stock Market Report and Gramophone Records 30—10.30 p.m.—Programme re layed from Dublin, 319.1 m (940 kc).

(940 kc).

DUBLIN. Dublin Broadcasting Station (2RN). W.L. 319.1 m. (940 kc); 1.5 kw.
1.30 p.m.—Exchange, Weather and Granophone Concert.
7.0 p.m.—Exchange and News.
7.30 p.m.—Exchange and News.
7.30 p.m.—Exchange and News.
7.30 p.m.—Falane Talk by Cormac Breathnach.
7.45 p.m.—Spanish Lesson by Walter Starkie, LL.D.
8.0 p.m.—Concert by the Station Orchestra. Colonel Fritz Brase (in a Programme of his own Compositions), Agnes Charleston (Contrato), H. R. White (Music Talk), Seamus de Ohlanndioluin (Gaelic Songs), Rhoda Coghill (Pianiste).
10.30 p.m.—Weather and News.
10.35 p.m. (approx.).—Close Down.

AUSTRIA

Wienna. Radio-Wien. W.L. 577
and 517.2 m. (520 and 580 kc);
1.5 and 5 kw.
Transmits at intervals from 11.0 a.m.
6.30 p.m.—Talk for Women.
7.0 p.m.—Talk on "Steiermark."
7.30 p.m.—Issperanto Lesson.
B.5 p.m.—Instrumental and Vocal
Goncert.

BELGIUM

GRUSSELS. Radio-Belgique. W.L. 508.5 m. (590 kc); 1.5 kw. 5.0 p.m.—Dance Music. 6.0 p.m.—French Lesson. 7.30 p.m.—Concert. Relayed from the Zoological Society, Antwerp. 1. March No. 1 (Schubert). 2. Hungarian Suite (Hoffman). 3. Polonia. garian Suite (Hoffman). 3. Polonia
—Overture (Wagner). 4. The
Trumpeter of Säkingen (Nessler).
5. Andante (Schubert). 6. Spanish
Caprice (Rimsky-Korsakoff). 7.
Marche festivale (Dvorák). In the
interval: Topical Talk and Reading
from the novel "L'Enlizement"
(de Ghistelles).
10.0 p.m.—News.
10.30 p.m. (approx.).—Close Down.

CZECHO-SLOVAKIA

BRUENN. Komarov. W.L. 441.2 m.
(680 kc); 2.4 kw.
Transmits at intervals from 12.15 p.m.
7.0 p.m.—Orchestral Concert.
9.0 p.m.—Band Music.
10.0 p.m.—Programme from Prague,
348.9 m. (859 kc).

DENMARK

COPENMARK
COPENMAGEN. Copenhagen Radio
WL. 337 m. (890 kc); 0.7 kw.
Programme relayed by Soro
(1,153.8 m.; 260 kc).
3.0 p.m.—Concert.
7.0 p.m.—News. Exchange and Time.
7.30 p.m.—Talk, "The Principles and Organisation of Welfare Associations."
8.0 p.m.—Symphony Concert from Works of Mozart.
9.15 p.m.—News.
1.30 p.m.—Concert of Light Music.
1. Andreas Hofer (Fetras). 2.
Traumland (Fucik). 3. Bachfischparade (Lincke). 4. Songs.
5. Ideale (Tosti). 6. Tresoro mio (Becucci). 7. Songs. 8. Dansons la Tarantella (Ryder). 9. Sylva (Spacek). 10. Im bunten Rock (Jessel). (Spacek). (Jessel). 10.30 p.m. (approx.).—Close Down.

FRANCE

PARIS. Ecole Supérieure (FPTT).

WL. 464 m. (646 kc); 0.5 kw.

Transmits at intervals from 8.0 s.m.

4.0 p.m.—"Croiza Festival." Relayed from the Palace of Fontainebleau.

6.0 p.m.—English Lesson.

9.0 p.m.—English Lesson.

9.0 p.m.—Gala Concert. Arranged by the General Wireless Association Selection from "Manon" (Massenet).

11.0 p.m.—News. 11.15 p.m. (approx.).—Close Down.

PARIS. Eiffel Tower (FL). W.L. 2650 m. (113 ke); 5 kw. 10.26 alm.—Time.

NOTE: THE HOURS OF TRANSMISSION ARE REDUCED TO BRITISH SUMMER TIME.

6.45 p.m.—"Le Journal Parlé."
8.0 p.m.—Weather.
8.5 p.m.—Concert of Russian Music.
9.15 p.m.—Educational Programme.
11.26 p.m.—Time.

PARIS. Petit Parisien. WL.
340.9 m. (880 kc.); 0.5 kw.
9.0 p.m.—Concert. 1. "Eugene
Onegin" — Introduction and
Lenski's Song (Tchaikovsky). 2.
Danse profane (Debussy). 3.
Caprice espagnol—Alborada and
Variations (Rimsky-Korsakoff).
4. Agnés, dame galante (Fèvrier.)
5. L'Ile heureuse (Chabrier). 6.
"Boris Godounov"—Dance russe
(Moussorgsky). 7. "La Cigale"—
Ronde (Massenet).

Radio-Paris (CFR). WL. 1,760 m. (176 kc); 3 kw. 10.30 a.m.—News and Musical

1,760 m. (176 kc); 3 kw.
10.30 a.m.—News and Musical
Selections.
12.30 p.m.—Concert, 1. Gentillesses
(Chapuis). 2. Russian Patrol
(Stone). 3. Elsa's Dream from
"Lohengrin" (Wagner). 4. Maitag
(Flament). 5. Ascanio (SaintSaëns). 6. Serenade and Scherzo
(Montalent). 7. Les Dragons de
L'Imperatrice (Messager). 8.
Impromptu (Schubert). 9. Lorenzaccio (Moret). 10. Sérénade de la
Mort (Moussorgsky). 11. Lakmé
—Selection (Delibes). 12. Le
Ronet (Hollman). 13. Moment
Musical (Schubert-Salabett). 14.
Paysanne (D'Ambrosio).
1.50 p.m.—Exchange Quotations and
News.

1.50 p.m.—Exchange Quotations and News.
4.30 p.m.—Exchange Quotations.
4.45 p.m.—Goncert.
5.35 p.m.—Market Prices.
7.30 p.m.—Topical Talk.
8.0 p.m.—News.
8.15 p.m.—Talk on "Stamp Collecting."
8.30 p.m.—Concert. "Lakme"—Opera—Selections (Delibes). News in the Intervals.

GERMANY

BERLIN. Koenigswusterhausen.

W.L. 1,250 m. (240 kc); 8 kw.

Transmits at intervals from 12 noon.
6.30 p.m.—Elementary Spanish
Lesson.

Lesson.
6.55 p.m.—Reading from the Poems of Hermann Hesse.
7.20 p.m.—Talk, "The Letters of Sören Kierkegaard."

-Programme relayed from

BERLIN. Voxhaus. WL. 566 and 483.9 m. (530 and 620 kc); 2 and 4 kw. Transmits at intervals from 6.0 a.m. 6.0 p.m.—Concert by the Salon

Quartet.
6.40 p.m.—Review of Books.
7.5 p.m.—Talk on "World Litera-

p.m.—Talk on "Events in

7.35 p.m.—IAIK on China."

The following transmissions relayed by Koenigswusterhausen on 1,250 m. (240 kc).

8.10 p.m.—"The Street Singer"—Operetta (Fall).

10.15 p.m.—News and Weather.

BRESLAU. Schlesische Funkstunde.

WL. 315. 6 m. (950 kc); 4 kw.
Transmits at intervals from 11.15 a.m.
7.0 p.m.—Talk,
Comets."

7.0 p.m.—Talk, "Wonderful Comets."
7.35 p.m.—Talk, "From Animal to Man—the Evolution of the Power of Speech."
8.10 p.m.—Concert from Works of Wagner. 1. Festmarsch. 2. Prelude to "Lobengrin." 3. Soprano Solo from "Tannhauser." 4. Selection from "Parsifal." 5. Three Songs: (a) Im Treibhans, (b) Schmerzen, (c) Träume. 6. The Siegfried Idyll. 7. Prelude to "Die Meistersinger." 8. Soprano Solo from "Tristan und Isolde." 9. Selection from "Gotterdammerung."
10.15 p.m.—Wireless Notes.
10.30 p.m. (approx.).—Close Down.

-11-

FRANKFURT-AM-MAIN. Südwestdeutscher Rundfunk. W.L.
428.6 m. (700 kc); 4 kw.
Transmits at intervals from 12.0 noon
5.45 p.m.—Reading from the Collection of Russian Stories—"Between Yesterday and To-morrow."
6.15 p.m.—Talk for Women, from
Cassel, 272.7 m. (1,100 kc).
6.30 p.m.—Talk, "The Present-day

Economic Questions of Employ-ees," from Cassel. 0 p.m.—Talk, "Old-German Panel Paintings"

7.0 p.m.—Talk, "Old-German Panel Paintings."
7.30 p.m.—Talk arranged by the Municipal Board of Health.
8.0 p.m.—Goncert from the Kurhaus, Wiesbaden. 1. Coronation March from "The Prophet" (Meyerbeer). 2. Beethoven Overture (Lassen). 3. Baliet Music from "Sylvia" (Delibes). 4. Slavonic Dances Nos. 1 and 3 (Dvorák).
5. "Rienzi".—Overture (Wagner).
6. "Aida".—Selection (Verdi).
9.30 p.m.—Concert from Cassel, followed by Gramophone Music.

HAMBURG. Norag (ha, in Morse).

WL. 395.25 m. (759 kc); 4 kw.
Transmits at Intervals from 5.45 a.m.
5.0 p.m.—Talk, "Rudolf G.
Blading."

5.40 p.m.—Talk on Taxation.
6.0 p.m.—Orchestral Music.
6.55 p.m.—Talk, "Woman and the State."

7.10 p.m.—Talk, "Forest and Moorland."
7.30 p.m.—Chess Lesson for Begin-

ners.
7.55 p.m.—Weather.
8.0 p.m.—"Flachsmann als Erzieher".—Comedy (Otto Ernst).
10.30 p.m. (approx.).—Dance Music from the Cafe Wallhof, News and Weather.

weather.

12.0 midnight (approx.). — Close Down.

Down.

LANGENBERG. Westdeutscher Rundfunk. WL. 468.8 m. (640 kc); 25 kw.

Transmits at intervals from 10.30 a.m.
Programme also rejayed by Muenster on 241.9 m (1,240 kc).

6.40 p.m.—Talk from Muenster—"Character and Expression of Emotions."

LEIPZIG. Mitteldeutscher Rundfunk. W L. 365.8 m. (820 kc); 4 kw. Transmits at intervals from 10.0 a.m. 6.30 p.m.—Elementary Spanish Lesson. Relayed from Koenigswusterhausen, 1.250 m. (240 kc). 7.0 p.m.—Talk, "The Swarming of Rees."

Bees."
7.30 p.m.—Talk, "Children's Songs."
8.0 p.m.—Weather and Time.
8.15 p.m.—Programme of Music by
Children, including a Children's

10.0 p.m.—Press and Sports News. 10.15 p.m.—Dance Music. 12.0 midnight (approx.).—Close

Down.

HOLLAND

HILVERSUM. Algemeene Nederlandsche Radio Omroep. 1,067 m. (281 kc); 5 kw. Transmits at intervals from 11.40a.m. 4.40 p.m.—Variety Concert. 6.25 p.m.—English Lesson. 7.50 p.m.—"A Waltz Dream" (O. Strauss). News in the interval. 10.40 p.m. (approx.)—Close Down.

HUNGARY

BUDAPEST. Magyar Radio Ujsag. WL. 555.6 m. (540 ke); 3 kw. Transmits at intervals from 9.30 a.m. 6.30 p.m.—Time and News. 9.0 p.m.—Chamber Music. 10.30 p.m. (approx.).—Gipsy Music from the Café Emke. 12.0 midnight (approx.).—Close Down.

ITALY

MILAN. Unione Radiofonica Italiana (1MI) W.L. 322.6 m. (930 kc); 1.5 kw. Trausmits at intervals from 12,15 p.m.

8.30 p.m.—Opening Signal.
8.45 p.m.—Time:
8.47 p.m.—Selection from an Operetta
In the Intervals: Talk and News.
11.0 p.m.—Dance Music. Relayed
from "La Fiaschetteria Toscana." 11.30 p.m. (approx.).—Close Down.

——II— Unione Radiofonica Ital-NA). WL. 333.3 m.

NAPLES. Unione Radiofonica Italiana (INA). W.L. 333.3 m. (900 kc); 1.5 kw.
Transmits at intervals from 1.0 p.m. 8.55 p.m.—News.
9.0 p.m.—"Gin-ci-la" — Operetta (Rauzato and Lombardo).
9.30 p.m.—In the interval: Time.
11.0 p.m. (approx.).—Close Down. ---П-

ROME. Unione Radiofonica Italiana (1RO). W L. 450 m. (667 kc); 3 kw. Transmits at intervals from 1.0 p.m. 9.0 p.m.—Time and News. 9.10 p.m.—Concert of Light Music. 11.25 p.m.—News. 11.30 p.m. (approx.).—Close Down.

LITHUANIA

KOVNO. Radio-Kaunas. WL. 2,000 m. (150 ke); 7 kw. 6.0 p.m.—Radio Play, "Vilno." 6.30 p.m.—Concert by a Regimental Band. 1. Faust—Selection (Gounod 2. Valse Brilliante (Moszkovsky). 3. La Traviata—Opera (Verdi). 4. March (Bergman). 7.30 p.m.—Time, Weather and News.

NORWAY

BERGEN. Kringkastingselskap. WL. 370.4 m. (810 kc); 1 kw. Transmits at intervals from 11.15a.m. 8.25 p.m.—Fishing News.
8.30 p.m.—Orchestral Selections.
9.0 p.m.—Talk, "What shall my son become"?
9.30 p.m.—Orchestral Selections.
10.0 p.m.—Weather, News and Time.

OSLO. Kringkastingselskapet. W.L.
461.5 m. (650 kc); 1.5 kw.
Programme also relayed by Porsgrund, 504 m. (595 kc), Hamar,
566 m. (530 kc), Frederiksstad,
434.8 m. (690 kc), Rjukan, 476 m.
(630 kc), and Notodden, 423 m.
(709 kc).
7.45 p.m.—News.

(709 kc).
7.45 p.m.—News.
8.0 p.m.—Time.
8.2 p.m.—Concert by the Grand
Cafe Orchestra. 1. Overture to
"The Barber of Seville" (Rossini).
2. "Roses of the South" (Strauss).
3. Narcissus (Nevin). 4. Love Song
(Paderewski). 5. Danse macabre
(Saint-Saens). 6. "Hindu Dance"
(Shelley).

(Shelley).

9.0 p.m.—Talk for Farmers.

9.30 p.m.—Old Norwegian Melodies—played on the "Langeleik" by Mr. Ketli Flatin.

10.0 p.m.—News and Weather.

10.15 p.m. (approx.).—Close Down

POLAND

POSEN. Radio-Poznan. W.L.
270.3 m. (1,100 kc); 1.5 kw.
Transmits at intervals from 2.0 p.m.
7.0 p.m.—Variety Items.
7.15 p.m.—News,
7.40 p.m.—Economics Talk.
8.0 p.m.—Talk, "Along the Banks
of the River Dniestra."
8.30 p.m.—Concert of Light Music,
Songs and Military Music.
10.20 p.m.—Dance Music.
12.0 midnight (approx.).—Close
Down.

SPAIN

BARCELONA. Radio-Barcelona (EAJ1), W.L. 344.8 m. (870 kc); 2 kw. Transmits at intervals from 12.0noon. 8.40 p.m.—English Lesson. 9.0 p.m.—Exchange Quotations and News.

News.
9.10 p.m.—Song Recital.
10.0 p.m.—Chimes and Weather.
10.5 p.m.—Stock Exchange Closing

Prices.

10.10 p.m.—Contraito Songs.

10.50 p.m.—Overture to "Fingal's Cave" (Mendelssohn).

11.0 p.m. (approx.).—Close Down.

— II-MADRID. Union Radio (EAJ7).

WL. 375 m. (800 kc); 3 kw.
Transmits at intervals from 11.45a.m.
7.0 p.m.—Orchestral Concert.
10.0 p.m.—Time and Exchange
Quotations,

10.5 p.m .- Vocal and Instrumental Concert. 12.20 a.m. (Wednesday, July 13th). -

News. 12.30 a.m. (approx.).—Close Down.

SWEDEN

SWEDEN

STOCKHOLM. Radiotjänst (SASA).

WL 454.5 m. (660 kc); 1.5 kw.

Programme also relayed by Motala,
1,320 m. (227 kc); Goteborg,
416.7 m. (720 kc); and Malme,
260.9 m. (1,150 kc).

Transmits at intervals from 12.35 p.m.
7.40 p.m.—Nature Talk. Relayed
from Kalmar.
8.0 p.m.—Concert. 1. Don Juan—
Overture (Mozart). 2. La Folia
(Corelli). 3. Le Bal Costume:
(a) Introduction, (b) Berger Bergère, (c) Pécheur Napolitaine, (d)
Toreador et Andalouse (Rubinstein). 4. Rondo Capriccioso
(Vieuxtemps). 5. La Source—
Suite (Delibes).

stein). 4. Rondo Capriccioso (Vieuxtemps). 5. La Source— Suite (Delibes). 9.15 p.m.—News. 9.30 p.m.—Weather. 9.40 p.m.—Talk, "Photographic Chemicals."

SWITZERLAND

BERN. Radio-Bern. WL. 411 m. (730 kc.); 1.5 kw.
Transmits at intervals from 1.0 p.m. 8.0 p.m.—Time and Weather.
8.5 p.m.—Talk: "The Slavs of the South—Their History and Cus-

torus.

8.30 p.m.—Orchestral Concert and Violin Recital, relayed from Lausanne (850 m. 353 kc.).

9.20 p.m.—Orchestral Music from the Bern Kursaal; News in the Inter-

val. 10.30 p.m. (approx.).—Close Down.

10.30 p.m. (approx.).—Close Down.

GENEVA. Radio-Geneva. WL.
760 m. (395 kc); 0.5 kw.
8.30 p.m.—Exchange, Time and
Weather.
8.32 p.m.—Programme relayed from
Lausanne 850 m (353 kc).
9.30 p.m.—Gramophone Selections.
10.10 p.m.—News.
10.20 p.m. (approx.).—Close Down.

ZURICH. Radio-Genossenschaft.

WL. 496 m. (605 kc); 1 kw.

Transmits at intervals from 12.28p.m.,
7.58 p.m.—Weather and Time.
8.0 p.m.—Concert of Romantic Music.
8.50 p.m.—Orchestral Concert and
Registrious 8.0 p.m.—Concert of Academics
8.50 p.m.—Orchestral Concert and
Recitations.
10.10 p.m.—News and Weather.
10.20 p.m. (approx.).—Close Down.

U.S.A.

PITTSBURGH. Westinghouse Electric (KDKA). WL. 309 m. (970 kc); 25 kw.
Transmits at intervals from 4.0 p.m.
Programme relayed on 64 m. (4,687 kc.) from 11.0 p.m.
11.0 p.m.—Baseball Scores.
1110 p.m.—Goncert by the Studio Ensemble.
11.55 p.m.—Baseball Scores.
12.0 midnight.—Recital of Sacred Songs.

Songs.—Agricultural Report.

12.30 a.m.—Concert by George Olsen's
Orchestra, from WJZ, New York.

2.0 a.m.—"The Continentals," from
WJZ, New York.

4.0 a.m.—Weather and Baseball

Scores.
4.35 a.m.—Pittsburgh Post Theatrical Revue, from the Grand Theatre, Pittsburgh.

SCHENECTADY, N.Y. General Electric Company (WGY). W.L. 379.5 m. (790 kc); 60 kw. Transmits at intervals from 11.45a.m. Relayed by 2XAF on 32.77 m. (9,155 kc) from 11.0 p.m.

11.0 p.m.—Stock Exchange Quotations and News.

11.25 p.m.—Baseball Scores.

11.30 p.m.—The Hotel Ten Eyck Orchestra.

12.25 a.m. (Wednesday, July 13th).—Baseball Scores.

12.30 a.m.—Talk by "Jud Landon."

12.45 a.m.—Instrumental Music from the Hotel Onondaga, Syracuse, N.Y.

1.30 a.m.—The Harnony Twins.

2.0 a.m.—The Station Orchestra and John Lloyd (Tenor).

3.0 a.m.—"Radio-Cavalcade."

4.30 a.m. (approx.).—Close Down;

PROGRAMMES FOR WEDNESDAY

(July 13)

IRELAND

Cork Broadcasting Station W L. 400 m. (750 kc); CORK.

30 p.m.—Weather, Stock Market Report and Gramophone Records. 30—10.30 p.m.—Program layed from Dublin, 319.1 m. Station

layed from Dublin, 319.1 m. (940 kc). — — Broadcasting Station (2RN). WL. 319.1 m. (940 kc); 1.5 kw. .30 p.m.—Exchange, Weather and Gramophone Concert. .0 p.m.—Women's Hour. .20 p.m.—Exchange and News. .30 p.m.—Irish Lesson by M. O'Maolainn (As Arainn). .45 p.m.—German Lesson by Olga

O'Maolainn (As Arainn).
7.45 p.m.—German Lesson by Olga
von Wenkstern.
8.0 p.m.—Orchestral Concert. 1. The
Flight of the Bumble Bee (RimskyKorsakoff). 2. The Bees' Wedding
(Mendelssohn). 3. My Lady

Fignt of the Bumble Bec (Minsay Korsakoff). 2. The Bees' Wedding (Mendelssohn). 3. My Lady Dragon Fly (Finck). 30 p.m.—Concert by the Doalloch Vocal Quartet, Station Celeste Septet, K. S. Ward (Planist), Noel Herbert (Tenor) and the Station Conducting

Orchestra.

10.30 p.m.—News and Weather.

10.35 p.m. (approx.).—Close Down.

AUSTRIA

VIENNA. Radio-Wien. W.L. 577 and 517.2 m. (520 and 580 kc.); 1.5 and 5 kw.

