



WORLD-RADIO

DOMINION & FOREIGN PROGRAMMES

The Official Foreign & Technical
Journal of the B.B.C.

Vol. XIV No. 353 Registered at the G.P.O.
as a Newspaper

FRIDAY, APRIL 29, 1932

Three Pence

THE SHAKESPEARE MEMORIAL THEATRE

THE ELEMENTS OF WIRELESS (Part 12)

SHORT WAVE TROUBLES

FREQUENCY CHARTS OF THE BRUSSELS CHECKING STATION

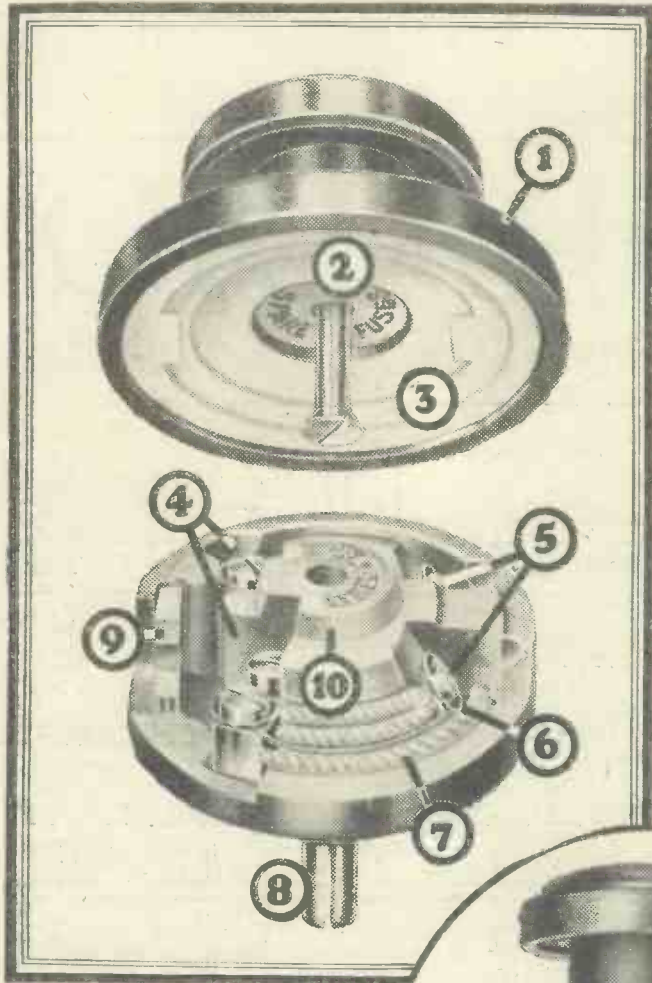
THE STORY OF BROADCASTING HOUSE: ELECTRICAL PLANT AND POWER SUPPLY



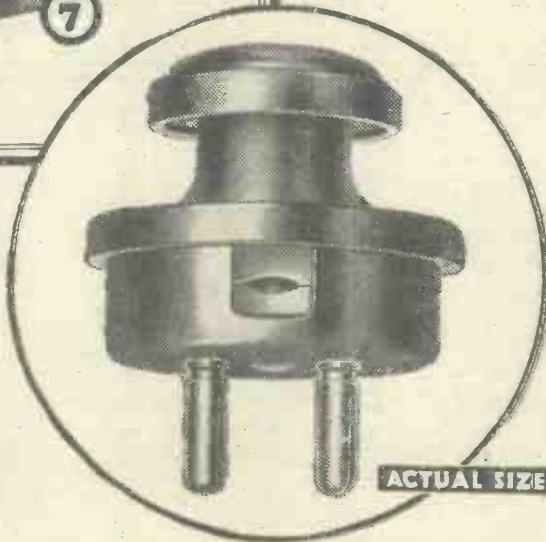
Photo: Nordisk Kunst

Royal Opera House, Stockholm, from which a performance of "Carmen" will be broadcast on Monday, May 2.

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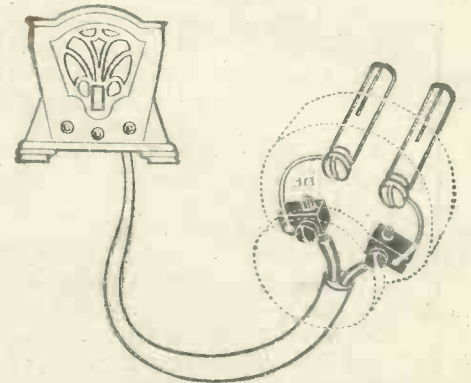


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FRIDAY, APRIL 29, 1932

THREE PENCE



Letters should be addressed to The Editor,
"WORLD-RADIO," Broadcasting House, London,
W.1.

RATES OF SUBSCRIPTION to "World-Radio" (including postage). Twelve months: Inland, 17s. 4d.; Canadian, 17s. 4d.; Foreign, 19s. 6d. Six months: Inland, 8s. 8d.; Canadian, 8s. 8d.; Foreign, 9s. 9d. Address: "World-Radio," 8-11, Southampton Street, Strand, London, W.C.2.

"Mechanised" Aids to Learning

THOSE sentimentalists who combine actual enjoyment of all the fruits of mechanism with an unquenchable taste for railing at it are, curiously enough, usually pedants who place more value on the language in which a thought is expressed than on the thought itself." Professor Heath, Vice-Chairman of the British Institute of Adult Education, thus defends modern methods ancillary to education against the attacks of traditionalists. *Sight and Sound*, the first number of which has recently appeared, and from which the quotation is taken, is a quarterly magazine having as its purpose the review of present-day aids to education, and is published under the sponsorship of the British Institute of Adult Education. Its appearance is a direct result of the interest awakened by two exhibitions—held in 1930 and 1931 respectively—devoted to "mechanised aids to learning." These aids to learning, about which the review purposes to disseminate information, are for the most part scientific inventions—the broadcast receiver, the cinematograph, and the gramophone—in their application to the requirements of the class-room, the lecture-room, the home study, and the laboratory.

In the development of broadcast instruction to schools, not only in this country, but in every other in which this method of education is used, emphasis is laid on the fact that the loud speaker is to supplement and not to supplant the class-room teacher. So it is made clear in *Sight and Sound* on behalf of all concerned that "no one wants to displace the personality of the teacher from its essential position of importance in the educative process." Rather the object is to draw attention to the "marvellous new tools" that science has placed in the hands of the teacher, tools the use of which is bound to have a vast effect upon the whole technique of teaching and of conveying information.

To the mechanised agencies we have mentioned it is necessary to add another, television, which, in coming years, should play a very considerable part in the complete educational curriculum. Just as the spoken word is frequently more emphatic and vital than the written word, so the moving representation of the scene described is likely to impress itself on the memory even more than the verbal description. It is not the least important

aspect of these educational developments that they are world-wide and international in their application, for it is on the larger, world-wide aspect of education that its chief hopes for the future depend.

Viâ Ether

Spring in the Ether

SUNDAY next being May Day it is perhaps natural that the broadcasting programmes should be framed to welcome the entry of spring. Thus I see that the inimitable *Liedersinger*, Elena Gerhardt, is to give a recital of "May and Spring Songs" before the Leipzig microphone at 6.15 in the evening. Stuttgart and Frankfurt announce a "spring" concert for 9 p.m., Copenhagen's transmission at 9.40 is entitled "Danish Spring," and at 10.45 Hamburg is to broadcast a concert under the heading "Concert in May." The morning concert to be heard from Prague, at 10.30, appears in the programme under the heading, "In Memory of Dvorák." This is no doubt to commemorate the anniversary of his death, which occurred at Prague, on May 1, 1904. The Warsaw Philharmonic Orchestra's usual Sunday morning concert consists of a programme of French music. This is made the more interesting by the fact that last week's article in *World-Radio's* series, "Music from Other Lands," dealt with French music. Finally, at 9.50 p.m. one of the most eminent cellists of the day, Herr Emanuel Feuermann, is to give a recital in the Warsaw studio. By a coincidence another great cellist—by many judges considered the foremost artist on this instrument—Patigorsky, appears as soloist in a symphony concert which the North Italian stations are broadcasting at 9 p.m. on the following evening. Monday evening's programmes are also made interesting by the appearance before the Vienna microphone of the tenor Josef Schmidt. I have heard him on a previous occasion; he has a magnificent voice, which appears to be eminently suited to the microphone.

Operatic Programmes

MANY attractive operatic broadcasts appear in next week's programmes. At 7.30 p.m. on SUNDAY the performance at the Budapest Opera House of Johann Strauss's *Gipsy Baron* is to be relayed by that station. At 9 p.m. the North Italian stations are broadcasting a studio performance of Bellini's *I Puritani*. To commemorate the very recent death of Eugen d'Albert the Charlottenburg Opera House is performing on MONDAY his best-known opera, *Tiefeland*, which will be relayed, but, unfortunately, by the Berlin common-wave stations only. Three more Operatic transmissions are announced for the same evening. Leipzig is broadcasting *The Corregidor*, one of the two operas that Hugo Wolf wrote. He is better known perhaps as the most prolific writer of songs of our time. The performances of Puccini's *La Bohème* and Bizet's *Carmen* at the Munich and Stockholm

opera houses respectively, are to be relayed, the former by the Munich group of stations and the latter by Stockholm and Oslo. Verdi's *Macbeth* is to be performed at the Frankfurt Opera House at 8 p.m. on TUESDAY, and will be broadcast by Frankfurt and Stuttgart. SATURDAY's transmission from Rome is an opera by Francesco Cilea. Its title has been omitted in the programme. On Saturday last I listened to Rome's relay from the San Carlo Theatre, Naples. The opera produced was Francesco Cilea's *Gloria*. I think next Saturday's broadcast is the same work, which, incidentally, impressed me very much on a first hearing.

A Week-Day Church Cantata

THURSDAY's performance of a Bach Cantata next week, as well as one on SUNDAY, recalls the great Bach's assiduity in providing suitable music for all the great festivals of the Church year. There were nine Sundays on which the service included no Cantata—the last three in Advent and the six in Lent—but the other days on which such music was looked for bring the total to fifty-nine in each year. From the best historical evidence available it is pretty certain that Bach composed five complete sets of fifty-nine, writing a fresh one week by week as a parson might compose his sermons, with no thought that each was a master-work which mankind would treasure for all time coming. His own humility about them has resulted in the complete loss of over one hundred cantatas, but we still possess a hundred and ninety, a rich store of devotional music which is unique in its own class. The one which Dr. Straube and his splendid forces—the Gewandhaus Orchestra, and the choir of St. Thomas, Leipzig, Bach's church—are to broadcast on Ascension Day, is among the noblest.

A Froebel Anniversary

THE hundred and fiftieth anniversary of the birth of Friedrich Froebel, of kindergarten fame, was celebrated extensively by German broadcasting stations. When Froebel opened his first kindergarten in 1836, at Blankenberg, it was looked upon with considerable disapproval by the Prussian Government, as his anti-disciplinary views were thought to tend towards revolution. He considered that people concentrated too much on the later years of a child's life instead of on the early period. He was not in favour of stimulating the intellect of the very young, but of their mental development along recreative lines. The "Wireless Kindergarten" is a regular feature of the Königs Wusterhausen station, and I learn from a correspondent that it is one of the most popular of the young people's programmes, and that, judging by letters received from Germans domiciled abroad, this feature is much appreciated by those exiled from the Fatherland, who are intensely grateful for such an opportunity of letting their families learn how the German kindergarten and the German fairy tale—which have found their way all over the world—are interpreted in the land of their origin.

ETHERVIATOR

The Shakespeare Memorial Theatre

AS far as we know, Stratford-upon-Avon made no demonstration when Shakespeare died, but on Saturday, April 23, the greatest festival ever seen in the town was held in his honour; on that day the new Memorial Theatre stood ready, waiting only the coming of England's Prince to open its doors.

From early morning the inhabitants of the town had been astir, putting finishing touches to the flower decoration that garlanded the streets, or pressing forward with the day's work in order to be at the great event. By ten

Every modern device for efficient and effective staging is there, from the bells which call the actors from their dressing-rooms to the great rolling stages which can be swung into position at a touch.

From twelve o'clock onwards the activity by the river increased. On the central terrace a raised dais had been built and from this the Prince of Wales would speak. To the left of the dais, almost touching the water, stood the B.B.C. van and the enclosed hut from which Mr. Percy Edgar, the Midland Regional Director,



o'clock the town was full of people. Every train brought fresh arrivals, and car after car purred up the main street, which looked like a Japanese garden with trees of almond blossom and green festoons.

In the New Place Gardens was erected a huge marquee, where at twelve o'clock lunch would be served to ambassadors of over seventy different nations. In an adjacent cloakroom B.B.C. engineers were fixing their apparatus and making final tests for the broadcasting of the after-luncheon speeches. Lines ran from the cloakroom along the turf to the high table, where microphones were installed. Of necessity the lines were a good deal exposed, and some anxiety was felt lest the guests should trip over them. Fortunately, no such accident occurred, and the broadcast went through without a hitch.

Down by the Avon activity was at its height. The new theatre was the centre of attention. Although no one was allowed in until after the official opening, the visitors wandered round, no doubt offering their private opinions on this much-discussed building, designed by Miss Elizabeth Scott.

It stands along the waterside, a huge pile of fine red brick as yet unsoftened by wind and rain. A great tower, 117 feet high from the basement, looms square and uncompromising above the mass. Down in tiers comes the rest of the theatre until, on the ground floor, stately doors open on to terraces which run down to the gardens and the water's edge.

Inside, exquisite workmanship has done beautiful things with natural woods, Swedish marble, and rare metals. A stage such as would have sent Shakespeare to the seventh heaven of delight has been designed to house his plays.

would deliver his running commentary. A barricade had been erected round the terrace, but behind this, in the gardens and down the wide road beyond, a tremendous crowd surged and swayed.

Soon after one o'clock loud-speakers which were fixed to flagpoles about the ground relayed the voices of Mr. Stanley Baldwin and other distinguished visitors who spoke at the luncheon. At two o'clock the running commentary was timed to begin, and Mr. Percy Edgar mounted the commentator's box; and from there he described for listeners the scene before him.

Before long the whirr of engines attracted the attention of the crowd; they looked up, and on the other side of the river circled a monoplane carrying the Prince. It landed in a distant meadow, and in a few moments, his Royal Highness had boarded a car and was on his way to the theatre. Small boats which had been lazing about the sunlit river scurried to the bridge to see the royal car dash by. The moment it appeared round the corner of the road the crowd raised a cry which grew to a storm of cheering as the Prince mounted the dais. His opening speech was broadcast throughout the Empire and to America.

When he had paid his tribute to the poet, the Prince descended the steps and unfurled the Royal Flag; it fluttered out in the strong breeze. Simultaneously, the flags of sixty-nine other nations which were set up about the theatre were released, and in a flash the scene was ablaze with waving banners.

Then his Royal Highness walked to the entrance of the theatre, where he was met by Miss Elizabeth Scott, who handed him a golden key with which to unlock its doors. The theatre was open.

Letters to Editor

Coincidences in Listening

To the Editor of WORLD-RADIO

SIR,—I work a short-wave receiver, and when the set is tuned in to W2XAD, Schenectady, on 19.56 metres, I sometimes get a faint background of the London Regional programme. One Saturday evening I was listening to W2XAD and the correct time was being given. The announcer said, "When you hear the bell, it will be exactly 1.30 p.m. by the General Electric clock." There followed the ring of a bell, and at precisely the same second the first of the six pips of the 6.30 p.m. time signal from Greenwich could be heard faintly in the background.

Yours faithfully,

W. E. GARNER.

105, Essex Road, Barking, E, April 22.

Reception Conditions in Gibraltar

To the Editor of WORLD-RADIO

SIR,—The interesting article on reception conditions in Gibraltar which appeared in the issue of *World-Radio* for April 15 contains two errors which might give a wrong impression of this colony.

The population is given as 18,000 made up largely of Spaniards, whereas the actual facts are that out of a total population of 21,372 at last year's census, there were only 1,125 Spanish subjects, as against 16,146 British subjects, in the civil population. The naval and military population amounted to 3,759.

The *Gibraltar Chronicle*, which was founded in 1801, far from printing the briefest of cabled messages, publishes the full and excellent news service supplied by Reuters, amounting to some 12,500 words per month in the abbreviated form in which cabled, and is very considerably more than this when edited for publication daily.

Yours faithfully,

G. H. TEALL (Editor).

Gibraltar Chronicle, Gibraltar, April 19.

To the Editor of WORLD-RADIO

SIR,—The article by "G. M. B." on reception conditions in Gibraltar has produced much comment here in Gibraltar.

He states that he has only paid a short visit to Gibraltar. May I say that the whole article discloses that fact without his further assurance. I have spent several years here and know as much as anyone about this subject, yet I can only agree on one point with "G. M. B." That is regarding the proximity of the Sahara Desert having detrimental effects on our reception. The Gibraltar population are also rather averse to being described as Spaniards, as they are just as much Britishers as Australians or Canadians.

But to return to reception conditions. Very few sets of less than 2 S. G—Det.—Pen. are in use, and quite a large number are American super-hets using up to eight or nine valves. Ninety per cent. of the receivers are all-electric, and these receivers can be obtained easily, whilst at two shops only can components be obtained and these are very limited in range.

Long-wave work, with but few exceptions, is very bad, Daventry giving only about one-third of the volume of the medium-wave stations. The statement regarding the reception of Madrid is the worst mistake he has made, as this station is the most difficult of all to receive and is very weak. Lisbon and Seville also fall into this category, while with regard to the English stations, London Regional and London National are by far the best of the bunch, both holding their own with the more powerful of the Continental stations, which include Mühlacker, Toulouse, Rome, Turin, Florence, and Trieste.

The screening effect of the Rock has been so many times promulgated by leading radio

(Continued in column 1, page 851)

Dominion and Foreign Broadcasting Intelligence

AUSTRALIA

New Relay Station

(From our Australian Correspondent)

The new Government broadcasting station at Crystal Brook, South Australia, is now "on the air." This is a sister station to the Corowa broadcaster recently established, with which it shares the distinction of being the most powerful in Australia, using 7½ kW. in the aerial. Crystal Brook is the fourth of the Government's relay stations, of which the intention was to erect twelve or sixteen—a programme which, however, has been cancelled owing to financial difficulties. The Crystal Brook station (5CB) will mainly relay the programmes of the Adelaide station 5CL.

CANADA

Receiving Set Sales

(From our Montreal Correspondent)

Sales of receiving sets in Canada during the calendar year 1931 numbered 266,122, valued at \$18,141,347 (approx. £3,668,268 at par), factory selling prices, according to a report of the Dominion Bureau of Statistics of the Department of Trade and Commerce. Compared with the figures for 1930, when 223,228 sets were sold at \$22,776,225 (approx. £4,555,245), the data for last year showed an advance in number of 28 per cent, but a decline in the sum received by the manufacturer and importer of 16 per cent.

AUSTRIA

New Time Signal

(From our Vienna Correspondent)

The Austrian stations have introduced a new time signal, which takes the following form: About forty seconds before the time signal is due the announcer says, for instance: "Es wird beim Gongschlag, 13 Uhr, 5 Minuten sein" (When the gong strikes it will be 13h. 5m.). The announcement then continues: "Es ist etwa 13 Uhr, 4 Minuten, 30 Sekunden—es ist 13 Uhr, 4 Minuten, 40 Sekunden—es ist 13 Uhr, 4 Minuten, 50 Sekunden" (It is about 13h. 4m., 30s.—it is 13h. 4m., 40s.—it is 13h. 4m., 50s.). About two seconds before the striking of the gong the announcer says: "Achtung!" After the striking of the gong the announcement runs: "Es war 13 Uhr, 5 Minuten" (It was 13h. 5m.) Thus the time signal lasts for more than half a minute.

May Day Celebrations

As May Day (Labour Day), which is a national holiday in Austria, falls this year on a Sunday, the Socialist processions, which total usually over 200,000 persons, will not interfere with traffic or business, though there will be no tramcar services (as when May Day falls on a weekday) until 2 p.m. Ravag will open its programme that day with a relay, beginning at 9.25 a.m., from the Rathaus Tower, where the popular announcer, Dr. Werner Riemerschmied, will describe the scene in the square, and then the trumpeters will blow their blasts from the tower itself. Besides Labour lectures and Labour songs (especially songs by a Workers' Children's Singing School) at 9.40 a.m., there will be a programme of "Dances of Austria" at 11.40 a.m. by the Vienna Symphony Orchestra.

BELGIUM

A Broadcasting Commission

(From our Brussels Correspondent)

BRUSSELS, April 23.

During the discussions at the Chamber of Deputies on the private stations in Belgium, the Belgian Postmaster-General, M. Bovesse, decided to create a Commission for Broadcasting. The composition of that Commission

has recently been fixed, and it will hold its first meeting on April 26. The Commission has for president Baron Firmin Vanden Bosch, the eminent jurist, and the Belgian Member of the Council of the International Broadcasting Union, and among the members is M. Raymond Brailard, the President of the Technical Committee of the International Broadcasting Union (the seat of which is at Brussels) and the Technical Counsellor of the I.N.R. The Radio Commission has been constituted in order to deal with questions relative to the activity of the Belgian private stations. As the Belgian law on broadcasting does not reserve the monopoly of broadcasting to the I.N.R., a considerable number of private stations have arisen during these last three years, and now number as many as twenty-three. The Postmaster-General recently stated that more than a hundred applications for transmitting licences had been put forward. One of the first tasks of the Commission will thus be the examination of these demands and also the revision of the position regarding the existing private stations. In addition, the Commission will deal with the question of the quality and the composition of programmes of these stations, in order to prevent the repetition of the deplorable incidents that occurred a few months ago, when a Brussels private station transmitted, almost daily, objectionable references to various members of the Government, including the Postmaster-General.

DENMARK

New High-Power Transmitter for Kalundborg

The new Kalundborg high-power transmitter has now been commissioned. It is to have a power of 60 kW (Copenhagen rating). Kalundborg will thus become one of the most powerful stations in Europe. The new transmitter, which should be completed early in the New Year, will continue to use its present wavelength.

FRANCE

(From our Paris Correspondent)

The Elections

In spite of a decree of M. Poincaré in March, 1928, prohibiting broadcasts of a political nature during election periods, and in spite of announcements that such broadcasts would not be permitted from April 8 to May 8, half a dozen or more speeches have been given from various towns throughout France and broadcast by the State stations. These orations have been delivered by members of the Government, although there was one exception when M. Herriot was permitted to have his speech of April 5 broadcast from Lyons. Students of French would do well to listen to these speeches, as they are delivered slowly, clearly, and in excellent French. No doubt all stations will keep open longer on the night of the elections in order to broadcast the results, but Radio-Lyons has already announced that that station will broadcast results on the nights of May 1, 2, 7, and 8 until 1 a.m.

Radio-Vitus

In order to avoid interference with Genoa, Radio-Vitus is now transmitting on a wavelength of 307 metres instead of 313 metres.

Poste Parisien

By the time that these lines appear the new station of Poste Parisien will be in full swing. In fact, as many listeners will have already noticed, a considerable number of experimental transmissions have lately been given by the new station. The official opening is fixed for Monday, April 25, when a reception will be given at the new studio at 116^{bis} Avenue des Champs-Élysées, where the opening ceremony

will be performed by M. Rollin, Minister of Commerce and of Posts, Telegraphs, and Telephones. In the evening, at 9.30 p.m., there will be a reception, *soirée artistique*, and dance at the Cercle Inter-Allié, under the distinguished patronage of President Doumer. The new station, which is situated on the Plateau of Molières, near Limours, is in the valley of the Chevreuse, a beauty spot which is a favourite resort of visitors to Paris. The power will be 60 kW, and the wavelength will remain at 328.2 metres. It has been noted that there is a heterodyne during transmission caused by Grenoble (PTT) on the same wavelength. This latter station is consequently moving to the neighbourhood of 569 metres.

GERMANY

Lighter Summer Broadcasting Fare

(From our Berlin Correspondent)

The summer programmes of the Berlin Funk-Stunde, which can now count upon a million listeners, were much criticised in previous years as lacking interest. This year, everything will be done to interest and amuse summer listeners. From May, a cycle entitled "Berlin," which will interpret, in turn, the most interesting phases of Berlin life with a juxtaposition of past and present, will be of interest both to young and older listeners. It has been decided to discontinue heavy concert programmes and serious lectures on Sunday mornings. The Funk-Stunde has also given instructions to announcers that they need no longer confine themselves to stereotyped phrases, but that, on the contrary, they may, as in the beginning of German wireless, be informal in their announcements, with as personal a note as possible. It is understood, too, that Königs Wusterhausen, although regarded as Germany's "wireless university," will modify the seriousness of their programmes for the summer months. Sunday morning and evening programmes, in particular, are to be lighter in character.

Leipzig Station's New Conductor

(From our Leipzig Correspondent)

Dr. Alfred Szendrei, who has for many years conducted the Wireless Symphony Orchestra, has left Leipzig, and the Central German Broadcasting Company has appointed Herr Carl Schuricht, from Wiesbaden, to be its chief conductor. Herr Schuricht, who has successfully conducted a series of public concerts under Mirag auspices in the course of the past two years, is now arranging for the next winter season ten public symphony concerts to take place in the Albert Hall at Leipzig. They are arranged by the Central German Broadcasting Company, and will be relayed by its stations. The Leipzig broadcasting authorities are planning to found a chamber music orchestra, the instruction of which will also be one of Herr Schuricht's tasks.

ITALY

Increase of Licence Fee

The licence fee payable by the owner of a receiving set in Italy has been increased from L. 75 (approx. 16s. at par) to L. 80 (18s.) per annum, or L. 84 (19s.) if paid in half-yearly instalments. The L. 5 increase is to be allocated to a special fund to be utilised for subsidising the Theatre (operas and other performances).

POLAND

Warsaw's New Interval Signal

Warsaw station has recently introduced a new interval signal consisting of the first notes of Chopin's F Major Polonaise for pianoforte.

TECHNICAL SECTION

Broadcasting House

4.—Electrical Plant and Power Supply

(Continued from page 792, April 22)

THE special requirements to be complied with at Broadcasting House in connexion with the wiring have been met as follows. The feeders from the switch room are carried to the various parts of the building in two vertical chases formed on the outside walls of the studio tower. Elaborate arrangements have been necessary to keep the main power wiring supplying the ordinary services in the building isolated from the microphone and other wiring associated with the studios and control room. To achieve this, six vertical ducts have been formed on the outside of the studio tower wall, equally spaced on the two opposite walls, two ducts being allotted for lighting and power cables, two for cables and two for miscellaneous wiring, such as loud-speaker leads, checking telephones, control telephone system, etc.

Fairways in the walls of the tower have been provided on each floor, giving access to the studios and other rooms within the tower. The distribution boxes for the lighting and power points to the offices, round the outer walls of the tower, are situated in recesses formed in the tower walls, adjacent to the power cable ducts. This method tends to make a neat and orderly arrangement of the main power leads. From these distribution boxes, the wiring is carried on to the individual lighting points in steel screwed conduit.

The wiring connecting apparatus in the broadcasting "chain" required careful planning. Circuits which carry the minute output currents from the microphones are always liable to trouble, due to induction from power circuits, and for this reason the conductors between the studio microphones and amplifiers have been run in two of the vertical ducts which are remote from those carrying power cables.

Between the listening rooms adjacent to the studios and the control room amplifiers, six conductors have been provided. The carbon-type microphones require only two conductors, but for the condenser microphone, which requires an amplifier in the same box, five conductors are required—two carrying the pro-

gramme output currents; one for anode H.T. supply; one for filament supply and one common negative, the sixth conductor being a spare. These leads are in each case terminated in the listening room which is the control point from which the various groups of microphones in a studio are switched. The cables are supported in the vertical duct by perforated steel troughs to which they are secured by brass saddles.

The cable ducts are covered by steel doors opening into the corridors on the outside of the tower walls, thus providing easy access to the ducts on each floor. This arrangement provides a neat and flexible wiring system to which extra circuits can be added with the minimum of trouble. Within the studios the wiring from the listening-rooms is carried to the various microphone points in perforated metal troughing enclosed in removable skirting. Other circuits between the studios and control room, such as those for signal buzzers, signal lights and telephone, are carried in the remaining two of the six vertical ducts.

On the sixth floor is situated a small but important group of plant—the storage batteries and motor-generator sets which supply the power for the control-room. The apparatus contained in the control-room will be described later, but it may here be mentioned that six distinct supplies are required to energise the amplifiers and circuit switching relays. They are as follows:

1. Anode high-tension supply to all amplifiers, 300 volts, 4 ampères.
2. Filament supply to microphone amplifiers, 6 volts, 100 ampères.
3. Filament supply to all other amplifiers, check receivers, etc., 6 volts, 200 ampères.
4. Microphone polarising battery, 8 volts, 30 ampères.
5. Relay battery, 24 volts, 40 ampères.

6. Grid negative battery, 24 volts, 80 milliamperes.

It is the policy of the B.B.C. to provide storage batteries to supply amplifiers and other equipment in the broadcast chain. This practice is not general in all countries: for instance, both on the Continent and in the United States motor-generators or rectifiers are sometimes used to supply current direct to the amplifiers.

Although showing some advantage on the score of economy, these systems are more susceptible to interruptions due to the failure of the source of supply, or a failure of the converters themselves. The storage battery gives a supply

which is absolutely free from ripple and is by its nature extremely reliable. To feed the six services the following batteries were installed:

For anode high-tension supply, two 300-volt, 75 ampère-hour batteries.

For microphone amplifiers, two 6-volt, 1,750 ampère-hour batteries.

For other amplifiers, check receivers, etc., two 6-volt, 2,800 ampère-hour batteries.

For microphone polarising, two 8-volt, 500 ampère-hour batteries.



Storage batteries (24-volt, 1,000 ampère-hours) for operating control room relays

For relay operation, two 24-volt, 1,000 ampère-hour batteries.

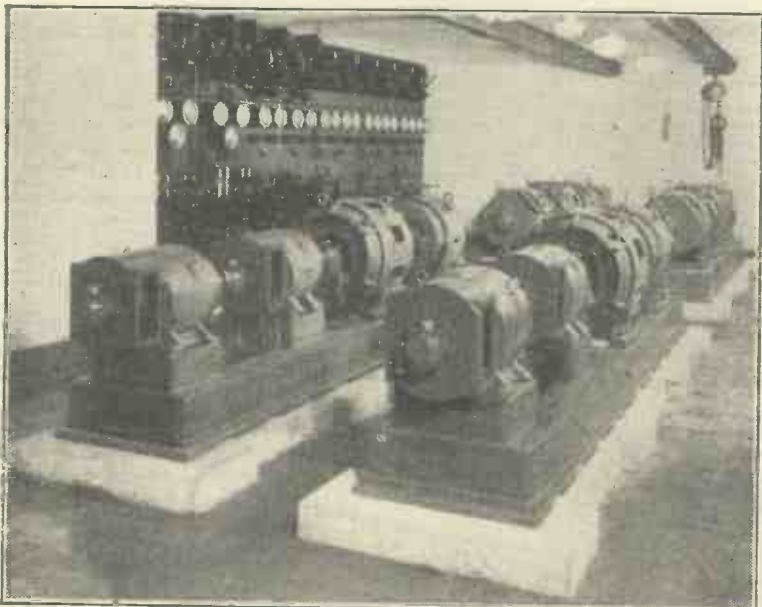
For grid negative, two 24-volt, 10 ampère-hour batteries.

For the anode high-tension and grid negative batteries, glass box-type cells have been used, but in all other cases the containers are of the lead-lined wood type.

Two batteries of each type are provided, the normal arrangement being one on charge and the other on discharge. The batteries are at present not fully plated, space being left in the containers for additional plates, which will be added as necessary. The capacity of each battery will be adjusted finally to enable the full load to be carried for a working day of fourteen to fifteen hours. These batteries are housed under the Mansard roof on the Langham Place side of the building. The construction of this roof produces on the sixth floor a triangular-sectioned, well-ventilated and lighted gallery, which, although not suitable for offices or studios, is suitable for the accommodation of batteries and plant.

Four generators are required to charge the batteries. To economise in space these generators

(Continued in column 3, page 846)



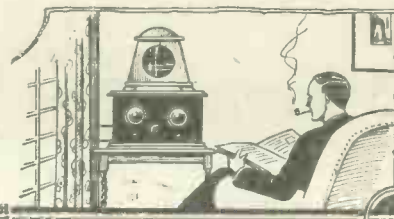
Motor-generator and switchgear for control room battery charging



The Elements of Wireless

(Part 12)

By RALPH STRANGER and E. REDPATH



ALTERNATING CURRENTS

There are two kinds of electric current. One is the *direct current*—also called *continuous current*. Such a current will flow in a closed circuit under the influence of an electro-motive force provided by a cell or a dynamo. A direct current always flows in the same direction, and there is always the same number of electrons taking part in the flow. This direction is from the negative terminal of a cell or a dynamo to the positive terminal. The name *direct current* is generally abbreviated to D.C.

The other kind of current is the so-called *alternating current* which, as its name implies, alternates or changes in direction many times a second. The number of electrons which take part in the flow varies from one instant to another.

If one could see what is happening in a conductor carrying an alternating current one would notice that at a certain instant there is no current at all—i.e., there are no electrons migrating from atom to atom. An instant later a few electrons make their appearance. Another instant, and their number grows somewhat, and so, instant after instant, more and more electrons join the migrating crowd. As the number of electrons flowing past any point of the conductor at any instant represents the *strength* of electric current at that instant, it is possible to state that the strength of alternating current varies from instant to instant.

A moment comes, however, when a maximum of flow is reached, after which the number of electrons passing through the conductor begins to diminish in the same regular and rapid manner in which it grew. This diminution will continue until once again there are no electrons flowing at all. It should be clearly understood that all the above changes are happening with the electrons flowing in the same direction.

Now the electrons reverse their flow. If up to the present they were flowing, say, from left to right, now they begin to flow from right to left. Once more a few electrons make their appearance, grow in numbers, reach a maximum and start to dwindle down gradually to nothing. This is a complete cycle of events in the variation of the strength of the alternating current.

It is this period of time during which the above changes in strength and direction have taken place that is called a *cycle*. It is clear, therefore, that an alternating current reverses its direction once every cycle. It is also clear that during the first half-cycle the current grows from zero to a certain maximum and then falls to zero again. Dur-

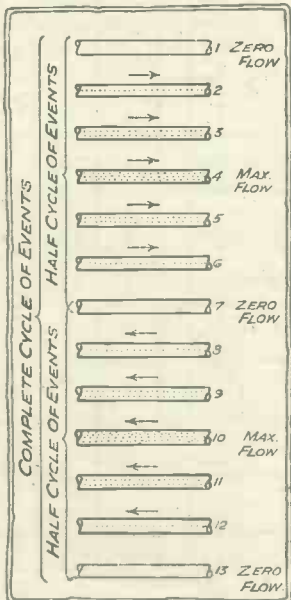


Fig. 36

ing the second half-cycle the same process of growth and decay is repeated, but in the opposite direction.

In order to make matters perfectly clear Fig. 36 is introduced. A portion of conductor is taken and a diagrammatical "photograph" of the number of electrons flowing through it has been taken at equal short intervals of time. At the instant 1, as it can be seen, there is no current flowing at all. During the instants 2, 3, 4, 5 and 6, the electrons are flowing in the same direction. At the instant 3 there are more electrons flowing than at the instant 2, and at the instant 4 there are more electrons than at instant 3. The instant 4 represents the maximum.

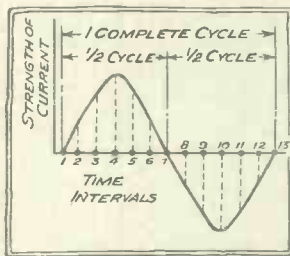


Fig. 37

Once the maximum has been reached the number of migrating electrons begins to decrease from instant to instant until instant 7 is reached when there are no electrons flowing. A half-cycle has now taken place. The second half-cycle begins from zero, and during the instant 8 there are as many electrons flowing as during the instants 2 and 6, but in the opposite direction. During the instant 9 the number of electrons passing is the same as during the instants 3 and 5. During instant 10 the maximum is reached once more and is equal to the maximum in the instant 4. Instant 11 is the same as instants 3, 5, and 9, and instant 12 is the same as instants 2, 6 and 8. Instant 13 denotes the end of the first cycle and the beginning of a second cycle which will follow exactly the variations of the preceding cycle.

The cycle under discussion is that of a

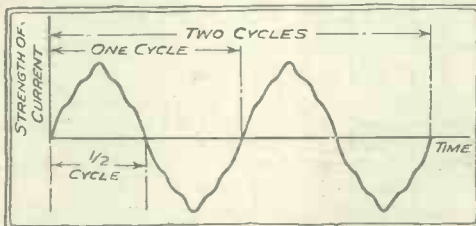


Fig. 38

regularly varying alternating current, which can be represented in the orthodox manner by a curve shown in Fig. 37. This curve is obtained by dividing a horizontal line into a number of equal time intervals, representing the strength of the current at each instant by a length of a vertical line and joining the tops of all these vertical lines by a smooth curve. This shows at a glance how uniformly the current in question varies. The reason for drawing one curve above the horizontal line and the other curve below is to show the difference in the direction of flow. If Fig. 37 is compared with Fig. 36, instant by instant the meaning of the curve will become perfectly clear.

