World-Radio, July 22, 1927.



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FRIDAY, JULY 22, 1927.

Two Pence.

#### PRINCIPAL CONTENTS.

Using the Mains for Power. By Capt. P. P. Eckersley.

Stations in Order of Wavelengths and Frequencies.

Daventry and Foreign Programmes. The Compleat (Ether) Angler.

#### WORLD-RADIO

Station Identification Panel

(No. 72.)

#### **BORDEAUX PTT** (France).

Wavelength: 273 m. (1,098 kc.). Power:

Approximate distance from London: 475 miles.

"Allo! 'Allo ! Ici le Poste Bordeauxradiotéléphonique de Lafayette.

No Interval Signal, but abbreviated Call: "Ici Bordeaux-Lafayette."

Transmissions: Own concerts on Monday, Tuesday and Wednesday. Relays Toulouse PTT on Thursdays and Ecole Supérieure, Paris, on Saturday. No transmissions on Sundays.

Closes down with "La Marseillaise" and usual French formula.

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#### Broadcasting in Denmark.



ROADCASTING in Denmark has recently been taken over by the State. Previously it was a composite organization, in which the control was vested in the Press, private commercial concerns, and the listeners. There is now a broad-casting council, "Radio-raadet," consisting of raadet," consisting of eight members, two of whom are nominated by

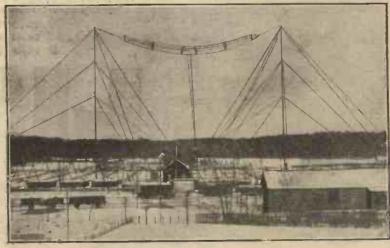
whom are nominated by the Minister for Public Works, one by the Minister of Education, one by the Press, one by the Association of Radio Manufacturers and Traders, and three by Radio Societies. The President is Chamberlain Lerche, who is Danish member of Council of the Lerche, who is Danish member of Council of the

representatives Post Office. Weekly programmes are drawn up by the programme Director, Mr. Emil Holm, with the assistance of the programme department of the broadcasting of the broadcasting council. The responsibility for the News Bulletin rests with the representatives of the

The number of licensed listeners is now about 140,000. Half of these live

Mr. Emil Holm.

140,000. Half of these live in Copenhagen and the annual listener's fee, both for valve and crystal sets, is 10 kroner (11s.), and there is a drastic law by the provision of which unlicensed listeners are liable to a fine and confiscation of their receiving sets. A special fee of 200 kroner (£11) per annum is charged for the use of loud speakers in public places.

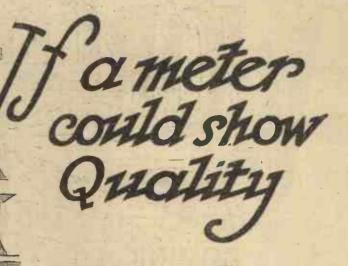


Sorö Station (the Denmark Daventry).

Union Internationale de Radiophonie. The Council are responsible for the financial side of broadcasting as well as for the general supervision of programmes

The technical side is under the supervision of

Denmark has at present two transmitting stations-Copenhagen and Soro-a third, Kalundborg, is in the course of construction and will be opened in the Autumn. There are two studios, both situated in the Copenhagen station; one





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for large performances. orchestra and the like, and the smaller one for lectures and smaller musical combinations. Once a week a special transmission is broadcast through the Odense station. There are two announcers who are on duty in turn. "Her Kobenhavn og Son Radio" must be familiar many listeners in this country who hear Copenhagen through the Sorö transmitter. The orchestra, under the directorship of Mr. Launy Grondahl, numbers twenty-four.

The Sorö transmitting station, with an aerial power of 1.5 Kw, is situated in the centre of Zealand, about 40 miles south-west of Copenhagen. The masts of the aerial (of which we give a picture) consist.

give a picture) consist of two wooden towers each about 185 feet in height. This transmitter serves listeners possessing valve sets throughout the country. The Copenhagen station, whose tower is about 700 watts, is situated in the centre of the city and is intended to serve local listeners only. The studios, control room and offices are in the Post Office building in the centre of Copenhagen.



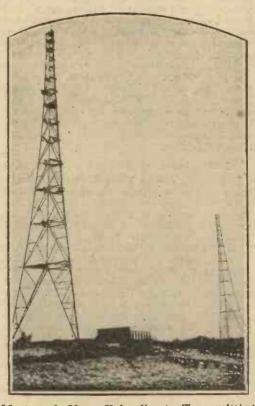


D. Prior. C. Schionning. (The Announcers.)

At the present time two stations are in the course of erection: the high power station at Gisselöre, near Kalundborg, which is to replace Sorö, and a local station in Copenhagen to take the place of the present one. The new Kalundborg station will have a relay power of 7.5 kw. Its aerial is supported by two steel towers each about 340 feet high. It will use the same wavelength as Sorö, namely, 1153.8 metres (260 kc).



The Orchestra of the Copenhagen Station.



Masts of New Kalundborg Transmitting Station.

### "Wimbledon" in Switzerland.

Although living in Switzerland, some hundreds of miles from Wimbledon, I have, through the medium of "the wireless," been enabled to listen to these tennis matches with keen enjoyment.

Of all the matches broadcast, the most exciting was, in my opinion, that of the Men's Doubles Final, when Cochet and Brugnon, the Frenchmen, were opposed to the American pair, Tilden and Hunter, for the Men's Doubles World's Championship.

From a technical point of view the broadcast was perfect, no atmospherics whatever being present, and the well-modulated voice of the commentator came through with perfect clarity and distinctness.

Once, when a player whilst making a difficult shot allowed his racket to fly out of his hand, I distinctly heard the clatter of it against the net.

The applause of the spectators came through very distinctly, and during the last set and game, which gave the Americans the match, the plaudits of the crowd almost drowned the voice of the announcer.

One received a vivid impression of the tremendous speed of the game by the rapidity of the commentator's calls, with his short, staccato sentences: "Tilden drives, Cochet returns—Hunter lobs, Brugnon kills," and in a second another point is scored, almost too quickly for the announcer to keep pace with the rapid passing backward and forward of the ball. After the eighth game, when the score was 4-all, I found myself getting quite as excited as the crowd, and this excitement rose as the score repeatedly went to deuce, first one side obtaining advantage and then the other.

At last, after what seemed a tremendous struggle the Americans won the day, gaining the World's Championship for 1927, and we heard that the players were all shaking hands, Brugnon leaving the court smiling; and so ended another very fine example of a topical broadcast.

J. S.

### Summer Time Searching.

N these notes last week I mentioned something of the possibilities of the deliberate reception of distant broadcasting stations by way of their harmonics. I dealt, then, chiefly with the numerous fourth and fifth harmonics that are to be found between 50 and 80 metres, and suggested that an even more fruitful field might be between 80 and 200 metres, where first and second harmonics are likely to be encountered. For the last few evenings I have been exploring this band, which has turned out to be as interesting as I expected. The difficulty of identifying stations is, however, considerable, since in many cases callsigns are given only at long intervals. of course, put names without much trouble to transmissions that are heard once the coils in use have been calibrated; but coils cannot be calibrated until a certain number of stations have been found and noted whose wavelengths are known to be stable. One of the most powerful harmonics that have heard is Leipzig's second on 182.9 metres (1,640 kilocycles) which comes in extraordinarily well. There is no fading or distortion of any kind. Others well worth trying for when conditions for direct reception of the fundamental are unfavourable are Radio Vitus, Nuremburg, Koenigsberg, Paris Petit Parisien (a powerful second harmonic this, though fading is sometimes present), Hamburg, Rome, Lyons PTT and Langenberg.

For reception by normal methods, within the limits of the broadcast band, one of the best stations of late has been Nuremberg, on whose strength several correspondents have commented. At the moment this appears to be the most powerfully received of Continental stations, for even in broad daylight there is no difficulty in obtaining full loudspeaker reception. Others that have been good, at times, are Barcelona EAJ1, Madrid Union Radio, Toulouse Midi, Hamburg, Lyons Doua and Brussels.

On the short waves things have not been quite so good on most evenings as they were up till a week ago. It has always been possible to receive the American stations, but their signal strength has been on the weak side with a great deal of fading. Here is a tip for those who find it difficult to receive KDKA on 62 metres: drop down a little below the settings required for 2XAD and you will find KDKA coming in on 20.6 metres. Many who have heard this signal believe that KDKA is transmitting on this wavelength. A communication from the station itself proves that what is heard is the third harmonic of the fundamental, which has been reported from many parts of the world. This harmonic is frequently much easier to receive than the fundamental, signal strength being greater and there being less trouble from feding. KDKA also states that the trouble from fading. KDKA also states that the 14-metre transmitter is now in regular operation, being used almost whenever short-wave relaying takes place. I cannot think, though, that it has been in use for the last week or so, for I have not been also to be a savel of it were have set. been able to hear a sound of it, nor have any of my numerous short-wave correspondents. who want to hear an American station early in the evening should make a note that on Tuesday nights 2XAD is at work as a rule from 10.0 p.m. until shortly before 11.0 p.m., after which time 2XAF comes on. The 22.02 metre transmission is often well heard during this early relay. Tuesday is, in fact, one of the most interesting evenings of the week for short-wave work, since we have PCJJ at work from 6.0 p.m. to 9.0 p.m., followed by 2XAD, who is followed in his turn by 2XAF. As KDKA also comes on at 11.0 p.m., and WLW somewhat earlier, one may hear, when conditions are at all favourable, no fewer than four American

transmissions before midnight.

WLW, by the way, is a station that must be regarded as always worth trying for. His wavelength is 52.02 metres and in many weeks he is working on every night except Friday. The transmission varies a good deal, being very strong at times and at others most difficult to find. Generally he is best after midnight, though I had him at great strength a few weeks ago before 11.0 p.m.

### Wireless Step by Step.

By "DICTRON."

#### XVI.—The Three-Electrode Valve.

AVING grasped the principle of operation of the two-electrode valve we may now proceed to a study of its latter day developthe three-electrode valve. will have to be in greater detail. The three-electrode valve is the keystone of modern radio communi-Without it the transmission of speech and music by wireless would be impossible, and the generation of continuous waves would never have been accomplished. It is not essential to reception, since, as we have already seen, the crystal rectifier can and does fulfil certain requirements, but the valve has very largely replaced the crystal as a rectifier and is absolutely essential for the magnification of received signals in order that they may be heard at great strength in a loud-speaker or by a larger number of telephone receivers. The valve may also be used to increase the effective range of a receiver, that is to say, its extreme sensitivity may be used in conjunction with its power of magnification in such a way that signals from far distant stations are rendered audible which would otherwise be beyond the range of the receiving apparatus. Such a fundamental and ubiquitous piece of apparatus must, then, be studied in great detail, but before con-sidering it in any of its applications we must have a thorough knowledge of its characteristics and means of operation.

#### Limitations of Two-Electrode Valve.

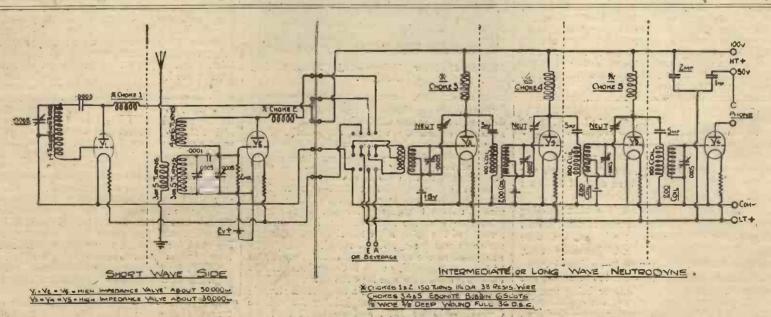
We have learnt in our study of the two-electrode valve that the amount of current which will flow in the exterior circuit connecting the plate and filament depends upon the heat of the filament and the voltage applied to the plate. This current is usually referred to as the "Anode Current." A curve may be plotted on an ordinary piece of squared paper which will show the variation of "Anode Current" in milliamperes corresponding to various filament temperatures, or rather to variation of filament current, since the greater the current passing through the filament the higher will be its temperature. A similar curve may be plotted showing the variation of anode current corresponding to various values of plate voltage. The first curve will show that the filament

only emits electrons effectively over a very small range of changes of current, that is to say that the number of electrons emitted is very small when the filament is below a certain temperature. When that temperature is reached the emission rises rapidly, but it will be found that the temperature can only be raised very slightly beyond that point before the maximum temperature which the filament will stand without melting is reached. Something of the same state of affairs will be found to prevail in the case of the second curve. At low plate voltages an almost negligible anode current will be observed. At a certain value of plate voltage, however, the current will be found to increase rapidly, but a very little way beyond this point we shall arrive at the saturation current, that is we reach the point when all the electrons emitted by the filament are being collected by the plate and passed round the exterior circuit back to the filament. The operation of the two-electrode valve, depending as it does on plate voltage and filament current, is, therefore, limited in both respects. These limitations do not affect its use as a rectifier, since the valve may be operated with the filament temperature fixed at an effective value and, provided that a valve of suitable internal construction is used, the alternating voltage applied to the plate is bound to pass through the effective range of plate potential once in every alternation; in fact the action of rectification depends upon its doing so.

#### Introduction of the Third Electrode.

If, however, a third electrode is introduced between filament and plate we shall find a much more useful piece of apparatus; one, in fact, which is capable of generating, receiving and amplifying oscillation of almost any frequency. This third electrode is generally known as the "Grid," both because of its shape and its action. It may consist of a spiral of wire or a piece of wire gauze, more usually the former. It is placed directly in the path between the filament and the plate which must be travelled by the electrons when the filament is heated and the plate voltage applied in order that anode current may flow. By itself, just placed in the path, the grid will

do nothing, but consider what takes place if a potential is-applied to the grid. We assume that the valve is operating, the filament is heated, the plate voltage applied and the external circuit closed. If the grid has no potential applied to it there will be no hindrance to the flow of electrons from filament to plate. Now let us apply a potential to the grid so that it is negative in respect to the filament without making any alteration at all to the filament current or plate voltage. What happens? The electrons find right across their path a negatively charged obstruction; they are repelled because they are themselves particles of negative electricity and likes repel likes. Consequently the total number of electrons reaching the plate will be reduced, that is to say, there will be a drop in the anode current. The grid being of open mesh, some electrons can still struggle through to the plate, but in much reduced numbers. The more negative we apply to the grid the greater the drop in anode current. What happens if we reverse the process and apply a positive potential to the grid? Again, assume that the valve is operating. and that the applied plate voltage is fixed at a value which is below that which produces saturation current. This will mean that there are some electrons emitted by the filament which are not reaching the plate and that the anode current is below maximum. Now, if we make the grid slightly positive in respect to the filament the emitted electrons will be attracted towards it. Just on the other side of the grid from the filament is the plate which is much more positive, so the electrons will not remain on the grid but will go on at once to the plate. The grid being nearer to the filament than the plate will collect and pass on some of the emitted electrons which the plate has failed to collect, so that the total number of electrons passing from filament to plate is increased, producing a consequent rise in anode current. This, then, is the fundamental principle upon which the three-electrode valve operates, and this is the important thing to remember: the anode current can be increased or decreased by varying the potential of the grid on each side of zero and without making any alterations to the values of filament current and plate potential.



Last week in an article on "Relayed Programmes" we referred to the short wave receiver in use at Keston for relaying purposes. Above is the circuit diagram. The values of the components are given. The change-over switch in the intermediate circuit is to enable the long wave side of the receiver to be used alone for receiving on 1,000 metres or thereabouts.

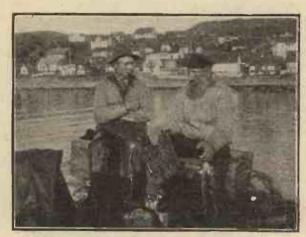
### Village Life in Scandinavia.

By E. GEE NASH

(who is giving the last of the series of talks on "Village Life in Other Lands"—broadcast from the London studio, through Daventry, on Wednesday next).

In so short a space it is quite impossible to give more than the merest outline of the very varied country life of Scandinavia (to be dealt with more fully in my talk). The three nations differ in many ways, yet in others are very similar; then again each country has its different phases of village life . . . the fjord villages of Norway; the rich, flat agricultural tracts of Denmark, where dairy farming is brought to such a pitch of perfection under the Co-operative Farming System; and its many fishing communities. In Sweden again, there is the farm life . . on big isolated farms, largely self-supporting; the spatsely populated tracts round the big church villages; and the many fishing hamlets round the coast, to say nothing of the nomadic life of the migratory Lapps up on the Norwegian-Swedish border, with their summer settlements round the vast, silent, mysterious Lappland Lakes.

So I must confine myself to saying a little about the various illustrations on this page.



Mölle: A Typical Swedish Fishing Village.

The photograph of Förde gives you a very good impression of the typical Norwegian village with the houses dotted over the valley in the shadow of the mountains, and with the everpresent river . . all Scandinavia is a land of islands, lakes, rivers, and waterfalls, from which is derived the universally used electric power. On an isolated Scandinavian farm it is quite a common sight to see electricity used for lighting, heating, dairying, and farm work; so that one of man's most recent inventions may be seen working side by side with farm tools and old customs that have persisted unchanged for intold centuries.

The houses are of wood; warm and comfortable, and are almost always painted in bright colours, red, blue, green, yellow, making patches of colour that light up the long, dark months. Across the fields in this picture you can see the long racks used throughout Scandinavia for drying the hay. They do not make it into cocks as we



Typical Danish Country.

do, but spread it loosely over these racks, where the wind quickly dries it.

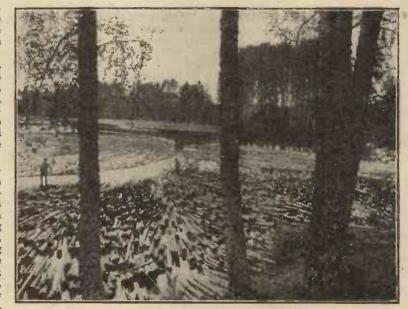
The Danish farm, lying in the midst of a typical wide, well-watered plain, shows the old crowstepped tower so often seen in old buildings round the Baltic provinces

The fishing village of Mölle in Sweden is a characteristic Swedish fishing village, with the houses running down to the water, and the drying grounds, where the fish are dealt with; and the old man, too, is typical of the fine peasant folk, noble in character

and appearance, who form the majority of Scandinavian villagers.

The vast forests of Sweden provide a large part of Europe with timber, and that useful product of timber reduced to a minimum . . matches; and a great number of Swedish country-folk are engaged on timber work . . . felling, barking, log-driving, and at the innumerable saw-mills.

They are a hardy race, who look death in the eye, daily and hourly, with an amazing calm and indifference. You may imagine a log jam in such a drive, when the great trunks pile themselves up into a treacherous mass, and the men take their lives in their hands as they swarm out over the jam, searching with skilful eyes for the key-logs which must be released before the jam will give way.



A Log Drive. Fossby, Sweden.



Förde, Norway,

Calm, quiet agricultural life among vast lonely spaces of forest, lake and mountain, through bitter cold winters and short burning summers; hazardous fishing round the coasts, and out on the great cod banks, months spent in constant peril and hardship: the hard, dangerous life in the lonely timber forests—and always scant society and wide unpopulated tracts of country . . . these make up the various phases of Scandinavian country life. And to it the peasants bring a strong, self-reliant character, sad, perhaps a little introspective—the character of folk who live close to nature - yet capable of great gaiety, when the fiddles play at the cross-roads, in the long light summer nights, and they dance the age-old folk dances, often in peasant costumes of speepskir and embroidery, which have been handed down from generation to generation, and which are often worth a small fortune.

The Scandinavian villager is a splendid character; and his like is not to be found away from his own fjords, mountains, lakes, and forests.

### Broadcasting and Languages.

Pending the resumption in the Autumn of the foreign language broadcast talks, we have arranged for a series of travel articles which will help equally the student and those thinking of taking a holiday abroad.

#### LA MODERNIZACIÓN DE ESPANA.

By W. F. BLETCHER.

Es realmente asombrosa (astonishing) la rapidez con que se va transformando la nación española. Algunos pueblos que pocos años atrás no tenían más medio de alumbrado que el aceite, hoy se ven deslumbrados (dazzled) por la luz eléctrica. Otros que desconocían por completo el tráfico rodado (wheeled), están hoy atravesados por buenas carreteras por las cualas pasan volando autocamiones (motor trucks), automóviles y motociclos.

En el orden intelectual sucede lo mismo. Hasta

hace muy poco tiempo las muchachas españolas no se movían de su casa hasta casarse. Hoy existe una institución: "La Residencia de Señoritas" a donde acuden de las provincias para convertirse en maestras, abogadas, médicas, farmacéuticas,

Voy a detenerme unos momentos en esta cuestión de la muchacha española. En un artículo mío que apareció en el número de World-Radio del 15 de Abril p.pdo., yo citaba un párrafo de una carta que me había escrito una señorita inglesa residente

porque tenía que pasar los sábados remendando medias, y casi todas las cosas que quería hacer no podía hacerlas porque en España "no se hacían."

Pues aquel artículo mío fué leido en España-y me trajo dos cartas, una de Barcelona y la otra de Madrid. La de Barcelona era de una señora que me decía lo siguiente :

La situación de la muchacha española ha cambiado mucho en estos últimos años. poblaciones importantes ya salen solas a las calles y nadie se mete con ellas. Lo que no hacen es ir de paseo con amigos, pero a sus compras, estudios, etc., sí que van, lo mismo que se dedican bastante al sport."

En cambio, la otra carta, que procedía de un joven madrileño, confirmaba lo manifestado en mi artículo, diciendo:-

"No deja Vd. de llevar algo de razón en lo que dice referente a las señoritas de España, ya que nosotros los muchachos — y lo sé por experiencia — siempre acostumbramos 'darlas la lata es decir, a molestarlas piropeán-dolas (flattering them), y por eso las muchachas 'formales' suelen ir acompañadas."

La verdad será, y sin duda es, que en Barcelona, la ciudad más cosmopolita de España, la muchacha se va modernizando más rápidamente que en la capital y demás poblaciones de la península.

Paso ahora a los ferrocarriles de España. No

hace mucho que en su casi totalidad eran obra y

propiedad de extranjeros. España tiene sus propias fábricas de locomotoras y material rodada a las cuales la ley da preferencia los nuevos contratos. En Bilbao, Barcelona, Zaragoza y produce otras ciudades se material rodado de todas clases, hasta las locomotoras de más potencia y coches-camas de todo

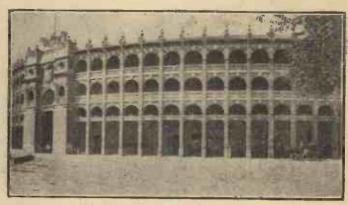
Y ; qué diremos del aspecto de las grandes ciudades ? Este ha cambiado estraordinariamente en los últimos años. Madrid y Barcelona ya tienen Metropoli-tanos (tube railways) como los de Londres y Paris, y de resultas de este gran adelanto se van extendiendo rápidamente los arrabales (suburbs) o "ensanarrabales (suburbs) o "er ches." Los laberintos de

callejuelas antiguas se están demoliendo a toda prisa para dar lugar a hermosísimos paseos. En fin, tan heroico, tan hermosísimos paseos. En fin, tan heroico, tan presuroso es el sistema de modernización que se ha adoptado en España, que en Granada, juntamente con la demolición de lo feo y lo sucio, se ha mutilado parte de lo más pintoresco de aquella histórica ciudad.

De año en año van mejorándose los medios de comunicación. Si el servicio de ferrocarriles de las líneas secundarias aún deja mucho que desear, el de las líneas principales es excelente, y cuando mejoren los hoteles de las ciudades pequeñas, crecerá de un modo considerable el tráfico turista. Ya por todas partes los autobuses van reemplazando a las desvencijadas (broken-down) diligencias, y como la distancia del ferrocarril a muchos pueblos pintorescos suele ser bastante grande, el autobús es una verdadera bendición (boon) para los viajeros, a quienes no dejaba de asustarles la perspectiva de tener que pasar medio día encerrados en un incómodo vehículo arrastrado por mulas.

En los teatros es donde se nota poco o ningún progreso. La mayoría de las obras que se representan hoy en día o son antiguas o son traducciones de obras extranjeras. Las zarzuelas y sainctes de hace 30 años, como "La Viejecita," "El rey que rabió," "La Verbena de la Paloma," etc., todavía se representan con éxito. En esto sucede lo que en Inglaterra, donde, con algunas notables excepciones, las obras más populares son las que se estrenaron (were first produced) hace un cuarto de siglo o más. Y como es el caso en todas partes del mundo, una gran proporción de los teatros se van convirtiendo o se han convertido ya en "cines".

Lo más típico del antiguo teatro español, las castañuelas y la peina alta de las mujeres, ha desaparecido casi por completo tanto en la



The Bull Ring (Zaragoza).

capital como en otras ciudades grandes de España.

Donde mejor se conservan las costumbres genuinamente españolas es en Andalucía, la región de la alegría, donde todavía se bailan el "bolero" y el "fandango." La "cachucha" ha desaparecido ya, pero las "sevillanas" y "malagueñas," que son más recientes, no dan señales de dacadencia. Estos bailes tínicamente andeluces son de mas Estos bailes típicamente andaluces son de una gracia exquisita y son ejecutados con una sinuosidad fascinadora por parejas enfrentadas (facing euch other) al compás de las castañuelas, llamadas vulgarmente "palillos," y las guitarras. En los bailes llamados "flamencos" cada una de las bailarinas conserva su individualidad y trata de superar a las demás, siendo irresistible la voluptuosa



Dancing the "Sevillanas" (Seville).

en Madrid. En dicha carta hablaba ella de una muchacha española, amiga suya, que había sido educada en Inglaterra y se había acostumbrado a los juegos atléticos y la vida libre de las jóvenes inglesas. Ella acababa de volver a casa de sus padres y, según decía, estaba volviéndose loca

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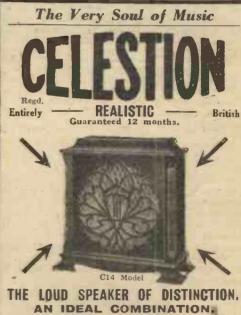
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ANGUAGES



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belleza de las andaluzas, cubiertos sus gráciles cuerpos con traje de batista y mantón de flecos (fringed).

Al que vuelve a España despues de una ausencia de algunos años, no deja de llamarle la atención la creciente popularidad de los deportes de todas clases. Pero desgraciadamente no es probable que el "futbol" (o el balompié, si hemos de darle su verdadero nombre español) ni los demás ejercicios atléticos, reemplazcan en pocos años a las corridas de toros, si bien la tendencia de hoy es humanizar algún tanto esta diversión nacional, que tan cruel

nos parece a los que sentimos cariño por los animales. El juego de pelota, tan arraigado en las provincias vascongadas, continúa siendo la diversión favorita de los atléticos vascos, pero en estos últimos años, y particularmente desde 1919, el "futbol" ha llegado a constituir una intensa atracción para el pueblo español. Las sociedades obreras, compañías de ferrocarriles, y bancos tienen sus "clubs de futbol," y los partidos (games) entre equipos (teams) de una misma ciudad, entre provincias e internacionales atraen a grandes muchedumbres. De toda Europa y hasta de Sud América van a España equipos de "futbol."

Los ingleses residentes en España han tomado parte importante en el movimiento deportivo, ycosa rara—son los únicos que hasta ahora juegan al "cricket." El gran juego nacional inglés tiene, al parecer, pocos atractivos para el español, cuyo temperamento meridional pide un juego más emocionante, de más rápida decisión, que el "cricket."

¡ España se ha vuelto atlética! ¡ España no se muere, se mueve !

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

- (1) Study the characters of M. Jourdain and Madame Jourdain in Le Bourgeois Gentil-
- (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.
- (3) 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 Senorita.

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- He must become a registered reader of World-Radio for at least 6 calendar months. 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 in the adjoining column. The subjects announced bear upon the talks given throughout the preceding period. Essays should be between 1,000 and 1,500 words in length.
- 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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#### (Continued from column 3.)

it is not all plain sailing. In my opinion we shall in time come to the generator driven from any supply and having an output for L.T., H.T., and even grid negative, but it will take a long time and a lot of work before that comes.

In the meanwhile, for those who want really good loud-speaker reception, "power" in the last stage and some way of getting it as indicated above, from the mains, whether directly or indirectly, is the right policy.

### TECHNICAL CON-SIDERATIONS.

By Capt. P. P. ECKERSLEY.

#### XV.—Using the Mains for Power.

NDOUBTEDLY, in time, when all the houses of this country have electricity for heating, cooking, lighting and domestic use, the wireless set will also be energised from the same source.

It does seem so absurd that the wireless set which actually takes only that amount of energy which is required to light an ordinary bedside lamp should cost us so much in time, money and bother.

At present, however, the dry battery is the most common form of high tension and the accumulator lights the valves, since many a house is not lighted by electricity. The difficulty, if electric power exists in a house, is this. How to convert "the mains" which may be 110, 220, 240, etc., volts and may be alternating or direct current, and if the latter, may be earthed on the positive or the negative. There can be with all this variation no standard method of conversion.

One may, in this article, perhaps, point out some of the general methods that have been or may be

Take first the simplest way of "using" the mains, i.e., by charging the accumulators (low and high tension) from the mains. This is to my mind one of the best ways of using the mains, whether D.C. or A.C., because it involves no especial difficulty. Quality of reproduction depends so much upon having an adequate number of "watts" in the last stage, it is therefore important to have the high tension accumulator of a sensible size. (It takes this charge and discharge well if it is not too small.) Thus assume a "large" high tension accumulator, an ordinary L.T. and mains—suppose these are D.C. 240, or something like this. For charging the H.T. I think the splitting of what should be say a 300 volt battery into sections is best. Thus if you have 240 volt mains and a 300 volt H.T. accumulator, parallel the accumulator in two halves

for charging through a lamp when in effect the 240 volt mains charge a 150 volt accumulator.

It is extremely uneconomical to charge the L.T. accumulator from the high voltage D.C. mains direct and, if it can be afforded as capital cost, a little generator is well worth while, a generator which converts the 110, 220, etc., volts of the mains to say 8 to 10 volts for charging the L.T.

All this is expensive and bulky, but it is economical in maintainance cost. Installed in the cellar by a competent electrician it should be perfectly feasible.

The point about such an installation is that it provides the ideal for your wireless set and it is cheap in maintenance, although capital outlay is large. If a higher maintenance cost can be faced, the generator may be dispensed with and a large set of lamps burnt in series with the L.T. to charge the accumulator direct from the mains.

accumulator direct from the mains.

With A.C. the task is much easier, and I should frankly advise anyone with A.C. mains and a high quality loud-speaker to accept the simple solution: buy a 250 volt H.T. accumulator and charge it through any of the many types of "charging units" sold. The L.T. can be economically treated in the same way. Of course, to recommend the above may seem crude when many mains adaptors for working direct on to the set exist. I quite agree, but the warning I give is not to set about designing mains adaptors yourself. Certain re-putable firms make mains adaptors for use direct to the set, and these naturally can be relied upon, but just "plunging" by the amateur is not only sometimes dangerous, but may result in poor quality.

To go into the reasons why would take too long. I think those who have had "shots" at making mains adaptors for working directly on to the set will know that

(Continued at foot of column 2.)

### Continental Programme Events.

Sunday, July 24.

1.15 p.m. Stockholm. Changing of the Guard at the King's Castle.

3.30 p.m.—Dublin.—Munster Hurling semi-fina!: Cork v. Limerick. Relayed from the Agricultural Grounds, Thurles.

7.45 p.m.—Stockholm.—The Band of the Royal Swedish Navy.

8 p.m.-Munich.-" Polenblut"-Operetta by Leo Stein, music by Oskar Nedbal.

8 p.m.-Stuttgart.-French Programme. (Other stations giving French programmes during the evening are Frankfurt (8 p.m.),

Langenberg (8.15 p.m.), and Leipzig (8.15 p.m.).

8 p.m.—Munich.—" Norma" (Bellini).

8.15 p.m.—Breslau.—" With the microphone in Silesia's Seaside Resorts": Concert relayed from the Lukasmuehle, Schreiberhau.

9 p.m.—Zurich.—Russian-German Songs 9.10 p.m.—Rome.—Orchestral and Vocal Concert, including Act 4 of "Francesca da Rimini."
10 p.m.—Copenhagen.—Ballet Music of all

countries.

Monday, July 25.

8 p.m.—Hamburg, Hanover.—Mandoline Concert given by the "1915 Travelling Musicians."

p.m.—Brussels.—Chamber Music for wind instruments and piano.

8.10 p.m.—Breslau.—French Evening.

(French programmes will also be given by Berlin (8.30 p.m.) and Copenhagen (9.30 p.m.).

8.15 p.m.—Frankfurt.—" Francesca de Rimini."

9.30 p.m.—Radio-Paris.—"The Black Domino"

(Auber).

8.45 p.m.—Langenberg.—"The Rhythm America."

9.30 p.m.—Stuttgart.—Festival in connection with the Jubilee of Tuebingen University. Relayed from Tuebingen.

Tuesday, July 26.

p.m. - Copenhagen. - Classical Symphony Concert.

8 p.m.—Prague.—Concert by the Czech Philharmony. Compositions by Dvorák.
8.10 p.m.—Koenigsberg.—"Beautiful Helen":

Operetta by Offenbach.

8.15 p.m.—Stockholm.—Concert to the memory of Carl Michael Bellman, the singing poet of

the 18th Century.

8.30 p.m.—Berlin.—Relay from the Music Festival in Krefeld, Frankfurt-on-Maine.

p.m.—Naples.—"Miss America": Operetta by Evemero Nardella.

9.10 p.m.—Rome.—"La Signora del Cinematographo" (Weinberger) and "La Gran Vio" (Valverdi).
9.15 p.m.—Leipzig.—"In the Summer." Concert by the Leipzig Wireless Orchestra,

Wednesday, July 27.

7.50 p.m.—Hilversum.—Italian Operatic night, relayed from the Concert Hall, Amsterdam.
8 p.m.—Copenhagen.—Russian Music.

8.10 p.m.—Berlin, Breslau.—"Das Dorf ohne Glocke" (The Village without Bells) from a Hungarian legend by Arpad Pasztor; music

hungarian legend by Arpad Pasztor; music by Edward Kuenneke.

8.15 p.m.—Frankfurt, Hamburg.—Czech Music, by the Prague Ondricet Quartett.

8.15 p.m.—Leipzig.—American Evening.

8.30 p.m.—Berne.—César Franck Organ Recital from the French Church, Berne.

8.30 p.m.—Radio Paris.—"Phillasse" (Leon-cayallo)

cavallo).

8.30 p.m.—Langenburg.—Orchestral Concert of Northern Music. 8.45 p.m.—Toulouse.—Concert, followed by the

Opéra-comique "Si j'etais Roi" (Adam).
p.m.—Brussels.—Selections from "Galathea"

(Victor Massé).
p.m.—Milan.—"Don Pasquale." (Donizetti).

10.10 p.m.—Union Madrid.—Selections from two musical comedies "La Viejecita" and "El Duo de la Africana" (Caballero).

10.30 p.m.—Berlin.—Hungarian Music.

Thursday, July 28.

8 p.m.—Brussels.—Swedish programme.
8.30 p.m.—Radio-Paris.—Roumanian Festival
Concert. Popular and sacred songs by the Concert. Popular and sacred songs by the Choir of the Roumanian Church, under the direction of M. Kiresco.

8.30 p.m. — Hamburg. — "Summer Evening". programme, from Koenigswusterhausen.

8.30 p.m.—Langenberg.—Mountain songs and

9 p.m.—Berlin.—Programme of Waltzes. 9 p.m.—Naples.—Old and new Neapolitan music. 9.30 p.m.—Zurich.—Spanish, Hungarian and Russian Dances.

Friday, July 29.

7.50 p.m. — Hilversum. — Symphony Concert relayed from the Kurhaus, Scheveningen.

8 p.m.—Stuttgart.—Schubert programme.

8 p.m.—Frankfurt.—Dutch Folksongs.

8 p.m.—Frankfurt.—Dutch Folksongs.
8.30 p.m.—Radio-Paris.—"Lohengrin" (Wagner) preceded by Violin Solo "Chacone" (Bach).
8.30 p.m.—Munich.—Military Concert: Band of the 7th (Bavarian) Cavalry Regiment.
8.32 p.m.—Geneva, Berne.—Russian Music.
9 p.m.—Naples.—"Hoffmann," an Opera by Guido Laccetti.

9.15 p.m.—Koenigsberg.—'Cello Recital. 10.30 p.m.—Berlin.—Night Music.