Transmits at intervals from 11.0 a.m.
6.30 p.m.—Talk on "Swiniming."
7.0 p.m.—Talk on the "Wachauer Festival."

Festival."
7.30 p.m.—Agricultural Talk.
8.0 p.m.—Reading.
9.0 p.m.—Instrumental and Vocal
Concert.

BELGIUM

BRUSSELS. Radio-Belgique. W.L. 508.5 m. (590 ke); 1.5 kw. 5.0 p.m.—Goncert of Chamber Music. 6.0 p.m.—Talk on "Peter Benoît." 7.30 p.m.—"Radio-Chronique." 6.0 p.m.—"Radio-Chronique."
7.30 p.m.—Selection from the opera
"Manon" (Massenet).
10.0 p.m.—News.
—Close Down. 10.0 p.m.—News. 10.30 p.m. (approx.).—Close Down.

CZECHO-SLOVAKIA

BRUENN. Komarov. W.L. 441.2 m.
(680 kc); 2.4 kw.

Transmits at intervals from 12.15 p.m.
7.0 p.m.—Dramatic Selections.
7.40 p.m.—Orchestral and Vocal
Concert.

10.0 p.m.—Programme relayed from Prague, 348.9 m. (859 kc).

DENMARK

COPENHAGEN. Copenhagen Radio.
W.L. 337 m. (890 kc); 0.7 kw.
Programme relayed by Soro,
1,153.8 m. (260 kc).
Transmits at intervals from 6.80 p.m.

7.0 p.m.—News, Exchange and Time.
7.30 p.m.—Talk.
8.0 p.m.—Variety Concert.

9.15 p.m.—Variety Concert.
9.15 p.m.—News.
9.30 p.m.—Concert of Danish Music.
10.30 p.m. (approx.).—Close Down.

FRANCE

PARIS. Ecole Supérieure (FPTT). W.L. 464 m. (646 kc); 0.5 kw. Transmits at intervals from 8.0 a.m. 2.0 p.m.—Concert. Arranged by the General Wireless Association. 6.0 p.m.—"Le Radio Journal de

8.0 p.m.—"Le Radio Journal de France."

8.0 p.m.—Talk, "Shrubs and Flowers."

9.0 p.m.—Programme relayed from the "Lyric Theatre." In the intervals: News.

PARIS. Eiffel Tower (FL). W.L. 2,650 m. (113 kc); 5 kw. 10.26 a.m.—Time.

PARIS. Eiffel Tower (FL). W.L. 2,650 m., (113 kc); 5 kw. 10.26 a.m.—Thme. 6.45 p.m.—"Le Journal Parlé." 8.0 p.m.—Weather. 8.5 p.m.—Goncert. 1. Voltava—Symphonic Poem (Smetana). 2. Berceuse—Violin Solo (Fauré). 3. Marie Magdeleine (Massenet). 4. Barques au clair de lune (Flevet). 5. Minuet in A minor for 'Cello (Mouret-Dendelot), (b) "Forlane" in G minor for 'Cello (Mouret-Dandelot). 6. The Prison Aria from "Hérodlade" (Massenet). 7. Suite fantastique Aria from "Hérodlage senet). 7, Suite fantastique

Aria from "Herodiade tanssenet).
7, Suite fantastique (Foulds).
9.15 p.m.—Educational Programme.
11.26 p.m.—Time.

PARIS. Radio-Paris (CFR). WL.
1,760 m. (176 kc); 3 kw.
10.30 a.m.—News; and Musical Selections.

NOTE: THE HOURS OF TRANSMISSION ARE REDUCED TO BRITISH SUMMER TIME.

Paso-Doble (Seras).
Boston (Delabre). --Boston (Delabre). 3. Les
Romanesques--Overture (Smet).
4. Orientale (Delabre). 5. Peer
Gynt--Suite (Grieg). 6. Matinèe
Printanière (Canusat). 7. Le
Retour (Poussigue). 8. Mi Perdicion--Tango (Esposito). 9.
Fooling (Waitham).
1.50 p.m.—Exchange Quotations and
News.

News.
4.30 p.m.—Exchange Quotations.
4.45 p.m.—Instrumental Concert.
5.35 p.m.—Market Prices.
7.30 p.m.—Colonial Notes.
8.0 p.m.—News.
8.30 p.m.—Gala Concert arranged by
"Les Grands Magazins du Printemps." News in the intervals.

temps."

GERMANY

BERLIN. Koenigswusterhausen.

WL. 1,250 m. (240 kc.); 8 kw.

Transmits at intervals from 12 noon.
6.30 p.m.—English Lesson.
6.55 p.m.—Talk on "The German
Machine Industry."
7.20 p.m.—Talk on "Max Liebermann."

mann."
8.30 p.m.—Programme relayed from

8.30 p.m.—Programme relayed to be very supersonal to be provided by the supersonal to be su

6.40 p.m.—Talk on "The Esperanto World Congress."
7.5 p.m.—Talk on "German Wine."
7.30 p.m.—Talk on "New Legal Regulations."
8.0 p.m.—Talk on "Hollywood."
The following transmissions relayed by Koenigswusterhausen on 1,250 metres (240 kc.).
8.30 p.m.—Goncert of "Old "Music.
1. Concerts for String Instruments. in A minor (Vivaldi). 2. Concerts for Cembalo and String Orchestra (Bach). 3. Concerts in F major for String and Wind Instruments. (Handel). 4. Rondo for Cembalo and Orchestra (Mozart). 5. Concerts for Cembalo and Orchestra (Mozn). 6. Symphony in C major (Dittersdorf).
10.15 p.m.—Orchestral Concert. 1.
The Barber of Seville—Overture (Rossini). 2. Lagunen—Walzer (Joh. Stranss). 3. Nachruf an Mendelssohn (Fétras). 4. Babillage (Gillet). 5. Serenade (Kobln). 6. Fra Diavolo—Overture (Auber).
7. Marquis and Marquise.—Minuet (Godard). 8. In Hawaii (Werau).
11.30 p.m. (approx.).—Close Down.

7. Marquis and Marquise—Minuet (Godard). 8. In Hawsii (Werau). 11.30 p.m. (approx.).—Close Down.

BRESLAU. Schlesische Funkstunde.

W.L. 315.6 m. (950 kc); 4 kw.
Transnits at Intervals from 11.15 am 6.50 p.m.—English Reading by Douglas Yates, M.A., from "The Country of the Blind" (Wells).

7.10 p.m.—Elementary English Lesson.
8.0 p.m.—Concert. Relayed from

7.10 p.m.—Elementary English Lesson.
8.0 p.m.—Concort. Relayed from Gleiwitz, 250 m. (1,200 kc). 1.
The Orchestra—"Die Wethe des Hauses"—Overture (Beethoven).
2. Recitations: (a) Creation, (b) "The Flight round the World," (c) "Man to Man." 3. The Orchestra: (a) Triumphal March, (b) In the Hall of the Mountain-King (Grieg). 4. "Round the Earth" (Thiene). 5. The Orchestra—"Aufschwung" (Schunann).
9.0 p.m.—"Die schone Mullerin"—Song Cycle with Prologue and Epilogue (Schubert). Relayed from Gleiwitz.

FRANKFURT. Südwestdeutscher Rundfunk. W.L. 428.6 m. (700 kc); 4 kw.

4 kw.
ransmits at intervals from 12.0 noon

5.45 p.m.—Review of Books.
6.30 p.m.—Talk, "Curiosities from

Newspapers."

Newspapers."

D p.m.—Memorial Talk on Bishop

Francel V. Ketteler-Newspapers."
7.0 p.m.—Memorial Talk on Bishop Wilhelm Emannel v. Ketteler-Mainz on the 50th Anniversary of his Death.
7.30 p.m.—Talk, "The Educational Movement of Trade Unions."
8.0 p.m.—Talk, "Plant Life in Summer."
8.15 p.m.—"Der liebe Augustin"—Operetta (Leo Fall).

HAMBURG. Norag (ha, in Morse).

WL. 395.25 m. (759 kc.); 4 kw.
Transmits at intervals from 5.45 a.m.
5.0 p.m.—The Dance Music from the
Atlantic Hotel.
6.0 p.m.—Orchestral Music.
6.30 p.m.—Elementary
Lesson relayed from
wusterhausen (1,250 m., 240 kc.).

Concert. 1. La Estocada | 7.0 p.m.—Orchestral Music.

7.0 p.m.—Orchestral Music.
7.20 p.m.—Talk: "The origin of the South-Saxon Race," relayed from Hanover (297 m., 1,010 kc.)
7.55 p.m.—Weather.
8.0 p.m.—Concert of Hunting Music.
9.15 p.m.—Song Recital.
10.30 p.m. (approx.).—Concert from the Uhlenhorster Fährhaus. News.
12.0 midnight (approx.).—Close Down

LANGENBERG. Westdeutscher Rundfunk. W.L. 468.8 m. (640

LANGENBERG. Westdeutscher Rundfunk. W.L. 468.8 m. (640 kc.); 25 kw.

Transmits at intervals from 10.30a.m. Programme also relayed by Muenster on 241.9 m. (1,240 kc.).

6.30 p.m.—"Gardening Hints," from Cologne.

7.40 p.m.—Talk for Young People, from Cologne.

8.5 p.m.—Talk: "The Technical Control of the Langenberg Station" from Elberteld.

8.30 p.m.—Programme of Modern Folk Music from Dusseldorf.

10.20 p.m.—News and Sports Notes from Cologne.

Folk Music 10.20 p.m.—News and Sport from Cologne. from Cologne. Tolayed from Dusseldorf. 10.30 p.m.—Goncert, relayed from the "Rheinterrasse," Dusseldorf. 12.0 mldnight (approx.).—Close Down

LEIPZIG. Mitteldeutscher Rundfunk. W L. 365.8 m. (820 ke); 4 kw.
Transmits at Intervals from 10.0 a.m.
6.5 p.m.—Morse Lesson.
6.20 p.m.—Market Prices.
6.30 p.m.—Elementary
Lesson. Relayed from Koenigswusterhausen on 1,250 m.

(240 kc).
7.0 p.m.—Talk, "The Psychological Effect of Sport."
7.30 p.m.—Music Talk.
8.0 p.m.—Weather and Time.
8.15 p.m.—Programme of Old Hebrew

Music.
9.15 p.m.—Orchestral Concert. 1.
"Ruy Blas"—Overture (Mendelssohn). 2. Ballet Music from "La Julve" (Halevy). 3. Fackeltanz. No. 1 (Meyerbeer). 4. Berceuse and Ecstasy (Bizet). 5. Prelude to Act III. of "Das Heimchen am Herd" (Goldmark). 6. Movement from the Fourth Symphony (Mahler).
10.15 n.m.—News.

(Mahler). 10.15 p.m.—News. 10.30 p.m.—Dance Music. 12.0 midnight (approx.). — Close Down.

HOLLAND

HOLLAND
HILVERSUM. Algemeene Nederlandsche Radio Omroep. W.L.
1,067 m. (281 kc); 5 kw.
Transmits at intervals from 11.40a. m.
4.40 p.m.—Orchestral Concert.
7.25 p.m.—Police News.
7.55 p.m.—Concert. Relayed from the Kurhaus, Scheveningen. 1.
The Fourth Symphony (Haydn).
2. "Das Lied von der Erde"—
Symphony for Orchestra and Soloists.
10.10 p.m.—Weather and News.

Soloists.
10.10 p.m.—Weather and News.
10.20 p.m. (approx.).—Close Down.

HUNGARY

HUNGAFY

WL, 555.6 m. (540 kc); "3 kw.
Transmits at intervals from 9.30 a.m.
6.0 p.m.—Military Concert.
7.10 p.m.—Old and New Music.
8.0 p.m.—Concert relayed from the
Zoological Gardens.
11.0 p.m.—Dance Music relayed from
the Ritz Hotel.
12.0 midnight (approx.).—Close
Down.

Down.

ITALY

ILAN. Unione Radiofonica Italiana (1MI). W L. 322.6 m. (930 kc); 1.5 kw. ransmits at intervals from 12.15 p.m.

Transmits at intervals from 12.15 p.m.
8.30 p.m.—Opening Signal.
8.45 p.m.—Time.
8.47 p.m.—Lesson in "Wireless Technology."
9.0 p.m.—"Madame Butterfly"—Opera (Puccini), followed by News.
11.0 p.m.—Dance Music relayed from "La Flaschetteria Toscana."
11.30 p.m. (approx.)—Close Down;
NAPLES. Unione Radiofonica Italiana (INA). W.L. 333.3 m.
(900 kc); 1.5 kw.
Transmits at intervals from 1.0 p.m.
8.55 p.m.—News.

Transmits at intervals from 1.0 p.m. 8.55 g.m.—News, 9.0 p.m.—Concert. 1. La Vestale—Symphony (Spontini). 2. Baritone Solo from "La Favorita" (Donizetti). 3. Soprano Solo from "La Bohème" (Puccini). 4. Canzone d'amore (Leoncavallo). 5. Tenor Solo from "Norma" (Bellini). 6.

ROME. Unione Radiofonica Italiana

ROME. Unione Radiofonica Italiana (1RO). W.L. 450 m. (667 kc); 3 kw., transmits at intervals from 1.0 p.m..

10 p.m.—Time and News.

110 p.m.—Concert. I. La Navarraise (Massenet). 2. Baritone Solos: (a) Aria from "Crispino e la Comare" (Ricci), (b) Aria from "Don Sebastian" (Donizetti). 3. "Cello Solos: (a) Canti russi (Lalo), (b) Gavotte (Popper). 4. Orchestra: (a) Romanza orientale (Herbert), (b) Danza piemontese (Singaglia). 5. Soprano Solos: (a) Perche (Grimaldi), (b) Aria from "I Rantzau" (Mascagni). 6. "L'Uomo dal Fiore in Bocca"—Dialogue. 7. Adagio for Clarionet "L'Uomo dal Fiore in Bocca"—
Dialogue. 7. Adagio for Clarionet
and Orchestra (Wagner). 8.
Turkish March (Moussorgsky). 9.
Baritone Solos: (a) Aria from
"Lakme" (Delibes), (b) Aria from
"Don Carlos" (Verdi). 10. 'Cello
Solos: (a) Nocturne (Chopin),
(b) Czardas (Fischer). 11. Selections for Soprano and Orchestra:
(a) May Night (Brahms), (b) I tre
canti (Gianolo). 12. Bourrée
fantastique (Chabrier).
11.25 p.m.—News.
11.30 p.m. Close Down.

LITHUANIA OVNO. Radio-Kaunas. 2,000 m. (150 kc); 7 kw. 0 p.m.—Talk in Esperanto. KOVNO. 7.30 p.m.—Time, Weather and News. 8.0 p.m.—Political Notes.

NORWAY

WL 370.4 m. (810 kc); 1 kw.
Transmits at Intervals from 11.15a.m
8.25 p.m.—Fishing News.
8.30 p.m.—Orchestral Selections.
9.15 p.m.—Talk. "Dreams and Hallucinations."
9.45 p.m.—New Gramophone Records.
10.0 p.m.—Weather, News and Time.

OSLO. Kringkastingselskapet. WL.
461.5 m. (650 kc); 1.5 kw.
Programme also relayed by Porsgrund, 504 m. (595 kc), Hamar,
566 m. (530 kc), Frederikstad,
434.8 m. (690 kc), Rjukan, 476 m.
(630 kc), Notodden, 423 m. (709 kc).
7.30 p.m.—Programme relayed from
Stockholm, 454.5 m. (660 kc).
International Boy Scout Meeting:
Address by Sir Robert Baden-

Powell. 8.0 p.m.—Time.

Gardening Hints.

10.15 p.m.—Dance Music.

12.0midnight(approx.).—Close Down.

SPAIN

BARCELONA. Radio Barcelona (EAJ1). W.L. 344.8 m. (870 kc); 2 kw. Transmits at intervals from 12 Noon. 8.30 p.m.—Lesson in Castilian Spell-

9.0 p.m .- Exchange Quotations and

News.

9.5 p.m.—Orchestral Concert by "La Moderna de Granoliers."

10.0 p.m.—Chimes and Weather.

10.5 p.m.—Stock Exchange Closing

10.5 p.m.—Stock Exchange
Prices.
10.10 p.m.—Orchestral Concert by the
"Orfeo de Sans."
10.40 p.m.—Songs (Manen).
11.40 p.m.—Orchestral Concert.
11.35 p.m.—Orchestral Music (Manen).
12 midnight—(approx.)—Close Down.

MADRID. Union Radio (EAJ7).
W.L. 375 m. (800 kc); 3 kw.
7.0 p.m.—Orchestral Concert, talk in interval by Luis Medina.
10.0 p.m.—Time and Exchange Quotations.

tations.

10.5 p.m.—Programme relayed from Barcelona (EAJ1) (344.8 m., 870

12.20 a.m. (Thursday, July 14th) .-News. 12.30 a.m. (approx.).—Close Down.

SWEDEN

8TOCKHOLM. Radiotjänst (SASA). W L. 454.5 m. (660 kc); 1.5 kw.

Duet from Act II. of "Madame Butterfly" (Puecini).

9.30 p.m.—In the interval: Time.

11.0 p.m. (approx.).—Close Down.

12.00 p.m. (1,150 kc).

12.00 p.m.—Greetings by Sir Robert.

13.00 p.m.—Greetings by Sir

Representatives at the Beatelund Camp.
7.40 p.m.—Talk, "Sympathetic and Unsympathetic People."
8.10 p.m.—Concert of Band Music;
1. Grüss in die Ferne—March (During). 2. Mephistopheles—Selection (Boito). 3. The Daughter of the Regiment—Selection (Donizetti). 4. Der Rosenkavalier—Waltz (Donizetti). 5. Concertino, Opus 26 (Weber). 6. An Oldfashioned Wedding in Alvdalen (Gudmundson). 7. Swedish Country Songs. 8. Revue Selections.
9.15 p.m.—News.

(Gudmundson). 7. Swedish Country Songs. 8. Revue Selections.

9.15 p.m.—News.

9.30 p.m.—Weather.

9.40 p.m.—Suite in G major for Pianoforte (Bach).

10.0 p.m.—Poetry Reading—"The Old Story" and "The Dream of the Isle."

10.15 p.m.—Old Dance Music.

11.15 p.m.—Dance Music.

12.15 a.m.—Close Down.

SWITZERLAND

BERN. Radio-Bern. W.L. 411 m; (730 kc.); 1.5 kw.
Transmits at intervals from 1.0 p.m. 8.0 p.m.—Time and Weather.
8.5 p.m.—Talk: "The Founding and Development of the Bern Gymnasium."

Gymnasium.

30 p.m.—Goncert of National Swiss
Music, relayed from Basic (1,100 m.

273 kc.)
9.30 p.m.—Orchestral Music from the
Bern Kursaal: News and Weather
in the Intervals.
10.30 p.m. (approx.).—Close Down.

GENEVA. Radio-Geneva. WL. 760 m. (395 kc); 0.5 kw. 8.30 p.m.—Exchange, Time and Wea-

ther.
8.32 p.m.—Programme relayed from
Basie (1,100 m.; 273 kc), and
Bern (411 m.; 730 kc).
9.50 p.m.—News.
10.0 p.m.—Dance Music from the
Kursaal.
10.45 p.m. (approx.).—Close Down.

ZURICH. Radio-Genossenschaft.

WL. 496 m. (605 kc); 1 kw.

Transmits at intervals from 12.28p.m.
7.58 p.m.—Weather and Time.
8.0 p.m.—Talk, "Woman and the

8.30 p.m.—Concert of Viennese Operetta Selections. 10.10 p.m.—News and Weather. 10.20 p.m. (approx.).—Close Down.

U.S.A.

PITTSBURGH. Westinghouse Electric (KDKA). WL. 309 m. (970 kc); 25 kw.
Transmits at intervals from 4.0 p.m.
Programme relayed on 64 m. (4,687 kc) from 11.0 p.m.
11.0 p.m.—Baseball Scores.
11.10 p.m.—Concert by the Westinghouse Baud.
11.55 p.m.—In the interval: Baseball Scores.
12.20 a.m. (Thursday, July 14th).—Report of Boad Conditions.
12.30 a.m.—Agricultural Report.
1.0 a.m.—Concert from WJZ, New York.

1.30 a.m.—Concert. 2.0 a.m.—"Maxwell Hour" from WJZ.

3.0. a.m.—"The Radiotrons," from WJZ. o a.m.—Weather and Baseball Scores.

SCHENECTADY, N.Y. General Electric Company (WGY). W.L. 379.5 m. (790 kc); 60 kw.
Transmits at Intervals from 11.45a.m. Relayed by ZXAD on 22.2 m. (13,623 kg), from 11.0 m.

Relayed by 2.XAD on 22.2 m. (13,623 kc), from 11.0 p.m.

11.0 p.m.—Stock Exchange Quotations and News.
11.15 p.m.—Baseball Scores.
11.20 p.m.—"Business English."
11.40 p.m.—The Station Orchestra.
12.15 a.m. (Thursday, July 14th).—
Baseball Scores.
12.20 a.m.—WGY Agricultural Programme.

gramme.

1.0 a.m.—The Bendington Band, from the Remington Studio, Ilion, N.Y.

2.0 a.m.—Time.

2.5 a.m.—The Troubadours, from New York.

PROGRAMMES FOR THURSDAY

(July 14)

IRELAND

CORK. Cork Broadcasting Station. (6CK). WL. 400 m. (750 kc);

(6CK). W.B.
1.5 kw.
2.30 p.m.—Weather, Stock Market
Report and Gramophone Records.
5.30—10.30 p.m.—Programme relayed from Dublin, 319.1 m. layed f: (940 kc).

DUBLIN. Dublin Broadcasting
Station (2RN). WL. 319.1 m.
(940 kc); 1.5 kw.
1.30 p.m.—Exchange, Weather and
Gramophone Concert.
7.0 p.m.—Gramophone Music.
7.20 p.m.—Exchange and News.
7.30 p.m.—French Lesson by Mile.
Gindicelli

7.30 p.m.—French Lesson by Mile. Giudicelli.
7.45 p.m.—Talk, "Evolution of the Irish Nation," by S. MacCathmholl.
8.0 p.m.—Concert by the Station Orchestra, Elliot Doble (Bass), T. Rowley (Elocutionist) and the Atlantic Beach Dance Band.
10.30 p.m.—News, Weather and Sports Notes.
10.35 p.m. (approx.).—Close Down.