Alternating currents are, however, not always of such a regular form. The variations may be somewhat irregular, but what happens during the first half-cycle happens in precisely the same

manner during the second half-cycle, as can be seen from Fig. 38.

If the alternating current is to vary in this manner it is clear that the E.M.F. causing it must vary in the same way. In other words, the difference in the number of electrons between the two terminals of the source of such an E.M.F. is not always the same, but varies from instant to instant in the same way as the current varies. Thus, one terminal becomes rapidly richer and richer in electrons till a maximum is reached, then it starts to lose some of its electrons till it loses all (zero instant); after this—during the second half-cycle—this terminal becomes poorer and poorer in electrons till the maximum of "poverty" is reached, then it starts gaining what it has lost.

This does not necessarily mean that both the E.M.F. and the current undergo their changes at the same time. If the circuit contains nothing but resistance the E.M.F. and the current will vary simultaneously—i.e., in step, or, as it is expressed technically, they are *in phase*. If, however, the circuit happens to be *inductive* in addition to having resistance, the changes in current strength will lag behind the changes in the E.M.F., owing to the "unwillingness" of the electrons in the inductive parts of the circuit to follow rapid changes. (This will be made clear later.) If, on the other hand, in addition to the resistance of the circuit there are condensers which introduce *capacity* into the circuit, the current changes will be happening before the changes in the E.M.F. take place, and the current is said to be *leading* the E.M.F. (This will also be made clear.)

If an alternating current undergoes changes in strength and direction with a rapidity of, say, 25 cycles per second or 50 cycles per second, it is referred to as alternating current. But when there are as many as several thousand cycles per second, or millions of cycles per second, the current is called *oscillating current*. And this is the type of current the wireless student has to deal with in studying the behaviour of receiving circuits.

DYNAMOS

In previous articles we have discussed two sources of supply of electric current, namely, primary and secondary batteries, which may be regarded as electro-chemical methods of producing the E.M.F. essential to the flow of current in an external circuit. A third source of supply—one which involves electro-magnetic principles—remains to be explained.

A study of the theory of electro-magnetic induction will have made it clear that the movement (growth or decay) of a magnetic field induces an E.M.F. in a conductor or conductors within the influence of that field, and further, that the effect may be produced by a movement of either the magnetic field or the conductor with respect to one another.

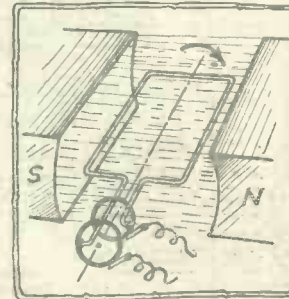


Fig. 39

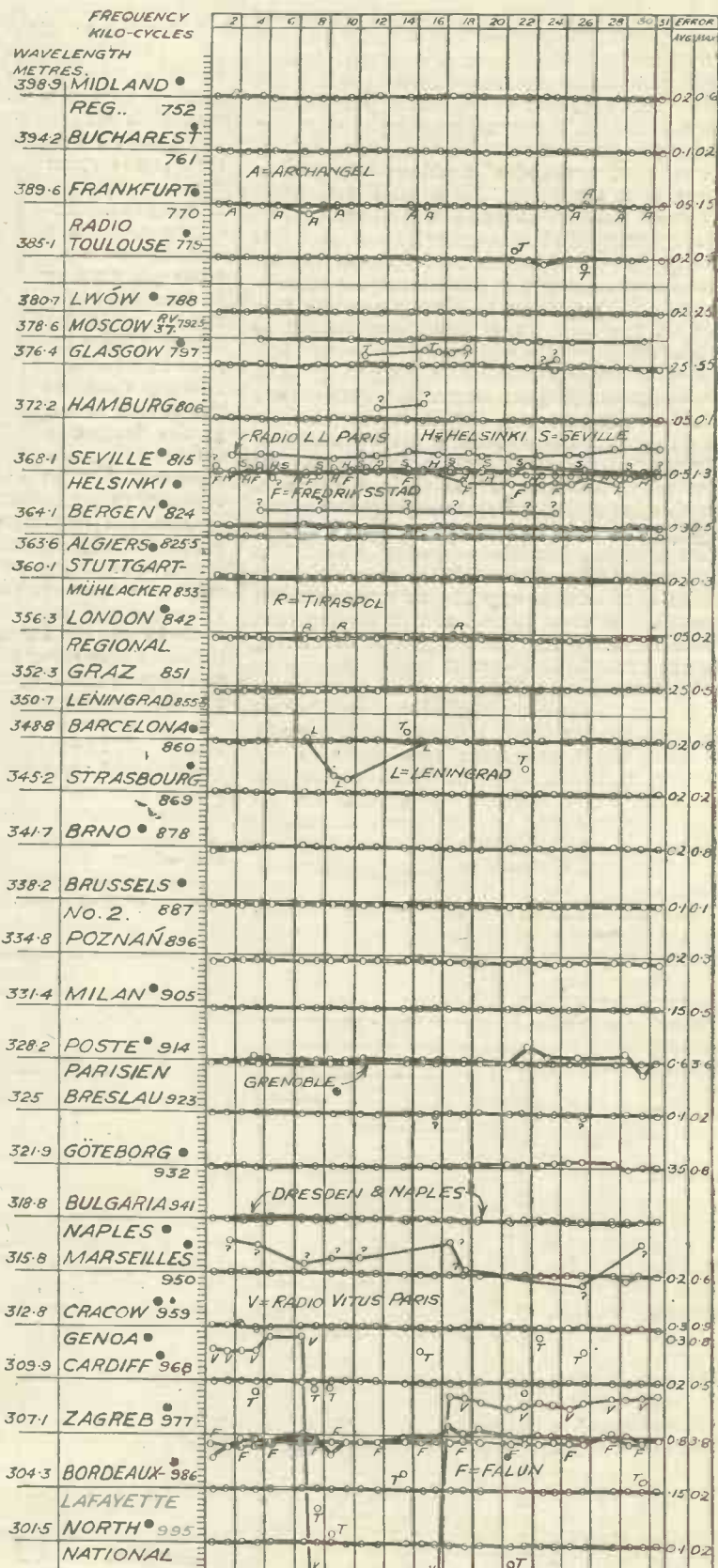
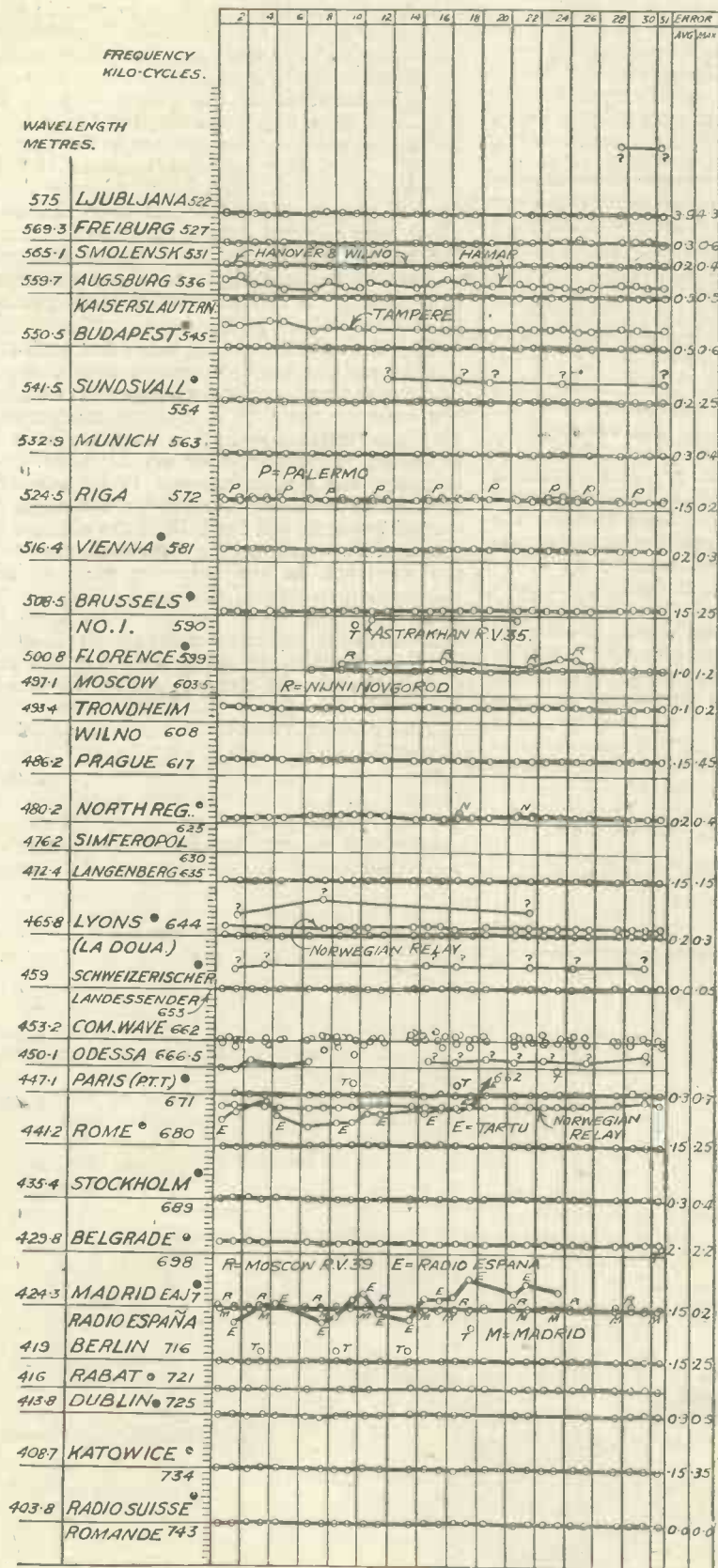
(Continued on page 846)

March, 1932

Frequencies of European

Measured at the Brussels
Technical Committee of the Union

The letter T indicates wireless telegraphy transmission.

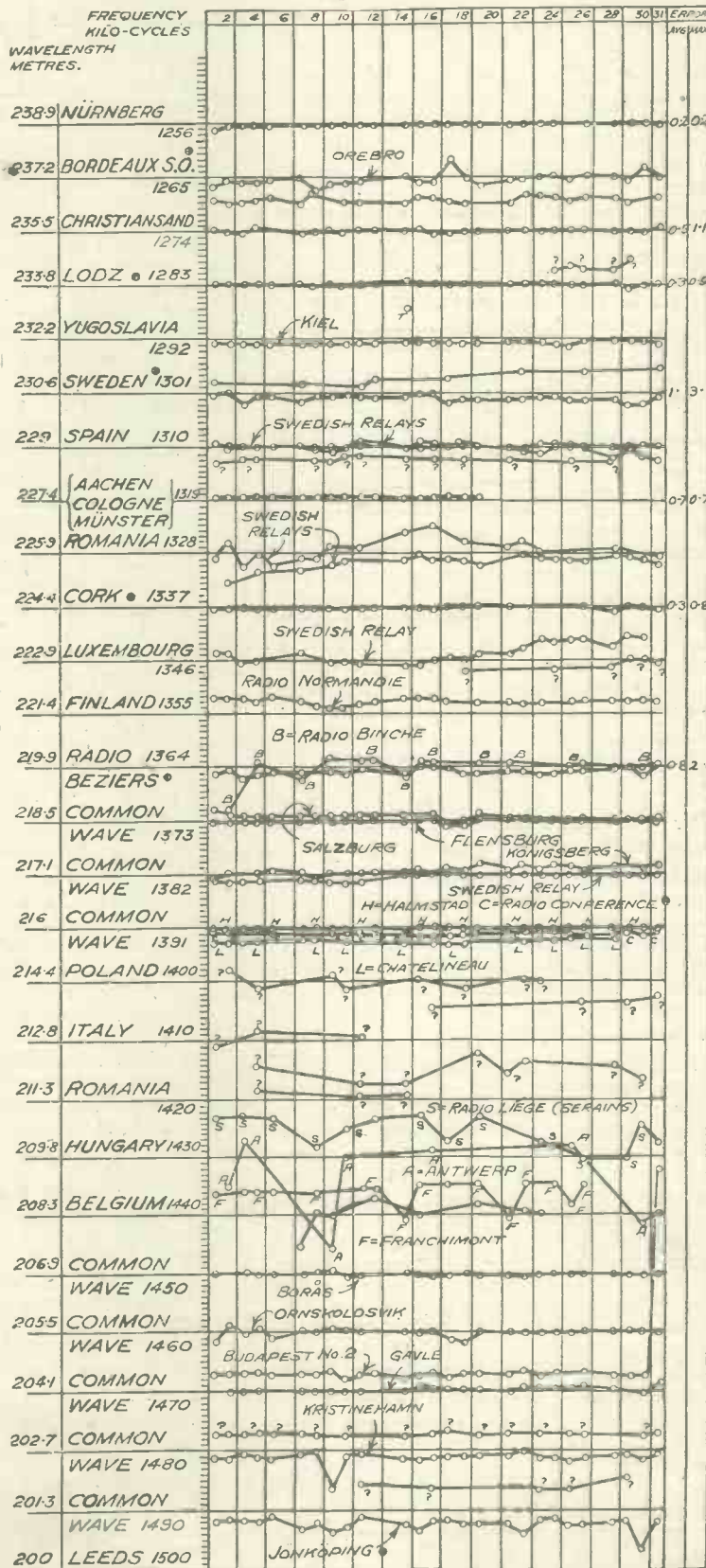
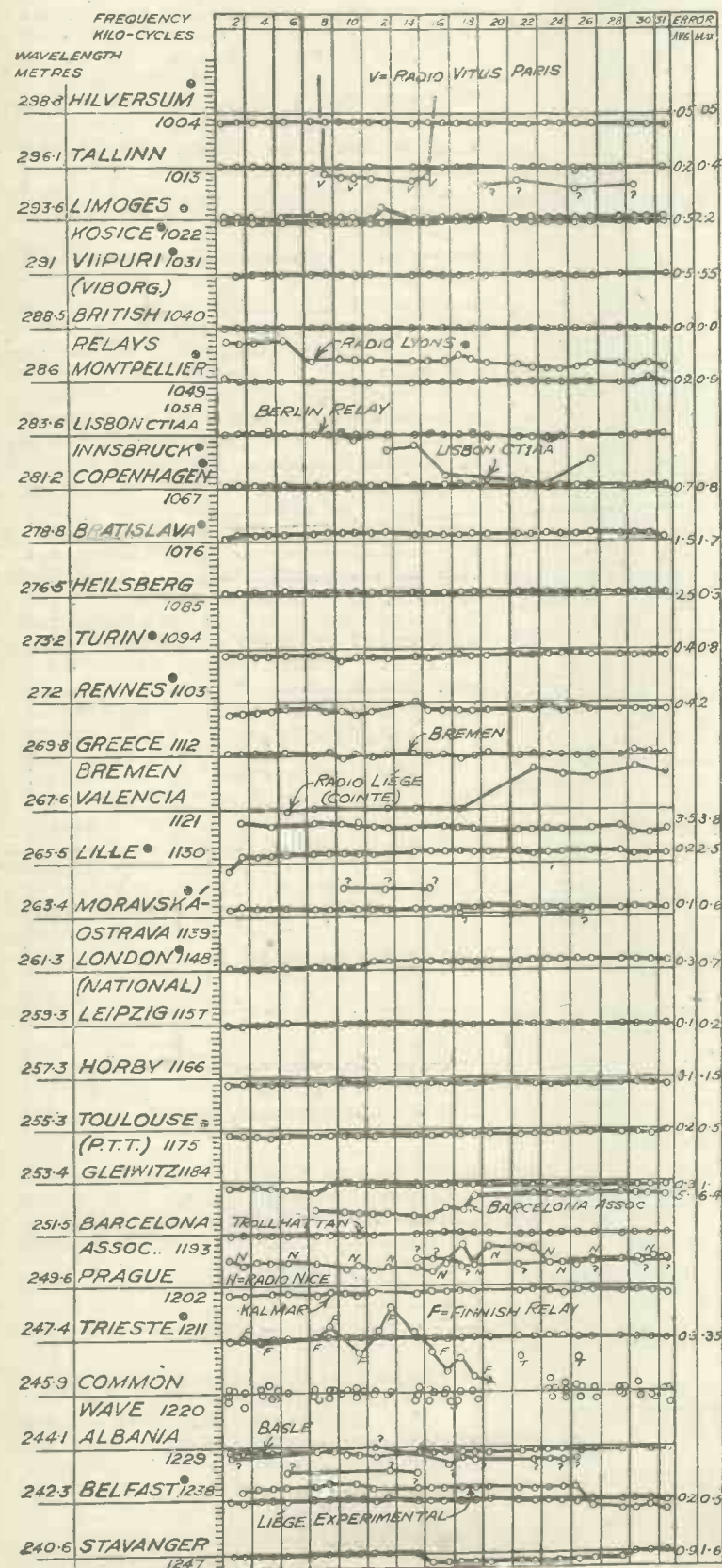


Broadcasting Stations

March, 1932

Laboratory of the
Internationale de Radiodiffusion

Stations marked * are provided with U.I.R. wavemeter



THE ELEMENTS OF WIRELESS

(Continued from page 843)

Fig. 39 is a simple diagrammatic representation of a single turn or loop of conducting wire pivoted horizontally in an air-gap between the north and south poles of a powerful magnet, where the magnetic field is most intense, as will be remembered from the iron-filings experiment. The ends of the conductor are each connected to a flat metal ring upon which a metal arm or brush makes sliding contact, so affording continuous connexion to an external circuit when the loop is rotated upon the axis indicated by the dotted line in the drawing.

Imagine a single rotation of the loop to begin with that arm of the loop marked X at the point *a* (see Fig. 40), and moving in the direction indicated by the arrow. In the initial stages of its movement from *a* the conductor will move practically parallel with the lines of force and there will be little or no E.M.F. induced in it. Continuing the rotary movement through the point *b* to *c*, it will be seen that between *a* and *b* a number of magnetic lines of force are cut, and a still greater number between *b* and *c*. In moving through *c* the maximum number of lines of force will be cut for a given amount of movement.

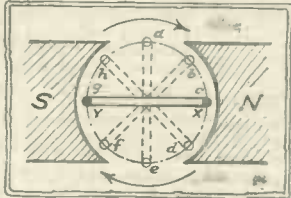


Fig. 40

Continuing its revolutions, the conductor will pass through point *d*, cutting a gradually decreasing number of lines until at point *e* it is again moving parallel with the magnetic field and the induced E.M.F. will again have zero value as at *a*. From this point the movement of the conductor across the magnetic field is reversed, and while the magnitude of the E.M.F. will vary as the conductor passes through points *f*, *g* and *h*, the same as it varied when passing through points *a*, *b*, *c* and *d*, the induced E.M.F. will be in an opposite sense—in other words, the flow of current in the conductor will now be reversed.

It will be appreciated, on referring again to Fig. 40, that a similar cycle of events will occur simultaneously in the conductor Y, which forms the opposite half of the loop, and that the E.M.F. induced in it at any instant will cause a current to flow in such a direction that it will be added to that flowing in conductor X.

An electric current generator of this type is called an alternator, and the current collected from the slip-rings by means of the brushes is an alternating current. The magnet, the poles of which are represented at N and S in Fig. 39, is termed the *field-magnet*, and the rotating conductor (or many conductors in the case of a practical commercial alternator), is known as the *armature*. In the case of the simple alternator illustrated in Fig. 39, each complete revolution of the armature produces a complete cycle of changes or one *alternation*, and the number of complete cycles per second is known as the *frequency* or *periodicity* of the machine. The periodicity (indicated by the symbol ω) of alternating current in the mains of commercial supply companies varies from 50 to 80 cycles per second.

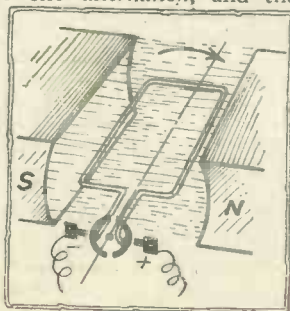


Fig. 41

Direct-Current Dynamos

The conductors forming the armature of any electric current generator have alternating currents induced in them as they rotate in the air-gap between the poles of the field magnet. It will be seen, however, that if two metal segments take the place of the slip-rings, and are connected as indicated in Fig. 41, the connexion between each side of the loop armature and one of the two brushes is broken momentarily just at the instant when the current is about to reverse, and a connexion is then made with the opposite brush. In other words, the brush marked + will always be connected to the conductor which is always crossing the face of the north pole of the field magnet in the same direction, with the result that it will remain a positive pole. Similarly, the opposite brush will always be a negative pole.

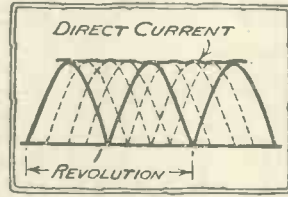


Fig. 42

The two metal segments thus form a simple current-reverser or *commutator* which, in the case of a commercial direct current dynamo, may have from 50 to 100 segments instead of only two, as in the simple case illustrated.

As Fig. 37 represents graphically the growth, decay and reversal of the current output from an alternator, so Fig. 42 represents the current output from the simple D.C. dynamo illustrated in Fig. 41. It will be noted that, although the current flow is now all in the one direction (i.e., no reversal occurs), it is by no means a steady current but consists of two pulsations or impulses per revolution. As the number of conductors on the armature and corresponding segments on the commutator are increased, so the interval between successive pulsations becomes less, and, apart from perhaps a slight ripple, the output of a modern commercial D.C. dynamo may be regarded as a steady direct current. Only in exceptional circumstances, however, will the steadiness of such current be comparable to that of the current supply obtained from a battery of accumulator cells.

Field Magnets

Except in the case of very small or special types of machines, permanent magnets do not provide a magnetic field sufficiently strong for practical purposes, and electro-magnets are necessary. These consist essentially of a soft iron frame provided with poles suitably wound with insulated copper wire (termed *field coils*) so that when a current flows through the coils magnetic poles of correct polarity are produced, with an intense magnetic field between them.

The current required to energise the field coils could be obtained from an external battery or other source of supply, but, in commercial practice, generators are arranged to supply their own magnetising or field current, and are said to be *self-exciting*.

Field current for a direct-current generator is readily obtained by connecting the field coils across the commutator brushes, the coils themselves being designed to pass the required current. The field coils are thus connected in parallel, or *in shunt* to the armature, from which fact this type of generator is known as a *shunt-wound* dynamo. An alternative method is to connect the field coils *in series* with the armature winding, the generator then being termed a *series-wound* dynamo, whilst a combination of the two methods is sometimes used and results in a *compound-wound* dynamo.

It will, no doubt, be appreciated that field current for an alternator cannot be obtained merely by connecting the field windings to the

(Continued at foot of next column)

BROADCASTING HOUSE

(Continued from page 842)

are arranged in pairs, each pair being driven by a 3-phase, squirrel-cage, induction motor. The first pair has outputs of 10 volts, 640 ampères, and 15 volts, 80 ampères, respectively, and the second pair 450 volts, 12 ampères and 37 volts, 140 ampères. Each pair of generators is directly coupled to an induction motor which derives its supply from the 415-volt, 3-phase mains. The generators are separately excited from an exciter mounted on the same shaft. Spare motor-generator sets have been provided, so that there are in all four sets. These sets have been designed to run at a speed of 500 r.p.m., which is a relatively slow speed for machines of this output. This speed was chosen with a view to reducing air noise and vibration, and as an additional precaution the machines are mounted on felt pads.

A switchboard has been provided in the generator-room for the control of the motor generators and batteries. From this room heavy copper busbars take the battery supplies to the control-room directly above it on the eighth floor. Since the total load on the 6-volt batteries may reach 300 ampères, it will be readily understood that great precautions have had to be taken to eliminate excessive voltage drop. For this reason the current density on all busbars and switch gear has had to be kept far below the limits permissible in ordinary commercial practice.

Two telephone systems have been installed at Broadcasting House. The first is a private branch exchange which handles all incoming and outgoing calls, with thirty lines to the Welbeck exchange. The private exchange is equipped, at the moment, to deal with about 300 internal extension lines, but adequate space has been left for further extensions.

A private automatic exchange for dealing with internal traffic has also been installed. This equipment has a capacity of 200 extensions, but provision has been made to increase this number to 300. The usual batteries and charging motor-generators have been provided for the supply of power to this equipment.

The wiring of the extensions on both of these telephone systems is taken to offices along a cable duct fixed to the office walls along the corridors, and is run from floor to floor by means of two vertical cable ducts one on each side of the building. These cable runs are used also to carry the wiring connected with the inter-office buzzer system and fire alarms.

(To be continued)

brushes on the slip-rings, as this would simply result in continual reversal of the magnetic field between the pole-pieces. In the case of a self-exciting alternator, therefore, a separate commutator is provided, connected either to a separate winding of the armature, or to suitable tapping points on the main armature winding, and magnetising current is obtained from two brushes fitted to this commutator.

The supply of field current is relatively simple when the machine is actually generating current in the armature windings, but, the question may occur . . . how is the initial current generated without an electro-magnetic field? The answer is that once the magnet frame and pole-pieces have been thoroughly magnetised, there is always sufficient *residual magnetism* available to cause a weak current to be generated in the armature. This weak current then flows through the field coils, increasing the strength of the magnetic field, and a stronger current is then produced in the armature windings which still further increases the magnetic field until it is built up to full working strength and the dynamo is generating ample current to provide field current and to meet external demands.

Berlin's Ultra-Short-Wave Transmitter

Short-Wave Troubles

Practical Notes regarding the design and operation of Short-Wave Receivers

PROBABLY the most elusive and annoying of the troubles with which one meets when in the "novice" stage is that known as "threshold howl". The name is not quite self-explanatory, and a little elucidation is necessary. When a short-wave receiver is brought up slowly from a non-oscillating state towards the point at which reaction begins one of three effects may take place.

The receiver may begin to oscillate smoothly, with an almost imperceptible "hiss"; it may suddenly start with a devastating "plop"; or it may give a loud musical howl or hoot. The first condition is, of course, very desirable, since there is no difficulty in keeping the set in its most sensitive condition—either just short of the oscillation point, for telephony reception, or just "ahead" of it, for C.W. work.

The second condition, generally described as "ploppy reaction" and more correctly termed "overlap," is definitely undesirable, but since this overlap is by no means confined to short-wave receivers it is not proposed to deal with it here. The third condition—that of "threshold howl"—is, unfortunately, only too common, and it is so fatal to efficient operation of a short-wave receiver that a few practical remarks on the subject may prove of use to readers who have been worried by this effect. It is, too, a fault only met with in short-wave work.

A study of the causes has not yielded very much definite information about them, except that they are many and varied. Accordingly there are six or seven different remedies, any one of which may prove to be a complete cure. At the same time a troublesome case may necessitate the putting into action of several of them before the trouble is entirely done away with. One point on which even experts appear to agree is that the effect tends to become more severe as the total inductance in the detector anode circuit is increased. This is substantiated by the fact that a good L.F. transformer, with a high-impedance primary winding, almost invariably leads to trouble of this kind unless various precautions are taken.

Common-sense reasoning will suggest the following expedients: Keep the number of turns in the reaction coil down to the absolute minimum with which oscillation may be maintained; use a high-frequency choke wound for short-wave work, and not a "broadcast-band" choke; and, in severe cases, substitute a non-inductive resistance for the latter component. Particularly in the case where an expensive L.F. transformer is in use it will be found that the use of a resistance with a value of 10,000 or 15,000 ohms, wired in the position that would normally be occupied by the H.F. choke, provides a partial or complete cure.

Another method of eliminating "threshold howl" is to connect a high resistance across the L.F. transformer secondary. This is certainly

effective, but it works at the expense of amplification, and nothing lower than .5 megohm should be used if efficacy is aimed at. Other hints that may prove useful are as follows:

1. Use as small a value of grid-condenser (for the detector) as is consistent with efficient working.
2. Vary the value of the grid-leak. This must be done experimentally, and no definite rule can be given.
3. Try other valves, even if they are of the same make and type.
4. Reduce the detector filament voltage slightly.
5. Connect a fixed condenser of about 0.0005 mfd. from the anode of the first L.F. valve to earth.
6. Use "choke-filter" output.
7. Provide efficient de-coupling for the detector.

It will be noted that the points at which the "cure" may be applied range from the detector input circuit to the L.F. output circuit. This in itself shows that threshold howl may be due to a variety of causes. A really troublesome set may not become stable until all the above suggestions have been put into action. Fortunately, however, such cases are not often encountered. The writer does not profess to be able to explain the reason for the efficacy of some of the suggested cures, but one cannot



The new 15kW transmitter for the Berlin ultra-short-wave station

Photos: Gulliland.

argue with the data collected as a result of actual experiments.

In conclusion it may be well to remind readers that "threshold howl" should not be confused with the audible howl that occurs when most receivers are made to oscillate very strongly. The effect with which we are concerned ceases after one has passed over the "threshold" of oscillation.

L. H. T.

- | | | | | |
|-------|----------|------------------------------|--------------|---|
| April | 2-18.25 | EAQ (30.43 m.) | LS R8/FFS/X. | Spanish music. |
| " | 2-19.00 | Zeesen (31.38 m.) | LS R7/FS/N. | Relay from Vienna. |
| " | 3-19.55 | Rabat (32.26 m.) | LS R7/N/N. | Concert. |
| " | 5-19.55 | Skamlebaek (31.51 m.) | LS R6/FS/X. | Copenhagen programme. |
| " | 5-19.57 | W2XAD (10.56 m.) | LS R5/FS/N. | Concert. |
| " | 11-19.55 | Rome relay (42.3 m. approx.) | LS R6/FR/N. | Rome programme. |
| " | 14-20.55 | CT1AA (31.25 m.) | LS R7/N/N. | Testing. The above using inside aerial. Receiver 0-V-2 mains. |

Manchester.

Yours faithfully, D. C. A.

THE transmitter has just been completed and will shortly leave the test bench at the Telefunken works to be erected either at Witzleben, or in the centre of the town on the Europahaus. The tests deciding the definite site will be completed in a few days time.

The transmitter can be tuned to any wave between 6 and 8 metres without changing coils or condensers. The normal wavelength is 7 metres or 43,000 kc/s. Crystal control is provided, the crystal oscillating at a frequency corresponding to 56 metres. The ultimate wavelength is achieved by increasing the frequency in seven stages. The power in the aerial will be 15 kW., which is very considerable for the extremely short wavelength. Previous transmitters were never able to attain more than 1½ kW. in the aerial.



An experimental ultra-short-wave aerial erected upon the Europahaus, Berlin

Special valves have been developed. The two which work in "push-pull" in the output stage each have a power rating of 60 kW. Frequency bands up to 300,000 can be used to modulate the transmitter without distortion, this being necessary for television. The German Post Office will use the transmitter extensively for broadcasting and television tests. The Telefunken firm have placed the transmitter at the disposal of the Reichspost free of charge.

SHORT-WAVE REPORTS

(Continued from page 848.)

To the Editor of WORLD-RADIO

SIR,—I beg to submit the following report of short-wave reception.

- | | | | | |
|-------|----------|------------------|--------------|-------------------|
| Mar. | 26-17.57 | EAQ (30.43 m.) | LS R7/FS/N. | Gram. |
| " | 26-20.00 | Moscow (50 m.) | LS R8/FR/N. | English Talk. |
| " | 27-01.35 | W3XAL (49.18 m.) | LS R5/FFR/N. | Dance music, etc. |
| " | 27-02.30 | W8XK (48.86 m.) | LS R5/FFR/N. | Dance music, etc. |
| " | 27-02.40 | VE9DR (49.96 m.) | LS R6/FR/N. | Dance music. |
| " | 29-15.10 | PLE (31.86 m.) | LS R6/FR/N. | Concert and call. |
| " | 29-16.45 | VOR2 (49.4 m.) | LS R5/N/N. | Music and call. |
| " | 30-16.45 | 2RO (25.4 m.) | LS R8/N/N. | Variety concert. |
| April | 1-22.30 | CT1AA (42.9 m.) | LS R6/N/N. | Gram. |

The above were received using an outside aerial.

(Continued at foot of previous column)

Short-Wave Reports

Below 100 Metres

SHORT-WAVE STATIONS

To the Editor of WORLD-RADIO

SIR,—I enclose my short-wave report for Sunday, April 10. The set used is a six-years-old battery-operated o—v—2. In addition, I should like to say that I have listened to W2XAD and Bandoeng for over five years, but have never heard the former transmission better than it was on April 11 at 18.15 and the following half-hour, nor the latter (PLV, 31.86 m.) better than on April 12, when full loud-speaker volume, with little fading, was obtainable throughout the two-hour programme.

	Dial Reading
14.15 W2XAD (19.56 m.) R3.	Rapid fading.
14.30 Moscow (25.00 m.) R6.	Steady.
14.30 Zeesen (31.38 m.) R8.	Only slight fading.
14.30 VK2ME (31.28 m.) R2.	Steady.
14.45 Moscow (15.38 m.) R6.	Slight fading.
15.00 Moscow (50.00 m.) R4.	131
16.15 VK2ME (31.28 m.) only R1.	43
19.00 ? (23 m. approx.) R8.	A New York station relaying N.B.C. programme to Switzerland.
19.00 W2XAD (19.56 m.) R5.	Fading.
19.30 Moscow (25.00 m.) R9.	Fading absent.
19.30 W8XK (25.25 m.) R4.	Moderate fading.
20.30 Rabat (32.26 m.) R6.	Moderate fading.
20.30 W2XAF (31.48 m.) R5.	Rigid fading.
21.30 Rabat (32.26 m.) R9.	Steady. Closed
22.00	52
22.00 W1XAZ (31.35 m.) R4.	Moderate fading.
22.00 Rome (43 m. approx.) R9.	Almost steady.
22.45 W3XAL (49.18 m.) R8.	Strong fading.
23.15 LSX, Buenos Ayres (30 m. approx., certainly above 28.98 m.) R7.	Calling station WOK.
23.15 Moscow (50.00 m.) R9.	No fading.
23.30 W3XAL (49.18 m.) R9.	Moderate fading.

All the stations listed above were identified by call-signs, and were tuned on the loud-speaker. I use one set of coils for the range 19-29 metres, and another set for 29-60 metres. There was a wonderful improvement on all waves under 50 metres on April 10, and this has so far been maintained.

Yours faithfully,
Nelson, Lancs. A. W.

To the Editor of WORLD-RADIO

SIR,—The following is my reception report for the period April 11 to 20 :—

April 11—7.0 p.m.	Zeesen (31.38 m.) Tel. R8/FS/X.
" 11—7.15 "	W2XAD (19.56 m.) Tel. R5/FS/N. Call.
" 14—7.30 "	Zeesen (31.38 m.) Tel. R9/N/N. Music.
" 14—7.30 "	OXY (31.51 m.) Tel. R9/SS/N. Talk.
" 15—11.0 "	CT1AA (42.9 m.) LS R8/FS/N. Call.
" 16—11.15 "	W3XAL (49.18 m.) Tel. R8/FS/N. Call.
" 16—11.30 "	W8XAL (49.5 m.) Tel. R6/FFS/N. Call.
" 16—12 midt.	VE9DR (49.96 m.) Tel. R4/FFS/N. Call.
(The last three stations all broadcast Amos and Andy at 12 midnight.)	
" 17—3.15 "	Bandoeng (31.86 m.) Tel. R8/FFS/X. Holland vs. Belgium Football Match.
" 17—9.0 "	Rabat (32.26 m.) LS R8/N/N. Music.
" 17—9.15 "	Pontoise (25.2 m.) Tel. R4/FFS/N. Talk.
" 17—9.20 "	W8XK (25.25 m.) Tel. R4/FFS/N. KDKA programme.
" 18—7.45 "	7LO (49.5 m.) Tel. R4/FS/N. Talk.
" 19—11.15 "	W2XAF (31.48 m.) Tel. R6/FFS/X. Call and "Skippy."
" 19—11.30 "	W3XAL (49.18 m.) Tel. R4/FS/X. Call.
" 20—7.45 "	7LO (49.5 m.) Tel. R3/FS/XX. Talk.
" 20—11.20 "	W2XAF (31.48 m.) Tel. R6/FS/N. "Skippy" and Call.
" 20—11.30 "	W1XAZ (31.35 m.) Tel. R5/FS/N. Call.

Rome (42.9 m.), Moscow (50 m.) and Vatican (50.26 m.) are not listed above, but were heard during this period on their respective schedules at LS R7-9 strength. Receiver: World-Radio adaptor plus SG—v—I receiver. Outdoor aerial, 30ft. long.

Yours faithfully,
London, S.E. 16. S. T. H.

To the Editor of WORLD-RADIO

SIR,—The following is a report of short-wave reception between April 8 and April 16 :—

April 8—22.03	CT1AA (42.9 m.) LS R5/FS/X. Call and music.
" 8—22.15	VE9DR (49.96 m.) Tel. R5/FFR/N. Talk.
" 9—19.10	Vatican (50.26 m.) LS R9/FR/N. Talk.
" 9—20.10	Moscow (50.00 m.) Tel. R6/FR/N. Talk.
" 9—22.00	Barcelona EAJ25 (50 m.) Tel. R7/N/N. Talk.
" 9—22.50	VE9DR (49.96 m.) Tel. RS/FR/N. Talk.
" 13—19.11	Rome relay (43 m.) LS R5/N/X. Singing.
" 13—19.20	Zeesen (31.38 m.) Tel. R5/N/N. Music.
" 15—15.30	F31CD Saigon (49.5 m.) Tel. R3/FFS/X. Talk.
" 15—19.00	Vatican (50.26 m.) LS R8/FR/N. Call and Talk in German.
" 15—19.08	Rome relay (43 m.) LS R8/N/N. Call and talk.