Saturday, July 30.

8 p.m.—Copenhagen.—Old Dance Music. 8.10 p.m.—Koenigsberg.—Greetings from delegates to the World Esperanto Congress in

p.m.-Naples.-Concert of Italian Lyrical Music. 9.30 p.m.—Oslo.—Concert by the Opera singer, Ornulf Grimsgaard.

10 p.m.-Stockholm.-Old Dance Music.



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

#### CANADA

Confederation Celebration Broadcast. (By a Correspondent.)

The simultaneous broadcast of the Diamond Jubilee of Confederation from Ottawa to the whole Dominion of Canada gave broadcasting the impetus it required. In the past, radio listening has for the most part been limited to the possessors of long-range sets, but now, with the complete success attained by simultaneous broadcast, crystal sets, with the amplification necessary for loud speakers,

will have their day.

The recent broadcast has demonstrated that radio in Canada is not very far behind that across the border, so far as quality, combined with volume, is concerned. The relay of the Carillon bells was a triumph in itself, although far from being perfect, owing to the vibrations in the bell chamber; but Canada is not unique in experiencing this

difficulty.

In the history of events in Canada, that of the Confederation broadcast will undoubtedly take a foremost place. Many days were occupied in experiment, and bad lines eliminated, before eventually two or three clear lines were at the disposal of the broadcasting companies concerned. When it is taken into consideration that over 300,000 people in one particular section of the City of Montreal gathered together and City of Montreal gathered together and heard distinctly every word spoken, as well as the musical part of the ceremony, it speaks well for radio. It is estimated that well over five million people in Canada listened to the transmission, as well as thousands more in America (through the Detroit station).

The outlook for radio in the Dominion of Canada is distinctly profising, considering the enormous distances to be covered and the unevenly scattered population. Twenty-three stations were in operation relaying the special pro gramme, and there is no doubt that, to insure greater success in the future, more stations will be required for relay purposes. Although other countries have perfected simultaneous broadcast, this has really been Canada's first great venture, and it has been entirely successful. Naturally there are many difficulties to contend with, particularly the Northern Lights, which affect not only radio reception, but also that of telephonic and

telegraphic communication. This may one day be conquered, but at present there is little sign of this.

Lack of finance is another obstacle, for, owing to the licence fee being only \$1 for each receiving apparatus, the income derived therefrom is not large. Naturally, stations as a rule on the average depend largely upon advertising—that is average depend largely upon advertising—that is to say, if they broadcast a programme it must be one arranged by some commercial company. This may be to a certain extent quite satisfactory, but on the other hand publicity items tend to bore the listener. The artists, generally speaking, are not of the same calibre as may be obtained in Great Britain or the United States, as local stations cannot afford to pay enormous fees for the services of some world-wide known artist. When we pause to visualise the scope of radio our thoughts go to Northern Canada, and there we find isolated groups of settlers or missionaries among the Eskimos, whose sole contact with civilization is by means of radio. and it is then that we fully realise its value.

#### GERMANY

A "Hot" Game Broadcast.

(From a Correspondent.)

The Russian working men's football team which played a similar team representing Germany at Hamburg on Sunday, July 10 (relayed by Langen-berg, Konigswusterhausen and other stations), gave a good game to their opponents. From the first, they set the pace, and their remarkable forward play repeatedly called forth exclamations of admiration for three prizes to the value of £300, £200 and £100. The awards will be made rather later than was

#### Licences Nearing 2,000,000.

The healthy state of German broadcasting is shown by the figures of subscribers at the end of the second quarter of this year. On June 30, there were 1,713,899 subscribers—an increase compared with last quarter of 78,171. Reckoning three listeners to every set licensed, about ten per cent. of the German population may be considered radio listeners. By the end if the year, it is hoped to reach the 2,000,000.

#### SWEDEN

Two Years' Licence Extension.

(From our Stockholm Correspondent.)

Under a new resolution of the Swedish Government, the Broadcasting Co. ("Radiotjänst" Ltd.), has obtained a two years' extension of its licence, that is,

to the end of 1929.
At the same time, however, the Radiotjänst's proportion of the licence income has been further reduced. At first the division between the Company and the Telegraph Board was equal. From the beginning of 1927, Radiotjänst was granted only 3.72 Swedish crowns from each licence fee of 10 cr., and now its share has been reduced to 3.30 cr.

This division is to be revised yearly. In several other ways the Government has also strengthened its influence on the

Programme Analysis.

The programme statistics for the Swedish Broadcasting Co. ("Radiotjänst" Ltd.) during the past winter-season shows the following percentage for the different programmes:—

		Pour
		cent.
	Ordinary Music (orchestras,	
	vocal and instrumental solos)	19.96
2	Symphony Concerts	4.94
	Chamber Music	2.1
	Operas from the Royal Opera	
	House	2.84
the	Talks	15.94
	Recital and Theatre	5.7
ink.	Cabaret	6.29
	Dance Music	7.55
	. Divine Service	9.24
Children	's Programmes	7.95
News (in	cluding current reports from actual	
	nts)	16.89
Transmi	ssion of foreign stations	0.6
	the of motion that the statistics only	

It is worthy of notice that the statistics only refer to the programmes after 6 p.m. (except on Sundays).

#### TURKEY

Programmes from Stamboul.

Turkey opened its first station for broadcasting at Stamboul on June 15, and guests in hotels, restaurants and cafés in Erzeroum, Diabekir, and other places of importance expect to be regaled with the Stamboul programme between 5 and 7 and again later in the evening, with the aid of loud speakers provided by the landlords. The programmes comprise Turkish music and Anatolian congrammes from 5 to 7 and from 8 30 conversals are songs from 5 to 7, and from 8.30 onwards are mostly made up of orchestral concerts, dance music and lectures, as in the Western countries. The annual subscription in Turkey is about thirty shillings (English).

### Foreign Radio Humour

GERMANY.



"The receiver is always smaller and weaker than the sender.

from the Norag's announcer. For broadcasting purposes, the field was divided into ten parts, the Russian goal being zero and the German goal ten. It was therefore always possible, by the mere mention of a figure, to indicate the position of the ball. The half-time score was 2—0, and Russia finally won the match by 4—1. The result would have been even less favourable to the home side it is had not been favourable to the home side it if had not been for the excellent work of their goalkeeper. The game was a hot one in more than one sense, the weather being sultry. Germany still shares the disinclination of other European countries to regard football as a purely winter sport.

In the Hamburg Regatta, the broadcast of which preceded the football, the Berlin Ruderklub again won the principal race of the day, the Senate Prize

#### 1,200 Playwrights Compete.

Twelve hundred radio plays by anonymous authors have been submitted to the Reichs Rundfunk Gesellschaft (the holding Company of all the German Broadcasting Companies), in its competition

# Viâ Ether"

ITH regard to my recent notes on the proposed Berlin relay of noises from Luna Park, although not a weather prophet (Heaven forbid, during this summer!) my prognostications appear to have been correct, and in view of the downpour which was inflicted on the German capital on that evening the transmission did not take place. If, in the meantime, the elements have proved of a more charitable disposition, you will have been taken to the German Earl's Court on July 16, in which case the advertised programme of a Berlin Night, to which I referred last week, will have been postponed to a later date, not yet fixed at time of writing. In years to come, meteorologists will emphatically deny that the summer of 1927 took place on a Saturday!

To-day, at 11 a.m., Langenberg and its group of transmitters, as well as many of the other German stations, will broadcast Dr. Stresemann's speech of welcome on the steps of the Elberfeld Rathaus to the members of the Congress of the Union Cycliste Internationale arriving in that city. At 9.30 p.m. to-night the "Rheinlandsender" will also offer you a musical sketch in one act by Mozart. Fritzchen und Lieschen. He wrote several small one-act operas; Vienna advertises a broadcast of two somewhat better known works, namely, Bastien and Bastienne and The Impresario for 5 p.m. on Sunday, July 31. It is to be hoped that by that date the Rosenhuegel and Stubenring transmitters, which have been closed down during the general labour strike in Austria, will again he on the air. An interesting fact about Mozart's Impresario is that it was first produced at the Palace of Schoenbrunn in 1786 at a Court banquet given by the Emperor Joseph II.; it was a musical skit on a voice trial of would-be opera singers by the Impresario Frank. Hence its title.

Have you noticed that Frankfurt-on-Main new daily broadcasts a carillon at midday? It is a relay of the bells of Darmstadt Castle. The Music Exhibition is still in full swing, and to-night, at 8 p.m., you will be given the opportunity of hearing the second recital of mechanical instruments, with short explanatory talks. Both Naples and Rome, as usual, present us with operatic performances, the former at 9 p.m. with Bizet's Carmen, the latter fifteen minutes later with an operetta, Sugnizza, by Costa. Riga, at 8 p.m., will broadcast a symphony concert from the Stadtgarten. As this is a 2-kilowatt transmitter working on 526.1 metres, it might be worth a few minutes' search, although I fear that at this time of the year it may prove disappointing.

I can strongly recommend your calling in at Brussels on every Saturday and Sunday evening, as on these days Radio-Belgique now regularly takes its entertainments from the Ostend Kursaal. During the past two weeks I have not failed to listen to them. The Kursaal Concert Hall is one of majestic proportions seating some six thousand people. During the season it possesses an orchestra

of over 100 musicians and many celebrities of the concert platform contribute to its entertainments.

Frankfurt, to-morrow evening, between 6.45 and 7.40 p.m., offers an interesting item, namely, "The Voices and Music of the Nations." These are gramophone records illustrating the songs and instruments popular in all foreign countries. The Berlin Museum for some time past has extensively added to this collection, and during last winter some of these interesting discs were transmitted through German stations. In most instances they are presented and explained by Prof. Wilhelm Doegen who, I understand, is responsible for these entertaining exhibits.

Of operatic transmissions we have quite a number to-day; Kiel, at 4.30 p.m., obliges with excerpts from Tchaikovsky's Eugen Onegin; Milan, at 9 p.m., with a relay of Donizetti's Don Pasquale; Madrid (EAJ7), at 10.15 p.m., presents two Spanish operettas, namely, El Pollo Tejada, by Valverde, and The Beautiful Mother Country, by Chapi; and Hilversum, at 10.30 p.m., will take you over to the Scala Theatre at Amsterdam.

Next Sunday, July 24, is the day which, by arrangement with Geneva, will be devoted by the principal continental transmitters to the first of an international series of programmes. On this occasion the entertainments are in honour of France. Radio-Paris has prepared a lengthy broadcast of exceptional interest; it will include some thirty items comprising recitations, songs, excerpts from classical and other plays, orchestral pieces and choral works all of "native manufacture" and to which French artists alone will contribute.

On Sunday week (July 31), at 7 p.m., the Koenigsberg and Danzig transmitters will turn to Zoppot for a relay of a portion of the 1927 Richard Wagner Festival. You will hear a complete performance of that com-poser's third work in the Nibelungen Ring, The Twilight of the Gods, as presented in the open-air theatre of Zoppot under the direction of Professor. Dr. Max von Schillings, of the Berlin State Opera House. Singers from the German capital and from Hamburg have been specially engaged for this Festival performance, as well as an augmented orchestra of over 100 musicians and a chorus of 300 mixed voices. Zoppot, on the Baltic, is the Brighton of the Danziger Bucht. As you already know it possesses a famous Kursaal which frequently provides vocal and instrumental concerts to the Koenigsberg and Danzig studios. On many occasions during the summer season spectacular shows are given in the open-air theatre, the stage of which is set in a deep valley flanked on three sides by small hills, the slopes of which can accommodate thousands of paying spectators. Such displays and operatic performances are common to many Central European countries, and the relay of these productions must always prove of great interest to distant listeners.

Although as reported in World-Radio last week, the German authorities have abandoned the idea of relaying a part of the Fiftieth Anniversary Festival of the Richard Wagner Theatre at Bayreuth, we shall still be given many opportunities of hearing this composer's works from other opera houses. If you care to tune in to Munich or Nuremberg (the latter for my personal preference), on Sunday, July 31, at 4 p.m., you may assist at a performance of Tristan and Isolde at the Prinz Regent Theatre in the Bavarian capital. It may not be Bayreuth, but this house runs the former very closely in Wagner productions.

I notice a curious coincidence in the programmes of the coming week. Whereas a Paris transmitter will broadcast Adam's opera If I were King, our own 5XX will give us a musical comedy based on Justin Huntly McCarthy's play of the same title. In reality, the coincidence is only one of names as Adam's opera, Si j'étais Roi, produced in Paris in 1852, has nothing in common with the plot containing an alleged incident in the life of François Villon on which the English play is based. As a matter of fact, the story of Si j'étais Roi is more or less bodily lifted from the Arabian Nights Entertainments. The Vagabond King, at present being performed at a West End theatre, is, of course, a modern musical version of the McCarthy play which dates back to 1901.

In the Koenigsberg programmes will be found on Thursday, July 26, at 8.10 p.m., a studio performance of Offenbach's operetta La Belle Hélène; on Saturday, July 30, this station will relay from Danzig at the same time the speeches made by the delegates to the Esperanto World Congress held in that city. There will be representatives of some 15 different nations present, each of whom will be allowed to speak for two minutes in his native tongue and for a further two minutes in Esperanto, followed by a translation into German.

Here is a piece of news which will, without doubt, gladden the hearts of dx searchers both on medium and short waves. Many of the U.S.A. transmitters, including WGY and DKA, will relay the Dempsey-Sharkey boxing bout which will take place on Thursday, July 28, at 9 p.m., Eastern Daylight Saving Time. Whether the transmission will be audible by the ordinary broadcast transmitters I do not know, but I feel sure that with some little help from the ether it will be capturable from 2XAD or 2XAF, the short-wave transmitters of Schenectady, or on the lower wavelengths of East Pittsburg. World-Radio will welcome any reports from readers who may succeed in getting them on that night.

Leipzig, on July 27, at 8.15 p.m., devotes its time to music and poetry of the U.S.A. Unintentionally, no doubt, it includes a gramophone record with the curious title of Land of Hop and Glory!

JAY COOTE.

### Which Station Was That?

Wireless Billy (Oldham): Eiffel Tower relaying English lalk from Sorbonne University, Paris. This transmission is also taken dally by PTT, Paris. Desite (Mill Mill): The programmes of these shortwave transmissions are not published. Possibly PCJJ (Eindhoven, Holland) on 30.2 m. A. D. (Bandon): Malmó relaying transmission from Stockholm studio. Traversial Two (Sydenham): (1) Marseilles (PTT); this station is heard here at quite good strength; (2) Yes, Milan; the station possesses a lady-announcer. Bellasis (Goring): Hilversum, from the studio; talles with official programme. Rellex (Dudley): (78) Nuremberg relaying Munich (Hotel Stadt Wien); (96) PTT Lyons relaying dance music from Coliseum Music Hall, Paris; (97) Copenhagen relaying dance music from Restaurant Ninnb in that city; (100) Are you sure of your wavelength? We cannot trace this transmission and would welcome further details. Gooder Grammar Teached Here (Coatbridge): Full name and address must accompany a nom-de-plume. We cannot give such addresses in these columns. G. R. C. 17 (Taunton): The station was Marseilles PTT. The call of Kosice Hallo! Hallo! Zde radiostanics Koszice Slovensko, that of Agen, is merely Radio-Agen. You may pick up the latter transmission every afternoon through Radio Toulouse. Breadalbane (Manchester): Nom-de-plume must be accompanied by enquirer's name and address. Nuremberg relaying an organ recital from the Exhibition Hall at Munich. Two Valve Godreaman (Aberdare): 2KG given as the call-sign of an amateur transmitter at Kensington, W. 14; we cannot trace 7AF. Lagos (Ryde): You picked up this programme on a harmonic of 5XX. Manchester did not relay it. Ether-Rider: Nom-de-plume must be accompanied by enquirer's name and address. We do not know any official wireless telephony station on this wave-length. M.F. 42 (Regent's Park): (a) Probably Seville (EAJ5) on 357 m.; (b) You heard the concert given on the Rheinterasse at Disseldorf from Dortmund via Langenberg. HwB/931 (West Hampstead): Dance music from Lelpzig on 365.8 m. Wi

NOTE.

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

#### WORLD-RADIO (No. 104).

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

The conditions are as follows:—

The conditions are as follows:-

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

If, owing to paucity of details submitted, or for any other adequate reason, the transmission cannot be identified, a further query will be answered free of 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.



### The Compleat (Ether) Angler:

or the Diary of a Simple Soul.

By HUGH R. SEELEY.

WHEN, for several days on the 9.20 each morning, Hugging without the morning, Huggins reiterated the wonderful conquest of the ether he was making by means of his new two-valve receiver, his perpetual bragging fired my imagination, and in a rash moment I decided to enter the lists and compete with him in his deeds of prowess. Whether experience has been an ordinary one or whether ill-luck has dogged my steps, I know not, but, for the benefit of other radio amateurs, I have put down in sequence the occurrences as they took place. I am known to be a person of an orderly frame of mind; from the outset I have kept a record of my out-of-pocket expenses. So far as I can see—and I do not believe that I have made any serious mistakes in adding up the cash columns to date I appear to have spent already on this popular hobby a sum which, in pre-War days, might easily have maintained an average family of four heads for a whole year.

The first entry in my diary was on April 1, 1927; I cull the following extracts:-£ s. d.

When at breakfast I informed my wife that I had decided to adopt wireless as a hobby she expressed at first dismay, then anger. . . . To replacement of two china anger. . . To replacement of two china cups, a coffee pot and several plates

Apr. 2.—I have subscribed to three 0 12 101

technical papers and to World-Radio in order to secure all necessary information

4.—Finding wireless circuits in-comprehensible, invited Huggins, Graves and Potts to dinner to night; as they assure me they are experts Extra household expenses refunded to my wife ...

Apr. 5.—After close perusal of world programmes, have entered for special international language courses, German, French, Italian, and possibly Spanish

Apr. 7.-To 1 doz. packets of headache 

facturers, asking them for catalogues of sets

Apr. 10.—Tip to postman who stag-gered to the door with hefty par-cels of price lists . . . . 11.—Called in friends for advice.

gins having inadvertently left his hot pipe on grand piano) .. ... Apr. 15.—Acting on experts' advice, decided to construct own receiver. Postages on applications to advertisers of kits of components ... Apr. 18.—Tip to postman ... Apr. 19.—Fares and expenses to high-5 3 0 6 0 0 power transmitting station to see how broadcasting was done. (These included lunch) . . . . Apr. 20.—Cost of full kit of components for eight-valve "Boostodyne" . . 2 6 3 Apr. 21.—Extra accessories required ... Apr. 22.—Tip to carman ... 18 0 0 3 Apr. 23.—Replacement of 4 valves dropped by housemaid ... Apr. 23.—Housemaids' Wages (1 month in lieu of notice) ... ... 2 16 0

4 12 6



The odd structure above serves, not only as a ighthouse, but also as a community radio loud speaker. It is located at Dartmouth, Mass., where the Round Hills Radio Corporation maintains station WMAF. Around this battery of huge speakers the whole population of the town may gather on pleasant evenings to hear programmes reproduced with a volume that fills all outdoors.

1 10 0 ing burnt myself while soldering connections Apr. 27.—New hall rug to replace the one on which I rested newlycharged accumulator 3 5 0 Apr. 28.—New Paris model hat for wife Apr. 29.—Week-end at Brighton with 12 4 7 May 3.—Purchased two scaffold poles for aerial masts

May 4.—Cartage of same

May 5.—Casual labour for their erection

(3 men, 8 hours at ls. 3d.)... 2 10 0 1 10 0 May 5.-Replacement of broken panes in neighbour's hot-house ... May 5.—New coil of aerial wire... 0 12 6 0 5 May 5 .- Cost of broken skylight on roof May 5.—Solace to casual labourer after his fall from ladder .. 0 5 0 May 5.—Emergency repairs by plumber, one expert having tried to screw 0 15 6 Haendel, in order to enjoy Sunday 13 8 3 concerts May 6 .- To purchase of libretto of forth-0 0 2 for cost of dinner given to Huggins, Potts, and Graves on "demonstration night" 1 10 9 May 9.—Overhall by local electrician (Potts had suggested taking H.T. from the mains). Replacement of safety fuses .. .. .. .. .. .. .. .. .. .. ... May 10, 11, 12.—Estimated extra cost 0 7 6 of electric light during nights spent in trying to get America .. .. 13.—Replacement of five valves 0 4 10 May 13. broken by charwoman who mistook them for Christmas Tree ornaments, and dusted them

May 13.—Doctor's bill for attendance
on mother-in-law, who tripped
over loud-speaker extension cord.

May 14.—Chemist's bill for ditto 3 10 0 May 15 .- To cost of advertisement in local paper for disposal of set .. 0 3
May 16.—Purchase of two-seater for wife 135 0 May 17.—Crystal set for reception of 0 7 6 local station ... May 17.—Cost of licence 0 10 0 (This was insisted upon by Graves, Potts, and Huggins, who, curi-ously enough, could not show me

Apr. 24.—Sundry tools

Grand total .. ..£267 15 10

Personally, I cannot see for what reason radio has become a popular hobby, and it does not appear to me to be within the reach of the less fortunate classes.

#### DAVENTRY PROGRAMME

(Continued from Page 85.)

7.15 p.m.—The Songs of Richard Strauss. Sung by John Arustrong (Tenor). Liebeshymmus (Hymn of Love), Op. 32, No. 3; Ständchen (Serenade), Op. 17. No. 2; Freundliche Vision (A Welcome Vision), Op. 49, No. 1. Ich liebe dich (I love thee), Op. 37, No. 2.
7.25 p.m.—Mr. G. R. O. Crole-Rees:
7.45 p.m.—Wr. G. R. O. Crole-Rees:
7.45 p.m.—Variety: Josephine Trix (Syncopated Songs); Ed. Lowry (Keep Smiling); Jan Wien (Banjo); Harry Helmsley (Child Impersonator).
8.30 p.m.—A Bach Recital: By Harrid Sapuel (Planyforte) and

Harry Helmstey (Child Impersonator).

30 p.m.—A Bach Recital: By Harold Samuel (Planoforte) and Keith Falkner (Baritone). Harold Samuel: Toccata, in G minor. Keith Falkner: The Jovial Acolus (Secular Cantata "Der Zufriedengestellte Aeolus"); Bist du bel mir (Art thou near me?); Wilst du dein Herz mir schenken (Wilt thou give me thy heart?) (from Anna Magdalena's Book). Harold Samuel: Adagio, in G:

Short Prelude, in D., Prelude and Fugue in F Minor (2nd Book of "48" Preludes and Fugues).

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

2 12 6

1 15 0

20 0 0

0 6 9

0 3 43

0 0 2

0 15 8

0 8 0

9.15 p.m.—Shipping Forecast.
S.B. from London:—
(10.0 p.m.—Time Signal.)
9.20 p.m.—Topical Talk.
9.35 p.m.—The Victor Olof Sextet.
Overture, "Plymouth Hoe"
(Ansell).
9.45 p.m.—"High Tea." A One-Act
Play by H. E. Holme. Characters:
James Carter, Master-at-Arms on
board H.M.S. Ambitious (H.
St. Barbe West); Henry Brown,
Petty-Officer, 1st elass, of the same
ship (Mel Sydney); Fred Wilson,
Carter's Nephew, and a Trooper in
the Royal Horse Guards (Hugh
Dempster), Florence Carter, Carter's Daughter (Phyllis Panting).
10.10 p.m.—Sextet: Suite, "Three
English Dances" (Quilter); Valse,

The Rose Cavalier" (Richard; | "The Rose Cavalier" (Richard; Strauss).

10.25 p.m.—"Fire!" A Short Play written specially for Broadcasting by A. J. Alan. Characters; Albert Buckle (a Caretaker) Frank Denton; Jane Buckle (his Wife) Fflorence Hill; Mrs. Buckle (Albert's Mother), Dora Barton; Mabel Henderson, Phyllis Panting; Ruth Henderson, Margaret Gaskin (Two smart modern sisters, who are house-hunting); Policeman, David Spencer; A Fireman, Frod Vigay.

10.45—11.0 p.m.—Sextet: Suite, "La Source" ("The Spring") (Delibes); Valse from "Eugene Onegin" (Tchaikovsky).

11.0 p.m.—12 p.m. mldnight.—Dance Music: Debroy Somers' Ciro's Club Band from Ciro's Club.

#### SATURDAY.

10.30 a.m.—Time Sign al, Greenwich Weather Forecast.

S.B. from London:—
3.0 p.m.—international Athletics: England v. France. Running commentary by H. M. Abrahams. Relayed from Stamford Bridge. Interludes by the Henry Bronkhurst Trio from the London Studio.
5.15 p.m.—The Children's Hour.

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

S.B. from Nottingham:—
6.45 p.m.—Mr. R. Macpherson, Hon.
Sec. of the Notts Aero Club; An Eye-Witness Account of the Air Race for the King's Cup.
S.B. from London:—
7.0 p.m.—Mr. J. C. Rabie; The South African Farmers' Tour.
S.B. from London:—
7.15 p.m.—The Songs of Richard Strauss. Sung by John Armstrong (Tenor); Heimkehr (Homecoming), Op. 15, No. 5; In goldener Fülle (In golden abundance), Op. 49, No. 2; Allerseelen (All Souls Day), Op. 10, No. 8; Wie sollten wir geheim sie halten (How shall we keep our secret), Op. 19, No. 4.
7.30 p.m.—A Popular Concert: Harry Hopewell (Baritone); The Irwell Springs Band. The Band: March, "Machine Gun Guards" (Marechal); Overture to "Tancredi" (Rossini); Cornet Solo, "Majestic" (White). Soloist, C. Jones.
7.55 p.m.—Harry Hopewell: Down among the Dead Men (arr. Clutsam); The Merry Monk (Bevan); When Dull Care (arr. Lane Wilson).
8.5 p.m. (approx.)—The Band: Selection from "Lilac Time" (Schubert, arr. Clutsam); Trombone Solo, "The Sailor's Grave"

(Sullivan); Soloist, H. Beswick; Variations on a Weish Theme (Rimmer).

8.30 p.m.—Harry Hopeweil: My Soag is of the Sturdy North (German); The King's Highway (Stanford); Boot and Saddle (Rupert Marsh).

8.37 p.m.—The Band: Euphonium Solo, "Kentucky Home" (arr. Rimmer); Soloist, F. Garth; Selection, "Songs of England" (Round).

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

9.15 p.m.—Weither Forecast.

S.B. from London:— (10.0 p.m.—Time Signal).

9.20 p.m.—Writers of To-day: Mr. Holloway Horn reading a Short Story, "In the Dark."

9.35 p.m.—"Galling and Recalling." A Radio Revue by John Henry and R. Guy-Reeve. Musical Numbers by Various Composers. Cast includes: John Henry, Marova, Franklyn Gilmour, Alma Vane, Jagk Hagan, Blossom, Philip Wade, Henry Scatchard. Special Revue Orchestra under the direction of Stanley Holt.

10.35 p.m.—12.0 midnight.—Dance Music: The Savoy Orpheans and The Savoy Havana Band, from the Savoy Hotel.

(5XX) (1604:3 metres: 187 kc.)

#### **PROGRAMME** DAVENTRY

(July 24—30) (25 kw.)

#### SUNDAY.

SUNDAY.

10.0 a.m.—Time Signal, Greenwich; Weather Forecast.
S.B. from London:—

10.30 a.m.—Memorial Service and Geremony at the Opening of the New Menin Gate. Relayed from Ypres. Order of Service: Hymn:
"O God, our Help in Ages Past.".
Prayer: The Rt. Rev. L. H. Gwynne, Deputy-Chaplain-General to the British Armies in France and Flanders. The Rt. Hon. Sir Laming Worthington-Evans, M.P., will invite Field-Marshal Lord Plumer to unveil the Memorial. Address by Field-Marshal Lord Plumer. Speech by H.M. The King of the Belgians. The Dedication of the Memorial. Hymn: "For all the Saints who from their Labours rest." Prayer: The Rt. Rev. Dr. J. M. Simms, M.P., Principal Chaplain to the British Armies in France and Flanders. Hymn: "Now Thank we all our God." Benediction: The M.P., Principal Chaplain to the British Armies in France and Flanders. Hymn: "Now Thank we all our God." Benediction: The Rt. Rev. W. Keatinge, Roman Catholic Bishop in Ordinary for the British Army and Royal Air Force. Psalm 129 and Prayer. The Last Post by the Buglers of 2nd Battn. H.M. Somerset Light Infantry. Lament by the 1st Battn. Pipers of H.M. Scots Guards. One Minnte's Silence. Reveille by the Buglers of H.M. Somerset Light Infantry. Belgian National Anthem. God Save the King. The Hymns will be accompanied by The Band of H.M. York and Lancaster Regiment. Singing conducted by Stanford Robinson.

S. B. from Bournemouth:—

S.B. from Bournemouth:—

11.30 a.m.—12.30 p.m. (approx.)—
Part of the Service from Winchester Cathedral. It is expected that the Menin Gate Ceremony will end in time for Daventry to take the address by the Lord Archbishop of Upsala.

3.B. from London:—

1.30—5.30 p.m.—French National Programme. Susanne Bertin. (Soprano); Angus Morrison (Planoforte); The Wireless Chorus (Chorus Master, Stanford Robinson). The Wireless Symphony Orchestra (Leader, S. Kneale Kelley). Conducted by Edward Clark. Orchestra: The Marseillaise (Rouget de Lisle); Marche Joyeuse (Joyous March) (Chabrier).

3.40 p.m.—Susanne Bertin (with Orchestra). Scheherazade (Ravel). Three Poems by Tristan Klingsor: Asie (Asia); L'Indifferent (The Indifferent One); La Flüte Enchantée (The Enchanted Flute).

3.52 p.m.—Madame Alice de Walmont. Reading: Sur la mort d'une jeune fille (Ronsard); Imprecation de Camille (Corneille); Le Lac (Lamartine).

4.0 p.m.—Chorus and Orchestra. Cantique (Poem by Racine) (Gabriel Fauré).

4.5 p.m.—Angus Morrison: Musette en Rondeau (Rameau); La Bavolet Foltant (Couperin); L'Isle Joyeuse (The Happy Isle) (Debussy).

1.5 p.m.—Madame Alice de Walmont: Minial Pinsen (Musset); Les Mains (Verlaine); A pp ar l'tion (Mallarmé).

4.20 p.m.—Orchestra: Overture (Poulene, orchestrated by Darius Millhaud); Two Gymnopedies (Satie, orchestrated by Debussy); Overture to "Le Roi l'a Dit' ("The King has Spo ken") (Delibes).

4.45 p.m.—Madame Alice de Walmont: Excerpt from "Cyrano de Bergerac" Tirade du Nez.

4.50 p.m.—Angus Morrison with Orchestra: Gavotte ("Manon") (Massenet).

4.50 p.m.—Angus Morrison with Orchestra: Gavotte ("Manon") (Saint-Saëns).

5.10 p.m.—Orchestra: La Petite Tonkinoise (Christine); Prelude to Act III. "Louise" (Charpentier); Marche Military March) (Saint-Saëns).

5.10 p.m.—Areligious Service. From St. Mary's Parish Church, Swansca.

Address by the Rev. Preb. Canon Cecll W. Wilson, Vicar of Swansca.

8.55 p.m.—The Week's Good Cause:
Appeal on behalf of the Royal
Aged Merchant Seamen's Institute,
by Mr. Charleton F. Tufnell.
9.0 p.m.—Weather Forecast, News.
9.10 p.m.—Shipping Forecast.
9.15 p.m.—Shipping Forecast.

S.B. from London:

9.15 p.m.—The Govent Garden String Orchestra. Leader, H. Wynn Reeves. Conducted by Victor Hely Hutchinson: Cuthbert Smith (Baritone); Kendall Taylor (Pianoforte). The Orchestra: Three Movements from Screnade (Tchaikovsky). Cuthbert Smith (with Orchestra): Three songs of Travel: Bright is the Ring of Words, The Vagabond, The Roadside Fire (Vaughan Williams, arranged for String Orchestra by Herbert Menges). The Orchestra: A Wounded Heart (Grieg); Dances from "The Fairy Queen" (Purcell). Kendall Taylor (with Orchestra): Concerto in F Minor for Piano, with accompaniment for String Orchestra (Bach). Kendall Taylor andantino Capriccioso (Paganini, arr. Liszt); Träumerei (Dreaming) (R. Strauss); Capriccio in D Minor (Brahms). The Orchestra: Three Fugal Fancies (V. Hely Hutchinson). Cuthbert Smith: What shall I do to Show? I Attempt from Love's Sickness to Fly (Purcell); Ralph's Ramble to London, The Happy Lover (Traditional, arr. Lane Wilson). The Orchestra: Molly on the Shore (Irish Reei) (Percy Grainger); Minuet from "Berenice" (Handel, arr. Best), arr. Best). 10.45 p.m. (approx.)—Epilogue.

#### MONDAY.

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

S.B. from London:—

12.0 noon.—The Daventry Quartet and Reba Cohen (Soprano), Mark Mellars (Baritone).

Mellars (Baritone).
(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.
3.0 p.m.—Sydney Bowman's Trio and
Gladys Ripley (Contralto), Herbert Garry (Tenor), Samehtini
(Violoncello).
5.0 p.m.—Miss Julia Cairns, "Decorating your own Home.
Hs. of Right Colours."

(Violoncello).

5.0 p.m.—Miss Julia Cairns, "Decorating your own Home. II. The Use of Right Colours."

5.15 p.m.—The Children's Hour.
6.0 p.m.—The Daventry Quartet.
6.25 p.m.—The Daventry Quartet.
Weather Forecast, First General News Bulletin.
6.30 p.m.—Time Signal, Greenwich: Weather Forecast, First General News Bulletin.
6.45 p.m.—The Daventry Quartet.
7.0 p.m.—Mr. James Agate. Dramatic Criticism.
7.15 p.m.—Songs of Richard Strauss.
Sung by John Armstrong (Tenor).
Zueignung (Dedication), Op. 10, No. 1. Nichts (Nought), Op. 10, No. 1. Nichts (Nought), Op. 10, No. 2. Ich trage meine Minne ('Ill Bear My Love), Op. 32, No. 1. Heimliche Aufforderung (Secret Persuasion), Op. 27, No. 3.

S.B. from Cardiff:—
7.30 p.m.—Dros Gymru (For Wales).
"Noson Slawer Dydd," "Remembrances of Long Ago," arranged by Hywel Precelly. The Station Orchestra, Ap Siencyn, Codiad yr Haul, Hela'r Sgwarnog (arr. Myddeton). The Mountain Ash Girls' Choir, conducted by Miss E. Thomas. Lilw gwyn rho syn yr haf, Gwenni aeth 1 ffair Pwilheli, Robin Goch (Flintshire and Vale of Clwyd Folk Songs, collected by Lady Herbert Lewis). Mona Hughes—Barddoniaeth am Slawer Dydd, Gems from Welsh Poetry. Mattie Davies, (Contralto)—Oh, that Summer Smiled for Aye (W. Davies), Hone (Cartref). Choir—Counting the Goats (Anglescy Folk Song). The Little Gipsy Girl (Flintshire and Vale of Crwyd Folk Song). The Little Gipsy Girl (Flintshire and Vale of Crwyd Folk Song). The Little Gipsy Girl (Flintshire and Vale of Crwyd Folk Song). The Welsh Regiments: The Royal Welch Fusiliers, The South Wales Borderers, The Welch Regiment, The Welsh Guards. Glanville Davies (Baritone)—The Vagabond (Vaughan Williams), Wyt ti'n cofio'r loer yn codi (R. S. Hughes), Four Jolly Sallormen (German). Mona Hughes—Further Readings from Welsh Poetry. Choir—Clychau Aberdovey, Ble'r Wyt ti'n Myned, God Bless the Prince of Wales. Orchestra—Ar Hyd Y Nos (Myddleton), Mac Hem Willams).

S. B. from London;— (10.0 p.m.—Time Signal). 20 p.m.—Gloucestershire Dialect Talk arranged by Mr. E. Le Breton Martin. Spoken by Mrs. Hannam-Clark.

Clark.

Clark.

Daysed by The Daventry Quartet.

Clark.

Clark

#### TUESDAY.

10.30 a.m.—Time Signal, Greenwich;

\*\*Weather Forecast.\*\*

\*\*S. B. from London:—

(1.0 p.m.—Time Signal, Biy Ben.)

12.0 noon—2.0 p.m.—Corelii Windeatt's Band and Dorothy Penn (Soprano); Lenning and Childs (Syncopated Singers); Robert Poole (Barttone).