AUSTRIA

VIENNA. Radio-Wien. W.L. 577 and 517.2 m. (520 and 580 kc); 1.5 and 5 kw. Transmits at intervals from 11.0 a.m. 6.0 p.m.—Talk on "Week-end

Transmits at intervals from 11.0 a.m.
6.0 p.m.—Talk on "Week-end Outings."
6.25 p.m.—Travel Talk, "The Ziller Valley."
7.0 p.m.—Sports Talk.
7.30 p.m.—Esperanto Lesson.
6.5 p.m.—Concert. 1. "Die Fledermaus"—Overture (Strauss). 2. Selection from "Carmen" (Bizet).
3. "Offenbachiana"—Potpourri (Conradi). 4. Coronation March (Kretsehmer). 5. "Verliebt"—Romance (Ziehrer). 6. Morgenblätter—Waltz (Strauss). 7. Im Walde—Pianoforte Solo (Macak).
8. Potpourri of Viennese Music (Komzak). 9. Roses of the South (Strauss). 10. March (Latzelsberger).

BELGIUM

BRUSSELS. Radio-Belgique. W.L. 508,5 m. (590 kc.); 1.5 kw. 5.0 p.m.—Children's Concert.

BRUSSELS. Radio-Belgique. W.L.
508.5 m. (590 kc.); 1.5 kw.
5.0 p.m.—Children's Concert.
6.0 p.m.—Flemish Lesson.
7.30 p.m.—Radio-Chronique."
3.0 p.m.—Concert relayed from "La
Salle Delgay." 1. Marche héroïque
(Saint-Saéns). 2. L'apprenti
sorcier (Dukas). 3. Joueurs de
fiûte (Roussel). 4. Masques et
bergamasques (Faure). 5. Pastorale for Wind Instruments (Pierné).
6. Five o'clock (Ravel). 7.
Musiques intimes (Schmitt).
9.0 p.m.—French Programme.
Literary and Musical Selections,
followed by continuation of Concert. 8. The Enchanted Wood
(d'Indy). 9. Histoires (Ibert).
10. Nocturne (Debussy). 11. Le
Tombeau de Couperin (Ravel).
12. Selections of Poetry and Prose,
from the Works of Jonchim de
Balley, Jules Michelet, Edgard
Quinet, Victor Hugo, Jean Richepin and Emile Verhaeron.
10.0 p.m.—News.
10.30 p.m. (approx.).—Close Down.

10.0 p.m.—News. 10.30 p.m. (approx.).—Close Down.

CZECHO-SLOVAKIA

CZECHO-SLOVAKIA

BRUENN. Komarov. W'L. 441.2 m.
(680 ke); 2.4 kw.
Transmits at intervals from 12.15 p.m
5.35 p.m.—German Transmission.
6.0 p.m.—Time and Agricultural
Report.
6.20 p.m.—Talk.
6.45 p.m.—Relay from Prague,
348.9 m. (859 kc).
7.0 p.m.—Orchestral Concert.
8.0 p.m.—Symphony Concert.
9.0 p.m.—Symphony Concert.
9.0 p.m.—Prague,
10.0 p.m.—Relay from Prague.

FRANCE

PARIS. Ecole Supérieure (FPTT).

WL. 464 m. (646 kc.): 0.5 kw.

Transmits at intervals from 8.0 a.m.

2.0 p.m. (approx.)—Orchestral Concert
in commemoration of the National
Fête. 1. Overture to "The
Mountebanks" (Ganne). 2.

"Pour une Princesse" (Fávrior). Mountebanks " (Ganne). 2.
"Pour une Princesse" (Février).
3. "Gillette de Narbonne".—
Selection (Audran). 4. "Le
Royaume de Papillons." 5.
"L'Arlésienne".— Suite (Bizet).
6. "La Marseillaise" for Choir and
Orchestra.
5.0 p.m.—" Le Radio Journal de
France."
9.0 p.m.— Oance Music

NOTE: THE HOURS OF TRANSMISSION ARE REDUCED TO BRITISH SUMMER TIME.

PARIS. Petit Parisien. WL.
340.9 m. (880 kc); 0.5 kw.
9.0 p.m. — Concert: 1. "L'Impresario"—Overture (Mozart). 2.
Moonlight Sonata—Finale (Beethoven). 3. Symphonie ecossaise
No. 3.—Second Movement (Mendelssohn). 4. Symphonie héroique
No. 3.—First Movement (Beethoven). 5. Berceuse (Schumann). 6.
"Cléopâtra"—Marche triomphale (Mancinelli).

PARIS. Radio-Paris (CFR). WL. 1,760 n. (176 ke); 3 kw. 10.30 a.m.—News and Musical

10.30 a.m.—News and Musical Selections.
12.30 p.m.—Concert. 1. Ota-Gygi—Serenade (Luling). 2. Chanson Mélancolique (Brun). 3. (a) Je l'aime bien, (b) Vilanelle (Michaux).
4. Ariette d'Avril (Moignard). 5. Danses Algeroises (Bernard). 6. Madeleine (Montalent). 7. Coppella—Suite (Delibes). 8. Papilions (Campa). 9. Seguedille (Albeniz). 10. Melody (Rubinstein). 11. Novelletta (D'Ambrosio).
12. Cantilene (Ganne). 13. La fille de Madame Angot — Selection (Lecocq).

(Lecocq).
.50 p.m.—Exchange Quotations and

News.
4.30 p.m.—Exchange Quotations.
4.45 p.m.—Classical Hour.
5.35 p.m.—Market Prices.
7.30 p.m.—Colonial Notes.
8.0 p.m.—News.
8.15 p.m.—Talk in Esperanto.
8.30 p.m.—Concert arranged by the
"Wireless Amateurs' Association."
9.30 p.m.—Dance Music. News in the Intervals. the Intervals.

GERMANY

BERLIN.

Koenigswusterhausen.

WL 1,250 m. (240 kc); 8 kw.

Transmits at intervals from 2.30 p.m.
6.30 p.m.—Advanced Spanish Lesson.
6.55 p.m.—Talk on "German Song—Schubert."
7.20 p.m.—Talk on "Butterfly Pests."
8.30 p.m.—Programme relayed from
Voxhaus.

BERLIN. Voxhaus. W.L. 566 and 483.9 m. (530 and 620 kc); 2 and 4 kw.

Transmits at intervals from 6.0 a.m. 5.30 p.m.—Modern Orchestral Con-

cert.

6.45 p.m.—"The Cold Storage of
Food in the Household and Small
Shops."

Shops."
7.10 p.m.—Talk on "World Philosophy of the Great Thinkers—Leibniz."
7.40 p.m.—Talk, "Does Germany Need a Postal Savings Bank?"
8.10 p.m.—Talk on "The Aim of the Hindenburg Fund."
The following transmissions relaxed

8.10 p.m.—Talk on "The Aim of the Hindenburg Fund."
The following transmissions relayed by Koenigswusterhausen on 1,250 metres (240 kc) and 8 kw.
8.30 p.m.—Ludwig Fulda Recital. 1.
Recitations: (a) Die Verhexte Prinzessin; (b) Der Taschenspieler. 2. Selections for Harp and 'Oello: (a) Murmelndes Lüftchen (Jensen); (b) Wiegenlied (Waterman). 3. Soprano Solos: (a) Am Meer (Lautz); (b) Was du mir bist (Molbe); (d) Alles Verklingt (Molbe); (d) Alles Verklingt (Molbe). 4. Recitations; (a) Hinter dem Rücken; (b) Der Pelz beim Kürschner. 5. Soprano Solos: (a) Ienzetlmmung (Ludwig); (b) Nachtbilb (Strauss); (e) Das Gärtchen (Moellendorff); (d) Kurze Antwort (Rycken). 6. Selections for Harp and 'Cello: (a) La Fleuse (Raff); (b) Minuet (Werkmeister); (c) Cradle-Song (Hauser).
10.15 p.m.—Dance Music.
12.30 a.m. (Friday, July 15th)—Close Down

Orchestra.

5.0 p.m.—"Le Radio Journal de France."

9.0 p.m.—Oance Music.

12.0 midnich (approx.).—Close Down

6.0 p.m.—Review of Books.

NOTE: THE HOURS OF TRANSMISSION ARE REDUCED TO BRITISH SU
PARIS. Eiffel Tower (FL). W.L.
2050 m. (113 kc); 5 kw.
10.26 a.m.—Time.
6.45 p.m.—Weather.
8.5 p.m.—Weather.
8.5 p.m.—Weather.
8.5 p.m.—Patriotic Concert: 1. La
Marseillalse—Baritone Solo. 2.
Ceux qui pieusement sont morts
pour la Patrie—Poem (Victor
Hugo) recited by M. André
Delacour. 3; Patrie—Baritone
Solo (Paladihle). 4. Songs of the
Revolution. 5. Hymn to France
(Foulds). 6. Dance Music.
9.15 p.m.—Educational Programme.
11.26 p.m.—Time.

PARIS. Petit Parisien. W.L.
340.9 m. (880 kc); 0.5 kw.
9.0 p.m.—Goncert: 1. "L'Inpresario"—Overture (Mozart). 2.
Moonlight Sonata—Finale (Beethoven). 3. Symphonie ecossalse
No. 2. Second Moramont (Moradu.

Tansmits at intervals from 12.0 noon

FRANKFURT. Siidwestdeutscher
Rundfunk. W.L. 428.6 m. (700 kc);
4 kw.

Transmits at intervals from 12.0 noon

FRANKFURT. Siidwestdeutscher
Rundfunk. W.L. 428.6 m. (700 kc);
4 kw.

Transmits at intervals from 12.0 noon

A kw.

Transmits at intervals from 12.0 noon 6.45 p.m.—Wireless Club Notes.

7.15 p.m.—Talk, "Problems of Modern Operatic Production."

7.45 p.m.—Transmission arranged by the "Frankfurter Zeitung."

8.15 p.m.—Recitations. Charlotte Christann (Elocutionist).

9.15 p.m.—"Armut"—Tragedy (Anton Wildgans).

10.0 p.m. (approx.).—Concert from Works of Schubert.

women."
7.35 p.m.—Talk for Tourists—
Mecklenburg."
7.55 p.m.—Weather.
8.0 p.m.—Concert from the Uhlen-

horster Fährhaus.

10.30 p.m. (approx.)—Concert from the Café Continental, Hanover.

(midnight, approx.) - Close

Down.

LANGENBERG. Westdeutscher Rundfunk. W.L.: 468.8 m. (640 kc); 25 kw.

Transmits at intervals from 10.30a.m.

Programme also relayed by Muenster on 241.9 m. (1,240 kc).
6.30 p.m.—Talk from Cologne, "How shall I keep Healthy."
6.40 p.m.—Sports Talk from Cologne.
7.15 p.m.—Talk, "The Atom," from Cologne.
7.40 p.m.—Talk. "Philosophy

5.40 p.m.—Sports Talk from Cologne.
7.15 p.m.—Talk, "The Aton," from Cologne.
7.40 p.m.—Talk, "Philosophy throughout the Ages," from Cologne.
8.0 p.m.—Concert by the Barmen-Elberfeld Town Choir. Relayed from the Garden of the Sradthalle, Johannisberg. 1. Hoch-und Deutschmeister—Marsch (Ertl).
2. "Preciosa"—Overture (Weber).
3. Selections from "L'Arlésienne" (Bizet).
4. Roses of the South—Waltz (Strauss).
5. Hungarian Rhapsody No. 1 (Liszt).
6. "The Merry Wives of Windsor"—Overture (Nicolal).
7. Violin Solo.
8. Huldig ungsmarsch from "Sigurd Jorsaffar (Grieg).
9. Selection from "La Tosca" (Puccini).
10. Waltz from the "Czardas Princess" (Kalman).
10.35 p.m.—News and Sports Notes from Cologne.
10.45 p.m.—"Humour in Dialect"—Programme from Elberfeld.
11.15 p.m.—Concert from the Café Corso, Dortmund.
12.0 (midnight, approx.)—Close Down.
LEIPZIG. Mitteldeutscher Rundfunk. W.L. 365.8 m. (820 kc); 4 kw. Transmits at intervals from 10.0 a.m.
6.30 p.m.—Advanced Spanish Lesson.
Relayed from Koenigswusterhausen, 1,250 m. (240 kc).
7.0 p.m.—Talk, "A Bazaar in Stamboul."
7.30 p.m.—Talk, "Travels in Australia."

boul."
7.30 p.m.—Talk, "Travels in Australia."

train."

8.0 p.m.—Weather and Time.

8.15 p.m.—"A Journey Round the World" in Music and Recitation.

10.0 p.m.—Cabaret Music.

10.0 p.m.—News.

10.30 p.m.—Silent Night.

HOLLAND

HILVERSUM. Algemene Nederlandsche Radio-Omroep. W.L. 1,067 m; (281 kc); 5 kw. Transmits at Intervals from 11.40a.m. 3.10 p.m.—Programme for Hospitals. 4.40 p.m.—Orchestral and Vocal Concert.

(contd.).

7.25 p.m.—Police News.
7.50 p.m.—Concert. Talk in the Interval.
10.10 p.m.—Weather and News.
10.15 p.m.—Dance Music.
11.40 p.m. (approx.).—Close Down.

HUNGARY

WL 555.6 m. (540 ke); 3 kw.
Transmits at intervals from 9.30 a.m.
6.15 p.m.—Talks.
8.45 p.m.—Military Concert.
7.30 p.m.—Studio Performance of
"A Nosztyfu esete Toth Marival."
10.30 p.m.—Time, News and Gramophone Records.
12.0 (midnight, approx.)—Close
Down.

ITALY

MILAN. Unione Radiofonica Italiana (1 MI). WL. 322.6 m. (930 kc); 1.5 kw.

Transmits at intervals from 12.15p.m. 8.30 p.m.—Opening Signal.
8.47 p.m.—Cornert. 1, "Libussa".—Overture (Smetana). 2. Prelude (Rachmaninoff). 3. Gavotte and Tambourine (Bill). 4. Andante from the Fourth Symphony (Beethoven). 5. Literary Talk. 6. "Trioin G Minor" (Smetana). 7. Concerto in E Minor (Mendelssohn). 8. Pianoforte Solos. 9. Fantasie Dramatique (Ranzato). 10. "La Speranza" (Parelli). 11. Scene Napoletane—Suite (Massenet). 12. "The Sleeping Beauty"—Selection (Tchalkovsky).

11.0 p.m.—Dance Music. Relayed from the "Fiaschetteria Toscana." 11.30 p.m. (approx.)—Close Down.

NAPLES. Unione Radiofonica Ital-

NAPLES. Unione Radiofonica Italiana (1NA). W.L. 333.3 m. (900 ke); 1.5 kw. Transmits at intervals from 2.0 p.m. 8.55 p.m.—News.
9.0 p.m.—Concert of Neapolitan Music.

11.0 p.m. (approx.).—Close Down.

ROME. Unione Radiofonica Italiana (IRO). W L. 450 m. (667 kc); 3 kw.
Transmits at intervals from 1.0 p.m.
8.50 p.m.—News.
9.0 p.m.—Time, Weather and News.
9.10 p.m.—Orchestral and Vocal
Concert, followed by Lesson in
Radio Technique and Selection
from "Fedora"—Operetta (Glordano).
11.25 p.m.—News

11.25 p.m.—News. 11.30 p.m., (approx.).—Close Down

LITHUANIA

KOVNO. Radio-Kamas. W.L. 2,000 m. (150 kc); 7 kw. 5.0 p.m.—Talk. 7.30 p.m.—Time, Weather and News.

NORWAY

BERGEN. Kringkastingselskap.

WL. 370.4 m. (810 kc); 1 kw.
Transmits at intervals from 11.15a.m.
8.25 p.m.—Fishing News.
8.30 p.m.—Orchestral Selections.
9.0 p.m.—Talk, "Women on Committees."
9.30 p.m.—Planoforte Recital.
10.0 p.m.—Weather, News and Time.

OSLO. Kringkastingselskapet. WL.
401.5 m. (650 kc); 1.5 kw.
Programme relayed by Porsgrund,
504 m. (595 kc), Hamar, 566 m.
(530 kc), Frederiksstad, 434.8 m.
(690 kc), Rjukan, 476 m. (630 kc),
and Notodden, 423 m. (709 kc).
8.0 p.m.—French Concert.
9.0 p.m.—Talk, "France."
9.30 p.m.—Recital of French Songs.

SPAIN

BARCELONA. Radio Barcelona (EAJ1). W.L. 344.8 m. (870 kc) 2 kw. Transmits at intervals from 12 Noon.

6.0 p.m.—Children's Corner.
6.10 p.m.—Reading from "Peter Pan" (J. M. Barrie).
6.20 p.m.—Talk: "The Streets of

6.20 p.m.—Talk: "The Streets of Barcelona."
8.40 p.m.—English Lesson.
9.0 p.m.—Exchange Quotations and News.
9.10 p.m.—Quintet Music.
9.25 p.m.—Recitations by Sr. José

Moreta.

9.45 p.m.—Songs by the "Pedralbes Quartet."

10.0 p.m.—Chimes and Weather.

10.10 p.m.—Talk.

10.25 p.m.—Trio Music.
11.0 p.m. (approx.)—Close Down.

MADRID. Union Radio (EAJ7).

W.L. 375 m. (300 kc); 3 kw.

Transmits at intervals from 11.45a, m. 7.0 p.m.—Orchestral Concert, Talk
in interval by Luis Medina.
10.0 p.m.—Time and Exchange
Ouotations

10.0 p.m.—Time and Exchange Quotations.
10.5 p.m.—Concert by the Municipal Band.
12.20 a.m. (Friday, July 15th)—News.
12.30 a.m. (approx.)—Close Down.

SWEDEN

SWEDEN

STOCKHOLM. Radiotjänst (SASA).

WL. 454.5 m. (860 kc); 1.5 kw.
Programme also relayed by Motala,
1,320 m. (227 kc); Geteborg,
418.7 m. (720 kc); and Malmo,
260.7 m. (1,150 kc).
Transmits at intervals from 12.55p. m.
7.30 p.m.—Vocal Recital.
8.15 p.m.—Concert. 1. Suite from
"Aladdin" (Oshlenschlager). 2.
Albumblatt (Wagner). 3. Humoresque (Reger). 4. Reigen (Reger).
5. Martha—Aria (Flotow). 6.
Eugen Onegin—Aria (Tschaiks
ovsky). 7. Gianni Schiechl—
Selection (Puccini). 8. Marches
(Winter).

9.15 p.m.—News. 9.30 p.m.—Weather. 9.45 p.m.—Talk, "Cycling," relayed from Gothenburg.

SWITZERLAND

SWITZERLAND

BERN. Radio-Bern. WL. 411 m. (730 kc); 1.5 kw.

Transmits at intervals from 1.0 p.m. 8.0 p.m.—Time and Weather.
8.5 p.m.—Bern Dialect Programme with Orchestral Interiudes from the Kursaal.
9.50 p.m.—Orchestral Music.
10.30 p.m. (approx.)—Close Down.

GENEVA. Radio-Geneva. WL. 760 m. (395 kc): 0.5 kw.
8.30 p.m.—Exchange, Time and Weather.
8.32 p.m.—Orchestral Concert from the Hotel Metropole. 1. "The Barber of Seville" (Rossint). 2. "Rigoletto"—Selection (Verdi).
3. Two Spanish Dances (Granados).
4. (Albeniz): (a) Cordoba; (b) Sevilla.
9.30 p.m.—News.
9.40 p.m. (approx.)—Close Down.

U.S.A.

PITTSBURGM. Westinghouse Electric (KDKA). W.L. 309 m. (970 kc); 25 kw.

Transmits at Intervals from 4.0 p.m. Programme relayed on 64 m (4,687 kc) from 11.0 p.m.

11.0 p.m.—Baseball Scores.

11.10 p.m.—Concert by the Studio Ensemble.

11.55 p.m.—Baseball Scores.

12.20 a.m. (Friday, July 15th).—Report of Road Conditions.

12.30 a.m.—Agricultural Report.

1.0 a.m.—"Our Musical United States," from WJZ, New York.

1.30 a.m.—Concert by the New York Philharmonic Orchestra, from Lewisohn Stadium. From WJZ, New York.

4.0 a.m.—Weather and Baseball Scores.

Scores.

SCHENECTADY, N.Y. General Electric Company (WGY). WL. 379.5 m. (790 kc); 60 kw. Transmits at infervals from 11.45a.m. Relayed by 2 XAF on 32.77 m. (9,155 kc) from 11.0 p.m. 11.0 p.m.—Stock Exchange Quotations and News.

11.25 p.m.—Baseball Scores.

11.30 p.m.—The Powell Inn Orchestra.

tra.
12.25 a.m. (Friday, July 15th)—
Baseball Scores.
12.30 a.m.—"The Story of America."
12.45 a.m.—Studio Musical Pro-

gramme.
1.0 a.m.—Programme by the National Light Opera Company, from New York.

York. 2.0 a.m.—Time. 2.5 a.m.—"The Eskimos," from

2.0 a.m.—Time.
2.5 a.m.—"The Eskimos," from
New York.
3.0 a.m.—The Madrigal Quartet.
3.30 a.m.—News from "Time."
4.0 a.m.—Dance Music from New
York.
4.30 a.m.—Organ Recital. Relayed
from Proctor's Theatre; Schenectady.

5.30 a.m. (approx.) -Close Down.

PROGRAMMES FOR FRIDAY

(July 15)

IRELAND

THE REAL PROPERTY.

CORK. Cork Broadcasting Station (6CK). W.L. 400 m. (750 kc);

2.30 p.m.—Weather, Stock Market Report and Gramophone Records. 6.40 p.m.—10.30 p.m.—Programme relayed from Dublin, 319.1 m. (940 kc),

UBLIN. Dublin Broadcasting
Station (2RN). WL. 319.1 m.
(940 kc); 1.5 kw.
30 p.m.—Exchange, Weather and DUBLIN.