My receiver is a o—v—2 with outdoor aerial.

Yours faithfully,
Lee-on-Solent, Hants. J. M. W.

(Continued at foot of column 3, page 847)

By "MICROM"

AFTER having apologised to readers for appearing out of my turn, in order to deputise for my colleague "Vernier," who, unfortunately, is unable to contribute this week, I will begin by correcting an error in last week's contribution. The error referred to concerns Rome's new wavelength, given last week as 42.7 metres. Subsequent measurement shows that this very powerful station is now working on almost exactly 43 metres, and not on 42.7 metres, as given, which wavelength would, of course, place it in the 40-metre band allotted to amateur transmitters (41.1 to 42.9 metres).

It is interesting to note, in view of the change of Rome from 25 to 43 metres, that during the last few days, in the afternoon and evening, the 25-metre Moscow and Paris stations have been good loud speaker signals, and organ music from Blackpool was received at fair loud speaker strength in the North, via G5SW, on Friday evening, April 22.

The quality of the 45.38 metre Moscow station REN seems to have improved considerably, and an excellent pianoforte recital was heard after 7 p.m. on Friday.

W2XAD has been audible on most evenings and is still keeping to his 1 to 3 p.m. E.S.T. schedule—i.e. 7 to 9 p.m. B.S.T. Reception has, however, been poor generally, with the exception of Saturday, April 23, when he was 100 per cent. intelligible, though noisy, at 7 p.m.

Conditions were very good below 20 metres on Saturday afternoon, and some exceedingly powerful carriers (telephones) were heard in the region of 14 metres. Later, on Saturday evening, at 9 p.m., what appeared to be a special St. George's Day programme was heard from Nairobi, concluding with the playing of "Land of Hope and Glory"; musical items being heard at good loud speaker strength in spite of static, but the speech was low-toned and indistinct, though obviously English.

The new aerial at Zeesen, designed to give a shallow angle of maximum radiation in the vertical plane, does not appear to have had any effect on the reception of that station in this country, and it is still heard with much the usual strength here. An excellent relay of dance music (recorded) from the Berlin studios was heard via this station at 2 p.m. on Saturday, April 23. Slow fading occurred, but little distortion was present even during fade minimums, and the quality would do justice to the best receiver.

Sydney could not be heard on his 31.28 metre at 7.45 a.m. (B.S.T.), Sunday morning, April 24, but could be heard fairly well on his "telephone" wave of 28.8 metres (10,420 kc/s) calling London.

Skamlebaek, Copenhagen, was heard at the rather unusual time of 11 a.m. on Sunday morning, but was a weak, quickly-fading signal. At the same time, however, on 50.26 metres, the Vatican could be heard at full loud speaker strength, a very steady and clear signal; no fading at all.

Rabat was well heard on 23.85 metres, and closed down at 3 p.m. (B.S.T.). He was a clear, steady signal, though not so well received as he used to be in the south-east of England; an announcement regarding a transmission to take place this evening on 32.26 metres at 9 p.m. (Rabat time) was made just prior to closing down.

On the whole, European conditions this week have been fairly good, but long-distance reception, especially from the U.S., remains disappointing.

The times quoted are reduced to B.S.T.

M.	Kc/s	Station
70.2	4273	Khabarovsk (U.S.S.R.), 20 kW. 10—1 p.m.
62.5	4800	Long Island, W2XV. Fri., 12—2.30 a.m.
58	5172	Prague. TUES. and FRI., 8.30—10.30 p.m.
54.52	5502	Brooklyn (N.Y.) W2XBH. Relays WCGU.
51.22	5857	Chapultepec (Mexico) XDA, 20 kW. Daily 4—5 p.m.
50.26	5969	Station du Vatican (Italy) HVJ, 10 kW. D'ly 9.0—9.15 p.m. SUN. 12—12.30 p.m. also.
50	6000	Barcelona Radio Club EAJ25. SAT. 9—10 p.m.
50	6000	Bucharest (Romania), 0.3 kW.
50	6000	Moscow (Relays Moscow T.U.), 9 p.m.
49.96	6005	Drummondville, Quebec VE9DR. 4 kW.
49.96	6005	Tegucigalpa (Honduras), HRB, 2.5 kW. Daily (except SUN.), 1 a.m.—6 a.m.
49.83	6020	Chicago (Ill.) W9XF, 5 kW. Relays WENR. SUN. 5—7 a.m., 1—5.30 p.m., 8.30—11 p.m., and 1—6 a.m. (MON.). Weekdays, 3.15—4.45 p.m., 8.30 p.m.—12 m't and (ex.SAT.) 1.30—6 a.m.
49.59	6050	Halifax, N.S. Relays CHNS.
49.5	6060	Cincinnati, W8XAL, 10 kW. Relays WLW.
49.5	6060	Nairobi (Kenya), 7LO.
49.5	6060	Philadelphia (Pa.) W3XAU, 0.5 kW. Relays WCAU. Daily 2—9 p.m. THURS. and FRI., 2 p.m.—6 a.m.
49.43	6069	Vancouver (B.C.) VE9CS.
49.4	6072	Johannesburg (S. Africa) D'ly 4.30—9.30 p.m.
49.4	6072	UOR2, Vienna Experimental.
49.34	6080	Chicago (Ill.) W9XAA, 0.5 kW. Relays WCFL. Daily 2—5 a.m.
40.22	6095	Bowmanville (Canada) VE9GW, 0.028 kW. Weekdays, 11.45 a.m.—3 p.m. and 8 p.m.—3 a.m. SUNDAYS, 5.30 p.m.—4.15 a.m.
49.18	6100	Bound Brook (N.J.) W3XAL, 20 kW. Daily 10 p.m.—6 a.m.
49.05	6116	Saigon (French Indo-China) F31CD, 12 kW. Daily 1 p.m.—4.45 p.m.
49.02	6120	Richmond Hill (N.Y.) W2XE, 0.5 kW. Relays WABC, D'ly 1 p.m.—5 a.m. next day.
48.86	6140	Pittsburgh East (W8XK). Relays KDKA. WED. and SAT., 10 p.m.—5 a.m.
48.8	6147	Winnipeg (Canada) VE9CL, 2 kW. Daily (except SUN.) from 12.30—2.30 a.m.
48.65	6167	Mexico City XIF.
48.35	6205	Bogotá (Colombia) HKC. Daily, 4 p.m.
48.05	6243	Barranquilla (Colombia), HKD.
48	6250	Casablanca (N. Africa) CN8MC. Relays Rabat, MON., 9—10 p.m. TUES., 1 p.m.—2 p.m. and 9—10 p.m.
46.60	6425	Bound Brook (N.J.) W3XL. FRI. 10—11.45 p.m. and 4—6 a.m. SAT. 6.30—11.45 p.m. and 4—6 a.m.
45.38	6611	Moscow, REN (Russia).
45	6667	Constantine (Algeria) 8KR, 0.2 kW. MON. and FRI., 12 m't.
43	6976	Madrid (EAR 110), TUES. & SAT., 11.30 p.m.
43	6976	Rome (Italy) ZRO, 9 kW.
42.9	6991	Lisbon, CT1AA, 2 kW. FRI., 11 p.m.
41.7	7195	Singapore VSIAB, SUN. & WED. 3.30—5 p.m.
41.6	7211	Tenerife Radio Club EAR8, 0.05 kW.
41	7313	Bangkok HSP2, 2.5 kW. (Testing). MON. only 2—5 p.m.
39.7	7556	Bogotá (Colombia) HKF.
39.4	7612	Nuevo Laredo (Mex.) X26A. THUR., 5—6 p.m.
34.68	8650	Long Island W2XV. FRI. 11 p.m.—1.30 a.m.
33	9090	Radio LL (France), 0.5 kW. Daily 12.30—1 p.m. and 6—8.30 p.m. SUN., MON., WED. and FRI., 8—10 p.m. SAT., 7—8.30 p.m. SUN., 10 a.m.—12.30 p.m. and 2.30—4 p.m.
32.5	9230	Paris (FLJ). Time Sig. 8.55 a.m. and p.m.
32.26	9300	Rabat (Radio Maroc), 6 kW. SUN. 8—10 p.m.
31.86	9416	Bandoeng (PLV) 80 kW. TUES. 2.40—4.40 p.m.
31.75	9450	Rio de Janeiro (Brazil), 10.30 p.m.—12.30 a.m.
31.55	9510	Melbourne (Australia) VK3ME, 5 kW. WED. and SAT., 11 a.m.—12.30 p.m.
31.51	9520	Skamlebaek (Denmark) OXY, 0.5 kW. Relays Copenhagen. Daily from 7 p.m.
31.48	9530	Schenectady, N.Y. (W2XAF), 40 kW. Relays WGY. Daily 11 p.m.—5 a.m.
31.38	9560	Zeesen (Germany), 8 kW. Relays various stations, generally 2 p.m.—1.30 a.m.
31.35	9570	Poznań (Poland), SR1, 1 kW. TUES. 6.45—9.45 p.m. THURS., 6.30 p.m.—1 a.m.
31.35	9570	Springfield (Mass.) W1XAZ.
31.3	9582	Philadelphia (Pa.) W3XAU, 0.5 kW. Daily (except THURS. and FRI.), 9 p.m.—6 a.m.
31.28	9590	Melbourne (Australia) VK3ME, 20 kW. WED. and SAT., 11 a.m.—12.30 p.m.
31.28	9590	Sydney (Australia) VK2ME, 20 kW. SUN., 7—9 a.m. and 3.30—5.30 p.m.
31.28	9590	Eindhoven (Holland) PCJ, 25 kW. (Closed).
30.75	9756	Agen. TUES. and FRI., 9—10.15 p.m.
30.4	9869	Madrid (Spain) 20 kW. Daily, 12.30 a.m.—2 a.m. SAT., 6—8 p.m.
30	10,000	Belgrade. MON. only 8—9 p.m.
29.3	10,238	Heredia (Costa Rica) NRH, 7.5 watts. Daily 11 p.m.—12 m't and 3—4 a.m.
28.98	10,350	Buenos Aires LSX, 20 kW. 9.30p.m.—1.30.
25.63	11,705	Radio-Colonial (Paris). D'ly 9 p.m.—12 m't.
25.53	11,750	Chelmsford (G5SW), 12 kW. 12.30—1.30 p.m. & 6.45 p.m.—12 m't. News Bulletins at 12.30 p.m. (SAT. 12.45) 6.15 p.m., & 12 m'dn't.
25.5	11,763	Chapultepec XDA, 20 kW. Daily, 9—10 p.m.
25.46	11,777	Saigon (French Indo-China) F31CD, 12 kW.
25.4	11,810	Bowmanville (Canada) VE9GW. (Exptl.).
25.4	11,810	Rome (Italy) ZRO, 9 kW.
25.34	11,840	Chicago (Ill.) W9XAA. Relays WCFL.
25.25	11,880	Pittsburgh East (W8XK), 5 p.m.—3 a.m.
25.2	11,905	Radio-Colonial (Paris), Daily 4.30—7.30 p.m.
24	12,500	Funchal (Madeira) CT3AQ, 0.05 kW. TUES. and THURS. 10.30—12.30 a.m. SUN. 4.30—6 p.m.
23.8	12,605	Rabat (Radio Maroc), 6 kW. SUN. 12.30 p.m.
21.5	13,950	Bucharest, 0.3 kW. WED. and SAT. 7.10 p.m.
20.5	14,630	Chapultepec XDA, 20 kW. D'ly 8.30—9 p.m.
19.84	15,123	Station du Vatican (Italy) HVJ, 10 kW. Daily, 12 noon—12.20 p.m.
19.72	15,210	Pittsburgh East (W8XK). Relays KDKA. WED. and SAT., 12 noon—4 p.m.
19.68	15,234	Radio-Colonial (Paris). Daily 1—4 p.m.
19.56	15,340	Schenectady (W2XAD), 20 kW. Weekdays, 9 p.m.—12 m't. SUN., 7 p.m.—12 m't.
16.57	18,105	Chicago (Ill.) W9XAA. Relays WCFL.
15.93	18,830	Bandoeng (PLV) 80 kW. TUES. 2.40—4.40 p.m.

(For Long and Medium Wave Stations see page 852.)

FRENCH

(Supplementary Notes in connexion with the French Talk, Tuesday, April 26)

(A) *De certains adverbres français (Suite).*

TOUT est vraiment un adjectif, adjectif qualificatif qui signifie *entier*, et adjectif collectif, ou si l'on préfère, adjectif numéral indéfini.

Quand il est adjectif qualificatif il ne s'emploie en principe qu'au singulier: *toute la journée, tout le monde, tout mon espoir et toute ma vie*, etc.

Dans son sens collectif il a d'abord été employé uniquement au pluriel, mais plus tard il a pris un singulier: *de toutes parts, de tous côtés, à toute heure, en tout cas*, etc.

Mais *tout*, adjectif qualificatif employé comme épithète, peut devenir *apposition* en se mettant après le verbe, de sorte qu'au lieu de dire *tout la maison est brûlée* on a pu dire *la maison est toute brûlée*, etc. . . . En se déplaçant ainsi il est bien évident que l'adjectif ne change ni de nature ni de sens. Peu à peu, cependant, quand *tout*, par suite de ce déplacement, s'est trouvé devant un adjectif, un participe, un adverbe, etc., on l'a pris pour un adverbe parce qu'il occupait la position qu'occupe généralement l'adverbe dans la proposition; et la première conséquence de cette confusion a été qu'au lieu de prendre *tout* dans son sens véritable d'*entier*, on l'a pris dans le sens de *tout à fait*; s'étant ainsi assimilé à un adverbe, il est devenu invariable dans certains cas: *elle est tout étonnée, la nation tout entière, la petite fille était tout yeux et tout oreilles*, etc. . . .

La deuxième conséquence a été que *tout*, devenu adverbe, s'est employé avec un pluriel: *ils sont tout honteux, les enfants sont tout seuls, nous sommes tout couverts de confusion, elles sont tout en larmes*, etc.

Mais autrefois ce *tout* variait, parce qu'il n'était pas reconnu comme adverbe; et, malgré les grammairiens, on a continué à dire: *une femme toute petite, des brioches toutes chaudes, toutes riches qu'elles sont*, etc. . . . De sorte que nous avons, aujourd'hui, cette exception bizarre: *tout*, adverbe, s'accorde en genre et en nombre devant les *adjectifs et participes féminins commençant par une consonne ou une h aspirée*. En ancien français il y avait la une syllabe de plus; et les grammairiens, ne pouvant rien sur ce qui est une question d'oreille, ont été obligés d'admettre l'exception que nous venons de signaler. Il en est résulté qu'au féminin pluriel nous ne pouvons plus distinguer les deux sens de *tout*: la phrase, *ces fleurs sont toutes fraîches*, a deux sens: (a) *ces fleurs sont tout à fait fraîches*.

(b) *Toutes ces fleurs (sans exception) sont fraîches*.

Au fond, cela n'a guère d'importance, parce qu'on peut toujours arranger la phrase pour éviter l'équivoque.

(B) 1. *Le fait est que le dimanche*. . . . (Lettres de mon Moulin, p. 8, l. 4).

Le *t* final ne se prononce pas en français après *ai*: *Ex. parfait, lait, refait, défait*, etc. . . .

Il n'y a pas d'exceptions à cette règle, sauf une tendance très marquée à prononcer le *t* du substantif *fait* au singulier: *Ex. au fait, en fait, voie de fait, par le fait, c'est un fait, voici le fait, être pris sur le fait, c'est le fait d'un méchant homme*, etc. . . .

Au pluriel le *t* ne se prononce pas. Il ne se prononce pas, non plus, dans: *tout à fait, en fait de, fait divers*.

2. . . . *n'osait plus venir s'asseoir sur le banc d'œuvre* (Lettres de mon Moulin, p. 8, l. 8).

Dans l'église paroissiale le *banc d'œuvre* est placé en face de la chaire, et il est réservé aux marguilliers. Les marguilliers, ou fabriciens, constituent le *conseil de fabrique*. C'est la "*fabrique*" qui est chargée d'administrer les biens et revenus de la paroisse. Maître Cornille, qui était un des notables du pays, était membre du conseil de fabrique et avait sa place au banc d'œuvre.

FOREIGN LANGUAGES SECTION

3. . . . *les ailes de son moulin allaient toujours leur train* (Lettres de mon Moulin, p. 8, l. 13).

Remarquez les expressions suivantes contenant le mot *train*:—

(a) *Aller son train*=to go on as usual, to jog along.

(b) *au train dont il y va*=at the rate he is going.

(c) *être en train de . . .*=to be occupied with . . ., in the act of. . . .

(d) *être en train*=to be in high spirits.

(e) *je ne suis pas en train ce soir*=I do not feel up to the mark to-night.

(f) *être dans le train*=to be up-to-date, fond of modern ideas and ways.

(g) *aller bon (grand) train*=to rattle along, to drive hard, to go the pace.

(h) *mener grand train*=to live like a lord, in grand style.

(i) *à fond de train*=at full speed.

(j) *mettre une affaire en train*=to set a thing going.

(k) *faire du train*=to kick up a row.

(C) [Translation of Exercise 133, from Intermediate Exercises in French Grammar and Composition, Harrap and Co.]

Pendant la nuit, tenu éveillé par (ne pouvant dormir à cause de) la douleur que lui causait sa blessure, il entendit son cheval hennir, parmi les autres chevaux qui étaient entravés autour des tentes. Il reconnut son hennissement, et ne pouvant résister au désir de parler encore une fois au compagnon de sa vie, il se traîna péniblement sur le sol à l'aide de ses mains et de ses genoux (en s'aidant de . . .), et parvint jusqu'à l'endroit où se trouvait son coursier.

"Pauvre ami," lui dit-il, "quel sort te sera réservé (quel sera ton sort) parmi les Turcs! Tu seras emprisonné (enfermé) dans les écuries d'un aga ou d'un pacha. Les femmes et les enfants ne viendront plus t'apporter du lait de chamelle ou de l'orge dans le creux de leurs mains. Tu ne courras plus à travers le désert, libre comme le vent d'Egypte. Jamais plus tu ne fendas de ton poitrail les eaux du Jourdain, pour rafraîchir tes flancs brûlants, aussi blancs que (blancs comme) l'écumé du fleuve. Si je suis esclave, toi, au moins, tu seras libre.

E. M. STÉPHAN.

GERMAN

Compound Verbs—(XIX)

(A) Compound Verbs with Nouns (concluded)

THERE are a few more verbs compounded with nouns which are *defective* (not regularly used in all tenses) or uncertain about their being separable or inseparable:—

Beside *hohnsprechen* (see p. 747) *hohnlachen* and *hohnlächeln* + Dative (to sneer at) are not often used except in the Infinitive (also used as noun) and in the Present Participle, e.g., *Sie haben gut hohnlachen or hohnlächeln* (It is all very well for you to sneer).—*Hohnlächelnd sah er mich an* (He looked at me with a sneer on his face). *Sein Hohnlachen macht mich wütend* (His sneering makes me furious). If they are used as finite verbs they occur as separable or inseparable: *Er hohnlacht allem or über alles*.—*Sein Betragen lacht allem anstand hohn* (His behaviour is a mockery on all decent conduct). *Schweifwedeln* means "mit dem Schweif wedeln" (to wag one's tail), it is used *figuratively* for "to fawn," and is *inseparable*, e.g., *Er schweifwedelte* (hat geschweifwedelt), bis er seinen Zweck erreicht hatte (until he got what he wanted). Similarly, *fuchsschwänzel* (like a sly fox). *Willfahren* means "nach dem Willen fahren" (to act in compliance with someone's will, to accede to, comply with, grant), e.g., *Man hat*

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What is going to happen when you are 55 years of age? Will you still have your job? Will you still be able to do the work? Or will you have to face such a reduction in your standard of living that all the zest will be taken out of life? Also, what about your family if you do not live to that age?

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NOTE { The above figures are based on the Company's bonus record of the past 20 years—a period covering the Great War and part of present depression. The Plan is available for other ages and other amounts. Assets exceed £128,000,000.

To H. O. LEACH, General Manager, SUN LIFE ASSURANCE CO. OF CANADA, (Incorporated in Canada in 1865 as a Limited Company.) 111, Sun of Canada House, Gockspur St., Trafalgar Sq., London, S.W.1.

Assuming I can save and deposit £ per please send me—without obligation on my part—full particulars of your Pension-Protection Plan showing what income or cash sum will be available for me.

NAME (Mr., Mrs., or Miss)

ADDRESS

OCCUPATION Exact Date of Birth W.R. 29/4/32.

ihm auch in dieser Angelegenheit wieder gewillfahrt (His request has also in this matter once more been complied with). It is *inseparable*, but the Past Participle is gewillfahrt or willfahrt.

Maulaffen is not often used, one says instead, *Maulaffen feil haben* (to stand about gaping with open mouth). If used, it is *inseparable*. Cp. der Maulaffe (jackanapes, jackass), die Maulafferei (idle lounging about).

2. The determinative word is an adjective.

The only adjective that can form *inseparable* compound verbs is *voll*, e.g., *vollenden*, etc. (see Article XVI). Note also: *frohlocken* (to exult, shout for joy), which reminds one of "to frolick" and *rechtfertigen* (to vindicate), also *weissagen* (to prophesy) der *Weissager* (prophet). But a fairly large number of adjectives form *separable* verbs, e.g.:

feil (for sale): *feilhaben* (to be ready to sell):

Er hatte Austern feil.—*Feilbieten* (to offer for sale): Sie bieten allerlei alte Sachen feil.—

Feilhalten (to have for sale): Sie halten alte Kleider feil.—Sie stehen umher und halten

Maulaffen feil (They loaf about and gape).

fest (fast, firm): *festbinden* (to tie up), *festhalten* (to hold tight), *festmachen* (to fasten).

frei (free): *freigeben* (to set free), *freihaben* (to have a holiday), *freisprechen* (to acquit).

gering (slight, of little value): *geringachten* (to think little of), *geringschätzen* (to disdain).

gleich (equal): *sich gleichbleiben* (to be all the same), *gleichmachen* (to equalise).

gross (big): *grosssprechen* (to boast), *grosstun* (to give oneself airs), *grossziehen* (to rear).

gut (good): *guteissen* (to approve), *gutmachen* (to make good, compensate).

hoch (high): *hochachten* (to respect highly), *hochhalten* (to hold up, revere), *hochschätzen* (to value highly).

irr (e) (astray): *irreführen* (to mislead), *irregehen* (to err, stray), *irrereden* (to talk insanely).

los (loose, free): *losbinden* (to unfasten), *loslassen* (to let go), *losgehen* (to get loose—to start).

schön (beautiful, fine): *schönfärben* (to describe in high colours), *schöntun* (to be affected).

tot (dead): *totschlagen* (to kill), *totschiessen* (to shoot dead), *sich totschiessen* (to keep dead silence).

wahr (true): *wahrsagen* (originally to speak the truth, now to prophesy). Also used as an *inseparable* verb. But *wahrnehmen* (to observe) is different, Cp. English, to be aware.

weh (woe, sore, painful): *einem wehtun* (to hurt someone), *wehklagen* (to lament).

weis (wise): *einem etwas weismachen* (to tell one a fib).

wohl (adv., well, good): *wohltun* (to do good), *einem wohlwollen* (to wish a person well).—

"Wohlzutun und mitzuteilen vergesset nicht."

B.—*Inseparable* Prefixes.

It will be most helpful to get at least a general idea of the *force* of the meaningless-looking prefixes—*be*, *ge*, *er*, *ver*, *zer*, *ent*, *emp*, which form hundreds and hundreds of *inseparable* verbs and other words.

The prefix *be* corresponds to the preposition *bei* (near), and denotes *proximity*, hence *providing* or *furnishing with*, e.g., *Wasser* (water), *bewässern* (to irrigate); *wachen* (to watch), *bewachen* (to guard): *Der Hund bewacht das Haus*. But the main function of *be* is to make verbs transitive, e.g., *decken* (to cover), *bedecken* (to cover over): *Der Schnee bedeckt die Erde*.—*Denken* (to think), *bedenken* (to consider, ponder over): *Bedenken Sie es!*—*gleiten* (to glide), *begleiten* (to accompany): *ich begleite ihn*. *Stellen* (to put); *bestellen* (to order): *Er bestellte ein Dutzend Austern*.—*Greifen* (to grip), *begreifen* (to comprehend): *Peter begreift das nicht!*—When *be* is joined to an adjective it denotes "causing to be," e.g., *ruhig* (quiet), *beruhigen* (to quiet): *Beruhigen Sie ihn!*—*frei* (free), *befreien* (to liberate).—*Be* also conveys the idea of *letting the*

action go all over, e.g., *bauen* (to build), *bebauen* (to cover with buildings)—*setzen* (to set), *besetzen* (to occupy): *Der Platz ist besetzt*.

The prefix *ge* must be cognate with Latin *cum* (our *con* in *concur*—(to run together) as in German *Gewissen* (conscience). The most common force of *ge* in German verbs is that of *duration*, *perfection*, *completion and repetition*, e.g., *denken* (to think), *gedenken* (to keep thinking of); *Gedenkt der Toten!*—*langen* (to reach out); *gelangen* (to get to): *Er gelangt zum Ziel!*

The prefix *er* for older *ur* in *Ursprung* (origin) denotes *origin* or *commencement*. As English "a" in *arise*, *awaken*. It generally points to *direction* of the action and hence to *success*, e.g., *scheinen* (to shine), *erscheinen* (to appear): *Die Sonne scheint*.—*Die Sonne erscheint*.—*Klettern* (to climb), *erklettern* (to reach by climbing): *Sie erklettern den Berg*.—*reichen* (to reach out), *erreichen* (to attain): *Sie erreichen ihr Ziel!*—"er" forms many verbs from adjectives: *warm*, *erwärmen* (to get or make warm); *klar* (clear), *erklären* (to make clear); *kalt*: *erkalten* (to get cold).

The prefix *ver* (cognate with *for* in *forget*) is most evasive in its force, but it conveys "carried on by a substitute" in *vertreten* (from *treten*, to tread): *Sie vertreten uns* (they act for us)—or *disappearance* or *destruction* in *vergehen* (to perish), *verblühen* (to fade), *verfaulen* (to decay)—or *wrong direction or mistake*: *verlegen* (to mislay), or *away*: *jagen* (to chase), *verjagen* (to chase away)—or *negation*: *achten* (to esteem), *verachten* (to despise), *bieten* (to bid), *verbieten* (to forbid)—*Rauchen verboten!*

The prefix *zer* denotes "apart, asunder, to pieces": *reissen* (to tear), *zerreissen* (to tear to pieces), *brechen* (to break), *zerbrechen* (to break to bits).

The prefix *ent* becomes *emp* by assimilation before *f* as in *finden* (to find), *empfinden* (to feel). It denotes: (1) *away*, e.g., *laufen* (to run), *entlaufen* (to run away), *fern* (distant): *entfernen* (to remove). (2) *Origin*: *springen* (to jump): *entspringen* (to rise): *Der Rhein entspringt in den Alpen*. (3) *Negation*: *decken* (to cover): *entdecken* (to discover), *beschuldigen* (to accuse): *entschuldigen* (to excuse).

Vergeben ist leichter als vergessen.

It is easier to forgive than to forget.

O.S.

ITALIAN

Leggenda e realtà

(Idioms and words illustrating important rules of grammar are italicised)

A.—Le sue conversazioni sui fenomeni vulcanici della Toscana mi han fatto ricordare l'antico mito classico di Giove (*Jupiter*) e di Tifeo (*Typhæus* or *Typhon*). Se lo rammenta?

B.—Mi pare di ricordarmi qualche cosa, ma confusamente. Ma me lo racconti Lei, chè (perchè) mi farà piacere.

A.—Se non sbaglio, Tifeo era un mostruoso gigante, che aveva dichiarato guerra a Giove, per vendicare la morte dei suoi fratelli. Ma Giove lo respinse e ne punì la tracotanza scagliandolo (*hurling him*) sulla Terra. Precipitò, e rimase sepolto non so sotto qual monte. Sepolto, ma vivo: sicchè (*so that*) di tanto in tanto faceva rabbiosi sforzi (*efforts*) per liberarsi dal grave peso che gli opprimeva il petto; e sbuffando (*puffing and raging*) cacciava fiamme dalla bocca e dagli occhi, ed emetteva orribili urli (*yells*), e, agitandosi, faceva tremare la terra.

B.—Ah sì; ora ricordò perfettamente. Ma poichè Lei m'ha parlato di questa leggenda di Tifeo, io, a mia volta, Gliene voglio ricordare una che riguarda i famosi "soffioni" della Toscana, in particolare. Si dice, dunque, che una volta i contadini di quelle regioni violarono il comandamento divino del riposo domenicale, e, aggiogati (*from*: *giogo*, *yoke*) i buoi all'aratro (*plough*), si misero ad arare quei

campi. Ma ecco che immediatamente il loro lavoro sacrilego fu interrotto da un pauroso pullulare (*springing up*) di acque bollenti, che in pochi istanti sommersero i campi, seccandone le messi (*crops*). E quei sordi rumori sotterranei che d'allora in poi si sentirono sarebbero appunto le imprecazioni dei contadini e i muggiti dei buoi.

Ma questa è la leggenda; la realtà è ben diversa. Perchè i soffioni boraciferi della Toscana sono tutt'altro che una maledizione; anzi! Ad essi si deve il sorgere della mirabile industria di Larderello.

A.—A proposito! (*by the way*) Poichè Lei ha nominato di nuovo Larderello, mi dica: questo nome ha forse qualche significato? *A giudicare* dalla sua desinenza (*ending*) in "-ello" si direbbe che si tratti d'un diminutivo.

B.—Ah, ah! *me l'aspettavo*, questa Sua domanda. "Larderello" è stato chiamato così dal nome del suo grande fondatore, Francesco Larderel, il commerciante francese che nel 1827 cominciò—con metodi razionali—l'industria dell'acido borico. Non ho il tempo di dirle tutto il bene che lui ha fatto per l'industria. Devo però aggiungere che se lo sfruttamento dell'acido borico si deve ad un Francese, quello dell'energia meccanica dei soffioni (di cui Le parlai la volta scorsa) è opera d'un Italiano, il Principe Ginori Conti, il quale ha dedicato tutta la sua vita a questa bella e caratteristica industria toscana.

S. BREGLIA.

Esperanto Transmissions (May 1-8)

Sunday.—Langenberg, etc., 8.30 a.m., Course (S-ro Wingen)

Hilversum, 9.10 a.m., Course.

Leipzig, 2.30 p.m., Course.

Toulouse, 5.15 p.m., Course.

Stockholm (Motala), "Pratiko post lernado: per Esperanto eksterlandan" (Necme Ruus el Estonujo).

Monday.—Leningrad, 10.5 p.m., News.

Thursday.—Paris PIT, 5.45 p.m., Course and talk (Prof. Rousseau)

Kaunas, 9.15 p.m., Talk.

Leningrad, 10.5 p.m., News.

Breslau-Gleitwitz, 10 p.m., 10 minutes for workers.

Friday.—Stuttgart, 7.30 p.m., Programme announcements.

Lisbon (CTIAA-42.9 m.), 10.30 p.m., Talk.

Saturday.—Heilsberg, 6.10 p.m., Week's Programme (F-ino Wermke).

Huizen, 5.55 p.m., News (P. Heilker).

Lyon-la-Doua, 8.15 p.m., Talk.

Lisbon, 10.30 p.m., Course (282 m.).

NOTE.—These times may vary a little.

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LETTERS TO EDITOR

(Continued from page 840)

experts that I need not deal any further with this misstatement than to say that it is very evident. The 600m. naval transmitter at North Front being one of the I.C.W. type does not interfere except above 550m. and on its harmonics, but the seemingly continuous breaking through of morse is due to the harmonics of the other long-wave transmitters at that station, and to ships passing a few miles away, while atmospherics are a continuous source of trouble to us.

The news bulletins are naturally of great interest to us, but not to the extent of running to the nearest neighbour to hear them as "G.M.B." tries to inform you. Admitted that the *Gibraltar Chronicle* only gives brief cabled news, it is quite as explanatory and full of detail as the abbreviated and concise news bulletins, so we do not miss so much if we miss them. Now that England is working on B.S.T. and we are still on G.M.T., 5 p.m. is still some time from sunset and our long-distant reception is still poor at this time, so our news bulletins are not items we can rely on to get.

So you see that receptions are not so good as "G.M.B." states, and are far below those of England.

One more item. I should also say "Yes" to anyone inquiring whether it would be any use to take a set to Gibraltar, but I should add this: "Provided it was a powerful set, and that they were going for the winter, otherwise it would hardly be worth the trouble."

Thanking you for bringing our little colony to the fore, which is greatly appreciated.

Yours faithfully,
W. H. L.

Gibraltar.

"Music from Other Lands."

To the Editor of WORLD-RADIO

SIR,—I should like to tell you how very much I have appreciated the series, "Music from Other Lands," beginning again last week. I have found these articles most interesting and instructive, and of great use when listening-in to foreign stations.

Yours faithfully,
I. G. S.
Uxbridge, April 14, 1932.

Which Station Was That?