3.0 p.m.—The Daventry Quartet and Phyllis Nash and Dorothy Stanton Lee (Violin and Soprano); Henry Millidge (Barttone).

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

5.0 p.m.—Lady Neave: Recollections of Constantinople.

5.15 p.m.—The Children's Hour.

6.0 p.m.—The Daventry Quartet.

6.30 p.m.—The Daventry Quartet.

6.30 p.m.—The Daventry Quartet.

(continued).

7.0 p.m.—Mr. B. Tompkins: "How It's Done: Water Divining."

7.15 p.m.—The Songs of Richard Strauss. Sung by John Armstrong (Tenor). Traum durch die Dänmerung (Dream in the Twilight), Op. 29, No. 1. Ach weh mir unglückhaften Mann (Ah, woe is me, unhappy man), Op. 21, No. 4. Hoifen und wieder verzagen (Hoping and again despairing), Op. 19, No. 5. Cäcilie (Cecily), Op. 27, No. 2.

7.30 p.m.—Round the Stations.

8.15 p.m.—Plantation Songs: Olive Kavann (Coutralto); "Raymond Newell (Baritone); The Wireless Chorus and a Small String Orchestra: Conducted by Stanford Robinson. Raymond Newell and Chorus: De old Baujo, De ringtailed Coon, Goodnight (Scott Gatty). Olive Kavann: Ma Curly-Headed Babby (Clutsam), Mighty lak a Rose (Nevin), A Little Coon's Prayer (Melville Hope). Raymond Newell and Chorus: Croon, Croon, underneath de Moon (Clutsam), Oh, Honey, Ma Honey (Cartyl). Olive Kavann and Raymond Newell and Chorus: The Old Folks at Home (arr. Stanford Robinson).

9. 0 p.m.—Weather Forecast, Second General News Bulletin; Local Announcements.

Announcements.

9.15 p.m.—Shipping Forecast.
S. B. from London:—
(10.0 p.m.—Time Signal.)

9.20 p.m.—Sir H. Wafford Davies:
"Music and the Ordinary Listener"

9.40 p.m.—Emilio Colombo's Orchestra. Relayed from the Hotel
Victoria, London. Waltz Fragment from "Zigeunerbaron"
("The Gipsy Baron") (Strauss).
In this realm of souls departed
("Orpheus")(Gluck). Megan Thomas
(Soprano): Ah, fors, e lui (Ah,
perhaps 'tis he), from "La
Travlata" (Verdi). Orchestra:
Selection from "Samson and
Delilah" (Saint-Saëns). Emilio
Colombo (Violin): Brilliant Polonaise (Wieniawski). Megan
Thomas: Il Bacio (The Kiss)
(Arditi). Orchestra: Selection of
Folk Songs of the Ukraine (arr.
Colombo).

10.45 p.m.—12.0 midnight.—Dance

Folk Songs of the Catanac (Colombo).

9.45 p.m.—12.0 midnight.—Dance Music: Jay Whidden's Midnight Follies Dance Band, from the Hotel Metropole.

#### WEDNESDAY.

10.30 a.m.—Time Signal, Greenwich;
Weather Forecast.
S.B. from London:
12.0 noon.—Concert: The Dayentry
Quartet and Miranda M. Palmer
(Soprano); Bertha Hagart (Pianoforte).

1.0 p.m.—Time Signal, Big Ben.)
1.0—2.0 p.m.—Camille Couturier's
Orchestra from Restaurant Frasati.

cat).

O p.m.—The Daventry String
Quartet and Louise Matrin (Soprano); Walter Whiteway (Bass);
Anthony Collins (Viola).

45 p.m.—E. Gee Nash: "Holidays
at Home and Abroad—Scandinavia".

navia."
4.0 p.m.—Concert (continued).
5.15 p.m.—The Children's Mour.
6.0 p.m.—Organ Recital by Reginald
Foort, relayed from the New
Gallery Kinema.
6.20 p.m.—The Week's Work in

Foort, relayed from the New Gallery Kinema.

5.20 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 Reginald Foort (continued).

7.0 p.m.—Air Ministry Talk: The Lord Mayor of Norwich: "Norwich an Air Port."

7.15 p.m.—The Songs of Richard Strauss. Sung by John Arnstrong (Tenor): Die Nacht (Night), Op. 10, No. 3; Brett' über mein Haupt (Spread over my Head thy dark hair), Op. 19, No. 2; Herr Lenz (Sir Spring), Op. 37, No. 5; Gefunden (Found), Op. 56, No. 1; Winterliebe (Winter Love), Op. 48, No. 5.

Winterliebe (Winter Love), Op. 36, No. 5, No. 5, 730 p.m.—Variety: The Utica Jubilee Singers in Negro Spirituals. "Dolly's Little Bills," a Sketch by Henry Arthur Jones. The Cast will include: Ethel Irving, Farren Soutar and Gilbert Porteus. 3.0 p.m.—Concert of New Works: Kingsley Lark (Baritone); Esther Fisher (Solo Pianoforte); The Wireless Orchestra. The Orchestra, conducted by Edward Clark: A Holiday Tune (Allau B. Sly); Four Traditional Tunes (arr. Gerrard Williams: Fairest Jenny; The Humours of Bath, or The Bath Medley; The Sheep under the Snow; The Fits come on me now.

now.

15 p.m.—Kingsley Lark, with Orchestra conducted by Herbert Ferrers. "A Ballad upon a Wedding." Poem by Sir John Suckling. Set to music as a Dance-Sare

Ferrers. "A Ballad upon a wedding." Poem by Sir John Suekling.
Set to music as a Dance-Song.
Suite for Bass Voice with Accompaniment of Small Orchestra (Flute and Strings) by Herbert Perrers.

8.27 p.m.—Esther Fisher: A May Day, Rabbit Hill, Winter Solitude, April on the Hills, (Roy Agnew).
The Orchestra, conducted by Julian Herbage. Suite from the Hacidental Music to "Husband Love" (Julian Herbage). The Orchestra, conducted by B. Walton O'Donnell: Three Humoresques: Pride and Prejudice: Prevarication; Petulance and Persuasion (O'Donnell).

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

Announcements.

9.15 p.m.—Shipping Forecast.
S.B. from London:
10.0 p.m.—Time Signal.
9.20 p.m.—Topical Talk.
9.35 p.m.—Symphony Concert: Dr.
Adolph Brodsky (Violin); The
Wireless Symphony Orchestra
(Leader, S. Kneale Kelley). Conducted by T. H. Morrison. Orchestra: Overture, "A Roman
(arnival" (Berlioz).
9.45—11.0 p.m.—Dr. Adolph Brodsky
and Orchestra: Concerto, in A
Minor, for Violin and Orchestra
(Bach). Quick; Slow; Very
Quick. Orchestra: First Symphony (Brahms); Ballet Music
from "Le Cid" (Masseuet).

11.0 p.m.—12.0 midnight.—Dance
Music: Kettner's Five, directed
by Geoffrey Gelder, from Kettner's
Restaurant.

#### THURSDAY.

10.30 a.m.—Time Signal, Greenwich;
Weather Forecast.
S.B. from London:—
12.0 noon.—The Daventry Quartet and Catheart Lynn (Contralto),
Julian Halevy (Baritone).
(1.0 p.m.—Time Signal, Big Ben.)
1.0—2.0 p.m.—New Gramophone Records.

1.0—2.0 p.m.—New Gramophone Records.
3.0 p.m.—Evensong. Relayed from Westminster Abbey.
3.45 p.m.—Mr. Geoffrey Edwards.
"The Italian Lakes."
4.0 p.m.—The Daventry Quartet and Joan Every Leggatt (Soprano), Mervyn Lambert (Baritone).
5.15 p.m.—The Children's Hour.
6.0 p.m.—Ministry of Agriculture Fortnightly Bulletin.

(25 kw.)

6.15 p.m.—Market Prices for Farmers.
6.20 p.m.—The London Radio Dance
Band, directed by Sidney Firman.
6.30 p.m.—Time Signal, Greenwich:
Weather Forecast, First General
News Bulletin.
6.45 p.m.—The London Radio Dance
Band (continued).
7.0 p.m.—Canon E. S. Woods, "The
Lausanne World Conference on
Faith and Order."
7.15 p.m.—The Songs of Richard
Strauss. Sumg by John Armstrong
(Tenor). Morgen (Tomorrow), Op.
27, No. 4. Wenn (17), Op. 31,
No. 2. Kornblumen (Cornflowers),
Op. 22, No. 1. Schnsucht (Longing), Op. 32, No. 2.
7.30 p.m.—Musical Comedy. Margaret Cochran (Soprano), George
Pizzey (Baritone), The Wireless
Orchestra, conducted by Edward
Clark. The Orchestra—Selection
from "The Country Girl" (Monekton). Margaret Cochran—Ont in
the Breezy Morning Air ("Veronique") (Messager). The Morning
Heartless Sun, Little Princess
("Amasis") (Michael Farady).
The Orchestra—Selection from
"The Merry Widow" (Lehar).
George Pizzey-Selected Songs.
The Orchestra—Selection from
"Stop Flirting" (Gershwin, Daly
and Lanin).
8.20 p.m.—Excerpt from "The Vagabond King." Relayed from the
Winter Garden Theatre. A Musical
Comedy based on Justin Huntly
McCarthy's "If I Were King."
Music by Rudolf Frimt. Book and
Lyrics by W. H. Post and Brian
Hooker. The Excerpt will include:
Love for Sale, Norah Blaney and
Chorus. Drinking Song, Mark
Lester and Male Chorus. Song of
the Vagabonds, Derek Oldham and
Chorus. Some Day, Winnie Melville and Derek Oldham and
Chorus. Some Day, Winnie Melville and Derek Oldham and
Chorus. Some Day, Winnie Melville and Derek Oldham and
Chorus. Some Day, Winnie Melville and Derek Oldham. The
Cast also includes: F. Wilson
Barrett, H. A. Saintsbury, and
Franklyn Kelsey.
9.0 p.m.—Weather Forecast, Second
General News Bulletin; Local
Announcements.

S. B. from London:—
(10.0 p.m.—Time Signal.)

Announcements.

9.15 p.m.—Shipping Forecast.
S. B. from London:—
(10.0 p.m.—Time Signal.)
2.0 p.m.—Mr. H. C. Hart. Persia,
the Land of the Lion and the Sun.
9.35 p.m.—A Sullivan Programme.
The Wircless Orchestra, conducted
by S. Kneale Kelley. Prelude to
Act IV., "The Tempest." Incidental Music to "Henry VIII."
Introduction: King Henry's Song
(arranged as a 'Cello Solo. Soloist,
Ambrose Gauntlett); Graceful
Dance.

Ambrose Gauntlett); Graceful Dance.
10.0 p.m. (approx.).—Topliss Green (Baritone). Woo Thou Thy Snow-flake, Ho, Jolly Jenkin.
10.8 p.m.—Orchestra. Selection from "The Emerald Isle."
10.18 p.m.—Topliss Green. The Lost Chord; Tears, Idle Tears; Swallow, Swallow.

Swallow.

10.25 p.m.—Orchestra. Overture to

"Iolanthe."

10.30 p.m.—12.0 midnight. — Dance
Music. The Savoy Orpheans and
The Savoy Havana Band from the
Savoy Hotel.

#### FRIDAY.

FRIDAY.

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

S.B. from London:—

12.0 p.m.—Charles O'Connor (Songswith Irish Harp); Helen de Cort (Soprano).

12.30 p.m.—An Organ Recital. By Thomas Armstrong, Organist and Director of the Choir, St. Peter's, Eaton Square. Relayed from St. Mary-le-Bow Church.

1.0—2.0 p.m.—Lurch-time Music by The Orchestra Colombo (Leader, A. Mantovani), from the Hotel Metropole.

1.0—2.0 p.m.—tender.
The Orchestra Colombo (Leader, A. Mantovani), from the Hotel Metropole.
3.0 p.m.—The Radio Octet and Laura Moore (Mezzo-Soprano);
J. H. Creed (Planoforte); James Bernard (Reciter).
5.0 p.m.—Mrs. Marion Cran: "A Garden Chat."
5.15 p.m.—The Children's Hour.
6.0 p.m.—Frank Westfield's Orchestra, from the Prince of Wales Playhouse, Lewisham.
6.30 p.m.—Time Signal, Greenwich; Weather Forecast, First General News Bulletin.
6.45 p.m.—Frank Westfield's Orchestra (continued).
7.0 p.m.—Mr. G. A. Atkinson.
"Seen on the Screen."
CONTINUED ON PAGE 844

### PROGRAMMES FOR SUNDAY

IRELAND

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

1.5 kw.
Programme relayed by Dublin (319.1 m., 940 kc.).
8.0 p.m.—Ballaghderoon Gaelic Choir.
9.0 p.m.—Station Quintet conducted by G. Ni Shullicabhain.
2.20 p.m.—Tenor Solos by Lionel Boardman.

by G. M.—Tenor Solos by Lionel Boardman.

9.35 p.m.—Aiste Beag Gaedhilge by Y. O'Tuama.

9.45 p.m.—Quintet Selections and Tenor Solos.

10.30 p.m.—"Diere Gno"

10.35 p.m. (approx.).—Close Down.

10.35 p.m. (approx.). Close Down.

DUBLIN. Dublin Broadcasting
Station (2RN). W.L. 319.1 m.
(940 kc).; 1.5 kw.
3.30-5.0 p.m.—Munster Hurling
Semi-Final—Cork v. Limerick.
Relayed from the Agricultural
Grounds, Thurles.
8.0—10.30 p.m.—Programme relayed
from Cork 400 m. (750 kc).
10.35 p.m. (approx.).—Close Down.

**AUSTRIA** 

AUSTRIA

VIENNA. Radio-Wien. WL. 577 m. and 517.2 m. (520 and 580 kc.);
1.5 and 5 kw.
11.0 a.m.—Orchestral Concert.
1. Moorish March from "Boabdil"—(Moszkovsky). 2. "Kakadu"—Overture (Offenbach). 3. "Gold and Silver"—Waltz (Léhár). 4. Fantasy on the Works of Smetana (Urbach). 5. Third Norweglan Rhapsody (Svendsen). 6. Song (Wacek). 7. "Love Me"—from the Operetta "Die Königin" (Strauss). 8. "Wiener Blut"—Waltz (J. Strauss). 9. "Die Puppenfee"—Selection (Bayer). 10. French Polka (Schrammel). 4.0 p.m.—Afternoon Concert from the Works of Joh. and Jos. Strauss. 1. "Simplicius"—Overture. 2. Freudengrüsse—Waltz. 3. "Die Libelle"—Polka Mazurka. 4. "Waldmeister"—Overture. 5. "Transactionen"—Waltz. 6. Frauenherz—Polka Mazurka. 7. Guitar Music by Alfred Rohndoff. 8. "Der Frauenherz"—Selections. 9. Die Fledermaus"—Overture. 10. "Dorfschwalben aus Oesterreich"—Waltz. 11. "Aus der Ferne "—Polka Mazurka. 12. "Leben und geniessen"—Waltz. 13. French Polka. 6.45 p.m.—Anecdotes and Stories 8.0 p.m.—Programme of French Music by the Vienna Symphony Orchestra. 1. "Les indes galantes" (Ranneau). 2. "La bandoline" and "Le bavolet flottant" (Couperin). 3. Waltz from "Symphony Orchestra. 1. "Les indes galantes" (Ranneau). 2. "La bandoline" and "Le bavolet flottant" (Couperin). 3. Waltz from "Symphony Orchestra. 1. "Les indes galantes" (Ranneau). 2. "La bandoline" and "Le bavolet flottant" (Couperin). 3. Waltz from "Symphonie fantastique" (Berlioz). 4. Plaisir d'amour (Massens). 7. "Air from "Manon" (Massenset). 8. "Prelude to "L'après midi d'un faune" (Debussy).

BELGIUM

BELGIUM

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

5.0 p.m.—Dance Music relayed from the St. Sauveur Palais de Danse.

7.30 p.m.—Recital of Flemish Monologues by Hubert Sprengers.

8.0 p.m.—Recital of Flemish Monologues by Hubert Sprengers.

8.30 p.m.—Organ Recital relayed from the Eglise des Carmes.

9.30 p.m.—Concert relayed from the Kursaal, Ostende. 1. "The Flying Dutchman"—Overture (Wagner)

2. Violin Solo by M. Henry Gadeyne Danse Macabre (Saint-Saéns). 3.

Le Dernier Sommeil de la Vierge (Massenet). 4. Mme. Yvonne Brothier: Indian Song from "Rose Marle" (Friml). 5. "Faust"—Selection (Gounod). 6. Theme and Variations (Proth). 7. "Le Roi d'Ys"—Overture (Lalo).

10.20 p.m.—Dance Music by Nic Fusly's Band, relayed from the Kursaal, Ostende.

11.0 p.m. (approx.).—Close Down.

CZECHO-SLOVAKIA

BRATISLAVA. Radio Bratislava

W.L. 263.2 m. (1,140 kc); 0.5 kw.

10.30 a.m.—Relay from Prague
(348.9 m.; 859 kc).

4.30 p.m.—Relay from Prague.

5.20 p.m.—Quartet Selection of Popular Music.

7.20 p.m.—Talks.

8.0 p.m.—Relay from Prague.

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

NOTE: THE HOURS OF TRANSMI
BRUENN. Komarov. WL. 441.2
m. (680 kc); 3 kw.
9.30 a.m.—Agricultural Report.
10.0 a.m.—Organ Recital. 1. Choral
(Franck). 2. The Creation (Haydn).
3. Benedictus (Reger). 4. Alleiula
(Mozart). 5. Adagio (Liszt).
10.30 a.m.—Relay from Prague
(348.9 m.; 859 · kc).
5.0 p.m.—Dance Music.
6.0 p.m.—German Transmission.
8.0 p.m.—Relay from Prague.
10.0 p.m.—Relay from Prague.

PRAGUE. Strasnice. WL. 348.9 m.

PRAGUE. Strasnice. W.L. 348.9 m.
(859 ko); 5 kw.
9.0 a.m.—Agricultural Report.
10.30 a.m.—Orchestral Music.
12.15 p.m.—Commercial Notes.
4.30 p.m.—Talk.
5.0 p.m.—German Transmission.
7.0 p.m.—Talk.
8.0 p.m.—Concert. 1. The Bartered Bride (Smetana). 2. Two Widows (Smetana). 3. Selection (Dvorák).
4. Hedy (Ffbich). 5. Faust (Tchalkovsky). 6. The Queen of Sheba (Goldmark). 7. Der Rosenkavaller (Strauss).
10.0 p.m.—Time, News and Orchestral Music.

DENMARK

COPENHAGEN. Copenhagen-Radio.
WL. 337 n. (890 ke); 0.7 kw.
Programme relayed by Soro
1,153 m. (260 kc).
10.0 a.m.—Divine Service from the

10.0 a.m.—Divine Service from the Cathedral.
4.0 p.m.—Concert from the Rosen-

Cathedrai,
4.0 p.m.—Concert from the Rosenborg Gardens.
5.0 p.m.—Divine Service.
7.0 p.m.—News and Time.
7.30 p.m.—Reading.
9.30 p.m.—Reading.
9.30 p.m.—News.
10.0 p.m.—Concert of Ballet Music.
1. "Rosamunde" (Schubert). 2.
"The Demon" (Rubinstein). 3.
"Sylvia" (Delibes). 4. "Two
Widows" (Smetaua). 5. "The
Lorelet" (Catalani). 6. "Naples"
(Pauli).
11.0 p.m.—Dance Music from the
Nimb Restaurant.
12.0 p.m.—Chimes from the Town
Hall and Close Down.

FRANCE

PARIS, Ecole Supérieure (FPTT).

W.L. 447.8 m. (670 kg); 0.5 kw.

Transmits at intervals from 8.0 a.m.
2.0 p.m.—Relay of Speech by Monsieur Herriot from Vailly-sur-

PARIS. Petit Parisien. WL. 340.9 m.

PARIS. Petit Parisien. WL. 340.9 m.

(880 kc); 0.5 kw.

9.0 p.m.—Concert. 1. "Marco
Spada"—Overture (Auber). 2.

"Le Pré aux Clercs"—Selection
(Herold). 3. "Le Rève" from
"La Perle du Bresil" (David).

4. "Giralda"—Selection (Adam).

5. Adagletto from "L'Arlésienne"
(Bizet). 6. Cavalleria Rusticana
(Mascagni). 7. Waltz from
"Coppélia" (Delibes). 8. "Dunse
Bohémienne," from "Rouneo and
Juliet" (Gounod).

PARIS. Radio-Paris (CFR). WL.

1,760 m. (170 kc); 3 kw.

12.0 noon.—Sacred Music and
Address.

12.30 p.m. (approx.).—News.

12.45 p.m.—Orchestral and Solo Concert. 1. El Granuja (Orlando).
2. Zara—Waltz (Roberts). 3. (a) Sevilla, (b) Cordoba (Albeniz).
4. Variety by Biloquet. 5. Boris Goudonov—Suite (Mousorgsky).
6. To Spring (Grieg). 7. The Wind—Pianoforte Solo (Watham).
8. (a) L'Horloge à Grand'mère, (b) Le Marchand Chinois—Planoforte Solos (Smet). 9. La Refalosa —Tango (Seras). 10. La Légende de l'Eventail (Persiani).
4.45 p.m.—Dance Music.
8.15 p.m.—Dance Music.
8.15 p.m.—Dance Music.
8.15 p.m.—Dance Music.
8.16 p.m.—Special Concert: Dedicated to "Le Genie Francais."
1. Choral Selections: (a) Il est Bel et Bon (Passereau), (b) Deliette Mignonette (du Caurroy), (c) La Bataille de Marignan (Jannequin). 2. Recitations: (a) Ballade des Dannes (Villon), (b) Ballade des Dannes (Villon), (c) Ballade des Dannes (Villon), (d) Ballade des Dannes (Villon), (e) Ballade des Da

Boeuf sur le Toit" (Milhaud).

News in the Intervals.

TOULOUSE. Radiophoule du Midi.

WL. 392 m. (765 kc). 3 kw.

Transmits at intervals from 10.15a.m.
12.0 (noon)—Sacred Address.
12.15 p.m.—Sacred Music.
12.45 p.m.—Sacred Music.
12.45 p.m.—Goncert. 1. Marche
Tartare (Ganne). 2. La brise est
douce (Filippucc). 3. Rapsodie
Slave (Volpatti). 4. La Tzigane
(Ganne). 5. Sérénade (Hollmann).
6. La Petite Marlée (Lecoq). 7.

Sicilienne (Chausson). 8. Don't wait
too long (Berlin). 9. Le Ruisselet
(Fiebet). 10. Lowland Waltz
(Holzmann). 11. Sedibai (Brunest).
2.10 p.m.—Address and Pslams.
8.30 p.m.—Talk.
8.45 p.m.—Concert. 1. "Rigoletto"
—Selection (Verdi). 2. Sophie
(Levade). 3. "Parsital"—Selection (Wagner). 4. "La Bohème"
—Selection (Puccini). 5. "Robert
le Diable" (Meyerbeer). 6.
Mireille (Gounod).

GERMANY

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.

Programme relayed by Koenigs-wusterhausen on 1,250 m. (240 kc); and 8 kw. 9.0 a.m.-Morning Recital

and S ky.

9.0 a.m.—Morning Recital.

11.30 a.m.—Orchestral Concert: 1.

"Prometheus".—Overture (Beethoven). 2. Minuet (Boccherini). 3.
Flute Serenade (Roland). 4.
Romance (Grünfeld). 5. Spanish
Rhapsody (Richards). 6. Liebesszene (Holländer). 7. Asra (Königsberger). 8. "The Czardas Princess"
—Selection (Kalman). 9. Träume
(Schütt). 10. Blues (Stolz). 11.
Comedy Gallop (Winter).

2.30 p.m.—Talk on "Berlin
Humour."

3.0 p.m.—Agricultural Talk.

O p.m.—Chamber Music: 1. "La Finta Semplice" — Overture (Mozart). 2. (a) Morgen; (b) Heimliche Aufforderung (Rich. Strauss). 3. Selections from "Der Schneemann" (Korngold). 4. Schaemann" (Korngold). 4.
Schneemann" (Korngold). 4.
Schne Passionic (Becce). 5. Aus
südlichen Sphären" (Fresco). 6.
Selection from "Elektra" (R.
Strauss). 7. Zaza (Leoncavalio).
8. Turkish Suite (Gauwin).
7.5 p.m.—Talk on "Rome."
7.30 p.m.—Talk on "A Journey to
Tripoli."
7.55 p.m.—Talk on "The Modern
Dance."
3.30 p.m.—Geneart of Free

7.55 p.m.—Talk on "The Modern Dance."

8.30 p.m.—Goncert of French Classics.

1. Pianoforte Solos: (a) Le Bavolet Flottant (Couperin); (b) Le Rappel des Oiseaux; (c) Tamborin (Rameau). 2. Soprano Solos: (a) La Curleuse (Bouffiers); (b) Plaisir d'Amour (Martini). 3. Monologue from "Le Mariage de Figaro" (Beaumarchais).

8. Soprano Solos: (a) La Grisette du Quartiet Latin; (b) Le Temps des Cerises (Pegaud). 5. Scene from "On ne Badine Pas avec l'Amour" (Musset). 6. Violin Solo, Havanaise (Saint-Saēns). 7. Air from "Manon" (Massenet). 8. A Scene from Zola's Works. 9. Violin and Planoforte Duet, First Sonata (Milhaud). 10. The Balcony Scene from "Cyrano de Bergerae" (Rostand).

10.15 p.m. (approx.).—Weather and News.

10.30 p.m.—Dance Music.

News.

10.30 p.m.—Dance Music.

12.30 a.m. (Monday, July 25).

(approx.).—Close Down.

FRANKFURT-AM-MAIN. Südwest-

(approx.).—Close Down.

FRANKFURT-AM-MAIN. Südwestdeutscher Rundfunk. W.L. 428.6 m. (700 kc): 4 kw.
8.0 a.m.—Morning Recital.
11.30 a.m.—Talk for Parents.
12.0 noon.—Carllion from the Darmstadt Castle.
3.0 p.m.—Children's Corner.
4.0 p.m.—Concert by the Male Choral Society "Relay from the Stadium, Elberfeld.
7.30 p.m.—Programme arranged by the "Frankfurter Zeitung"
8.0 p.m.—Concert of French Music: Relayed from Stuttgart 379.7 m. (790 kc).
10.15 p.m. (approx.)—Sports Notes, followed by Dance Music.
12.30 a.m. (Monday, July 25—(approx.).—Close Down.

HAMBURG. Norag (ha, in Morse). W.L. 396 m. (758 kc.); 4 kw.
8.25 a.m.—Morning Recital.
11.0 a.m.—Esperanto Lesson.
11.30 a.m.—Morning Recital.
11.0 a.m.—Esperanto Lesson.
11.30 a.m.—Open Air Concert relayed from Hanover.
12.30 p.m.—Technical Talk.
12.55 p.m.—Thile from Neuchätel.
1.5 p.m.—Orghestral Concert.
1.0 p.m.—Children's Corner.
3.0 p.m.—Gala Concert.
5.0 p.m.—Children's Corner.
3.0 p.m.—Gala Concert relayed from the Cafe Wallhof.
1. "Der Freischlicht Birthday.
5.30 p.m.—Concert relayed from the Cafe Wallhof.
2. "Rienzi" — Prelude and Chorale (Wagner). 3. Pot-pourri (Komzak). 4. "Lucia di Lanmermoor"—Selection (Donizetti). 5. "Zwei Herzen, doch nur eins"—Waltz (Richter). 6. "Alla stella confidente "—Romance (Robaudi).
7. March (Halvorsen).
6.30 p.m.—Sports Notes.
8.10 p.m.—Weather.

7. March (Halvorsen).
6.30 p.m. — Sports Relay from Elberteid.
8.5 p.m. — Sports Notes.
8.10 p.m. — Weather.
8.15 p.m. — Concert of French Music. followed by Concert, from the Café Continental, Hanover: News and Sports Notes.
12.0 midnight (approx.). — Close Down

L A N G E N B E R G. Westdeutscher Rundfunk. WL. 468.8 m. (640 kc); 25 kw.

Programme also relayed by Muenster 241.9 m. (1.240 kc).

9.0 a.m.—Catholic Morning Recital from Dusseldor!.

11.0 a.m.—Talk on "Goethe"—from Cologne.

11.15 a.m.—Recitations from Cologne.

11.45 a.m.—Talk for Housewives from Gologne.

12.15 p.m.—Reading from "The Life and Work of Voltaire" (Hardt), from Cologne.

10. p.m.—Orchestral—Concert from Cologne.

2.30 p.m .- Literary Talk from Muen-

(July 24)

2.30 p.m.—Literary Talk from Muenster.

3.10 p.m.—Talk on "Karoline von Günderode," from Gologne.

3.45 p.m.—Concert of Mandoline Music, from Dortmund, 283 m. (1,060 kc). 1 Poet and Peasant—Overture (Suppé). 2. Serenade in E Minor (Grunfeld). 3. Soprano Songs: (a) Solweig's Song (Grieg); (b) 'The Convert (Strange). 4. Feenreigen (Ritter). 5. Concerto in G Minor—Mandoline Solo (Munier). 6. "Si j'étais Rol" — Overture (Adam). 7. "Am Spinnradchen"—Internezzo (Ritter). 8. Old Alrs—arranged by Th. Ritter: (a) "Von der edlen Musik"; (b) Old Love Song; (c) Russian Air. 9. Wildbach Country Dance (Schubert). 10. Gastaldon—March (Novacek).

5.30 p.m.—Finals of the World Cycling Championship Races. Relayed from Elberfeld.

7.20 p.m.—Reading from the Novel "Hampit the Hunter" (Kneip), from Cologne.

8.0 p.m.—Sports News from Cologne.

8.16 p.m.—Concert of French Music and Recitations from Cologne.

1. Introductory Talk. 2. Les Indes galants (Rameau). 3. Le Devin—Selections (Raudelaire). 5. Concerto for Pianoforte in G Minor (Saint-Saéns). 6. Pavane pour une Infante defunte (Ravel). 7. Recitations (Verlaine). 8. Suite (Massenet), followed by Sports Notes and Dance Music.

2 midnight (approx.).—Close Down, 4. 379.7 m. (790 kc); 4 kw.

8TUTTGART. Süddeutscher Rundfunk. W L. 379.7 m. (790 kc); 4 kw.
11.30 a.m.—Morning Recital.
1.15 p.m.—Gramophone Concert.
3.0 p.m.—Programme for Children, including a Dramatized Version of Hans Andersen's "The Nightingale."
4.30 p.m.—Orchestral and Vocal

miciuding a Dramatized Version of Hans Andersen's "The Nightingale."

4.30 p.m.—Orchestral and Vocal Concert.

6.0 p.m.—Talk.
6.15 p.m.—Talk.
6.45 p.m.—Reading from his own Poems by Kurt Heynicke.

7.45 p.m.—Time and Sports Notes.
8.0 p.m.—Concert of French Classics:
1. Introductory Talk. 2. (a) Planoforte Solos—Gaillarde (Chambonnières); (b) Air Tendre (Lully); (c) Le Moulin à Vent (Dagincourt); (d) Le Ramage from "Le Concert des Oiseaux" (Dandrieux); (e) Gavotte (Marchand); (f) "Le Coucou (Daquin). 3. Recitation (Bérenger). 4. Pianoforte Solos: (a) Les Roseaux; (b) L'Arlequine; (c) Tic-Toc-Choc ou les Maillotins (Couperin). 5. Recitation, "La Lune" (De Musset). 6. Pianoforte Solos, "Musette en Rondeau" and "La de Croissy" (Rameau).

7. Poems (Verlaine). 8. "Djamileh".—One-act Opera (Bizet). 9. Selections from the Works of Rabelais and Theophile Gautier.

10. Orchestra with 'Cello Solo, Allegretto from the 'Cello Concerto (Saint-Saéns). 11. Dramatic Selection.

HOLLAND

HILVERSUM. Algemeene Nederlandsche Radio Omroep. W.L. 1,070 m. (280 kc); 5 kw. 10.10 a.m.—Divine Service, from Amsterdam. 5.40 p.m.—Divine Service. 7.40 p.m.—Weather and News. 7.50 p.m.—Concert from the Kurhaus, Scheveningen. 10.15 p.m. (approx.).—Close Down.

HUNGARY

BUDAPEST. Magyar Radio Ujsag. W.L. 555.6 m. (540 kc); 3 kw. 10.0 a.m.—High Mass. Relayed from the "Pfarrklrsche."

12 noon.—Time and Weather.
12.10 p.m.—Programme of Chamber
Music. Music.
5.15 p.m.—Concert of Gipsy Music.
6.30 p.m.—Programmo of Military
Music.
8.0 p.m.—"Szerelem es halal Jateka"
Play.
9.45 p.m.—Time and Weather,
followed by Dance Music from the
Hotel Ritz.

ITALY

MILAN. Unione Radiofonica Italiana) (1 MI) - W.L. 322:6 m. (930 kc); 1.5 kw.

### PROGRAMMES FOR MONDAY

(July 25)

#### IRELAND

RELAND. Cork Broadcasting Station (6CK). W.L. 400 m. (750 kc); 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. 940 kc).

940 ke).

Dublin Broadcasting Station (2RN). W.L. 319.1 m. (940 ke); 1.5 kw.

Transmits at intervals from 1.30 p.m. (750 kc). 6.30 p.m.—Children's Corner.

7.0 p.m.—Exchange Quotations and News.

7.30 p.m.—Irish Lesson by Mairead Ni Ghrada.

7.45 p.m. (approx.).—Gardening Tall-

NI Ghrada.
7.45 p.m. (approx.).—Gardening Talk by G. O. Sherrard.
8.0 p.m.—Orchestral Selections from the Works of Haydn.
8.40 p.m.—Amhrain Ghaedhealacha

the Works of Hayan.
8.40 p.m.—Amhrain Ghaedhealacha
—Tadhg MacFirghisigh.
8.50 p.m.—Talk, "Thomas Furlong,"
by C. H. Ni Dhubhghaill.
9.5 p.m.—Violin Solos by Nora

by C. H. Ni Dhubhgnain.

9.5 p.m.—Violin Solos by Nora Richardson.

9.20 p.m.—Amhrain Ghaedhealacha (contd.).

9.30 p.m.—Orchestral Selections.

10.0 p.m.—Trio Selections by the Traditional Trio."

10.30 p.m.—News and Weather.

10.35 p.m. (approx.).—Close Down.

#### BELGIUM

BELGIUM

BRUSSELS. Radio-Belgique. WL.
508.5 m. (590 ke); 1.5 kw.
5.0 p.m.—Trio Selections.
7.30 p.m.—"Radio-Chronique."
8.0 p.m.—Chamber Music: 1. Trio
for Oboe, Flute and Clarionet
(Beethoven). 2. (a) Danses
espagnoles (Granados); (b) Balgneuses au solell (de Severac). 3.
Sextet (Thuyle),
8.55 p.m.—Topical Talk.
9.0 p.m.—Dance Music. Relayed
from the St. Sauveur Palais de
Danse.
10.30 p.m.—News.
10.45 p.m. (approx.)—Close Down.

#### CZECHO-SLOVAKIA

ULT CHU SLUV ANIA

BRATISLAVA. Radio Bratislava.

WL. 203.2 m. (1,140 kc); 0.5 ky.

4.0 p.m.—Agricultural Report.

5.45 p.m.—Concert.

6.45 p.m.—Relay from Prague

(348.9 m.; 859 kc).

7.20 p.m.—Talk.

7.40 p.m.—Slovakian Lesson.

8.0 p.m.—Relay from Prague.

BRUENN. Komarov. W. L. 441.2
m. (680 k;c.); 3 kw.
Transmits at intervals from 12.15 p.m.
6.0 p.m.—Time and Agricultural
Report.
5.20 p.m.—Talk.
6.45 p.m.—Relay from

#### DENMARK

DENMARK

COPENHAGEN. Copenhagen Radio.

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

Programme relayed by 80r0, 1,153
m. (260 kc).

7.0 p.m.—News, Exchange and Time.

7.30 p.m.—Talk.

8.0 p.m.—Orchestral Concert. 1.

"Die Wel hedes Hauses"—Overture Op. 124 (Beethoven). 2.

"The Barber of Seville"—Selection (Rossinl). 3. "The Danmation of Faust "—Dance (Berlioz).

4. (a) Litany; (b) Moment Musicale, Op. 94 (Schumann). 5.

Weeding March from "A Midsummer Night's Dream" (Mendelssohn).