30 p.m.—Exchange, Weather and Gramophone Concert.

0 p.m.—Gramophone Music.

20 p.m.—Exchange and News.

30 p.m.—Talk by T. Galloway

Rigg.
7.45 p.m.—Talk: "Commercialism and the Drama," by Mme. Kirkwood Hackett.

and the Drama," by Mme. Kirkwood Hackett.

8.0 p.m.—Orchestrai Concert: 1.

"Midsummer Night's Dream"—
Overture (Mendelssohn). 2. Selection (Talbot). 3. "Cavallerla
Rusticana"—Intermezzo (Mascagni). 4. Finnish Lullaby (Palmgreen). 5. Irish Tone Sketches
(O'Donnell).

8.45 p.m.—Tenor Solos by A. Tyrrell.
8.55 p.m.—The Ballad History of
Ireland," by John Brennan, Illustrated by Gerard Crofts.

9.25 p.m.—Concert by the Station
Orchestra, Rita Christopher
(Violin), Leo Rowsome (Piper).

Orchestra, Rita Christoph (Violin), Leo Rowsome (Piper). 10.30 p.m.—News and Weather. 10.35 p.m. (approx.)—Close Down.

AUSTRIA

VIENNA. Radio-Wien. W.L. 577
and 517.2 m. (520 and 580 kc);
1.5 and 5 kw.
Transmits at intervals from 11 a.m.
6.15 p.m.—Talk: "Weekly Notes
for Foreign Travel."
6.30 p.m.—Sports Talk.
7.10 p.m.—Talk: "The Minerals
and Stones of Austria."
8.0 p.m.—"Martha"—Opera (Flotow).

BELGIUM

BELGIUM

BRUSSELS. Radio-Belgique. WL.
508.5 m. (590 kc); 1.5 kw.
5.0 p.m.—Concert by the Station
Trio.
7.30 p.m.—"Radio-Chronique."
8.0 p.m.—Organ Recital, relayed from
"La Salle Delgay."
8.30 p.m.—Gramophone Records,
Foxtrot and Charleston Music.
8.45 p.m.—Orchestral Concert. 1.
Le Roi d'Yvetot — Overture
(Adam). 2. Fantasia on "The
Merry Widow" (Lehár). 3. Topical
Talk. 4. Chopin fantasia (Fétras).

Merry Widow" (Lehár). 3. Topical Talk. 4. Chopin fantasia (Fétras). 5. Allegra for 'Cello (Saint-Saëns). 6. Au printemps (Grieg). 7. Inter-lude (Albeniz). 8. Valse (Wald-teufel). 9.30 p.m.—Flemish Literary Pro-

gramme.
10.0 p.m.—News.
10.30 p.m. (approx.).—Close Down.

CZECHO-SLOVAKIA

G/LUNU-SLUVARIA
BRUENN. Komarov. W.L. 441.2 m.
(680 kc); 2.4 kw.
Transmits at intervals from 12.15 p.m.
6.0 p.m.—Time and Agricultural
Report.
6.20 p.m.—Talk.
7.0 p.m.—Orchestral Concert.
8.0 p.m.—Recitation.
9.0 p.m.—Military Concert.
10.0 p.m.—Relay from Prague.

9.0 p.m.—Relay from Prague, 348.9 m. (859 kc).

DENMARK

COPENHAGEN. Copenhagen Radio.

WL. 337 m. (890 kc); 0.7 kw.

Programme relayed by Soro,
1,153.8 m. (260 kc).

Transmits at intervals from 3.0 p.m.
7.0 p.m.—News, Exchange and

Time.
7.30 p.m.—Talk.
8.0 p.m.—Goncert from the Frederiksberg Gardens.
9.30 p.m.—Beading.
10.0 p.m.—Pianotorte Recital.
10.30 p.m. (approx.).—Close Down.

FRANCE

PARIS. Ecole Supérieure (FPTT).

WL. 464 m. (646 kc.); 0.5 kw.

Transmits at intervals from 8.0 a.m
2.0 p.m.—Orchestral Concert arranged
by the General Wireless Associa-

p.m.—" Le Radio Journal de

6.0 p.m.—'Le Radio Southar de France.'' 8.0 p.m.—Spanish Lesson, followed by Education Talk. 9.0 p.m.—Concert followed by News and Weather,

NOTE: THE HOURS OF TRANSMISSION ARE REDUCED TO BRITISH SUMMER TIME.

PARIS. Radio-Paris (CFR). WL.
1,760 m. (176 ke); 3 kw.
10.30 a.m.—News and Musical Selections.
12.30 p.m.—Concert. 1. Marche Militaire (Schubert). 2. The Czardas Princess—Selection (Kalman). 3. Louise—Selection (Charpentier). 4. Bonjour Suzon (Lacombe). man). 3. Louise—Selection (Charpentier). 4. Bonjour Suzon (Lacombe). 5. Les Gloires de la Russie (Krein). 6. Romance in F (Beethoven). 7. Iphigenia's Dream (Glück). 8. Moresca (Silesu). 9. Cavalleria Rusticana—Selection (Mascagni). 10. J'ai pardonné (Schumann). 11. Concerto (Boccherini). 12. Pierrot joyeux (Levade). 13. Esnieralda's Song (Mesquitta). 150 p.m.—Exchange Quotations and News.

News.
4.30 p.m.—Exchange Quotations.
4.45 p.m.—Concert arranged by the
"Wireless Amateurs' Association."
5.35 p.m.—Market Prices.
8.0 p.m.—News.
8.15 p.m.—Talk by "La Tribune
Libre des Femmes."
8.30 p.m.—Concert by the Cesar
Franck Choral Society. News in
the Intervals.

GERMANY

WEARINA Koenigswusterhausen.

WL. 1250 m. (240 kc); 5 kw.
Transmits at intervals from 3.35 p.m
6.30 p.m.—Advanced English Lesson.
6.55 p.m.—Talk on "Parliamentary
History."
1. History."
1

- 11-

Vokhaus.

BERLIN. Vokhaus. WL. 566 and 488.9 m.; (530 and 620 kc); 2 and 4 kw.
Transmits at intervals from 6.0 a.m. 6.40 p.m.—The Month's Sports' Review.
7.5 p.m.—Gardening Talk.
7.30 p.m.—Talk on "Aspects of the World of the Present Day."
7.55 p.m.—Mountaineering Talk.
The following transmissions relayed by Koenigswusterhausen on 1250 m. (240 kc) and 8 kw.
8.30 p.m.—Orchestral Concert: 1.
Titus—Overture Per questa della mano—Aria for Sopraso and Contrabass with Orchestral Accompaniment (Mozart). 3. Symphony in C Minor (Schubert). 4. Air for Violin and Double Bass (Bottestin). 5. Benvenuto Cellini—Overture (Berlioz).
10.15 p.m.—News and Weather.
10.30 p.m.—Concert of Folk Songs and Dances.
11.30 p.m. (approx.)—Close Down.
BRESLAU. Schleeische Funkstunde.

BRESLAU. Schlesische Funkstunde.
W.L. 315.8 m. (950 kc); 4 kw.
Transmits at intervals from 11.15 a.m.
6.50 p.m.—Current Economic Ques-

7.20 p.m.—Talk, "The Electric

News Service."

8.0 p.m.—Goncert of Chamber Music, from the Baden-Baden Music

from the Baden-Baden Music Festival. 10.15 p.m.—Esperanto Talk. 10.30 p.m. (approx.).—Close Down. FRANKFURT. Siidwestdeutscher Rundfunk. W.L. 428.6 m. (700 kc);

Rundfunk. W.L. 428.6 m. (700 kc); 4 kw.
Transmits at intervals from 12.0 noon.
6.15 p.m.—Talk, "House and Garden," from Cassel, 272.7 m. (1,100 kc).
6.30 p.m.—Talk, "Schopenhauer."
7.0 p.m.—Talk, "Schopenhauer."
7.30 p.m.—Talk, "The Krupp Family—Persia and Germany."
7.50 p.m.—Film Notes.
8.0 p.m.—First Chamber Music Gencert of the "Deutschen Kanmermusik Baden-Baden, 1927," relayed from Baden-Baden, followed by Concert of Light Music by the Wisolzky Orchestra, relayed from Cassel.

NOTE: THE HOURS OF TRANSMISSION ARE REDUCED

PARIS. Eiffel Tower (FL). WL.

2050 m. (113 kc); 5 kw.

10.26 a.m.—Time.

6.45 p.m.—Time.

9.50 p.m.—Weather.

9.50 p.m.—Concert: 1. Egmont—
Overture (Beethoven). 2. Songs
(Blin): (a) Fervour; (b) Resignation. 3. Romance in F for
Violin (Beethoven). 4. Sérénade à
Colombine (Paulin). 5. Crépuscule
—'Cello Solo (Marcel-Bernheim).

6. Songs (Blin): (a) Au bruit des
flots; (b) Dormez, chère almée.

7. Orient (Delmas).

9.15 p.m.—Educational Programme.

11.26 p.m.—Time.

PARIS. Beitel Tower (FL). WL.

HAMBURG. (Norag ha, in Morse).

WL. 395.25 m. (759 kc); 4 kw.
Transmits at intervals from 5.45 a.m.
5.30 p.m.—Talk: "Marriage Customs of North and South American Indians."

6.00 p.m.—Torchestral Music.

7.20 p.m.—Legal Talk: "Out-door Aerials."

7.25 p.m.—Weather.

8.0 p.m.—"See"—Dialect Play (E. Schiff).

10.30 p.m. (approx.)—Concert rom
Söllbers Gute Stube. Braman

Schiff).

10.30 p.m. (approx.)—Concert rom
Söllbers Gute Stube, Bremen.
News.

12 Midnight (approx.)—Close Down.

12 Midnight (approx.)—Close Down.

LANGENBERG. Westdeutscher Rundfunk. W.L. 408.8 m. (640 kc); 25 kw.

Transmits at intervals from 10.30a.m. Programme also relayed by Muenster on 241.9 m. (1240 ke).
6.30 p.m.—Talk: "Musical Works of Genius," from Elberfeld.
7.15 p.m.—Opening of the World Cycling Championship. Relayed from the Neumarkt, Cologne.
9.0 p.m. (approx.)—Joset Keim Recital from Cologne, followed by News and Sports Notes, and Concert from the Cafá Kaiserhof, Muenster.

Muenster.
12 Midnight (approx.)—Close Down.

LEIPZIG. Mitteldeutscher Rundfunk. W.L.: 365.8 m. (820 kc);

LEIPZIG. Mitteldeutscher Rundfunk. W.L.: 365.8 m. (820 kc);
4 kw.
Transmits at intervals from 10.0 a.m.
6.30 p.m.—Advanced English Lesson.
Relayed from Koenigswusterhausen, 1,250 m. (240 kc).
7.0 p.m.—Talk, "Labouring-Man's Lawa."
7.30 p.m.—Talk, "4 A Trip down the Mediterranean."
8.0 p.m.—Weather and Time.
8.15 p.m.—Two One-Act Plays. 1.
"Die Zeche" (Fnida).
10.0 p.m.—News.
10.15 p.m.—Dance Music.
12.0 midnight (approx.).—Close Down.

HOLLAND

HOLLAND

HILVERSUM. Algemene Nederlandsche Radio Omroep. WL.
1,067 m. (281 kc); 5 kw.

Transmits at intervals from 11.40a.m.
4.10 p.m.—Orchestral and Pianotorte Solo Concert.
5.55 p.m.—English Lesson.
7.25 p.m.—Police News.
7.25 p.m.—Concert reiayed from the
Kurhaus, Scheveningen. 1. "La
Grande Paques Russe"—Sacred
Overture (Rimsky-Korsakoff). 2.
Das Lied von der Liebe und dem
Tode (Karlowicz). 3 Three Dances
from "El Sombrero de tres Tode (Karlowicz). 3. Three Dances from "El Sombrero de tres Plcos" (de Falla): (a) Les Voisins; (b) Danse du meunier; (c) Danse Finale. 4. Ein Heldenleben—Symphonic Poem, Op. 40 (Rich. Strauss).

10.0 p.m.—Weather and News.

10.20 p.m. (approx.)—Close Down.

HUNGARY

BUDAPEST. Magyar Radio Ujsag. W.L. 555.6 m. (540 kc); 3 kw. Transmits at intervals from 9.30 a.m. 6.0 p.m.—Concert. Relayed from the Zoological Gardens. In the interval: Talk.

11.0 p.m.—Time, News and Gipsy Music

11.0 p.m.—Time, News Music. 12.0 midnight (approx.).—Close

ITALY

ILAN. Unione Radiofonica Italiana (1MI). WL, 322.6 m (930 kc); 1.5 kw. ransmits at intervals from 12.15p.m.

1.5 kw.

Transmits at intervals from 12.15 p.m.

8.30 p.m.—Opening Signal.

8.45 p.m.—Time.

8.47 p.m.—Art Talk.

9.0 p.m.—Variety Concert.

Selection from "La Tosca" (Puccini).

2. (a) "O Lisbon"—

Song from "Don Sebastian" (Donizetti); (b) A Vision of Ventce (Brogi).

3. Pianoforte Solo—

"Toccata and Fugue in D minor (Bach).

4. "Spirate pur"—

Soprano Song (Donaudy).

5. Orchestral Selections: (a) "Silvano"—Barcarolle (Mascagni), (b) Minuet (Solazzi).

6. Tenor Solos:

(a) Caro nilo ben (Giordano), (b) "The Dream" frou "Manan'; (Massenet).

7. Yerse Recital.

8.

Baritone Song from "Ernani"

(Verdi). 9. Pianoforte Solos:
(a) Evocation (Albeniz), (b) Polka
in A major (Chopin). 10. Selection
from "The Magic Flute" (Mozart).
11. Tenor Song from "Mignon"
(Thomas). 12. "Le Berceau"— (Thomas). 12. "Le Berceau"— Soprano Song (Faurė). 11.0 p.m.—Light Orchestral Music. 1.30 p.m. (approx.).—Close Down.

NAPLES. Unione Radiofonica Italiana (1NA). W.L. 333.3 m. (900 kc); 1.5 kw.
Transmits at intervals from 1.0 p.m. 8.55 p.m.—News. 9.0 p.m.—"Sister Angelica"—Opera

in One Act (Puccini).

9.30 p.m.—In the Interval: Time.

11.0 p.m. (approx.).—Close Down.

ROME. Unione Radiofonica Italiana (1RO). WL. 450 m. (667 kc);

3 kw.
Transmits at intervals from 1.0 p.m.
9.0 p.m.—Time, News and Weather.
9.10 p.m.—Selection from "The Ginema Star"—Operetta (Gilbert).
In the Interval: Talk.
11.25 a.m.—News.

11.25 p.m.—News. 11.30 p.m. (approx.).—Close Down.

LITHUANIA

KOVNO. Radio-Kaunas. W L. 2,000 m. (150 kc); 7 kw. 6.0 p.m.—Radio Romance, "Vilno." 6.30 p.m.—Concert by a Regimental Band. 1. Second Hungarian Rhapsody (Liszt). 2. Destiny Waltz. 8. Romance (Denz). 4. The Barber of Seville—Opera Selection (Rossin). 5. The Blessing of the Chapel (Bela). 7.30 p.m.—Time, Weather and News.

NORWAY

BERGEN. Kringkastingselskap. WL. 370.4 (810 kc.); 1 kw. Transmits at intervals from 11.15a.m. 8.25 p.m.—Fishing News. 8.30 p.m.—Orchestral Selections. 9.10 p.m.—Talk: "Lumbering." 9.40 p.m.—Soprano Solos. 10.0 p.m.—Weather, News and Time.

OSLO. Kringkastingselskapet. WL.

OSLO. Kringkastingselskapet. WL.
461.5 m. (650 kc); 1.5 kw.
Programme relayed by Porsgrund,
504 m. (595 kc), Mamar, 566 m.
(530 kc), Frederiksstad, 434.8 m.
(690 kc), Rjukan, 476 m. (630 kc)
and Notodden, 423 m. (709 kc).
8.0 p.m.—Orehestral Concert.
9.0 p.m.—Talk, "The Arabs."
9.30 p.m.—Pianotorte Recital.
10.0 p.m.—News and Weather.
10.15 p.m.—Close Down.

POLAND

POSEN. Radio-Poznan. WL.
270.3 m. (1,100 kc); 1.5 kw.
Transmits at intervals from 2.0 p.m.
7.0 p.m.—Variety Items.
7.15 p.m.—Economic Talk.
7.40 p.m.—Ealk.
8.0 p.m.—Special Programme in
Commemoration of the Anniversary of the Grunwald-Tannenberg
War.
10.9 p.m.—Talk for Scouts.

War.

10.0 p.m.—Talk for Scouts.

10.20 p.m.—Dance Music.

12.0 midnight.—Close Down.

BARCELONA. Radio Barcelona (EAJ1). WL. 344.8 m. (870 kc); (EAJ1). WL. 344.8 m. (870 kc); 2 kw. Transmits at intervals from 12 Noon.

8.30 p.m.—Shorthand Lesson. 8.50 p.m.—Health Report for Bar-

SWEDEN

SWEDEN

STOCKHOLM. Radiotjänst (SASA).

WL. 454.5 m. (660 kc): 1.5 kw.

Programme also relayed by Motala,
1,320 m. (227 kc), Goteborg,
416.7 m. (720 kc), and Malmo,
260.9 m. (1,150 kc).

Transmits at intervals from 12.35p.m.
7.10 p.m.—Talk for Scouts.
7.30 p.m.—Talk in English, "Lord
Northcliffe."

8.0 p.m.—Song Recital. 1. Two
Hymns. 2. Shepherds' Songs.
3. Lullabies.

Hymns. 2. Shepherds' Songs.
3. Lullabies.
8.15 p.m.—Sonata for Violin and Pianoforte, Op. 78 in G major (Brahms).
8.45 p.m.—Reading from "Cyrano de Bergerac."
9.15 p.m.—News.
9.30 p.m.—Weather.

SWITZERLAND

SWITZERLAND

BERN. Radio-Bern. W.L. 411m;
(730 kc); 1.5 kw.
Transmits at intervals from 1.0 p.m;
8.0 p.m.—Time and Weather.
8.5 p.m.—Talk.
8.30 p.m.—Orchestral Music from the
Bern Kursaal.
8.45 p.m.—Concert by the Hotel
Métropole Orchestra: Mile Marthe
Bornand (Soprano). Relayed from
Geneva.
9.20 p.m.—Orchestral Music.
9.20 p.m.—News and Weather.
10.5 p.m.—The Kursaal Orchestra.
10.30 p.m. (approx.)—Close Down.

GENEVA. Radio-Geneva. W.L.
760 m. (395 kc.); 0.5 kw.
8.30 p.m.—Exchange, Time and
Weather.
8.32 p.m.—Concert by the Orchestra
of the Hotel Métropole and Mile.
Marthe Bornand (Vocalist)

Weather.

8.32 p.m.—Concert by the Orchestra of the Hotel Métropole and Mile. Marthe Bornand (Vocalist). I. Songs: (a) Air de Cantate (Bach), (b) Cantique spirituel (Bach), (c) Ave Maria (Gounod). 2. Trio in G major (Haydn). 3. Songs: (a) Le temps des simples (Ropartz), (b) Spleen (Fauré), (c) Automne (Honegger), (d) Il pleut sur la mer (Plaggio). 4. Elégie—'Cello Solo (Fauré). 5. Sonata for trio (Schubert).

9.20 p.m.—News.

9.40 p.m. (approx.).—Close Down.

9.20 p.m.—News. 9.40 p.m. (approx.).—Close Down.

ZURICH. Radio-Genossenschaft.

W.L. 496 m. (605 kc.); 1 kw.
Transmits at intervals from 12.28p.m.
7.58 p.m.—Weather and Time.
8.0 p.m.—English Talk.
8.30 p.m.—Dramatic Salasticm.

8.30 p.m.—Dramatic Selection.

9.30 p.m.—Concert of French
Operetta Selections.
10.10 p.m.—News and Weather.
10.20 p.m. (approx.).—Close Down.

U.S.A.

V.S.A.

PITTSBURGH. Westinghouse Electric (KDKA). W.L. 309 m. (970 kc); 25 kw.

Transmits at intervals from 4.0 p.m.

Programme relayed on 64 m. (4,687 kc) from 11.0 p.m. (4,687 kc) from 11.0 p.m.

11.0 p.m.—Baseball Scores.

11.10 p.m.—Concert by the Station Scotet.

11.10° p.m.—Concert by the Station Septet.

12.20° a.m. (Saturday, July 16th).—Report of Road Conditions.

12.30° a.m.—Agricultural Report.

12.45° a.m.—Talk arranged by the Pittsburgh Radio Council.

1.0° a.m.—Concert.

1.30° a.m.—"Royal Hour" from WJZ, New York.

2.0° a.m.—"Philco Battery Hour," from WJZ, New York.

3.55° a.m.—Weather and Baseball Scores.

Scores. 4.0 a.m.—Dance Music.

8.30 p.m.—Shorthand Lesson.
8.50 p.m.—Health Report for Barcelona.
9.0 p.m.—Exchange Quotations and News.
9.20 p.m.—Quintet Music, followed by Songs.
10.0 p.m.—Chimes.
10.10 p.m.—Chimes.
10.10 p.m.—Chimes.
10.10 p.m.—Arragon Evening "—Arragonese Dances, Songs, and Reading.
11.20 p.m. (approx.)—Close Down.—MADRID. Union Radio (EAJ7).
W.L. 375 m. (800 kc.); 3 kw.
Transmits at intervals from 11.45a.m.
7.0 p.m.—Orchestral Concert.
10.0 p.m.—Time and Exchange Quotations.
10.5 p.m.—Talk on "Arragon" with Musical Illustrations.
10.5 p.m.—Talk on "Arragon" with Musical Illustrations.
10.30 p.m. (approx.)—Concert of Vocal and Instrumental Music.
12.20 a.m. (Saturday, July 16th).—News.
12.30 a.m. (approx.),—Close Down.
12.30 a.m. (approx.).—Close Down.