Answers to Correspondents

CAMPANOL (Ipswich): (167) this running commentary was relayed by PLV, Bandoeng; (168) cannot trace without some indication of wavelength; (166) Rome testing on 42.7 m. **MAYBE** (Fulham): (1) DOA, Doberitz (near Berlin); (2) Rome (2RO) testing on 42.7 m.; (3) EAM, Madrid (30.7 m.). **ENTENDU** (Shefford): (1) new short-wave transmitter (Tripoli, N. Africa) testing with Rome. "Libya" was heard in call; (2) Rome testing on 42.7 m. **J. L. S. (Dundee)**: (165) Radio Strasbourg; (166) Hilversum (gramophone records). **V. BEGINNER** (Trefnant): Hilversum; a relay of performance from Great Concert Hall (Amsterdam). **WAS IT BAIRES (E.11)**: There is no Spanish station on that wavelength; possibly LS5, Radio Rivadavia, Buenos Aires, on 280.5 m., but cannot confirm. **R. S. 3 (E Twickenham)**: Harmonic of Heston Airport (833 m.). **CLARLE** (Bloxwich): 2RO Rome testing on 42.7 m. **MOTOR-CAR** (Salford): Call is that of an experimental amateur at Rossendale (Lancs). **Q (Diss)**: Ship-shore telephony; possibly Cromer. **SPOTTY (N.1)**: 7LO, Nairobi. **WEARY WILLIE (N. 15)**: Aerodrome transmission for wavelength calibration. **BLOSSOM** (Forest Gate): Moscow (Stalin). **TIN** (Chiswick): Your wavelength appears to be wrong, as the transmission heard was broadcast from Hilversum on 296.1 m. (Heston airport, 833 m.). **NACHT (N.W.6)**: (1) Moscow (Stalin); (2) Lodz relaying Warsaw; (3) Radio Maroc; (4) Moravska-Ostrava relaying Prague. **INQUISITIVE** (Lichfield): (1) regret, cannot trace; (2) Radio Normandie (Fécamp). **FOUR VALVER** (Mythe): Bucharest (altered programme). **TAX (N. 22)**: (7) no, Hilversum on 296.1 m.; (8) Lodz relaying Warsaw. **SCHULJUNGE** (Witham): Leningrad. **SCHOOLBOY** (Bridges): (1) possibly, Ljubljana; (2) Radio Maroc. **G. E. R. (Beaconsfield)**: Yes, 7LO, Nairobi. **PIERRE** (Old Coulsdon): Radio Maroc; (2) Nice-Juan-les-Pins. **HEIDELBERG** (Methven): Eiffel Tower; weather forecast (Poste Militaire de la Tour Eiffel). **IOLANTHE** (Strathaven): Possibly, Baku (USSR); (2) Reykjavik. **ANTICATHODE** (Southport): Kaunas as per programme. **DARTMOOR** (Moretonhampstead): Bucharest. **ARCHIE** (Rugby): This was König Wusterhausen. **CAN'T THINK** (Fakenham): (1) Florence testing; (2) Madrid (EAJ7) now on 411.5 m. **DINAH** (Torquay): British amateur experimental transmitter (Portland). **PINNER** (Hastings): PLV, Bandoeng (Java). **ADAPTOR** (Rathgar): (1) cannot trace telephony on that wavelength; (2) Kiev, 1,032.0 m. (25 kW.). **NAPOLEON** (Portsmouth): 7LO, Nairobi. **BROAD ACRES** (Barnsley): this would tally with PLV, Bandoeng. **KEEN TO KNOW** (Cambridge): W1XAZ, relaying WBZ, Springfield, on 31.35 m. **ULTRA SHORTER** (Chigwell): (1) Spanish or

French experimental transmitter; (2) cannot trace. **FIEND** (Nottingham): Regret, cannot trace. **HAND CAPACITY** (Thornton Heath): Apparently public service telephony; regret, cannot trace. **PUZZLED** (Southampton): UOR2, Vienna (49.4 m.). **SNOWDROP** (Pershore): Not advertised, but possibly Huizen. **MAD HATTER** (Berkeley): Hörby relaying Stockholm; gramophone records. **HETERODYNE** (Fermoy): Tallinn (296.1 m.). **BADGER** (Alverstone): Hilversum. **AIR ROVER** (Herne Bay): We presume that you mean about 350 m. if between London Regional and Brussels (No. 2); possibly Barcelona (EAJ1). **TINKER** (Lochgoilhead): (1) Bari (Italy) testing; (2) cannot confirm, but wavelength would tally with WOAL, San Antonio (Texas). **G. A. W. (Chatham)**: One of the B.B.C. National relays. **DIDO MODICIEUX** (Doncaster): Stockholm programme; as you give no estimate of wavelength we cannot say through which transmitter you received it. **MALOUIN** (N.1): Budapest (lecture). **ESPERANTO** (Stretford): Leningrad. Local time is one hour in advance of B.S.T. **LAYSON** (Falkirk): Göteborg relaying Stockholm. **LIKE TO KNOW** (Bishop Auckland): **AMBER AND BLACK** (York): **BOBBIE** (Eastbourne): New 20 kW. Hilversum transmitter testing. **GOOFUS** (Guernsey): Hörby relaying Stockholm. **SEVEN VALVER** (Colchester): Lightship-shore telephony off your coast. **PEGLER MASON** (Dover): Please number your queries. (1) PLV, Bandoeng; (2) 7LO, Nairobi. **MU** (Forest Hall): (3) Rome (2RO) on 42.7 m.; (2) harmonic of National transmitter. **W. WOGRIEF** (Wisbech): (1) cannot tell you what wavelength was used, but from Ideal Home Exhibition (Olympia); (2) VK2ME, Sydney; (3) Nauen (Germany). **A. L. W. (Bristol)**: If German, Norddeich, on 36 m. **COMOB** (Lee-on-the-Solent): (13) regret, cannot trace; (14) Tegucigalpa (Honduras), both in English and Spanish; (b) yes, Canadian and U.S.A. stations frequently exchange programmes; (9) cannot trace; (15) Sebastopol (U.S.S.R.) on 473.2 m.; (12) LR6, Radio Mitre, Buenos Aires (330 m.); (11) WPG, Atlantic City; (10) WENR, Chicago, on 345 m., or WABC, Wayne Township (N.J.). **MUSHER** (Dartford): Yes, VQ7LO, Nairobi. **SORBO** (Bawtry): Probably WBZ, Springfield (Mass.), on 303 m. **TELL ME** (Cardiff): (1) Florence; (2) Poste Parisien (Paris). **PAT** (Newport): Might tally with WTAM, Cleveland (Ohio). **R. G. M. (Nenagh)**: If call-sign correct, would be a Dutch call, possibly Kootwijk working with Bandoeng (Java). **QUELLE GARE** (S.W.4): Possibly Liège (Belgium) on 208 m., but cannot confirm. **RAGTACKER** (Stockton-on-Tees): Radio Normandie (Fécamp) on medium, not on long, waves. **FIEND** (Nottingham): Regret, cannot trace. **NIGHT OWL** (Radlett): Possibly ON4FB, Belgian short-wave transmitter (Ruyssedele), on 48.5 m. **JOSIE GREEN** (Middlesbrough): (a) Heston Airport; (b) Geneva. **DANIEL** (Redhill): Regret, cannot trace. **SWEEP** (Tunbridge Wells): Only relay of American stations advertised on that night was one by Munich; heard through Nürnberg. **XXXXX** (Oxford): New short-wave transmitter (Moscow) on 19.95 m. **CURIOS** (Redhill): Radio Maroc, Rabat. **MAINS HUM** (Runcorn): (1) Rome (2RO) on 42.7 m.; (2) apparently, French amateur experimental transmitter ("Appel général" to all stations). **OVER AND DOWN**: G6RX, Rugby; public service telephony. Tests. **DERRIDAYLEN** (Surbiton): Madrid (EAJ7). **T. T. T. (Southall)**: Kalundborg relaying Copenhagen. Opening and interval signal: musical box melody. **TELL ME** (Cardiff): Algiers. **R. YARG** (Hampstead): Radio Normandie (Fécamp). **KOBE** (Edgbaston): Madrid (EAJ7) now on 411.5 m. **G. S. (Ware)**; **EGGS** (Spixworth): Reykjavik. **EAT MORE FRUIT** (Cardiff): Bari (Italy) testing. **NAVE** (Fort William): Moscow (Stalin). **TEAL** (Liverpool); **SHORT WAVES** (Sittingbourne): Rome (2RO) on 42.7 m. **G. E. M. (Doncaster)**: (1) cannot trace; (2) PLV, Bandoeng, on 31.86 m., relaying Hilversum; (3) are you sure of call-sign? WMB is given as West Reading (Pa.), U.S.A. **E. A. B. K. (Coves)**: New Italian short-wave station (Tripoli, North Africa) testing.

Free Query Service

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

The Alternative Postal Service

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

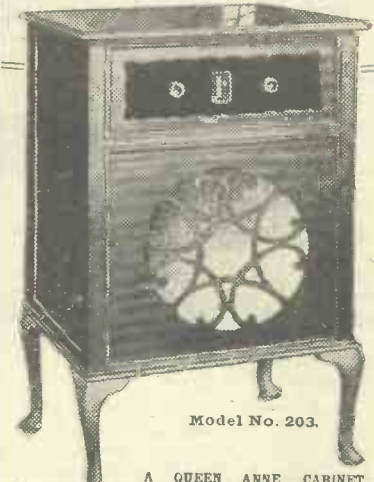
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Stations in Order of Frequencies and Wavelengths

Corrected in accordance with the latest official information available at the time of going to press

The figures in black type represent the power according to the Copenhagen Power-Rating, but carrier-wave power only is shown

Kc/s	M.	KW.	Station	Dial Readings	Kc/s	M.	KW.	Station	Dial Readings
155	1935	7	Kaunas (Lithuania)		689	436	0.25	Malmberget (relays Boden) (Sweden)	
160	1875	8.5	Huizen (Holland)				55	Stockholm (Sweden)	
167	1796	54	Lahti (Finland) (relays Helsinki)		697	430.4	2.5	Belgrade (Yugoslavia)	
174	1725	13.5	Radio Paris (CFR)				2	Madrid (Union Radio) (EAJ7) (Spain)	
		75							7-8.30 p.m. and (except Monday)
183.5	1635	60	Königs Wusterhausen (Zeesen) (Germany) Relays Berlin.		707	424.3		10 p.m. to 12 midnight.	
193	1554.4	30	Davenport National (Great Britain)				100	Madrid (Radio España) (Spain) 5-7 p.m. (Mon. 5 p.m. to 12 midnight)	
195	1538	7	Ankara (Turkey)				1.5	Moscow-Stalin (Russia)	
202.6	1481	100	Moscow (Old Komintern) (RV1) (Russia)		715	419.5	6	Berlin (Witzleben)	
					721.1	416	1.2	Rabat (Morocco)	
207.5	1445.7	13	Eiffel Tower (FLE)		725	413	16	Dublin (Ireland)	
212.5	1411	120	Warsaw No. 1 (Poland)		734	408	25	Katowice (Poland)	
222.2	1350	0.5	Kasbah (Tunis)		743	403	25	Radio Suisse Romande (Sottens) (Switzerland)	
222.5	1348	30	Motala (Sweden) (relays Stockholm)		752	398.9	25	Midland Regional (Great Britain)	
230.1	1304	100	Moscow (Trades Union)		761	394	12	Bucharest (Romania)	
238.1	1260	4	Novosibirsk (Russia)				10	Archangel (Russia)	
242.5	1237		Vienna Experimental (Austria)		770	390	1.5	Frankfurt (Germany)	
244	1229.5	0.6	Boden (Sweden)		779	385	8	Toulouse (Radio) (France)	
		5	Istanbul (Turkey)		788	381	16	Lwów (Poland)	
250	1200	21	Reykjavik (Iceland)		792.5	378.6		Moscow (Russia)	
			Tashkent (Russia)		797	376.4	1	Glasgow (Great Britain)	
256	1171.5				806	372	1.5	Hamburg (Germany)	
260	1153	7.5	Kalundborg (Denmark) (relays Copenhagen)		810	370.4	0.5	Radio LL (France)	
							1	Bolzano (Italy) (IBZ)	
268.5	1116	40	Moscow, Popoff				13.2	Helsinki (Finland)	
277	1083	60	Oslo (Norway)		815	368.1	1.5	Seville (Union Radio) (EAJ5) (Spain)	
284.9	1053	10	Tiflis (Russia)				0.7	Fredriksstad (Norway) (relays Oslo)	
300	1000	100	Leningrad (Russia)		816	367.6	1	Bergen (Norway)	
320	937.5	20	Kharkov (Russia) RV20		824	364	13	Algiers (N. Africa)	
353.5	848.7	4	Rostov-Don (Russia)		825.3	363.3	60	Stuttgart (Mühlacker) (Germany)	
368.1	815	20	Kiev (Russia)		832	360.5		Tiraspol (Russia)	
385	778	2	Petrozavodsk (Russia)		842	356.3	50	London Regional (Great Britain)	
389	770	0.6	Östersund (Sweden) (relays Sundsvall)		843	356	7	Graz (Austria) (usually relays Vienna)	
394	761.4	1.8	Nijni Novgorod (Russia)		852	352.1	1.2	Leningrad (Russia)	
395	760	1.5	Geneva (Switzerland)		855.5	351	8	Barcelona (Radio Barcelona) (EAJ1) (Spain)	
416.7	720	20	Moscow (Experimental)		860	349	11.5	Strasbourg (Brumath) (France)	
428.6	700	4	Minsk (Russia)		869	345	35	Brno (Czechoslovakia)	
442	680	0.6	Lausanne (Switzerland)		878	342	15	Brussels No. 2 (Belgium) (Flemish programme).	
522	574.7	2.5	Ljubljana (Yugoslavia)		887	338.2		Cadiz (Spain)	
527	570	0.25	Freiburg-im-Breisgau (Germany) (relays Stuttgart)				1.9	Poznań (Poland)	
					896	335	7	Milan (Italy)	
530	566	0.25	Hanover (Germany) (relays Hamburg)				2	Grenoble (PTT) (France)	
531	565	2	Smolensk (Russia)		905	331.5	1.2	Poste Parisien (Paris)	
533	563	16	Wilno (Poland)				1.5	Breslau (Germany)	
		0.25	Augsburg (Germany) (relays Munich)		914	328.2	10	Göteborg (Sweden) (relays Stockholm)	
		1.5	Kaiserslautern (Germany) (relays Munich)		923	325	0.25	Dresden (Germany) (relays Leipzig)	
		0.7	Hamar (Norway) (relays Oslo)		932	322	1.5	Naples (INA) (Italy)	
545	550	18.5	Budapest No. 1 (Hungary)				1	Sofia (Rodno-Radio) (Bulgaria)	
		3	Palermo (Italy)		941	319	1.6	Marseilles (PTT) (France)	
554	542	10	Sundsvall (Sweden)				1.5	Cracow (Poland)	
563	533	1.5	Munich (Germany)		950	315	10	Genoa (IGE) (Italy)	
572	525	15	Riga (Latvia)				0.7	Radio-Vitus (France)	
581	517	15	Vienna (Rosenhügel) (Austria)		959	312.8	1	Cardiff (Great Britain)	
590	509	15	Brussels No. 1 (Belgium)				0.5	Falun (Sweden)	
		20	Florence (IFI) (Italy)		968	309.9	0.75	Zagreb (Yugoslavia)	
			Nijni Novgorod (Russia)		977	307	13	Bordeaux-Lafayette (PTT) (France)	
603.6	497	1.2	Moscow (Russia)				50	North National (Manchester) (Great Britain)	
608	493.4	1.2	Trondheim (Norway)		1004	298.8	8.5	Tallinn (Estonia)	
614	488.6	120	Prague (Czechoslovakia)		1013	296.1	11	Hilversum (Holland)	
625	480	50	North Regional (Manchester) (Great Britain)				2.5	Kosice (Czechoslovakia)	
					1022	293	0.7	Limoges (PTT) (France)	
630.2	476	1.2	Sebastopol (Russia)				0.25	Pietarsaari (Jacobstad) (Finland) (relays Helsinki)	
635	473	60	Langenberg (Germany)		1031	291	1	Tampere (Finland) (relays Helsinki)	
		1.5	Lyons (La Doua) (France) (relays PTT)				13.2	Viipuri (Viborg) (Finland) (relays Helsinki)	
644	465.8	0.5	Tartu (Estonia)					British Relay Stations	
		60	Schweizerischer Landessender (Bermünster) (Switzerland)				1	Aberdeen	
653	459	0.5	Bodo (Norway)				1	Bournemouth	
		0.5	Danzig (Free City) (relays Königsberg)				0.12	Dundee	
		0.5	Klagenfurt (Austria) (relays Vienna)				0.3	Edinburgh	
		0.7	Porsgrund (Norway) (relays Oslo)				1	Newcastle	
662	453.2	1	Salamanca (Spain) (EAJ22)		1040	288.5	0.12	Plymouth	
		0.6	San Sebastian (Spain) (Mon., Wed., Fri. 7.30-9 p.m., other days 10 p.m. to midnight).				0.12	Swansea	
		0.1	Tromsø (Norway)		1043	287.6	0.7	Lyons (Radio) (France)	
		0.15	Uppsala (Sweden) (relays Stockholm)		1049	286	0.8	Montpellier (France)	
666	450.4	4	Odessa (Russia)				0.5	Berlin Relay (Germany)	
		0.35	Aalesund (Norway)				0.5	Magdeburg (Germany)	
		0.08	Notodden (Norway)		1058	283	0.5	Stettin (Germany) (relays Berlin)	
671	447.1	0.7	Paris (PTT) (Ecole Supérieure) (France)				0.5	Innsbruck (Austria) (relays Vienna)	
		0.15	Rjukan (relays Oslo) (Norway)				2	Lisbon (Portugal)	
680	441	50	Rome (IRO) (Italy)		1063	282.2			

STATIONS IN ORDER OF FREQUENCIES AND WAVELENGTHS (Continued)

Kc/s	M.	kW.	Station	Dial Readings	Kc/s	M.	kW.	Station	Dial Readings
1067	281	0.75	Copenhagen (Denmark)		1292	232.2	0.25	Kiel (Germany) (relays Hamburg)	
1071	280		Radio Liège (Belgium)				0.25	Norrköping (Sweden)	
1076	279	14	Bratislava (Czechoslovakia)				0.2	Hälsingborg (Sweden)	
1085	276.5	60	Heilsberg (Germany) (rel. Königsberg)		1301	231	1.25	Malmö (Sweden) (relays Stockholm)	
1096	273.7	7	Turin (Italy)				0.2	Umea (Sweden)	
1103	272	1.3	Rennes (France)		1310	229	0.05	Uddevala (Sweden)	
1112	270	0.25	Bremen (Germany) (relays Hamburg)		1328	226	0.15	Hudiksvall (Sweden)	
1121	267.6	0.7	Oviedo (Spain)		1337	224.4	1	Cork (Ireland)	
1130	265.4	1.5	Radio Valencia (Spain)		1364	219.9	10	Fécamp (Radio Normandie) (France)	
1137	263.8	1.3	Lille (PTT) (France)				0.5	Flensburg (Germany) (relays Hamburg)	
1147	261.6	11	Moravská-Ostrava (Czechoslovakia)		1373	218	0.7	Pori (Björneborg) (Finland) (relays Helsinki)	
1157	259	50	London National (Great Britain)				0.5	Salzburg (relays Vienna)	
1166	257	2	Leipzig (Germany)		1382	217	0.25	Karlstad (Sweden)	
1166	257	10	Hörby (Sweden) (relays Stockholm)				0.5	Königsberg (Germany)	
1175	255	0.7	Toulouse (PTT) (France)		1391	216	0.2	Halmstad (Sweden)	
1184	253	5	Gleiwitz (Germany) (relays Breslau)				0.2	Radio Chatelineau (Belgium)	
		1	Almeria (Spain) (EAJ18)		1400	214.2	1.9	Warsaw, No. 2 (Poland) (Experimental)	
1193	252	1	Barcelona (Association National) (EAJ15)		1428	210		Budapest, No. 2 (Hungary)	
		0.25	Trollhättan (Sweden)		1450	207	0.15	Borås (Sweden)	
1202	249.6	0.3	Varberg (Sweden)		1460	206	0.2	Ornsköldsвик (Sweden)	
1205	249		Juan-les-Pins (Nice) (France)		1470	204	0.2	Gävle (Sweden) (relays Stockholm)	
1211	247.7	0.2	Kalmar (relays Stockholm)		1480	203	0.25	Kristinehamn (Sweden)	
		10	Trieste (Italy)		1490	202	0.25	Jönköping (Sweden) (relays Stockholm)	
		0.5	Berne (Switzerland)		1530	196	0.2	Karlskrona (Sweden) (relays Stockholm)	
		0.4	Cartagena (Spain)		1714	175		St. Quentin (France)	
		0.25	Cassel (Germany) (relays Frankfurt)						
1220	246	0.2	Eskilstuna (Sweden) (relays Stockholm)						
		0.25	Kiruna (Sweden) (relays Boden)						
		0.5	Linz (Austria) (relays Vienna)						
		0.4	Säffle (Sweden) (relays Stockholm)						
		0.6	Turku (Åbo) (Finland) (relays Helsinki)						
1229	244.1	0.5	Basle (Switzerland)		605.1	495.8	—	Trondheim (Norway)	
1236	242.7		Liège Experimental (Belgium)		910	329.7	—	Poste Parisien (France)	
1238	242	1	Belfast (Ireland)		973.1	308.3	—	Radio Vitus (France)	
1247	240.6	0.5	Stavanger (Norway)		1046.4	286.7	—	Lyons (France)	
1250	240	1.5	Radio Beziere (France)		1195	251	—	Trollhättan (Sweden)	
1256	239	2	Nürnberg (Germany) (relays Munich)		1201.8	249.6	—	Juan-les-Pins (Nice) (France)	
		3	Bordeaux Sud-Ouest (France)		1285	233.4	—	Lodz (Poland)	
1265	237.2	1	Radio-Nimes (France)		1352.6	221.8	—	Fécamp (Radio Normandie) (France)	
		0.2	Örebro (Sweden) (relays Stockholm)						
1274	235.5	0.5	Christiansand (Norway)						
1283	235	2	Lodz (Poland) (Experimental)						

DEVIATIONS

The following are the actual deviations from the official frequencies, as noted during measurements made at the Tatsfield Checking Station. All differences of 1.9 kc/s and over are shown.

605.1	495.8	—	Trondheim (Norway)
910	329.7	—	Poste Parisien (France)
973.1	308.3	—	Radio Vitus (France)
1046.4	286.7	—	Lyons (France)
1195	251	—	Trollhättan (Sweden)
1201.8	249.6	—	Juan-les-Pins (Nice) (France)
1285	233.4	—	Lodz (Poland)
1352.6	221.8	—	Fécamp (Radio Normandie) (France)

(For List of Short-Wave Stations see page 848.)

Last Week's Log

(April 17—23)

By "THE SEARCHER"

THERE was rather a curious happening—though I have noted similar occurrences on two previous occasions in past years in the Log—on the Thursday of the week now discussed. A fine morning was followed by a wet afternoon, and at about 4.30 p.m. there was a terrific hailstorm, accompanied by thunder and vivid flashes of lightning. Within a few minutes after the final thunderclap I thought it might be interesting to see just how bad atmospheric were. I therefore switched on a four-valve set (two screen-grid H.F., detector, and power output) operated from an indoor aerial consisting of a forty-foot span of wire suspended in the attic just below the roof.

To my surprise no interference could be noticed when the local station's transmission was coming through; feeling, though, that its power might be sufficient to drown atmospheric interference of the milder type, I switched over to the long waves, and tuned in Kalundborg. The Danish station was received excellently and without a trace of atmospheric interference. Next, Stockholm was tuned in on the medium waves, with the same results. Why it should happen that there were no atmospherics worthy of the name immediately after a thunderstorm I have no idea, but my experience was as recorded. I wonder whether any readers whose localities were visited by thunderstorms in this same week tried their wireless sets, and had similar results.

Curiously enough, though the Saturday was the finest day of the week, it was the only one on which atmospherics were really troublesome. On the Saturday night those of the loud crashing variety were to be heard at frequent intervals.

Long-wave reception has been extraordin-

arily good during the week. The only station, in fact, which failed to score full marks on every occasion was Königs Wusterhausen, who, though splendidly heard on other days, was considerably below normal strength on the Friday. Every other station of importance provided full loud-speaker strength throughout the week. The medium-wave band has also been particularly good. In my locality reception was very much better during the week between April 17 and 23 than during that between April 10 and 16. More stations were heard and all-round signal strength showed a very distinct improvement.

I can hardly believe that Florence has been using his (I feel that I really ought to write her), full 20 kilowatts until recently, for signal strength was seldom very great until towards the end of the previous week, and the station, though usually to be found, could not be regarded as consistently good. This week Florence has been received at full loud-speaker strength on every night. Others which show the same record are Prague, Langenberg, Rome, Katowice, Sottens, Toulouse, Hamburg, Strasbourg, Brno, Milan, Breslau, Hilversum, Heilsberg, Turin, Trieste, and Nürnberg.

Beromünster was slightly below strength on the Monday and bad jamming occurred on the Wednesday. Lyons Doua, who had been pretty well heard during the previous week, was only once recorded this week and then he was but a feeble signal. Stockholm would have obtained full marks but for a slight falling off on the Thursday. Frankfurt's best nights were the Monday, Wednesday, and Friday; his worst was the Tuesday, and on the Saturday he was rather below his usual strength. Lwów is not so consistent at the moment as he was. I had excellent reception on the Monday and Wednesday and heard him with rather less strength on the Tuesday, Friday, and Saturday.

Interference between Stations

(April 1—23)

THE steady lengthening of the days results in a corresponding decrease in the interferences between the more distant stations, and particularly in the interferences due to Soviet stations. This is the case, for instance, with Frankfurt (770 kc/s), interfered with by Archangel; with Brussels No. 1, heterodyned by Astrakhan; and with Florence, heterodyned by Nijni-Novgorod. There is, however, an exception: this is Radio-Toulouse (779 kc/s), the interference with which is very probably due to Stalina; a Soviet station of 10 kW recently put into operation. This interference can be observed on Radio-Toulouse's transmissions up to 9 or 10 p.m., and many listeners have complained of it.

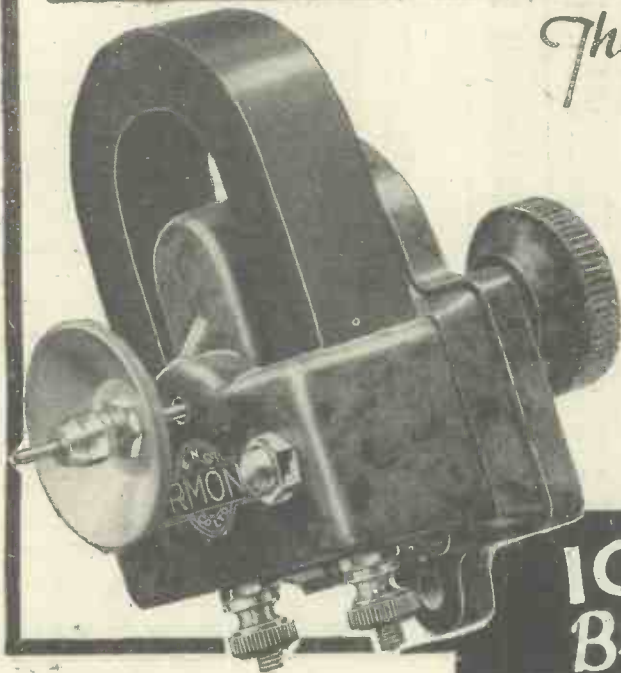
The new transmitter of Poste Parisien (60 kW) has taken up, since April 17, the regular night transmissions. Since the same date, Grenoble PTT has left 914 kc/s, which has thus become Poste Parisien's exclusive wavelength, in order to escape the interference between the two stations, during the tests of Poste Parisien. Grenoble PTT, which is supposed to use a frequency round Freiburg (527 kc/s) or Augsburg-Kaiserslautern (536 kc/s), has not been found on such frequencies during this week, nor on any other part of the broadcasting band.

On several occasions a very severe heterodyne has been noted on Barcelona EAJ 1 (860 kc/s). This interference was caused by an unknown station using about the same wavelength, and was particularly remarkable on the 22nd.

L. B.

The Schedule of Advance Programmes will be found on page 882

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PROGRAMMES FOR SUNDAY (May 1)

PRINCIPAL EVENTS

SERVICES AND SACRED MUSIC

- 9.0 a.m. Warsaw: Mass from Wilno.
- 9.15 " Hamburg: Service from Brunswick.
- 11.30 " Leipzig and most German stations: Church Cantata (Bach).
- 8.25 p.m. Huizen: Service from the Cathedral, Bois-lé-Duc.

SYMPHONY CONCERTS

- 8.0 p.m. Berlin (Witzleben) and other German Stations: Richard Strauss.
- 8.0 " Hamburg: Tchaikovsky programme.
- 8.30 " Strasbourg: Berlioz-Beethoven programme.

CONCERTS (Vocal and Instrumental)

- 6.15 a.m. Most German stations: Bremerhaven Harbour Concert.
- 5.40 p.m. Budapest: Conducted by Dohnanyi.
- 8.0 " Schweizerischer Landessender: Choral and Orchestral.
- 8.30 " Strasbourg: Choral and Orchestral.
- 9.40 " Copenhagen: Danish "Spring" music.

OPERAS AND OPERETTAS

- 7.30 p.m. Budapest: "The Gipsy Baron."
- 9.0 " Italian stations (Northern): "I Puritani" (Bellini).

RECITALS

- 6.15 p.m. Leipzig: Elena Gerhardt.
- 9.50 " Warsaw: Feuermann ('Cello).

MISCELLANEOUS

- 3.30 p.m. Brussels No. 1: Belgium v. France (football).
- 5.0 " Budapest: The first Budapest relay to the U.S.A.

DANCE MUSIC

- 10.20 p.m. Hamburg. 10.30 p.m. (till 12): Strasbourg.

Mascagni

Though it can never be quite literally true that a man who was one day poor and struggling, woke the next morning to find himself famous, it is as nearly true of Mascagni and his opera *Cavalleria* as of anyone in history. Born in Leghorn at the end of 1863, Mascagni, like many another artist, was destined for the Law. His father was so sternly opposed to music as a career that young Mascagni had to carry on his studies in secret, and, though he



[Photo: Intercontinental Radio, Rome] Mascagni

contrived for a time to keep the fact from his father, he was eventually found out. Fortunately, a kindly uncle interposed and saw to it that his obvious gifts for music were properly cultivated. But a good deal of struggle and hardship was still before him, until *Cavalleria Rusticana* won the first prize in a competition in Rome in May, 1890, and quickly made its way all over Europe; everywhere its force and directness won immediate success. For some years it looked as though that was to be his only popular work, but within the past few years he has again been taking the place among his compatriots to which his great gifts entitle him, and more than one later opera is a serious rival to his first. Two recent short operas were announced for this evening by the ITALIAN STATIONS OF THE NORTHERN GROUP, with the composer himself as conductor, and though the programme has been altered at the last moment, they will no doubt be given at an early date. Conducting is also a direction in which he has won renown, and he has toured with more than one fine Italian orchestra both in Europe and in America.

Phaeton

Saint-Saëns' tone poem, which WARSAW station is to broadcast to-day, is based on the classical tale of how Phaeton persuaded his father, the Sun, to let him drive the fiery chariot across the sky. Listeners will remember that in the old tale he lost control of the horses, and the chariot was on the point of crashing into the earth to wreck it, when Jupiter hurled a thunderbolt which destroyed the youth and his car. There is a short and impressive introduction, and then we hear the galloping steeds, and, a little later, a pompous tune on the brasses no doubt stands for the young Phaeton himself. Four horns afterwards play a fine broad melody, which is the dirge of the Sun over the boy's death. The music works up to a great pitch of excitement, and against a strenuous version of the Phaeton theme we can quite clearly hear the falling of the thunderbolt, and, at last, the lament.

NATIONAL		
	kc/s	m. kW.
London:	1,148	261.3 50
Daventry:	193	1,554.4 30
Northern:	995	301.5 50
9.50 a.m.—A Morning Service for the Military, relayed from York Minster.		
11.15—11.30—Time Signal (Greenwich); Shipping Forecast.		
3.0 p.m.—Time Signal (Greenwich).		
3.0—The Leslie Bridgewater Quintet in a Programme of Pierrot Music.		
3.45—Children's Service.		
4.15—An Orchestral Concert. The B.B.C. Orchestra (Section C), conducted by Joseph Lewis. Geoffrey Dams (Tenor).		
5.30—A Violin Recital by Henri Temianka. Two Preludes (Chasins, arr. Press); Introduction and Rondo Capriccioso (Saint-Saëns); Nigun (Spiritual Improvisation) (No. 2, Baal Shem) (Bluch); Sicilienne (Paradies, arr. Dushkin); Perpetuum mobile (Ries).		
6.0—6.15—"What is a Saint?"—XIV. "Saints without the 'St.'" By the Rev. Father C. C. Martindale.		
8.0—8.45—A Religious Service from The Studio.		
8.50—"The News."		
9.0—Time Signal (Greenwich).		
9.5—The B.B.C. Theatre Orchestra (Leader, S. Kneale Kelley), conducted by Stanford Robinson. Overture, Raymond (Ambroise Thomas). Herbert Cave (Tenor): As you pass by (Russell); Dolorosa (Phillips); Jane (Barker). Orchestra: Waltz, Bien Aimés (Waldteufel); Two Arabesques (Debussy). Herbert Cave: From the Land of the sky blue Waters, Far off I hear a Lover's Flute (American Indian Songs), At Dawning, and I hear a Thrush at Eve (Cadman). Orchestra: Humoresque (Dvorak); Liebesfreud (The Joy of Love), Liebeslied (A Love Song) (Kreisler); Gopak (Mussorgsky). Herbert Cave: Mairé, my Girl (Aitken); An Evening Song (Blumenthal). Orchestra: Selection, La Bohème (Puccini).		
10.30—Epilogue.		

REGIONAL		
	kc/s	m. kW.
London:	842	356.3 50
Midland:	752	398.9 25
Northern:	626	479.2 50
9.50—11.15 p.m. (approx.) (London and Northern)—A Morning Service for the Military, relayed from York Minster. Address by the Bishop of Hull, the Rt. Rev. Bernard O. F. Heywood.		
3.0 p.m. (London and Northern)—Daventry National Programme.		
4.0 (Midland)—The McGowan Male Voice Quartet. Mary Ashmell (Violin). Marjorie Bloese and Phyllis Burrows (Two Pianofortes).		
3.45 (London)—The Wireless Military Band. Conductor, B. Walton O'Donnell. Joseph Farrington (Bass).		
3.45 (Northern)—"May Day." A Programme of Music and Poetry. Presented by Kenneth Adam. Ida Bloor (Soprano). Alfred Barker (Violin). Charles Ellam (Pianoforte).		
4.15 (Midland)—An Organ Recital by Fred Dunhill.		
5.0—5.30—"Travellers from the East"—III. Mr. A. Rose.		
7.55 (Northern)—A Religious Service relayed from The Manchester Cathedral.		
8.0 (London)—A Roman Catholic Service relayed from St. Saviour's Church, Lewisham.		
8.0 (Midland)—A Religious Service from The Central Hall, B'ham.		
8.45 (London, (Midland), (Northern)—The Week's Good Cause. An appeal on behalf of the Manchester and Salford Boys and Girls Refuges and Homes by Mrs. Falkner Hill.		
8.50—General News Bulletin.		
9.5—Sunday Orchestral Concert—XXVII. Jelly d'Aranyi (Violin). Adila Fachiri (Violin). The B.B.C. Orchestra (Section B) (Leader, Arthur Catterall), conducted by Leslie Heward. Orchestra: Overture, Portsmouth Point (Walton); Die Okeaniden (Sibelius). Jelly d'Aranyi, Adila Fachiri and Orchestra: Concerto for Two Violins (Holst). Orchestra: Quodlibet (Heward).		
10.30—Epilogue.		

The Frequencies and Wavelengths given in the following programmes are those published by the stations in question. For more accurate measurements, readers are referred to our Table of Frequencies and Wavelengths.

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

ALGIERS (N. Africa)
825.3 kc/s (363.3 m.); 13 kW.
Transmits at intervals from 11.30 a.m. 7.0 p.m.—Concert of Dance Music.
7.30—Songs from Operas. Song from "Louise" (Charpentier). Song from "I Pagliacci" (Leoncavallo). Song from "La Traviata" (Verdi). Song from "Sigurd" (Reyer). Song from "Il Trovatore" (Verdi). Song from "Martha" (Flotow).
8.0—Request Concert of Orchestral Music. 9.0—Election Results. 9.15—Request Concert (contd.). 9.30—News and Election Results. 10.0—Dance Music. During the Programme, Election Results. 11.0—Resumé of Election Results and Close Down.

BARCELONA (Spain)
Radio-Barcelona (EAJ1). 860 kc/s (349 m.); 8 kW.
8.30—9.45 a.m.—Topical Review. 12 noon—Chimes and Weather. 2.0—Fortnightly Health Report and Light Music on Gramophone Records. 2.30—Concert by the Station Sextet. 3.0—Theatre Notes, Popular Music on Gramophone Records and Cinema Review. 3.20—Sextet Concert (continued). 4.0—Programme for Hospitals and Benevolent Institutions, with Gramophone Records. 5.0—6.30—Interval. 6.30—Gramophone Records of Popular Music. 7.0—Orchestral Selections.
7.30—Baritone Song Recital. Arias from "Rigoletto" (Verdi), "La Parranda" (Alonso), "Las Golondrinas" (Usandizaga) and "I Pagliacci" (Leoncavallo).
8.0—Agricultural Talk. 8.10—Vocal and Orchestral Concert. Soloist: Pepita Paulet. 9.0—Dance Music from the Excelsior Dance Hall. 10.0—Request Gramophone Records. 11.45—Lesson in Chess. 12 midnight (approx.)—Close Down.

BELGRADE (Yugoslavia)
697 kc/s (430.4 m.); 2.5 kW.
Transmits at intervals from 8.55 a.m. 5.0 p.m.—Dance Music by a Bafalaika Orchestra. 6.55—Time Signal and Programme Announcements. 7.0—Recital of National Songs by Mile Milutinovic. 7.30—Czigany Music relayed from the "Potrosacka Zadruga." 8.0—Talk. 8.40—Concert for Soloists, Choir and Orchestra. 10.0—News and Sports Notes.
10.20—Song Recital by Frau Zlatka Lulic-Radica. Passion (Lulligarg). Dorita (Lulligarg). Song from "The Czarevitch" (Lehar). Song from "The Gipsy Baron" (Strauss). Song from "Countess Maritza" (Kálmán). Song from "Gipsy Love" (Lehar).
10.50—Dance Music relayed from the "Ruski Car" Restaurant.

BERLIN (Germany)
Königs Wusterhausen. 183.5 kc/s (1,635 m.); 60 kW.
11.0 a.m.—Reinhard Goering reads from his own Works. 11.30—2.30 p.m.—See Berlin (Witzleben). 2.30—Talk: What can be seen from a Balloon? 2.55—Talk: National Characters in World Literature—Don Quixote. 3.30—6.20—See Berlin (Witzleben). 6.20—Talk: The Young Generation Speaks—Collectivism or Individualism? 7.0—Festival Programme for Workers—Vocal and Instrumental Music with Address by Dr. Grimme, Minister of Education. 7.50 till Close Down—See Berlin (Witzleben). 12.30 a.m. (Monday)—Close Down.

BERLIN (Germany)
Witzleben. 715 kc/s (419.5 m.); 1.5 kW.
Transmits at intervals from 6.0 a.m. (Gymnastics and Hamburg Relay). 11.0 a.m.—"Working People in Music"—with Introductory Talk by Rudolf Wissell, Minister of Labour.
11.30—See Leipzig. 12 noon—Annemarie Schwarzenbach reads from her own Works.
12.10 p.m.—Concert by the Berlin

Concert Society, conducted by Clemens Schmalstich. Overture, "Poet and Peasant" (Suppé); Selection from "Der Freischütz" (Weber); Suite from "Coppélia" (Delibes). Waltz, Frühlingsstimmen (Johann Strauss). Overture, "The Bartered Bride" (Smetana). Selection from "The Czardas Princess" (Kálmán). Hungarian Rhapsody No. 1 (Liszt). Waltz Serenade, and Fox Trot from "Die Tänzerin aus Liebe" (Schmalstich). Waltz, España (Waldteufel). Overture, "Orpheus in the Underworld" (Offenbach).
2.0—Start and Finish of the Long-Distance Cycle Race: Berlin—Kottbus—Berlin (on Gramophone Records). 2.30—Choral Concert of Workers' Songs. 3.0—Reading. 3.30—Report on the General Assembly (Landesgemeinde) in Trogen, Appenzel. 4.30—See Breslau. 5.10—Part Relay of a Handball Match from the Tiergarten Sports Ground. 5.25—The Damsant from the Hotel Excelsior. 6.20—"From Weekdays to Sundays," by Karl Bröger.
6.45—Quintet in F Minor, Op. 34, for two Violins, Viola, 'Cello and Pianoforte (Brahms). 7.25—"Napoleon"—a Narrative (Carl Sternheim). 7.50—Sports Notes.
8.0—Concert by the Berlin Wireless Orchestra, conducted by Richard Strauss. Symphony in C Major (Mozart). Symphonic Poem, Don Juan, Op. 20 (Richard Strauss). 8.45—News Bulletin.
9.0—"Spring"—a Radio Potpourri, arranged by Cornelius Bronsgeest. The Maximilian Albrecht Choir, the Berlin Wireless Orchestra, the Hans Schindler Jazz Symphonists and Paul Dietrich's Schrammelquartett, with Soloists. 10.15—News Bulletin, followed by a Report on the Opening of the World Industrial Conference in connection with International Trade Week, 1932 (on Gramophone Records). After the Report: Dance Music. 12.30 a.m. (Monday)—Close Down.
BORDEAUX-LAFAYETTE (France)
(PTT). 936 kc/s (304 m.); 13 kW.
12 noon—Programme relayed from

SUNDAY continued

Paris (Ecole Supérieure), 671 kc/s (447.1 m.). 2.0 p.m.—Relay from Paris or Relay of a Local Festival. 6.20—Sports Results. 6.30—Radio Journal. 8.0—Boxing Review. 8.10—Lottery Results. 8.30—Light Music on Gramophone Records. 9.0—“The Professions in Music”—Concert on Gramophone Records.