NOTE: THE HOURS OF TRANSMISSION ARE REDUCED TO

10TE: THE
1.0 p.m.—News.
1.30 p.m.—Concert. 1. Folk Song
March (van Zois). 2. The Merry
Marionettes—Intermezzo (Fétras).
3. Vision d'amour (Friml). 4.
Reading. 5. Radotages (Gabriel-Marie). 6. Gold and Silver—Waltz
(Léhar). 7. Slavonic March 10.45 p.m. (approx.)—Close Down.

#### FRANCE

PARIS. Ecole Supérieure (FPTT).

WL. 447.8 m. (670 kc); 0.5 kw.

Transmits at intervals from 8.0 a.m.
6.0 p.m.—Radio Journal de France.
8.0 p.m.—Legal Talk.
8.15 p.m.—Science Talk.
9.0 p.m.—Concert of Classical Music.
Followed by News.

Followed by News.

PARIS. Elifiel Tower (FL). WL.
2,650 m. (113 kc.); 5 kw.
10.26 a.m.—Time.
6.45 p.m.—"Le Journal Parlé."
8.0 p.m.—Weather.
8.10 p.m.—Concert. 1. Quartet (Schumann). 2. Pianoforte Solo—Fantaisle Polonaise (Glinka).
3. Song—Bereeuse (Gounod).
4. Orchestra. "Le Roi d'Ys"—Selection (Lalo). 5. Pianoforte Solo—Fantasy in A minor (Bach).
6. Song—Marine (Lalo). 7. Orchestra—Frumaire (Duhamel).
8. Song—Almer (Hahn).
9. Orchestra—Bereeuse.
9.15 p.m.—Educational Programme.
11.26 p.m.—Time.

9.15 p.m.—Educational Programme.
11.26 p.m.—Time.

PARIS. Radio-Paris (CFR). W.L.
1,760 m. (170 kc); 3 kw.
10.30 a.m.—News and Exchange.
Followed by Musical Selections.
12.30 p.m.—Orchestral and Solo Concert. 1. La Calesera (Alonso).
2. Dreamy Melody (Koehler).
3. "Le Mariage de Figaro"—
Overture (Mozart). 4. Petit Conte (Deleau). 5. La Fille aux Cheveux de Lin (Debussy). 6.
L'Enfant Prodigue (Debussy). 7.
Sicilienne et Rigaudon (Francoeur). 8. "L'Arlésienne"—
Suite (Bizet). 9. Célèbre Sérénade (Albeniz). 10. L'Eau qui Court (Georges). 11. Le Cygne (Saint-Saéns). 12. Entr'acte from "Passionnément" (Messager). 13.
La Prière Dansée (Pessard). 14.
Fontarabie (Georis).
1.50 p.m.—Exchange and News.
4.30 p.m.—Exchange and News.
4.30 p.m.—Exchange and News.
8.30 p.m.—Exchange and News.
8.30 p.m.—Exchange and News.
8.30 p.m.—Exchange and News.
8.30 p.m.—Exchange alak Domino"—
Opera-comique—Selection (Auber).
News in the intervals.

TOULOUSE. Radiophonie du Midi. W. 2. 392 m. (785 ko); 3 kw.
Transmits at intervals from 10.15a.m.
8.0 p.m.—"El triste enamorado"

ransmits at intervals from 10.15a.m.
8.0 p.m.—"El triste enamorado" (Granato).
8.45 p.m.—Concert. 1. Military March No. 1 (Schubert). 2. Menuet (Boccherini). 3. (a) Japonaise à la Promenade (Guiraud), (b) Bourrée fantasque (Chabrier). 4. Selèction (Grieg). 5. Elegy (Fauré). 6. "Don Juan"—Selection (Mozart). 7. Berceuse (Wurmser). 8. Sérénadé (Kunc). 9. Sur les Sommets (Paulin). 10. Gopak (Moüssorgsky). 11. Un Air Joyeux (Van Herck).

#### GERMANY

BERLIN. Koenigswusterhausen.
WL. 1,250 m. (240 kc); 8 kw.
Transmits at intervals from 6.0 a.m.
6.30 p.m.—English Lesson.
6.55 p.m.—Economics Talk.
7.20 p.m.—Talk on "The Post and
Travellers."
8.30 p.m.—Programme relayed from
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.
6.40 p.m.—Technical Talk.
7.5 p.m.—Talk.
7.30 p.m.—Talk on "Dutch and

7.5 p.m.—Talk.
7.30 p.m.—Talk on "Dutch and
Flemish Art."
7.55 p.m.—Talk: "Words as Expression of the Spirit of the
Times."
Programme relayed by Koenigswusterhausen on 1,250 m. (240 kc);
and 8 kw.

wusterhausen on 1,250 m. (240 kc); and 8 kw. 8.30 p.m.—Max Dauthendey Recital: Talk on and Recitations from his Works, with Musle by Handel and Bach 9.30 p.m.—Song Recital: 1. (a) Dem Unendlichen; (b) Der Wan-derer (Schubert). 2. (a) Auf dem

See; (b) Ständchen; (c) Der Schmied (Brahms). 3. (a) Uber Nacht; (b) Fussreise; (c) Heimweh (Wolf). Followed by Weather and News.

(Wolf). Followed by Weather and News.

BRESLAU. Schlesische Funkstunde.

WL. 315.8 m. (950 kc.); 4 kw.
Transmits at intervals from 11.15a.m.
4.30 p.m.—Orchestral Concert.
6.0 p.m.—Literary Selection.
6.50 p.m.—Literary Selection.
6.50 p.m.—Literary Selection.
7.25 p.m.—Medical Talk.
8.10 p.m.—Goncert of French Music.
1. "Phedre"—Overture (Massenet). 2. Recitations. 3
"L'après-midi d'un Faune"—
Prelude (Debussy). 4. Recitations.
5. Impressions d'Italie (Charpentier): (a) Serenade, (b) A Mules, (c) Napoli.

ter): (a) Serenade, (b) A Mules, (c) Napoli.

FRANKFURT-am-MAIN. Südwestdeutscher Rundfunk. WL. 428.6
m. (700 kc); 4 kw.
Transmits at intervals from 12 noon.
4.30 p.m.—Concert of French Opera.
5.45 p.m.—Reading.
6.45 p.m.—Talk on "German Geology and Minerology."
7.15 p.m.—Talk and Reading, "The Book of Job."
8.15 p.m.—Farewell Programme of Alda Stukering, "Francesca von Rimini"—Tragedy (Silvio Pellico).

8.0 p.m.—Mandoline Concert.

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).

6.40 p.m.—Spanish Lesson from Cologne.

7.25 p.m.—Medico-Legal Talk, from Elberfeld.

on 241.9 m. (1,240 kc).
6.40 p.m.—Spanish Lesson from Cologne.
7.25 p.m.—Medico-Legal Talk, from Etherfeld.
7.55 p.m.—Talk for Parents, from Cologne.
8.20 p.m.—Talk on "Johann Sebastion Bach—Yesterday and Today," in commemoration of the anniversary of his death (July 28th, 1750), from Cologne.
8.45 p.m.—"American Programme," from Gologne. 1. Yankee Doodle.
2. Recitations (Walt Whitman).
3. Land of Hope and Glory.
4. Recitations (Rundt). 5. The Selfish Giant—Jazz Symphony.
6. Recitations (Rundt). 7. I'm Lonely without You. 8. Negro Poem and Mclodies. 9. Songs:
(a) Where is my Rose of Waikiki?
(b) "Yankee Rose."
10.10 p.m.—News and Sports Notes, from Cologne.

(b) "Yankee Rose."

10.10 p.m.—News and Sports Notes, from Cologne.

10.20 p.m.—Programme of American Music, from Cologne.

1. Indian Phantasy (Busoni). 2. Indian Suite (MacDowell).

11.25 p.m.—Dance Music, from Cologne.

12 midnight (approx.).—Close Down.

STUTTGART. Süddeutscher Rundfink. WL. 379.7 m. (790 kc.).

4 kw.—— Rose from 9.30 a.m.

funk. WL. 379.7 m. (790 kc.)
4 kw.
Transmits at intervals from 9.30 a.m.
6.0 p.m.—Time, Weather and News.
6.15 p.m.—Talk: "Inclination
Towards and Ability for a Profession."

8.45 p.m.—Talk.
7.15 p.m.—Reading by Alfons Paquet from his own Works.
8.0 p.m.—Topical Talk.
8.15 p.m.—Time and Weather.
8.30 p.m.—Symphony Concert. 1.
"Ruy Blas"—Overture (Mendelssohn). 2. Italian Symphony No. 4 (Mendelssohn).
9.30 p.m.— Alsatian Dialect

30 p.m. -Programme.

#### HOLLAND

HILVERSUM. Algemeene Nederlandsche Radio Omroep. WL.
1,070 m. (280 kc.); 5 kw.
Transmits ac intervals from 11.40 a.m.
3.10 p.m.—Talk for Women.
4.20 p.m.—Cohldren's Corner.
5.55 p.m.—Concert. 1. "Die schöne Galathée" — Overture (Suppé). 2. "Die Puppenfee" (Bayer). 3. "La Paloma" — Paraphrase (Manufred). 4.

Soprano Solos: (a) Entrée de Consulco, (b) "La Plata" (Gabriel), 5. Weaner Mad'l—Waltz (Ziehrer). 6. La Tristesse—Tango (Hentschel). 7. Si vous l'aviez compris (Denza). 8. Sunrise and You (Penn). 9. "Jugend in Mai" —Waltz (Leo Fall). 10. "The Dollar Princess"—Selection (Leo Fall). 11. Bereuce (Grit)

—Waltz (Leo Fall). 10. "The Dollar Princess"—Selection (Leo Fall). 11. Berceuse (Grit). 7.25 p.m.—Police News. 7.50 p.m.—Talk, followed by Orchestral Selection from the Kurhaus, 8cheveningen. 10.0 p.m.—Weather and News. 10.10 p.m.—Dance Music by Teddy Staves and his Band, relayed from Zandvoort. 11.40 p.m. (approx.).—Close Down.

#### ITALY

MILAN. Unione Radiofonica Italiana (1MI). WL. 322.6 m. (980 kc);

LITHUANIA

KOVNO. Radio-Kaunas. W.L. 2,000 m. (150 kc.); 7 kw. 7.30 p.m.—Time, Weather and News. 7.45 p.m. (approx.).—Close Down.

#### NORWAY

NORWAY

BERGEN. Kringkastingselskap.
W.L. 370.4 m. (810 kc.); 1 kw.
11.15 a.m.—Foreign Exchange.
12.15 p.m.—Veather and News.
8.25 p.m.—Fishing News.
8.0 p.m.—Concert by the Station Orchestra.
9.0 p.m.—Talk by Cantor Solheim.
9.30 p.m.—Violin Recital from the Works of Vieuxtemps. Soloist:
Jini Johannessen.
10.0 p.m.—Weather, News and Time.

SPAIN

BARCELONA. Radio Barcelona (EAJ1). W.L. 344.8 m. (870 kc); 2 kw.

(EAJ1). WL. 344.8 m. (870 ke);

2 kw.
12.0 (noon)—Chimes and Weather.
9.0 p.m.—Music by the Station Quintet.
9.30 p.m.—Soprano Songs.
10.0 p.m.—Chimes and Weather.
10.5 p.m.—Gramophone Record of the "Symphonie Heroique" (Beethoven).
10.30 p.m.—Contraito Songs by Concepcion Callao.
11.0 p.m. (approx.)—Close Down.

MADRID. Union Radio (EAJ7).
WL. 375 m. (800 kc.); 1.5 kw.
Transmits at intervals from 11.45 a.m.
2.0 p.m.—Concert by the "Artys Orchestra." Interlude by Luis Medina. Theatre Notes, Weather and News.
7.0 p.m.—Artys Orchestra.
8.30 p.m. (approx.).—Close Down.

#### SWEDEN

SWEDEN

STOCKHOLM. Radiotjänst (SASA),
WL. 454.5 m. (660 kc.); 1.5 w.
Programme also relayed by Motal,
1,320 (227 kc.), Goteborg, 416.7 m.
(720 kc.) and Malmo, 280.9 m.
(1,150 kc.).
7.45 p.m.—Orchestral Concert. 1.
The Hebrides—Overture (Mendelssohn). 2. (a) Canzonetta (Boccherini), (b) Minuet (Boccherini), (c) Minuet (Beethoven). 3. Suite from "A Midsummer Night's Dream" (Mendelssohn). 4. Three Bavarian Dances (Elgar). 5. Two Indian Love Songs (Woodford-Finden). 6. Selection from Turandot (Puccini).

8.0 p.m.—Time.

Turandot (ruceni).

8.0 p.m.—Time.

9.15 p.m.—News.

9.30 p.m.—Weather.

9.40 p.m.—Talk: "Six Years among African Savages."

#### SWITZERLAND

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.—Planofore Recital.
8.30 p.m.—Concert of Light Viennese
Music with Oboe Solos.
9.50 p.m.—News and Weather.
10.5 p.m.—Concert (contd.).
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.—Talk, "The Week's
Sports."
8.45 p.m.—Oracle Concert from

Sports."
8.45 p.m.—Orchestral Concert from the Café du Nord.
9.50 p.m.—News.
10.0 p.m. (approx.).—Close Down.

ZURICH. Radio Genossenschaft.

WL 588 m. (510 kc); 2 kw.
Transmits at intervals from 12.28p.m.
7.58 p.m.—Weather and Time.
8.0 p.m.—Talk.
8.30 p.m.—Orchestral Concert.
9.30 p.m.—Orchestral Concert of Viennese Waltzes and Popular Airs.
10.10 p.m.—News and Weather.
10.20 p.m. (approx.).—Close Down.

#### U.S.A.

U.S.A.
PITTSBURGH. Westinghouse Electric (KDKA). WL. 315.9 m.
(950 kc); 30 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. Followed by Music.
11.56 p.m.—Baseball Scores.
12.0 midnight.—Programme arranged by the "Duquesne Opera Company."

12.0 midnight.—Programme arranged by the "Duquesne Opera Company."
12.20 a.m. (Tuesday, July 26th).—Report of the Road Conditions.
12.30 a.m.—"Roxy's Gang." Relayed from New York.
2.0 a.m.—Spotlight Hour. Followed by Time. Relayed 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); 30 kw.
Transmits at intervals from 11.45a. m.
Relayed by 2XAD on 22.02 m.
(13,623 kc), from 11.0 p.m.
11.0 p.m.—Market Prices and News.
11.30 p.m.—Baseball Scores.
11.30 p.m.—Orchestral Music.
12.25 a.m. (Tuesday, July 26th).—
Baseball Scores.
12.30 a.m. (approx.).—Close Down.

#### TUESDAY **PROGRAMMES** FOR

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

#### IRELAND

CORK. Cork Broadcasting Station (6CK). WL. 400m. (750 kc); 1.5 kw.
2.30 p.m.—Weather, Stock Market Report and Gramophone Becords.
6.30—10.30 p.m.—Programme relayed from DuSlin 319.1 m.
(940 kc). layed fi

(940 kc).

DUBLIN. Dublin Broadcasting Station (2RN). WL. 319.1 m. (940 kc); 1.5 kw.

Transmits at Intervals from 1.30 p.m.
Programme relayed by Cork (400 m.; 750 kc).
6.30 p.m.—Children's Corner.
7.0 p.m.—Gramophone Concert.
7.20 p.m.—Exchange Quotations and News.

7.20 p.m.—Exchange Quotations and News.
7.30 p.m.—Fainne Talk, by Sean O'Ruadhain.
7.45 p.m.—Spanish Lesson, by Walter Starkie, LL.D.
8.0 p.m.—"Historical Personages Musically Recalled." 1. Robespierre—Overture (Litloff). 2. Cleopatra—March (Manuriello). 3. Macbeth Intermezzo (Johnson).
4. Don Quixote—Two Interludes (Massenet). 5. Nell Gwynne—Selection (Planquette).
8.45 p.m.—Baritone Solos, by M. Dunleavy.
9.0 p.m.—Music Talk, by H. R. White.
9.20 p.m.—Orchestral Selections.
9.35 p.m.—'Polycarp," by the Dublin Repertory Society.
10.0 p.m.—Planoforte Solos, by Freddie Stone.

10.0 p.m.—Pranofold Scios, 2 die Stone. 10.15 p.m.—Sea Music. 10.30 p.m.—News and Weather. 10.35 p.m. (approx.).—Close Down.

#### BELGIUM

BELGIUM

BRUSSELS. Radio-Belgique. WL. 508.5 m. (590 kc); 1.5 kw. 5.0 p.m.—Dance Music. Relayed from the St. Sauveur Palais de Danse. 7.30 p.m.—Concert. Relayed from the Royal Zoological Society, Antwerp. 1. (a) Polacca de Concert, (b) Marche de Reception. 2. Two Spanish Dances (Mosz-kovsky). 3. Scènes andalouses (Breton). 4. (a) Rondala (Granados), (b) Espana (Chabrier). Topical Talk. 5. "Princesse d'Auberge"—Introduction to the Third Act and Carnival Scene (Block). 6. Prize Song from "The Mastersingers" (Wagner). 7. Selection from the "Moorish Rhapsody" (Humperdinek). 8. Marche Militaire (Schubert). 10.0 p.m.—News. 10.15 p.m. (approx.).—Close Down.

CZECHO-SLOVAKIA

BRATISLAVA. Radio Bratislava.

WL. 263.2 m. (1,140 kc.); 0.5 kw.
6.15 p.m.—Concert from the works
of Dvorák and Haydn.
7.15 p.m.—Agricultural Report.
7.20 p.m.—Talks.
8.0 p.m.—Belay from Pragus (348.9 m., 859 kc.).

BRUENN. Komarov. W.L. 441.2 m. (680 kc.); 3 kw.
Transmits at intervals from 12.15p.m.
6.0 p.m.—Agricultural Report.
6.20 p.m.—Talk.
7.0 p.m.—Concert of Orchestral
Music and Short Play.
8.0 p.m.—Goncert.

PRAGUE. Strasnice. W.L. 348.9 m, (859 kc); 5 kw.
Transmits at intervals from 10.50a.m.
6.15 p.m.—German Transmission.
6.45 p.m.—Agricultural Report.
7.0 p.m.—Talks.
8.0 p.m.—Concert from Works of

Dvorák. 10.0 p.m.—Time, News and Orches-

tral Music

#### DENMARK

COPENMARK

COPENMAGEN. Copenhagen Radio.
WL. 337 m. (890 kc); 0.7 kw.
Programme relayed by Soro, 1,153
m. (200 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.—Classical Symphony Concert.
9.0 p.m.—News.
9.30 p.m.—Variety Concert.
"Zampa"—Overture (Hérold). 2.
Frühlingserwachen (Bach). 3.
Danse des Marlonettes (Gillet). 4.
Recitations. 5. Bulgarian War
March (Sebek). 6. Slamese Patrol
(Lincke).
10.30 p.m. (approx.)—Close Down.

FRANCE

PARIS. Ecole Snpérieure (FPTT).

WL. 447.8 m. (670 kc); 0.5 kw.
Transmits at intervals from 8.0 a.m.
6.0 p.m.—Radio Journal de France.
8.0 p.m. English Lesson.
9.0 p.m.—"Carmen"—Opera Selection (Bizet). In the First Interval

tion (Bizet). In the First Interval

PARIS. Eiffel Tower (FL). W.L.

2,650 m. (113 kc.); 5 kw.

10.26 a.m.—Time.

6.45 p.m.—"Le Journal Parlé."

8.0 p.m.—Weather.

8.15 p.m.—Concert of Russian Music.

11.26 p.m.—Time.

PARIS. Petit Parisien. WL. 340.9 m. (880 kc); 0.5 kw.
9.0 p.m.—Concert. 1. Selection from "Impressions d'Italie" (Charpentier). 2. Prelude to "L'Aprèsmidi d'un Faune" (Debussy). 3. L'Apprenti Sorcier (Dukas). 4. Le Festin de l'Araignée (Roussel). 5. Pavane pour une Infante Défunte (Ravel). 6. Sauge Fleurie (d'Indy). 7. Golliwog's Cakewalk (Debussy): 8. Joyeuse Marche (Chabrier).

walk (Debussy): 8. Joyeuse Marche (Chabrier).

PARIS. Radio-Paris (CFR). WL. 1,760 m. (170 ke); 3 kw.

10.30 a.m.—News and Exchange, followed by Musical Selections.

12.30 p.m.—Orchestral and Solo Concert. 1. A ma voisine (Hermann).

2. Le Docteur Blanc (Pierné). 3.

First Movement from the Fifth Symphony (Beethoven). 4. It pleut (Barbirolli). 5. Francols les Bas Bleus (Messager). 6. Romance (Debussy). 7. Norwegian Rhapsody (Svendsen). 8. (a) Seguedille (Albeniz). (b) La Bôtte à Musique (Lieblg). 9. Mimi en Marquise (de Severac). 10. Après l'Eté (Schmitt). 11. Chant d'Amour (Bemberg).

12. Le Cid (Massenet). 13. Contes de la Veillée (Goda d).

1.50 p.m.—Exchange and News.

4.30 p.m.—Exchange and News.

4.35 p.m.—Market Prices.

7.30 p.m.—Exchange and News.

8.30 p.m.—Exchange and News.

8.30 p.m.—Exchange and News.

8.30 p.m.—Concert. 1. "La Grande Duchesse" Overture (Offenbach). 2. Songs. 3. Planoforte Solos: (a) Les Barricades Mysterieuses (Couperin), (b) Le Coucou (Daquin), (c) Etude de Valse (Chopin). 4. Recitation, 5. Selection from the Opera, "Henry VIII" (Saint-Saéns). In the Intervals: News.

TOULOUSE. Radiophonie du Midi

TOULOUSE. Radiophonie du Midi. WL. 392 m. (765 kc); 3 kw.
Transmits at Intervals from 10.15a.m.
8.0 p.m.—"El Bandolero."
8.45 p.m.—Concert. 1. Waltz.
(Strauss). 2. Danse egyptienne
(Deffes). 3. Minuettina (Byford).
4. Abeilles et Bourdons (Dede).
5. Valse lumineuse (Ganne). 6.
Les Mousquetaires au Couvent
(Varney). 7. Tendres reproches
(Tchaikovsky). 8. Quand je suis
chez toi (Penso). 9. Matinée
Orageuse (Schubert). 10. Ronde
flamande (Fauchey). March (Biols),
followed by Poetry Recital.

#### GERMANY

BERLIN. Koenigswusterhausen.

WL. 1,250 m. (240 kc.); 8 kw.
Transmits at intervals from 6.0 a.m.
6.30 p.m.—Spanish Lesson.
6.55 p.m.—Poetry Reading.
7.20 p.m.—Talk.
8.30 p.m.—Programme relayed from
Voxhaus.

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

4 kw.

Transmits at intervals from 6.0 a.m.
6.40 p.m.—Introductory Talk to
the Transmission on July 27th.
7.5 p.m.—Review of Books.
7.30 p.m.—Talk: "Damage and
Claims."
7.55 p.m.—Talk: "The Problem of
Children's Recreation in the
Cities."

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

wusterhausen on 1,250 m. (240 kc.) and 8 kw. 8.30 p.m.—Relay of Part of the Music Festivals from Frankturt, Krefeld and Baden-Baden. Followed by Weather and News.

BRESLAU. Schlesische Funkstunde.
W.L. 315.8 m. (950 kc); 4 kw.
Transmits at Intervals from 11.15a.m.
6.50 p.m.—8.10 p.m.—Talks.
8.10 p.m.—Concert in honour of Max

Dauthendey.

9.10 p.m.—Quartet Selections, relayed from Gleiwitz (250 m.; 1,200 kc).
10.15 p.m.—Wireless Notes.
10.30 p.m. (approx.).—Glose Down.
FRANKFURT-am-MAIN. Südwestdeutscher Rundfunk. W.L. 428.6

FRANKFURT-am-MAIN. Südwest-deutscher Rundfunk. W.L. 428.6 m. (700 kc); 4 kw.
Transmits at intervals from 12 noon.
4.30 p.m.—Concert from works of Joh. Seb. Bach (born July 28th, 1750)

Jon. Seb. pacif (both day and 1750).

45 p.m.—Reading.

15 p.m.—Talk relayed from Cassel (272.7 m.; 1,100 kc): "The Composition and Adulteration of Pacid Striffs"

(272.7 m.; 1,100 kc): "The Composition and Adulteration of Food Stuffs."

6.45 p.m.—Talk, "Stamping out Epidemics."

7.45 p.m.—Talk, "Old German Panel Paintings."

7.45 p.m.—Italian Lesson.

8.15 p.m.—Josef Bunzl Recital.

9.15 p.m.—Josef Bunzl Recital.

9.15 p.m.—Goncert from the Park Restaurant Karlsaue, Cassel. 1.

Admiral Stoseh March (Latann).

2. Castles in Spain—Waltz (Eliadis).

3. Choral Selection. 4. Selection (Balfe). 5. Tanz der Derwische (Benedix). 6. "Sailors' Chorus," from "The Flying Dutchman" (Wagner). 7. Grand Fantasia from "Rigoletto" (Verdi). 8. Trumpet Solo: Die Post im Walde (Schäffer). 9. Choral Selection. 10. Radio Serenade (Jersholt). 11. Close Your Eyes (Vincent). 12. Sinfonle Blues (Strasser). 13. Smile all the While (Davis).

10.45 p.m. (approx.)—Close Down.—United Schäffer). 9. Choral Selection. 10. Radio Serenade (Jersholt). 11. Close Your Eyes (Vincent). 12. Sinfonle Blues (Strasser). 13. Smile all the While (Davis).

10.45 p.m. (approx.)—Close Down.—United Schäffer). 14 kw.

Transmits at intervals from 5.45 a.m.

6.0 p.m.—Orchestral Music.

6.50 p.m.—Talk: "Woman and International Politics."

7.10 p.m.—Talk: "Strindberg's Dance of Death."

7.30 p.m.—Talk: "Strindberg's Dance of Death."

Dance of Death."
7.30 p.m.—Talk on "The Oboe."
8.0 p.m.—"Johannisteuer".—Play
(Sudermann).
10.30 p.m. (approx.).—Concert from
Söllners Gute Stube, Bremen.
News and Weather.
12.0 midnight (approx.).—Close Down
LANGENBERG.

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

Rundfink. 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, "How shall I Keep
Heatthy?" from Cologne.
6.40 p.m.—Talk, "Handwriting as a
Means of Expressing Character,"
from Muenster.
7.15 p.m.—Spanish Lesson from
Muenster.
7.40 p.m.—Talk, "The Social Classes,"
from Muenster.
8.0 p.m.—Talk, "Philosophy as a
Life Force," from Cologne.
8.30 p.m.—Goncert from Gologne.
Choral and Orchestral Muslc,
followed by News and Sports
Notes.

Notes.

10.40 p.m. (approx.)—Silent Night.

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

funk. WL. 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, "A Trip up the Dannbe from Passau to Vienna."
7.30 p.m.—Talk, "The Value of Friendship."

Dannoe mont rassant to value of Friendship."

1.15 p.m.—Recital of Arias.

1.15 p.m.—Concert of Popular Music.

10.15 p.m.—News and Sports Notes.

10.30 p.m.—Dancé Music.

12.0 (mldnlght) (approx.).—Close

Down.

STUTIGARI. Süddentscher Rundfunk. W.L. 379.7 m. (790 kc); 4 kw.
Transmits at intervuls from 1.15 p.m.

6.0 p.m.—Time, Weather, Agricul-tural Notes. 6.15 p.m.—Talk, "Theatre Anec-dotes."

6.15 p.m.—Talk, "Theatre Anecdotes."
6.45 p.m.—Talk, "Stuttgart as a Bathing Resort."
7.15 p.m.—Talk, "A German Diplomat at the Court of the Emir of Afghanistan."
7.45 p.m.—Time, Weather, News.
8.0 p.m.—Popular Concert. 1.
Invitation to the Dance (Weber).
2. Symphony in B Minor (Schubert).
3. Second Rhapsody (List).
9.15 p.m.—Swablan Dialect Programme, including two Piava, "D'Schwatzbasa" (Ott) and "En d'r Dempflenger Muhle,"

#### HOLLAND

HOLLAND

HILVERSUM. Algemeene Nederlandsche Radio Omroep. W.L. 1070 m.; (230 kc); 5 kw.

Transmits at intervals from 11.40a.m. 5.40 p.m.—Concert: 1. "Das goldene Kreuz "—Overture (Brüll). 2. "Der Evangelimann "—Selection (Klenzl). 3. Mezzo-Soprano Solo: Air from "Der Evangelimann."

4. Serenata Napolitane (Rivelli). 5. Songs: (a) Si tu m'aimais (Denza); (b) Lolita (Buzzi-Peccia). 6. "La Source"—Ballet Suite (Delibes). 7. Song from "Hérodiade" (Massenet). 8. "Madane Butterfly"—Selection (Puccini). 9. Flattergelster—Waltz (Strauss). 10. Bonne Nuit—Serenade (Grit). 7.25 p.m.—Police News. 7.50 p.m.—Concert and Talk. 10.10 p.m.—Weather and News. 10.20 p.m. (approx.)—Close Down.

#### ITALY

MILAN. Unione Radiofonica
Italiana (1MI). WL. 322.6 m.
(930 kc.); 1.5 kw.
Transmits at intervals from 12.15p.m.
8.30 p.m.—Opening Signal.
8.45 p.m.—Time.
8.47 p.m. — Selection from an
Operetta. In the Intervals: News.
11.0 p.m.—Dance Music relayed from
the "Fiaschetteria Toscana."
11.30 p.m. (approx.).—Close Down.
NAPLES. Unione Radiofonica
Italiana (1NA). WL. 333.3 m.
(900 kc); 1.5 kw.
Transmits at intervals from 1.0 p.m.
8.55 p.m.—News.
8.58 p.m.—Harbour Notes.

8.58 p.m.—News.
8.58 p.m.—Harbour Notes.
9.0 p.m.—"Miss America"—
('peretta (Nardella).
9.30 p.m.—Time Signal.
10.55 p.m.—Calendar.
11.0 p.m.—Closing Down Signal.

ROME. Unione Radiofonica Italiana (1RO). W.L. 450 m. (666 kc); 3 kw.
Transmits at intervals from 1.0 p.m. 9.0 p.m.—Time, Weather, Exchange Quotations.

Quotations.
9.10 p.m.—Selections from the
Operettas: (a) "The Cinema
Girl" (Weinberger) 9.10 p.m.—Selections from the Operetias: (a) "The Cinema Girl" (Weinberger); (b) "La Gran Via" (Chueca and Valverde). 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.—Orchestral Concert by an Infantry Regiment. 7.30 p.m.—Time, Weather and News 7.45 p.m. (approx.)—Close Down.

#### NORWAY

NORWAY

BERGEN. Kringkastingselskap. W.L.
370.4 m. (810 ke); 1 kw.
11.15 a.m.—Exchange Quotations.
12.15 p.m.—Weather and News.
8.25 p.m.—Weather and News.
8.30 p.m.—Concert by the Station
Orchestra.
9.0 p.m.—Talk by Director Stranges.
9.30 p.m.—Programme relayed from
"The Meteor."

10.0 p.m.—Weather, News and
Time.
10.15 p.m.—Programme relayed from

10.0 p.m.—Weather, News and Time.

10.15 p.m.—Programme relayed from "The Meteor" (continued).

08L0. Kringkastingselskapet. WL.
461.5 m. (650 kc); 1.5 kw.
Transmits at intervals from 11.10a.m.
Programme also relayed by Porsgrund
500 m. (600 kc); Mamar 566 m.
(530 kc); Fredriksstad 434.8 m.
(690 kc); Rjukan 476 m. (630 kc); and Notodden 445 m. (674 kc).
7.45 p.m.—Time.
8.5 p.m.—Orchestral Concert.
9.0 p.m.—Time.
8.5 p.m.—Orchestral Concert.
9.0 p.m.—Talk on "The Management of a House on the Land."
9.30 p.m.—Concert of Vocal Selections.

10.0 p.m.—News.

#### SPAIN

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

Transmits at intervals from 12 (noon).
8.30 p.m.—Morse Lesson.
8.40 p.m.—English Lesson.
9.0 p.m.—Exchange Quotations and News.
9.5 p.m.—Humorous Review of the Week's Events in Verse.
9.20 p.m.—Orchestral Selections.
1. "L'Arlésienne"—Overture (Bizet)
2. "La Tosca"—Selection (Pucchi). 3. "Los Cadetes de la Reina"

I handon.
12.45 a.m.—Instrumental Music from Onondaga Hotel, Syracuse.
1.30 a.m.—Beech-nut Programme.
2.2 a.m.—Ever-ready Hour from New York.
3.00 a.m.—WGY Orchestra.
3.30 a.m.—Radio Cavalcade from New York Gity.
4.30 a.m. (approx.).—Close Down,

—Selection (Luna), 4. Jota from "La Dolores" (Breton). 10.0 p.m.—Chimes and Weather. 10.5 p.m.—Stock Exchange Closing

(July 26)

10.5 p.m.—Stock Exchange Closing Prices.

10.10 p.m.—Request Programme of Music. 1. Leonora Overture, No. 3 (Beethoven). 2. Trio No. 3 in B Major (Mozart). 3. Andante from the Sonata in B Minor for 'Cello and Pianoforte (Bach). 4. Unfinished Symphony (Schubert). 5. Ballade in G Minor for Pianoforte (Chopin). 6. "Fingal's Cave"—Overture (Mendelssohn).

11.0 p.m. (approx.)—Close Down.—Image: Major (Bach). 4. W.L. 375 m. (800 kc); 1.5 kw. Transmits at intervals from 11.45a.m. 2.0 p.m.—"Artys Orchestra." Interlude by Luis Medina, followed by Theatre Notes, Weather and News. 7.0 p.m.—"Artys Orchestra."

10.0 p.m.—Time, Exchange Quotations, and Talk.

10.30 p.m. (approx.)—Concert by the Station Orchestra and Srta Pilar Duamirg (Soprano), and Sr. Jose Angeri (Bass), followed by News. 12.30 a.m. (approx.)—Close Down.

#### SWEDEN

SWEDEN

STOCK HOLM. Radiotjánst (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.).

8.0 p.m.—Talk on Hunting.
8.15 p.m.—Concert of Cabaret Music,
dedicated to Carl Michael Bellman,
the 18th Century Poet.

9.15 p.m.—News.
9.30 p.m.—Weather,
9.40 p.m.—Talk: "A Breath of
Fresh Air," relayed from Orebro
236.2 m. (1,270 kc.)

#### SWITZERLAND

SWITZERLAND
BERN. Radio-Bern. W.L. 411 m.;
(760 kc); 1.5 kw.
Transmits at Intervals from 1.0 p.m.
8.0 p.m.—Time and Weather.
8.5 p.m.—Talk on Stamp-collecting.
"The Swiss Canton-marks."
8.30 p.m.—Goncert relayed from Lausanne (850 m.; 353 kc).
9.20 p.m.—The Kursaal Orchestra.
9.50 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.—Exchange, Time and Weather.
8.32 p.m.—Concert. Relayed from the Promenade du Lac: News in the interval. If weather prevents, programme of the "Union Radio-phonique Suisse.

#### U.S.A.

PITTSBURGH. Westinghouse Electric (KDKA). WL. 315.9 m. (950 kc.); 30 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 followed by Dinner Concert.
11.55 p.m.—Baseball Scores followed by Dinner Concert.
11.55 p.m.—Baseball Scores.
12.0 midnight.—Sacred Song Recital.
10 a.m. (Wednesday, July 27th).—
Orchestral Concert relayed from WJZ, New York.
2.0 a.m.—"The Continentals"—relayed from New York followed by Time.
4.0 a.m.—Weather and Baseball Scores.
4.35 a.m.—Revue from "The Grand Theatre," Pittsburgh.

SCHENECTADY, N.Y. General Electric Company (WGY). WL. 379.5 m. (790 kc.); 30 kw.
Transmits at intervals from 11.45a.m.
Relayed by 2XAF on 32.77 m. (9.155 kc.) from 11.0 p.m.
11.30 p.m.—Hotel Ten Eyck Orchestra Albany.
12.25 a.m. (Wednesday, July 27th).—Baseball Scores.
12.30 a.m.—Outdoor Talk: Jud Landon.

12.25 a.m. (Wednesday, July 27th).—
Baseball Scores.
12.30 a.m.—Outdoor Talk: Jud
Landon.
12.45 a.m.—Instrumental Music from
Onondaga Hotel, Syracuse.
1.30 a.m.—Beech-nut Programme.
2.0 a.m.—Time.
2.2 a.m.—Ever-ready Hour from New
York.
3.0 a.m.—Wednesday, July 27th).—

#### **PROGRAMMES** WEDNESDAY **FOR**

IRELAND

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

yelayed from Dublin (319.1 m., 940 kc.)