PROGRAMMES FOR SATURDAY

(July 16)

CANADA

EDMONTON, CJCA. WL. 516.9 m.
(580 kc); 0.5 kw.
8.30 p.m.—Market Prices and News, followed by Messages to the North West Territories.

West Territories, 3.15 a.m. (Sunday).—Children's Cor-

ner. 6.0 a.m. (Sunday July 17th).—Studio Programme of the C.N.R.E. Canadlan National Railways.

IRELAND

Cork Broadcasting Station WL. 400 m. (750 kc);

ORK. Cork Broadcasting Station (6CK). WL. 400 m. (750 kc); 1.5 kw. 30 p.m.—Weather and Stock Market Report. 30—10.30 p.m.—Programme relayed from Dublin, 319.1 m. (940 kc).

DUBLIN. Dublin Broadcasting
Station (2RN). WL. 319.1 m.
(940 kc); 1.5 kw.
1.30 p.m.—Weather and Gramophone
Concert.
7.20 p.m.—News Bulletin.
7.30 p.m.—Poetry Recital by Freda

Fay.
7.45 p.m.—"Gaedhilg," by Scamus
O'Duirinne.
30 p.m.—Selections from the Works
of Haydn, by the Station Orchestra.
53 p.m.—Dance Tunes by Michael
Grogan (Melodeon), and John
Howard (Fiddle).
8.45 p.m.—Plantation and Canadian
Songs.

9.45 p.m.—Plantation and Company.
Songs.
9.0 p.m.—" A Day in an Hour," by
H. O'Donovan and Company.
10.0 p.m.—Orchestral Selections. 1.
Valse Triste (Albi). 2. Valse Triste
(Sibelius). 3. Molly on the Shore
(Grainger).
10.30 p.m.—News and Weather.
10.35 p.m. (approx.).—Close Down.

AUSTRIA

GRAZ. Oest Radio Verkehrs. WL. 356 m. (840 kc); 5 kw. 5.30 p.m.—Reading in Italian. 6.0 p.m.—Talk: "German Classical Enics."

6.30 p.m.—Talk: "Irrigation in Styria."
7.0 p.m.—Italian Lesson.
7.45 p.m.—Programme relayed from Vienna.

Vienna.

Vienna. Radio-Wien. W L. 577 and 517.2 m. (520 and 580 kc); 1.5 and 5 kw.

Transmits at intervals from 11:0 a.m.
4.15 p.m.—Gootert of Folksongs.
6.30 p.m.—Gottfried Keller Festival.
7.30 p.m.—Three One-Act Plays:
1. "Der lila Handschuh" (Landau).
2. "Die Aussprache" (Landau).
3. "Tobby" (Goetz), Followed by Dance Music.

BELGIUM

BELGIUM

BRUSSELS. Radio-Belgique. W.L.
508.5 m. (590 kc); 1.5 kw.
5.0 p.m.—Dance Music.
6.0 p.m.—English Lesson.
7.30 p.m.—Tenglish Lesson.
7.30 p.m.—Orchestral Concert. 1. Les
Cloches de Corneville—Overture
(Planquette). 2. Selection from
"Rose Marie" (Friml). 3. Andante and Scherzo for Flute
(Ganne). 4. Malaguena (Moszkovsky). 5. In a Perslan Market
(Ketelby). 6. Gazouillement
(Sinding). 7. Humoresque—
Planoforte Solo (Chaminade). 8.
Second Egyptian Ballet (Luigini).
8.50 p.m.—Topical Talk.
9.0 p.m.—Dance Music, relayed from
the Kurssal, Ostend.
10.20 p.m.—News.

10.20 p.m.—News. 10.30 p.m.—Dance Music (continued).

CZECHO-SLOVAKIA

BRATISLAVA. Radio-Bratislava.

WL. 263.2 m. (1,140 kc); 0.5 kw.
6.15 p.m.—Quartet Selections.
7.15 p.m.—Agricultural Report.
7.20 p.m.—Children's Corner.
7.35 p.m.—Talk.
8.0 p.m.—Programme relayed from
Prague, 348.9 m. (859 kc).

BRUENN. Komarov. WL. 441.2 m. (680 kc); 2.4 kw.
12.15 p.m.—Orchestral Selections.
2.30 p.m.—Market Prices, Weather and News.
4.45 p.m.—Puppet Play.
5.35 p.m.—German Transmission.
6.0 p.m.—Time.
6.2 p.m.—Talk by the Committee of Radio Journal.
6.20 p.m.—Talk.

NOTE: THE HOURS OF TRANSMISSION ARE REDUCED TO BRITISH SUMMER TIME.

7.0 p.m.—Dramatic Selections.
7.45 p.m.—Concert.
1. Isabella—Selection (Suppé).
2. The Czurewitch (Lehár).
3. Woman's Love (Eisler).
4. The Chaste Barbara (Red bal).

Song Recital, followed by p.m.—Song Recital, followed by

8.45 p.m.—Song Recital, followed by Recitations. 10.0 p.m.—Programme relayed from Prague, 348.9 m. (859 kc).

DENMARK

COPENHAGEN. Copenhagen Radio. W.L. 337 m. (890 kc); 0.7 kw. Programme relayed by Soro, 1,153.8 m. (260 kc). 7.0 p.m.—News, Exchange and Time.

7.0 p.m.
Time.
7.30 p.m.—Talk.
8.0 p.m.—Time from the Town Hall.
8.5 p.m.—Concert of Old Dance
Music. 1. Brigade March (Forgeron). 2. Nordlys—Waltz (Lumbye). 3. Wienerschwalben—Polka
(Fahrbach). 4. L'Auvergnate—
(Ganne). 5. "The geron). 2. Nordlys—Waltz (Lumbye). 3. Wienerschwalben—Polka (Fahrbach). 4. L'Auvergnate—Mazurka (Ganne). 5. "The Beggar Student"—Polka (Millöcker). 6. Marie Vals (Lanner). 7. Min Itach—Mazurka (Möller). 8. Sekstur (Albrechtsen). 9. Sängerlust—Polka (Strauss). 10. Amorettentänze—Waltz (Gung'l). 11. Dina Polka (Lumbye). 12. Svensk Tapto (Lumbye). 13. Nordisk Union—Gallop (Lumbye). 9.15 p.m.—News. 9.30 p.m.—Variety Concert. 11.0 p.m.—Dance Music from Restaurant Wivel. 12.0 midnight.—Chimes from the Town Hall and Close Down.

FRANCE

PARIS. Ecole Supérieure (FPTT).

WL. 464 m. (646 kc); 0.5 kw.

Transnits at Intervals from 8.0 a.m.
2.0 p.m.—Orchestral Concert, arranged by the General Wireless
Association. Music from the Works
of Mozart, Bach and Strauss.

8.0 p.m.—"Le Radio-Journal de

Association. Music from the Works of Mozart, Bach and Strauss.

8.0 p.m.—" Le Radio-Journai de France."

8.15 p.m.—Sports Talk.

8.30 p.m.—Talk. "Domestic Pests—Fleas and Bugs."

9.0 p.m.—Orchestral Concert, arranged by the General Wireless Association. Music from the Works of Ganne, Beethoven and Delibes, followed by News and Dance Music, relayed from the Coliseum de Parits.

12.0 midnight (approx.).—Close Down.

PAR1S. Eiffel Tower (FL). W.L.

2,650 m. (113 kc); 5 kw.

10.26 a.m.—Time.

6.45 p.m.—" Le Journal Parlé."

Talks: 1. "Present Day Milltary Problems," by M. ic General Girod. 2. "Parisian Affairs," by M. Théo Bergerat.

8.5 p.m.—Concert. 1. Spanish Dances (Laparra). 2. A la Flancée—Contralto Solo (Duhamel). 3. Chant Hindou (Bemberg). 4. Poems: (a) Rondo (Faunier); (b) Les Carnavalettes (de Brahm), recited by Mme. Jane Hyram. 5. Au bois de Misère (Lazzari). 6. Songs: (a) La Tristesse (Chopin); (b) Comme la nuit (Bohm). 7. Gopak (Moussorgsky).

11. "The Problem of European Population," by M. Theodore. 2. "Graphology" by Tribelle of the contraction of the Propers of the Propers of the Proplem of European Population," by M.

Talks. 1. "The Problem of European Population," by M. Theodore. 2. "Graphology," by Mme. Paule Helles. 3. "Inhalatory Treatment," by M. le Docteur Médeveille. 4. Legal Talk by Me. Petiot-Cartellier. 5. "The History of the Scientists," by Mme. Bonfante.

Mme. Bonfante

PARIS. Petit Parisien. WL. 340.9 m. (880 kc); 0.5 kw. 9.0 p.m.—Concert of Operetta Music.

ANSMISSION ARE REDUCED

1.50 p.m.—Exchange Quotations and and News.
4.30 p.m.—Exchange Quotations.
4.45 p.m.—Dance Music. 1. Elle porte un petit chapeau—One-step (De Buxeuil). 2. Minou—Boston (Le Cun). 3. Pasion—Tango (Esposito). 4. Sing for Me—Foxtrot (Smet). 5. Yette—Tango (Garpentierl). 8. La Java Bousculée (Lynde). 9. Blues, Blues—Foxtrot (Buymer). 7. Tello Mio—Tango (Carpentierl). 8. La Java Bousculée (Lynde). 9. Blues, Blues—Buse—Foxtrot (Bound). 10. What—Onestep (Lowry). 5.35 p.m.—Market Prices.
8.0 p.m.—Talk.
8.15 p.m.—News, Exchange Quotations and Sports and Racing Notes.
8.30 p.m.—Toncert arranged by "Le Matin." Artistes: Mimes. Yvonne Deniay and La Houppa, M. Hagenbach. News in the Intervals.

GERMANY

To BRITISH SUMMER TIME.
7.15 p.m.—Education Talk.
8.15 p.m.—Pianoforte Recital—Micked p.m.—Pianoforte Recital—Micked p.m.—Programme of Wend Music, followed by Dance Music, 10.15 p.m.—Close Down.

HAMBURG. Norag (ha. in Morse).
W. J. 395.25 m. (759 kc); 4 kw. Transmits at intervals from 5.45 a.m.
4.0 p.m.—Advanced English Lesson.
Relayed from Koenigs wusterhausen (1,250 m; 240 kc).
4.30 p.m.—Orchestral Music.
7.5 p.m.—Wireless Talk.
7.55 p.m.—Wather.
8.15 p.m.—Pianoforte Recital—Micked p. Michael Zadora.
9.15 p.m.—Pianoforte Recital—Micked p. Micha

GERMANY

BERLIN. Koenigswusterhausen.
WL. 1,250 m. (240 kc); 8 kw.
2.50 p.m.—Elementary French Les-

son.—Advanced French Lesson.
3.15 p.m.—Weather and Market
Prices.
4.0 p.m.—Advanced English Lesson.
6.0 p.m.—Talk on "Practical

4.0 p.m.—Advanced English Lesson.
6.0 p.m.—Talk on "Practical Physics."
6.30 p.m.—Talk on "Dental Hygiene."
6.55 p.m.—Talk on "German Humour in Song."
8.30 p.m.—Programme relayed from Yoxhaus.

Voxhaus.

BERLIN. Voxhaus. WL. 566 and 483.9 m. (530 and 620 kc); 2 and

4 kw.

Transmits at intervals from 6.0 a.m.
4.0 p.m.—Talk on "Film and Theatre Art."

4.30 p.m.—Talk on Medical Hyglene.
5.0 p.m.—Orchestral Concert. 1.
Il Seraglio—Overture (Mozart).
2. Coppelia—Suite (Delihea) 4.30 p.m.—Talk on Medical Hyglene.
5.0 p.m.—Orchestral Concert.
1. Il Seraglio—Overture (Mozart).
2. Coppelia—Suite (Delibes).
3. Selection from "I Pagliacci" (Leoncavallo).
4. Bilder einer Austellung (Moussorgsky).
5. Selection from "Ariadne auf Naxos" (Strauss).
6. Intermezzo dramatico (Becce).
7. Lyrical Suite (Tchaikovsky).
8. Japanese Suite (Joshitomo).
9. Meiodie (Rachmaninoff).
10. Overture in E minor (Schubert).
6.40 p.m.—Talk on "Physical Exercises for Business People."
7.5 p.m.—Spanish Lesson.
7.30 p.m.—Talk on "The Interior Construction of the Earth."
7.55 p.m.—Talk on "The History of Russian Literature."
The following transmissions relayed by Koenigswusterhausen on 1,250 m. (240 kc) and 8 kw.
8.30 p.m.—"Die Nacht von Berlin"—a Play.

-a Play.

10.15 p.m.— News and Weather.

10.30 p.m.— Dance Music.

12.30 a.m. (Sunday, July 17th).

Close Down.

Close Down.

BRESLAU. Schlesische Funkstunde.

WL. 315.8 nn. (950 kc); 4 kw.

4.30 p.m.—Orchestral Concert.
6.0 p.m.—Review of Books.
7.0 p.m.—English Reading by
Douglas Yates, M.A., from "The
Country of the Blind" (Wells).
7.20 p.m.—Elementary English

Country of the Blind" (Wells).

7.20 p.m.—Elementary English
Lesson.

8.0 p.m.—Shorthand Lesson.

8.20 p.m.—Holtei Programme (Recitations and Play).

9.25 p.m.—Concert of Viennese Folk Music. 1. Ernst und Scherz fürs Wiener Heiz—Potpourf (Komzak).

2. Songs: (a) Mein Wien (Blobner), (b) Das Lied vom blauen Paradles (Eysler), (c) Mei Muatterl war a Weanerin (Gruber).

3. Violin Solo—Caprice Viennois (Krelsler).

4. Songs: (a) Das Glück ist ein Vogerl (Kratz), (b) Frühling im Wienerwald (Strecker), (c) Auf an Bankerl in Rodaun (Lasky).

5. O schöner Mai—Waltz (Strauss).

10.30 p.m.—Dance Music.

FRANKFURT. Sidwestdeutscher Rundfunk. W.L. 428.6 m. (700 kc); 4 kw. 12.0 noon.—Chimes from Darmstadt

Castle.
3.30 p.m.—Children's Corner.
4.30 p.m.—Request Programme of Orchestral Music.
5.45 p.m.—Reading from "Der Oberhoi" (Karl Immermann).
6.15 p.m.—"Letter Box."
6.45 p.m.—Talk, "Motor Vehicles and their Taxation."

Transmits at intervals from b. 40 a.m.
4.0 p.m.—Advanced English Lesson.
Relayed from Koenigswusterhausen
(1,250 m.; 240 kc).
4.30 p.m.—Seenes from "La Travlata"—Opera (Verdi).
5.15 p.m.—Orchestral Concert.
6.0 p.m.—Orchestral Music.
7.5 p.m.—Wireless Talk.
7.15 p.m.—Talk, "Travel Impressions of Bulgaria and Jugo-Slavia."
7.55 p.m.—Weather.
8.0 p.m.—Grand Concert. News and
Weather.
12.0 midnight (approx.).—Close
Down.

KOENIGSBERG. Ostmarken Rundfunk. W.L. 329.7 m. (911 kc); 1 kw.

funk. WL. 329.7 m. (911 kc);

1 kw.

Transmits at intervals from 9.0 a.m.

4.0 p.m.—Gardening Talk.

4.30 p.m.—Concert. 1. El Capitan—
March (Sousa). 2. Selection from

"The Czardas Princess" (Kalman).

3. Songs: (a) Song from "Der
llebe Augustin" (Fall); (b) Song
from "The Merry Peasant"

(Fall). 4. Dynamiten-Walzer

(Strauss). 5. Tristesse d'annour

(Tellier). 6. Songs: (a) Song from

"Die Rastelbinder" (Lehar); (b)
Sallor's Song from "The Geisha"

(Jones). 7. Selection from "Das

F ür sten kinde" (Lehár). 8.

"Raggy"—Intermezzo (Tellow).

6.5 p.m.—Market Prices.

6.30 p.m.—Talk, "The Origins of
Tragedy."

7.0 p.m.—Talk on "Week-end
Trips."

7.30 p.m.—Talk, "Comets."

7.0 p.m.—Talk on "Week-end Trips."
7.30 p.m.—Weather.
8.10 p.m.—Weather.
8.10 p.m.—Weather.
8.10 p.m.—Sonata Recital. 1. Sonata in A Minor, Op. 23 (Beethoven).
2. Sonata in F Sharp Minor, Op. 84 (Reger).
9.20 p.m.—Goncert.
9.20 p.m.—Goncert.
9.20 p.m.—Goncert.
9.21 p.m.—Goncert.
9.22 p.m.—Goncert.
9.23 Tango Phantastique (Rust).
9.24 (Reger).
9.25 p.m.—Goncert.
9.26 (Roller).
9.26 p.m.—Goncert.
9.27 p.m.—Goncert.
9.28 p.m.—Goncert.
9.29 p.m.—Goncert.
9.29 p.m.—Goncert.
9.20 p.m.—Goncert.
9.20 p.m.—Goncert.
9.21 p.m.—Goncert.
9.22 p.m.—Goncert.
9.22 p.m.—Goncert.
9.23 p.m.—Goncert.
9.24 (Reger).
9.25 p.m.—Goncert.
9.25 p.m.—Goncert.
9.26 p.m.—Goncert.
9.27 p.m.—Goncert.
9.27 p.m.—Goncert.
9.28 p.m.—Goncert.
9.29 p.m.—Goncert.
9.29 p.m.—Goncert.
9.20 p.m.—Goncert.

LANGENBERG. Westdentscher Rundfunk. W.L. 468.8 m. (640 kc); 25 kw. Transmits at intervals from 10.30 a.m.

Transmits at intervals from 10.30 a.m.
Programme also relayed by Muenster on 241.9 m. (1,240 kc).

15 p.m.—Concert. 1. Overture to "La Dame Blanche" (Boieldieu).

2. Airs from "H Trovatore" (Verdi). 3. Mazartiana Suite (Tchaikovsky). 4. Spring Song (Grieg). 5. Spanish Dances, Nos. I., III. and IV. (Moszkovsky).

6. Andante from the Sixth Symphony (Haydn). 7. German Folk Songs for String Orchestra (Käussmayer). 8. Geschichten ans den Wiener Wald (Strauss). 9. Leichtes Blut-Galopp (Strauss). 10. Radetzky March (Strauss). 10. Radetzky March (Strauss). 10. Radetzky March (Strauss). 2.30 p.m.—Heaith Talk, from Cologne.

4.0 p.m.—World Cycling Championship—Reception of the Competitors outside Cologne Cathedral, and Relay of the Speeches.

5.0 p.m.—Talk, relayed from Koenigs wu ster hausen 1,250 m. (240 kc)—"Officials—their Scrvices to the Public."

5.30 p.m.—Orchestral Concert, from Cologne. 1. "Danne Kobold"—Overture (Reinecke). 2. Sérénade for String Instruments (Klengel). 3. Scènes pittoresques" (Massenet). 4. Slavonic Rhapsody, No. 3 (Dvorák).

6.40 p.m.—Talk, "The Hardening

3. Scènes pittoresques" (Massenet). 4. Slavonic Rhapsody, No. 3 (Dvorák).
6.40 p.m.—Talk, "The Hardening Healthy Life," from Cologne.
7.15 p.m.—English Lesson, from Muenster.
7.40 p.m.—Wireless Talk, from Dusseldorf.

8.5 p.m.—Talk from Cologne, "The German Motor-cycling GrandPrix."

9.0 p.m.—Variety Programme from Dortmund, 283 m. (1,060 kc), followed by News and Dance Music.

1.0 a.m. (Sunday, July 17th—approx.)—Close Down.

LEIPZIG. Mitteldeutscher Rundfunk. W.L. 365.8 m. (820 kc); 4 kw.
Transmits at intervals from 10.5 a.m.

1.15 p.m.—News and Exchange Quotations.

2.50—3.50 p.m.—Programme relayed from Kvenigswusterhausen, 1,250 m. (240 kc).

2.50p.m.—ElementaryFrenchLesson.

3.15 p.m.—Orchestral Concert. 1.
Overture—"Oberto" (Verdi). 2.
Selection from "La Damo Blanche" (Boieldieu). 3. "Kinderspiele"—Suite (Blzet).

4. Aria in the Old Style (Brogi).

5. Songs without Words (Mendelssohn). 6. "Opernball"—Overture (Neuberger). 7. Airs from "Der Schwarzwaldmädel" (Jessel). 8.

Fesche Gelster (Edmund Strauss).

6.0 p.m.—Tethnical Talk.

6.15 p.m.—Talk, "The Right to a Personal Name."

7.30 p.m.—Tethnical Talk.

6.15 p.m.—Talk, "The Right to a Personal Name."

7.30 p.m.—Tethnical Talk.

6.15 p.m.—Programme of Music. 1. "Wiener Humor" (Ernst). 2.

"Das ist mein Wien"—Song (Wagner). 3. Wiener Mädeln—Waltz (Ziehrer). 4. Song (Domanig-Roll). 5. "Las Lerschel von Hernals" (Ascher). 6. "Kindermein Wien" (Engelberger). 7. Wiener Brahrer—March (Ernst). 8. "Auf an Banker! in Rodaun" (Laszky). 9. "Himmelwater"—Song (Schrammel). 10. Selections (Lorens). 11. Radetzy March (Strauss). 12. "Frühling im Wiener Wald" (Strecker). 13. Mondnacht is—Song (Gruber). 14. Ich muss. 15. Deutschmeister March (Jurek).

10.15 p.m.—Cabaret Music.

Mondacht is—Song (orthos). 12. Ich nuss. 15. Deutschmeister March (Jurek). 10. p.m.—News. 115. p.m.—Gabaret Music. 15. p.m.—Gabaret Music. 10. midnight (approx.).— Close Down.

UNICH. Deutsche Stunde in Bayern. WL. 585.7 m. (560 kc); MUNICH.

4 kw.
Transmits at intervals from 11.45 a.m.
6.15 p.m.—Time, Weather and Agricultural News.
6.30 p.m.—Talk, "By Collapsible Boat from Würzburg to Aschaffenburg."

Boat from Würzburg to Aschaffenburg."