BRATISLAVA

(Czechoslovakia)
1,076 kc/s (279 m.); 14 kW.
Transmits at intervals from 6.30 a.m. 6.15 p.m.—Mandoline and Guitar Concert. 7.0—See Prague. 8.5—“Josef Dajetan Tyl”—Drama from the Life of Tyl (F. Samberk, with Music by Dvorak). 10.35—Programme Announcements. 10.40—See Prague.

BRESLAU (Germany)

923 kc/s (325 m.); 1.5 kW. Relayed by Gleiwitz, 1,184 kc/s (253 m.). Transmits at intervals from 6.15 a.m. (Hamburg Relay).
11.30 a.m.—See Leipzig. 12.10 p.m.—Concert from Berlin (Witzleben). 2.0—Midday Report. 2.10—“Solitary People”—1. Two Woodcutters (Armin Schönberg), read by Hermann Gaupp. 2.30—A Radio Report from Silberberg. 3.30—See Leipzig. 4.30—Programme for Children: German Children's Songs, Nursery Rhymes and Sayings (arr. Friedrich Wirth) by Four Children and Members of the Station Orchestra. 5.10—Orchestral Concert, conducted by Franz Marszalek. 6.20—Weather and Sports Results. 6.30—Dialogues from “Wilhelm Meister” (Goethe). 7.0—See Berlin (Königs Wusterhausen). 8.0—12 midnight—See Berlin (Witzleben). In the interval at 10.15—Time, Weather and News. 12 midnight (approx.)—Close Down.

BRNO (Czechoslovakia)

878 kc/s (342 m.); 35 kW.
Transmits at intervals from 6.30 a.m. 7.0 p.m.—See Prague. 8.5—See Bratislava. 10.35—See Bratislava. 10.40—See Prague.

BRUSSELS (Belgium) (No. 1)

I.N.R. 590 kc/s (509 m.); 15 kW. 6.0 a.m. and at hourly intervals throughout the day—Pigeon Flying Report. 10.0—12 noon—Programme in Celebration of First of May. 10.0—Overture on Theban Trumpets. Gramophone Record: L'Internationale. 10.15—Talk by Emile Vanderveelde. May 1st. 10.30—Report on the First of May Celebrations at Liège and Antwerp, with Gramophone Interludes. 12 noon—Gramophone Concert of Sound Film Music. 12.30 p.m.—Weather Report. 12.40—Concert (contd.). 1.0 p.m.—Concert by Max Alexys and his Orchestra. 2.0—Programme for Children. 2.30—Choral Selections and Songs. 3.30—Report on the Football Match, Belgium v. France, relayed from the Heysel Stadium. 5.0—Orchestral Concert, conducted by Arthur Meulemans. 5.45—Concert by the Quaregnon Workers' Choir and a Brass Band. 7.15—Religious Address by the Reverend Father Draime. 7.30—Le Journal Parlé. 8.0—Concert. 9.0—Reading from “The Weavers” (Hauptmann). 10.0—Talk on Pigeons. 10.10—Gramophone Concert of Old Dances. 11.0—Gramophone Concert of Modern Dance Music.

BRUSSELS (Belgium) (No. 2)

N.I.R. 887 kc/s (338.2 m.); 15 kW. Programme in Flemish. 10.0 a.m.—See Brussels No. 1. 11.30—Concert of Popular Music on Gramophone Records. 12 noon—Selections from Sound Films on Gramophone Records. 12.30 p.m.—Weather Forecast. 12.40—Sound Film Selections (contd.). 2.0—Programme for Children. 3.0—Programme for Young Workers. 3.30—Running Commentary on the Football Match France v. Belgium, relayed from the Heysel Stadium. 5.0—Concert by the Station Symphony Orchestra, conducted by Arthur Meulemans. March, The Stars and Stripes (Souza). Overture, “Pique Dame” (Suppé). Algerian Melody (Kettelbey). By the Blue Hawaiian Waters (Kettelbey). Selection from “Le Chemin du Paradis” (Heymann). Die Post kommt! (Eilenberg). Waltz, Ever or Never (Waldeufel). 5.45—Concert by the Quaregnon Workers' Choral Society and a Socialist Band. 7.15—Religious

Address. 7.30—Music Review. 8.0—Choral and Orchestral Concert, relayed from Antwerp. 10.0—Le Journal Parlé. 10.10—Concert of Dance Music on Gramophone Records.

BUCHAREST (Romania)

Radio-Bucarest. 761 kc/s (394 m.); 12 kW.
10.15 a.m.—Programme for Children. 10.30—Religious Reading. 10.45—Choral Selections of Sacred Music. 11.0—Orchestral Concert. 12 noon—Light Music on Gramophone Records. 12.45 p.m.—News and Time Signal. 1.0—Popular Music on Gramophone Records. 4.0—Programme for Peasants. 5.0—Light Music and Romanian Music by the Jean Marco Orchestra. 6.0—News and Time Signal. 6.10—Concert by the Jean Marco Orchestra (contd.). 7.0—Readings and Recitations for Easter. 7.40—Light Music on Gramophone Records. 8.0—“Baba Hârca”—Operetta in Three Acts (Flechtenmacher). In the intervals, News.

BUDAPEST (Hungary)

545 kc/s (550 m.); 18.5 kW.
Transmits at intervals from 7.0 a.m. Also relayed on 210 metres from 3.0—3.45 p.m. and from 6.0 p.m. to 12 midnight.
11.0 a.m.—Service, followed by Concert by the Royal Hungarian Opera House Orchestra, conducted by Otto Berg. Talk in the interval. 2.0 p.m.—Gramophone Records of Variety Music. 3.0—Agricultural Talk. 3.45—Orchestral Concert, conducted by Stefan Bertha. Soloist: Weygand (Vocalist). 5.0—Transmission to America. Concert by the Royal Hungarian Opera House Orchestra, conducted by Ernst von Dohnanyi. Hungarian National Hymn (Erkel). Symphonic Poem, Tasso (Liszt). Rákoczy March (Berlioz). In the first interval: Talk in English—A Word to the American People. 5.40—Concert by the Opera House Orchestra, conducted by Ernst Dohnanyi. 6.25—Microphone Report from Kalocsa. 7.0—Talk. 7.30—“The Gipsy Baron”—Operetta (Johann Strauss), relayed from the Opera House. After the Opera: Cigány Concert from the Kovacevics Restaurant.

COPENHAGEN (Denmark)

1,067 kc/s (281 m.); 0.75 kW. Relayed by Kalundborg, 260 kc/s (1,153 m.).
Transmits at intervals from 8.30 a.m. (Gymnastics).
11.30 a.m.—Weather and News. 12 noon—Town Hall Chimes. 12.2 p.m.—Instrumental Concert. Overture, “Preciosa” (Weber). Minuet in F Major (Mozart). Waltz, Hofballtänze (Johann Strauss). Selection from “A Masked Ball” (Verdi). Gavotte (Lully). Chanson Louis XIII et Pavane (Couperin). Minuet and Tambourin (Poise). Overture, “Idomeneus” (Mozart). 1.0—Talk in English: A Holiday in London. 1.20—German Lesson. 1.40—French Lesson. 2.0—Accordion Recital. 2.30—Programme for Children. 3.0—Orchestral Concert, conducted by Launy Gröndahl. Soloist: Esther Vaegning (Pianoforte). 5.0—Divine Service from the Cathedral. 6.20—Talk. 6.50—Weather and News. 7.15—Time and Sports Notes. 7.30—Talk: The Soil of Denmark—Chalk and Lime. 8.0—Town Hall Chimes. 8.2—Fantasia on Workers' Songs (Emil Reesen). 8.10—“New Signals”—a Radio Play (Peder Nørgaard and Julius Bomholt). 9.5—Trio in G Major for Two Violins and Cello (Boccherini). 9.30—News Bulletin. 9.40—“Springtime in Denmark”—Programme by the Radio Orchestra, conducted by Emil Reesen, and the Lilly Ericson Vocal Quartet, with Readings by Tavs Nieuendam. 10.55—Dance Music from the Lodberg Restaurant. 12 midnight (in an interval)—Town Hall Chimes. 12.30 a.m. (Monday)—Close Down.

DUBLIN (Ireland)

(2RN). 725 kc/s (413 m.); 1.2 kW. Relayed by Cork, 1,337 kc/s (224.4 m.).
8.30 p.m.—Time Signal. 8.31—Pianoforte Solos by R. St. Quentin Downer. 8.45—“The Open Road”—Operetta (Louis O'Brien). 9.45—Beidhlin. 10.0—Amhrain Gaedhlice. 10.10—Banjo and Steel Guitar Solos. 10.25—Orchestral Concert. 11.0—Time Signal, News, Weather Report and Close Down.

FÉCAMP (France)

Radio Normandie. 1,364 kc/s (219.9 m.); 10 kW.
12 noon—Radio Announcements. 12.30 p.m.—News Bulletin. 12.45—Sponsored Concert. 6.0—Dance Music. 8.0—Concert of Popular Music. 9.0—Variety Concert. 12.30 a.m. (Monday)—Dance Music. In the intervals, throughout the Evening, Fifty Minutes after each Hour, Election Results. 3.0 (approx.)—Close Down.

FRANKFURT-am-MAIN (Germany)

770 kc/s (390 m.); 1.5 kW. Relayed by Cassel, 1,220 kc/s (246 m.).
Transmits at intervals from 6.15 a.m. (Hamburg Relay).
11.0 a.m.—See Leipzig. 12 noon—Gramophone Concert of Classical Music. 1.5—Choral Concert, preceded by a Talk on the Workers' Singing Movement. 2.0—Talks arranged by the Wiesbaden Board of Agriculture. 2.10—Rural Programme—Two Talks. 3.0—See Stuttgart. 4.30 (from Wiesbaden)—Concert by the Municipal Orchestra. Symphonic Poem, Korsholm (Järnefelt). Overture, “The Merry Wives of Windsor” (Nicolai). Waltz, A Summer Evening on the Rhine (Zimmer). Selection from “The Gipsy Baron” (Johann Strauss). March, Heil Europa (Blon). 5.30—Concertina Recital by Hermann Uhtik. 6.0—Astronomical Talk: The Heavens in May and June. 6.25—Talk (to be announced). 6.50—Thirty Gay Minutes. 7.20—Weather and Sports Notes. 7.35—10.35—See Stuttgart. 10.35—Time, Weather and News. 10.55—Light Music from Berlin (Witzleben). 12 midnight (approx.)—Close Down.

HAMBURG (Germany)

Norag (ha, in Morse). 805 kc/s (372 m.); 1.5 kW. Relayed by Bremen, 1,112 kc/s (270 m.); Flensburg, 1,373 kc/s (218 m.); Hanover, 530 kc/s (566 m.) and Kiel, 1,292 kc/s (232.2 m.).
Transmits at intervals from 6.15 a.m. (Bremen Harbour Concert).
11.0 a.m.—Talk: The Hagenbeck Zoo after the War. 11.30—See Leipzig. 12 noon—Astronomical Talk: The Stars in May. 12.15 p.m.—Time and Weather. 12.20 (from Hanover)—Open Air Concert. 1.0—Concert from Berlin (Witzleben). 2.0—“Glass”—a Scientific Fairy Tale (Anne Rhees), with the collaboration of the Station Orchestra. 3.0—Violin Recital by Sonia Gramatte from her own Works. Sonata No. 1 in D Major for Violin and Piano-forte. Fugue expressive. A Festival in a Spanish Village. Elégie. Danse marocaine. 3.30—Report on the General Assembly (Landesgemeinde) in Appenzell, Switzerland. 4.30—In Praise of the Seasons—Readings from the Works of Adalbert Strifter. Introduction and Commentary by W. Henneberg. 4.55 (from Kiel)—Relay of the Second Half of the Final of the North German Football Championship, HSV Hamburg v. Holstein-Kiel. 5.45—Light Athletics—a Microphone Report by Karl Lerbs. 5.55 (from Hanover)—Sacred Music from the Cathedral of Henry the Lion at Brunswick. Soloists: Susanne Kasch (Soprano), Margarethe Horn-Linde (Contralto), Robert Schwiers (Violin) and Waldemar Guericke (Organ). Mitten wir im Leben sind—Passacaglia and Fugue for Organ in C Sharp Minor (Ploner). Beruft Gott selbst—Duet for Soprano and Contralto with Violin and Organ (Bach). Concerto in D Minor for Violin and Organ (Tartini). Aria for Contralto: O hör mein Flehen (Händel). Aria for Soprano: O huet' ich Jubals Harf (Händel). Duet for Soprano and Contralto with Violin and Organ (Bach). Prelude, Fugue and Chaconne in D Minor for Organ (Pachelbel). 6.55—Weather Report. 7.0—See Berlin (Witzleben). 7.50—Sports Report. 8.0—Tchaikovsky Concert conducted by Richard Richter, relayed from the Musikhalle. Soloist: Wolfgang Hattenbach (Pianoforte). Overture, Romeo and Juliet. Pianoforte Concerto in B Flat Minor. The Fifth

Symphony in E Minor. In the interval, News Bulletin. 10.0—Time, Weather and News. 10.10—Topical Talk. 10.20—Dance Music relayed from the Boccaccio. 11.10 (from Bremen)—Dance Music from the “Atlantik.”

HEILSBURG (Germany)

1,085 kc/s (276.5 m.); 60 kW. Relayed by Danzig, 662 kc/s (453.2 m.).
Transmits at intervals from 6.30 a.m. (Concert from Danzig).
11.30 a.m.—See Leipzig. 12 noon—Concert by the Königsberg Opera House Orchestra, conducted by Werner Richter-Reichhelm. Overture, “Peter Scholl” (Weber). Suite No. 1 from “L'Arlesienne” (Bizet). Wedding Music (Jensen). Symphonic Poem, The Midday Witch (Dvorak). Overture, Scherzo and Nocturne from “A Midsummer Night's Dream” (Mendelssohn). Selection from “The Queen of Spades” (Tchaikovsky). Waltz, Frühlingsstimmen (Strauss). 2.0—Chess Talk. 2.30—Talk for Young People: The Animals of the South American Primeval Forests. 3.0—Talk: Traffic Regulations and Safety. 3.30—Report on the General Assembly (Landesgemeinde), at Trogen in the Canton of Appenzell, Switzerland (on Gramophone Records). 4.30—See Breslau. 5.10—Concert by the Königsberg Opera House Orchestra, conducted by Karl Hrubetz. 6.5—Sports Notes: Riding. 6.15—Talk on the Krüger Polar Expedition: Is Dr. Krüger still alive? 6.40—Musical Diary for the Month of April. 7.0—See Berlin (Königs Wusterhausen). 7.50—See Berlin (Witzleben). 8.45 (from Danzig)—A May Day Variety Programme. 10.15—News Bulletin, followed by Dance Music from Berlin (Witzleben). 12.30 a.m. (Monday)—Close Down.

HILVERSUM (Holland)

1,013 kc/s (296.1 m.); 11 kW. 8.40—10.40 a.m.—Programme of the Workers' Radio Society (V.A.R.A.). 8.40—May Day Chimes. 8.45—Organ Recital. 9.0—Address by Heer de Vries. 9.10—Organ Recital (contd.). 9.25—Recitations. 9.40—Selections by a Children's Choir. 9.55—Recitations. 10.10—Selections by a Children's Choir (contd.). 10.25—Address by Heer Zwertbroek. 11.10—12.40 p.m.—Programme of the Liberal Protestant Radio Society (V.P.R.O.). Divine Service from Haarlem. 12.40 p.m. till Close Down—V.A.R.A. Programme. 12.40—The Unveiling of the Beekers Monument at Maastricht. 1.10—Septet Concert. Overture, Julius Caesar” (Schumann). Adagio (Haydn). Minuet (Bolzoni). Scherzando (Beethoven). Waltz, Du liebes Wien (Stolz). 1.40—Programme by the Amsterdam Modern Art Ensemble. 2.10—Concert (contd.). Potpourri, Quintessences (Morena). Waltz: Die Herge, die sind meine Heimat (Birkhofer). Adagio and Minuet from the Septet in E Flat Major, Op. 20 (Beethoven). Prelude (Rachmaninov). 2.40—Recitations. 3.10—Concert by the V.A.R.A. Philharmonic Orchestra, conducted by de Groot. Soloists: Nieland (Organ) and Wins (Harpisichord). Suite of Orchestral Pieces by Johann Sebastian Bach, arranged for Orchestra, Organ and Harp-sichord (Mahler). The Unfinished Symphony (Schubert). 3.55—Address. 4.10—Concert (contd.). Fantasia for Organ (Weber). Jubel-Ouverture (Weber). 4.30—See Vienna. 5.0—Concert (contd.). Overture, Overture, “Die Fledermaus” (Joh. Strauss). Waltz from “Der Rosenkavalier” (R. Strauss). Entry of the Guests into the Wartburg from “Tannhäuser” (Wagner). 5.25—Address. 5.40—Programme for Children. 6.25—Concert by the V.A.R.A. Mandoline Orchestra. March, Durch Kampf zum Sieg (Translateur). May Fantasia (Kok). Minuet from the Symphony in B Flat Major (Mozart). Mattinata (Leoncavallo). The Match Parade (Wehle). 6.50—Talk. 7.10—Choral Concert. 7.40—“Karl Marx”—A Play (Ernst Johansen). 8.55—Organ Recital by Reginald Foot of London. 9.40—Songs by Henri Marchand. 9.55—Orchestral Concert, conducted by Hugo de Groot. Spring Song (Mendelssohn). To Spring (Grieg). Waltz, O schöner Mai (Strauss). Gallop, Spring in's Feld (Strauss). Spring Suite (Nevin). 10.25—Topical Talk. 10.40—Concert

(contd.). Waltz, Frühlingsstimmen (Strauss). Der Lenz ist da (Hildkad). Blumengeflüster (Blon). Spring Suite (Wesly).

11.40—Songs by Henri Marchand. 11.55—Address. 12.10 a.m. (Monday)—Gramophone Records of Variety Music. 12.40 (approx.)—Close Down.

HUIZEN (Holland)

160 kc/s (1,875 m.); 8.5 kW.
9.10—10.10 a.m.—Religious Programme by the Christian Radio Society (N.C.R.V.).
10.10—5.40 p.m.—Programme of the Catholic Radio Society (K.R.O.). 10.10 a.m.—Gramophone Records of Light Music. 10.40—Mass from the Capucin Church at Tilburg. 12.25 p.m.—Talk: The Capucins in the Netherlands. 12.40—Sextet Concert. 2.20—Religious Instruction. 2.50—Literary Talk. 3.10—Concert by a Harp Ensemble. Rosa Spier (Harp). W. van Hoek (Flute), Fernando Zepparoni (Violin), Louis Oostdam (Viola), and C. van der Beek (Cello). Concerts royaux for Violin, Cello and Harp (Couperin). Quartet in D Major for Flute, Violin, Viola and Cello (Mozart). Suite for Flute, Violin and Harp (Goossens). Suite for Flute, Violin, Viola, Cello and Harp (d'Indy). Concert à cinq, for Flute, Violin, Viola, Cello and Harp (Jongen). 4.40—Programme for Invalids. 5.40—8.25—N.C.R.V. Programme. 5.40—Organ Recital. 6.30—Divine Service from a Church in Weesp. 8.25 till Close Down—K.R.O. Programme. 8.25—Relay of the Catholic May-Day Service from the Cathedral of St. John, at Bois-le-duc. 9.40—News Bulletin. 9.55—Talk on Spiritualism. 10.20—Gramophone Records of Light Music. 11.20—Epilogue by the Choir. 11.40 (approx.)—Close Down.

KALUNDBORG (Denmark)

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

KATOWICE (Poland)

734 kc/s (408 m.); 16 kW.
Transmits at intervals from 10.25 a.m. 5.45 p.m.—Orchestral Concert. 8.15—Concert of Popular Music. Soloist: Aniela Szlemianska. 9.50—Cello Recital by Emmanuel Feuermann. 11.0—Dance Music.

LAHTI (Finland)

167 kc/s (1,796 m.); 54 kW. Relayed by Helsinki, 815 kc/s (368.1 m.).
Transmits at intervals from 7.45 a.m. 11.0 a.m.—May Day Concert. 11.50—Weather and Time. 12 noon—Divine Service in Swedish, followed by Orchestral Concert. 5.10—Talk. 5.35—Recital of Songs. 5.50—Time and Weather. 6.10—Talk on History. 6.40—Vocal Quartet Recital. 7.0—“Old Heidelberg”—(Meyer-Foerster), followed by Dance Music from the Grand Hotel. 11.0 (approx.)—Close Down.

LANGENBERG (Germany)

Westdeutscher Rundfunk. 635 kc/s (473 m.); 60 kW.
Transmits at intervals from 7.0 a.m. (Hamburg Relay).
11.30 a.m.—See Leipzig. 12 noon—Talk: The Rising of the Silk-Weavers of Lyons in 1831. 12.25—Talk on Spitzbergen. 12.50—Talk by Hans Ebert: The Music of the Week. 1.0—Orchestral Concert, conducted by Eyssoldt. 2.30—German Shorthand Lesson. 2.50—Lesson in Chess. 3.25—Talk for Bee-keepers. 3.45—Talk on Music. 4.5—The World on Gramophone Records—May-Day Singing in West Germany. 4.30—Orchestral Concert conducted by Kühn. In the interval at 5.20—Relay of the Last Final of the West German Football Championship. 6.0—Talk: The Siebengebirge. 6.40—Talk: The Development of the Human Senses and Intellect. 7.0—See Berlin (Königs Wusterhausen). 7.50—Sports Notes. 8.0—See Berlin (Witzleben). In the interval at 10.15—News and Sports Notes. 12 midnight (approx.)—Close Down.

LEIPZIG (Germany)

1,157 kc/s (259 m.); 2 kW. Relayed by Dresden, 941 kc/s (319 m.).
Transmits at intervals from 6.0 a.m. 11.30 a.m.—“Bisher habt ihr nichts gebeten in meinen Namen.”—Cantata (Bach), by the Municipal and Gewandhaus Orchestras, the Choir

SUNDAY
continued

of St. Thomas' and Soloists. 12 noon—Talk: From Daumier to Käthe Kollwitz. 12.30 p.m.—Concert by the Leipzig Symphony Orchestra, conducted by Hilmar Weber. 2.30—Talk: The Week's Programmes. 2.50—Agricultural Notes. 3.0—Esperanto Lesson. 3.30—Report on the General Assembly (Landes-gemeinde) in Trogen, Appenzel, Switzerland. 4.30—5.30—The Dances by the Emde Dance Orchestra. 5.45—Reading from "Vor dem Fenster" (Georg Rendl). 6.15—Recital of May-Songs and Children's Songs by Elena Gerhardt. Spring Song (Mendelssohn). Barcarolle (Rubinstein). May Song (Beethoven). Komm lieber Mai (Mozart). Three Songs (Schubert): (a) Gott im Frühling, (b) Das Lied im Grünen, (c) Im Frühling. Two Songs (Palmgren): (a) Mairnacht, Op. 27, No. 4, (b) Abendstimmchen, Op. 47, No. 1. Two Songs (Schumann): (a) Erstes Grün, (b) Frühlingsnacht. Three Songs (Brahms): (a) An die Nachtigall, (b) Maienkätzchen, (c) Meine Liebe ist grün. Das war im ersten Lenzesstrahl (Tchaikovsky). Auf einer Wanderung (Hugo Wolf). An den Frühling (Grieg). 7.0—See Berlin (Königs Wusterhausen). 8.0—Topical Report. 8.15—Sports Talk. 8.20 till Close Down—See Berlin (Witzleben). 12 midnight (approx.)—Close Down.

8.0 a.m.—Review of the Paris Morning Press, relayed from Paris (Ecole Supérieure). 671 kc/s (447.1 m.). 12 noon—Relay from Paris (Ecole Supérieure). 7.15 p.m.—Sports Notes. 8.30—Election Results and Orchestral Concert. 2.0 a.m. (Monday)—Close Down.

MADRID (Spain)
Union Radio (EAJ7). 707 kc/s (424.3 m.); 2 kW.
9.0—10.30 a.m.—Topical Review. 3.0—4.30 p.m.—Chimes, Time, Theatre Notes and Variety Concert. 8.0—9.30—Chimes and Request Gramophone Concert.
10.30—Chimes, Time and Concert: Guitar Solos, Russian Songs by José Angerri (Baritone) and Pianoforte Solos by Margarita Albert. After the Programme, Dance Music. 1.0 a.m. (Monday)—Chimes and Close Down.

MILAN (Italy)
Ente Italiano Audizioni Radiofoniche. 905 kc/s (331.5 m.); 7 kW.
See Turin.

MORAVSKÁ-OSTRAVA (Czechoslovakia)
1,137 kc/s (263.8 m.); 11 kW.
Transmits at intervals from 6.30 a.m. 5.30 p.m.—See Prague. 8.5—See Bratislava. 10.35—Programme Announcements and Theatre Guide. 10.40—See Prague.

MOSCOW (Russia)
Trades Union. 230.1 kc/s (1,304 m.); 100 kW.
Transmits at intervals from 4.0 a.m. 8.0 a.m.—3.0 p.m.—The May Demonstration of Workers and Peasants, relayed from the Red Square. 8.0—10.0—Report on the 1st May Celebrations in French. 10.0 (approx.)—Close Down.

MUNICH (Germany)
563 kc/s (533 m.); 1.5 kW.
Relayed by Augsburg and Kaiserslautern, 536 kc/s (560 m.); and Nürnberg, 1,256 kc/s (239 m.). 10.0 a.m. (from Nürnberg)—Evangelical Service. 10.45—Chimes from Our Lady's Church. 11.0—Chamber

Music Concert with Introductory Talk by Dr. Ludwig Gerhäuser. 11.30—May-day Concert. Choral and Orchestral Selections and Recitations.
12.10 p.m.—Haydn Concert by the Station Orchestra, conducted by Hans Winter. 1.5—Time, Weather and Announcements. 1.15—Agricultural Talk. 1.35—Gramophone Variety Concert. 2.30—Chess for Beginners. 3.10—Programme for Women: "Maria im Mai." Selections for Speaker, Soprano, Violin, Flute and Children's Choir. 3.30—See Leipzig. 4.30—Violin and Pianoforte Recital.
5.5 (from Nürnberg)—Concert by the Mixed Choir of the Institute for the Blind. 5.30—Talk: Music, Song and Dance in Ancient Egypt. 6.0—Concert. Soloist: Guido Gialdini (Siffleur). 6.40—Programme for Workers. 7.0—Weather and Sports Notes.
7.10—Bavarian Literature in 1932—the Goethe Year. Foreword by Thomas Mann, and Readings from their own Works by W. E. Süskind, Manfred Sturmann and Josef Ponten. 8.0—See Berlin (Witzleben). 10.20—Time, Weather and News.
10.45—Orchestral Concert, conducted by Erich Kloss.

OSLO (Norway)
Kringkastingselskapet. 277 kc/s (1,083 m.); 60 kW. Relayed by Fredrikstad, 816 kc/s (367.6 m.); Hamar, 536 kc/s (560 m.); Notodden, 671 kc/s (447.1 m.); Porsgrunn, 662 kc/s (453.2 m.); and Rjukan, 671 kc/s (447.1 m.).
10.30 a.m.—Dedication of the New Church at Volda by Bishop Fleischer, relayed from Aalesund, 671 kc/s (447.1 m.). 5.0 p.m.—Pianoforte Recital by Mary Barrat Due. 5.30—Talk (to be announced). 6.0—Concert by the Haaland Orchestra, conducted by Ingebrigt Haaland. Soloist: Willy Johansen (Violin). 7.0—Parliamentary Review. 7.15—Weather Forecast and News Bulletin. 7.30—Song Recital by M. Reidar Kaas. 8.0—Time Signal. 8.1—Programme for Workers. 9.40—Weather and News Bulletin. 10.0—Topical Talk.

10.15—Concert by the Station Orchestra, conducted by Hugo Kramm. Festival Polonaise (Svendsen). International Suite (Tchaikovsky). Når fjordene blåner (Paulsen). Romance (Rubinstein). Potpourri (Rechtenwald).
11.0—Dance Music on Gramophone Records. 12 midnight (approx.)—Close Down.

PALERMO (Italy)
Ente Italiano Audizioni Radiofoniche. 554 kc/s (542 m.); 3 kW.
10.40 a.m.—Sacred Music. 11.5—Agricultural Report. 12.45 p.m.—Giornale Radio. 1.0—2.0—Concert of Light Music. In the interval at 1.30—Time, Announcements and Weather.
5.30—6.30—Light Music and Dance Music relayed from the Olympia Tea-Room. Sports Notes in the intervals. 8.0—Announcements and Giornale Radio. 8.20—Sports Notes. 8.25—Light Music on Gramophone Records. In the interval at 8.30—Time Signal and News Bulletin.

8.45—Symphony Concert conducted by A. La Rosa Parodi. Overture, "Le baruffe chiozzotte" (Sinigaglia). Symphonic Variations (Eigar). Talk on Art by G. Maggiorani. Overture, "Le donne curiose" (Wolf-Ferrari). Selections from "El amor hrujo" (Falla). Largo (Guiseppe Mulè). Dances from "Prince Igor" (Borodini). After the Programme, Theatre Notes and Programme of Songs. 10.55—News Bulletin.

PARIS (France)
Eiffel Tower (FLE). 207.5 kc/s (1,445.7 m.); 13 kW.
Time Signals (on 2,650 m.) at 10.26 a.m. and 11.26 p.m. (preliminary and 6-dot signals). 1.0 p.m.—News Bulletin. 1.10—Weather Forecast.
1.20—Symphony Concert conducted by Edouard Flament. Soloists: M. Bruniau (Clarinet), M. Flament (Pianoforte) and M. Manouvrier (Flute). Rhapsody in Blue for Clarinet and Pianoforte (Gershwin). Andante quasi lento from the Quintet for Flute and Strings (E. Flament). Selection from "La Vie Parisienne" (Offenbach-)

Chapelier). Waltz: Wine, Woman and Song (Joh. Strauss). 6.45—Le Journal Parlé. 7.45—Programme for Children. 8.20—Weather Forecast. 8.30—Gramophone Concert of Italian Opera Music and Light Music. 10.0 (approx.)—Close Down.

PARIS (France)
Poste Parisien. 914 kc/s (328.2 m.); 1.2 kW.
12 noon—Gramophone Records, News and Announcements. 12.15 p.m.—Light Music on Gramophone Records. 1.45—News and Announcements. 2.0—6.45—Interval. 6.45—News and Announcements. 7.0—Gramophone Records, Talk and News. 7.30—Concert of Popular Music on Gramophone Records. 8.30—Gramophone Records, Talks and News. 8.45—Vocal and Orchestral Concert, Prelude to "Le Chemineau" (Leroux). Waltz, Du und Du (Johann Strauss). Chants russes, for Cello and Orchestra (Lalo). "Peer Gynt" Suite (Grieg): (a) Morning, (b) Anitra's Dance, (c) Death of Aase, (d) In the Hall of the Mountain King, Sérénade à Mabel from "Scènes écossaises" (Godard). Ballet Music from "La Cigale" (Massenet). Selections from "Children's Corner" (Debussy): (a) Jimbo's Lullaby, (b) The Snow is dancing, (c) Doctor Gradus ad Parnassum. Waltz, Liebeshieder (Brahms). Ronde française (Boëllmann). 10.45—News Bulletin. 10.50 (approx.)—Close Down.

PARIS (France)
Radio-Paris (CFR). 174 kc/s (1,725 m.); 75 kW.
7.45 a.m.—Gramophone Records. Selection from "Dédé" (Christiné). Selection from "Le Chemin du Paradis" (Heymann). 8.0—News, Weather and Press Review. 8.30—Physical Culture Lesson. 10.20—Book-keeping Lesson. 10.40—Spanish Lesson. 12 noon—Religious Address by the Reverend Father Dassonville. 12.20 p.m.—Sacred Music. Andante from the Symphony No. 4 (Widor). Fantasia in G Minor (Bach). 12.30—Billboquet. 12.45—Press Review, News and Weather. 1.0—Variety Music on Gramophone

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SUNDAY
continued

Records. 1.30—Popular Gramophone Concert. 2.0—Concert of Decca Records. 6.45—Variety Concert on Gramophone Records. 7.45—Radio Paris Circus. 8.15—News, Sports Notes, Press Review and Weather Report. 8.30—Variety Music on Gramophone Records. 9.15—Press Review and News. 9.30—Popular Concert — "Through Europe."

POZNAŃ (Poland)

896 kc/s (335 m.); 1.9 kW. Transmits at intervals from 10.15 a.m. 7.0 p.m.—Miscellaneous Items and Announcements. 7.15—Light Music on Gramophone Records. 7.45—10.40—See Warsaw. 10.40—Sports Notes and Police Report. 10.50—Dance Music relayed from the "Esplanade" Café. 12 midnight (approx.)—Close Down.

PRAGUE (Czechoslovakia)

614 kc/s (488.6 m.); 120 kW. Transmits at intervals from 6.30 a.m. 10.30 a.m.—Programme in Honour of Anton Dvorak. Mass (Suk) by the Krizkovsky Male Voice Choir and the Teachers' Choir and Orchestra. 11.0—Dvorak Concert. 12 noon—Chimes. 12.5 p.m.—Variety Concert. 1.5—Agricultural Report. 1.35—Agricultural Report from Brno. 1.50—Talk: Social Institutions. 3.30—Choral Concert. 4.0—Concert, relayed from the Josefovsky Restaurant, Brno. 5.30—Programme Notes. 6.15—German Transmission—Literary Programme. 7.0—Concert by the Typographia Choral Society. 8.0—Announcements. 8.5—See Bratislava. 9.0 (in the interval)—Time and News. 10.35—Miscellaneous Announcements. 10.40—Variety Music on Gramophone Records.

RADIO-SUISSE ROMANDE (SOTTENS) (Switzerland)

743 kc/s (403 m.); 25 kW.; Lausanne, 442 kc/s (680 m.); and Geneva, 395 kc/s (766 m.). 9.45 a.m. (from Lausanne)—Protestant Service Relay. 11.0 (from Lausanne)—Light Music on Gramophone Records. 12.30 p.m.—Weather Forecast and News Bulletin. 12.40—Concert by the Station Orchestra, conducted by Fernand Clossett. 2.0—3.30—Interval. 5.30—Orchestral Concert. 6.30 (from Fribourg)—Religious Address and Sacred Songs. 7.25 (from Lausanne)—Sports Notes. 7.30—Programme for the Festival of Lehouat: (a) Concert from Lausanne, (b) Talk from Geneva. 8.30—Concert by the Station Orchestra, with Interludes by Mme. Camille Fournier of the Comedy Theatre. 10.0—Weather and News Bulletin. 10.15 (approx.)—Close Down.

RIGA (Latvia)

572 kc/s (525 m.); 15 kW. Transmits at intervals from 9.0 a.m. 5.30 p.m.—Choral Concert of Latvian Songs. 6.0—Agricultural Talk. 6.30—Programme on the occasion of the Twelfth Anniversary of the Constitutional Assembly of Latvia: Talk by Spricis Paegle, and Vocal and Orchestral Concert of Popular Latvian Music. 8.0—News Bulletin. 8.20—Orchestral Concert. Selections from (a) "Pique Dame" (Suppe), (b) "Berlin wie es lacht und weint" (Conradi), (c) "Lysistrata" (Lincke), (d) "Die schone Galathee" (Suppe), (e) "Orpheus in the Underworld" (Offenbach), and (f) "Flotte Bursche" (Suppe). 9.0—Weather and News. 9.35—Old Dance Music. 10.0—Modern Dance Music. 11.0 (approx.)—Close Down.

ROME (Italy)

Ente Italiano Audizioni Radiofoniche (IRO). 680 kc/s (441 m.); 50 kW. Relay by Naples, 941 kc/s (319 m.), and 2RO, 11,810 kc/s (25.4 m.). 9.45 a.m.—Agricultural Notes. 10.0—Bible Reading. 10.15—Gramophone Records of Sacred Music. 10.45—Sports Notes and Amusement Guide. 11.0—Talk: Dante's Rome, relayed from the "House of Dante." 12.30 p.m.—Concert of Light Music. 1.30—Time and Announcements. 4.15 (from Naples)—Programme for Children, Weather and Sports Notes. 5.0—Symphony Concert or Concert of Chamber Music. Sports Notes in the interval. 7.25 (from Naples)—Shipping. 7.30—Football Results, Announcements and News. 8.0—Time, Announcements and Gramophone Records of Variety Music. 8.30—Sports Review.