DUBLIN. Dublin Broadcasting Station (2RN). WL. 319.1 m. (940 kc); 1.5 kw.

(1.5 kw.)

Transmits at intervals from 1.30 p.m. Programme relayed by Cork (400 m., 750 kc).

6.30 p.m.—Children's Corner.

7.0 p.m.—Talk for Women.

7.20 p.m.—Exchange Quotations and News.

7.30 p.m.—Irish Lesson by M. O'Maolain (As Arainn).

7.45 p.m.—German Lesson by Olga Von Wenckstern.

8.0 p.m.—String Quartet Selections—

"A Call from the Classics."

8.30 p.m.—Baritone Solos by Patrick Matthews.

8.40 p.m.—Concert. 1. Orchestra: (a) Wayside Sketches (Minchin), (b) In Fair Tokio. 2. Soprano Solos by Eileen Gunning. 3. Orchestra: (a) A l'Aimée (Fauchey), (b) Arabesque, (c) Au Village (Fossoul). 4. Soprano Solos. 5. Pianoforte Solos by Dinah Copeman.

9.5 p.m.—Amhrain Ghaedhealacha—Donnehadh MacCoiligh.

10.30 p.m.—News and Weather.

10.35 p.m. (approx.).—Close Down.

#### BELGIUM

BRUSSELS. Radio-Belgique. WL508.5 m. (590 kc.); 1.5 kw.
5.0 p.m.—Chamber Music.
6.0 p.m.—French Lesson.
7.30 p.m.—"Radio-Chronique."
8.0 p.m.—Orchestral and Solo Concert 7.30 p.m.—"Radio-Chronique."
8.0 p.m.—Orchestral and Selo Concert
1. Suite Saharienne (Ackermans).
2. Chanson et badinerie (Camus).
3. "Tamyris" (Hambour).
4. Melody (Lenon). 5. For Baby and
Me (Meyer).
6. Sunday Child
(Siede).
7. Je t'aime (Fonder).
8. Selection (Grieg).
9. Seènes
alsaciennes (Massenet).
9.0 p.m.—"Galathee"— Operacomique Selection (Massé).
10.0 p.m.—News.
10.15 p.m. (approx.).—Close Down.

**CZECHO-SLOVAKIA** 

BRATISLAVA. Radio Bratislava. W.L. 263.2 m. (1,140 ke); 0.5 kw. 5.35 p.m.—Recitation. 6.0 p.m.—Quartet Selection of Popular Music.

lar Music.
7.0 p.m.—Agricultural Report.
7.5 p.m.—Slovakian Lesson.
7.25 p.m.—Gramophone Music.
8.0 p.m.—Relay from Prague (348.9 m. 859 kc).
10.20 p.m.—Relay from Prague.

BRUENN. Komarov. WL. 441.2 m.

RRUENN. Komarov. W.L. 441. 2 m. (680 ke); 3 kw.
Transmits at intervals from 12.15p.m. 6.0 p.m.—Time and Market Prices. 6.20 p.m.—Talk.
7.0 p.m.—Orchestrat Music.
8.20 p.m.—Concert: 1. Songs (Brahms). 2. Der Evangelimann (Kienzl). 3. Aria (Reger). 4. Songs (Wagner). 5. Selection (Mahler). 6. Lento ma non troppo (Strauss).

(Strauss).

9.0 p.m.—Orchestral Music.

10.0 p.m.—Relay from
(348.9 m. 859 kc).

10.20 p.m.—Relay from
(263.2 m. 1,140 kc).

PRAGUE. Strasnice. WL. 348.9m

PRAGUE. Strasnice. W.L. 348.9m. (859 kc); 5 kw.
Transmits at Intervals from 10.50a.m. 6.20 p.m.—German Transmission. 6.45 p.m.—Agricultural Report. 7.0 p.m.—Talk. 7.15 p.m.—Commercial Notes. 8.0 p.m.—Weather and News. 8.10 p.m.—Concert. 1. Souvenir de Smetana (Urbach). 2. Moravian Songs (Doskocil). 3. Potpourri of popular songs (Kricka). 4. Songs (Friml). 5. Three Preludes (Turnier). 6. Petit vals (Haselmanns).

(Turnier), 6. Petit vais (massi-manns).
9.0 p.m.—Literary Review.
9.20 p.m.—Concert. The
Baron (Strauss). 2. Danse
(Gilbert). 3. Menuet de Charmes
(Dyck). 4. Künstlerleben (Strauss).
5. March (Fucik).
10.0 p.m.—Time, News and Orchestral Music.

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

COPENHAGEN. Copenhagen Radio.

WL. 337 m. (890 ke); 0.7 kw.
Programme relayed by Soro, 1,153
m. (260 kc).
6.30 p.m.—Five Minutes for House-

wives.
6.35 p.m.—Wireless Notes.
7.0 p.m.—News, Exchange and Time
7.30 p.m.—Talk, "French Romanticism."

7.30 p.m.—Talk, "French Romanticism."

8.0 p.m.—Concert of Russian Music.

9.0 p.m.—News.

9.30 p.m.—Orchestral Concert. 1.
Pro Patria—March (Yener). 2.
"Boccaccio"—Overture (Suppé).

3. Scottish Songs—Potpourri (Oelschlegel). 4. Alt Wiener Reigen for String Instruments (Strauss). 5. Curtain Lectures, Burlesque for Clarionet and Bassoon (Fucik). 6. Honka-Czardas (Michiels). 7. Radetzky March (Joh. Strauss).

10.30 p.m. (approx.)—Close Down.

FRANCE

PARIS. Ecole Supérieure (FPTT).

WL. 447.8 m. (670 kc); 0.5 kw.

Transmits at intervals from 8.0 a.m.
6.0 p.m.—Radio Journal de France.
8.0 p.m.—Talks.
9.0 p.m.—Orchestral Concert from
the Works of Mozart. Followed by
News and Dance Music.
12.0 midnight (approx.).—Close
Down.

12.0 midnight (approx.).—Close Down.

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

10.26 a.m.—Time.
6.45 p.m.—Weather.
8.0 p.m.—Weather.
8.10 p.m.—Concert.
1. Orchestra,
"Manfred"—Overture (Schumann).
2. Violin Solo—"Tambourin" (Leclair).
3. Two Songs from "Samson and Delilah" (Saint-Saëns).
4. Pianoforte Solo—Albumn Leaf (Galeotti).
5. Orchestra—Two Norwegian Dances (Grieg).
6. Violin Solo—Aria (Pergolese).
7. Two Songs (Sirding).
8. Pianoforte Solo—Berceuse (Galeotti). Orchestra—Norwegian Dances (Grieg).
9. Pianoforte Solo—Berceuse (Galeotti). Orchestra—Norwegian Dances (Grieg).

11.26 p.m.—Time.

PARIS. Radio-Paris (CFR). W.L.
1,760 m. (170 kc); 3 kw.

PARIS. Radio-Paris (CFR). WL.

1,760 m. (170 kc); 3 kw.

10.30 a.m.—News and Exchange.
Followed by Musical Selections.

12.30 p.m.—Orchestral and Solo
Concert. 1. Carnival (Roberts). 2.
Mensonge d'Amour (Suzon). 3. Se
Fue (Seras). 4. Songs. 5. Mitza
(Pompillio). 6. (a) Boite à Musique,
(b) Les Lutins (Smet). 7. Pelerinage
(Bonincontro). 8. Blue Waters
(Waltham). 9. Scènes du Pardon
(Smet), Bamboula (Gavel).

1.50 p.m.—Exchange and News.

4.30 p.m.—Exchange and News.

4.35 p.m.—Market Prices.

8.0 p.m.—Exchange and News.

8.30 p.m.—T. Pagliacci "—Opera
Selection (Leoncavallo). News in
the intervals.

TOULOUSE. Radiophonie du Midi.

the intervals.

TOULOUSE. Radiophonie du Midi. WL. 392 m. (765 ke); 3 kw.
Transmits at intervals from 10.15a.m.
8.0 p.m.—'Si | 'tetais Roi''—Operacomique (Adam).
8.45 p.m.—Concert. 1. Polka des Officiers (Farbach). 2. A la Hongroise (Goublier). 3. Dans les Steppes (Fétras). 4. La Vague (Metra). 5. La Berline (Paul). 6. The Lancers (Metra). 7. Le Pas de Quatre (Lutz). 8. La Troika (Elsen). 9. Le Pas de Deux (Hervilliers). 10. Le Pas des Patineurs (Jouve). 11. Joyeux Nègre (Berger). 12. Old Faithful (Holzmann).

#### GERMANY

BERLIN. Koenigswusterhausen.

W.L. 1,250 m. (240 kc); 8 kw.
Transmits at intervals from 6 a.m.
6.30 p.m.—English Lesson.
6.55 p.m.—Talk.
7.20 p.m.—Talk on "Philipp Otto
Runge."
8.10 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 a.m.
6.40 p.m.—Talk on "The Heart and
Heart Disease."
7.05 p.m.—Sports Talk.

7.30 p.m.—Wireless Talk.
Programme relayed by Koenigswusterhausen on 1,250 m. (240 kc); and

8 kw.
8.10 p.m.—"Das Dorf ohne Glocke"
—Musical play (Künnecke).
10.15 p.m. (approx.)—Weather and

News.

.30 p.m.—Concert of Hungarian
Music.

10.30 p.m.—Concert of Hungarian Music.

FRANKFURT-am-MAIN. Südwest-deutscher Rundfunk. WL. 428.6 m. (700 kc); 4 kw.

Transmits at intervals from 12 noon. 4.30 p.m.—Goncert for Children. 5.45 p.m.—Review of Books. 6.15 p.m.—Talk for Women. Relayed from Cassel, 272.7 m. (1,100 kc). 6.30 p.m.—Talk, "Confidence Tricks." 7.0 p.m.—Talk from Cassel. 7.30 p.m.—Chess Lesson. 8.0 p.m.—Answers to Correspondence. 8.15 p.m.—Concert of Czech Music.

Quartet, Prague. Relayed from Frankfurt-am-Main, 423.6 m. (700 ke).

9.20 p.m.—Song Recital by Clara Voss. 1. Lyrical Suite (Brahms).

2. Songs: (a) Liebestreu; (b) Feldeinsamkeit; (c) Meine Liebe ist grün; (d) Das vergebliche Ständehen (Brahms). 3. "Werther".—Selection (Massenet). 4. Delilah's Song from "Samson and Delilah's Song from "Samson and Delilah's (Saint Saëns). 5. "Nalla".—Intermezzo (Delibes). 6. Songs: (a) Du melnes Herzens Krönelen; (b) Schlagende Herzen (Strauss). 7. "Ariadne in Naxos".—Suite (Strauss).

10.30 p.m. (approx.).—Concert from the Café Wallhof. News.

12 midnight (approx.).—Concert from the Café Wallhof. News.

12 midnight (approx.).—Close Down.

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

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

6.30 p.m.—Gardening Hints, from Colegne.

6.40 p.m.—Technical Talk, from Muenster.

6.30 p.m.—Gardening Hints, from Cologne.
6.40 p.m.—Technical Talk, from Muenster.
7.15 p.m.—Talk, "The Social Classes," from Muenster.
7.40 p.m.—Talk for Young People, "The Homeland," from Dusseldorf.
8.0 p.m.—Review of Books, from Cologne. (Langenberg only.)
8.0 p.m.—Talk, "Salzburg, the Rome of Germany," from Dortmund, 283 m. (1,060 kc). (Muenster and Dortmund only.)
8.30 p.m.—Orchestra! Concert, from Cologne. Followed by News, Sports Notes, and Dance Music.
12 midnight (approx.).—Close Down.
——II—
STUTTGART. Süddeutscher Rundfunk. WL. 379.7 m. (790 kc);
4 kw.

STUTTGART. Süddeutscher Rundfunk. W.L. 379.7 m. (790 kc); 4 kw.

Transmits at intervals from 1.15 p.m. 6.0 p.m.—Time, Weather, Agricultural Notes.
6.15 p.m.—Talk, "I Like That." 6.45 p.m.—Wireless Talk.
7.15 p.m.—Spanish Lesson. 7.45 p.m.—Time, Weather, News.
8.0 p.m.—Symphony Concert. 1.
Symphony in A major. 2. Comedy Overture (Gade).
9.0 p.m.—"Die Grosse Leidenschaft"—Comedy (Anernheimer).

#### HOLLAND

HOLLAND

HILVERSUM. Algemmene Nederlandsche Radio Omroep. WL.
1070 m. (280 kc); 5 kw.

Transmits at intervals from 11.40a.m.
4.40 p.m.—Concert. 1. The Unfinished Symphony in B minor (Schubert). 2. Pianoforte Solos; (a) Ballad in D minor (Brahms).
(b) Ballad in G minor (Brahms).
3. J'ai dit aux étolles (Paladilhe).
4. Pianoforte Solos; (a) Sonatine (Appeldoorn), (b) La fille aux cheveux de lin (Debussy).
5.40 p.m.—Talk.
6.10 p.m.—Concert. 1. The Liberty Bell (Sousa). 2. "Die Schönbruner"—Waltz (Lanner). 3. Amoretten-Ständehen (Kockert).
4. Die Backfisch Parade (Lincke).
5. River Song (Rust).
7.25 p.m.—Police News.

7.50 p.m.—Concert of Italian Opera, relayed from the Concert Hall, Amsterdam. 1. Bass Solo, "Se opressi ognor" from La Juive (Halévy). 2. Soprano Solo, "Morte de Liu" from "Turandot" (Puccini). 3. Baritone Solo, "Cavatine Figaro" from "The Barber of Seville" (Rossini). 4. Mezzo-Soprano Solo, "Romance" from "Sansone" (Sans Gêne). 5. Tenor Solos: (a) "Lamento di Federico" from "L'Arlésienne" (Bizet), (b) "Ay, Ay, Ay (Freire). 6. Soprano Solo, "Dinorah" (Meyerbeer). 7. Duet, "Del tempio al limitar" from "The Pearl Fishers" (Bizet), 8. Barltone Solo—Prologue from "I Pagliacci" (Leoncavallo). 9. Mezzo-Soprano Solo—Canzoni russe. 10. Bass solo—"Piff, Paff" from "Les Huguenots" (Meyerbeer). 11. Soprano Solo—"Vissi d'arte" from "La Tosca" (Puccini). 12. Tenor Solos—(a) Elisir d'amore (Donizetti). (b) O Sole mio. 13. Soprano Solo—"(Cechert). 14. Soprano Solos, (a) Solveig's Song (Grieg), (b) L'Eccho (Eckert). 14. Soprano Solo—"Manon" (Puccini). 15. Selection from "Lucia"—Act Two (Donizetti.) 10.30.p.m. approx.—Close Down. ITALY

MILAN. Unione Radiofonica Italiana (1MI). W.L. 322.6 m. (930 kc);

MILAN. Unione Range (1MI). W.L. 322.6 m. (930 ke);
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.—Technical Wireless Talk.
9.0 p.m.—"Don Pasquale"—Selection (Donizetti), followed by News.
11.0 p.m.—Dance Music. Relayed from the "Fiaschetteria Toscana."
11.30 p.m. (approx.).—Close Down.

Thione Radiofoulca.

Unione Radiofoulca NA). W.L. 333.3 m. NAPLES. Unione Radiorousea. 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.
8.58 p.m.—Harbour Notes.
9.0 p.m.—Concert.
9.30 p.m.—Cine.
10.55 p.m.—Calendar.
11.0 p.m.—Closing Down Signal.

ROME. Unione Radiofouica Italiana (1RO). W.L. 450 m. (666 kc);

Transmits at intervals from 1.0 p.m.

9.0 p.m.—Time, News, Exchange Quotations, and Weather.

9.10 p.m.—Concert of Choral and Symphony Music.

11.25 p.m.—News.

11.30 p.m. (approx.).—Close Down.

LITHUANIA

KOVNO. Radio Kaunas. W.L. 2,000 m. (150 ke); 7 kw. 7.30 p.m.—Time, Weather and News. 8.0 p.m.—Political News.

NORWAY

BERGEN. Kringkastingselskap. WL. 370.4 m. (810 kc); 1 kw. 1.15 a.m.—Exchange Quotations. 12.15 p.m.—Weather and News. 8.30 p.m.—Concert by the Station Orchestra. 9.0 p.m.—Recitation by the Actor—Rolf Christensen. 9.0 p.m.—Concert by the Station Orchestra. 9.0 p.m.—Concert by the Station Orchestra. 1.0.0 p.m.—Weather, News and Time. 081.0. Kringkastingselskapet. WL. 461.5 m. (650 kc); 1.5 kw. Transmits at intervals from 11.10 a.m. Programme also relayed by Forsgrund 500 m. (600 kc); Hamar, 568 m. (530 kc); Fredriksstad, 434.8 m. (690 kc); Fredriksstad, 434.8 m. (690 kc); Rjukan, 476 m. (630 kc); and Notodden, 445 m. (674 kc). 7.45 p.m.—News. 8.0 p.m.—Time. 8.5 p.m.—Dance Music. 1. Overture in Italian Style (Schubert). 2. Liebeswalzer (Mosckowski). 3. Il Tabarro (Pucclini). 4. Le gavotte de Puyjoil (Massenet). 5. Persian Suite (Rubinstein). 9.0 p.m.—Talk on "Fishing." 9.30 p.m.—Norwegian Songs. 10.0 p.m.—Norwegian Songs. 10.0 p.m.—News. 10.15 p.m.—Dance Music. 12 midnight (approx.).—Close Down. SPAIN

BARCELONA. Radio-Barcelona (EAJI). WL. 344.8 m. (870 kc); 2 kw. Transmits at intervals from 12.0noon.

(July 27)

8.30 p.m.—Lesson in Castilian Spelling.
9.0 p.m.—Exchange Quotations and News.
9.5 p.m.—Quintet Music.
9.30 p.m.—Talk.
9.50 p.m.—"Pavane" (d'Ambrosio), and "Sounds from the Sunny South"—Overture (Isenman), by the Station Quintet.
10.0 p.m.—Chimes and Weather.
10.10 p.m.—Selection from Plays.
1. "La Viejita" (Caballero) and "El Duo de la Africana" (Caballero).

"El Duo de la Africana" (Caballero).

12.0 midnight (approx.).—Closa Down.

MADRID. Union Radio (EAJ7).

WL. 375 m. (800 kc); 1.5 kw.

Transmits at intervals from 11.45 am.

2.0 p.m.—"Artys Orchestra"—Interlude by Luis Medina, followed by Theatre Notes, Weather and News.

7.0 p.m.—"Artys Orchestra."

10.0 p.m.—"Time and Exchange quotations.

tions.

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

(870 kc).

12.30 a.m. (approx.)—(Thursday, July, 28th)—Close Down.

#### SWEDEN

SWEDEN

STOCKHOLM. Radiotjänst (SASA).

WL. 454.5 m. (660 &c); 1.5 kw.
Programme also relayed by Motala,
1,320 m. (227 kc), Goteburg 416.7
m. (720 kc); and Malmo 260.9 m.
(1.150 kc).
7.45 p.m.—Meteorological Talk.
8.0 p.m.—Time.
8.15 p.m.—Contraito and Pianoforto
Solos relayed from Sundsvall,
545.6 m. (550 kc).
8.45 p.m.—Recital of Poems.
9.15 p.m.—Recital of Poems.
9.30 p.m.—Weather.
9.40 p.m.—Biology
Talk, relayed
from Malmo.

#### SWITZERLAND

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, "Bees and Man."
8.30 p.m.—Organ Recital from the French Church.
9.30 p.m.—The Kursaal Orchestra.
10.5 p.m.—The Kursaal Orchestra.
10.5 p.m.—The Kursaal Orchestra.
10.30 p.m. (approx.).—Close Down.

GENEVA. Radio-Geneva. W.L.
760 m. (305 kc.); 0.5 kw.
8.30 p.m.—Exchange, Time and Weather.
8.32 p.m.—Programme relayed from Bern (411 m.; 730 kc.) and Baste (1,100 m., 273 kc.).
9.30 p.m.—Legal Talk,
9.50 p.m.—News.
10.0 p.m. (approx.).—Close Down.

#### U.S.A.

#### PROGRAMMES FOR THURSDAY

(July 28)

#### IRELAND

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

2.30 p.m.—Weather, Stock Market Report and Gramophone Records.

6.30—10.30 p.m.—Programme relayed from Dublin (319.1 m. 940 kc).

DUBLIN. Dublin Broadcasting Station (2RN), WL, 319.1 in. (940 kc); 1.5 kw. Transmits at intervals from 1.30 p.m. Programme relayed by Cork 400 m. (750 kc). 6.30 p.m.—Children's Corner. 7.0 p.m.—Granophone Concert. 7.15 p.m.—Exchange Quotations and News. 7.30 p.m.—French Lesson by Mile. Giudicelli.

and News.
7.30 p.m.—French Lesson by Mile.
Giudicelli.
7.45 p.m.—Talk, "The Evolution of
the Irish Nation," by S. MacCall.
8.0 p.m.—"Prometheus"—Overture
(Beethoven), by the Orchestra.
8.10 p.m.—Australian Monologues
by T. Rowley.
8.20 p.m.—Selection from "The
Geisha" (Jones).
8.40 p.m.—Orchestral Selections and
Tenor Solos by A. G. Dundas.
9.0 p.m.—Reading by C. Ni Dhalaigh.
9.15 p.m.—Dance Music by Clarke
Barry's Dance Band.
10.30 p.m.—News and Weather.
10.35 p.m. (approx.).—Close Down.

#### BELGIUM

BRUSSELS. Radio-Belgique. WL. 508.5 m. (590 kc); .1.5 kw. 5.0 p.m.—Programme for Children. 6.0 p.m.—Plemish Lesson. 7.30 p.m.—"Radio-Chronique."

5.0 p.m.—Programme for Children.
6.0 p.m.—Programme for Children.
6.0 p.m.—Programme for Children.
7.30 p.m.—Radio-Chronique."
8.0 p.m.—Swedish Programme: 1.
The National Anthems of Belgium and Sweden. 2. Speech by M.
Otto Leser. 3. "Les Gens du Värmland (Varmlanningarna)"—
Musical Folk Comedy (Randel).
4. The Eve of St. John (Midsommarvakan) (Hugo Alfven). 5.
Pianoforte Solos: (a) Rêverie (Alfven); (b) Chant du Canotier (Sjögren); (c) Les Roses (Peterson-Bergen); (d) Marche Nuptiale de Ulfasa (Soderman). 6. A l'Eglise de Frösö (Peterson-Berger). 7.
Chant d'Eté (Peterson-Berger). 7.
Chant d'Eté (Peterson-Berger). 8.
Talk on "Sweden" by Mr. Otto Leser. 9. Two Swedish Ballads: (a) Messire Nils Chante au Son du Luth (Hallen); (b) Sten Sture (Swedbom). 10. Airs and Dances arranged for Orchestra. 11.
Sonorité (Sjöberg). 12. O Värmland Charmant. 13. Patriotic Hymn for Three Volces (Stenhammar). 14.
Popular Dances (Soderman). 15.
Rustic Wedding (Soderman). 16.
Land of my Fathers.
10.30 p.m.—News.
10.45 p.m. (approx.)—Close Down.

#### CZECHO-SLOVAKIA

ULL OF CONTROL OF CONT

BRUENN. Komarov. W.L. 441.2m. (680 kc); 3 kw.
Transmits at intervals from 12.15p.m.
6.0 p.m.—Time and Agricultural

6.0 p.m.—Time and Agricultural Report.
6.20 p.m.—Talk.
6.45 p.m.—Relay from Prague (348.9 m.; 850 kc).
7.0 p.m.—Concert.
7.0 p.m.—Concert.
7.0 p.m.—Concert.
7.0 p.m.—Concert.
7.1 eyen Charles (Kimsky-Korsakoff).
7.2 L'Histoire (Napravnik).
7.3 Legend (Tchaikovsky).
7.4 Evange (Warlanow).
7.5 The Nightingale (Libchenko).
7.5 Scherzo (Kjuj).
7.6 L'Ange (Warlanow).
7.7 The Nightingale (Libchenko).
7.8 Sobolewsky).
7.8 Camarinskaia (Glinka).
7.9 p.m.—Relay from Prague.

PRAGUE. Strasnice. WL. 348.9 m.

PRAGUE. Strasnice. WL. 348.9 m. (859 ko); 5 kw.

Transmits at intervals from 10.50a.m.
6.15 p.m.—German Transmission.
6.45 p.m.—Agricultural Report.
7.0 p.m.—Talk.
8.0 p.m.—News.
8.10 p.m.—Concert of Light Music.
9.30 p.m.—Short Comedy.
10.0 p.m.—Time, News and Orchestral Music.

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

COPENHAGEN. Copenhagen Radio.
W.L. 337 m. (890 kc); 0.7 kw.
Programme relayed by Soro, 1,153
m. (260 kc).
7.0 p.m.—News, Exchange and Time.
7.30 p.m.—Concert of Operetta Music.
I. "Prince Conti"—Overture (Lecocq).
2. "Wo die Citronen
Blüh'n," from "Eine Nacht in
Venedig" (Joh. Strauss).
3. "The
Merry Widow"—March (Léhar).
4. "Madame Favert"—Overture
(Offenbach).
5. "Miss Helyett—
Selection (Audran).
6. "The
Dollar Princess"—March (Fall).

Merry 4. "Madame ... "Miss ... "Tr (Offenbach). 5. "Miss ... "Tr selection (Audran). 6. "Tr March (Fall). (Olfenbach). 5. Miss Helyett—Selection (Audran). 6. "The Dollar Princess"—March (Fall). 9.0 p.m.—News.
9.30 p.m.—"Uncle's Love Story"—Musical Farce (Sophus Neumann). 10.0 p.m.—Orchestral Concert.
11.0 p.m. (approx.)—Close Down.

#### FRANCE

PARIS. Ecole Sup'rieure (FPTT).

W.L. 447.8 m. (670 kc); 0.5 kw.
Transmits at intervals from 8.0 a.m.
6.0 p.m.—Radio Journal de France.
8.0 p.m.—Esperanto Lesson.
9. p.m.—"L'Africa in e"—Opera
Selection (Meyerbeer).

9.0 p.m.—"L'Afrit ain e"—Opera Selection (Meyerbeer).

PARIS. Eiffel Tower (FL). W.L. 2,650 m. (113 kc.); 5 kw. 10.26 a.m.—Time. 6.45 p.m.—"Le Journal Parls." 8.0 p.m.—Weather. 8.10 p.m.—Concert. 1. Orchestra, "Sigurd"—Selection (Reyer). 2. Tenor Solo from "Sigurd" (Reyer) 3. "Cello Solo—Chants Russes (Lalo). 4. Tenor Solo from "Le Roi d'Ys" (Lalo). 5. Orchestra, "Monsieur Beaucaire" — Selection (Messager). 6. Tenor Solos, 7. Orchestra, "La Périchole"—Selection (Offenbach). 8. Tenor Solo—Credo d'Amant (Suzanne Quentin). 9. Orchestra, "La Danse des Libellules" (Léhar). 11.26 p.m.—Time.

PARIS. Petit Parisien. W.L. 340.9 m. (880 kc); 0.5 kw. 9.0 p.m.—Concert. 1. "The Magic Flute"—Overture (Mozart). 2. Allegro from the Brandenburg "Concerto No. 5" (Bach). 3. Adagio Molto and Cantabile from the Ninth Symphony (Beethoven). 4. Quintet (Mozart). 5. Ballet Music from "Prometheus" (Beethoven). 6. Minuet from "Orpheus" (Gluck). 7. Saltarelle from the "Symphonie Itallenne" (Mendelssohn).

"Symphonie Italienne" (Mendelssohn).

PARIS. Radio-Paris (CFR). WL.
1,760 m. (170 kc); 3 kw.
10.30 a.m.—News and Exchange followed by Musical Selections.
12.30 p.m.—Orchestral and Solo Concert. 1. Mrs. Kennan (Box).
2. Selection (Wagner). 3. Patrie (Paladhile). 4. Zyske ia Moscovite (Herman and Thomas). 5. Marche Miniature (Kreisler). 6. "Hänsel and Gretel"—Prelude (Humperdinck). 7. (a) Cavatine (d'Ambrosio); (b) Le Bourdon (Lederer).
8. Divertissement Russe (Rabaud).
9. Cornet de Bonbons (Gillet). 10.
Symphony (Franck). 11. Selections.
1.50 p.m.—Exchange and News.
4.30 p.m.—Exchange and News.
4.30 p.m.—Exchange and News.
8.30 p.m.—Exchange and News.
8.30 p.m.—Exchange and News.
8.30 p.m.—Corcert of Rumanian Music and Songs.

TOULOUSE, Radiophonie du Midi.
WL. 392 m. (765 kc); 3 kw.
Transmits at intervals from 10.15a.m.

TOULOUSE, Radiophonie du Midi. WL. 392 m. (765 kc); 3 kw.
Transmits at intervals from 10.15a.m.
8.0 p.m.—" Quand c'est une Femme."
8.45 p.m.—Concert. 1. "Lakmé".
Selection (Delibes). 2. "Lohengrin".—Selection (Wagner). 3.
"Manon".—Selection (Massenet).
4. "Il Trovatore".—Selection (Verdi). 5. "Romeo and Juliet".—Selection (Gounod).

#### GERMANY

WL. 1,250 m. (240 kc); 8 kw.
Transmits at intervals from 6 a.m.
6.30 p.m.—Spanish Lesson.
6.55 p.m.—Talk—"The Songs of
Schubert," with illustrations.
7.20 p.m.—Talk "The Agrarian Congress in Rome."

2.00 p.m.—Programme relayed from

oress in Rome.

or p.m.—Programme relayed from Hamburg, 396 m. (758 kc).

BERLIN. Voxhaus. 566 and 483.0 m. (530 and 620 ke); 2 and 4 kw. Transmits at intervals from 6 a.m. 6.40 p.m.—Technical Talk.

7.5 p.m.—Talk on "Tennis."
7.30 p.m.—Talk on "Accident Insurance and the Employer."
8.0 p.m.—Talk on "The Wonders of Sound."

Sound."
8.30 p.m.—Programme of Waltzes by Weber, Gounod, Rosas, Strauss, Fétras and Lanner.
10.15 p.m. (approx.)—Weather and News

News.
10.30 p.m.—Dance Muslc.
12.30 a.m. (Friday July, 29th-approx.)—Close Down.

FRANKFURT-am-MAIN. Südwest-

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

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, "Rubens and his
Native Town," from Elberfeld.
7.15 p.m.—Technical Talk, from

Native 10....Technical 15 p.m.—Technical Cologne. 40 p.m.—Talk, "Good German," 40 p.m.—Talk, "Good German,"

Cologne.
7.40 p.m.—Talk, "Good German," from Cologne.
8.0 p.m.—Talk from Dusseldorf.
(Langenberg only.)
8.0 p.m.—Announcement of Results of the Morse Competition (Dortmund and Muenster only), from Dortmund, 283 m. (1,060 kc).
8.30 p.m.—Concert on Instrumental Music and Recitations, from Eiberteld, followed by News, Sports Notes, and Dance Music, from the "Hotel Zur Post," Eiberteld.
12 midnight (approx.).—Close Down.

STUTTGART. Süddeutscher Rundfunk. WL. 379.7 m. (790 kc)

funk. WL. 379.7 m. (790 kc);
4 kw.
Transmits at intervals from 1.15 p.m.
6.0 p.m.—Time, Weather, News.
6.15 p.m.—Literary Talk.
6.45 p.m.—Talk for Physicians.
7.15 p.m.—Talk on Bathing Resorts."
8.0 p.m.—Time, Weather, and News.
8.15 p.m.—Popular Concert.
9.15 p.m.—Orchestral Concert.

#### HOLLAND

HILVERSUM. Algemeene Nederlandsche Radio Omroep. W.L. 1,070 m. (280 kc); 5 kw. 11.40 p.m.—Police News. 12.15 p.m.—Programme of Music by the Station Trio.

5.40 p.m.—Concert by the Station MA DRID. Union Radio (EAJ7 Orchestra: 1. "Zampa"—Overture (Hérold). 2. "Hamlet"—Ballet Music (Thomas). 3. (a) Titania's Song from "Mignon" (Thomas); (b) "Spring" (Linden). 4. "Songe d'amour après le bal" (Czibulka). 5. Spanish Dance (Moszkovsky). 6. "Samson and Delliah"—Selection (Saint-Saëns). 7. (a) Dorfschwalben (Joh. Strauss); (b) "Sonnelled (Van Rennes). 8. Slavonic Rhapsody (Meyer). 9. Barcarolle (Grünfeld). 10. Finale. 7.25 p.m.—Concert and Talk. 10.10 p.m.—Weather and News. 10.20 p.m. (approx.)—Close Down.

#### ITALY

NAPLES. Unione Radiofonica Italiana (1NA). WL. 333.3 m. (900 kc); 1.5 kw.
Transmits at Intervals from 1.0 p.m. 8.55 p.m.—News.
8.58 p.m.—Harbour Notes.
9.0 p.m.—Concert of Old and New Neapolitan Music.
9.30 p.m.—Time.
10.55 p.m.—Calendar.
11.0 p.m.—Closing Down Signal.

11.0 p.m.—Closing Down Signal.

12. ROME. Unione Radiofonica Italiana (1RO). WL. 450 m. (606 kc); 3 kw.
Transmits at intervals from 1.0 p.m.
9.0 p.m.—Time, News, Exchange Quotations, and Weather.
9.10 p.m.—Orchestral and Vocal Concert.
11.25 p.m.—News.
11.30 p.m. (approx.).—Close Down.

#### JUGO-SLAVIA

ZAGREB. Radlo-Klub Zagreb. WL. 310 m. (967 ke); 0.35 kw. 7.0 p.m.—Programme relayed from Vienna.

#### LITHUANIA

KOVNO. Radio-Kaunas. WL. 2,000 m. (150 kc); 7 kw. 7.0 p.m.—Talk. 7.30 p.m.—Time, Weather and News. 7.45 p.m. (approx.).—Close Down.

#### NORWAY

BERGEN. Kringkastingselskap. WL.
370.4 m. (810 kc); 1 kw.
11.15 a.m.—Exchange Quotations.
12.15 p.m.—Weather and News.
8.25 p.m.—Fishing News.
8.30 p.m.—Concert by the Station Orchestra.
9.0 p.m.—Talk by Mr. Carl Johansen (Barrister); "Reminiscences of the Congo."
10.0 p.m.—Weather, News and Time.

OSLO. Kringkastingselskapet. WL.
461.5 m. (650 kc); 1.5 kw.
Transmits at intervals from 11.10a.m.
Programme also relayed by Park Transmits at intervals from 11.10a.m. Programme also relayed by Porsgrund, 500 m. (600 kc): Mamar, 566 m. (530 kc); Frederiksstad, 433.8 m. (690 kc); Rlukan, 476 m. (630 kc); and Notodden, 445 m. (674 kc).
7.15 p.m.—Studio Service.
7.45 p.m.—News.
8.0 p.m.—Time.
8.5 p.m.—Orchestral Concert.
9.0 p.m.—Talk on "Black and White."
9.30 p.m.—Recital of Hans E

White."
9.30 p.m.—Recital of Hans E.
Kinck's Drama.
10.0 p.m.—News.
10.15 p.m. (approx.).—Close Down.

#### SPAIN

BARCELONA. Radio Barcelona (EAJ1). WL.-344.8 m. (870 kc); 2 kw. Transmits at intervals from 12 (noon). 8.40 p.m.—English Lesson. 9.0 p.m.—Exchange Quotations and Nowe

5 p.m.—Music by the Station Quintet.

Quintet.

9.30 p.m.—Astronomy Talk by Don
José Comas (Director of the
Fabra Observatory).

9.50 p.m.—'Entre Flores''—Andalusian Dance (Pacheco).

10.0 p.m.—Chimes and Weather.

10.5 p.m.—Stock Exchange Closing
Prices.

Prices.

10.10 p.m.—Song Recital.

10.40 p.m.—"Berceuse" (Grieg),
and "Sl j'étais Roi" —Overture
(Adam), by the Station Quintet.

11.0 p.m. (approx.)—Close Down.

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).