7.0 p.m.—Orchestral Concert. 1.
Von Gluck bis Wagner—Potpourri (Schreiner). 2. "Stille der Nacht"
—for Baritone and Orchestra (Boehe). 3. Die Folkunger—Prelude (Kreitschmar). 4. "Ritter Olaf".—Ballad for Baritone and Orchestra (Draesecke). 5. "Herodias".—Selection (Massenet).

8.0 p.m.—Talk, "The Latest from German Towns."

8.20 p.m.—Grhestral Concert. 1.
Wien bleibt Wien (Schrammel).

2. Ein Morgen, ein Mittag, ein Abend in Wien—Overture (Suppé).

3. Wiener Frauen (Strauss). 4. Viennese Folk Music—Potpourri (Konzak). 5. Wiener Schwalben (Fahrbach).

9.5 p.m.—Cabaret Selections.

9.5 p.m.—Cabaret Selections.
10.5 p.m.—Time, Weather and News.
10.20 p.m.—Dance Music.
12.0 midnight (approx.).—Close
Down.

HOLLAND

HOLLAND

HILVERSUM. Algemeene Nederlandsche Radio Omroep.
1.067 m. (281 kc.); 5 kw.
11.40 a.m.—Police News.
12.15 p.m.—Lunch-time Concert.
3.40 p.m.—Dance Music relayed from the Knrhaus, Scheveningen.
5.40 p.m.—Concert.
1. "The entry of the Gladiators"—March (Fucik). 2. Was blumen träumen (Translateur).
3. Selected Songs by the Male Voice Quartet.
4. Jean de Paris—Overture (Boichdieu).
5. Selection from "William Tell" (Rossin).
6. Esmeralda (Maravilla).
7. Selected Songs by the Male Voice Quartet.
8. Selection (Morena).
9. Foxtrot.
10, Finale.
7.25 p.m.—Police News.

Finale.
7.25 p.m.—Police News.
7.50 p.m.—Concert. Talk in the
Interval.
10.10 p.m.—Weather and News.
10.20 p.m.—Concert relayed from
the Royal Cinenta, Amsterdam.
11.40 p.m. (approx.).—Close Down.

(Continued on page 45.)

PROGRAMMES FOR SATURDAY—(Cont.)

HUNGARY

11.0 a.m.—Gramophone Records. 12.0 noon.—News.

8.30 p.m.—Time, News and Sports

MILAN.

--- Concerto in G Major

NAPLES. Unione Radiological lana (1NA). WL. 333.3 m. (900 kc); 1.5 kw.
Transmits at intervals from 1.0 p.m.
5.5 p.m.—Literary Talk.
5.8 p.m.—Market Prices.
5.10 p.m.—Variety Music.
8.55 p.m.—News.
9.0 p.m.—Relay from the Eldorado Theatre, Concert of Italian Music.
9.30 p.m.—In the Interval; Thue.
11.0 p.m. (approx.).—Close Down.

ROME. Unione Radiofonica Italiana (1RO). W.L.450 m. (667 ke); 3 kw.
Transmits at intervals from 1.0 p.m.

Café.
7.0 p.m.—Variety Items.
7.15 p.m.—Topical Talk.

10.50 p.m.—Press and Sports News. 11.0 p.m.—Light Orchestral Music: 1. "Danza esotica" (Mascagni). 2. "Por una mujer"—Spanish

1. "Danza esotica" (Mascagni).
2. "Por una mujer"—Spanish
Song (Lambert). 3. Arlecchinata
(Montanari). 4. Il Butterc—
Roman Song (Barbieri). 5.
Czardas from "Topsy" (Billi).
11.30 p.m.—Close Down.

NAPLES. Unione Radiofonica Italiana (1 NA). W.L. 333.3 m. (900 ko); 1.5 kw. 1.0 p.m.—News. 5.0 p.m.—Children's Corner. 8.55 p.m.—Lesson in Wireless Technical Corner.

que.

3.0 p.m.—Relay of the Municipal Concert.

10.0 p.m.—Concert. 1. Selection from "Norma" (Bellini). 2. "Thanks unto thee angelic voice"—Mezzo Soprano song from "La Gioconda" (Ponchieli). 3. Duet from "La Favorita" (Donizetti). 4. Christopher Columbus"—Selection (Franchetti). 5. "One fine day," from "Madame Butterfly" (Puccini). 6. Duet from "Faust" (Gound). 7. "Sicilian Vespers" (Verdi).

9.30 p.m.—Time.

9.30 p.m.—Time. 10.0 p.m.—Sports Notes. 10.55 p.m.—Calendar. 21.0 p.m.—Closing Down Signal.

8.20 p.m.—News.
8.35 p.m.—History Talk—in English.
9.0 p.m.—Time, News and Weather.
9.10 p.m.—Relay from a Rome
Theatre. In the Interval: Talk.

JUGO-SLAVIA

ZAGREB. Radio-Klub Zagreb. WL. 310 m. (967 kc.); 0.35 kw. 8.15 p.m.—Talk: "Croatian for the Croats."

8.30 p.m.—Chamber Music.
8.45 p.m.—News.
10.0 p.m.—Dance Music from the
Pik Palais de Dance.

LITHUANIA

KOVNO. Radio-Kaunas. WL. 2,000 m. (150 kc); 7 kw. 6.30 p.m.—Orchestral Concert. 7.30 p.m.—Time, Weather and News. 8.0 p.m.—Political Notes.

NORWAY

BERGEN. Kingkastingselskap. W.L. 370.4 m. (810 kc); 1 kw. Transmits at Intervals from 11.15p.m. 7.55 p.m.—Fishing News. 8.0 p.m.—Orchestral Selections 9.0 p.m.—Talk. "Round Jutland by Railway and Steamer." 10.0 p.m.—Weather, News and Time. 10.15 p.m.—Dance Music.

OSLO. Kringkastingselskapet. W.L.
461.5 m. (650 kc); 1.5 kw.
Programme also relayed by Porsgrund, 504 m. (695 kc), Hamar, 566 m. (530 kc), Fredriksstad, 434.8 m. (690 kc), Rjukan, 476 m. (630 kc) and Notodden, 423 m. (709 kc).
8.2 p.m.—Concert.
9.0 p.m.—Talk.
9.30 p.m.—Variety Items.
10.15 p.m.—Dance Music. OSLO. Kringkastingselskapet. WL.

POLAND

OSEN. Radio-Poznan. WL. 270.3 m. (1,100 kc); 1.5 kw. 0 p.m.—Stock Exchange Quota-.30 p.m.—Concert relayed from Café.

7.40 p.m.—Economics Talk.
8.0 p.m.—Talk, "The Relations
between Poland and Prussia after
the Victory of Grunwald-Tannenherg."

berg."
8.30 p.m.—Concert of Light Music and Songs.
10.0 p.m.—Sports Notes.
10.20 p.m.—Dance Music.
12.0 midnight (approx.). — Close

SPAIN

BARCELONA. Radio Barcelona (EAJ1), WL, 344.8 m. (870 kc) 2 kw.

2 kw;
12.0 (noon)—Chimes and Weather;
5.30 p.m.—Quintet Music. 1, "Petite
Suite" (Ducase Branga), 2.
Minuet (Haydn); 3. Invano—
Serenade (Amadei);
6.15 p.m.—"Salve Regina," Relayed

6.15 p.m.—"Salve Regina," Relayed from "La Basilica de la Merced." 6.25 p.m.—"Alte Semester" (Lind-sag-Theiner) by the Station Quin-

9.0 p.m.—Talk, "Flies, the Enemies

p.m.—Iaux,
thidren."
p.m.—Dance Music by the
p.m.—Dance Music by the
Demons Jazz Orchestra."
Alma Gitana"—pasodoble
Canonge): 2. "Golden Gate"—
"Just a "Al ma Gitana"— pasodoble (Canonse): 2. "Golden Gate"— Shimmy (Williams). 3. "Just a little Drink"—Fox-trot (Gay) 4. Cānco d'Antena"—Tango (Vilar). 5. Demons Charleston (Demon): 6. "Loha Loba" (Donaldson):

(Donaldson):
10.0 p.m.—Chimes and Weather:
10.5 p.m.—Programme relayed from
Union Radio, Madrid (EAJ7), 375
m. (800 kc).

GADIZ. Union Radio (EAJ3). WL.
400 m. (872 ke); 0.55 kw.
7.5 p.m.—Selection from "The Geisha" (Jones).
7.14 p.m.—Pianoforte Solo from "The Blue Bird" (Millon).
7.20 p.m.—Arias by Srta. Maria Marquina. In the Intervals—Light Pianoforte Music.
7.50 p.m.—News.

7.50 p.m.—News.
8.2 p.m.—Concert by the Station

Orchestra.

9.0 p.m.—Close Down.

12.0 (midnight)—Experimental Trans-

BARCELONA. Radio-Barcelona (EAJ1). W.L. 344.8 m. (870 kc); 2 kw.

12.0 noon.—Chimes and Weather. 9.0 p.m.—Market Prices and Sports Notes.

(Millan). 3. Los Diamantes de la Corona.—Romance (Barbieri).
3.0 p.m..—Music by the Station Quintet. 1. "Bartola".—Schottische (Coma). 2. "El bon cacador" (Marraco). 3. Salut d'amour (Elgar). 4. "Entre flores".— Andalusian flores" — (Pacheco).

(Pacheco).

10.20 p.m.—Soprano Songs, by
Rosina Tasso. 1. "Mis flores
negras" (Agostino). 2. Corazones
partidas (Salinas). 3. Decime
pa que viniste (Freyre). 4. "De
bon matii" (Morera).
10.50 p.m.—Music by the Station.
11.0 p.m. (approx.).—Close Down.

schaft. WL. 1,100 m. (273 kc); 0.25 kw.
8.30 p.m.—10.5 p.m.—Programme relayed from Bern 411 m.; (730 kc). Radio-Bern, WL, 411 m

SWITZERLAND

Basler Radio Genossen-WL. 1,100 m. (273 ke);

Down.

BASLE.

MADRID. Union Radio (EAJ7).

WL. 375 nt. (800 kc); 3 kw.

Transmits at Intervals from 11.45a.m.
2.0 p.m.—Vocal and Instrumental

Concert
3.0 p.m. (approx.).—Theatre Notes,
Weather, News and Literary Notes.
7.0 p.m.—Orchestral Concert.
10.0 p.m.—Time and Exchange Quo-

News. 12.30 a.m. (approx.).—Close Down.

SWEDEN

O p.m.— Concert

BERN. Radio-Bern. WL. 411 m. (730 kc); 1.5 kw.
1.0 p.m.—Time, Weather, Exchange and Gramophone Selections.

SWEDEN

SWEDEN

STOCKHOLM. Radiotianst (SASA).

W.L. 454.5 m. (600 kc); 1.5 kw.

Programme also relayed by Motala,
1,320 m. (227 kc); Goteborg,
416.7 m. (720 kc); and Malmo,
260.9 m. (1,150 kc).

11.0 a.m.—Dlvine Service relayed
from the "Bethet" Chapel.
12.45 p.m.—Weather.
12.45 p.m.—Weather.
120 p.m.—Changing of the Guard
at the Royal Castle, and Military
Concert. 1. Eugen Onegin—Selection (Tschaikovsky). 2. Barbitonla.—Intermezzo (Rhode). 3.
Marches.

Hall.
6.0 p.m.—Evensong, relayed from the
"Gustav Vasa" Church.
7.15 p.m.—Talk in German by Christa Rissel-Lessenthin.
7.45 p.m.—Reading from "The Odys-

7.45 p.m.—Reading from "The Odyssey."
8.0 p.m.—Time.
8.15 p.m.—Military Concert, relayed
from Boden, 1,200 m. (250 ke). 1.
Parade March (Friedeman). 2.
Orpheus In the Underworld—
Overture (Offenbach). 3. Romantique—Waltz (Heinecke). 4.
Cavalleria Rusticana—Selection
(Mascagni). 5. Sommursång (Peterson-Berger). 6. Gotlandim Rhapsody (Wesslen). 7. Det ar dot som
gor susen—Foxtrot (Ballard). 8.
March (Gustafsson).
9.45 p.m.—Revue Selections relayed
from Karlstad, 221 m. (1,357 ke).
Artistes: Gudrund Widestedt,
Emma Rommel, Greta Smedherg,
Inga Helleberg, Koppar-Lisa, Karl
Kinch, Ragnar Eidestedt, Eila
Leunder, Bjorn Schildknecht, and
H. Sjevall.

3.56 p.m.—International Time Signal of the New hat I Observatory, 4.0 p.m.—The Karsaal Orchestra. 4.30 p.m.—Julieren's Corner. 5.0 [.m.—The KursaalOrchestra.

5.0 f.m.—The KursaalOrchestra.
8.0 f.m.—Time and Weather.
8.30 f.m.—Concert of Popular Songs and Dances.
9.20 p.m.—The Kursaal Orchestra.
9.50 p.m.—News and Weather.
10.5 p.m.—Dance Music.
11.30 p.m. (approx.)—Close Down. tations.

10.5 p.m.—Selection from "Maruxa" (Vives), by the Station Orchestra and Chorus.

12.20 a.m. (Sunday, July 17th).—

GENEVA. Radio-Geneva. W L. 760 m. (395 kc); 0.5 kw. 8.30 p.m.—Exchange, Time and Wea-

ther.
8.32 p.m.—Talk. "A Nationalist's Impressions of the United States."
9.0 p.m.—"Les Violettes blanches"
—One-Act Comedy (Besancon). SWEDEN

STOCKHOLM. Radiotjänst (SASA).

WL 454.5 m. (660 kc); 1.5 kw.
Programme also relayed by Motala,
1,320 m. (227 kc), Goteborg,
416.7 n. (720 kc), and Malmo,
260.9 m. (1,150 kc).
Transmits at intervals from 12.35 p.m
6.50 p.m.—Children's Corner.
7.0 p.m.—Weekly Sports Notes.
7.30 p.m.—Concert. 1. Swedish
Dances (Aulin). 2. Slavonic
Dances (Grieg). 4. Three Hungarian Dances (Brahns). 5. Alt
Wien (Godowsky). 6. Japanese
Wedding Dance (Yoshitomo). 7.
Spanish Dance (Moussorgsky). 9.
Russian Dance (Moussorgsky). 9.
Argentine Tango (Albeniz). 10.
Hello America—Dances (Finck).
8.50 p.m.—Cabaret Music. Relayed
from Karlstad.
9.30 p.m.—Weather.
9.40 p.m.—Balalaika Music. Relayed
from Gothenburg.
10.0 p.m.—Deotry Reading.
10.15 p.m.—Poetry Reading.
10.15 p.m.—Poetry Reading.
10.10 p.m.—Dance Music.
12.0 midnight (approx.).—Close

One Act Colleges
9.30 p.m.—News.
9.40 p.m.—Dance Music from the
Kursaal.
10.45 p.m. (approx.).—Close Down.

U.S.A.

PITTSBURGH. Westinghouse Electric (KDKA). W.L. 309 m. (970 kc); 25 kw.
Transmits at intervals from 4.0 p.m.

Transmits at intervals from 4.0 p.m. Programme relayed on 64 m. (4,687 kc) from 11.0 p.m.

11.0 p.m.—Baseball Scores.

11.10 p.m.—Baseball Scores and Weekly Meeting of the Pittsburgh Post Home Radio Club.

12.20 a.m. (Sunday, July 17th).—Report of Road Conditions.

12.30 a.m.—Concert.

4.0 a.m.—Weather and News.

- 17

SCHENECTADY, N.Y. General Electric Company (WGY). WL. 379.5 m. (790 kc); 60 kw. Transmits at Intervals from 11.45 a.m Relayed by 2XAF on 32.77 m. (9.155 kc), from 12.25 a.m. (Sunday, July 17th).

12.25 a.m. (July 17th).—Baseball Scores

12.25 a.m. (July 17th).—Baseball Scores.
12.30 a.m.—Concert from the Hotel Onondaga, Syracuse, N.Y.
1.30 a.m.—Concert from WHAM, Rochester, N.Y.
2.30 a.m.—The Goldman Band, from New York.
3.15 a.m.—Dance Music, from New York.
40 a.m.—Dance Music.

4.0 a.m.—Dance Music. 5.0 a.m. (approx.).—Close Down.

3.30 p.m.—Orchestral Music from the Bern Kursaal.
8.0 p.m.—Time and Weather.
8.5 p.m.—Talk: "César Franck."
5.30 p.m.—First Organ Recital of the "César Franck" Cycle.
9.20 p.m.—Orchestral Music from the Kursaal: News in the Interval.
10.30 p.m. (approx.).—Close Down.

LAUSANNE. Société Romande de Radiophonie. W.L. 850 m. (353

Radiophonie. WL. 850 m. (353 kc); 0.6 kw.
8.30 p.m.—Religious Address.
9.10 p.m.—Concert relayed from the Esplanade de Montbenon, followed by Sports News.

ZURICH. Radio-Genossenschaft.

WL. 496 m. (605 kc); 1 kw.

11.0 a.m.—Orchestral Music.
1.0 p.m.—Weather.
1.5 p.m.—Concert by the Kappeli Orchestra.
4.0 p.m.—The Station Orchestra.
5.20 p.m.—Religious Address.
7.58 p.m.—Weather and Time.
8.30 p.m.—String Quartet.
8.30 p.m.—Talk.
9.0 p.m.—Concert by the "Carmen" Mandoline Orchestra.
9.40 p.m.—Popular Orchestral Music.
10.10 p.m.—News and Weather.
10.20 p.m. (approx.)—Close Down.

U.S.A.

U.S.A.

PITTSBURGH. Westinghouse Electric (KDKA). W.L. 309 m.
(970 kc): 25 kw.
4.0 p.m.—Church Service.
11.30 p.m.—Baseball Scores.
12.30 a.m. (Monday, July 11th).—Baseball Scores.
10. a.m.—Municipal Band Concert.
Relayed from Schenely Park,
Pittsburgh.
1.30 a.m.—Concert by the New
York Philharmonic Orchestra from
Lewisohn Stadium, WJZ, New
York.

ROME. Unione Radiofonica Italiana (1 RO). WL. 450 m. (667 m.); 1.5 kw.
10.30 a.m.—Concert of Sacred Music.
5.30 p.m.—Concert. Relayed from "La Casina delle Rosa."
9.0 p.m.—Time, Forestry Notes and Sports News.

BUDAPEST. Magyar Radio Ujsag. WL. 555.6 m. (540 kc); 3 kw. Transmits at intervals from 9.30 a.m.

12.0 noon,—rews. 1.0 p.m.—Weather. 3.0 p.m.—News. 5.0 p.m.—Weather. 5.30 p.m.—Light Orchestral Selec-

Notes.
9.0 p.m.—Symphony Concert.
10.15 p.m.—Gipsy Music. Relayed from the Café Emke.
12.0 midnight (approx.).—Close

ITALY

ILAN. Unione Radiofonica Italiana (1MI). W.L. 322.6 m. (930 kc);

1.5 kw.

12.15 p.m.—News.
4.15 p.m.—Programme from the Café Biffi.
5.20 p.m.—Children's Corner.
5.45 p.m.—Agricultural Report and News.

News. 8.30 p.m.—Opening Signal. 8.45 p.m.—Time. 8.47 p.m.—Lesson in Wireless Tech-

9.0° p.m.—Concerto in G Major (Beethoven). 9.30 p.m.—"i Dispettosi Amanti" (Parelli), followed by News. 10.30 p.m.—Light Orchestral Music. 11.0 p.m.—Dance Music. Relayed from "La Fiaschetteria Toscana." 11.30 p.m. (approx.).—Close Down.

NAPLES. Unione Radiofonica Ital-

PROGRAMMES FOR SUNDAY

(Continued from page 38.)

Pianoforte Solos: (a) Slancio (Schumann). (b) Rondoldes Lutins (Liszt). 5. "If you Love Me"—Soprano Song (Pergolesi). 6. Suite (Siède). 7. Tenor Song from "Luisa Miller" (Verdi). 8. "O My Daughter"—from "The Prephet" (Meyerbeer). 9. "Moorish Fantasy"—Planoforte Solo (Moskovsky). 10. Dance of the Clowns (Rimsky-Korsakoff) 11. Duet from "Cavalleria Rusticana."

0.50 p.m.—Press and Sports News. "Prince Igor" (Borodin).
Talk. 5. "Magia" (Pietro).
11.25 p.m.—News.

JUGO-SLAVIA ZAGREB. Radio-Klub Zagreb. W.L. 310 m. (967 ke); 0.35 kw. 5.0 p.m.—Orchestral Music from the Café Corso.
8.30 p.m.—Concert by the Rosbroj

Quartet.
9.45 p.m.—News.
10.10 p.m.—Concert from the Raats keller.

LITHUANIA

KOVNO. Radio-Kaunas. WL.
2,000 m. (150 kc); 7 kw.
3.0 p.m.—Talk. "Dairy Farming."
4.0 p.m.—Agricultural Notes.
5.0 p.m.—Talk and Concert.
6.0 p.m.—Time and Weather.
6.10 p.m.—Political Talk.
6.30 p.m.—Gramophone Records of Dance Music.

NORWAY BERGEN. Kringkastingselskap.

WL. 370.4 m. (810 kc); 1 kw.
10.30 a.m.—Divine Service.
12.30 p.m.—Weather.
7.55 p.m.—Fishing News.
8.0 p.m.—Orchestral Selections.
9.5 p.m.—Sonata for 'Cello and Plano in A minor' (Grieg).
9.25 p.m.—Talk on "Kina."
10.0 p.m.—Weather. News and Time.
10.15 p.m.—Dance Music.

OSLO. Kringkastingselskapet. WL.
461.5 m. (650 kc); 1.5 kw.
Programme also relayed by Porsgrund, 504 m. (595 kc), Hamar,
566 m. (530 kc), Frederikstad,
434.8 m. (690 kc), Rjukan, 476 m.
(630 kc), and Notodden, 423 m.
(709 kc).

(709 KC).

1.30 a.m.—Chimes and Divine
Service. Relayed from Our
Saviour's Church, Oslo.

0 p.m.—Evensong, from Our
Saviour's Church.

15 p.m.—Recitations and Prose a.m.—Chimes

"La Casna delle Rosa."