8.45—Variety Concert. Soloists: Margherita Cossa (Soprano) and Tito Rosati (Cello). Prelude and Fugue (Bach). Soprano Solos: (a) Ah, perfido! (Beethoven), (b) Lia's Aria from "L'enfant prodigue" (Debussy). Marcia dei giullari (Peroni). 9.30—"Chiedo scaccia chiedo"—Comedy in One Act (Achille Torelli). 10.15—Concert (continued). Overture "The Bartered Bride" (Smetana), Cello Solos: (a) Elégie (Faure), (b) Scherzo (van Goens). Vocal and Instrumental Selections from "Cendrillon" (Massenet). 10.55—News Bulletin.

SCHENECTADY (U.S.A.)

General Electric Company (WGY). 790 kc/s (379.5 m.); 50 kW. Relay at intervals by W2XAF on 9,530 kc/s (31.48 m.) and by W2XAD on 15,340 kc/s (19.56 m.). Transmits at intervals from 1.0 p.m. 8.30 p.m.—6.0 a.m. (Monday)—New York Relay. 8.30—National Sunday Forum. 9.0—Musical Programme. 9.15—Jodent Programme. 9.30—Musical Programme. 10.30—General Electric Circle. 11.0—Catholic Hour. 11.30—Melody Trail. 12 midnight—L'Heure Exquisse. 12.15 a.m. (Monday)—Rexall Radio Party. 12.30—Orchestral Gems: 1.0—Chase and Sanborn Programme! 2.0—David Lawrence Talk. 2.15—American Album of Familiar Music. 2.45—The Buick Revellers. 3.0—Musings. 3.15—Talk: "What would You do?" 3.20—National Oratorio Society. 3.45—Sunday at Seth Parker's. 4.15—Ralph Kirbery, the dream singer. 4.30—Jesse Crawford (Organ). 5.0—Palais d'Or Orchestra. 5.30—New Kenmore Orchestra. 6.0 (approx.)—Close Down.

SCHWEIZERISCHER LANDESENDER (BEROMÜNSTER) (Switzerland)

653 kc/s (459 m.); 60 kW.; Basle, 1,220 kc/s (244.1 m.); and Berne, 1,220 kc/s (246 m.). 10.30 a.m. (from Berne)—Protestant Address. 11.15 (from Berne)—Concert of March Music by the Hägen-dorfer Musical Society, conducted by M. Jaeggi. 11.50 (approx.)—Choral Concert on Gramophone Records. 12.28 p.m.—Time Signal and Weather Forecast. 12.30—News Bulletin. 12.40—Concert by the Station Orchestra. 1.45—3.0—Interval. 3.0 (from Berne)—Humorous Reading. 3.25 (from Berne)—Concert by the Berne Mandoline Orchestra from the Works of Richard Amon. 4.30—Song Recital by Franz Volker on Gramophone Records. 5.0—Dance Music on Gramophone Records. 5.30—6.30—Interval. 6.30 (from Berne)—Reading: "The Legend of the Glacier Giant in the Bernese Oberland" (Jegerlehner). 7.0—Music of the Vintage on Gramophone Records. 7.25—Sports Notes. 7.28—Time Signal and Weather Forecast. 7.30 (from Berne)—Talk: The Improvement in the Economic and Social Position of the Worker during the Last Fifty Years. 8.0 (from Zürich)—Choral and Orchestral Concert. The Tramways' Choral Society, conducted by Rudolf Schoch. The Wireless Orchestra, conducted by Erwin Gilbert. Soloist: Vera Liessem (Recitations). 9.15—Concert of Popular Music by the Station Orchestra, conducted by Erwin Gilbert. 10.0—Weather Forecast, News and Sports Notes. 10.15 (approx.)—Close Down.

STOCKHOLM (Sweden)

Radiotjänst (SASA). 680 kc/s (436 m.); 55 kW. Relay by Baden, 244 kc/s (1,229.5 m.); Göteborg, 932 kc/s (322 m.); Hörby, 1,166 kc/s (257 m.); Motala, 222.5 kc/s (1,348 m.); Östersund, 389 kc/s (770 m.); and Sundsvall, 554 kc/s (542 m.). 10.30 a.m.—Programme for Workers. 11.0—Divine Service. 12.45 p.m.—Weather Forecast. 12.55—Time Signal. 3.0—Talk in German: Austria in May. 3.20—Soloist Concert from Göteborg. 4.0—Programme for Children. 4.30—Reading. 5.0—Evensong, from Lund. 6.0—Recital of Student Songs, relayed from Malmö, 1,301 kc/s (231 m.). 6.45—Concert. Flute Solos: (a) Melody (Gluck), (b) Polonaise and Badinerie (Bach). Pianoforte Solos: (a) Böjesjäng (Alfvén), (b) Two Concert Etudes (Backer-Gröndahl). Flute Solo: Le Carnaval de Venise (Genin). 7.15—Weather and News. 7.30—Talk by Axel Ahlman. 8.0—Orchestral Concert. 9.15—A Play in One Act (Herbert Grevinus).

9.45—Weather and News. 10.0—Concert of Light Music. 11.0—(approx.)—Close Down.

STRASBOURG (France)

Radio-Strasbourg (P.T.T.). 869 kc/s (345 m.); 11.5 kW. 10.45 a.m.—Protestant Service. 11.30 a.m.—Catholic Service. 12 noon—Variety Music on Gramophone Records. 12.45 p.m.—News in French and German. 1.0—Time Signal. 1.2—Popular Gramophone Music. 2.0—Agricultural Talk in German. 2.15—Gramophone Dance Music. 3.45—Light Music on Gramophone Records. 4.30—Talk in German: Old and Modern Architecture in Alsace. 4.45—Agricultural Talk in French. 5.0—Dance Music. 6.0—Medical Talk in French. 6.15—Sports Notes. 6.20—Sports Talk in French. 6.30—Orchestral Concert conducted by Maurice de Villers. 7.30—Time Signal. 7.32—News in French and German. 7.45—Orchestral Concert conducted by Maurice de Villers. 8.30—Concert by the Augmented Municipal Orchestra and the St. William Choir conducted by Paul Bastide and Fritz Munch relayed from the Palais des Fêtes. Soloists: Maie. Vincent of Amsterdam (Soprano), Mme. Debonte (Contralto), M. Bauer of Geneva (Tenor) and M. Peter (Baritone). Part I. Overture, "Carnaval roman" (Berlioz). Symphonie fantastique (Berlioz). Part II. The Ninth Symphony (Beethoven). 10.30—Dance Music from the Savoy. 12 midnight (approx.)—Close Down.

STUTTGART (MÜHLACKER) (Germany)

Süddeutscher Rundfunk. 832 kc/s (360.5 m.); 60 kW. Relay by Freiburg, 527 kc/s (570 m.). Transmits at intervals from 6.15 a.m. (Hamburg Relay). 11.30 a.m.—See Leipzig. 12 noon—Historical March Potpourri on Gramophone Records. 1.0 p.m. (from Mannheim)—Topical Talk. 1.15—Aria and Duet Recital by Elisabeth Jentsch (Soprano) and Karl Jautz (Tenor). Soprano Solo: Aria from "Lakmé" (Delibes). Tenor Solo: The Dream from "Manon" (Massenet). Soprano Solo: Arietta from "Mirella" (Gounod). Tenor Solo: Aria from "Carmen" (Bizet). Duet from "Carmen" (Bizet). 1.45—Choral Concert, relayed from the Wilhelm Theatre. 2.30—Agricultural Talk. 3.0—Programme for Children. 3.30—Radio Report on the General Assembly (Landesgemeinde) at Trogen in the Canton of Appenzel, Switzerland. 4.30—6.0—See Frankfurt. 6.0—Authors' Programme—Jakob Schaffner. 6.25—Chamber Music by Ferdinand Merten (Cello) and Hans Brohme (Pianoforte). Sonata in F Sharp Minor, Op. 1 (Pfitzner). Sonata in F Major, Op. 6 (Richard Strauss). 7.25—Sports Notes. 7.35—"Minna von Barnhelm"—Comedy (Lessing), by the "Spielgemeinschaft des Westens," Berlin, under the direction of Willy Buschoff. Agnes Straub in the rôle of Minna. 9.0—Spring Concert by the Philharmonic Orchestra, conducted by Emil Kahn. Overture, Amid Nature (Dvorak). On hearing the First Cuckoo in Spring (Deliuss). Frühlingsbilder (Strisser). Good Friday Magic from "Parsifal" (Wagner). Overture, In the Springtime (Goldmark). 10.5 (from Freiburg)—Popular Viennese Music from the Works of Schrammel by the Vienna Schrammel-Quartet. March, Vienna-Berlin. Waltz, Weana Gmüat. Two Viennese Songs: (a) Der Frieden auf Erden, (b) S Herz von an echten Weana. March, Dornbacher Hetz. Waltz, Alt-Wienerisch. Viennese Song, Der Schwalbe Gruss. Two Marches: (a) Kunst und Natur, (b) Wiener Künstler. 10.35—News, Time and Announcements. 10.55—Dance Music from Berlin (Witzleben). 12 midnight (approx.)—Close Down.

TOULOUSE (France)

Radiophonie du Midi. 779 kc/s (385 m.); 8 kW. 12.30 p.m.—Catholic Service. 1.0—Overture, "William Tell" (Rossini). 1.15—Chansonnettes. 1.30—Agricultural Report. 1.45—Protestant Service. 5.0—Esperanto Lesson. 5.15—Military Music. 5.30—News Bulletin. 5.45—Symphony No. 34 in C (Mozart).

6.0—Songs from "Carmen" (Bizet) and "Cavalleria rusticana" (Mascagni). 6.15—Accordion Solos. 6.30—News Bulletin. 6.45—Concert of Operatic and Light Music. In the interval at 7.30—News. 8.15—Songs from (a) "La Bohème" (Puccini), (b) "L'enfant prodigue" (Debussy) and (c) "La Tosca" (Puccini). 8.30—Military Music. 8.45—Accordion Solos. 9.0—Light Music. 9.15—Dance Music. 9.30—Orchestral Selections from "Carmen" (Bizet) and "Louise" (Charpentier). 9.45—Selections by an Argentine Orchestra. 10.0—Orchestral Music and Songs. 10.30—News Bulletin. 10.45—Musical Programme. 11.0—Chansonnettes. 11.15—North African News. 11.30—Symphony No. 7 (Beethoven). 12 midnight—Weather, Announcements and Close Down.

TRIESTE (Italy)

Ente Italiano Audizioni Radiofoniche. 1,211 kc/s (247.7 m.); 10 kW. 9.40 a.m.—12.20 p.m.—See Turin. 12.20—German Lesson on Gramophone Records. 12.30—7.5—See Turin. 7.5—Quintet Concert. Overture, "Tutti in Maschera" (Pedrotti). Silvana (Gramantieri). Waltz, Wienerblut (Johann Strauss). Decidiamoci (Mariotti). Selection from "Cavalleria Rusticana" (Mascagni). Rosalba (Lavazza). Bionde santine (Cavaglia). 8.0 till Close Down—See Turin.

TURIN (Italy)

Ente Italiano Audizioni Radiofoniche. 1,096 kc/s (273.7 m.); 7 kW. Relay by Milan, 905 kc/s (331.5 m.); Florence, 599 kc/s (500.8 m.); and Genoa, 959 kc/s (312.8 m.). 9.40 a.m.—Giornale Radio. 9.55—Chimes and Missa Cantata from the Cathedral of San Giusto. 11.0—Religious Programme. 11.20—Agricultural Notes. 12.30 p.m.—Concert of Light Music. 1.0 (in an interval)—Time and Announcements. 4.0—Football Results. 4.10—Concert by the Turin Railway Band. In the intervals: Notes on Sport and Art. 5.40—Dance Music from the Fiaschetta Toscana. 6.15—Giornale Radio and Sports Notes. 6.25—Topical Review. 7.0—Football Report. 7.5—Announcements. 7.10—Musical Selections. 7.30—Time and Announcements. 7.31—Gramophone Records of Variety Music. 8.0—Giornale Radio and Sports Notes. 8.20—Concert of Light Music. 9.0—"I Puritani"—Opera in Three Acts (Bellini). In the intervals: Reading of Poems, Theatre Notes and Giornale Radio. News after the Programme.

VIENNA (Austria)

Radio-Wien. 581 kc/s (517 m.); 15 kW. Relay by Graz, 852 kc/s (352.1 m.); Innsbruck, 1,058 kc/s (283 m.); Klagenfurt, 662 kc/s (453.2 m.); Linz, 1,220 kc/s (246 m.); and Salzburg, 1,373 kc/s (218 m.). 9.25 a.m.—May-Day Festivities—a Report from the Tower of the Town Hall, followed by Fanfare and Call. 9.40—Work and the Joy of Life in Song—Concert by a Children's Choir. 10.5—Talk: The International Organisation of Work. 10.35—National Anthem by the Volkoper Choir. 10.40—Symphony Concert, conducted by Anton Webern. Soloist: Dr. Oscar Adler (Violin). 11.45—"Dances from Austria"—Concert by the Vienna Symphony Orchestra. March (Fux). Ochsenmuennt (Haydn). Mödlinger Tänz (Beethoven). German Dances (Schubert-Webern). Annen-Polka (Johann Strauss). Merry Marches (Krenek). Waltz from "Der Rosenkavalier" (Richard Strauss). Dances from Austria (Bittner). Polka and Waltz from "Der Taugenichts von Wien" (Salmhofer). Festlicher Marsch (Wellisz). 1.15 p.m.—Folk Song Recital by Hede Fischer (Soprano) and Fritz Lunzer (Bass). 3.0—Time and Announcements. 3.5—Readings of Topical Interest. 3.30—Chamber Music by the Mairecker Quartet. String Quartet in G Major, Op. 161 (Schubert). Italian Serenade (Hugo Wolf). 4.30—Talk: The May Day Festivities. 5.0—Orchestral Concert. March, Immer voran (Leopoldi). Overture, "Irrfahrt ums Glück" (Suppe). Kometen-Walzer (Zeller). Prelude to the Third Act of "Aschenbrödel" (Johann Strauss). Ro-

mance (Svendsen). Potpourri, Five O'Clock Tea with Robert Stolz (Dostal). Waltz, Weana Madln (Ziehrer). Song, Frauenaugen sind gefährlich (Strauss-Bittner-Korngold). Selection from "The Land of Smiles" (Lehár). Overture, "Frühlingsluft" (Josef Strauss-Reiterer). Arbeiterfestmarsch (Rey). 6.30—"The Song of Freedom"—Programme of Recitations and Songs. 6.55—Pianoforte Recital by Eduard Steuermann. 7.30—Time and Announcements. 7.40—"The Life of Mr. Fischer"—A History in Five Acts (Heinz Graumann). 10.0—News Bulletin. 10.15—Dance Music with Vocal Refrains.

WARSAW (Poland)

Polskie Radio. 212.5 kc/s (1,411 m.); 120 kW. 9.0 a.m.—Mass, and Organ Recital, relayed from Wilno, 533 kc/s (563 m.). 10.0—Easter Service, relayed from the Wallachian Church, Lódz. 11.58—Time Signal and Bugle Call from the Tower of St. Mary's Church, Cracow. 12.5 p.m.—Programme Announcements. 12.10—Weather Report. 12.15—Symphony Concert by the Warsaw Philharmonic Orchestra, conducted by F. Rybicki. Soloists: Mme. Korska (Soprano) and Alex. Wielhorsky (Pianoforte). Symphonic Poem, Phaeton (Saint-Saëns). Pianoforte Concerto in C Minor (Saint-Saëns). Songs: (a) Invitation au Voyage (Duparc), (b) Les Violettes (Dubois), (c) L'Attente (Saint-Saëns), (d) Aria from "Le Cid" (Massenet). Symphony in D Minor (Franck). 2.0—Agricultural Talk. 2.20—Relay from Lódz. 2.40—Talk: Hail—An Atmospheric Phenomenon. 3.0—Programme relayed from Lódz. 3.55—Programme for Children. 4.20—Light Music on Gramophone Records. 4.40—Talk: The Importance of China in the Feminine World. 4.55—Popular Music on Gramophone Records. 5.15—Talk: The Last of the Dzialynskys. 5.30—Talk on Language. 5.45—Concert by the Station Orchestra, conducted by Josef Ozminsky, André Kalinovsky (Clarinet), and Louis Urstein (Pianoforte). News in the Interval. 7.0—Miscellaneous Items. 7.25—Light Music on Gramophone Records. 7.40—Programme Announcements. 7.45—"The Old Husband"—Sketch (after Korzeniovsky). 8.15—Concert of Popular Music, by the Station Orchestra, conducted by Josef Ozminsky. Soloists: A. Szleminka (Soprano) and A. Bromte ("Trumpet). Overture, "Bajka" (Moniuszko). Trumpet Solo: Evening Song (Moniuszko), Mazurka from "The Siren" (Maliszewsky). Songs: (a) The Cuckoo (Moniuszko), (b) Vertevie (Moniuszko), (c) Popular Venetian Song (Troszel). Italian Ballet (Gabutti). Songs: (a) Popular Neapolitan Songs, (b) La Rosa (Mercadante). Ballet Suite, Nuit de Printemps (Chapuis). Songs: (a) Pourquoi dois-je être seule? (Saint-Saëns), (b) The Rose and the Nightingale (Rimsky-Korsakov). Two Dances from "The Demon" (Rubinstein). 9.55—Literary Programme: Reading from "The Flag on the Mast" (Ostrovsky). 9.50—Violoncello Recital by Emanuel Feuermann, with Pianoforte accompaniment by Louis Urstein. Sonata in A Minor for Cello and Pianoforte (Schubert). Kol Nidrei (Bruch). Allegro appassionato (Saint-Saëns). 10.40—Weather and Police Notes. 10.45—Sports Notes. 10.55—Interval. 11.0—Dance Music. 12 midnight (approx.)—Close Down.

WILNO (Poland)

533 kc/s (563 m.); 16 kW. Transmits at intervals from 9.0 a.m. 7.0 p.m.—Literary Programme. 7.20—Educational Talk. 7.40—Programme Announcements. 7.45—See Warsaw. 12 midnight (approx.)—Close Down.

ZAGREB (Yugoslavia)

977 kc/s (307 m.); 0.75 kW. 10.0 a.m.—Divine Service Relay and Sacred Music. 12 noon—Overtures and Opera Selections on Gramophone Records. 1.0—5.0 p.m.—Interval. 5.0—Dance Music on Gramophone Records. 6.30—7.30—Interval. 7.30—Announcements. 7.45—Talk: The Chinese Home and the Chinese Housewife. 8.5—Talk in connection with Radium Week. 8.30—Orchestral Concert. Soloist: Desider Halasz (Baritone). 10.30—News and Weather. 10.40—Dance Music. 11.0 (approx.)—Close Down.

MONDAY (May 2)

PRINCIPAL EVENTS

SYMPHONY CONCERTS

- 8.10 p.m. Radio Suisse Romande: Conductor, Ansermet.
- 8.50 " Huizen.
- 9.0 " Italian stations.

CONCERTS (Vocal and Instrumental)

- 7.20 p.m. Hamburg, Breslau: Weber programme.
- 7.40 " Budapest: Choir and Orchestra.
- 8.0 " Brussels No. 2 (9.0 p.m. No. 1): The new Radio Orchestra.
- 8.0 " Radio-Paris.
- 8.0 " Vienna: Vocal Duets with Orchestra.
- 8.15 " Copenhagen: Lange-Müller programme.
- 8.30 " Langenberg: Contemporary Sacred Choral Music.
- 9.0 " Schweizerischer Landessender: Operetta programme.
- 9.30 " Strasbourg.

OPERAS AND OPERETTAS

- 7.35 p.m. Munich: "La Bohème" (Puccini).
- 8.0 " Leipzig: "The Corregidor" (Wolf).
- 8.0 " Berlin (Witzleben): "Tiefland" (D'Albert).
- 8.0 " Stockholm, Oslo: "Carmen" (Bizet).
- 9.0 " Palermo: "Aida" (Verdi) (gram.).

CHAMBER MUSIC

- 8.10 p.m. Bucharest: Quartet, Op. 132 (Beethoven).
- 9.15 " Copenhagen: Quintet, Op. 77 (Dvorak).

TALK

- 9.0 p.m. Hamburg: "Humour in Shakespeare."

DANCE MUSIC

- 10.15 p.m. Vienna.

Spring on the Bergstrasse

On Monday, at 7.25, Paul Laven, the well-known FRANKFURT speaker, is giving a talk from the famous Bergstrasse, which will take the form of conversations with local foresters and innkeepers. They will be invited to give their impressions of the tourists and hikers of this and the last generations. The Bergstrasse, the road which skirts the hills of the Odenwald between Darmstadt, the capital of Hesse, and the romantic medieval University town of Heidelberg, is known as the flower-garden of



Desiré Defauw

Germany. Sheltered as it is between the Odenwald and the hills of the Palatinate on the other side of the Rhine Plain, the blossom appears here a fortnight earlier than in South Germany generally, and is already attracting its annual stream of visitors.

Brussels' New Orchestras

For the augmented programmes which the BRUSSELS stations are now to give, a reorganisation of the orchestra and the creation of a new one have been necessary. The new orchestra, which is to make its two-fold debut this evening—at 8 o'clock from BRUSSELS No. 2 and at 9 o'clock from No. 1—will be called the I.N.R. Radio Orchestra. Its task will be light music, both of the symphonic and operetta order, and it will take charge of such programmes as selections, the music of sound films, and dance music. It is composed of twenty-six players, and the instruments include a trio of saxophones and all the modern components of jazz bands. Its conductors are to be M. Franz André, whose portrait we give here, and M. Charles Walpot. The usual orchestral programmes will be in the hands of the Symphony Orchestra, which consists of forty players, but for the more important symphony concerts it is to be augmented to sixty-five musicians, and they will play only under the direction of M. Desiré Defauw, the artistic Director at Brussels and a conductor who is well-known beyond the frontiers of Belgium. The first appearance of the new augmented Symphony Orchestra is set down for Wednesday; both BRUSSELS stations will broadcast its programme that evening.



Franz André

NATIONAL

- | | kc/s | m. | kW. |
|-----------|-------|---------|-----|
| London: | 1,148 | 261.3 | 50 |
| Daventry: | 193 | 1,554.4 | 30 |
| Northern: | 995 | 301.5 | 50 |
- 10.15 a.m.—The Daily Service.
 - 10.30—Time Signal (Greenwich), Shipping Forecast.
 - 10.45—"Off the Shelf"—I. Miss A. S. Cooke (County Librarian for Kent).
 - 11.0—11.5—Housewives' News.
 - 12 noon—A Light Classical Concert. Georgie Henschel (Soprano). The Serre Trio.
 - 12.45 p.m.—The Commodore Grand Orchestra, directed by Joseph Muscant.
 - 1.0—Time Signal (Greenwich).
 - 2.0—Gramophone Records.
 - 2.25—Reception Test.
 - 2.30—3.0—World History. Mr. J. A. White: "Empires, Movements, and Nations—III, France."
 - 3.45—Sonata Recital. Elsie Owen (Violin). Kathleen Thomson (Pianoforte).
 - 4.15—Moschetto and his Orchestra.
 - 4.45—Time Signal (Greenwich).
 - 5.15 (Daventry)—The Children's Hour.
 - 5.15 (London and Northern)—The B.B.C. Dance Orchestra, directed by Henry Hall.
 - 6.0—"The First News."
 - 6.30—Time Signal (Greenwich).
 - 6.30—The Foundations of Music. Schumann Quartets, played by The Kutchner String Quartet.
 - 6.50—"New Books." Miss V. Sackville-West.
 - 7.10—7.25—Topical Talk.
 - 7.30—"Music, Old and New"—IV. Mr. Victor Hely-Hutchinson.
 - 8.0—A Programme by The Wisbech Male Choir.
 - 8.30—"Dr. Abernethy—His Book." A Play in One Act, by Alicia Ramsey and Rudolph de Cordova. Adapted by Dulcima Glasby. Produced by Howard Rose.
 - 9.25—"The Unknown Island"—XVII. Mr. S. P. B. Mais.
 - 9.40—An Orchestral Concert. Kate Winter (Soprano). The B.B.C. Orchestra (Section E), conducted by Percy Pitt.
 - 11.0—12 midnight—Dance Music.
 - 11.30—Time Signal (Greenwich).

REGIONAL

- | | kc/s | m. | kW. |
|-----------|------|-------|-----|
| London: | 842 | 356.3 | 50 |
| Midland: | 752 | 398.9 | 25 |
| Northern: | 626 | 479.2 | 50 |
- 10.15 a.m. (London and Northern)—The Daily Service.
 - 10.30—11.5 (London and Northern)—Daventry National Programme.
 - 11.30—12 noon (London)—Experimental Television Transmission (Baird Process).
 - 12 noon—Ernest Parsons and his Orchestra.
 - 1.0 p.m.—Reginald New at the Organ.
 - 1.45—3.0—The Midland Studio Orchestra. Frances Bond (Mezzo-Soprano).
 - 3.45 (London and Northern)—Daventry National Programme.
 - 5.15—"The Children's Hour."
 - 6.0—"The First News."
 - 6.30 (London)—The B.B.C. Orchestra (Section D), conducted by B. Walton O'Donnell. Hilda Dederich (Pianoforte).
 - 6.30 (Midland)—The Midland Studio Chorus.
 - 6.30 (Northern)—A Military Band Concert. The Band of H.M. Royal Corps of Signals. Booth Unwin (Bass).
 - 6.45 (Midland)—The Regional Director's Monthly Talk: "Coming Events."
 - 7.0 (Midland)—A Band Concert. The Creswell Colliery Band.
 - 8.0 (London)—The Erhart String Chamber Orchestra. Conductor, Dorothy Erhart. Arnold Matters (Baritone). Charles Souper (Flute). Julia Wolfe (Harp).
 - 8.0 (Midland)—An Orchestral and Ballad Programme. The Midland Studio Orchestra. Charles Dean (Baritone).
 - 8.0 (Northern)—The Rev. E. C. Tanton: "Literary Tours of the North."
 - 8.20 (Northern)—The Studio Orchestra. Arthur Dixon (Entertainer).
 - 9.15—Vaudeville. A Special Vaudeville Programme of Street Pavement Artists.
 - 10.15—"The Second News."
 - 10.35—11.0 (Midland)—As London.
 - 10.35—12 midnight (London and Northern)—Dance Music.

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

ALGIERS (N. Africa)

- 825.3 kc/s (363.3 m.); 13 kW.
Transmits at intervals from 12.30 p.m.
- 7.0 p.m.—Violin and Pianoforte Solos. Canzonetta (d'Ambrosio). Melody (Kreisler). Schottische (Beethoven).
 - 7.10—Financial Notes and Exchange Quotations. 7.20—Shipping Report and Weather Forecast. 7.25—Film Review. 7.35—Songs from Sound Films. 7.55—News and Time Signal.
 - 8.0—Concert by the Station Orchestra. Soloist: M. Tessier (Violin). Overture, "Tutti in maschera" (Pedrotti). Impressions provençales (Brun). Canzonetta (Godard). Ballet Music from "Isoline" (Messenger). Waltz, A la Française (Wohanka). Violin Solo: Ronde des Lutins (Bazzini). En vue d'Alger (Saint-Saëns). French Military March (Saint-Saëns). Masques et Bergamasques (Fauré).
 - 9.15—Airs from "La Basoche"—Operetta (Messenger). 9.30—Dance Music, relayed from the Municipal Casino.

BARCELONA (Spain)

- Radio-Barcelona (EAJ). 860 kc/s (349 m.); 8 kW.
Transmits at intervals from 12 noon.
- 8.0 p.m.—Concert by the Station Trio. Overture, "Der Freischütz" (Weber). Nocturne No. 1 in B Flat, Op. 32 (Chopin). Silhouettes (Ewing).
 - 8.30—Exchange Quotations and Talk.
 - 9.0—Request Gramophone Records, Sports Notes and News. 10.0—Chimes and Weather. 10.5—Humorous Review of the Week's Events in Verse. 10.15—Concert of Sardanas.
 - 11.0—Orchestral Selections. Selection from "La Reina mora" (Serrano). Menuet des follets (Berlioz). Hungarian March (Berlioz).
 - 11.30—Choral Concert. 12.30 a.m. (Tuesday)—Dance Music from the Excelsior Dance Hall. 1.0 a.m. (approx.)—Close Down.

BELGRADE (Yugoslavia)

- 697 kc/s (430.4 m.); 2.5 kW.
Transmits at intervals from 11.0 a.m.
- 4.0 p.m.—Light Music on Gramophone Records. 5.0—Yugoslavian Melodies by the Privrednik Orchestra. 6.55—Time Signal and Programme Announcements. 7.0—Popular Music on Gramophone Records. 7.30—Yugoslavian Melodies by the Radio-jevic Orchestra.
 - 8.10—Selections from the Works of Davorin Jenko, for Soloists, Choir and Orchestra. 9.40—News and Sports Notes. 10.0—Relay of Foreign Stations.

BERLIN (Germany)

- Königs Wusterhausen. 183.5 kc/s (1,635 m.); 60 kW.
Transmits at intervals from 5.45 a.m.
- (Weather, Gymnastics and Concert from Witzleben).
 - 12.5 p.m.—Talk in English for Schools, followed by Gramophone Concert of May Music and Weather for Farmers.
 - 12.55—Nauen Time Signal. 1.30—News Bulletin. 2.0—"From Offenbach to Lehar"—I. Gramophone Concert, relayed from Berlin (Witzleben). 2.45—The Children's Radio Journal. 3.30—Weather Report and Exchange Quotations. 3.40—Talk for Young People: In a Collapsible Boat on the North Sea. 4.0—Talk: Photography as an Educational Factor. 4.30—See Berlin (Witzleben).
 - 5.30—Talk: South America in the Crisis. 6.0—Making Music with Invisible Partners. 6.30—Elementary Spanish Lesson. 6.55—Weather for Farmers. 7.0—Topical Talk. 7.20—Agricultural Talk. 7.35—Talk by Prof. Becker: My Travels in Eastern Asia.
 - 8.15—Programme from Frankfurt. Part Relay of a Military Band Concert, followed by a Radio Play. 10.30—See Berlin (Witzleben). 12.30 a.m. (Tuesday)—Close Down.

BERLIN (Germany)

- Witzleben. 715 kc/s (419.5 m.); 1.5 kW.
Transmits at intervals from 6.0 a.m.
- (Gymnastics and Concert from Breslau)
 - 4.30 p.m.—Recital of Modern Ocean Music. Prelude (Zoltan Kodaly). Passacaglia (Hugo Kauder).
 - 4.45—Recital of Læetæ Ballads by Gotthold Ditter (Bass-Baritone). Archibald Douglas. Kleiner Haus-

- Meeresritt. Prinz Eugen.
- 5.15—Sonata in C Sharp Minor, Op. 27, No. 2 (Beethoven). 5.30—Talk: Curing the Sports Fanatic. 5.50—Talk: Men and their Work—the Salesman. 6.10—Reading of Prose. 6.30—Talk: The Crisis and Social Accomplishments. 6.55—"The Witzleben Station informs its Listeners..." 7.0—Topical Talk.
- 7.10—Topical Programme. 7.30—Talk: The Inhabitants of the Ruhr. 7.55—Talk on the following transmission.
- 8.0—"Tiefland"—Opera in Two Acts and a Prelude (d'Albert), relayed from the Municipal Opera House, Charlottenburg. 10.30—News, followed by Radio Report on the Four Countries' Boxing Tournament in the Kaiserdamm Exhibition Hall (on Gramophone Records). After the Report, Dance Music from the Femina. 12.30 a.m. (Tuesday)—Close Down.

BORDEAUX-LAFAYETTE

- (France)
(PTT). 986 kc/s (304 m.); 13 kW.
Transmits at intervals from 12.45 p.m.
- 7.30 p.m.—News, Exchange and Market Prices. 7.40—Sports Notes. 7.55—Lottery Results. 8.0—Talk on Children. 8.15—Charades. 8.20—News and Weather Forecast. 8.30—Light Music on Gramophone Records.
 - 9.0—Concert of Classical and Modern Music. Soloists: M. Champell (Violin), M. Vigno (Vocalist), M. Beaudoin, M. Barouk (Cello), M. Grange (Pianoforte). Violin Solo: Polonaise (Wieniawsky). Songs: (a) Aria from "The Pearl Fishers," (b) Aria from "Der Freischütz" (Weber). Two Solos by M. Beaudoin: (a) Larghetto from the Ninth Quintet (Mozart), (b) Concertante Variations (Weber). Cello Solos: Two Pieces (Marcello-Salmon). Pianoforte Solos: Fantasia and First Movement from the Eighteenth Sonata (Mozart). Violin Solos: (a) Two Pieces (Bonnal), (b) Syncopation (Kreisler). Two Songs: (a) Si tu le veux (Koechlin), (b) Song from "Iphigénie en Tauride" (Glück). Solos by M. Beaudoin: (a) Three Pieces (Schumann), (b) Sarabande et Thème varié (Hahn). Two Cello Solos: (a) Suite for Cello (Bach), (b) Butterflies (Fauré). Two

MONDAY continued

Dressmaking 4.40—Programme for Invalids. 5.40—Concert. Mme. A. Zeller (Mezzo-Soprano), M. J. Middel-dorp (Violin and Oboe) and H. G. v. d. Berg (Pianoforte and Harmonium). Sonata No. 4 in D Major (Händel). Schläge doch (Bach). Toccata and Fugue in G Minor (Bach). Recitative and Aria from "Xerxes" (Händel). Concerto (Marcello). Pie Jesu (Fauré). Schlafendes Jesuskind (Wolf). Gebet (Wolf). Romance (Svendson). Deemstering (v. d. Berg). Avondbede (v. d. Berg). Pastorale from the Sonata for Oboe and Pianoforte (Saint-Saëns). Gebed des Heeren (Pomper). 7.10—The Letter Box. 8.10—Police Notes. 8.40—Special N.C.R.V. Transmission. 6.50—Orchestral Concert. Academic Festival Overture (Brahms). Five Tone Pictures (Reinecke). Rhapsody, Piet Hein (Anrooy). Four Paraphrases (Engels). 9.40—Talk. 10.10—Concert (cont'd). First Suite from "Carmen" (Bizet). Fantasia on Two French Melodies (Lekeu). Pastorale d'été (Honégger). L'Apprenti Sorcier (Dukas). In the interval at 10.40 (approx.)—News. 11.10—Gramophone Records of Light Music. 12.10 a.m. (Tuesday)—Close Down. KALUNDBORG (Denmark) Kalundborg Radio. 260 kc/s (1,153 m.); 7.5 kW. See Copenhagen. KATOWICE (Poland) 734 kc/s (408 m.); 16 kW. Transmits at intervals from 11.58 a.m. 4.20 p.m.—French Lesson. 5.35—Concert of Light Music followed by Relay from a Polish Station. 10.45—Dance Music. LAHTI (Finland) 167 kc/s (1,706 m.); 54 kW. Relayed by Helsinki, 815 kc/s (368.1 m.). Transmits at intervals from 7.30 a.m. 5.0 p.m.—Oboe Recital. Concerto for Oboe (Haydn). 5.20—German Lesson. 5.50—News in Finnish. 5.59—Time and Weather. 6.10—News in Swedish. 6.15—Agricultural Report. 6.30—Recital of Songs from the Works of Otto Kotlinnan. 6.45—Talk. 7.10—Musical Selections. 7.30—Talk on Finnish Music.

8.0—Concert of Finnish Music. Finnish Melodies (Pahlman). The First Waltz (Klemetti). Violin Solo: Reminiscences (Ikonen). Violin Solo: Canzonetta (Pesola). Saariistolaislauluja (Kauppi). Waltz, A Summer's Night (Merikanto). 8.45—News in Finnish and Swedish. LANGENBERG (Germany) Westdeutscher Rundfunk. 635 kc/s (473 m.); 60 kW. Transmits at intervals from 6.45 a.m. 11.20 a.m.—Gramophone Concert. Eysler Operetta Potpourri (Hruby). Two Waltzes: (a) Herbststimmung, (Lincke), (b) Pesoro miumung, (Becucci), by Edith Lorand and her Orchestra. Tenor Solo by Herbert Ernst Groh: Dir sing ich mein Lied (Lehár). Two Selections by Edith Lorand and her Orchestra: (a) Humoresque (Dvorak), (b) Czardas (Monti). Tenor Solo from "The Bird Fancier" (Zeller). Viennese Waltz, So küsst man nur in Wien (Abraham), by Magda Schneider, with Orchestral accompaniment. Potpourri, Ufaton-Bomben (Borchert) by Edith Lorand and her Orchestra. 12 noon—Concert from Stuttgart. 12.50—Weather News and Time. 1.0—Orchestral Concert, conducted by Eysoldt. Soloist: Hans Wocke (Baritone). Overture, "Oberon" (Weber). Ballet Scenes, from "Kassya" (Delibes). Baritone Solos (Grieg): (a) Herz-wunden, (b) Letzter Frühling. Scenes from "The Cricket on the Hearth" (Goldmark). Concert Waltz (Moszkovsky). Second Japanese Suite, From the Kingdom of the Sun (Yoshitomo). The Bells of St. Cyr (Schmalstich). Selection from "Der Orlov" (Granichstaedten). 2.30—Cattle Market Prices. 3.30—Economic Notes and Time Signal. 3.50—Programme for Young People. 4.20—Programme for Young People. 5.0—Chamber Music. 6.15—Talk for Women: German Women Overseas. 6.40—Astronomical Talk: The Stars in May. 7.0—Weather, Time, Economic and Sports Notes. 7.15—Topical Talk. 7.30—Legal Talk. 7.5—First News Bulletin. 8.0—Talk by Hans Ebert: From the Flute to the Kettledrum. 8.30—Concert of Modern Sacred

Choral Music by the Dörlemann Choir and Members of the Bochum Municipal Orchestra and the Station Orchestra, relayed from the Ernst-Moritz-Arndt House, Bochum. Conductor: Buschkötter. Soloists: Marianne Lutz, Elisabeth Schaefers (Soprano), Trude Rösler (Contralto), Karl Kromberg (Bass), Dela Die-richs and Egbert Grape (Pianoforte). "Tröstung"—Cantata for Three Choirs, Two Solo Voices and Small Orchestra (Roessling). Concert Music for Ten Wind Instruments, Two Harps and Solo Pianoforte (Hindemith). Choral Inventions in Two Parts for Choir, Three Solo Voices, Lute, Choir and Orchestra (Peeters). 10.0—News and Sports Notes. 10.45—See Munich. 12 midnight (approx.)—Close Down.