7.30 p.m.—Goncert—1. The Bartered
Bride—Overture (Smetana). 2.
Elsa's Dream from "Lohengrin"
(Wagner). 3. (a) Schmerzen
(Wagner). (b) Im Treibhaus (Wagner). (c) Träu in e (Wagner).
4. Selection from "Manon
Lescaut" (Puccini). 5. Air from
"Gloconda" (Ponchlelli). 6. Eine
Nacht auf dem kahlen Berg (Moussorgsky). 7. (a) Romance from
"L'Africaine" (Meyerbeer), (b)
Mlcaela's Song from "Garmen"
(Blzet), (c) Song from "Macbeth"
(Verdi). 8. Selection from "Dei
Zarewitsch" (Léhar).

8. 0 p.m.—Time.
9.15 p.m.—News.
9.30 p.m.—Weather.
9.40 p.m.—Talk—"The Colour of the
Sea," relayed from Malmo.

#### SWITZERLAND

BERN. Radio-Bern. W.L. 411 m. (760 ke); 1.5 kw.
Transmits at Intervals from 1.0 p.m. 8.0 p.m.—Time and Weather.
8.5 p.m.—Operatic Song Recital (Tenor) with Orchestral Interiudes from the Kursaal.
9.50 p.m.—News and Weather.
10.5 p.m.—The Kursaal Orchestra.
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.—Concert from the Hotel Métropole: Gavotte (Gluck). 2. Le Jongleur de Notre-Dame—Selection (Massenet). 3. Dolly—Berceuse (Fauré). 4. Prière de la Symphonic légendaire (Godard). 5. La Bohème—Selection (Puccini). 9.30 p.m.—News. 9.30 p.m.—News.
10.0 p.m. (approx.)—Close Down.

#### U.S.A.

PITTSBURGH. Westinghouse Electric (KDKA). WL. 315.9 m. (950 kc); 30 kw.
Transmits at intervals from 4.0 p.m.
Programme relayed on 64 m. (4687 kc); from 11.0 p.m.
11.0 p.m. — Baseball Scores and Music

11.0 p.m. — Baseball Scores and Music.

12.20 a.m. (Friday, July 29).—Report of the Road Conditions.

12.30 a.m.—A Short Sketch (Kountz).

1.30 a.m.—'Our Musical United States,' Relayed from New York.

2.0 a.m.—Boxing Match—Dempsey p. Sharkey. Relayed from New York, followed by Time.

4.0 a.m.—Weather and Baseball Scores.

Scores.

SCHENECTADY, N.Y. General Electric Company (WGY). WL. 379.5 m. (790 kc); 30 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.—Market Prices and News. 11.25 p.m.—Baseball Scores.
11.30 p.m.—Powell Inn Orchestra. 12.25 a.m. (Friday, July 29th). — Baseball Scores.
12.30 a.m.—"The Story of America." 12.45 a.m.—Studio Musical Programme.
1.0 a.m.—National Light Opera Company.

1.0 a.m.—National Light Opera Company.
2.0 a.m.—Time.
2.2 a.m.—Eskimos from New York.
3.0 a.m.—Venetian Mandoliers.
3.30 a.m.—News and Time.
4.0 a.m.—Dance Music from New York.
4.30 a.m.—Organ Recital.
5.30 a.m. (approx.).—Close Down.

#### FOR FRIDAY **PROGRAMMES**

(July 29)

#### IRELAND

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

Jayed from Dublin (319.1 m.; 940 kc).

Dublin Broadcasting Station (2RN). W.L. 319.1 m. (940 kc); 1.5 kw.

Transmits at intervals from 1.30 p.m.
Programme relayed by Cork 400 m. (750 kc).
6.30 p.m.—Exchange Quotations and News.
7.30 p.m.—Exchange Quotations and News.
7.30 p.m.—Recitations by Blanche Mercer.
7.45 p.m.—Talk, "Rambling Records of an Old Reporter," by J. B. Hall.
8.0 p.m.—Programme of Orchestral Music, Pianoforte Solos by Nam Carswell and Soprano Solos by Kathleen Roddy.
9.25 p.m.—"The Ballad History of Ireland," by John Brennan and Gerard Crofts.
9.55 p.m.—Orchestral Music and Soprano Solos.
10.30 p.m.—News and Weather.
10.35 p.m. (approx.).—Close Down.

#### BELGIUM

BELGIUM

BRUSSELS. Radio-Belgique. WL, 508.5 m. (590 kc); 1.5 kw. 5.0 p.m.—Trio Selections.

7.30 p.m.—Trio Selections.

7.30 p.m.—Orchestral and \$010 Concert. 1. "Le Mariage Secret"—Overture (Cimaroso). 2. Waves of the Danube (Ivanovici). 3. Divertissement (Mawet). 4. Suite Rustique (Gilson). 5. Gramophone Records. 6. Deuxième Suite d'Orchestre (Michell). Topical Talk. 7. "I Pagliacci"—Selection (Leoncavallo).

9.0 p.m.—Flemish Literary Reading.

9.15 p.m. (approx.).—Concert (cont.).

8. Au Clair de Lune (Blom). 9. Cavatine (Raff). 10. Caravane Hindoue (Popy). 11. Scherzo a Capricio (Mendelssohn). 12. Farendelle (Dubois).

10.0 p.m.—News.

10.15 p.m. (approx.).—Close Down.

delle (Dunois). 10.0 p.m.—News. 10.15 p.m. (approx.).—Close Down.

### CZECHO-SLOVAKIA

CZECHO-SLOVAKIA

BRATISLAVA. Radio Bratislava.

WL. 263.2 m. (1,140 kc); 0.5 kw.

5.40 p.m.—Talk.

6.0 p.m.—Concert: 1. Sonata for

'Cello (Beethoven). 2. Sonata for

Violin (Nedbal).

7.15 p.m.—Czech Lesson.

8.0 p.m.—Relay from Prague

(348.9 m.; 859 kc).

BRUENN. Komarov. WL. 441.2 m.

(680 kc); 3 kw.

Transmits at intervals from 12.15p.m.

6.20 p.m.—Agricultural Report.

7.0 p.m.—The Betrothal by Lantern

Light" (Offenbach). followed by

"La Parislenne"—Comedy (Becque).

que).
8.40 p.m.—Concert.
9.0 p.m.—Dance Music.
10.0 p.m.—Relay fr
(348.9 m.; 859 kc). from Prague

(348.9 m.; 859 kc).

PRAGUE. Strasnice WL. 348.9 m.; (859 kc); 5 kw.
Transmits at intervals from 10.50a.m. 6.15 p.m.—German Transmission. 6.45 p.m.—Talk.
8.0 p.m.—Weather and News.
8.15 p.m.—Concert: 1. Namona—Ballet (Lalo). 2. Concerto for 'Cello (Lalo). 3. Valse brillante (Chopin). 4. Nocturne (Chopin). 5. Airs de Basques (Piatti).
9.0 p.m.—Literary Review.
9.15 p.m.—Concert.
10.0 p.m.—Time, News and Gramophone Music.

#### DENMARK

COPENHAGEN. Copenhagen Radio. W.L. 337 m. (890 kc); 0.7 kw. Programme relayed by 8000, 1,153 m. (260 kc). Transmits at intervals from 3.0p.m. 6.30 p.m.—Agricultural Talk. 7.0 p.m.—News, Exchange and Time. 7.30 p.m.—Talk, "Sigbjörn Obstfelder."

der."

8.0 p.m.—Concert relayed from the Frederiksberg Gardens.

9.0 p.m.—News.

9.30 p.m.—Reading.

(Flagier), 9. Orchestra, Dans les Steppes de l'Asie Centrale (Borodine).

9.15 p.m.—Educational Programme.

11.26 p.m.—Time.

11.760 m. (170 kc); 3 kw.

10.30 a.m.—News and Exchange, followed by Musical Selections.

12.30 p.m.—Orchestral and Solo Concert. 1. Paco (Monreal). 2. Gold and Silver—Waltz (Lehar).

3. "Don Juan"—Overture (Mozart). 4. Mélancolie (Jacquemont).

5. L'Ane Blanc (Hue). 6. Le Deluge (Saint-Sains). 7. Quand tan Sowris (Mozart). 8. "L'Arlésienne".—Second Suite (Bizet). 9. Cordoba (Albeniz). 10. Air from "Jacqueline de Vortunio" (Messager).

11. Romance (Fauré). 12. Les Violins (Wormser). 13. Canzonetta (Labis). 14. Selection (Gershwin).

1.50 p.m.—Exchange and News.

4.30 p.m.—Exchange and News.

4.30 p.m.—Topical Talk.

8.0 p.m.—Market Prices.

8.15 p.m.—Talk arranged by La Tribune Libre des Femmes.

8.30 p.m.—Concert. 1. Chaconne—Violin Solo (Bach). 2. Selection from "Lohengin" (Wagner). News in the intervals.

News in the intervals.

TOULOUSE. Radiophonie du Midi. W.L. 392 m. (765 kc); 3 kw. 17 Transmits at intervals from 10.15a.m. 8.0 p.m.—" Paris" (Borel-Clerc). 8.45 p.m.—Goncert. 1. Le. Nouveau Seigneur du Village (Boieldieu); 2. L'Eglise de Village (de la Presle). 3. High, High up in the Hills (Young). 4. Désésperance (Levade). 5. Tout près de la Source (Pesse). 6. La Rose de Saint Fleur (Offenbach). 7. Rigaudon de Dardanaus (Rameau). 8: Morina (Lacome). 9. Sérénade (Porret). 10. Danse Hongroise No. 3 (Kolmanck). 11. Le Gai Forgeron (Fucik). 12. Ca c'est le Fox. In the interval Fanfares, etc. by Conrtade and Gounod.

#### GERMANY

GERMANY

BERLIN. Koenigswusterhausen.

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

Transmits at intervals from 6.0 a.m.
6.30 p.m.—Eaglish Lesson.
6.55 p.m.—Talk.
7.20 p.m.—Talk for Physicians.
8.30 p.m.—Programme relayed from Voxhaus.

BERLIN. Voxhaus. WL. 566 and 488.9 m. (530 and 620 kc.); 2 and 4 kw.

Transmits at intervals from 6.0 a.m.
7.5 p.m.—Talk: "The Importance of the Universities to the Intellectual Life of Germany."
7.30 p.m.—Legal Talk.
7.55 p.m.—Talk: "A Journey to Lisbon and Vigo through the Bay of Biscay."

Programme relayed by Koenigs-

of Biscay."
cogramme relayed by Koenigswusterhausen on 1,250 m. (240 kc.)

wusternausen on 1,200 In (etc.)
and 8 kw.
8.30 p.m.—Symphony Concert. 1.
Symphony in D major, No. 1
(Haydn). 2. Brandenburg Concerto (Bach). 3. Jupiter Symphony (Mozart).
10.15 p.m. (approx.).—Weather and

NOTE: THE HOURS OF TRANSMISSION ARE REDUCED

10.0 p.m.—Concert of Instrumental Solos.

10.30 p.m. (approx.)—Close Down.

FRANCE

PARIS. Ecole Supérieure (FPTT).

WL. 447.8 m. (670 kc); 0.5 kw.

Transmits at intervals from 8.0 a.m.
6.0 p.m.—Spanish Lesson.
8.30 p.m. (approx.)—Concert.

PARIS. Eiffel Tower (FL). WL.
2,650 m. (113 kc); 5 kw.
10.26 a.m.—Time.
6.45 p.m.—"Le Journal Parlé."

PARIS. Eiffel Tower (FL).

WL.
2,650 m. (113 kc); 5 kw.
10.26 a.m.—Time.
6.45 p.m.—"Le Journal Parlé."

PARIS. Eiffel Tower (FL).

WL.
2,650 m. (113 kc); 5 kw.
10.26 a.m.—Time.
6.45 p.m.—"Le Journal Parlé."

PARIS. Eiffel Tower (FL).

WL.
2,650 m. (113 kc); 5 kw.
10.30 p.m.—Concert. 1. Orchestra:
(a) Ein Morgen, ein Mittag, ein Abend in Wien (Suppé), (b) Dollar Waltz (Fall). 2. Songs to the Lute:
(a) Son einer war auch er, (b) Die alten Landskneche, (c) Das zerbrochene Ringleln. 3. Orchestra—Potepuri from "Der Vogelhändler" (Zeller).

4. Songs to the Lute:
(a) Son einer war auch er, (b) Die alten Landskneche, (c) Das zerbrochene Ringleln. 3. Orchestra—Potepuri from "Der Vogelhändler" (Zeller).

4. Songs to the Lute:
(a) Son einer war auch er, (b) Die alten Landskneche, (c) Das zerbrochene Ringleln. 3. Orchestra—Potepuri from "Der Vogelhändler" (Zeller).

4. Songs to the Lute:
(a) Son einer war auch er, (b) Die alten Landskneche, (c) Dos zerbrochene Ringleln. 3. Orchestra—Concert.
(b) The Little Alabama Coon, (c) Fantasia. 5. Orchestra—(b) Montevideo (Marwell), (c) March (Heinecke).

Son einer war auch er, (b) Die alten Landskneche, (c) Dos zerbrochene Ringleln. 3. Orchestra—(b) The Lute:
(a) Son einer war auch er, (b) Die alten Landskneche, (c) Dos zerbrochene Ringleln. 3. Orchestra—(b) The Lute:
(a) Son einer war auch er, (b) Die alten Landskneche, (c) Dos zerbrochene Ringleln. 3. Orchestra—(b) The Lute:
(a) Son einer war auch er, (b) Die alten Landskneche, (c) Dos zerbrochene Ringleln. 3. Orchestra—(b) Die alten Landskneche, (c) Dos zerbrochene Ringleln. 3. Orchestra—(b) Die alten Landskneche, (c) Dos zerbrochene Ringleln. 3. O

BRESLAU. Schlesische Funkstunde.
WL. 315.8 m. (950 kc); 4 kw.
Transmits at intervals from 11.15a.m.
6.0 p.m.—Culinary Talk.
6.50 p.m.—Talk, "The Last Gipsies."
7.5 p.m.—Talk, "The Norwegian Fjords."
7.35 p.m.—Economic Problems of

Fjords."
7.35 p.m.—Economic Problems of the Day.
8.15 p.m.—Concert by the St.
Mauritius Male Choir.
10.15 p.m.—Esperanto Talk.
10.30 p.m. (approx.).—Close Down.

10.15 p.m.—Esperanto Talk.

10.30 p.m. (approx.).—Close Down.

FRANKFURT-am-MAIN. Südwestdeutscher Rundfunk. W.L. 428.6 m.

(700 kc); 4 kw.

Transmits at Intervals from 12 noon.
6.15 p.m.—Talk, "House and
Garden." Relayed from Catsel,
272.7 m. (1,100 kc).
6.30 p.m.—Programme of the Southwest German Radio Club.
7.0 p.m.—Shorthand Lesson.
7.30 p.m.—Film Notes.
8.0 p.m.—Film Notes.
8.0 p.m.—Film Notes.
8.0 p.m.—Gencert of Dutch Folk
Songs. Relayed from the Music
Festival.
10.0 p.m. (approx.).—Concert of
Light Music, from Gassel.

10.0 p.m. (approx.).—Concert of
Light Music, from Gassel.

HAMBURG. Norag (ha, in Morse).

W.L. 396 m. (758 kc); 4 kw.

Transmits at intervals from 5.45 a.m.
5.0 p.m.—Reading of Fairy Tales.
6.0 p.m.—Orchestral Music.
6.30 p.m.—Advanced English Lesson.
Relayed from Keenigswusterhausen
1,250 m. (240 kc).
7.0 p.m.—Orchestral Music.
7.20 p.m.—Orchestral Music.
7.20 p.m.—Orchestral Music.
7.20 p.m.—Useal Talk.
7.55 p.m.—Weather.
8.0 p.m.—"De Scheerenslieper"

Musical Play in Dialect (Semper).
10.30 p.m. (approx.). Concert from
Söllners Gute Stube, Bremen.
News.
12 midnight (approx.).—Close Down.

Soilners Gute Stube, Bremen.

News.

12 midnight (approx.).—Close Down.

LANGENBERG. Westdeutscher Rundfunk. W. L. 468.8 m. (240 kc);

25 kw.

Transmits at intervals from 10.30 a.m.

Programme also relayed by Muenster on 241.9 m. (1,240 kc).

6.30 p.m.—Talk, "The Appreciation of Musical Works of Genius," from Elberfeld.

7.15 p.m.—English Lesson, from Cologne.

7.40 p.m.—Talk, "Linnaeus as a Botanist," from Muenster.

8.10 p.m.—Talk, "Chidren's Literature of the Present Day," from Cologne.

8.45 p.m.—Talk, "Romain Rolland and his 'Le Jen de l'amour et de

Cologne. Talk, "Romain Rolland and his 'Le Jen de l'amour et de la Mort."

D. p.m. (approx.).—"Le Jeu de l'amour et de la Mort".—Play (Rolland), from Cologne. Followed by News and Sports Notes, and Concert from the "Rheinterrasse," Dusseldor!.

2 midnight (approx.).—Close Down.

STUTTGART. Süddeutscher Rundfunk. W.L. 379.7 m. (790 kc);

STUTTGART. Süddeutscher Rundfunk. W.L. 379.7 m. (790 kc); 4 kw.

Transmits at intervals from 1.15 p.m. 6.0 p.m.—Time and Weather.

6.15 p.m.—Technical Talk.

7.15 p.m.—Esperanto Talk, followed by Time, Weather, and Nows.

8.0 p.m.—Schubert Recital. Relayed from Freiburg, 577 m. (520 kc).

1. Die Schöne Müllerin. 2. Duet for Violin and Pianoforte in A major. 3. Songs. 4. Rondo Brillant Op. 70.

9.30 p.m.—Sports Notes.

9.45 p.m. (approx.).—Silent Night.

#### HOLLAND

HILVERSUM. Algemeene Nederlandsche Radio Omroep. W.L. 1,070 m. (280 kc); 5 kw. 11.40 a.m.—Police News. 12.15 p.m.—Music by the Station Trio.

NOTE: THE HOURS OF TRANSMISSION ARE REDUCED TO BRITISH SUMMER TIME. 14.40

4.40 p.m.—Concert by the Station Orchestra.
7.25 p.m.—Police News.
7.50 p.m.—Symphony Conzert. Relayed from the Kurhaus, Scheveningen: 1. "Parsifal"—Prelude (Wagner). 2. Selections from "Parsifal." 3. "Good Friday Spell," from "Parsifal." 4. "Parsifal "—Paraphrase (Wagner-Wilhelm)). 5. "Symphony No. 8 in C Minor" (Bruckner).
10.10 p.m.—Weather and News.

#### ITALY

MILAN. Unione Radiofonica Italiana (1MI). WL. 322.6 m. (930 kc); 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.—Variety Concert. 11.0 p.m.—Orchestral Selections. 11.30 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. 8.58 p.m.—Harbour Notes. 9.0 n.m.—"Hoffmann"—Opera

#### LITHUANIA

KOVNO. Radio-Kaunas. WL. 2,000 m. (150 kc.); 7 kw. 6.30 p.m.—Orchestral Concert by 2,000 m. (150 kc.); 7 kw.
6,30 p.m.—Orchestral Concert by
an Infantry Regiment. Selection
from "Cavalleria Rusticana." 2.
Barcarolle (Tchaikovsky). 3.
Waltz from "The Tales of
Hoffmann" (Offenbach).
7,30 p.m.—Time, Weather and News.
8.0 p.m.—Talk.

#### NORWAY

BERGEN. Kringkastingselskap.

WL. 370.4 m. (810 kc.); 1 kw.
11.15 a.m.—Exchange Quotations.
12.15 p.m.—Weather and News.
8.25 p.m.—Weather and News.
8.30 p.m.—Concert by the Station
Orchestra.
9.0 p.m.—Talk.
9.30 p.m.—Song Recital by Miss
Annie Glaser (Soprano).
10.0 p.m.—Weather, News and Time10 St.0. Kringkastingselskapet.
WL.
461.5 m. (650 kc): 1.5 kw.
Transmits at intervals from 10.0 a.m.
Programme also relayed by Porsgrund, 500 m. (600 kc); Namar,
566 m. (530 kc); Fredriksstad,
434.8 m. (690 kc); Rjukan,
478 m. (630 kc); and Notodden,
445 m. (674 kc).
7.45 p.m.—News.
8.0 p.m.—Time.
8.5 p.m.—Orchestral Concert. Scores.

10.0 p.m.—Weather, News and Time.

11. OSLO. Kringkastingselskapet. WL.
401.5 m. (650 kc): 1.5 kw.

12. Transmits at intervals from 10.0 a.m.

13. Programme also relayed by Porsgrund, 500 m. (600 kc); Hamar,
14.8 m. (690 kc); Hamar,
14.6 m. (630 kc); Fredriksstad,
14.4 m. (630 kc); Rjukan,
14.0 p.m.—Market Prices and News
11.0 p.m.—Market Prices and News
11.0 p.m.—Market Prices and News
11.25 p.m.—Baseball Scores.
11.30 p.m.—Musical Programme from
11.2 p.m.—Health Talk,
12.25 a.m.—Health Talk,
12.25 a.m.—Wisical Programme from
12.25 a.

8.30 p.m.—Shorthand Lesson.
9.0 p.m.—Exchauge Quotations and News.
9.5 p.m.—Music by the Station Quintet.
9.10 p.m.—Selections from Plays.
9.35 p.m.—Quintet Music.
10 p.m.—Chimes and Weather.
10.10 p.m.—Programme of Guitar Music-Soloist J. Nogues Pon. 1.
"Barcarolle" (Sagi). 2. Andante (Sor). 3. Study in B Minor.) (Sor).
4. Study in E Minor (Sor).
4. Study in E Minor (Sor).
"Andalusia"—Sérénade (Nogues Pon.)

"Andalusia "—Serénade (Nogues Pon.)

10.40 p.m.—"Second S p a n i s h Rhythms "—Suite (Laparra).

11.0 p.m. (approx.)—Close Down.

MADRID. Union Radio (EAJ7).

W.L. 375 m. (800 kc); 1.5 kw.
Transmits at intervals from 11.45a.m.
2.0 p.m.—"Artys Orchestra"—Interlude by Luls Medina, followed by Theatre Notes, Weather and News.
7.0 p.m.—"Artys Orchestra."

10.0 p.m.—"Time, and Exchange Quotations.

10.5 p.m.—Concert of French Music by the Station Orchestra and Sra.

de Ordonez (Soprano), News.

12.30 a.m. (approx. Saturday, July 30th).—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 Malmt
260.9 m. (1,150 kc.).
7.0 p.m.—Programme for Boy Scouts.
7.20 p.m.—Goncert of Chamber Music
7.45 p.m.—Goncert by a Military
Band, relayed from Gothenburg.

#### SWITZERLAND

BERN. Radio-Bern. WL. 411 m (760 kc); 1.5 kw.
Transmits at intervals from 1.0 p.m

Transmits at intervals from 1.0 p.m 8.0 p.m.—Time and Weather. 8.5 p.m.—Ernst Balzi Reads from His Book, "My Boys." 8.30 p.m.—The Kursaal Orchestra. 8.45 p.m.—Russian Music by the Café du Nord Orchestra. 9.20 p.m.—The Kursaal Orchestra 9.50 p.m.—News and Weather. 10.5 p.m.—The Kursaal Orchestra 10.50 p.m. (approx.).—Close Down.—I GENEVA. Radio Geneva. W L 860 m. (395 kc); 0.5 kw. 8.30 p.m.—Exchange, Time and Weather.

8.32 p.m.—Concert of Russian Music by the Café du Nord Orchestra. 9.30 p.m.—News. 9.45 p.m. (approx.).—Close Down.

#### U.S.A.

U.S.A.

PITTSBURGH. Westinghouse Electric (KDKA). W.L. 315.9 m. (950 kc); 30. 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 and Concert.

12.20 a.m. (Sunday, July 30th).—Report of Road Conditions.

12.45 a.m.—Talk by John Way.

1.0 a.m.—"Yesterthots."

1.30 a.m.—"The Royal Stenographers"—relayed from New York.

2.0 a.m.—Phileo Battery Hour, fol-

York.
2.0 a.m.—Phileo Battery Hour, followed by Time, relayed from New York.
3.55 a.m.—Weather and Baseball

Scores.
4.0 a.m.—Dance Music.

### PROGRAMMES FOR SATURDAY

(July 30)

#### IRELAND

CORK. Cork Broadcasting Station (6CK). WL. 400 m. (750 ke); 1.5 kw.
2.30 p.m.—Weather, Stock Market Report and Gramophone Records. 7.0—10.30 p.m.—Programme relayed from Dublin (319.1 m. 940 kc).

DUBLIN. Dublin Broadcasting Station (2RN). W. J. 319.1 m. (940 kc); 1.5 kw.

Transmits at intervals from 1.30 p.m. Programme relayed by Cork (400 m.; 750 kc).
7.20 p.m.—News.
7.30 p.m.—Talk, "Eugene O'Curry," by C. H. Ni Dhubhghaill.
7.45 p.m.—Irish Talk by S. O'Dulrinne.

inne.
8.0 p.m.—Irish Music by the Station

8.0 p.m.—Irish Music by the Station Orchestra.
8.15 p.m.—Aine Ni Oisin—Amhrain Ghaedhealacha.
8.30 p.m.—Anglo-Irish Songs by Frank Gallagher (Bartone).
8.40 p.m.—Orchestral Music.
1. The Coon's Patrol (Lotter).
2. Louis XIII Gavotte (Pernier).
3. Dreamland Bells (Howgill).
9.5 p.m.—Baritone Solos.
9.15 p.m.—Concert Party by H.
O'Donovan and Company.
10.15 p.m.—"L'Arlésienne Suite"
—Bizet.
10.30 p.m.—"News and Weather.

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

#### BELGIUM

BELGIUM

BRUSSELS. Radio-Belgique. WL.
509.5 m. (590 kc); 1.5 kw.
5.0 p.m.—Dance Music. Relayed
from the St. Sauveur Palais de
Dasse.
6.0 p.m.—English Lesson.
7.30 p.m.—Orchestral and Solo Concert
1. "Les Dragons de Villars"—
Overture (Maillard). 2. "No No
Nanette"—Selection (Youmans).
3. Concerto for Trumpet (Wolff).
4. S'rénade Florentine (Godart).
5. Danse persane (Guiraud).
6. Impressions scandinaves (Fredericksen).
5.50 p.m.—Topical Talk.
9.0 p.m.—Concert. Relayed from the
Kursaal, Ostende.
10.21 p.m.—Dante Music. Relay
from the Kursaal, Ostende.
11.0 p.m.—Danke.
11.15 p.m. (approx.)—Close Down.

m., 859 kc.).

PRAGUE. Strasnice. WL. 348.9
m. (859 kc.); 5 kw.
10.30 a.m.—Gramophone Music.
11.35 a.m.—Agricultural Report.
12.0 noon.—Time, News and Orchestral Music.
1.0-p.m.—Talk.
1.15 p.m.—Connercial Notes.
5:0 p.m.—Connert from Works of Mozart.
1. Titus. 2. The Magic Flute.
3. Il Seraglio. 4. Don Juan.
5. Les petits Riens.
6.0 p.m.—Ta k.
6.15 p.m.—German Transmission.

Juan. 5. Les petits Riens, 6.0 p.m.—Ta k. 6.15 p.m.—German Transmission. 6.45 p.m.—Agricultural Report. 7.0 p.m.—Talk. 8.0 p.m.—Weather and News. 8.10 p.m.—Operetta Selections. 10.0 p.m.—Time and News. 10.10 p.m.—Military Concert.

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

COPENMARK

COPENMAGEN. Copenhagen-Radio.

WL. 337 m. (890 kc); 0.7 kw.
Programme relayed by Soro
1,153 m. (260 kc); 0.7 kw.
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1,153 m. (260 kc); 0.7 kw.
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1,153 m. (260 kc); 0.7 kw.
Programme relayed by Soro
1,130 m.—Talk, 'Sk Months in the
Australian Bush.''
8.0 p.m.—Concert of Old Dance
Music. 1. Arabian March (Lumbye); 2. The Evening Star—Waltz
(Ivanovicl). 3. La belle Polonalse
—Mazurka (Gillet). 4. Biondini—
Polka (Lumbye). 5. Opera
Lanclers (Hansen). 6. Pesther—
Waltz (Lanner). 7. Sekstur
(Lanner). 8. Budapest Polka
(Strauss). 9. La Newa Mazurka
(Metra). 10. Soirée d'été — Waltz
(Waldteufel). 11. Amalie Polka
(Jensen). 12. Kontraseire (Jensen).
13. Unter blühenden Rosson—
Mazurka (Vollstedt). 14. Klapfinale (Vollstedt). 15. Circus
Gallop (Fahrbach).
9.15 p.m.—News.
9.30 p.m.—Concert of Songs and
Orchestral Music.
11.0 p.m.—Dance Music from Wivel's
Restaurant.
12.0 midnight.—Chimes from the
Town Hall and Close Down.

#### FRANCE

PARIS. Ecole Supérieure (FPTT).

WL. 447.8 m. (670 kc); 0.5 kw.

Transmits at intervals from 8.0 a.m.
2.0 p.m.—Concert.
6.0 p.m.—Radio Journal de France.
8.0 p.m.—Sports News.
8.30 p.m. (approx.).—Hygiene Talk.
9.0 p.m.—Concert. Followed by News and Weather, and Dance Music.

12.0 mldnight (approx.).—Close Down.

12.0 m|dnight (approx.).—Close Down.

PARIS. Eiffel Tower (FL). WL. 2.650 m. (113 kc.); 5 kw.

10.26 a.m.—Time.
6.45 p.m.—"Le Journal Parls."
Talks on "Modern Military Problems," "The Museum at Lille,"
"Parislan Affairs," "Sociology,"
"Review of the Week," etc.
8.0 p.m.—Weather.
8.10 p.m.—Goncert. 1. Quartet and Planoforte Selection—"Quintet" (Fauré). 2. Tenor Solos. 3. Violin Solo—Dans La Montagne (Canteloube). 4. Songs: (a) L'Arada, (b) Le Bailero (Canteloube). 5. Quartet, Nocturne and Finale of the Quartet (Borodine). 6. Songs.
Two Bourrées (Canteloube). 7. Orchestral Selection from "Tristram and Iseult" (Wagner).

11.26 p.m.—Time.

PARIS. Petit Parisien. WL. 340.9 m. (880 kc); 0.5 kw.
9.0 p.m.—Concert of Operetta Music.—
PARIS. Radio-Paris (CFR). WL.

"Le Matin," News in the intervals.

"I—

TOULOUSE. Radiophonie du Midi.

"L. 392 m. (765 kc); 3 kw.

Transmits at intervals from 10.15a.m.

12.45 p.m.—Concert. 1. H.I.M.—

March (Myddleton). 2. Badinage
(Jongen). 3. "Let's Talk about
my Sweetie" (Denaldson).

4. "Don Juan"—Minuet (Mozart).

5. Voict l'Heure (Mouton). 6. La
Dame Blanche—Selection (Boiel-

dleu). 7. Légende Bretonne (Pesse)
8. Nouvelle Vie—Waltz (Komzak).
9. Romance et Paroles No. 18
(Mendelssohn). 10. Chanson de l'aicule (Wach). 11. A Mon Moulin Joli (Pesse).
2.15 p.m.—Agricultural Report from. Agen (310 m.; 968 kc).
8.0 p.m.—"A Waltz Dream" (Strauss).
8.45 p.m.—Concert. 1. "Gillette de Narbonne"—Selection (Audran).
2. "Phi-Phi"—Selection (Christine). 3. Le Petit Faust (Herve).
4. "Cocorico"—Selection (Ganne).
5. Selection from "The Merry Widow" (Léhar). 6. "La Périchole"—Selection (Offenbach).

#### GERMANY

GERMANY

BERLIN. Koenigswusterhausen.

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

Transmits at intervals from 6.0 a.m.
2.50 p.m.—French Lesson.
3.15 p.m.—Advanced French Lesson.
3.40 p.m.—Weather and Exchange.
4.0 p.m.—English Lesson.
4.30 p.m.—English Lesson.
4.30 p.m.—Talk, "A Student's
Journey to the Tyrol."
5.0 p.m.—Commerce Talk.
5.30 p.m.—Legal Talk.
6.0 p.m.—Physics Talk.
6.30 p.m.—Talk for Dent sts.
6.55 p.m.—North Germany, Past and Present.
8.30 p.m.—Talk for Dent of the form Voxhaus.

BERLIN. Voxhaus, 566 and 483.9 m.
(530 and 620 kc); 2 and 4 kw.
Transmits at intervals from 6.0 a.m.
12.30 p.m.—Agricultural Talk.
4.0 p.m.—Talk on "Roman and Gothic Architecture."
4.30 p.m.—Talk on "The Works of Mozart."
5.0 p.m.—Quartet Concert.
"Titus"—Overture (Mozart). 2.

Mozart."

5.0 p.m.—Quartet Concert. 1.
"Titus"—Overture (Mozart). 2.
Wiener Bonbons—Waltz (Strauss).
3. Melody (Moszkovsky). 4.
"Faust"—Ballet Music (Gounod).
5. Hochzeitzug in Liliput (Translateur). 6. Souvenir of Schubert (Fetras). 7. Maskenzug (Kaempfert).
8. "The Countess Mariza"—Potpourri (Kalman).
6.40 p.m.—Spanish Leason.
7.5 p.m.—Talk on "Visiting Museums."
7.30 p.m.—Legal Talk.

seums."
7.30 p.m.—Legal Talk.
7.55 p.m.—Science Talk.
Programme relayed by Koenigswuster-hausen on 1,250 m. (240 kc) and

8 kw.
8.30 p.m.—"Die Nacht von Berlin"
—A Radio Play.
10.15 p.m. (approx.)—Weather and News.

FRANKFURT-am-MAIN. Südwest-

FRANKFURT-am-MAIN.
deutscher Rundfunk. W.L. 428.6
m. (700 kc); 4 kw.
12.0 (noon).—Carillon from the
Darmstadt Castle.
3.30 p.m.—Children's Corner.
4.30 p.m.—Concert of Operetta
Music.
5.45 p.m.—Readings.
6.15 p.m.—Talk, "Schopenhauer on
the Metaphysical Needs of Man."
7.15 p.m.—Talk, "Paul Natorp and
the Last Phase of the Marburg
School."

School."
7.45 p.m. Reading from Dostoievsky's Novel "Crime and Punishment."

8.15 p.m.—Variety Concert, followed by "Fruhere Verhaltnisse"— Farce (Johann Nestroy). 10.30 p.m. (approx.).—Dance Music.

-11-

LANGENBERG. Westdentscher-Rundfunk. W.L. 468.8 m. (640 kc)'; 25 kw.
Programme also relayed by Muenster on 241.9 m. (1,240 kc). 10,30 a.m.—News.
11.0 a.m.—Experimental Transmission.

10.30 a.m.—News.

11.0 a.m.—Experimental Transmission.

12.55 p.m.—Orchestral Concert, from Gologne.

2.30 p.m.—Talk for Housewives, followed by Talk, "How shall I Keep Healthy?" from Gologne.

3.30 p.m.—Weather and Agricultural Notes.

4.0 p.m.—Recitations, from Gologne.

5.30 p.m.—Concert. Relayed from the "Rheinterrasse," Dortmund.

1. Polonalse in A major (Chopin).

2. Waltz—Concerto in E major (Moszkovsky). 3. Jessonda—Overture (Spohr).

4. La Traviata—Selection (Verdi). 5. Andante from Synrphony No. 1 (Beethoven).

6.40 p.m.—Talk, "The Significance and History of Handwriting," from Muenster.

7.15 p.m.—English Lesson, from Muenster.

7.40 p.m.—Talk, "The Most Important Processes in Wireless Transmission." from Dusseldorf.

8.10 p.m.—Talk, on "The Forthcoming Athletic Tournament. Germany-Switzerland, at Düsseldorf," from Gologne.

8.45 p.m.—"Altwestfalische Bauernhochzeit"—Play (Wagenfeld), from Muenster, followed by News and Sports Notes and Concert from the Café Corso, Dortmund.

1.0 a.m., Sunday, July 31 (approx.).—Close Down.

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LEIPZIG. Middeldeutscher Rund-funk. W.L. 365.8 m. (820 kc);

LEIPZIG. Middelteutscher Kundfunk. W.L. 365.8 m. (820 kc); 4 kw.
Transmits at intervals from 10.0 a.ms 6.15 p.m.—Taxation Talk.
7.0 p.m.—Two Talks.
8.0 p.m.—Weather and Time.
8.15 p.m.—Orchestral and Vocal Concert from the Works of Wagner, Mozart, Millöcker, Löwe, Puccini, Rossini, and Joh. Strauss.
10.0 p.m.—News and Sports Notes.
10.15 p.m.—Dance Music.
12 midnight (approx.).—Close Down.