9.0 p.m.—Time, Forestry Notes and Sports News.

9.10 p.m.—Opera Music. 1. "Rienzi"

Overture (Wagner). 2. Concerto (Vieuxtemps). 3. Dances from

Frederiksstad. Talk on "The Old Town of Frederiksstad," followed by Vocal Recital. 10.0 p.m.—News and Weather. 10.15 p.m.—Dance Music. Relayed from the Hotel Bristol. 12.0 midnight.—Close Down.

SPAIN

Notes.

20 p.m.—Music by the Station
Quintet. 1. Nachtelang Hab'
ich.—Foxtrot (Stransky). 2.
Valse (rotique (Sauncho Marraco).

30 p.m.—Tenor Songs, by José
Farras. 1. "La Bruja" (Chapi).

2. "La Dogaresa"—Romance
(Millan). 3. Los Diamantes de

11.0 p.m. (approx.).—Close Down.

GADIZ. Union Radio (EAJ 3). WL.
344 m. (872 kc). 0.55 kw.
7.5 p.m.—Organ Solo, from "La
Gloconda" (Ponchielli).
7.15 p.m.—Recital of Russian Songs.
7.32 p.m.—Humorous Recital.
7.45 p.m.—"La Boda de Luis
Alonzo"—Planoforte Solo
(Jimenez).
7.50 p.m.—Tener Songs. 1, "Te
quiero." 2, "Mi Vieja."
8.0 p.m.—Time.
8.2 p.m.—Orchestral Music.
9.0 p.m. (approx.)—Close Down.

MADRID. Union Radio (EAJ7)
WL. 375 m. (800 kc); 3 kw.
2.0 p.m.—Orchestral and Vocal Concert.

cert.
7.0 p.m.—Children's Corner.
7.30 p.m.—Orchestral Concert.
10.0 p.m.—Time.
10.2 p.m. (approx.).—Concert by the Municipal Band.

Marches.
5.0 p.m.—Children's Corner.
Short Play by Walter Stenstrom, acted by Children.
5.55 p.m.—Chilnes from the Town Hall.

SWITZERLAND

BASLE. Basler Radio Genossen-schaft. W.L. 1,100 m. (273 kc); 0.25 kw. 8.30 p.m.—10.5 p.m.—Programmc relayed from Bern (411 m.; 730 kc);

BERN. Radio-Bern. WL. 411m.
(730 kc.); 1.5 kw.
10.30 a.m.—'Cello and Pianoforte Recital.
1.0 p.m.—Time and Weather.
1.5 p.m.—Orchestral Concert from the Hotel Bellevue-Palace.
2.30 p.m.—Talk in Thurgauer Dialect

July 11th).—Capita Theorem (July 11th).—Capita Theorem (Porgramme, From New York.
2.15 a.m.—Time,
2.20 a.m.—Atwater Kent Programm People.
3.0 a.m. (approx.).—Close Down.

SCHENECTADY, N.Y. General Electric Company (WGY). WL.
379.5 m. (790 kc); 60 kw
Relayed by 2XAD on 22.2 m. (13,623 kc) from 12.20 a.m. (Monday, July 11th).
12.20 a.m. (July 11th).—Capitol Theatre Programme, from New York.
2.15 a.m.—Time.
2.20 a.m.—Atwater Kent Programme
2.45 a.m.—Talks by Well-known People.

STATIONS IN ORDER OF WAVELENCTHS AND KILOCYCLES

SIAIIUNS IN U	kuek uf wavelenging a	ND KILUCYCLES.
M. Kc. EUROPEAN.	M. Kc. 344 872—Cadiz (Spain), EAJ3, 0.55 kw. Experimental	M. Kc. 491.5 610—New York (National Broadcasting Co.)
4000 75 Berlin (Koenigswusterhausen) AFP, 8 kw.	Concert. 340.9 880—Paris (Petit Parisien), 0.5 kw.	483.8 620—Davenport (WOC), 5 kw.
 2650 113—Paris (Eiffel Tower), FL, 5 kw. 2525 119—Berlin (Wolff's Bureau). Intermittent Newsduring the day, 	337 890—Copenhagen 0.7 kw. 333.3 900—Naples (1NA), 1.5 kw.	489 639—Washington (WCAP), 1.5 kw. 487 642—Los Angeles (KFI), 5 kw.
2000 150—Kovno (Lithuania), 7 kw. 1950 154—Scheveningen Haven (Holland), 2.5 kw.	333.3 900—Reykjavik (Iceland), 0.5 kw. 329.7 910—Koenigsberg (Germany), 1 kw. Dally— 8.10 p.m., Concert.	461.3 650—Pittsburgh (WCAE), 1.5 kw. 461 650—Shenandosh, Iowa (KFNF). 454.3 660—Boundbrook (National Broadcasting Co.)
1870 160—Kosice (Czecho-Slovakia), 5 kw. Daily—7.30—	326.1 920—Birmingham 51T, 1.5 kw.	W.JZ. 40 kw.
1780 168-Norddeich (Germany). WEEKDAYS-1 a.m., Weather Report.	325 923—Malaga (Spain) EAJ25, 1 kw. 325 923—Saragossa (Spain) EAJ23. 322.6 930—Milan (IMI), 1.5 kw.	430.1 697—Boston, Mass. (WNAC), 0.5 kw, 428.3 700—Atlanta (WSB), 5 kw.
1760 170—Paris (Radio-Paris), CFR, 3 kw. 1604.3 187—Daventry (5XX), 25 kw.	322 931—Paris (Radio Vitus), 1 kw. WEDNESDAYS, 1	428.3 700—Atlanta (WSB), 5 kw. 428.3 700—San Francisco (KPO), 1 kw. 422.3 710—Cincinnatti (WLW), 5 kw.
1450 207—Moscow (Old Komintern), RAI, 20 kw. DAILY—	FRIDAYS, and SUNDAYS. From 9-10.45 p.m.,	416.4 720—Minneapolis (WCCO), 5 kw. 416.4 720—Staten Island, N.Y. (WBBR), 0.5 kw.
1400 214—Nijnl Novgorod (Russia), 1.2 kw. 1320 227—Motala, 30 kw.	319.1 940—Dublin 2RN, 1.5 kw. 318 943—Lahtis (Finland).	405 740—New York (WJY), 0.75 kw. 389.4 770—Cleveland (WTAM), 1.5 kw. 384.4 780—New York (WLWL), 1 kw.
1250 240—Berlin (Koenigswusterhausen), AFT, 8 kw. Relays Voxhaus.	315.8 950—Breslau (Germany), 4 kw. 312.5 960—Newcastle (5NO), 1.5 kw.	416.4 720—Kinneapolis (WCCO), 5 kw. 416.4 720—Staten Island, N.Y. (WBBR), 0.5 kw. 405 740—New York (WJY), 0.75 kw. 389.4 770—Cleveland (WTAM), 1.5 kw. 389.4 780—New York (WLWL), 1 kw. 379.5 790—Troy (WHAX), 1.5 kw. 379.5 790—Goberctady (General Electric Co.) WGY,
1200 250—Stamboul (Turkey) 10 kw. (Testing). 1200 250—Boden (Sweden), SASE, 1.5 kw. Relays Stockholm	319.1 940—Dublin 2RN, 1.5 kw. 318 943—Lahtis (Finland). 315.8 950—Breslau (Germany), 4 kw. 312.5 960—Nowcastle (SNO), 1.5 kw. 311 967—Björneborg (Finland). Relays Helsingfors. 310 967—Zagreb (Jugo-Slavia). 0.35 kw. Dally 7.0 p.m.	
1200 250—Luxembourg, 0.25 kw. 1153.8 260—Sorö (Denmark), 1.5 kw. Relays Copenhagen.	306 980—Madrid (Radio-Madrileña) EAJ12, 2 kw.	370.2 810—Chicago (WGN), 1 kw. 361.2 830—Oakkands (KGO), 5 kw. 352.7 850—Detroit (WWJ), 1.5 kw. 348.6 860—Washington (KWSC), 0.5 kw.
1150 261—Ryvang (Denmark), 0.5 kw. 1117 268—Novosibersk (Russia). RA, 33.10 kw. 6 p.m.	303 990—Nuremberg (Germany), 4 kw. Relays Munich. 300 1000—Marseilles PTT, 0.5 kw. WEEKDAYS—9.0 p.m.,	348.6 860—Washington (KWSC), 0.5 kw. 345.870—Chicago (WLS), 0.5 kw.
1111.1 270—Warsaw (Poland), 10 kw. 1110 270—Kbely (Czecho-Slovakia), 1 kw. Transmits Dally	297 1010—Liverpool (6LV), 0.2 kw. 297 1010—Hanover (Germany), 0.7 kw. Relays Hamburg.	345 870—Chicago (WLS), 0.5 kw. 344.6 870—Zion, Ill. (WCBD), 5 kw. 340.7 881—New York (WMCA), 0.5 kw. 337 890—Northfield (Carleton College) KFMX. 333.1 900—Springfield (WBZ), 7.5 kw. 329.5 911—Chicago (WJAZ), 10 kw.
-7.0-8.30 p.m., 1100 273—Basle (Switzerland), 0.25 kw. DAILY—9.50 p.m.	297 1010—Varborg, Relays Stockholm.	337 890—Northfield (Carleton College) KFMX. 333.1 900—Springfield (WBZ), 7.5 kw.
News. 1100 273-De Bilt (Holland). WEEKDAYS-9.15 p.m.,	297 1010—San Sebastian (Spain), EAJS, 2kw. DAILY— 2.30 p.m. and 10.0 p.m., Concert. 297 1010—Jyväskylä (Finland), 0.2 kw. Belays Helsing-	329.5 911—Chicago (WJAZ), 10 kw. 322.4 930—Denver (KOA).
Weather.	fors. 297 1010—Agen (France), 0.25 kw. Tues. and Fri.—	316 949—Michigan (Radio Lighthouse) WEMC, 0.55 kw.
1067 281—Hilversun (Holiand) (ANRO), 5 kw. 1000 300—Leningrad (Bussia), 10 kw. WEEKDAYS—6.0 p.m., Lecture; 7.0 p.m., News; 7.30 p.m., Concert or Opera. SUNDAY—6.0 p.m., Lecture; 7.0 p.m., News; 7.30 p.m., Concert. 877 342—Tiffis (Russia), 4 kw. 850 332—Lausagne (Switzerland), HB2 0.6 kw. DAILY—	9.30 p.m., Concert. 294.1 1020—Hull (6KH), 0.2 kw.	309 970—Pittsburgh East (Westinghouse Electric) KDKA, 25 kw. 299.8 1000—Atlantic City (WPG), 7.5 kw.
or Opera. SUNDAY - 6.0 p.m., Lecture; 7.0 p.m., News; 7.30 p.m., Concert.	294.1 1020—Dundee (2DE), 0.2 kw. 294.1 1020—Stoke (England), 6ST, 0.2 kw.	299.8 1000—Atlantic City (WPG), 7.5 kw, 288.3 1040—Hastings, Nebraska (KFKX), 2 kw.
The state of the s	294.1 1020—Swansea (58X), 0.2 kw. 294.1 1020—Uddevalla (Sweden). Relays Stockholm.	288.3 1040—Hastings, Nebraska (KFKX), 2 kw. 280.2 1070—Boston, Mass (WMAB), 0.5 kw. 278 1078—Kansas City (WOQ), 1 kw. 270 1111—Detroit (WGHP).
90 n m Concerto Talk	293 1024—Innsbruck (Austria), 0.5 kw. Relays Vienna	225 1327—Unicago (WBBM), 1.5 KW.
820 366—Rostov/Don (Russia), 8 kw. 4.10 p.m. 800 375—Tashkent, RA, 27, 4 kw. 2—5 p.m. 760 395—Geneva (Radio-Geneva), 0.5 kw. WEERDAYS—	291.3 1030—Lyons (Radio-Lyon), 1.5 kw. WEEKDAYS— 7.15 p.m., News. WEEKDAYS (except Mon.), 7.45 p.m., Concert.	64 4687—Pittsburgh East (Westinghouse Electric) (KDKA).
720 416—Ostersund (Sweden), 1 kw. Relays Stockholm.	288.5 1040—Edinburgh (2EH), 0.2 kw.	32.77 9155—Schenectady (General Electric Co.) 2XAF. TUES, and THURS, at 11 p.m., SATS, at 11.30
577 520—Freiburg (Germany). 577 520—Yienna (Stubenring), 1.5 kw.	287 1045 Grenoble, 0.5 kw. 285.7 1050—Tallim (Reval), Esthonla, 2.2 kw. 285 1053—Lille, 0.5 kw. PTT.	p.m. 22.02 13,623—Every Tuesday 10 p.m. to 10.40 Schenectady
566 530—Berlin (Magdeburger Platz), 2 kw. 566 530—Bloemendaal (Holland), 0.04 kw. SUNDAYS—	Muenster. (Germany), 1.5 kw. Relays	(General Electric Co.), 2XAD. Transmits the evening programme of WGY on SUNDAY,
10.40 a.m. and 5.40 p.m., Church Service. 566 530—St. Michel (Finland).	279 1075—Cartagena (Spain), EAJ16, 1 kw. DAILY—8.30 p.m.—Concert. 277.8 1080—Leeds (2LS), 0.2 kw.	MONDAY, WEDNESDAY and FRIDAY of each week.
566 530—Hamar (Norway), 0.7 kw. 555.6 540—Budapest (Hungary), 3 kw.	1 277.8 1080—Trollhattan (Sweden), SMAQ m., 0.12 kw.	14 21,429—Pittsburgh East (Westinghouse Electric) (KDKA). Not a regular service,
545.6 550—Sundsvall (Sweden), SASD, 0.5 kw. 535.7 560—Munich (Germany), 4 kw. SUNDAY—11.30 a.m., Concert.	275.2 1090—Dresden (Germany), 0.7 kw. Relays Leipzig. 275.2 1090—Jacobstad (Finland).	CANADA.
526.5 570—Riga (Latvia), 2 kw. DAILY—11.35—12 a.m., and 6—9.30 p.m., Concert, News, Weather.	275.2 1090—Nottingham (England), 5NG, 0.2 kw. 275.2 1090—Norrköping (Sweden), SMVV, 0.25 kw.	516.9 580—Edmonton (CNRE), 0.5 kw.
517.2 580—Vienna (Rosenhügel), 5 kw. 508.5 590—Brussels, 1.5 kw.	275.2 1090—Norrköping (Sweden), SMVV, 0.25 kw. 275.2 1090—Angers (France) (Radio-Anjou), 0.5 kw. 272.7 1100—Sheffield (6FL), 0.2 kw.	434.8 690—Calgary (CNRC), 0.5 kw. 434.5 690—Toronto (Canada) CNRT, 0.5 kw.
504 595—Porsgrund (Norway), 0.7 kw. 500 600—Tromsö (Norway).	272.7 1100—Danzig, 0.75 kw. DAILY.—11.0 a.m., Weather 11.30 a.m., Goncert. 2.15 p.m., Exchange Quotations. 4.0 p.m., Relays Koenigsberg. 272.7 1100—Klagenfurt (Austria). 272.7 1100—Cassel (Germany), 0.7 kw. Relays Frankfurt. 270.3 1110—Posen (Poland), 1.5 kw. 263.2 1110—Pasen (Foland), 1.5 kw.	434.4 690—Toronto (Canada) CNRT, 0.5 kw ₄ 434.4 690—Ottawa (Canada) CNRO, 0.5 kw ₅ 411 730—Montreal (CKAC), 1.5 kw. 333.4 782—Winnipeg (CKY), 0.5 kw. 335.4 782—Winnipeg (CNR W), 0.5 kw. 3557 840—Toronto (Canada), CFCA, 0.5 kw. 329.5 911—Saskatoon (CNRS), 0.5 kw. 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.
500 600—Aberdeen (2BD), 1.5 kw. 600 - Uppsala (Sweden), 0.25 kw. Relays Stockholm.	272.7 1100—Klagenfurt (Austria). 272.7 1100—Kassel (Germany), 0.7 kw. Relays Frankfurt,	383.4 782—Winnipeg (CKY), 0.5 kw. 383.4 782—Winnipeg (CNRW), 0.5 kw.
500 600—Linköping (Sweden), 0.25 kw. Relays Stockholm. 496 605—Zurich (Switzerland), 1 kw.	270.3 1110—Casset (Germany), 1.5 kw. Relays Flankitt. 263.2 1140—Bratislava (Czecho Słovakia), 0.5 kw.	357 840—Toronto (Canada), CFCA, 0.5 kW 356.9 840—Toronto (CKCL), 0.5 kW
491.8 610—Bournemouth (6BM), 1.5 kw.	260.9 1150 Malmö (Sweden), SASC, 0.5 kw. SUNDAYS— 12.0 a.m., Divine Service.	329.5 911—Saskatoon (CNRS), 0.5 kw. 322.4 930—Moncton, N.B. (CNRA), 0.5 kw.
483.9 620—Berlin (Witzleben), 4 kw. 476.2 630—Lyons (France) (La Doua), PTT, 1 kw. Mon., WED., and FRI.—9.45 p.m., Concert. Sun.,	258 1163—Toulouse (France) PTT, 5 kw. 254.2 1180—Kiel (Germany), 0.7 kw. Relays Hamburg. 252.1 1190—Bradford (2LS). Transmits Leeds Programmes.	312.3 960—Regina (CNRR), 0.5 kw. 291 1030—Vancouver (CNRV), 0.5 kw.
THES THURS and SAT Relays Ecole Supérieur	252.1 1190—Bradford (2LS). Transmits Leeds Programmes. 252.1 1190—Kalmar (Sweden) SMSN, 0.25 kw. Relays	
476 630—Rjukan (Norway), 0.05 kw. Relays, Oslo. 475 630—Kharkov (Russia), 4 kw. 468.8 640—Langenberg (Germany), 25 kw. 464 646—Paris (Ecole Supérieure), FPTT, 0.5 kw.	Stockholm. 252.1 1190 Montpellier (France), 1 kw. WEEKDAYS	SOUTH AMERICA. 789—Lima, Peru (OAX), 6 kw.
467 649 Rerceiona (Shain) (Radio Carajana) BAJIA Z.KW.	8.45 p.m., News. 9.0 p.m., Concert or Talk. 252.1 1190—Bremen (Germany), 1.5 kw. Relays Hamburg. 252.1 1190—Saffle (Sweden), SMTS, 0.5 kw. Relays	SOUTH AFRICA.
461.5 650—Osio (Norway), 1.5 kw. 454.5 660—Stockholm (SASA), 1.5 kw. 450 667—Rome (1RO), 3 kw.	Stockholm.	450 666—Johannesburg (JB), 0.5 kw.
450 667—Moscow (Trades Union), RA2, 4 kw. 9. a.m.—	250 1200—Eskilstuna (Sweden), 0.25 kw. Relays Stockholm.	400 750— Durban, 1.5 kw. 375 800—Cape Town, 1.5 kw.
9. p.m. 441.2 680—Brunn (Czecho-Slovakia), 2.4 kw. DAILY—7.0 p.m., Concert and News. THURS.—5.40 p.m., Talk for Women. Sun.—1.0 a.m., Concert.	250 1200—Gleiwitz (Germany), 0.7 kw. Relays Breslau. 250 1200—Uleaborg (Finland). Relays Helsingfors, 0.2 kw.	AFRICA.
Talk for Women. Sun.—11.0 a.m., Concert. 436 688—Bilbao (Spain) (Radio Club de Vizcaya), EAJ9,	243.9 1230—Trondhjem (Norway). 241.9 1240—Muenster (Germany) m.s. in Morse, 1.5 kw	4050 100 Dadio Cushage (Tunis) TNV 5 less North
0.5 kw.	240 1250—Helsingfors (Finland), 1.2 kw. 11.0 a.m., Exchange Quotations. Daily—7—10 p.m.,	310 967—Algiers (PTT), 2 kw.—Concert, 7.10 p.m. 305 984—Radio Casa-Blanca (Morocco), 2.5 kw.—
434.8 690.—Fredriksstad (Norway), 0.7 kw. Relays Oslo. 428.6 700.—Frankfurt-on-Main (Germany), 4 kw. 423. 709.—Bilbao (Spain) Radio Vizcaya, EAJ11, 2 kw.	238.1 1280—Bordeaux, 0.5 kw.	Sunday, 11.0 a.m.—12 noon; 2.0—4.0 p.m.; Dance Music, 6.0—12.0 p.m., WEEKDAYS,
423 709—Bilbao (Spain) Radio Vizcaya, EAJ11, 2 kw. 423 709—Notodden (Norway). 422 711—Cracow (Poland). 419.5 715—Bordeaux (Lafayette), PTT.	230 1304—Juan les Pins (France), 0.5 kw. Datry, 9—11. 229 1310—Helsingborg. Relays Stockholm.	7.0—10.0 p.m.
419.5 715—Bordeanx (Lafayette), PTT. 416.7 720—Göteborg (Sweden), SASB, 1 kw. EVERY THURS- DAY—9.18—11 p.m. Relays Foreign Stations.	236.2 1270—Stettin (Germany). Relays Berlin, 0.75 kw. 230 1304—Juan les Pins (France), 0.5 kw. Dally, 9—11. 229 1310—Helsingborg. Relays Stockholm. 225.6 1330—Belgrade (Serbia), 2 kw. Testing. 225.2 1350—Strasbourg, 0.1 kw. Tubsday and Thursday —10.0 p.m., Concert, Talk and News. 215.3 1357—Karlstad (Sweden), 0.25 kw. Relays Stockholm 236.2 1270—Orebro. Relays Stockholm. 215.8 1380—Halmstad (Sweden). 215.8 1400—Viborg (Finland). 211.3 1420—Kiev (Russia), 2 kw. 204.1 1470—Gävle (Sweden) SMXF, 0.25 kw. Relays Stockholm.	AUSTRALIA.
411 730—Berne (Switzerland), 1.5 kw.	222.2 1350—Strasbourg, 0.1 kw. TUESDAY and THURSDAY —10.0 p.m., Concert, Talk and News.	1250 240—Perth (6WF), 5 kw. 484 620—Melbourne (3AR), 1.6 kw.
405.4 740—Glasgow (58C), 1.5 kw. 402.5 746—Salamanca (Spain), EAJ22, 0.5 kw. DAILY—9.30 p.m., Concert. 10.30 p.m., Dance Music. 400 750—Cork (Irish Free State), 6CK, 1.5	221 1357—Karistad (Sweden), U.25 kw. Relays Stockholm 236.2 1270—Orebro, Relays Stockholm.	442 678—Sydney (2FC), 5 kw. 391 767—Adelaide (5CL), 5 kw.
400 750—Cork (Irish Free State), 6CK, 1.5	214.3 1400 — Viborg (Finland).	484 620—Melbourne (3ÅR), 1.6 kw, 442 678—Sydney (2FC), 5 kw. 391 767—Adelaide (5CL), 5 kw. 385 779—Brisbane (4QG), 5 kw. 371 808—Melbourne (3LO), 5 kw. 354 847—Sydney (2BL), 5 kw.
400 750—Falun (Sweden), SMZK, 1.5 kw. 400 750—Plymouth (5PY), 0.2 kw. 400 750—Tammerfors (Finland). Relays Helsingfors.	204.1 1470—Riev (Russia), 2 kw. 204.1 1470—Gavle (Sweden) SMXF, 0.25 kw. Relays Stockholm.	334 647—Sydney (2DL), 5 km.
400 750—Seville (Spain) (Union Radio), EAJ17, 1 kw. 395.25759—Hamburg (ha. in Morse), 4 kw.	202.7 1430 - Kristinehann (Sweden) SMTY, 0.1 kw. Relays Stockholm.	NEW ZEALAND. 435 689—Dunedin (4YA), 0.75 kw.
393 763—Madrid (Radio España) (EAJ2). 339.6 770—Toulouse (France) (Rad. du Midi), 3 kw. DAILY—	201.3 1490—Jönköping (Sweden) SMZD, 0.5 kw. Relays Stockholm.	420 714—Auckland (1YA), 0.75 kw. 405 740—Christchurch (3YA), 0.5 kw.
12.40 p.m., Concert. 8.50 p.m., Concert. 384.6 780—Manchester (2ZY), 1.5 kw.	196 1530—Kariskrona (Sweden) SMSM, 0.25 kw. Relays Stockholm.	295 1016—Wellington (2YK), 0.12 kw.
379.7 790—Stuttgart (Germany), 4 kw. 375 800—Madrid Union Radio), EAJ7, 3 kw.	178 1685—Beziers, 0.5 kw.	INDIA.
400 750—Tammerfors (Finland). Relays Helsingfors. 400 750—Seville (Spain) (Union Radio), EAJ17, 1 kw. 395.25759—Hamburg (ha, in Morse), 4 kw. 393 763—Madrid (Radio España) (EAJ2). 389.6 770—Toulouse (France) (Rad. du Midi), 3 kw. DaILY— 12.40 p.m., Concert. 8.50 p.m., Concert. 384.6 780—Manchester (27Y), 1.5 kw. 379.1 790—Stuttgart (Germany), 4 kw. 375 800—Madrid Union Radio), EAJ7, 3 kw. 370.4 810—Bergen (Norway), 1 kw. 365.8 820—Leipzig (Germany), 4 kw. 361.4 830—London (2LO), 3 kw. 367 840—Seville (Spain), EAJ5, 1 kw. 368 840—Graz (Austria) 1.5 kw, Relays Vienna. 363 850—Cardiff (5 WA), 1.5 kw. 365 857—Paris (Radio LL), 0.25 kw. Monday, Wednesday, and Friday—10.0 p.m., Concert.	U.S.A.	370.4 810—Calcutta (7CA), 0.5 kw. 357.1 840—Bombay (7BY), 0.1 kw.
361.4 830—London (2LO), 3 kw. 357 840—Seville (Spain), EAJ5, 1 kw.	545 550—St. Louis (KFUO)) 1.5 k.w. 544.1 550—St. Louis (KSD), 1.5 kw.	350 857—Rangoon, Burma (2HZ), 0.35 kw
353 850—Cardiff (5 WA), 1.5 kw. Kerays vienna. 353 850—Cardiff (5 WA), 1.5 kw. Mounty Wenner	535.5 560—Chicago (KWY), 3.5 kw. 526 573—Omaha, Nebraska (WOAW).	JAPAN. 375 800—Tokyo (Ceylon) JOAK, 1 kw,
DAY, and FRIDAY—10.0 p.m., Concert. 348.9 859—Prague (Czecho-Slovakia), 5 kw. DAILY—	516.9 580—Detroit (WJR), 5 kw. 516.9 580—Detroit (WCX), 1.5 kw.	CEYLON.
8.0 p.m., Concert. 344.8 870—Barcelona (Spain) Radio Barcelona, EAJ1,2 kw.	508.2 590—Philadelphia (WOO), 1.5 kw. 491.5 610—Portland (KGW).	800 375—Colombo (Ceylon). 1.75 kw.
Contract (Spanis) Indian Participation, Miles Falls.		