LEIPZIG (Germany) 1,157 kc/s (259 m.); 2 kW. Relayed by Dresden, 941 kc/s (319 m.). Transmits at intervals from 6.0 a.m. 6.0 p.m.—Review of New Books. 6.30—Reading: Alfred de Musset (Dr. Arno Schirokauer) on the Seventy-fifth Anniversary of de Musset's Death. 6.50—Talk on Wireless by Karl Minde. 7.0—"Annaberg"—a Radio Sketch (Rudolf Schuster) on the occasion of the Erzgebirge Festival of Music at Annaberg. 7.30—Talk: Reminiscences of the First Production of The Corregidor in Mannheim, and an Introduction to the Opera. 8.0—"The Corregidor"—Opera in Four Acts (Hugo Wolf). 10.15—News, followed by Concert by the Ende Orchestra. Item to be announced. Selection from "The Daughter of the Regiment" (Donizetti). Item to be announced. Song, Addio (Leoncavallo). Persian Scene, Am Ziehbrunnen (Rust). Wedding March from "A Midsummer Night's Dream" (Mendelssohn). Potpourri, Fünf-Uhr-Tea bei Robert Stolz (Dostal). Narcissus (Nevin). Zigeuner-Sehnsucht (Nicklass-Kemoner). March, König Karl (Un-rath). 12 midnight (approx.)—Close Down.

LJUBLJANA (Yugoslavia) 522 kc/s (574.7 m.); 2.5 kW. Transmits at intervals from 12.15 p.m. 6.0 p.m.—Quintet Concert. 7.0—Czech Lesson. 7.30—Talk on Hygiene. 8.0—Concert of Chamber Music. 9.0—Quintet Concert. 10.0—Time, News and Close Down. LWÓW (Poland) 788 kc/s (381 m.); 16 kW. Transmits at intervals from 11.45 a.m. 6.50 p.m.—Miscellaneous Items. 7.15—Talk. 7.30—See Warsaw. 7.35—Popular Music on Gramophone Records. 7.45—See Warsaw. 12 midnight (approx.)—Close Down. LYONS (France) La Doua (P.T.T.). 644 kc/s (465.8 m.); 1.5 kW. Transmits at intervals from 8.0 a.m. 7.0 p.m.—Popular Music on Gramophone Records. 7.30—Radio Gazette for Lyons and the South-East. 8.30—Sponsored Concert. MADRID (Spain) Union Radio (E.A.) 707 kc/s (424.3 m.); 2 kW. Transmits at intervals from 11.45 a.m. 8.0 p.m.—Chimes, Exchange, Market Prices and Request Gramophone Concert. 9.15—News Bulletin. 9.30 (approx.)—Close Down. MILAN (Italy) Ente Italiano Audizioni Radiofoniche. 905 kc/s (331.5 m.); 7 kW. See Turin. MORAVSKÁ-OSTRAVA (Czechoslovakia) 1,137 kc/s (263.8 m.); 11 kW. Transmits at intervals from 11.0 a.m. 7.0 p.m.—See Prague. 7.20—See Brno. 8.55—See Prague. 10.15—Programme Announcements and Theatre Guide. 10.20—See Bratislava. MOSCOW (Russia) Trades Union. 230.1 kc/s (1,304 m.); 100 kW. Transmits at intervals from 7.0 a.m. 7.0 a.m.—8.55 p.m.—Programme relayed from Komintern, 202.6 kc/s (1,481 m.); 100 kW. 6.0—Concert relayed from Leningrad. 8.0—German Transmission. Orchestral Concert and Speeches by the Dele-

gates. 9.0—English Transmission. Orchestral Concert and Speeches by the Delegates. 10.0 (approx.)—Close Down. MUNICH (Germany) 563 kc/s (533 m.); 1.5 kW. Relayed by Augsburg and Kaisers-lautern, 536 kc/s (560 m.); and Nürnberg, 1,256 kc/s (230 m.). Transmits at intervals from 6.45 a.m. 7.5 p.m.—Book Review. 7.20—Introductory Talk to the following Transmission. 7.35—"La Bohème"—Opera in Three Acts (Puccini), relayed from the National Theatre. 9.45—Reading. 10.20—Time, Weather and News. 10.45—Dance Music. 12 midnight (approx.)—Close Down. OSLO (Norway) Kringkastingsselskapet. 277 kc/s (1,083 m.); 60 kW. Relayed by Fredrikstad, 816 kc/s (367.6 m.); Hamar, 536 kc/s (560 m.); Notod-den, 671 kc/s (447.1 m.); Pors-grund, 662 kc/s (453.2 m.) and Rjukan, 671 kc/s (447.1 m.). Transmits at intervals from 11.10 a.m. 5.0 p.m.—Chamber Music by the Radio Ensemble. 6.0—German Lesson. 6.30—A Visit to a Slaughter-House. 7.0—Announcements, Weather, and News Bulletin. 7.30—Agricultural Talk. 8.0—Time Signal. 8.1—See Stockholm. In the intervals, Weather, News and Topical Talk. PALERMO (Italy) Ente Italiano Audizioni Radiofoniche. 554 kc/s (542 m.); 3 kW. Transmits at intervals from 12.45 p.m. 5.30—6.30 p.m.—Dance Music and Light Music from the Olympia Tea-Room. 8.0—Agricultural Notes, Report of the Royal Geographical Society and Giornale Radio. 8.20—Popular Music on Gramophone Records. 8.30—Time Signal, and News Bulletin. 9.0—"Aida"—Opera (Verdi), on Gramophone Records. In the intervals, Fashion Review and Talk. 10.55—News and Close Down. PARIS (France) Eiffel Tower (FLE). 207.5 kc/s (1,445.7 m.); 13 kW. Time Signals (on 2,650 m.) at 10.26 a.m. and 11.26 p.m. (preliminary and 6-dot signals). Transmits at intervals from 1.0 p.m.

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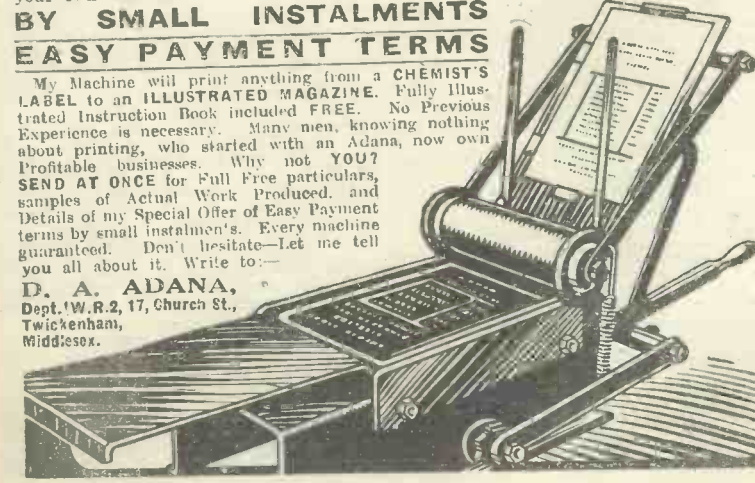
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MONDAY continued

6.45 p.m.—Film Review. 7.0—Le Journal Parle. 8.20—Weather Forecast. 8.30—Variety Programme. 9.35—Concert with Commentary by André Delacour. Soloists: Mme. Marie-Antoinette Fradier, Léon Zighera, Jules Lemaire and Berthe Erza. Allegro, Andante and Rondo from the Hungarian Trio (Haydn). Life is a Dream (Haydn). Arietta (Paisiello). La Calandrina (Jomelli). Pianoforte Solos: Waldszenen (Schumann). Three Songs (Schumann). 10.35 (approx.)—Close Down.

PARIS (France) Poste Parisien. 914 kc/s (328.2 m.); 1.2 kW. Transmits at intervals from 12 noon. 6.45 p.m.—News and Announcements. 7.0—Gramophone Records, Talks and News. 7.30—Concert of Popular Music on Gramophone Records. 8.30—Gramophone Records, Talk and News. 8.45—Vocal and Orchestral Concert. Overture, "Light Cavalry" (Suppé). Waltz, Abandon (Waldteufel). Selection from "The Czardas Princess" (Kálmán). Selection from "Pas sur la Bouche" (Yvain). Selection from "La belle Hélène" (Offenbach). Elegy (Rachmaninov). Selection from "Coups de Roulis" (Messager). Poursuivites (Bousquet). Marche miniature (Ganne).

PARIS (France) Radio-Paris (CFR). 174 kc/s (1,725 m.); 75 kW. 6.45 a.m.—Physical Culture Lesson. 7.0—Weather and Physical Culture (continued). 7.45—Gramophone Records. Sara-bande (Ferroud). Waltz, Donauwellen (Ivanovici). Selection from "The Quaker Girl" (Monckton). Selection (Lombardo). 8.0—News, Weather and Press Review. 12.30 p.m.—Gramophone Concert. Part I. Meyerbeer Programme on the Anniversary of his Death. Selections from "L'Africaine." Torch March. Selections from "Les Huguenots." Selection from "Dinorah." Selection from "The Prophet." Selection from "Robert le Diable." Part II. Opéra-Comique Music. Selections from "Carmen" (Bizet). Selection from "Ciboulette" (Hahn). Selection from "Tip Toes" (Gershwin). Selection from "The Czardas Princess" (Kálmán). Selection from "Les Mousquetaires au Couvent" (Varney). In the intervals, at 1.0—Exchange, News and Weather, and at 1.30 and 2.0—Exchange. 3.45—Exchange and Market Prices. 6.30—Market Prices, Weather, Agricultural Report and Racing Results. 7.0—Talk on Films: René Clair—a Great Director. 7.10—Book Review. 7.30—Elementary English Lesson. 7.45—Commercial Prices and News. 8.0—Concert given by the Ex-Servicemen's Musical Association. The Orchestra, conducted by Eugène Bigot. In the intervals at 8.30—News, Sports Notes, Weather and Review by Paul Reboux and at 9.15—Press Review and News.

POZNAŃ (Poland) 806 kc/s (335 m.); 1.9 kW. Transmits at intervals from 11.45 a.m. 6.50 p.m.—Miscellaneous Items and Announcements. 7.15—English Linguaphone Lesson. 7.30—Topical Talk. 7.45—10.35—See Warsaw. 10.35—Sports Notes and Police Report. 10.50 (approx.)—Close Down.

PRAGUE (Czechoslovakia) 614 kc/s (488.6 m.); 120 kW. Transmits at intervals from 11.0 a.m. 6.5 p.m.—Agricultural Report. 6.15—Talk for Workers. 6.25—German Transmission: News and Talks. 7.0—News Bulletin. 7.5—Music Review. 7.20—See Brno Programme. 8.55—News Bulletin. 9.0—Time and News. 9.15—Concert of Ruthenian Music by the Vozrozdjenje Choir conducted by Gustav Pechar. Part I. Sacred Songs. Part II. Folk Songs. 10.0—Time and News. 10.15—Announcements. 10.20—See Bratislava.

RADIO-SUISSE ROMANDE (SOTTENS) (Switzerland) 743 kc/s (403 m.); 25 kW.; Lausanne, 442 kc/s (680 m.); and Geneva, 395 kc/s (760 m.). 12.30 p.m.—Time Signal from Neuchâtel Observatory. 12.32—Weather Forecast and News Bulletin. 12.40—Orchestral Concert. 1.0—Exchange Quotations and Market Prices. 1.5—Concert (cont'd). 2.0—4.30—Interval. 4.30—Time Signal from Neuchâtel Observatory. 4.32 (from Geneva)—Orchestral Concert. 6.0

(from Lausanne)—Programme for Children. 6.30 (from Lausanne)—Light Music on Gramophone Records. 7.0—Weather Forecast. 7.1 (from Lausanne)—Gramophone Concert (cont'd). 7.15 (from Lausanne)—A Visit to the Printing Works of the Newspaper, Le Journal, on the Tenth Anniversary of its Foundation. 7.55—Announcements. 8.0 (from Geneva)—Pianoforte Solos: Waldszenen (Schumann). Three Songs (Schumann). 10.35 (approx.)—Close Down.

ROME (Italy) Ente Italiano Audizioni Radiofoniche (IRO). 680 kc/s (441 m.); 50 kW. Relayed by Naples, 941 kc/s (319 m.); and 2RO, 11,810 kc/s (25.4 m.). Transmits at intervals from 8.15 a.m. 12 noon—2.0 p.m.—Gramophone Concert of Variety Music. In the intervals: Weather, Giornale Radio, Exchange, Time and Announcements. 5.0—Exchange, Programme for Children, Giornale Radio and Announcements. 5.30—Concert conducted by Maestro Vincenzo di Donato, relayed from the Royal Philharmonic Academy. 6.15—Giornale dell'Enit. 6.55 (from Naples)—Shipping and Sports Notes. 7.0—Agricultural Notes, Weather, Announcements, Giornale Radio and Press Review. 8.0—Time and Announcements. 8.5—Gramophone Records of Variety Music. 8.45—Sports Notes and Announcements. 9.0—See Turin. 10.0—Fashion Review. 10.10—Concert of Light Music and Folk Music. March, Portabandiera (Mignone). Soprano Solos: (a) Suonno 'e fantasia (Capolongo), (b) 'A voce d' 'o mare (Sansanella). Waltz, Manola (Waldteufel). Tenor Solo: Torna Valente. Soprano Solo: Siente Mari' (Valente). Foxtrot, Giaccio bollente (Chant). Soprano Solos: (a) 'A infrancata (Lama), (b) O mare canta (Lama). Tango (Benatzky). Tenor Solo (Abraham). Soprano Solo: Canzone della neve (Mazzucchi). Foxtrot (Gifford). Soprano Solo: Passione hawayana (Lama). Tenor Solo: Donna Grazia (Ravasin). Onestep, Dolly (Simonetti). 10.55—News Bulletin.

SCHENECTADY (U.S.A.) General Electric Company (WGY). 790 kc/s (379.5 m.); 50 kW. Relayed at intervals by W2XAF on 9,530 kc/s (31.48 m.) and by W2XAD on 15,340 kc/s (19.56 m.). Transmits at intervals from 11.45 a.m. 8.30 p.m.—Woman's Radio Review from New York. 9.0—Book Chat. 9.15—Chester Vedder (Baritone). 9.30—Wrigley Programme from New York. 9.45—Musical Ad Men. 9.55—News Items. 10.0—Stock Reports and Police Notices. 10.15—1.0—New York Relay. 10.15—"Skipper." 10.30—Sweetheart Programme. 10.45—The Songsters. 11.0—DeWitt Clinton Orchestra. 11.30—Musical Weavers. 12 midnight (WGY only)—New Kenmore Orchestra. 12 midnight (W2XAF only)—Stock Reports and News Items. 12.30 a.m. (Tuesday)—4.0—New York Relay. 12.30—Prince Albert Quarter Hour. 12.45—Trials of the Goldbergs. 1.0—Soconyland Sketch. 1.30—Voice of Firestone. 2.0—A. and P. Gypsies. 2.30—Parade of the States. 3.0—National Radio Forum. 3.30—Mr. Bones and Company. 4.0—Arm-Chair Chats. 4.15—John Albright (Crooner). 4.30—DeWitt Clinton Orchestra. 5.0—Gordie Randall's Orchestra. 5.30—New Kenmore Orchestra. 6.0 (approx.)—Close Down.

SCHWEIZERISCHER LANDESENDER (BERO-MÜNSTER) (Switzerland) 653 kc/s (459 m.); 60 kW.; Basle, 1,229 kc/s (244.1 m.); and Berne, 1,220 kc/s (246 m.). 12.28 p.m.—Time Signal from the Neuchâtel Observatory. 12.30—Weather Forecast and News Bulletin. 12.40—Popular Music on Gramophone Records. 1.35—Weather Report and Exchange Quotations. 1.45—3.30—Interval. 3.30—Schubert Songs on Gramophone Records. 4.0—Concert by the Station Orchestra. 5.0 (from Zürich)—Programme for Children. 5.30—Weather Forecast. 5.35—6.30—Interval. 6.30—Popular Music on

Gramophone Records. 6.50 (from Berne)—Dialogue between a Peasant and a Teacher of Agriculture. 7.20 (from Berne)—Review of Memorable Events. 7.28—Time Signal and Weather Forecast. 7.40 (from Berne)—Reading from the Works of La Fontaine and Tœpffer. 8.0 (from Berne)—"Der treue Soldat"—Musical Play (Franz Schubert). 9.0—Opera Concert by the Station Orchestra. Soloists: Lucia Delsarta (Soprano), Marc-André Hugues (Tenor), and André von Diehl (Baritone). 10.0—Weather Forecast and News Bulletin. 10.15 (approx.)—Close Down.

STOCKHOLM (Sweden) Radiotjänst (SASA). 689 kc/s (436 m.); 55 kW. Relayed by Boden, 244 kc/s (1,229.5 m.); Göteborg, 932 kc/s (322 m.); Hörby, 1,166 kc/s (257 m.); Motala, 222.5 kc/s (1,348 m.); Östersund, 389 kc/s (770 m.); and Sundsvall, 554 kc/s (542 m.). Transmits at intervals from 7.20 a.m. (Gymnastics and Service). 5.0 p.m.—Recital of Accordion Music, with Reading of Tales. 5.45—Gramophone Records of Variety Music. 6.45—Elementary English Lesson, relayed from Jönköping, 1,490 kc/s (202 m.). 7.15—Weather and News. 7.30—Parliamentary Review. 7.50—Introductory Talk to the following Transmission. 8.0—"Carmen"—Opera in Four Acts (Bizet), relayed from the Royal Opera-House. 9.40 (in the interval)—Weather and News. 11.15 (approx.)—Close Down.

STRASBOURG (France) Radio-Strasbourg (PTT). 869 kc/s (345 m.); 11.5 kW. 9.30—9.45 a.m.—Tourist Report relayed from Rocamadour (Lot). 11.30—Gramophone Concert. Selections (Beethoven): (a) Quartet in G Major, (b) Ballad in G Minor. Selection (Morena). Fantasia, Islamey (Balakirev). Selections (Buxeuil): (a) Cœur de Jeanette, (b) Reviens au village. Extase (Ganne). Popular Song (Komzák). Selections (Ellenfeld): (a) Charlatan, (b) Cajoleuse. Amargura (Lucchesi). Alla va el caldo (Peppo-Rache). 12.45 p.m.—News in French and German. 1.0—Time Signal. 1.2—Gramophone Concert. Impressions de Damas (Kougel). Kermesse from "Faust" (Gounod). Valse poudrée (Popy). Granada (García). Potpourri of Russian Songs. Fugue in D (Marpeng). L'Hirondelle (Daquin). Gavotte (Bach). Allegretto (Clementi). From the Rhine to the Danube (Rhode). Cachadora (Loniuto). Garufa (Colazo). In the interval at 1.15—Tourist Report from Padirac (Lot). 2.0—4.45—Interval. 4.45—Talk in French: Goethe and France. 5.0—Orchestral Concert. March, Inter nos (Maré). Waltz, Nachtfalter (Lincke). A Musical Box (Nikolaievsky). Trio for Piano-forte, Violin and Cello: L'Addio (di Marco). Comedy Overture (Kéler-Béla). Fleur de Mai (Kalkman). Trio from "Sigurd" (Reyer-Alder). Serenade (Hollman). Complainte and Caravane from "Marouf" (Rabaud). Polonaise in A (Chopin). 6.0—Talk in French. 6.15—Topical Talk. 6.30—Gramophone Concert. Eine Kleine Nachtmusik (Mozart). Overture "Mignon" (Thomas). Arietta from "Romeo and Juliet" (Gounod). Ein Traum (Grieg). Selection from "Alceste" (Lully). Selection from "The Flying Dutchman" (Wagner). Selections (Chopin): (a) Mazurka No. 23, (b) Romance from the Concerto in E. Cœur brisé (Gillet). Erotica (Grieg). 7.30—Time Signal. 7.32—News in French and German. 7.45—Gramophone Concert of Light Music. 8.30—Tourist Report from Mauvs. 8.45—Orchestral Concert from the Works of the Alsatian Composer, Alphonse Gross. Overture, Per Aspera ad astra. Violin Solo: Intermede slave. Nocturne for Cello: Croquis Egyptiens. Scherzo du printemps. 9.30—Orchestral Concert. Prelude to "Pénélope" (Faure). Suite in Old Style (Block). Variations japonaises (Vidal). Prelude to the Third Act of "Monna Vanna" (Favrier). Ballet Music from "Naila" (Gaubert). 10.30 (approx.)—Close Down.

STUTTGART (MÜHL-ACKER) (Germany) Süddeutscher Rundfunk. 832 kc/s (360.5 m.); 60 kW. Relayed by Freiburg, 572 kc/s (570 m.). Transmits at intervals from 6.0 a.m. (Time, Weather and Gymnastics). 10.0 a.m.—Cinema Organ Recital from the Works of Russian Composers, relayed from the Palace Cinema. 10.30 (from Karlsruhe)—French Horn Quartet Concert. Eriksgang (Kretschmar). Leb wohl du goldige Aue (Knierer). Minuet (Knierer). Waldlied (Müller). Folk Song, Sandmännchen. Morgenständchen (Blumenstengel). Gretlein (Küken). Landsknecht-marsch (Steinitzer). 11.0—News, Time and Weather. 12 noon—Orchestral Concert, conducted by Gustav Görlich. Overture, "Titus" (Mozart). Rocco Suite (Ailbout). International Waltz Potpourri (Robrecht). Intermezzo, Wedding of the Mari-onettes (Kockert). Viennese Operetta Potpourri (Robrecht). 12.50—Time, News and Announcements. 1.0—Concert from Langenberg. 1.55—News Bulletin. 2.0—Sponsored Gramophone Concert. 2.30—Elementary Spanish Lesson. 3.0—Elementary English Lesson. 3.35 (from Freiburg)—Reading of Lyrics (Ludwig Freidrich Barthel), by Irmgard Giessler. 4.30—Talk on Stamp-collecting. 5.0—Concert from Munich. 6.15—Time and Agricultural Notes. 6.25—(from Mannheim)—Talk by an Architect: Cheap Houses. 6.50—10.30—See Frankfurt. In the interval at 7.15—Time and Weather. 10.30—News, Time and Announcements. 10.45—Elementary Chess Lesson. 11.10—Dance Music from Munich. 12 midnight (approx.)—Close Down.

TOULOUSE (France) Radiophonie du Midi. 779 kc/s (385 m.); 8 kW. Transmits at intervals from 12.45 p.m. 5.0 p.m.—Transmission of Pictures. 5.15—Hawaiian Guitar Solos. 5.30—News Bulletin. 5.45—Orchestral Concert. Prelude and Selection from "Fristan and Isold" (Wagner). Dancing Doll (Poldini). Serenata (Braga). Concert in A Minor for Organ and Orchestra (Bossi). The Modest Violet (Darcy). 6.15—Songs from "Siegfried" (Wagner), "La Juive" (Halevy) and "L'Africaine" (Meyerbeer). 6.30—News Bulletin. 6.45—Talk for Tourists. 7.0—Quartet in E Flat (Schubert). 7.15—Accordion Solos. 7.30—Gramophone Concert of Variety Music. 8.30—English Lesson. 8.35—News and Horse-Racing Results. 8.45—Orchestral Selection: Mascarade cortège (Lacôme). 9.0—Songs from "Louis XIV." (Péris-Van Parys): (a) Un tout petit baiser, (b) Quand on aime, (c) C'est avec des mots comme ça, (d) Henri, pourquoi n'aimes-tu pas les femmes? 9.15—Accordion Solos. Sentimentale (Vacher). Quelques mots d'amour (Peleumeule). Les Lilas (Dohel). Way down South (Myddleton). 9.30—Light Music. 9.45—Military Music. 10.0—Selections by an Argentine Orchestra. 10.15—Songs from (a) "La Bohème" (Puccini), (b) "Les Dragons de Villars" (Maillart), (c) "The Daughter of the Regiment" (Donizetti). 10.30—News Bulletin. 10.45—Orchestral Selections. Eglogue (Rabaud). Mosaik (Zimmer). 11.0—Concert. Selection from "The Barber of Seville" (Rossini). Aria from "The Marriage of Figaro" (Mozart). Danse macabre (Saint-Saëns). Selection from "Lakmé" (Delibes). Berceuse de Jocelyn (Godard). Souviens-toi (Borel-Clerc). The Blue Danube (Joh. Strauss). Séduction (Cazes). Ave Maria (Schubert). Embouteillage (Bach-Laverne). La Dacquoise (Darichen). 12 midnight—Weather, Announcements and Close Down.

TRIESTE (Italy) Ente Italiano Audizioni Radiofoniche. 1,211 kc/s (247.7 m.); 10 kW. Transmits at intervals from 8.15 a.m. 7.10 p.m.—Quintet Concert. 8.0 till Close Down.—See Turin.

TURIN (Italy) Ente Italiano Audizioni Radiofoniche. 1,096 kc/s (273.7 m.); 7 kW. Relayed by Milan, 905 kc/s (331.5 m.), Florence, 599 kc/s (500.8 m.) and Genoa, 959 kc/s (312.8 m.). Transmits at intervals from 8.15 a.m. 6.45 p.m.—Agricultural Notes and Report of the Royal Geographical Society. 7.5—Announcements. 7.10—Gramophone Records of Variety Music. 7.30 (in an interval)—Time

and Announcements. 8.0—Giornale Radio and Weather. 8.15—Concert. Intermezzo (Schmidt). Intermezzo from "L'Amico Fritz" (Mascagni). March (Kálmán). 9.0—Orchestral Concert conducted by Ugo Tansini, with Piatigorski ("Cello). 10.0—A Comedy in One Act. 11.0—Giornale Radio.

VIENNA (Austria) Radio-Wien. 581 kc/s (517 m.); 15 kW. Relayed by Graz, 852 kc/s (352.1 m.); Innsbruck, 1,058 kc/s (283 m.); Klagenfurt, 662 kc/s (453.2 m.); Linz, 1,220 kc/s (246 m.); and Salzburg, 1,373 kc/s (218 m.). Transmits at intervals from 9.20 a.m. 5.0 p.m.—Concert of Light Music by the Karl Haupt Orchestra. March (Lorenz). Waltz, Delirium (Josef Strauss). Overture, Lachen-des Leben (Rust). Selection from "The Rose of Stamboul" (Fall). Melody (Rachmaninov). Potpourri, Fahrende Musikanten (Schumann). Waltz, Mein Baden (Kernzak). Song, L'amour toujours l'amour (Friml). English Waltz (Gray). Six-Eight (May). 6.10—Talk: Education among Primitive Peoples. 6.35—Talk: Julius Langbehn—on the Twenty-fifth Anniversary of his Death. 6.55—Talk: Reference Books and Aids to the Week's Talk. 7.0—Notes on the Broadcasts for Schools. 7.5—English Lesson. 7.25—Time Signal, Weather Report and Programme Announcements. 7.35—Werner Bergengruen reads from his own Works; with Introductory Talk by Franz Spunda. 8.0—Concert by the Volksoper Orchestra, conducted by Oswald Kabasta. Soloists: Vera Schwarz (Soprano) and Joseph Schmidt (Tenor). Overture, "The Magic Flute" (Mozart). Tenor Solo: Air from "The Magic Flute" (Mozart). Introduction to Act II, and Soprano Solo from "Tannhäuser" (Wagner). Tenor Solo: The Stars were shining, from "La Tosca" (Puccini). Soprano Solo: Ernani, Ernani, involami, from "Ernani" (Verdi). Overture, "Sicilian Vespers" (Verdi). Soprano Solo: Aria from "Il Trovatore" (Verdi). Tenor Solo: Aria from "Carmen" (Bizet). Entr'actes to the Second and Third Acts of "Carmen" (Bizet). Tenor and Soprano Duet from "Carmen" (Bizet). Ballet Music from "Othello" (Verdi). Tenor Solo: Your Tiny Hand is frozen from "La Bohème" (Puccini). Soprano Solo from "La Tosca" (Puccini). Introduction to Act III of "Madame Butterfly" (Puccini). Duet from "Madame Butterfly" (Puccini). 10.0—News, Weather Report and Announcements. 10.15—Dance Music by the Charly Gaudriot Jazz Band, with Vocal Refrains by Leo Greiner.

WARSAW (Poland) Polskie Radio. 212.5 kc/s (1,411 m.); 120 kW. 11.20 a.m.—Aviation Weather Report. 11.25—Interval. 11.45—Press Review. 11.58—Time Signal and Bugle Call from the Tower of St. Mary's Church, Cracow. 12.5 p.m.—Programme Announcements. 12.10—Light Music on Gramophone Records. 1.20—Weather Report. 1.25—Interval. 1.35—Light Music on Gramophone Records. 1.55—Interval. 2.45—Popular Music on Gramophone Records. 3.5—Economic Report and Exchange Quotations. 3.15—Traffic Report. 3.25—Educational Programme. 3.45—Hydrographic Report. 3.50—Talk on Contemporary Poland. 4.10—Variety Music on Gramophone Records. 4.20—Elementary French Lesson. 4.40—Popular Music on Gramophone Records. 5.10—Talk: Four Constitutions. 5.35—Concert of Light Music. 6.50—Miscellaneous Items. 7.15—Agricultural News. 7.25—Programme Announcements. 7.30—Sports Notes. 7.35—Variety Music on Gramophone Records. 7.45—Radio Journal. 8.0—Talk on Music. 8.15—"The Dragon and the Princess"—Opera in Three Acts (Oscar Strauss). 10.15—Talk: The Prime of Life. 10.30—Radio Journal. 10.35—Weather and Police Notes. 10.40—Dance Music.

WILNO (Poland) 533 kc/s (563 m.); 16 kW. Transmits at intervals from 11.58 a.m. 7.0 p.m.—Talk: The Lithuanians in Prussia. 7.20—Humorous Programme. 7.35—Programme Announcements and Miscellaneous Items. 7.45—See Warsaw. 12 midnight (approx.)—Close Down.

TUESDAY (May 3)

PRINCIPAL EVENTS

SYMPHONY CONCERTS

- 8.0 p.m. Schweizerischer Landessender: The Zurich Tonhalle Concert, conducted by Abendroth.
- 8.30 " Strasbourg: "The Damnation of Faust" (Berlioz).
- 8.40 " Vienna: Goethe-Haydn programme.
- 9.10 " Berlin (Witzleben), Hamburg: Tchaikovsky-Prokofiev programme.

CONCERTS (Vocal and Instrumental)

- 8.5 p.m. Heilsberg: Meyer-Helmund programme
- 8.15 " Warsaw: Popular Polish Music.
- 10.30 " Copenhagen: French Suites.
- 10.45 " Hamburg, Königs Wusterhausen: "Maytime Concert."

OPERAS AND OPERETTAS

- 7.30 p.m. Bucharest: Relay from the Romanian opera.
- 8.0 " Frankfurt, Stuttgart: "Macbeth" (Verdi).
- 8.45 " Italian stations (Northern): "Hanshish" (operetta).

CHAMBER MUSIC

- 9.10 p.m. Munich: The Szanto Quartet.

RECITALS

- 4.40 p.m. Hilversum: Pianoforte.
- 8.45 " Rome: Violin (Serato).
- 9.30 " Radio-Suisse Romande: Violin duets.
- 10.10 " Warsaw: Moniuszko's Songs.

PLAYS

- 8.45 p.m. Radio-Paris: "La Chance de Francoise" (Porto-Riche).
- 9.45 " (approx.) Palermo: A Scene from "Cyrano de Bergerac" (Rostand).

MISCELLANEOUS

- 8.0 p.m. Radio-Paris: Variety programme.
- 8.45 " Langenberg: "Westphalian verse and song."

DANCE MUSIC

- 11.0 p.m. Copenhagen (till 12.30).

Professor Hermann Abendroth

A native of Frankfurt-am-Main, Professor Abendroth carried out most of his studies in Munich, and it was there that he had his first conducting post with the Society of the Friends of Music. That was in 1903, when he was only 20. From Munich he went to Lübeck as conductor of the concerts and



Hermann Abendroth

operas, and, after some years in a like post at Essen, he became Director of Music, and Principal of the Conservatoire, in Cologne. In 1918 he was made Generalmusikdirektor and a year later was given the title of Professor. In 1922 he had charge of the Lower Rhine Festival, and the Symphony Concerts of the Berlin State Opera are among the other big music-makings of which he has had control. He takes charge of the orchestra in this evening's programme from the SCHWEIZERISCHER LANDESENDER station.

The Damnation of Faust

Berlioz has left it on record himself that the story of *Faust* made a profound impression on him. He made its acquaintance first in a prose translation, with a few songs and shorter pieces in verse, by de Nerval, which appeared in Paris in 1827. He immediately set about composing music for parts of it, and as soon as three or four numbers were complete, he had them published at his own expense, before he had heard a note of his music played. He wrote, at that time, "my head is full of *Faust*; it is impossible for me to find a subject on which my imagination can exercise itself with greater advantage." His next idea was to make it the subject of a descriptive symphony, and then he thought of a ballet for the opera, on the same story. Neither of these projects was carried out, however, and instead he composed the *Eight Scenes from Faust*, which were published in 1829. The subject was in his mind, along with many others, for the next two decades, and the whole work as we know it now, with new numbers added to the original eight, did not appear until 1846. It is a much more serious and powerful setting of Goethe's impressive story than the other French form, which the whole world knows so well—Gounod's *Faust*—although it fails, as any partial setting of the great drama must always fail, to realise the profundity of its meaning, its mysticism and philosophy. But it gave Berlioz a splendid opportunity for displaying his astonishing power of dealing with big masses of choral and orchestral tone, and the work will always rank as one of his great achievements. STRASBOURG is to broadcast it at 8.30 this evening.

NATIONAL

	kc/s.	m.	kW.
London:	1,148	261.3	50
Daventry:	193	1,554.4	30
Northern:	995	301.5	50

- 10.15 a.m.—The Daily Service.
- 10.30—Time Signal (Greenwich).
- 10.45—11.0—"New Ways for Hard Times"—VIII.
- 12 noon—Reginald Foot at the Organ.
- 1.0 p.m.—Time Signal (Greenwich).
- 1.0—Leonardo Kemp and his Piccadilly Hotel Orchestra.
- 1.55—Experimental Transmission by the Futograph Process.
- 2.5—Nature Study. Mr. Eric Parker: "Round the Countryside."
- 3.0—Music. Sir Walford Davies.
- 3.35—French. Monsieur E. M. Stéphan: Early Stages in French.
- 4.0—The Scottish Studio Orchestra.
- 4.30—The Grosvenor House Orchestra, directed by Joseph Meeus.
- 4.45—Time Signal (Greenwich).
- 5.15 (Daventry)—The Children's Hour.
- 5.15 (London and Northern)—The B.B.C. Dance Orchestra.
- 6.0—"The First News."
- 6.30—Time Signal (Greenwich).
- 6.30—The Foundations of Music. Schumann Quartets, played by The Kutcher String Quartet.
- 6.50—French Talk. Monsieur E. M. Stéphan.
- 7.20—"Little Miss Make-Believe." A Radio Musical Comedy. Book and Additional Lyrics by Charles Brewer.
- 8.20—"Artists at Work"—IV. "Painting"—a Dialogue between Mr. Stanley Casson and Mr. Albert Rutherford.
- 9.0—Time Signal (Greenwich).
- 9.0—"The Second News."
- 9.20—Chamber Music. Geza Frid (Pianoforte). The Griller String Quartet: Sidney Griller (Violin), Jack O'Brien (Violin), Philip Burton (Viola), Colin Hampton (Violoncello): Quartet in D Minor, for Strings (Op. 46) (Voces intimae) (Sibelius). Geza Frid: Twelve Musical Caricatures (Geza Frid). Quartet: Quartet for Strings, No. VIII (Biscay) (McEwen).
- 10.35—12 midnight—Dance Music.