STUTTGART. Süddeutscher Rundfunk. W.L. 379.7 m. (790 kc); 4 kw.
1.15 p.m.—Weather and News.
3.0 p.m.—Children's Corner.
4.0 p.m.—Orchestral and Vocal Concert. 1. Orchestral Selections: (a) Wein Weib und Gesang (Strauss); (b) March (Lindemann); (c) Am Schönen Rhein gedenk ich Deln (Keler-Bela). 2. Songs: (a) Trinkt Deutschen Wein vom Neckarstrand (Rostin); (b) Beim Rheinwein sollst du mein sein (May); (c) Mosellied. 3. Orchestral Selections: (a) Im Fröhlichen Zecherkreis (Erhard); (b) Rehlnischer Sang—Waltz (Hannemann).

4. Songs: (a) Weinlied (Gilbert)
(b) Ein Schwipserl (Strauss); (c)
Ich möcht wieder einmal in
Grlnzing sein (Benatzky). 5.
Orchestra, Sektgeister—Waltz (Urbach). 6. Two Folk Songs. 7.
Orchestra, Champagne Waltz
(Blon). 8. Drinking Song from
"Der Swätzerin von Saragossa"
(Offenbach). 9. Song, Das nüchterne Mädchen (Strauss). 10.
Ich hab heut Nacht vom Rhein
geträumt (Egen). 11. Orchestra.
Jetzt trink mer noch a Fläscherl
Wein (Lorenz).
6.0 p.m.—Time and Weather.
6.15 p.m.—Talk, "The Art of
Reading."
6.45 p.m.—Legal Talk.
7.15 p.m.—Legal Talk.
7.15 p.m.—Time, Weather, and
Sports Notes.
8.15 p.m.—Ghamber Music. 1.
Sextet Op. 81 (Beethoven).
9.15 p.m.—Variety Entertainment.
11.0 p.m.—Dance Music. Relayed
from Frankfurt.
12 midnight (approx.).—Close Down.

12 midnight (approx.).-Close Down.

#### HOLLAND

HOLLAND

HILVERSUM. Algemeene Nederlandsche Radio Omroep. WL.
1,070 m. (280 kc.); 5 kw.
11.40 a.m.—Police News.
12.15 p.m.—Programme of Music by the Station Trio.
1.40 p.m.—Popular Concert relayed from the Royal Picture House, Amsterdam.
3.40 p.m.—Dance Music, relayed from the Kurhaus, Scheveningen. "The Russian North Star Orchestra.
5.40 p.m.—Goncert by the Station Orchestra.
1. "Marchons Toujours" (Blokland). 2, "William Tell"—Overture (Rossini). 3. "Le Soleil s'est couché" (Ackermans).
4. "Plaisir d'amour" (Martini). 5. "The Mountebanks"—Selection (Ganne). 6. "O schöner Mai"—Waltz (Joh. Strauss). 7. "Fatima"—Intermezzo (Siede).
6.40 p.m.—"The Yalkyrie"—Act I., Scene II. (Wagner).
7.10 p.m.—Concert (contd.).
1. Gladiatoren Assaut (Grit). 2. (a) Pour un baiser (Tosti), (b) Avril (Tosti). 3. Valse érotique (Hentschel). 4. Finale. In the Interval: Police News.
7.50 p.m.—Goncert and Talk.
10.10 p.m.—Weather and News.
10.20 p.m. (approx.).—Close Down.

#### ITALY

MILAN. Unione Radiofonica Italiana (1MI). W.L. 322.6 m. (930 kc); 1.5 kw.
Transmits at intervals from 12.15p.m.
4.16 p.m.—Orchestral Selections.
5.20 p.m.—Children's Corner.
5.45 p.m.—Agricultural Report and

5.45 p.m.—Agricultural Report and News.
8.30 p.m.—Opening Signal.
8.45 p.m.—Time.
8.47 p.m.—Technical Wireless Talk.
9.0 p.m.—"Adrianne Lecouvreur"
—Selection (Celia). News.
11.0 p.m.—Dance Music. Relayed from the "Flaschetteria Toscana."
11.30 p.m. (approx.).—Close Down.

11.30 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. 2.0 p.m.—News.
5.0 p.m.—Weather and News.
5.5 p.m.—Variety Items.
5.8 p.m.—Commerce Notes.
5.10 p.m.—Musical Selections.
8.45 p.m.—Sports Notes.
8.55 p.m.—Harbour Notes.
9.0 p.m.—Concert of Italian Music.
1. I Ituani—Symphony (Ponchielli). 2. "Leonora, thou alone," from "La Favorita" (Donizetti).
3. "I die, yet first implore thee," from "The Masked Ball" (Verdi).
4. Visione lirica—Intermezzo (Mascagni).
9.30 p.m.—"L'Acqua Miracolosa"—

4. Visione lirica—Intermezzo (Mascagni).
9.30 p.m.—" L'Acqua Miracolosa"—
Comedy (Quintero).
10.0 p.m.—Concert (contd,). 1.
"Queen of Heaven, while thou art reigning," from "Norma" (Rellini). 2. The Barber of Seville—Cavatine (Rossini). 3. Il Trovatore—Selection (Verdi). 4. The Merry Wives of Windsor—Symphony (Nicolai).
10. p.m.—Calendar.
11.0 p.m.—Closing Down Signal.
CONTINUED OVERLEAF:

#### PROGRAMMES FOR SATURDAY—(Cont.)

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

ROME. Unione Radiofonica Italiana (1RO). WL, 450 m. (667 kc); 3 kw.

1.0 p.m.—News.
5.0 p.m.—News. Exchange Quotations, and Weather.
5.20 p.m.—Wireless Notes.
5.45 p.m.—Concert of Vocal and Instrumental Music. I. Trio Op. 1, No. 2 for Pianoforte (Beethoven).
2. Romance from "Aida" (Verdi).
3. Air from "La Sonnambula" (Bellini). 5. "Oh what feelings," from "The Marriage of Figaro" (Mozart). 6. Trio in E minor, Op. 23 (Zanella). 7. "I have only a poor little room"—Air from "La Bohème" (Leoncavallo). 8. Air from "L'Amico Fritz" (Mascagni). 9. Air (Grieg). 10. "O Robert! my Beloved"—Air from "Robert le Diable" (Meyerbeer). 6.50 p.m.—Agricultural Notes.
9.0 p.m.—Time, News, Exchange Quotations, and Weather.
9.10 p.m.—Programme relayed from a Rome Theatre. In the interval: Review of Periodicals.

11.25 p.m. (approx.).—News.

#### JUGO-SLAVIA

ZAGREB. Radio-Klub Zagreb. W.L. 310 m. (967 ke); 0.35 kw. Transmits at intervals from 8.15 —11 p.m. (approx.)

#### · LITHUANIA

KOVNO. Radio Kaunas. W.L. 2,000 m. (150 kc.); 7 kw. 6.0 p.m.—Orchestral Concert. 7.30 p.m.—Time, Weather and News. 8.0 p.m.—Political News.

#### NORWAY

BERGEN. Kringkastingselskap.

WL. 370.4 m. (810 kc.); 1 kw.
12.15 p.m.—Weather and News.
7.55 p.m.—Weather and News.
8.0 p.m.—Goncert by the Station
Orchestra.
8.30 p.m.—Recitation by Mr. Stein
Backe.

Backe.
9.30 p.m.—Concert of Gipsy Music.
10.0 p.m.—Weather, News and Time

10.15 p.m.—Dance Music, relayed from the "Café Boulevard."

from the "Café Boulevard."

OSLO. Kringkastingselskapet. WL.
461.5 m. (650 kc); 1.5 kw.
Transmits at intervals from 11.10a.m.
Programme also relayed by Porsgrund, 500 m. (600 kc); Hamar,
566 m. (530 kc); Frederiksstad,
434.8 m. (690 kc); Rjukan,
476 m. (630 kc); and Notodden,
445 m. (674 kc).
7.15 p.m.—Prose Reading.
7.45 p.m.—Prose Reading.
7.45 p.m.—Time.
8.5 p.m.—Orchestral Concert. 1.
Felsenmuhle (Reissiger). 2. En.
Valsant (Friedmann). 3. Symphony No. 6 (Haydn).
4. Le moulin frivolin (Gillet).
9.0 p.m.—Talk, on "The Scandinavian Students' Voyage to Nordkap."

9.30 p.m.—Concert of Vocal Selec-

tions.
10.0 p.m.—News.
10.15 p.m.—Dance Music.
11.0 p.m. (approx.).—Close Down.

#### POLAND

WARSAW. Polskie Radio. W.L.
1,111.1 m. (270 kc); 10 kw.
Transmits at intervals from 12 noon.
3.0 p.m.—Economics Talk and
Weather.
7.15 p.m.—Hygiene Talk.
8.30 p.m.—Concert.
10.0 p.m.—Weather and Time.
10.30 p.m.—Dance Music.

#### SPAIN

BARGELONA. Radio-Barcelona (EAJ1). WL 344.8 m (870 kc); 2 kw.
12.0 noon.—Chimes and Weather.
5.30 p.m.—Selections by the Station Quintet. 1. "Las pobres milionarios"—Charleston (Demon).
2. Selection from "The Merry Widow" (Léhar). 3. Confession d'amout (Kockert). 4. Vidalita mia (Valis). 5. Arena tragicapaso-doble (Cuevas).
8.30 p.m.—Elementary French Lesson.

9.0 p.m.—Talk, "Flies as a Menace to Infant Hygiene."
9.15 p.m.—Programme of Music by the "Demons Jazz" Orchestra.
1. "Pepita"—Spanish Foxtrot (Harry).
2. Mock the Bird—Shimny (Dixan).
3. Pompoff and Teddy (Demon).
4. Escuchame—Tango (Montilla-Morales).
5. Orgie—Foxtrot (Dotras Fors).
6. Back to Me—Charleston (Johnston).
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. (750 kc); 0.55 kw.
1.5 p.m.—Vocal Recital of Argentins
Tangos (Spaventa).
7.20 p.m.—Talk for Women.
7.35 p.m.—Spanish Songs by Srta.
Pepita Munoz, in the interval—
Pianoforte Music,
7.50 p.m.—News.
8.0 p.m.—Time.
8.2 p.m.—Concert by the Station
Orchestra.
9.0 p.m. (approx.)—Close Down.

9.0 p.m. (approx.)—Close Down.
12.0 midnight — Experimental
Transmission.

Transmission.

MADRID. Union Radio (EAJ7).

WL. 375 m. (800 kc.); 1.5 kw.
Transmits at intervals from 11.45 a.m.
2.0 p.m.—"Artys Orchestra."—Interlinde by Luis Medina, followed by Theatre Notes, Weather, News and Review of Books.
7.0 p.m.—"Artys Orchestra."
10.0 p.m.—Time.
10.5 p.m.—Selection from a Musical Play, by the Station Choir and Orchestra. News.
12.30 a.m. (approx.) (Sunday, July 31st)—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 Malmo
260.9 m. (1,150 kc.).
6.0 p.m.—Children's Corner.
6.40 p.m.—Sports News.
7.0 p.m.—Goncert of Light Music.
1. The Caliph of Bagdad—Overture (Boieldieu). 2. Selection from
"The Force of Destiny." (Verdi).

3. (a) New Vienna—Waltz (Engel),
(b) Liebesiled (Engel-Berger), (c)
Wienertanz (Gartner), (d) Der
Rosenkavalier—Waltz (Strauss).
4. American Suite (Thurban). 5.
(a) Dance from "Feramors"
(Rubinstein), (b) Naila—Intermezzo (Delibes), (c) Despised
Love—Waltz (Lincke). 6. Selection from "Clo-Clo" (Léhar).
10 p.m.—Time.
23. (a) New Vienna—Waltz (Engel),
8.30 p.m.—Weather.
8.31 p.m.—Open Air Concert.

UL. 588 m. (610 kc); 1
Transmits at intervals from 1:
5.20 p.m.—Concert by the
weiss" Accordeon Club.
8.60 p.m.—Concert of Folk M

Love—Waltz (Lincke).

Love—Waltz (Lincke).

6. Selection from "Clo-Clo" (Lehar).

8.0 p.m.—Time.

8.30 p.m.—Cabaret Music.

9.15 p.m.—News.

9.30 p.m.—Weather.

9.45 p.m.—Talk: "Professions and Professionals," relayed from Malmo.

10.0 p.m.—Old Dance Tunes.

11.15 p.m.—Dance Music by the Rolf Orehestra.

12.15 a.m. (Sunday, July 31st) (approx.).—Close Down.

#### SWITZERLAND

BERN. Radio-Bern. WL. 411 m. (720 kc); 1.5 kw. 1.0 p.m.—Time, Weather, Exchange and Gramophone Selections.
3.56 p.m.—International Time Signal from Neuchâtel.
4.0 p.m.—The Kursaal Orchestra

from Neuchatel.
4.0 p.m.—The Kursaal Orchestra.
4.30 p.m.—Children's Corner.
5.0 p.m.—The Kursaal Orchestra.
8.0 p.m.—Time and Weather.
8.5 p.m.—Goncert of Swiss Songs and Music.
9.20 p.m.—The Kursaal Orchestra.
9.50 p.m.—News and Weather.
10.5 p.m.—News and Weather.
10.5 p.m.—Concert Music.
11.30 p.m. (approx.)—Close Down.

11.30 p.m. (approx.)—Close Down.

GENEVA. Radio Geneva. WL.
760 m. (305 kc); 0.5 kw.
8.30 p.m.—Exchange, Time and
Weather.
8.32 p.m.—Concert relayed from the
Promenade des Bastions: News
in the interval. If weather prevents, Orchestral Music from the
Hotel Metropole.
10.0 p.m.—Dance Music by the
Kursaal Orchestra.
11.0 p.m. (approx.)—Close Down.
LAUSANNE. Société Romande de
Radiophonie. WL. S50 m.
(353 kc.); 0.6 kw.

AUSANNE. Société Romande de Radiophonie. WL. S50 m. (353 kc.); 0.6 kw. 0 a.m.—Weather. 0 p.m.—Weather, Time, Exchange Quotations and Gramophone Records.

ZURICH. Radlo Genossenschaft.

WL. 588 m. (510 kc); 1 kw.
Transnits at intervals from 12.28p.m.
5.20 p.m.—Concert by the "Edelweiss" Accordeon Club.
5.55 p.m.—Weather and News.
8.0 p.m.—Concert of Folk Music.
10.10 p.m.—News and Weather.
10.20 p.m.—Dance Music. Relayed from the Hotel Baur au Lac.
11.0 p.m. (approx.).—Close Down.

#### U.S.A.

PITTSBURGH. Westinghouse Electric (KDKA). WL. 315.9 m. (950 kc); 30 kw.

Programme relayed on 64 m. (4768 kc); from 11.0 p.m.

4.0 p.m.—Weather and Market Prices.

5.57 p.m.—Time.

6.0 p.m.—Weather and Stock Market Report.

5.57 p.m.—Time.
6.0 p.m.—Weather and Stock Market
Report.
8.30 p.m.—Baseball Scores (every
half-hour).
11.0 p.m.—Baseball Scores followed
by Programme of Dinner Music.
11.55 p.m.—Baseball Scores, and
relay of Weekly Meeting of the
Pittsburgh Radio Club.
2.20 a.m. (Sunday, July 31).—
Report of Road Conditions.
12.30 a.m.—Variety Concert.
4.0 a.m.—Weather and Baseball
Scores.

Scores. -11-

Schenectady, N.Y. General Electric Company (WGY). WL. 379.5 m. (790 kc); 30 kw. Transmits at Intervals from 11.45a.m Relayed by 2XAF on 32.77 m. (9.155 kc); from 12.25 a.m. (Sunday, July 31).

12.25 a.m. (Sunday, July 31).—Baseball Scores. 12.30 a.m.—Orchestral Music from Hotel Onondaga, Syracuse. 1.30 a.m.—Musical Programme from WHAM Studio, Rochester. 2.30 a.m.—Programme from New York.

3.0 a.m.—Programme from New York.

4.0 a.m.—Dance Music.

5.0 a.m. (approx.)—Close Down.

#### PROGRAMMES FOR SUNDAY

(Continued from page 86.)

10.30 a.m.—Sacred Vocal and Instrumental Music.
1.0 p.m.—News.
4.15 p.m.—Vocal and Instrumental Concert. 1. (a) "I Capuletl e-Montecchi"—Air (Bellini); (b) "Peace, Peace O God"—Air from "The Force of Destiny" (Verdi); (e) Lyrle (Ferroni). 2. (a) "Mélodie" (Rachmaninofi); (b) Liebeslied (Liszt); (e) Pathos (Floridia).
5.15 p.m.—Children's Corner.
5.45 p.m.—Forestry Notes and News.
8.30 p.m.—Opening Signal.
8.45 p.m.—Fire.
9.0 p.m.—Variety Concert. 1. "Il Guarany"— Symphony (Gomez). 2. Talk, "The History of Opera-Comique." 3. Baritone Songs: (a) "O Alexandria," from "Thais" (Massenet); (b) April (Tosti), 4. Scherzo in C Sharp Minor (Chopin). 5. (a) Soprano Songs: (a) "O Blue Sky," from "Aida" (Verdi); (b) "Since the Opera-Comique."

3. Bartione
Songs: (a) "O Alexandria," from
"Thais" (Massenet); (b) April
(Tosti), 4. Scherzo in C Sharp
Minor (Chopin). 5. (a) Soprano
Songs: (a) "O Blue Sky," from
"Aida" (Verdi); (b) "Since the
day I gave myself to you," from
"Louise" (Charpentier), 6. Orchestral Selection—"Nebuchadnezzar"
—Symphony (Verdi), 7. Tenor
Songs: (a) "The Slave" (Gomez);
(b) "But through for aye from Symphony (Verdi). 7. Tenor Songs: (a) "The Slave" (Gomez); (b) "But through for aye from thee I'm Torn," from "The Force of Destiny" (Verdi). 8. "I Lituani "—Symphony (Ponchielli). 9. "Stand motionless and gaze on the ground"—Barttone Song from "William Tell" (Rossini). 10. (a) "Aufschwung" (Schumann), and (b) Romance (Henselt)—Pianoforte Solos. 11. "Spring"—Tenor Song (Tosti). 12. "William Tell"—Symphony (Rossini).

NAPLES. Unione Radiofonica Italiana (1NA). W.L. 333.3 m. (900 ke). 1.5 kw. 1.5 kw. 1.5 km.—News. 5.0 p.m.—Children's Corner. 5.5 p.m.—Variety Music. 7.30 p.m.—News. 9.0 p.m.—Relays of the Municipal Concert. 10.0 p.m.—Vocal and Instruments.

Concert. 1. Poet and Peasant—
Overture (Suppé). 2. Se tu m'ami
(Pergolesi). 3. "I have lost my
Eurydice "—Air from "Orpheus"
(Gluck). 4. "I pescatore canta"
(Tosti). 5. Baritone Song (de
Lava). 6. "Ninna Nanna" (Trirndelli). 7. Bimba Bimbetta (Stbella). 8. Arabesque (Debussy).
9. Gavotte-Op. 82, No. 5 (Reger).
10. Soprano Song from "Adrienne
Lecouveur" (Clea). 11. Baritone
Song from "L'Africaine" (Meyerbeer). 12. Air from "Andrea
Chénier" (Glordano). 13. tymphony (Verdi).
9.30 p.m.—Time.
10.55 p.m.—Calendar.
11.0 p.m. (approx.)—Close Down.

ROME. Unione Radiofonica Italiana

ROME. Unione Radiofonica Italiana (1RO). WL. 450 m. (666 kc); ROME. Unione Radiofonica Italiana (1RO). WL. 450 m. (666 kc); 3 kw. 10.30 a.m.—Concert of Instrumental and Vocal Music. 1.0 p.m.—News. 5.30 p.m.—Concert. Relayed from "La Casina delle Rose." 8.20 p.m.—News. 9.0 p.m.—Time, Forestry Notes, Press and Sports News. 9.10 p.m.—Instrumental and Vocal Concert. 1. "II Carillon Magico" (Mangiagalli). 2. "I have lost my Eurydice"—Air from "U'amore dei tre Re" (Montemezzi). 4. Fashion Review. 5. Air from "L'amore dei tre Re" (Montemezzi). 4. Fashion Review. 5. Air from "Louise" (Strauss). 7. "A Night in Madrid"—Overture (Glinka). 8. Duct from "Der Rosenkavalier" (Strauss). 9. Bass Song from "Mephilstopheles" (Boito). 10. Medical Hygiene Talk. 11. Selection from "Francesco da Rimini"—Opera (Zandonai).

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

#### JUGO-SLAVIA

5.5 p.m.—Variety Music.
7.30 p.m.—News.
9.0 p.m.—Relays of the Municipal Concert.
10.0 p.m.—Vocal and Instrumental

Solution Solu

10.0 p.m.—Relay from the Rath-auskeller.

#### LITHUANIA

KOVNO. Radio-Kaunas. WL. 2,000 m. (150 ke); 7 kw. 4.0 p.m.—News for Farmers. 5.0 p.m.—Talk, followed by Concert. 6.0 p.m.—Time and Weather. 6.5 p.m.—Political Talk. 6.30 p.m.—Concert.

#### NORWAY

NORWAY

BERGEN. Kringkastingselskap. WL.
370.4 m. (810 kc); 1 kw.
10.30 a.m.—Divine Service.
12.30 p.m.—Evensong.
7.55 p.m.—Fishing Notes.
8.0 p.m.—Goncert by the Station
Orchestra.
9.0 p.m.—Talk by Mr. Karl Just.
9.30 p.m.—Music by the "Twin City—Lutheran Quartet."
10.0 p.m.—Weather, News and Tine.
10.15 p.m.—Dance Music, relayed from the Hotel Norge.

from the Hotel Norge.

OSLO. Kringkastingselskapet. WL.
461.5 m. (650 kc); 1.5 kw.
Programme relayed by Porsgrund,
500 m. (600 kc); Hamar, 566 m.
(530 kc); Fredriksstad, 434.8 m.
(690 kc); Rjukan, 476 m. (630 kc);
and Notodden, 445 m. (674 kc).
10.30 a.m.—Divine Service from St.
Saviour's Church, Oslo.
6.0 p.m.—Evensong from St. Saviour's Church, Oslo.
7.45 p.m.—News.
8.0 p.m.—Time.

10ur's Church, Osio.
7.45 p.m.—News.
8.0 p.m.—Time.
8.5 p.m.—Orchestral Concert.
9.0 p.m.—Poetry and Prose Reading.
9.30 p.m.—Concert of Vocal Selections.

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

#### SPAIN

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

-Exchange Quotations and

9.0 p.m.—Exchange Quotations and Market Prices.
9.10 p.m.—Sports Notes.
9.20 p.m.—Concert by the Station Quintet.
1. 'Addio''—March (Barbirolli).
2. "El chulo''—Schottische (Bas).
3. "Juristen".
—Dance (J. Strauss).
4. "Werther "—Selection (Massenet).

5. "Son las tres"—Tango (Vila).
6. Alma andaluza—Serenade (Mariani).
0.0 p.m.—Relay of the Festivities in Gelebration of the Feast of St. James. Flamenco Songs, Dances, Planoforte Music, and Fortune—Telling.
0.30 p.m.—Ouintet Music.
1. "The Nutritious Qualities of Bread."
3.00 p.m.—Time and Weather.
3.00 p.m.—Concert of German Scn 70 with Orchestral Interludes from the Kursaal.
9.50 p.m.—Sports Notes, News and Weather. 6. Alma andauza (Mariani).
10.0 p.m.—Relay of the Festivities in Celebration of the Feast of St. James. Flannenco Songs, Dances, Planoforte Music, and Fortune-Telling.
10.30 p.m.—Quintet Music.
11.0 p.m. (approx.).—Close Down.

Usion Radio (EAJ 7)

MADRID. Union Radio (EAJ 7).

WLr. 375 m. (800 ke); 1.5 kw.
2.0 p.m.—Selections by the "Artys"
Orchestra, Interlude by Luis
Medina.
7.0 p.m.—Children's Corner and
Concert by the "Artys" Orchestra.
10.0 p.m.—Time.
10.2 p.m.—Concert by the Station
Orchestra and Selections by the
Municipal Band.
12.30 a.m. (Monday, July 25).—
Close Down.

#### SWEDEN

SWEDEN

STOCKHOLM. Radiotjänst (SASA).

WL. 454.5 m. (660 ke); 1.5 kw.
Programme also relayed by Motala.
1,320 m. (227 kc); Goteborg.
416.7 m! (720 ke); and Malmo.
200.9 m. (1,150 ke).
11.0 a.m.—Divine Servico from Malmo.
5.0 p.m.—Chidren's Corner.
5.55 p.m.—Chimes from the Town Hall, Stockholm.
6.0 p.m.—Evensong.
7.15 p.m.—Citerary Recital.
7.45 p.m.—Concert by the Band of the Royal Navy: 1. Marche des petits Japonais (Gauwin). 2. Die Volgazigeuner—Overture (Spialek).
3. Tutta Grazia—Mazurka (Tarditl). 4. Oriental Suite (Popy). 5. Die Dorfschwalben — Waltz (Strauss). 6. Selection from "Carnen" (Bizet). 7. Four Italian Songs. 8. Selection from Cavalleria Rusticana (Mascagni). 9. An dem Frühling (Grieg). 10. Bojarernas intag—March (Halvorsen).
9.40 p.m.—Old Dance Tunes.
10.30 p.m. (approx.).—Close Down

#### SWITZERLAND

BERN. Radio Bern. WL. 411 m. (730 kc); 1.5 kw. 10.30 a.m.—Morning Concert. 1.0 p.m.—Time and Weather. 1.5 p.m.—Concert by the Juvenile Accordeon Club, Burgdorf.

9.50 p.m.—Sports Roces,
Weather.
10.5 p.m.—The Kursaal Orchestra.
10.30 p.m. (approx.)—Close Down.

ZURICH. Radio Genossenschaft.
W.L. 588 m. (510 kc); 1 kw.
1.0 p.m.—Music by the "Koppeli"

W.L. 588 m. (510 kc); 1 kc 1.0 p.m.—Music by the "Ko Orchestra. 2.45 p.m.—Catholic Address. 4.0 p.m.—Orchestral Concert. 5.20 p.m.—Protestant Address. 5.20 p.m.—Protestant Address.
7.58 p.m.—Time and Weather.
8.0 p.m.—Programme of Chamber

Music.
8.30 p.m.—Talk on "Pushkin."
9.0 p.m.—Concert of Russian and
German Songs.
10.10 p.m.—News and Weather.
10.20 p.m. (approx.)—Close Down.

#### U.S.A.

PITTSBURGH. Westinghouse Electric (KDKA). WL 315.9 m. (950 kc); 30 kw.

7.0 p.m.—"Roxy's Gang" Relayed from New York.

11.30 p.m.—Baseball Scores.

12.30 a.m. (Monday, July 25th).—Baseball Scores.

10. a.m.—Concert by the Municipal Band. Relayed from Schenley Park.

2.0 a.m.—Concert by the New York.

Park. 2.0 a.m.—Concert by the New York Philharmonic Orchestra, Relayed from WJZ, New York.

### Stations in Alphabetical Order.

		-3.3			
EUROPEAN.		- 1	Moscow (Old Komintern) RAI, 20 kw., 3 p.m.	let.	Kc.
Aberdeen (2BD), 1.5 kw	Met. 500	Řc. 600	Moscow (Trades Union) RAQ, 4 kw., 9.0 a.m.—	50	207
Agen (France), 0.25 kw. Agen (France), 0.25 kw. Angers (France) (Radio Anjou), 0.25 kw.	310 275.2	968	9.0 p.m	50	666
Barcelona (Spain) (Radio Barcelona) EAJ1, 2 kw. Barcelona (Spain) (Radio Catalana) EAJ13, 2 kw.		. 870	Muenster (Germany), m.s. in Morse, 1.5 kw 241	1.9 1	1240 560
Barcelona (Spain) (Radio Catalana) EAJ13, 2 kw. Basle (Switzerland), 0.25 kw.	1100	649 273	Naples (INA), 1.5 kw	3.3	900
Basle (Switzerland), 0.25 kw. Belfast (2BE), 1.5 kw. Belgrade (Serbia), 2 kw. Bergen (Norway), 1.5 kw./	306.1 225.6	980 1330	Naples (INA), 1.5 kw.       333         Newcastle (5NO), 1.5 kw.       312         Nijni Novgorod (Russia), 1.2 kw.       8		960 349
Bergen (Norway), 1.5 kw./.	370.4	810	Norrhoeping (Sweden) SMVV, 0.25 kw	80 5.2 1	168
Berlin (Koenigswusterhausen) AFP, 8 kw. 2900 (4 Berlin (Koenigswusterhausen) AFT, 8 kw.	1250	240	Notodden (Norway) (Relays Oslo) 4 Nottingham (5NG), 0.2 kw	45 5.2 1	674
Berlin (Magdeburger Platz), 1.5 kw Berlin (Witzleben), 4 kw	566 483.9	530 620	Norddeich (Germany)  Norrkoeping (Sweden) SMVV, 0.25 kw. 17  Norrkoeping (Sweden) SMVV, 0.25 kw. 275  Notodden (Norway). (Relays Oslo) 4  Nottingham (5NG), 0.2 kw. 7  Novosibersk (Russia) RA33, 4 kw., 6 p.m. 11  Nuremberg (Germany), 4 kw. (Relays Munich) 3  Osrebro, 0.3 kw. (Relays Stockholm) 23  Oslo (Norway), 1.5 kw. 461  Ostersund (Sweden), 2 kw. (Relays Stockholm) 7  Oviedo (Spain), 0.75 kw. 3	17	268 990
Berlin (Witzleben), 4 kw	2525 411	119 730	Oslo (Norway) 1 5 kw (Relays Stockholm) 236	6.2 1	1270 650
Bilbao (Spain) (Radio Club de Vizcaya) EAJ9,	158	1899	Ostersund (Sweden), 2 kw. (Relays Stockholm) 7 Oviedo (Spain), 0.75 kw	20	416 965
Bilhao (Spain) (Radio Vizcava) EAJ11 2 kw	434.8	690 709	Paris (Ecole Supérieure) FPTT 0.5 kw 447	7.8	670
Birmingham (51T), 1.5 kw.  Biorneborg (Finland)	326.1	920 964	Parls (Petit Parisien), 0.5 kw 340	0.9	880
Bioemendaai (Holland), 0.05 kw. (Sundays only) Boden (Sweden) SASE, 1.5 kw. (Relays Stockholm)	566 1200	530 250	Paris (Radio, Paris) ('R'R 2 law		170
Bordeaux (Lafayette) PTT, 1 kw	273	1098 1260	Paris (Radio Vitus), 1 kw	00	930 750
Bordeaux, 1.5 kw	491.8 252.1	610 1190	Paris (Radio Vitus), 1 kw. 322  Plymouth (5PY), 0.2 kw. Porsgrund (Norway), 1 kw. (Relays Oslo)  Posen (Poland), 1.5 kw. 270  Prague (Czecho-Slovakia), 5 kw. 344  Rawkiawi (Lochod), 1 kw. 323	0.3 1	600 1100
Bratislavia (Czecho-Slovakia), 0.5 kw	263.2 252,1	1140	Prague (Czecho-Slovakia), 5 kw		859 900
Bremen (Germany), 0.75 kw. (Relays Hamburg) Breslau (Germany), 4 kw. Bruenn (Czecho-Slovakia), 3 kw	315.8	950	Riga (Latvia), 1.2 kw	6.5	570 630
Brussels (Belgium), 1.5 kw	441.2 508.5	680 590	Rome (1RO), 3 kw 4	50 50	666 353
Gadiz (Spain) EAJ3, 0.55 kw.	555.6 400	750	Ryvang (Denmark), 1 kw	50	261
Cadiz (Spain) EAJ3, 0.55 kw. Cardiff (5WA), 1.5 kw. Cartagena (Spain), EAJ16, 1 kw.	353 335	850 895	(Relate Stockholm) 7		190 746
	272.7 337	1100 890	One Ontrode (O. 1 to Trayon O.)	97 1	1010
Cork (IFS), 1.5 kw., 6CK	400	750 711	Scheveningen Haven (Holland), 2.5 kw 19	50	530 154
Copenhagen (Denmark), 0.7 kw. Cork (IFS), 1.5 kw., 6Ck Cork (IFS), 1.5 kw., 6Ck Cracow (Poland) Danzig (Germany), 1.5 kw. Daventry (5XX), 25 kw. De Blit (Holland)	272.7	1100	Site (OF 1), U.Z KW	2.7 1	750
De Bilt (Holland)	1604.3	187 273	St. Michel (Finland)	66	260 530
Oortmund (Germany), 1.5 kw. "(Relays Muenster) Dresden (Germany), 0.7 kw. (Relays Lelpzig) Dublin (2RN), 1.5 kw. Dundae (2DE), 0.2 kw. Edinburgh (2EH), 0.2 kw.	283	1060	St. Michel (Finland) 5 Stamboul (Turkey), 10 kw. 120 Stettin (Germany), 0.75 kw. (Usually relays Berlin) 236	00 3.2 1	250
Dublin (2RN), 1.5 kw	319.1 294.1	1020	Stockholm (SASA), 1.5 kw	.5	660
Eskilstuna (Sweden), 0.25 kw. (Relays Stockholm)	288.5	1040 1200	Strasbourg, 0.1 kw. 222 Stuttgart (Germany) 4 kw 379	2.2 1	790
Falun (Sweden) SMZK, 1.5 kw	400	750	Sundsvall (Sweden) SASD, 1 kw	.6	550
regriksstad (Corway). 0.7 kw. (Relays Oslo)	428.6	700 690	Stamboul (Turkey), 10 kw. Usually relays Berlin) 236 Stockholm (SASA), 1.5 kw. Usually relays Berlin) 236 Stockholm (SASA), 1.5 kw. 229 Strasbourg, 0.1 kw. 294 Strasbourg, 0.1 kw. 222 Stuttgart (Germany), 4 kw. 379 Sundsvall (Sweden) SASD, 1 kw. 254 Swansea (5SX), 0.2 kw. 294 Tailin (Reval) (Esthonia), 2.2 kw. 294 Tailin (Reval) (Esthonia), 2.2 kw. 12mmerfars (Finland) 0.25 kw (Relays Heisbogfors) 44	.7 1	050
Gaevie (Sweden) SMXF, 0.25 kw	577	520	Tammerfors (Finland) 0.25 kw. (Relays Helsing?ors) 4 Tiflis (Russia), 4 kw	70	750 309
(Relays Stockholm) Geneva (Radio Geneve), 0.5 kw	760	1470 395	Toulouse (France) (Rad. du Midi), 3 kw 3	92	765
Glasgow (58C), 1.5 kw. Gleiwitz (Germany), 0.7 kw. (Relays Breslau) Goeteborg (Sweden) SASB 1 kw	405.4 250	740 1200	Tromsoe (Norway)	00	600
Graz (Anstria), 0.5 kw. (Usually relays Vienna)	416.7 356	720 840	Trondhjem (Norway), 1kw. 243 Uddevalla (Sweden), 0.25 kw. (Relays Goeteborg) 294		020
Grenoble (France) 0.5 kw	218 215.8	1376	Uleaborg (Finland), 0.2 kw. (Relays Helsingfors) 2:	50 1	200
Hamar (Norway), 0.7 kw	566 396	530 758	Uppsala (Sweden), 0.25 kw. (Relays Stockholm) 50		600
Hamburg (ha, in morse), 4 kw. Hamburg (Germany), 0.7 kw. (Relays Hamburg) Haelsingborg (Sweden), 0.25 kw. (Relays Malmo)	297 229	1010	Viborg (Finland), 0.7 kw		1010
Helsingfors (Finland), 1.2 kw.  Milversum (Holland) ANRO, 5 kw.	375 1070	800	Vienna (Rosenhuegel), 5 kw	1.2	580
Hudiksvall (Sweden), 0.25 kw	272.7 294.1	1100	Warsaw (Poland), 10 kw		270
Innsbruck (Austria), 0.5 kw. (Relays Vienna)	293	1024			967 510
Jakobstad (Finland) Joenkoeping (Sweden) SMZD, 0.5 kw.	275.2	1090			-
(Relays Stockholm)	201.3	1490	EXTRA-EUROPEAN.		
Juan les Pins (France), 0.5 kw	297	1010	A delaide (Australia) FOT Olum	91	767
K almar (Sweden) SMSN, 0.25 kw. (Relays Stockholm)	254.2	1180	Adjers (Africa)	10	967
Karlsborg (Sweden), 5 kw. (Relays Stockholm) Karlskrona (Sweden) SMSM, 0.25 kw.	1355	1530	Atlantic City N.J. (U.S.A.) WPG, 2.5 kw 272	.6 1	100 714
Karlstad (Sweden), 0.25 kw. (Relays Stockholm)	220.6	1530	Bombay (India) 7BV. 3 kw 357	11	840
Kbely (Czecho-Słovakia), 1 kw Kharkov (Bussia), 4 kw	1110 475	630	Boston, Mass. (U.S.A.) WNAB, 0.5 kw 280 Boston, Mass. (U.S.A.) WNAC, 0.5 kw 352 Boundbrook (National Broadcasting Co.) (U.S.A.)		070 850
Kharkov (Russia), 4 kw (Relays Hamburg) Kiev (Russia), 1 kw	820	1180 366			660
Koenigsberg (Germauy), 1 kw. (Relays vienna)	329.7	910			779
Kosice (Czecho-Slovakia), 5 kw	1870 2000	150	Calgary (Canada) CNRC, 0.5 kw	.8	690
Kristinehamn (Sweden) SMTY, 0.1 kw. (Relays Stockholm)		1480	Carthage (Radio Tunis), TNU, 5 kw 185	50	162
	318 468.8	943 640	Chicago (U.S.A.) WBBM, 1 kw	26	570 770
Leeds (2LS), 0.2 kw.	850 277.8	353 1080	Chicago (U.S.A.) WBM, 1 kw	.9	980
Leipzig (Germany), 4 kw	365.8 1000	300	Chicago (U.S.A.) WLS, 5 kw	.5	911
Linkoeping (Sweden), 0.25 kw. (Relays Stockholm)	287 500	1045 600	Cincinnati (U.S.A.) WLW, 5 kw 428	3.3	740
Liverpool (6LV), 0.2 kw	297 361.4	1010 830	Cleveland (U.S.A.) WTAM, 3.5 kw		750 375
Lyons (France) (La Doua), 1 kw. P.T.T	1200 476.2	250 630	Davenport (U.S.A.) WOC, 5 kw	2.7	850 920
Lyons (Radio Lyons), 1.5 kw	291.3 393	1030 763	Detroit (U.S.A.) WCZ, 5 kw	9.9	680
Madrid (Union Radio) EAJ7, 1.5 kw Malmoe (Sweden) SASC, 1 kw	375 260.9	800	Detroit (U.S.A.) WWJ, 1 kw 374	1.8	800 689
Manchester (2ZY), 1.5 kw.	384.6	780	Durban (South Airica), 1.5 kw 40	00	750
milan IML, 1.5 kw	322.6 252.1	930	Edmonton (Canada) CNRE, 0.5 kw 516  Hastings, Nebraska (U.S.A.) KFKX, 2 kw 288		580
Montpellier (France), 1 kw	404.1	1130	. 200		