Stations in Alphabetical Order.

EUROPEAN.					
Aberdeen (2BD), 1.5 kw	Met. 500	Kc. 600			
Agen (France) 0.25 kw	297 275.2	1010			
Barcelona (Spain) (Radio Barcelona) EAJ1, 2 kw. Barcelona (Spain) (Radio Catalana) EAJ13, 1 kw.	344.8 462	870 649			
	1100 306.1	980 1330			
Belfast (2BE), 1.5 kw. Belgrade (Serbia), 2 kw. Bergen (Norway), 1 kw. Berlin (Koenigswusterhausen) AFP, 8 kw. 2900 (4 Berlin (Koenigswusterhausen) AFT, 8 kw.	370.4	810			
Berlin (Koenigswusterhausen) AFT, 8 kw. Berlin (Magdeburger Platz), 2 kw.	1250 566	240 530			
Berlin (Magdeburger Platz), 2 kw. Berlin (Witzleben), 4 kw. Berlin (Wolff's Bureau)	483.9 2525	620 119			
Bern (Switzerland), 1.5 kw. Beziers, 0.5 kw. Bilbao (Spain) (Radio Club de Vizcaya) EAJ19, 0.5 kw. Bilbao (Spain) (Radio Vizcaya) EAJ11 2 kw.	411 178	730 1685			
Bilbao (Spain) (Radio Club de Vizcaya) EAJ1, U.Sr. Bilbao (Spain) (Radio Vizcaya) EAJ11, 2 kw. Birmingham 5IT, 1.5 kw. Bjorneborg (Finland)	423	688 709 920			
Bjorneborg (Finland)	326.1 311 566	967 530			
Bioemendaai (Holland), 0.04 kw. Boden (Sweden) SASE, 1.5 kw. (Relays Stockholm) Bordeaux (Lafayette) PTT	1200 419.5	250 715			
Bournemouth (6BM), 1.5 kw.	238.1 491.8	1260 610			
Bradford (2LS) (Transmits Leeds programmes)	252.1 263.2	1190			
Breslau (Germany), 4 kw.	252.1 315.8 441.2	1190 950 680			
Bruenn (Czecho-Ślovakia), 2.4 kw. Brussels, 1.5 kw. Budapest (Hungary), 3 kw.	508.5 555.6	590 540			
Cadiz (Spain) EAJ3. 0.55 kw.	344	872			
Cardiff (5WA), 1.5 kw. 279 (277.8)	353 1075 (272.7	850 1080) 1100			
Cassel (Germany), 0.7 kw. (Relays Frankfurt) Copenhagen, 0.7 kw. Cork (IFS), 1.5 kw., 6CK	337	890 750			
Gracow (Poland)	422	711			
Danzig (Germany), 0,75 kw. Daventry (5XX), 25 kw. De Bilt (Holland)	272.7 1604.3	1100			
Dortmund (Germany), 1.5 kw. (Relays Muenster) Dresden (Germany), 0.7 kw. (Relays Leipzig)	1100 283 275.2	273 1060 1090			
Dublin (2RN), 1.5 kw	319.1 294.1	940 1020			
Edinburgh (2EH), 0.2 kw.	288.5	1040			
Eskilstuna (Sweden), 0.25 kw. (Relays Stockholm) Falun (Sweden) SMZK, 1.5 kw.	250 400	750			
Frankfurt-on-Main (Germany), 4 kw. Fredriksstad (Norway), 0.7 kw. (Relays Oslo)	428.6 434.8				
Freiburg (Germany)	577	520			
Gaevie (Sweden) SMXF, 0.25 kw (Relays Stockholm) Geneva (Radio Geneve), 0.5 kw	204.1 760	1470 395			
Glasgow (58C), 1.5 kw	405.4 250	740 1200			
Goeteborg (Sweden) SASB, 1 kw (Relays Vienna) Grenoble, 0.5 kw	416.7 356	720 840			
# 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	287	1045			
Hamar (Norway), 0.7 kw.	556 395.25	530 759			
Hanover (Germany), 0.7 kw. (Relays Hamburg)	297	1010			
Hilversum (Holland) ANRO, 5 kw.	1067	281			
Innsbruck (Austria), 0.5 kw. (Relays Vienna)	294.1	1020			
Jakobstad (Finland) Jeenkoeping (Sweden) SMZD, 0.5 kw. (Relays Stockholm) Juan les Pins (France), 0.5 kw.	201.3	1490 1304			
Jyvaskyla (Finland), 0.2 kw. (Relays Helsingtors)	297	1010			
Kalmar (Sweden) SMSN, 0.25 kw. Karlskrona (Sweden) SMSM, 0.25 kw. (Relays Stockholm) Karlstad (Sweden), 0.25 kw. (Relays Stockholm) Kbely (Czecho-Slovakia), 1 kw. Kharkov (Bussia), 4 kw. Kilei (Germany), 0.7 kw, (Relays Hamburg) Kiev (Bussia), 2 kw. Klagenturi (Austria) Koenigsberg (Germany), 1 kw. Kosice (Czecho-Slovakia), 5 kw. Kovno (Lithuania), 7 kw. Kristinehamn (Sweden) SMTY, 0.1 kw. (Relays Stockholm) Lahtis (Finland)	252.1	1190			
(Relays Stockholm) (Karistad (Sweden), 0.25 kw. (Relays Stockholm)	196 221	1530 1357			
Kbely (Czecho-Slovakia), 1 kw	1110 475	270 630			
Kiel (Germany), 0.7 kw, (Relays Hamburg) Kiev (Russia), 2 kw.	254.2	1180			
Klagenturt (Austria) Koenigsberg (Germany), 1 kw.	329.7	910			
Kovno (Lithuania), 7 kw	2000	150			
Lahtis (Finland) (Relays Stockholm)	202.7 318	1480 943			
Langenberg, 25 kw Lausanne (Switzerland) HB2, 0.6 kw	468.8 850	353			
Leipzig (ZLS), 0.2 kw. Leipzig (Germany), 4 kw.	365.8	820			
Lille (PTT), 0.5 kw. Linkgening (Sweden) 0.25 kw (Relays Stockholm)	285	1053			
Liverpool (6LV), 0.2 kw	297 361.4	1010			
Lahtis (Finland) Lahtis (Finland) Langenberg, 25 kw. Lausanne (Switzerland) HB2, 0.6 kw. Leipzig (Germany), 4 kw. Leipzig (Germany), 4 kw. Leiningrad (Russia), 10 kw. Lille (PTT), 0.5 kw. Linkoeping (Sweden), 0.25 kw. (Relays Stockholm) Liverpool (6LV), 0.2 kw. London (2LO), 3 kw. Lyons (France) (La Doua), 1 kw. P.T.T Lyons (Radio Lyons), 5 kw.	250 (476.2	1380) 630			
Lyons (Radio Lyons), 5 kw	291.3	763			
Madrid (Radio España) EAJ2 Madrid (Radio Madrileña) EAJ12, 2 kw Madrid (Union Radio) EAJ7, 3 kw. Malaga (Spain) EAJ25, 1 kw. 325 Malmos (Sweden) SASC, 0.5 kw Manchester (2ZY), 1.5 kw. Marseilles PTT, 0.5 kw. Milan 1MI, 1.5 kw Montpellier (France), 1 kw.	306 375	980			
Malaga (Spain) EAJ25, 1 kw 325 Malmos (Sweden) SASC, 0.5 kw	(254.2) 260.9	923 1150			
Manchester (2ZY), 1.5 kw. Marseilles PTT, 0.5 kw.	384.6	780			
Montpellier (France), 1 kw.	322.6 252.1	1190			

III Alphabe		La
Moscow (Old Komintern) RAI, 20 kw., 3 p.m.	Met.	Kc.
Moscow (Trades Union) RAQ, 4 kw., 9.0 a.m.—	1450	207
9.0 p.m. Motala, 30 kw.	1320 241.9	667 227 1240
Munich (Germany), 4 kw	535.7	560 900
Naples (INA), 1.5 kw	333.3 312.5 1400	960 214
Norddeich (Germany) Norrkosping (Sweden) SMVV, 0.25 kw Notodden (Norway)	1780 275.2	168 1090
Notodden (Norway) Nottingham (England), 5NG, 0.2 kw. Novosibersk (Russia) RA33, 10 kw., 6 p.m.	423 275.2 1117	709 1090
Nuremberg (Germany), 4 kw. (Relays Munich)	303	268 990
Oerebro (Relays Stockholm) Oslo (Norway), 1.5 kw	236.2 461.5 720	1270 650 416
	464 2650	646 113
Paris (Ecole Supérieure) FPTT, 0.5 kw	340.9 350	880 857
Paris (Radio-Paris) CFR, 3 kw	1760 322	170 931
Plymouth (5PY), 0.2 kw	400 504 270.3	750 595 1100
Prague (Czecho-Slovakia), 5 kw	348.9 333.3	859 900
Riga (Latvia), 2 kw Riukan (Norway), 0.05 kw	526.5 476	570 630
Rome (1RO), 3 kw. Rostov, Don (Russia), 8 kw., 4.0—10.0 p.m.	450 820	667 366 261
Ryvang (Denmark), 0.5 kw. Saeffle (Sweden) SMTS, 0.5 kw.	1150	
(Relays Stockholm) Salamanca (Spain) EAJ22, 0.5 kw. San Sebastian (Spain) EAJ8, 2 kw.	252 402.5 297	1190 746 1010
Saragossa (Spain) EAJ23 325 (568		(530) 154
Seville (Spain) (Union Radio) EAJ17, 1 kw	400 357	750 840
Soros (Denmark), 1.5 kw. (Relays Copenhagen)	272.7 1153.8 566	1100 260 530
Stamboul (Turkey), 10 kw. Stettin (Germany), 0.8 kw. Stockholm (SASA), 1.5 kw. (Relays Berlin)	1200 236.2	250 1270
Stoke (England) 68T, 0.2 kw.	454.5 294.1	1020
Strasbourg, 0.1 kw. Stuttgart (Germany), 4 kw. Sundsvall (Sweden) SASD, 0.5 kw.	222.2 379.7 545.6	790 550
Swansea (58X), 9.2 kw	294.1 285.7	1,020
Tammerfors (Finland) (Relays Helsingfors) Tashkent RA27, 4 kw., 2.0—5.0 p.m. Titlis (Russia), 4 kw.	400 800	750 375
I DHIOUSE (Brance) Pirit 5 km	877 258 389.6	342 1163 770
Toulouse (France) (Rad. du Midi), 3 kw	277.8	1080
Trondhjem (Norway), 1 kw	243.0	1020
Uleaborg (Finland), 0.2 kw. (Relays Helsingfors) Umea (Relays Stockholm)	250 229	1200
	500 297	1010
Varborg (Relays Stockholm) Viborg (Finland) Vienna (Rosenhuegel) Vienna (Stubenring)	214.3 517.2	1400 580
warsaw (Poland), 10 kw	1111.1	520 270
Zagreb (Jugo-Slavia), 0.35 kw Zurich (Switzerland), 1 kw	310 496	967 605
EXTRA-EUROPEAN.		
Adelaide (Australia), 5CL, 2 kw	391	767
Algiers	310 428.3	967 700
Atlanta (U.S.A.) WSB, 5 kw. Atlantic City N.J. (U.S.A.) WPG, 5 kw. Auckland (New Zealand), 1YA, 0.5 kw.	299.8	714
Bombay (India) (7BV), 0.1 kw. Boston, Mass. (U.S.A.) WNAB, 0.5 kw. Boston, Mass. (U.S.A.) WNAC, 0.5 kw. Boundbrook (National Broadcasting Co.) (U.S.A.)	357.1 280.2 430.1	1070 697
Boundbrook (National Broadcasting Co.) (U.S.A.) WJZ, 40 kw.	454.3	660
WJZ, 40 kw	385 370.4	779 810
Calgary (Canada) CNRC, 0.5 kw	434.8 375	800
Carthage (Radio Tunis), TNU, 5 kw	1850 305 535.5	162 984 560
Chicago (U.S.A.) W.BBM, 1.5 kw. Chicago (U.S.A.) WGN, 1 kw. Chicago (U.S.A.) WGN, 1 kw. Chicago (U.S.A.) WLS, 0.5 kw.	226 370.2	1327 810
Chicago (WJAZ), 10 kw	345 329.5	870 911 740
Cincinnati (U.S.A.) WLW, 5 kw	405 422.3 389.4	740 710 770
Colombo (Ceylon), 1.75 kw.	800 483.8	375 620
Davenport (U.S.A.) WOC, 5 kw. Denver (KOA) Detroit (U.S.A.) WCX, 1.5 kw. Detroit (U.S.A.) WJR, 5 kw. Detroit (U.S.A.) WGHP Detroit (U.S.A.) WWJ, 1.5 kw. Dundin (New Zealand) 4YA, 0.75 kw. Durban (South Africa) 1.5 kw.	322.4 516.9	930 580
Detroit (U.S.A.) WJR, 5 kw	516.9 270	580 1111 850
Dunsdin (New Zealand) 4YA, 0.75 kw	352.7 435 400	850 689 750
Edmenton (Canada) CNRE, 0.5 kw	516.9	580

Mastings, Nebraska (U.S A.) KFKX ,2 kw,

	Met.	Kc.
Johannesburg (JB), 0.5 kw	450	666
Kansas City (U.S.A.) WOQ, 1 kw	278	1078
Lima (Peru), OAX, 6 kw	380	789
Los Angeles (U.S.A.) KFL, 5 kw	467	462
Melbourne (Australia) (3AR), 1.6 kw	484	620
Melbourne (Australia), 3LO, 5 kw. Michigan (Radio Lighthouse) (U.S.A.), WEMC.	371	808
0.55 KW	316	949
Minneapolis (U.S.A.) WCCO, 5 kw Monckton N.B. (Canada) CNRA, 0.5 kw	416.4 322.4	720 930
Monckton N.B. (Canada) CNRA, 0.5 kw Montreal (Canada) CKAC, 1.5 kw.	411	730
montreal (Canada) CNRM, 0.5 kW	411	730
New York (National Broadcasting Co.) WEAF,	404 E	010
2 kw. New York (U.S.A.) WGBS, 1 kw	491. 5 315.6	610 950
New York (U.S.A.) WLWL, 1 kw	384.4	780
New York (U.S.A.) WGBS, 1 kw. New York (U.S.A.) WLWL, 1 kw. New York (U.S.A.) WMCA, 0.5 kw. New York, WJY, 0.75 kw. New York, WJY, 0.75 kw.	340.7 405	740
Northfield (Carleton College) (U.S.A.) KFMX	337	890
Oaklands (U.S.A.) KGO, 5 kw	.361.2	830
Oaklands (U.S.A.) KGO, 5 kw	526	573
	434.4	690
Philadelphia (WOO) 15 kw	1250 508.2	240 590
Perth (Australia) 6WF, 5 kw	461.3	650
Pittsburgh East (U.S.A.) (Westinghouse	309	970
Electric) KDKA, 25 kw. Pittsburgh East (U.S.A.) (Westinghouse	309	310
Electric) KDKA	64	4687
Pittsburgh East (Westinghouse Electric), KDKA,	14 2	1,429
Not a regular service	491.5	610
Rangoon (Burma) 2HZ, 0.35 kw	350	857
Regina (Canada) CNRR, 0.5 kw	312.3	960
San Francisco (U.S.A.) KPO, 1 kw Saskatoon (Canada) CNRS, 0.5 kw	428.3 329.5	700
Schenectady (General Electric Co.) (U.S.A.)	323.3	211
2XAF. Tues. and Thurs. at 11.0 p.m. Sats.,	20 77	0455
11.30 p.m. Schenectady (General Electric Co.) (U.S.A.) WGY	32.77	9155
60 kw	379.5	790
Schenectady (General Electric Co.) 2XAD	22.02 1	3,623
Shenandoah (Iowa) KFNF Springfield (U.S.A.) WBZ, 7 kw	333.1	900
Staten Island, N.Y. (U.S.A.) WBBR, 0.5 kw St. Louis (U.S.A.) KFUO, 1.5 kw	416.4	720
St. Louis (U.S.A.) KF00, 1.5 kw	545	550 550
Sydney (Australia) 2FC, 5 kw	442	678
Sydney (2BL) 5 kw	354	847
Tokyo (Japan) JOAK, 1 kw. Toronto (Canada) CFCA, 0.5 kw. Toronto (Canada) CKCL, 5 kw. Toronto (Canada) CNRT, 0.5 kw.	375 357	840
Toronto (Canada) CKCL, 5 kw	356.9	840
Toronto (Canada) CNRT, 0.5 kw	434.5	690
Troy (U.S.A.) WHAZ, 0.5 kw	379.5	790
Vancouver (Canada) CNRV, 0.5 kw	291	1030
Washington (U.S.A.) KWSC, 0.5 kw	348.6	860
Washington (U.S.A.) WCAP, 1.5 kw Wellington (2VR) 0.12 kw	469 295	1016
Wellington (2YR), 0.12 kw Winnipeg (Canada) CKY, 0.5 kw Winnipeg (Canada) CNRW, 0.5 kw	383.4	782
Winnipeg (Canada) CNRW, 0.5 kw	383.4	782
Zion III. (U.S.A.) WCBD, 5 kw	344.6	870

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