		_
	Met	. Kc
Johannesburg (South Africa) JB, 0.5 kw	450	66
Kanage City (IT C t ) SI'OO 1 1-	278	107
Lima (Peru), OAX, 6 kw.	380	78
	468.5	64
Melhourne (Australia) 24 R 1 6 by	484	62
Melbourne (Australia), 3LO, 5 kw.	371	80
	211	00
Michigan (Radio Lighthouse) (U.S.A.), WEMC,	000	400
1 kw.	238	126
Minneapolis (U.S.A.) WCCO, 5 kw. Monckton N.B. (Canada) CNBA, 0.5 kw.	405.2	74
Monckton N.B. (Canada) CNRA, 0.5 kw	322.4	93
Montreal (Canada) CKAC, 1.5 kw.	411	73
WORKER CHANGE CO. M. M. H. S. KW.	411	73
New York (National Broadcasting Co.) WEAF,		
5 kw.	491.5	61
New York (U.S.A.) WGBS, 0.5 kw. New York (U.S.A.) WLWL, 1 kw. New York (U.S.A.) WMCA, 0.5 kw.	348.6	86
New York (U.S.A.) WLWL, 1 kw.	370.2	81
New York (U.S.A.) WMCA 0.5 kw	370.2	81
	405	74
Marchaid (Contain Callery) (TT C A ) Trans	236.1	127
Oakland (II S A ) KGO 5 km	384.4	78
Oakland (U.S.A.) KGO, 5 kw. Omaha, Nebraska (U.S.A.) WOAW		
Ottowo (Coneda) CNDO O S law	526	57
Ottawa (Canada) CNRO, 0.5 kw.	434.5	69
Pertn (Australia) 6WF, 5 kw.	1250	241
Philadelphia (WOO), 0.5 kw	508.2	590
Pittsburgh (U.S.A.) WGAE, 0.5 kw	516.9	50
Perth (Australia) 6WF, 5 kw. Philadelphia (WOO), 0.5 kw. Pittsburgh (U.S.A.) WGAE, 0.5 kw. Pittsburgh East (U.S.A.) (Westinghouse Electric) KDKA, 30 kw. Pittsburgh East (U.S.A.) (Westinghouse Electric) KDKA, 30 kw.		
Electric) KDKA, 30 kw.	315.9	950
Electric) KDKA	64	4687
Pittsburgh East (Westinghouse Electric), KDKA,		4001
	14	21,429
Portland /II S A A WCW T to	491.5	61
Pangaon (Burna) OHO O OF I		
Rangoon (Burma) 2HZ, 0.35 kw. Regina (Canada) CNRR, 0.5 kw.	350	857
Regina (Canada) CN RR, 0.5 KW	312.3	960
San Francisco (U.S.A.) KPO, 1 kw. Saskatoon (Canada) CNRS, 0.5 kw.	299.8	1000
Saskatoon (Canada) CNRS, 0.5 kw	329.5	700
Schenectady (General Electric Co ) (II S A )		
2XAF. Tues. and Thurs. at 11.0 p.m. Sats.,		
11.30 p.m.	32.77	9155
Schenectady (General Electric Co.) (U.S.A.) WGY		
30 kw	379.5	790
Schenectady (General Electric Co.) 2XAD	22.02 1	
Shenandoah (Iowa) KENE 1 kw	270.1	111
Schenectady (General Electric Co.) 2XAD Shenandoah (Iowa) KFNF, 1 kw Springlield (U.S.A.) WBZ, 15 kw.	333.1	900
Staten Island N V /II S A \ WBBD 1 low	256.3	117
Staten Island, N.Y. (U.S.A.) WBBR, 1 kw. St. Louis (U.S.A.) KFUO, 1.5 kw. St. Louis (U.S.A.) KSD, 1.5 kw.	545.1	550
St Louis (U.S.A.) KPUU, 1.5 KW.		
Sudmon (Anaton No.) OFC 5 hours	545.1	550
Sydney (Australia) ZFC, 5 kW	442	678
Sydney (Australia) 2BL, 5 kw	354	84
Tokyo (Japan) JOAK, 1 kw	375	800
Toronto (Canada) CECA 0.5 km		841
Toronto (Canada) CECI 5 km	357	
Toronto (Canada) CKCL, 5 kw	357 356.9	841
	357	841
	357 356.9 356.9	841
Troy (U.S.A.) WHAZ, 0.5 kw	357 356.9 356.9 379.5	841 840 790
Troy (U.S.A.) WHAZ, 0.5 kw Vancouver (Canada) CNRV, 0.5 kw	357 356.9 356.9	841 840 790
Troy (U.S.A.) WHAZ, 0.5 kw Vancouver (Canada) CNRV, 0.5 kw	357 356.9 356.9 379.5 291	790 1030
Troy (U.S.A.) WHAZ, 0.5 kw Vancouver (Canada) CNRV, 0.5 kw	357 356.9 356.9 379.5 291 348.6	790 1030 860
Troy (U.S.A.) WHAZ, 0.5 kw Vancouver (Canada) CNRV, 0.5 kw	357 356.9 356.9 379.5 291 348.6 469	790 1030 860 639
Troy (U.S.A.) WHAZ, 0.5 kw	357 356.9 356.9 379.5 291 348.6 469 295	790 1030 860 639
Troy (U.S.A.) WHAZ, 0.5 kw	357 356.9 356.9 379.5 291 348.6 469 295 383.4	841 840 790 1030 860 639 1010 782
Troy (U.S.A.) WHAZ, 0.5 kw.  Vancouver (Canada) CNRV, 0.5 kw.  Washington (U.S.A.) KWSC, 0.5 kw. Washington (U.S.A.) WCAP, 1.5 kw. Wellington (New Zcaland), 2YR, 0.12 kw.	357 356.9 356.9 379.5 291 348.6 469 295	841 840 790 1030 860 639 1010 782
Troy (U.S.A.) WHAZ, 0.5 kw.  Vancouver (Canada) CNRV, 0.5 kw.  Washington (U.S.A.) KWSC, 0.5 kw.  Washington (U.S.A.) WCAP, 1.5 kw.  Wellington (New Zealand), 2VR, 0.12 kw.  Winnipeg (Canada) CKY, 0.5 kw.  Winnipeg (Canada) CNRW, 0.5 kw.	357 356.9 356.9 379.5 291 348.6 469 295 383.4 405.2	790 1030 860 639 1010 782 740
Troy (U.S.A.) WHAZ, 0.5 kw	357 356.9 356.9 379.5 291 348.6 469 295 383.4	841 840 790 1030 860 639 1010 782 740 870
Troy (U.S.A.) WHAZ, 0.5 kw.  Vancouver (Canada) CNRV, 0.5 kw.  Washington (U.S.A.) KWSC, 0.5 kw.  Washington (U.S.A.) WCAP, 1.5 kw.  Wellington (New Zealand), 2VR, 0.12 kw.  Winnipeg (Canada) CKY, 0.5 kw.  Winnipeg (Canada) CNRW, 0.5 kw.	357 356.9 356.9 379.5 291 348.6 469 295 383.4 405.2	790 1030 860 639 1010 782 740

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#### AND FREQUENCIES. STATIONS IN ORDER

5	11	ATIONS IN ONDE
Ma	Kc.	
4000	75 } 103 }	Berlin (Koenlgswusterhausen) AFP, 8 kw.
2650 2525	113-	-Paris (Eiffel Tower), FL. 5 kw.
	150	during the day.
2000 1950	154-	-Kovno (Lithuania), 7 kw. -Scheveningen Haven (Holland), 2.5 kw.
1870		-Kosice (Czecho-Slovakia), 5 kw. Daily-7.30-
1780	168-	Norddeich (Germany). WEEKDAYS—1 a.m., Weather ReportParis (Radio-Paris), CFR, 3 kwDaventry (5XX), 25 kwMoscow (Old Komintern), RAI, 20 kw. DAILY—
1760	170-	-Paris (Radio-Paris), CFR, 3 kw.
1604.3 1450	207-	-Moscow (Old Komintern), RAI, 20 kw. DAILY—
1365	220-	3 p.m.  -Karlsborg (Sweden), 5 kw. Relays Stockholm.  -Motala (Sweden) 30 kw.  -Berlin (Koenigswusterhausen), AFT, 8 kw. Relays
1320	227-	-Motala (Sweden) 30 kw.
	050	Voxhaus.
1200	250-	-Stambour (Turkey) 10 kwBoden (Sweden), SASE, 1.5 kw. Relays Stockholm
1200 1153	250— 26 <b>0</b> —	-Luxembourg, 0.25 kw. -Sorö (Denmark), 1.5 kw. Relays Copenhagen.
1150 1117	261-	-Ryvang (Denmark), 1 kw.
1111.1	270,-	-Berlin (Koenigawisternausen), AFT, 8 kw. Relays VoxhausStamboul (Turkey) 10 kwBoden (Sweden), SASE, 1.5 kw. Relays Stockholm -Luxembourg, 0.25 kwSorō (Denmark), 1.5 kw. Relays CopenhagenRyvang (Denmark), 1 kwNovosibersk (Russia). RA 33, 4 kw. 6 p.mWarsaw (Poland), 10 kwWarsaw (Poland), 10 kwTo-8.30 p.mRasle (Switzerland), 0.25 kw. DALLY—9.50 p.m.
1110	270-	-Roely (Czecho-Slovakia), I kw. Transmits Daily -7.0-8.30 p.m.
1100	273-	-Basle (Switzerland), 0.25 kw. DAILY—9.50 p.m. News.
1100	273-	-De Bilt (Holland), WEEKDAYS-9.15 p.m., Weather.
1070	280-	Hilversum (Holland) (ANRO), 5 kw.
1000	300-	-Hilversum (Holland). (ANRO), 5 kwLeningrad (Russia), 10 kw. WEEKDAYS—8.0 p.m., Lecture; 7.0 p.m., News; 7.30 p.m., Concert or Opera. SUNDAY—8.0 p.m., Lecture; 7.0 p.m.,
		or Opera. SUNDAY-6.0 p.m., Lecture; 7.0 p.m.,
970 860	309-	-Tiflis (Russia), 4 kw.
850	353-	News; 7.30 p.m., Concert.  -Tiflis (Russia), 4 kwNijni Novgorod (Russia), 1.2 kwLausanne (Switzerland), HB2, 0.6 kw. DAILY—
850	353-	9.0 p.m., Concert. Talk.  -Rostov/Don (Russia), 4 kw. 4.10 p.m
820 760	388.	-Kiev (Russia) 1 kw
720	416	Geneva (Radio-Geneva), 0.5 kw. WEEKDAYS— 8.40 p.m., Concert and News. Ostersund (Sweden), 2 kw. Relays Stockholm.
588	510-	-Zurich (Switzerland), 2 kw. Relays Stockholm.
577 577	520- 520-	-Zurich (Switzerland), 2 kwFreiburg (Germany), 1.75 kwVienna (Stubenring), 0.75 kwSaragossa (Spain), 0.5 kw.
566 566		
566	530-	-Bloemendaal (Holland), 0.05 kw. SUNDAYS- 10.40 a.m. and 5.40 p.m., Church Service. -St. Miehel (Finland).
566	530-	-St. Miehel (Finland).
566 555.6	530	-Hamar (Norway), 11.7 kW.
545.6 535.7	550-	-Budapest (Hungary), 3 kw. -Sundsvall (Sweden), SASD, 1 kw. -Munich (Germany), 4 kw. SUNDAY—11.30 a.m.,
		Goncert.
526.5	5/0-	-Riga (Latvia), 1.2 kw. DAILY—11.35—12 a.m., and 6—9.30 p.m., Concert, News, Weather.
508.5	580 590	-Vienna (Hosenhugel), 5 kw. -Brussels, 1.5 kw.
500	600-	Porsgrund (Norway), 1 kw. Relays Oslo.
500	600-	Porsgrund (Norway), 1 kw. Relays Oslo.  -Tromsö (Norway).  -Aberdeen (2BD), 1.5 kw.  -Uppsala (Sweden), 0.25 kw. Relays Stockholm.  -Inköping (Sweden), 0.25 kw. Relays Stockholm.  -Bournemouth (6BM), 1.5 kw.  -Berlin (Witzleben), 4 kw.  -Lyons (France) (La Doua), PTT, 1 kw. Mon.,  -WeD., and FRI.—9.45 p.m., Concert. Sun.,  TUES., THURS., and SAT.—Relays Ecole Supérieure.
500	600-	-Linköping (Sweden), 0.25 kw. Relays Stockholm.
491.8 483.9	610-	-Bournemouth (6BM), 1.5 kw. -Berlin (Witzleben), 4 kw.
476.2	630-	Lyons (France) (La Doua), PTT, 1 kw. Mon.,
470	620	WED., and Fri.—9.45 p.m., Concert. Sun., TUES.,THURS., and SAT.—Relays Ecole Supérieure. -Rjukan (Norway), 0.1 kw. Relays Oslo.
475	630-	TUES., IHURS., and SAT.—Relays Ecole Superieure.—Bjukan (Norway), 0.1 kw. Relays Oslo.  -Kharkov (Russla), 4 kw.  -Langenberg (Germany), 25 kw.  -Barcelona (Spain) (Radio Catalana) EAJ13, 2 kw.  -Oslo (Norway), 1.5 kw.  -Stockholm (SASA), 1.5 kw.  -Rome (1RO), 3 kw.  -Rome (1RO), 3 kw.
468.8 462	640-	-Langenberg (Germany), 25 kw. -Barcelona (Spain) (Radio Catalana) EAJ13, 2 kw.
461.5	650-	-Oslo (Norway), 1.5 kw.
450	666	-Rome (1RO), 3 kw.
400	070	9. p.m.
447.8	674-	
441.2	680-	-Paris (Ecole Superieure), FF11, 0.5 kwNotodden (Norway). Relays OsloBruenn (Czecho-Slovakia), 3 kw. Daily—7.0 p.m., Concert and News. Thurs.—5.40 p.m.,
		p.m., Concert and News. THURS.—5.40 p.m., Talk for Women. SUN.—11.0 a.m., Concert. Bilbao (Spain) (Radio Club de Vizcaya), EAJ9,
428.6	70 <b>0</b> -	-Fredriksstad (Norway), 0.7 kw. Relays Oslo. -Frankfurt-on-Main (Germany), 4 kw.
423	709-	-Frankurt-of-Main (Octomary), 4 kwBilbao (Spain) Radio Vizcaya, EAJ11, 2 kwCracow (Poland)Bordeaux (Lafayette), PTT, 1 kwGöteborg (Sweden), SASB, 1 kw. EVERY THUES-DAY—9.15—11 p.m. Relays Foreign StationsBerne (Switzerland), 1.5 kwChasgow (5SC), 1.5 kwChasgow (5SC), 1.5 kw.
27.3	1098 720	-Bordeaux (Lafayette), PTT, 1 kw. -Göteborg (Sweden), SASB, 1 kw. Every Thurs-
411	730	DAY-9.15-11 p.m. Relays Foreign Stations.
405.4	740-	-Glasgow (5SC), 1.5 kw.
402.5	140-	p.m., Concert. 10.30 p.m., Dance Music.
400	750-	-Cadiz (Spain), EAJ3, 0.55 kw. Experimental Concert.
400	750-	-Cork (Irish Free State), 6CK, 1.5
400	750-	-Plymouth (5PY), 0.2 kwTammerfors (Finland). Relays Helsingfors. 0.25
400 396	758-	-Seville (Spain) (Union Radio), EAJ17, 1 kw. -Hamburg (ha, in Morse), 4 kw.
393 392	763-	-Madrid (Radio Espana) (EAJ2).
387	775	-Toulouse (France) (Rad. du Midi), 3 kw. DAILY— 12.40 p.m., Concert. 8.50 p.m., Concert.
384.6	780	-Falun (Sweden), SMZK, 1.5 kw. -Manchester (2ZY), 1.5 kw.
379.7 375	800-	Stuttgart (Germany), 4 kw.  -Helsingfors (Finland), 1.2 kw. 11.0 a.m.,
		Exchange Quotations. Daily—7—10 p.m.,
375	800-	-Madrid (Union Radio), EAJ7, 3 kw.
370.4 370	811-	-Madrid (Union Radio), EAJ7, 3 kwBergen (Norway), 1.5 kwParis (Radio LL), 0.5 kwDAY, and FEIDAY—10.0 p.m., Goncert.
365.8	820-	DAY, and FRIDAY—10.9 p.m., ConcertLeipzig (Germany), 4 kw.

(	)F	WAVELENGTHS
M.	77.0	
361.4	830-	-London (2LO), 3 kw.
356 353	850-	-Graz (Austria), 0.5 kw. Usuany relays vienna.
348.9	860-	-Prague (Czecho-Slovakia), 5 kw. DAILY-
344.8	870-	-London (2LO), 3 kwGraz (Austria), 0.5 kw. Usually relays ViennaCardiff (5 WA), 1.5 kwPrague (Czecho-Slovakia), 5 kw. DAILY— 8.0 p.m., ConcertBarcelona (Spain) Radio Barcelona, EAJ1, 2 kwParis (Petit Parisien), 0.5 kw.
340.9	890-	-Paris (Petit Parisien), 0.5 kwCopenhagen 0.7 kwCarragena (Spain), EAJ16, 1 kw. DAILY— 8.30 p.m.—Concert.
335	895	-Cartagena (Spain). EAJ16, 1 kw. DAILY-
333.3	900-	-Naples (1NA), 1.5 kw.
333.3	910-	8.30 p.m.—Goncert.  -Naples (INA), 1.5 kw.  -Reykjavik (Iceland), 1 kw.  -Koenigsberg (Germany), 1 kw. DAILY—  8.10 p.m., Concert.  -Birmingham (51T) 1.5 kw.  -Milan (IM), 1.5 kw.  -Paris (Radio Vitus), 1 kw. WEDNESDAYS,  FRIDLYS and SUNDAYS From 9—10.45 p.m.
326.1	920_	8.10 p.m., Concert.
322.6	930-	-Milan (1MI), 1.5 kw.
322.6	930-	Paris (Radio Vitus), 1 kw. WEDNESDAYS, FRIDAYS, and SUNDAYS. From 9-10.45 p.m.,
319.1	941_	ConcertDublin 2RN, 1.5 kw.
318		
315.8 312.5	960-	-Earlis (Finland)Breslau (Germany), 4 kwNewcastle (5NO), 1.5 kwBjörneborg (Finland). Relays HelsingforsOviedo (Spain), 0.75 kwZagreb (Jugo-Slavia), 0.35 kw. DAILY—7.0 p.m.
311	964-	-Björneborg (Finland). Relays Helsingfors.
310	967-	-Zagreb (Jugo-Slavia). 0.35 kw. DAILY-7.0 p.m.
306.1 303	980-	Belfast (2BE), 1,5 kw.  -Nuremberg (Germany), 4 kw. Relays Munich.  -Marsellles PTT, 0.5 kw. WEEKDAYS—9.0 p.m.,
300	1000-	-Marsellles PTT, 0.5 kw. WEEKDAYS-9.0 p.m., Concert.
297	1010-	-Liverpool (6LV), 0.2 kw.
297 297	1010-	Hanover (Germany), 0.7 kw. Relays Hamburg.  Varborg, 0.1 kw. Generally relays Goeteborg.
297	1010-	San Sebastian (Spain), EAJS, 2kw. DAILY— 2.30 p.m. and 10.0 p.m., Concert.  -Jyväskylä (Finland), 0.2 kw. Relays Helsing-
297	1010-	-Jyväskylä (Finland), 0.2 kw. Relays Helsing-
297		fors.  Agen (France), 0.25 kw. Tues. and Fri.—
	1000	9.30 p.m., ConcertHull (6KH), 0.2 kw.
294.1 294.1	1020-	-Dundee (2DE), 0.2 kw.
294.1 294.1	1020-	Dundee (2DE), 0.2 kwStoke, 6ST, 0.2 kwSwansea (5SX), 0.2 kwUddevalla (Sweden), 0.3 kw. Generally relays
294.1	1020-	-Uddevalla (Sweden), 0.3 kw. Generally relays
293		GOETEDORY
291.3	1030-	-Innsbruck (Austria), 0.5 kw. Relays Vienna. -Lyons (Radio-Lyon), 1.5 kw. WEEKDAYS— 7.15 p.m., News. WEEKDAYS (except MON.),
		7.15 p.m., News. WEEKDAYS (except Mon.), 7.45 p.m., ConcertEdinburgh (2EH), 0.2 kw.
288.5 285.7	1040-	-Edinburgh (2EH), 0.2 kw. -Tallinn (Reval), Esthonia, 2.2 kw.
287 283	1045-	-Tallinn (Reval), Esthonia, 2.2 kw. -Lille, 0.5 kw. PTT. -Dortmund (Germany), 1.5 kw. Relays
	1000	Muenster.
277.8 277.8	1080- 1080-	Muenster.  -Leeds (2LS), 0.2 kw.  -Trollháttan (Sweden), SMXQ m., 0.25 kw.  -Dresden (Germany), 0.7 kw. Relays Leipzig.  -Jacobstad (Finand).
275.2 275.2	1090-	Dresden (Germany), 0.7 kw. Relays Leipzig.
275.2	1090-	-Jacobstad (Finland)Nottingham (England), 5NG, 0.2 kwNortköping (Sweden), 5MVV, 0.25 kwAngers (France) (Radio-Anjou), 0.25 kwSheffield (6FL), 0.2 kwDanzig, 1.5 kw. DAILY.—11.0 a.m., Weather 11.30 a.m., Concert. 2.15 p.m., Exchange
275.2 275.2	1090-	-Norrkoping (Sweden), SMVV, 0.25 kw. -Angers (France) (Radio-Anjou), 0.25 kw.
272.7 272.7	1100-	-Sheffield (6FL), 0.2 kwDanzig, 1.5 kw. DAILY.—11.0 a.m., Weather
		11.30 a.m., Concert. 2.15 p.m., Exchange
272.7	1100-	-Klagenfurt (Austria), 1.5 kw. Relays Vienna.
272.7 270.3	1100- 1110-	11.30 a.m., Concert. 2.15 p.m., Exchange Quotations. 4.0 p.m., Relays KoenigsbergKlagenfurt (Austria), 1.5 kw. Relays ViennaCassel (Germany), 0.7 kw. Relays FrankfurtPosen (Poland), 1.5 kwBratislava (Czecho-Slovakia), 0.5 kw.
263.2 260.9	1140-	-Bratislava (Czecho-Slovakia), 0.5 kw. -Malmö (Sweden), SASC, 1 kw. SUNDAYS-
	1130-	-Malmö (Sweden), SASC, 1 kw. SUNDAYS- 12.0 a.m., Divine Service.
258 254.2	1180-	12.0 a.m., Divine Service.  -Toulouse (France) PTT, 0.5 kw.  -Kel (Germany), 0.7 kw. Relays Hamhurg.  -Kalmar (Sweden) SMSN, 0.25 kw. Relays
254.2	1180-	-Kalmar (Sweden) SMSN, 0.25 kw. Relays Stockholm.
252.1	1190-	-Bradford (2LS). Transmits Leeds Programmes.
252.1	1190-	-Montpellier (France), 1 kw. WEEKDAYS- 8.45 p.m., News. 9.0 p.m., Concert or Talk. -Bremen (Germany, 7.75 kw. Relays Hamburg.
252.1 252.1	1190-	-Bremen (Germany, 0.75 kw. Relays Hamburg. -Säffle (Sweden), SMTS, 0.5 kw. Relays
		Stockholm.
250		-Eskilstuna (Sweden), 0.25 kw. Relays Stock-
250 250	1200-	-Gleiwitz (Germany), 0.7 kw. Relays Breslau. -Uleaborg (Finland). Relays Helsingfors, 0.2 kw.
243.9	1230-	-Ironanjem (Norway).
238.1	1260-	Muenster (Germany) m.s. in Morse, 1.5 kw -Bordeaux, 1.5 kw. -Orebro, 0.3 kw. Relays Stockholm.
236.2 236.2	1270-	-Orebro, 0.3 kw. Relays Stockholm. -Stettin (Fermany). Relays Berlin, 0.75 kw.
230	1304-	Muenster (Germany) m.s. in Morse, 1.5 kw -Bordeaux, 1.5 kw. -Orebro, 0.3 kw. Relays Stockholm. -Stettin (Fermany). Relays Berlin, 0.75 kw. -Juan les Pins (France), 0.5 kw. DALLY, 9—11. -Hälsingborg, 0.25 kw. Relays Malmö. -Umea, 0.25 kw. Relays Stockholm. -Belgrade (Serbia), 2 kw. -Strasbourg, 0.1 kw. Tesbay and Thursday
229	1310-	-Umea, 0.25 kw. Relays Stockholm.
225.6	1350-	Strasbourg, 0.1 kw. Tuesday and Thursday
220.6	1360	Strasbourg, 0.1 kw. Tuesday and Thursday  —10.0 p.m., Concert, Talk and News.  -Karlstad (Sweden), 0.25 kw. Relays Stockholm
218	1376-	Grenoble, 0.5 kw.  Halmstad (Sweden).
215.8 214.3	1400 -	-Viborg (Finland), 0.7 kw.
204.1	1470-	-Gävle (Sweden) SMXF, 0.25 kw. Relays Stockholm.
202.7	1480-	-Kristinehamn (Sweden) SMTY, 0.1 kw. Relays
201.3	1490-	
196	1530-	-Karlskrona (Sweden) SMSM, 0.25 kw. Relays
158		Stockholm  Beziers (France), 0.5 kw.
		(a tamoty) oto asing

U.S.A.

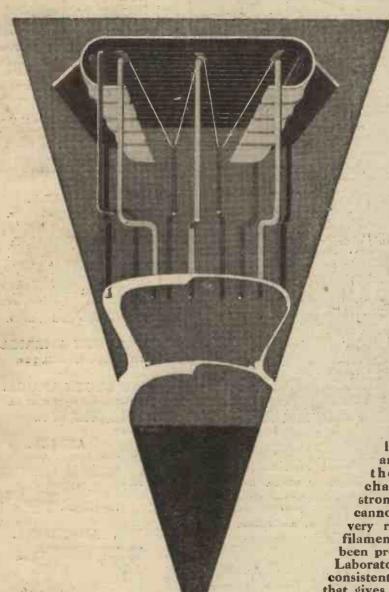
550—St. Louis (KFUO), 0.5 kw, 550—St. Louis (KSD), 0.5 kw, 570—Chicago (KYW), 2.5 kw, 500—Pittsburgh (WCAE), 0.5 kw, 610—New York (WEAF), 5 kw, 610—Portland (KGW), 1 kw, 630—Atlanta (WSB), 1 kw, 640—Los Angeles (KFI), 5 kw,

545.1 545.1 526 516.9 508.2 491.5 491.5 475.9 468.5

)	AN	U	FREQUENCIES.
	M. 454.3	Kc:	Boundbrook, N.Y. (WJZ), 30 kw
a.	440.9		-Boundbrook, N.Y. (WJZ), 30 kw -Detroit (WJR), 5 kw. -Clneinnati (WLW), 5 kw.
-	428.3	700 740	-Cincinnati (WLW), 5 kw. -Minneapolis (WCCO), 5 kw.
v.	399.8 389.6 384.4	770-	-Cleveland (WTAM), 3.5 kw. -Chicago (WBBM), 1 kw.
-	379.5 379.5	790-	-Oakland (MGO), 5 kw.
	374.8 370.2	800- 810-	-Detroit (WCA), 5 kwMinneapolis (WCCO), 5 kwMinneapolis (WCCO), 5 kwCleveland (WTAM), 3.5 kwChicago (WBBM), 1 kwOakland (KGO), 5 kwSchenectady (WGY), 30 kwTroy (WHAZ), 0.5 kwDetroit (WWJ), 1 kwNew York (WLWL), 1 kwNew York (WLWL), 1 kwNew York (WMCA), 0.5 kwDavenport (WOC), 5 kwBoston, Mass. (WNAC), 0.5 kwNew York (WGBS), 0.5 kwNew York (WGBS), 0.5 kwSpringfield (WBZ), 15 kwSpringfield (WBZ), 15 kwPenver (KOA), 5 kwPittsburgh East (KDKA), 30 kwChicago (WGN), 15 kwSpringfield (WBZ), 15 kwSan Francisco (KFO), 1 kwAtlantic City (WPG), 2.5 kwShenandoah, Iowa (KFNF), 1 kwStaten Island, N.Y. (WBBR), 1 kwDetroit, 1.5 kw.
-	370.2 352.7	810- 850-	-New York (WMCA), 0.5 kw. -Davenport (WOC), 5 kw.
	352.7 348.6	85 <b>0</b> —	-Boston, Mass. (WNAC), 0.5 kw. -New York (WGBS), 0.5 kw.
8, 1.,	344.6 344.6	870-	-Chicago (WLS), 5 kw. -Zion, Ili. (WCBD), 5 kw.
	333.1 325.9	90 <b>0</b> —	-Springfield (WBZ), 15 kw. -Denver (KOA), 5 kw.
-	315.6	950-	-Pittsburgh East (KDKA), 30 kw. -Chicago (WGN), 15 kw.
s.	299.8 272.6 270.1	1100-	-San Francisco (KPO), 1 kwAtlantic City (WPG), 2.5 kwShapandosh Joya (KPNF) 1 km
n.	256.3 243.8	1170	Staten Island, N.Y. (WBBR), 1 kw.  Detroit, 1.5 kw.
h.	238	1260-	Michigan—Radio Lighthouse (WEMC), 1 kw.
	236.1 64	4687-	-Northfield-Carleton College (AFMX), 0.5 kw.
g.	32.77	9155	(KDKA)Schenectady (General Electric Co.) 2XAF. TUES, and THURS, at 11 p.m., SATS, at 11.33
			p.m.
g-	26.8 1	1,194 3,623	-New York. -Every Tuesday 10 to 10.40 p.m. Schenectady
			-Every Tuesday 10 to 10.40 p.m. Schenectady (General Electric Co.), 2XAD. Transmits the evening programme of WGY on SUNDAY, MONNLY WEDNERAY OF FEILING OF SCH.
			week.
ys		1,420-	-Pittsburgh East (Westinghouse Electric) (KDKA). Not a regular service,
1.			
),	£40.0	500	CANADA.
	516.9 434.8 434.5	690	-Edmonton (CNRE), 0.5 kw. -Calgary (CNRC), 0.5 kw. -Ottawa (CNRO), 0.5 kw.
	411.	730	-Ottawa (CNRO), 0.5 kw. -Montreal (CKAC), 1.5 kw. -Montreal (CNRM), 0.5 kw.
ys	AOE O		
	357 356.9	840- 841-	-Toronto (CFCA), 0.5 kw. -Toronto (CKCL), 0.5 kw.
g.	356.9 329.5	841 911-	-Toronto (CNRT), 0.5 kw. -Saskatoon (CNRS), 0.5 kw.
	322.4 312.3	930	-Winnipeg (CKW), 0.5 kwToronto (CFCA), 0.5 kwToronto (CKCL), 0.5 kwToronto (CNRT), 0.5 kwSaskatoon (CNRS), 0.5 kwMoncton, N.B. (CNRA), 0.5 kwRegina (CNRR), 0.5 kwVancouver (CNRV), 0.5 kw.
er	201	. 1030—	-Vancouver (CNRV), 0.5 kw.
ge			SOUTH AMERICA.
a, t,	380	789-	-Lima, Peru (OAX), 6 kw.
			SOUTH AFRICA.
	450	666	-Johannesburg (JB), 0.5 kw.
g.	400 375	750-	-Cape Town, 1.5 kw.
g,			outo Tonay 210 km
- k.			AFRICA.
g. /5	1850	162-	-Radio Carthage (Tunis) TNV, 5 kw. News, 5.0—8.20 p.m.; Concert, 7.0—10.0 p.m. Algiers (PTT), 2 kw.—Concert, 7.10 p.m.—Radio Casa-Blanca (Morocco), 2.5 kw.—Sunday, 11.0 a.m.—12 noon; 2.0—4.0 p.m.; Dance Music, 8.0—12.0 p.m Weekbays,
K-	310 305	967— 984—	-Algiers (PTT), 2 kw.—Concert, 7.10 p.mRadio Casa-Blanca (Morocco), 2.5 kw.—
u.			SUNDAY, 11.0 a.m.—12 noon; 2.0—4.0 p.m.; Dance Music, 8.0—12.0 p.m., WEEKDAYS, 7.0—10.0 p.m.
v -			P.O POLO P.ILE
			AUSTRALIA.
v. 1.	1250 484	240 620	-Perth (6WF), 5 kwMelbourne (3AR), 1.6 kwSydney (2FC), 5 kwAdelaide (5CL), 5 kwBrisbane (4QG), 5 kwMelbourne (3LO), 5 kwSydney (2BL), 5 kw.
	442 391	678— 767—	-Sydney (2FC), 5 kw. -Adelaide (5CL), 5 kw.
Y	385 371	779 - 808 -	-Brisbane (4QG), 5 kw. -Melbourne (3LO), 5 kw.
m	354	847-	-Sydney (ZBL), 5 kW.
	1	-	NEW ZEALAND.
ys	435 420	689-	-Dunedin (4YA), 0.75 kw. -Auckland (1YA), 0.5 kw. -Christchurch (3YA), 0.5 kw.
ys	405 295	740-	-Mickelling (17A), 0.5 kw. -Christchurch (3YA), 0.5 kw. -Wellington (2YK), 0.12 kw.
ys			VILLE ( LAL), VILLE IN
ys		•	INDIA.
	370.4 357.1	810- 840-	-Calcutta (7CA), 3 kw. -Bombay (7BY), 3 kw.
	350	857—	-Rangoon, Burma (2HZ), 0.35 kw.
	10		JAPAN.
	375	800-	-Tokyo (Ceylon) JOAK, 1 kw.

CEYLON. 375-Colombo (Ceylon). 1.75 kw. 96

# 7he WONDERFUL P.M FILAMENT



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