REGIONAL

	kc/s.	m.	kW.
London:	842	356.3	50
Midland:	752	398.9	25
Northern:	626	479.2	50

- 10.15 a.m. (London and Northern)—The Daily Service.
- 10.30—11.0 (London and Northern)—Daventry National Programme.
- 11.30—12 noon (London)—Experimental Television Transmission (Baird Process).
- 12 noon—A Ballad Concert. Jack Holgate and J. Arnold Holgate (Pianoforte Duets). Walter Firth Stuart (Baritone). Sydney Errington (Viola).
- 1.0 p.m.—Gramophone Records.
- 1.15—"The Manchester Tuesday Midday Society's Concert. Marie Dare (Violoncello), Heloise Russell Ferguson (Soprano).
- 2.0—3.0—The Midland Studio Orchestra.
- 4.0 (London)—Daventry National Programme.
- 4.0 (Northern)—Evensong. Relayed from York Minster, York.
- 5.15—The Children's Hour.
- 6.0—"The First News."
- 6.30—Regional Bulletin for Farmers.
- 6.35 (London)—The Victor Olof Sextet. Miete Muthesius (Soprano).
- 6.35 (Midland)—The Studio Orchestra. Miranda Sugden (Soprano), Lucy Vincent (Oboe).
- 6.35 (Northern)—Laddie Clarke's Imperial Hydro Hotel Orchestra.
- 7.40 (Northern)—Operatic Concert.
- 8.0 (London and Midland)—A Recital of Gramophone Records.
- 8.45 (London)—Sydney Baynes and his Orchestra.
- 8.45 (Midland)—A Military Band Programme.
- 9.15 (Northern)—The North Regional Director: "Our Summer Programmes."
- 9.30 (Northern)—Gramophone Records.
- 9.45—"Dr. Abernethy—His Book." A Play in One Act by Alicia Ramsey and Rudolph de Cordova. Adapted by Dulcima Glasby.
- 10.15—"The Second News."
- 10.35—11.0 (Midland)—As London.
- 10.35—12 midnight (London and Northern)—Dance Music.

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

ALGIERS (N. Africa)

825.3 kc/s (363.3 m.); 13 kW. Transmits at intervals from 12.30 p.m. 7.0 p.m.—Concert of Military Music. 7.15—Financial Report and Exchange Quotations. 7.25—Shipping Report and Weather Forecast. 7.30—Instrumental Concert. 7.55—News and Time Signal. 8.0—Talk on Old Algiers. 8.45—Pianoforte Solo: Preludes—First Book (Debussy). 9.0—Concert of Oriental Music. 9.55—Tourist Talk in English on Algeria. 10.0 (approx.)—Close Down.

BARCELONA (Spain)

Radio-Barcelona (EAJ1). 860 kc/s (349 m.); 8 kW. Transmits at intervals from 8.30 a.m. 8.0 p.m.—Concert by the Station Trio. Berceuse (Delmas). Selection from "The Twilight of the Gods" (Wagner). Aria from the Second Act of "Samson and Delilah" (Saint-Saens). Czardas (Michiels). 8.30—Exchange Quotations and Programme for Women. 9.0—Fortnightly Football Talk. 9.15—Request Gramophone Records and News Bulletin. 10.0—Chimes, Weather, Market Prices and Relay of Foreign Stations. 10.30—Dance Music. 11.0—Radio Gazette for Catalonia. 11.45—Orchestral Concert. The Unfinished Symphony (Schubert). Overture, Carnival (Dvorak). 12.15 a.m. (Wednesday)—Gramophone Records of Popular Music. 1.0 (approx.)—Close Down.

BELGRADE (Yugoslavia)

697 kc/s (430.4 m.); 2.5 kW. Transmits at intervals from 11.0 a.m. 4.0 p.m.—Light Music on Gramophone Records. 4.30—Concert by the Station Orchestra. Overture "Marinarella" (Fucik). Selection from "Der Obersteiger" (Zeller). Potpourri of Viennese Operettas (Hruby). 5.30—Gymnastics. 6.55—Time Signal and Programme Announcements. 7.0—Czech Lesson. 7.30—Beauty Hints. 8.10—Concert of Polish Music. Soloists: Fraulein Str-

kowska (Vocalist), Herr Andrija Hauser (Violin) and Dimitrije Gerasimenko (Pianoforte). Introductory Talk by the Polish Ambassador. 9.50—News and Sports Notes. 10.10 Popular Music on Gramophone Records.

BERLIN (Germany)

Königs Wusterhausen. 183.5 kc/s (1,635 m.); 60 kW. Transmits at intervals from 5.45 a.m. (Weather, Gymnastics and Concert from Witzleben). 12 noon—Weather for Farmers, followed by Gramophone Concert from the Works of Mozart and Schubert, and Second Weather for Farmers. 12.55 p.m.—Nauen Time Signal. 1.30—News Bulletin. 2.0—"From Offenbach to Lehár"—II. Gramophone Concert relayed from Berlin (Witzleben). 3.0—Programme of Fairy Tales for Children. 3.30—Weather Forecast and Exchange Quotations. 3.45—Talk for Women. 4.30—See Leipzig. 5.30—Talk: "The Bed of the Ocean." 6.0—We compose Tunes. 6.30—Advanced English Lesson. 6.55—Weather for Farmers. 7.0—Talk: "Thoughts of the Age—For and Against Vivisection." 7.40—See Vienna. 8.40—Music. Talk by Dr. Hoffmann-Harnisch. 9.0—10.35—See Berlin (Witzleben). 10.45—See Hamburg. 12.30 a.m. (approx.) (Wednesday)—Close Down.

BERLIN (Germany)

Witzleben. 715 kc/s (419.5 m.); 1.5 kW. Transmits at intervals from 6.0 a.m. 6.25 p.m.—Dialogue: Contemporary Problems of the Great Banks. 6.55—"The Witzleben Station informs its Listeners..." 7.0—Topical Talk. 7.10—Labour Market Report. 7.15—Concert of Light Music relayed from the Traube Weinrestaurant. 8.0—"The Life of Justinus Kerner"—Programme arranged by Felix Buttersack. 9.0—News Bulletin. 9.10—Pianoforte Concerto in B Flat Minor, Op. 23 (Tchaikovsky), by the Berlin Wireless Orchestra, conducted by Bruno Seidler-Winkler, and Alfred Hoehn (Pianoforte). 9.40—"The Third Symphony, Op. 44 (Prokofiev), by the Berlin Wireless Orchestra, conducted by Bruno Seidler Winkler. 10.20—Second News.

BRATISLAVA (Czechoslovakia)

1,076 kc/s (279 m.); 14 kW. Transmits at intervals from 11.0 a.m. 7.0 p.m.—Sec Prague. 7.5—Concert by the Topolciansky Male Voice Choir. 7.55—See Prague. 10.15—Programme Announcements. 10.20—Concert by a Cigány Band, relayed from the "Baross" Café.

BRESLAU (Germany)

923 kc/s (325 m.); 1.5 kW. Relayed by Gletwitz, 1,184 kc/s (253 m.). Transmits at intervals from 6.0 a.m. 6.15 p.m.—Talk: The Disarmament Conference at Geneva, April, 1932. 6.40—Talk: The German Language. 7.5—Weather Forecast. 7.10—Orchestral Concert, conducted by Bruno Janz. Selection from "The Tales of Hoffmann" (Offenbach-Morena). Overture, Hokus-Pokus (Leuschner). Selection from "Casparone" (Millocker). Magyar Estek (Aggházy). Helios-Marsch (Schicke). 7.50—Weather Forecast. 7.55—Talk: Pessimism and World-Weariness.

8.15—Operatic Concert, conducted by Carl Schmidt-Belden, relayed from the Concert House. Soloists: Hertha Böhike (Contralto), Erika Darbow (Soprano), Gretl Hütter (Soprano), Barbara Reitzner (Soprano), Benno Arnold (Tenor), Hans Hotter (Baritone), Harold Krawitt (Bass), Rudolf Streletz (Tenor) and Leo Weith (Bass). Overture, "Aecstis" (Gluck). Address. Recitative and Duet for Soprano and Contralto from "Orpheus" (Gluck). Baritone and Bass Duet from "Doctor and Apothecary" (v. Dittersdorf). Tenor Solo: Song from "The Sisters of Prague" (Müller). Trio for Soprano, Tenor and Baritone from "The Sisters of Prague" (Müller). Bass Solo: Aria from "Knight Roland" (Haydn). Prayer from "The Templar and the Jewess" (Marschner). Recitative and Duet from "Norma" (Bellini). Talk. Tenor Solo: Song at the Forge from "Siegfried" (Wagner). Baritone Solo: Aria from "Boris Godounov" (Moussorgsky). Waltz from "Der Rosenkavalier" (Richard Strauss).

TUESDAY continued

(Lehár). Barcelona March (Friedemann). 5.30—Weather and Time. 5.50—Economic Notes. 6.5—Talk for Women: The Care of the Convalescent Child. 6.30—French Lesson. 6.50—Talk (to be announced). 7.0—Talk for Young People. 7.30—Concert of German Operatic Music by the Leipzig Symphony Orchestra, conducted by Hilmar Weber. Entry of the Guests into the Wartburg from "Tannhäuser" (Wagner). Overture, "Zampa" (Hérold). Selection from "Hanneles Himmelfahrt" (Graener). Prelude to the Third Act of "Prince wider Willen" (Lohse). Selection from "Christelfein" (Pfitzner). 8.10—A Lyrical Radio Sequence from the Works of Arndt, Fichte, Goethe, Karl Hauptmann. Hebbel, Lagarde, Nietzsche, Novalis, Schlegelmacher and Stifter (arr. Hans Eichl). Music by Carl Reinecke and Richard Strauss. The Leipzig Symphony Orchestra, conducted by Hilmar Weber. 9.0—Economic Notes. 10.10—Concert from Berlin (Witzleben). 10.10—News Bulletin, followed by Fritz Reuter Recital with the Composer at the Pianoforte. Margarete Peiseler-Schmutzler (Soprano). Three Songs with Pianoforte accompaniment, Op. 2: (a) Matt giesst der Mond, (b) Gang durch die Nacht, (c) Der Fiedler. Two Songs from Brecht's Book of Family Prayers: (a) Vom Brot und dem Kindein, (b) Von der Freundlichkeit der Welt. Pianoforte Pieces and Variations. Songs for Soprano and Pianoforte: (a) So fern und so entlegen, (b) Nicht der Nachtigall und nicht der Lerche Lied, (c) Ich hatte so viel dir zu berichten, (d) Einen guten Freund hat's. 11.30 (approx.)—Close Down. LJUBLJANA (Yugoslavia) 522 kc/s (574.7 m.); 2.5 kW. Transmits at intervals from 11.30 a.m. 6.0 p.m.—Reading. 6.30—Quintet Concert. 7.30—German Lesson. 8.0—Talk on the History of Art. 8.30—Programme relayed from Belgrade. 10.30—Time, News and Close Down. LWÓW (Poland) 788 kc/s (381 m.); 16 kW. Transmits at intervals from 10.0 a.m.

7.0 p.m.—Miscellaneous Items. 7.25—Talk on Politics. 7.45—See Wilno. 8.15—See Warsaw. 12 midnight (approx.)—Close Down. LYONS (France) La Doua (PTI). 644 kc/s (465.8 m.); 1.5 kW. Transmits at intervals from 8.0 a.m. 7.0 p.m.—Concert by the Station Orchestra. 7.30—Radio Gazette for Lyons and the South-East. 8.30—"The Damnation of Faust"—Opera (Berlioz). MADRID (Spain) Union Radio (EAJ7). 707 kc/s (424.3 m.); 2 kW. Transmits at intervals from 9.0 a.m. 8.0 p.m.—Chimes, Exchange, Market Prices and Request Gramophone Concert. In the interval at 8.30—Talk by Joaquín España Cantos. 9.15—News Bulletin. 9.30—10.0—Interval. 10.0—French Lesson on Linguaphone Records. 10.30—Chimes, Time and Opera Selections on Gramophone Records: "Lucia di Lammermoor" (Donizetti). 12.45 a.m. (Wednesday)—News Bulletin. 1.0—Chimes and Close Down. MILAN (Italy) Ente Italiano Audizioni Radiofoniche. 905 kc/s (331.5 m.); 7 kW. See Turin. MORAVSKÁ-OSTRAVA (Czechoslovakia) 1,137 kc/s (263.8 m.); 11 kW. Transmits at intervals from 10.0 a.m. 7.0 p.m.—See Prague. 7.5—See Brno. 7.55—See Prague. 10.15—Programme Announcements and Theatre Guide. 10.20—See Prague. MOSCOW (Russia) Trades Union. 230.1 kc/s (1,304 m.); 100 kW. Transmits at intervals from 5.0 a.m. 6.30 p.m.—Proletariat Radio Journal. 7.15—Programme for Komsomols. 8.0—Talk in Dutch: The First of May in the U.S.S.R. Speeches by Delegates. Talk in French: The Tactics of the Bolsheviks in the Imperialist War. 9.55—Time Signal. 10.10—Weather Forecast. 11.0 (approx.)—Close Down.

MUNICH (Germany) 563 kc/s (533 m.); 1.5 kW. Relayed by Augsburg and Kaiserslautern, 536 kc/s (560 m.) and Nürnberg, 1,256 kc/s (239 m.). Transmits at intervals from 6.45 a.m. 6.15 p.m.—Time, Weather and Agricultural Notes. 6.25—Talk on Economics. 6.45—Talk. 7.5—Talk on Bishop Michael Sailer, by His Excellency Dr. Michael Buchberger, Bishop of Regensburg. 7.30—Soprano Song Recital by Eva Liebenberg (Contralto). Richard Staab at the Pianoforte. 7.40—Sports Report. 8.0—Concert by the Oktavia Concertina Society. 8.40—"Der Wunderhund"—a Radio Comedy (Manfred Sturmann). 9.10—Beethoven Chamber Music by the Szantó Quartet. 10.0—A Dialogue on Theatre Management. 10.20—Time, Weather and News. OSLO (Norway) Kringkastingselskapet. 277 kc/s (1,083 m.); 60 kW. Relayed by Fredrikstad, 816 kc/s (367.6 m.); Hamar, 536 kc/s (560 m.); Notodden, 671 kc/s (447.1 m.); Porsgrund, 662 kc/s (453.2 m.) and Rykan, 671 kc/s (447.1 m.). Transmits at intervals from 11.10 a.m. 5.0 p.m.—Concert by the Orchestra of the Cecil Restaurant. Overture, "Paraphrase III" (Suppé). Emperor Waltz (Johann Strauss). Selection from "Iris" (Mascagni). Prelude (Svendson). Aria from "Samson and Delilah" (Saint-Saëns). Russian Mazurka (Glinka). 6.0—Talk for the Housewife. 6.30—Talk: Work in the Garden in Spring. 6.45—Accordion Recital of Popular Music. 7.0—Announcements, News and Weather Forecast. 7.30—English Lesson. 8.0—Time Signal. 8.1—Concert relayed from Hamar. Soloists: Asta Jørgensen (Soprano), Lydia Lissowskaya (Pianoforte) and Einar Schøyen (Violin). Selections from The Works of Händel, Rachmaninov, Schubert, Thomé and Scandinavian Composers. 9.10—Talk: Contemporary Problems in Spain. 9.40—Weather and News Bulletin. 10.0—Topical Talk. 10.15—Helge Krog reads from his own

Works. 10.45 (approx.)—Close Down. PALERMO (Italy) Ente Italiano Audizioni Radiofoniche. 554 kc/s (542 m.); 3 kW. Transmits at intervals from 12.45 p.m. 5.30 p.m.—Programme for Women 6.0—6.30—Light Music on Gramophone Records. 8.0—Announcements, Agricultural Notes and Giornale Radio. 8.20—English Lesson on Gramophone Records. 8.25—Popular Music on Gramophone Records. 8.30—Time Signal and News Bulletin. 8.50—Concert of Chamber Music. Soloists: Olga Nicastro (Pianoforte), Ruggeri (Cello), V. Manno (Violin) and Gallesi (Oboe). Piano Solo: Papillons (Schumann). Concerto for Flute, Oboe and Harp (Berlioz). Two Cello Solos: (a) Largo (Veracini), (b) Tarantella (Roppe). Violin Solo: Sonata in D Major (Vivaldi-Respighi). The Kiss Scene from "Cyrano de Bergerac"—Comedy (Rostand). Concerto in G Minor for Oboe (Händel). Cello Solo: Sonata in G Major (Boccherini). Two Pieces for Flute and Harp (Roussel). Three Violin Solos: (a) Selection (Mendelssohn), (b) Andalusian Serenade (Ranzato), (c) La Campanella (Paganini). Three Pianoforte Solos: (a) Etude (Szymanovsky), (b) Doctor Gradus ad Parnassum and (c) Golliwogg's Cake-Walk (Debussy). 10.55—News and Close Down. PARIS (France) Eiffel Tower (FLE). 207.5 kc/s (1,445.7 m.); 13 kW. Time Signals (on 2,650 m.) at 10.26 a.m. and 11.26 p.m. (preliminary and 6-dot signals). Transmits at intervals from 1.0 p.m. 6.45 p.m.—Dramatic Programme. 7.0—Le Journal Parlé. 8.20—Weather Forecast. 8.30—Pianoforte Recital, with Introductory Talk: French Music from Seventeenth Century to the Present Day. Debussy Programme. La plus que lente. Les Deux Arabesques. Mouvement. Three Preludes: (a) La Fille aux Cheveux de Lin, (b) La Sérénade interrompue, (c) Feux d'artifice. 9.0—Quartet Concert. Second Quartet in F Major (Schumann)

Violin Solos: Recitative and Scherzo caprice (Kreisler). Quartet Selections (Dorsón): (a) Le rire du faune, (b) Conte chinois, (c) La Chanson du vent. 10.0 (approx.)—Close Down. PARIS (France) Poste Parisien. 914 kc/s (328.2 m.); 1.2 kW. Transmits at intervals from 12 noon. 6.45 p.m.—News and Announcements. 7.0—Gramophone Records, Talks and News. 7.30—Concert of Popular Music on Gramophone Records. 8.30—Gramophone Records, Talk and News. 8.45—Vocal and Orchestral Concert. Overture, "Gretina Green" (Guiraud). Waltz, La plus que lente (Debussy). Rapsodie sur des airs du Pays d'Oc (Lacombe). Esquise, No. 1 (Aubert). Cuadros (Laparra). Symphonic Poem, My Country (Smetana). Le petit Elfe ferme l'oeil (Schmitt). Trois Pièces montées (Satie). Polonaise (Glinka). 10.45—News Bulletin. 10.50 (approx.)—Close Down. PARIS (France) Radio-Paris (CFR). 174 kc/s (1,725 m.); 75 kW. 6.45 a.m.—Physical Culture Lesson. 7.30—Weather and Physical Culture (continued). 7.45—Gramophone Records. Popular Catalan Song, El mestre (Llobet). Spanish Dance, Zapateado (Sarasate). Fandanguillo (Torroba). Spanish Dance No. 5 (Granados). 8.0—News, Weather and Press Review. 12.30 p.m.—Gramophone Concert. Selection from "La Vie Parisienne" (Offenbach). Recitation and Song from "Mozart" (Guitry and Hahn). Waltz, Gold and Silver (Lehár). Selection from "The Count of Luxembourg" (Lehár). Selections from "El amor brujo" (Falla). Serenade (Gounod). Hindu Song (Rimsky-Korsakov). Two Variety Items. Selections from "Hamlet" (Thomas). Selections from "Flore diade" (Massenet). In the intervals at 1.0—Exchange, News and Weather, at 1.30—Exchange and at 2.0—Exchange and Announcements. 3.45—Exchange and Market Prices. 6.30—Market Prices, Weather, Agri-

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TUESDAY continued

Cultural Report and Racing Results. 7.0—Theatre Review. 7.15—Talk on Art. 7.30—Advanced English Lesson. 7.45—Review of the British Press, Commercial Prices and News. 8.0—Variety Programme. 8.30—News and Weather. 8.40—Review by Pierre Scize. 8.45—"La chance de Françoise"—Play (Porto-Riche), with the Collaboration of Roger Monteaux of the Comédie Française. In the interval at 9.15—Press Review and News.

PRAGUE (Czechoslovakia)

614 kc/s (488.6 m.); 120 kW. Transmits at intervals from 10.30 a.m. 4.10 p.m.—Orchestral Concert, conducted by Fr. Dyk, relayed from Bratislava. 5.10—German Transmission by Dr. Hugo Siebenschien. 5.25—Educational Talk. 5.45—Programme for Children. 5.55—Variety Music on Gramophone Records. 6.5—Agricultural Report. 6.15—Talk for Workers. 6.25—German Transmission. News and Concert from the Works of Contemporary Austrian Composers with Introductory Talk. 7.0—News Bulletin. 7.5—See Brno Programme. 7.55—Polish Lesson. 8.10—Literary Report. 8.35—News Bulletin. 9.0—Time and News. 9.15—Orchestral Concert, conducted by Jeremias. Petite Suite for Violin and Orchestra, Op. 12 (Frenkl). Concerto in D Major for Violin and Orchestra (Mozart). Selection (Martinu). 10.0—Time and News. 10.15—Announcements. 10.20—Variety Music on Gramophone Records.

RADIO-SUISSE ROMANDE (SOTTENS) (Switzerland)

743 kc/s (403 m.); 25 kW.; Lausanne, 442 kc/s (680 m.); and Geneva, 395 kc/s (760 m.). Transmits at intervals from 12.30 p.m. 4.32 p.m. (from Geneva)—Orchestral Concert. 5.30 (from Lausanne)—Programme for Women. 6.0 (from Lausanne)—Light Music on Gramophone Records. 7.0—Weather Forecast. 7.1 (from Geneva)—Presentation of the Latest Gramophone Records. 7.30 (from Lausanne)—German Lesson. 7.55—Announcements. 8.0 (from Geneva)—Talk: "The Work of the Disarmament Conference." 8.10 (from Geneva)—Talk on Mountaineering. 8.30—Concert by the Station Orchestra. 9.30 (from Lausanne)—Violin Recital by MM. Desarzens. La Visionnaire (Couperin). Sonata (Corelli). Sonata (Leclair). Sonata (Haydn). 10.0—Weather Forecast and News Bulletin. 10.15 (approx.)—Close Down.

ROME (Italy)

Ente Italiano Audizioni Radiofoniche (IRO). 680 kc/s (441 m.); 50 kW. Relayd by Naples, 941 kc/s (319 m.); and 2RO, 11,810 kc/s (25.4 m.). Transmits at intervals from 8.15 a.m. 12 noon—Gramophone Concert of Variety Music. 12.35 p.m.—Weather. 12.45—2.0—Vocal and Instrumental Concert. Songs by Gina Menin (Soprano). Le regate veneziane (Rossini). Three Lyrics in Venetian Dialect. Violin Solos by Maria Flori: (a) Andante from the Concerto in D Minor (Wieniawsky); (b) Hejre Kati (Hubay). Sextet Selections: (a) Russian Fantasia (Leopold), (b) Berceuse (Godard), (c) Slow Foxrot, Baby (Abel), (d) Selection from "La Tosca" (Puccini), (e) Romance (Bonnard), (f) One Step, Signorina (de Lupez). In the intervals: Giornale Radio, Exchange, Time and Announcements. 5.0—Exchange, Radio Journal for Children, Giornale Radio and Announcements. 5.30—Song Recital by Veila Capuano (Soprano). Two Old Spanish Songs (Laparra). Serenade (Gounod). Aria from "Lakmé" (Delibes). 5.45—Variety Concert. Selection from "Le petit Duc" (Lecocq). Song Tango, Muchacha (Dolz). Schatzwalzer (Johann Strauss). Il ladro (Moletti). Bambola innamorata (Nucci). I casi sono tre (Mariotti). 6.15—Giornale dell'Enit. 6.20—Astronomical Talk. 6.55 (from Naples)—Shipping and Sports Notes. 7.0—Atmospheric Signals, Morse Lesson, Agricultural Notes, Weather, Announcements, Giornale Radio and Press Review. 8.0—Giornale Radio and Announcements. 8.5—Gramophone Records of Variety Music. 8.30—Sports Notes and Announcements. 8.45—Orchestral Concert. Soloist: Arrigo Serato (Violin). Selection

from "La Vestale" (Spontini). Sonata No. 7 in C Minor for Violin and Pianoforte (Beethoven). Two Contredances (Mozart). Invitation to the Waltz (Weber, arranged Berlioz). Announcements. Sonata in C Minor for Violin and Pianoforte (Grieg). Two Selections (Granados). Bacchanale for Orchestra (Glazounoff). Reading (Fausto Maria Martini). Moment musical (Schubert). Tambourin chinois (Kreisler). Selection from "Romeo and Juliet" (Zandonai). News after the Programme.

SCHENECTADY (U.S.A.)

General Electric Company (WGY). 790 kc/s (379.5 m.); 50 kW. Relayd at intervals by W2XAP on 9,530 kc/s (31.48 m.) and by W2XAD on 13,340 kc/s (19.56 m.). Transmits at intervals from 11.45 a.m. 8.30 p.m.—Woman's Radio Review from New York. 9.0—Bridge Lesson. 9.30—Stock Reports and Police Notices. 9.45—Studio Ensemble. 9.55—News Items. 10.0—Sonata Programme from New York. 10.15 Skippy from New York. 10.30—Billy Ross in Popular Songs. 10.45—Annette McCullough (Crooner). 11.0—Joe and Eddie. 11.15—Time Signal. 11.16—New Kenmore Orchestra. 11.20—Weather Report. 11.30—With Gray McClintock in the Canadian North-west. 11.45—Sonata Programme. 12 midnight (WGY only)—General Electric Programme. 12 midnight (W2XAP only)—Stock Reports and News Items. 12.15 a.m. (Wednesday)—New Kenmore Orchestra. 12.30—2.0—New York Relay. 12.30—Prince Albert Quarter Hour. 12.45—Trials of the Goldbergs. 1.0—Blackstone Plantation. 1.30—True Story Hour. 2.0—Musical Programme. 2.30—4.30—New York Relay. 2.30—Texas Company Programme. 3.0—Lucky Strike Dance Hour. 4.0—Freddy Engel's Orchestra. 4.30—DeWitt Clinton Orchestra. 5.0—Ralph Kirby, The Dream Singer from New York. 5.5—Hotel New Yorker Orchestra from New York. 5.30—New Kenmore Orchestra. 6.0 (approx.)—Close Down.

SCHWEIZERISCHER LANDESSENDER (BEROMÜNSTER) (Switzerland)

653 kc/s (459 m.); 60 kW.; Basle, 1,229 kc/s (244.1 m.); and Bern, 1,220 kc/s (246 m.). 12.28 p.m.—Time Signal from the Neuchâtel Observatory. 12.30—Weather Forecast and News Bulletin. 12.40—Concert by the Station Orchestra. 1.35—Weather Forecast and Exchange Quotations. 1.45—3.30—Interval. 3.30—Concert by the Station Orchestra (contd.). 4.0—Selections from Operettas on Gramophone Records. 5.0 (from Basle)—Talk for Women. 5.30—Weather Forecast. 5.35—6.30—Interval. 6.30—Mountain Songs on Gramophone Records. 7.0 (from Basle)—Elementary Italian Lesson. 7.28—Time Signal and Weather Forecast. 7.30 (from Basle)—Talk: The Swiss Illustrated Book of the Eighteenth Century. 8.0—Fifth Popular Symphony Concert by the Tonhalle Orchestra, conducted by Hermann Abendroth, relayed from the Tonhalle, Zürich. 10.0—Weather Forecast, News and Close Down.

STOCKHOLM (Sweden)

Radiotjänst (SASA). 680 kc/s (436 m.); 55 kW. Relayd by Boden, 244 kc/s (1,229.5 m.); Göteborg, 932 kc/s (322 m.); Hörby, 1,166 kc/s (257 m.); Motala, 222.5 kc/s (1,348 m.); Östersund, 389 kc/s (770 m.) and Sundsvall, 554 kc/s (542 m.). Transmits at intervals from 7.20 a.m. (Gymnastics and Service) 5.0 p.m.—Song Recital by Einar Cajanus. Aftonstämning (Körling). Sjöfaren vid milan (Palmgren). Lillebarn (Nordqvist). Zueignung (Richard Strauss). A Dream (Grieg). 5.20—Reading. 5.45—Gramophone Records of Variety Music. 6.45—Elementary French Lesson relayed from Malmö, 1,301 kc/s (231 m.). 7.15—Weather and News. 7.30—The Life of the Modern Swedish Worker—a Report from a Working Men's Union. 8.0—Musical Interlude. 8.15—Relay of a Discussion on Political Economy. 12 midnight (approx.)—Close Down.

STRASBOURG (France)

Radio-Strasbourg (PTT). 869 kc/s (345 m.); 11.5 kW. 9.30 a.m.—Tourist Report relayed from Conques. 11.30—Gramophone Concert. Après un rêve (Fauré). Souvenir (Drda). Nocturne from the Quartet No. 2 (Bojodin). Selection from "La

Bohème" (Puccini). Bells across the Meadows (Ketelbey). Wedding March of a Doll (Lecocq). Aria from "Le Roi d'Ys" (Lalo). Selection from "Cavalleria Rusticana" (Mascagni). Aria from "Hérodiade" (Massenet). Serenade from "Faust" (Gounod). Overture, "Patrie" (Bizet). Les myrtes sont fétrés (Fauré). Bonsoir, Madame la Lune (Marinier). Romance (Rubinstein). Serenade (Strelezky). 12.45 p.m.—News in French and German. 1.0—Time Signal. 1.2—Gramophone Concert. Sonata in G Major, Op. 13 (Grieg). Overture, "Don Pasquale" (Donizetti). Larghetto (Weber-Kreisler). Waltz (Hummel). Selection from "Le Petite Duc" (Lecocq). Overture, "Preciosa" (Weber). Maitena (Tenaro). Voz del Viento (Lucchesi). In the interval at 1.15 (approx.)—Tourist Report relayed from Entraygues. 4.45—Legal Talk in French. 5.0—Dance Music. Onestep (Moretti). Foxtrot. It looks like Susie. My Canary has Circles under his eyes. Tango, Desdemona. Peppy Sugar. Slow Foxtrot, What a fool I've been. Foxtrot, Trois. Selection (Heymann): I've never seen a smile like yours. Foxtrot, Ida, I don't wanna be blue. Tango, Philomène. Foxtrot, Swance Stomp. Foxtrot, Théodile. Selection, Waltz, The Blue Danube (Johann Strauss). Foxtrot.

6.0—Talk in French: Sesenheim seen by Alsatian Painters. 6.15—Topical Talk in French. 6.30—Orchestral Concert, conducted by Maurice de Villers. Soloist: M. Grégoire (Violin). Suite, The Sleeping Beauty (Tchaikovsky). Prelude and Allegro for Violin (Pugnani-Kreisler). Overture, "The Merry Wives of Windsor" (Nicola). Selection from "Tief-land" (d'Albert). Japanese Dance (Hugue). A Wedding Day on Troidhagen (Grieg). 7.30—Time Signal. 7.32—News in French and German. 7.45—Orchestral Concert, conducted by M. Roskam. March, Blaze away (Holzmann). Waltz, Wiener-bonbons (Johann Strauss). Dance (Gretchaninov). Prelude and Dance from "Das Pensionat" (Suppé). Idylle arabe (Chaminade). La Chaise à Porteurs (Chaminade). Trio from "The Masqueraders" (Wagner). March, Toledo (Kalkman). 8.30—"The Damnation of Faust"—Opera (Berlioz). 10.30 (approx.)—Close Down.

STUTTGART (MÜHL-ACKER) (Germany) Süddeutscher Rundfunk. 832 kc/s (360.5 m.); 60 kW. Relayd by Freiburg, 527 kc/s (570 m.). Transmits at intervals from 6.0 a.m. (Time, Weather and Gymnastics). 10.0 a.m.—Pianoforte Recital, by Emmy Stilling. Fantasia in C Minor (Bach). Four Little Pieces (Haydn). Gigue (Blanchet). Selections (Chopin): (a) Impromptu in F Sharp Major, (b) Etude in F Minor, (c) Etude in F Sharp Major. 10.30 (from Mannheim)—Duets for Two Harps, by Johannes Stegmann and Veronika Boruvka. Duet (John Thomas). Fantasia on Scottish Folk Songs for Two Harps (John Thomas). 11.0—News, Time and Weather. 11.25—Talk: Is Coffee harmful? 11.45—Sponsored Musical Programme. 12 noon—Orchestral Concert from the Hindenburgbau. Marching Song, Warum denn Stuttgart? (Gerhard Ungewitter). Overture, "Oberon" (Weber). Wiener Blut (Johann Strauss). Viennese Song Potpourri, Wer kennt das nicht? (Bernadt Buchbinder). Selection from "The Tales of Hoffmann" (Offenbach). 12.50—Time, News and Announcements.

1.0—Gramophone Concert. Rustle of Spring (Sinding). Wedding Day on Troidhagen (Grieg). The Two Grenadiers (Schumann). Nächtliche Heerschau (Glinka). Romance in F Minor (Tchajkovsky). Torch Dance of the Brides from "Feramors" (Rubinstein). Selection from "The Bartered Bride" (Smetana). Prague—a Fantasia on Bohemian National Songs (Leopold). 1.30—Report from the Trakehen Horse Auction, relayed from Trakehen. 1.55—News Bulletin. 2.0—2.15

—Sponsored Gramophone Records. 2.30—Advanced English Lesson. 4.0—Talk: Flowers. 4.30—Talk for Women. 5.0—Orchestral Concert, conducted by Gustav Görlich. Soloist: Karl Hauser (Baritone). Overture, "Athalie" (Mendelssohn). Suite Campestre (Amadei). Baritone Solos: (a) Andenken (Zähringer), (b) Wanderlied (Schumann), (c) Frühlingsfahrt (Schumann). Dr. Eckener-Marsch (Probst). Waltz, Les Sirènes (Waldteufel). Potpourri, Reminiscences of Offenbach (Fetras). 6.15—Time and Agricultural Notes. 6.25—Talk: The Divining Rod. 6.50—See Frankfurt. 7.20—Time and Weather. 7.30—10.35—See Frankfurt. 10.35—News, Time and Announcements. 10.45—Orchestral Concert. 12 midnight (approx.)—Close Down.

TOULOUSE (France) Radiophonie du Midi. 779 kc/s (385 m.); 8 kW. Transmits at intervals from 12.40 p.m. 5.0 p.m.—Transmission of Pictures. 5.15—Orchestral Selections. Hungarian Rhapsody (Liszt). Selection from "Rosamunde" (Schubert). Aria (Bach). 5.30—News Bulletin. 5.45—Orchestral Selections. 6.0—Songs from (a) "Les Cloches de Corneville" (Planquette), (b) "Ciboulette" (Hahn), and (c) "Les Mousquetaires au Couvent" (Varney). 6.15—Dance Music. 6.30—News Bulletin. 6.45—Violin Solo. Kati (Hubay). Danse frivole (Dalcroze). La plus que lente (Debussy). Les Chérubins (Couperin). 7.0—Light Music. 7.30—News and Horse Racing Results. 7.45—Military Music. 8.0—Orchestral Selections from (a) "L'Enfant prodige," (b) "Carmen" (Bizet), 8.15—Songs from "Griseïdis" (Massenet) and "The Magic Flute" (Mozart). 8.30—German Lesson. 8.35—Orchestral Selections. Beaux yeux (Ilescu). A Viennese Waltz (Benatzky). Chanson triste (Tchajkovsky). Dans les ombres (Waldteufel). Toujours ou jamais (Finck). Extase (Ganne). Potpourri (Lehar). 9.0—Songs from "La Bohème" (Puccini) and "Mirella" (Gounod). 9.15—Orchestral Selections. 9.30—Concert from the Café Albrighi. 10.30—News Bulletin. 10.45—Chansonnettes. 11.0—Light Music. 11.15—North African News. 11.30—Orchestral Selections. Selections from "Scènes pittoresques" (Massenet). Ionizaque (Schmitt). Selection from "The Golden Cockerel" (Rimsky-Korsakov). 12 midnight—Weather, Announcements and Close Down.

TRIESTE (Italy) Ente Italiano Audizioni Radiofoniche. 1,211 kc/s (247.7 m.); 10 kW. Transmits at intervals from 8.15 a.m. 7.5 p.m.—Quintet Concert. Valida Gens (Amadei). Selection (Winter). Marysa (Chiappo). Questo, tu non lo sai (Serra). Selection from "Lucia di Lammermoor" (Donizetti). Currito de Triana (Armeneta). Medialval Suite (Amadei). La donna (Cassano). In the interval at 7.25—English Lesson on Gramophone Records. 8.0 till Close Down.—See Turin.

TURIN (Italy) Ente Italiano Audizioni Radiofoniche. 1,096 kc/s (273.7 m.); 7 kW. Relayd by Milan, 995 kc/s (331.5 m.); Florence, 599 kc/s (500.8 m.); and Genoa, 959 kc/s (312.8 m.). Transmits at intervals from 8.15 a.m. 6.45 p.m.—Agricultural Notes. 7.0—Announcements. 7.5—Musical Selections. Paris (Rauls). Selection, In Dancin'landia (Malberto). In a Turkish Bazaar (Dreyer). Monelli in testa (Crisuolo). 7.30—Time and Announcements. 7.31—Gramophone Records of Variety Music. 8.0—Giornale Radio and Weather. 8.15—Musical Selections. 8.30—Talk by Salvatore Gotta. 8.45—"Hashish"—Operetta in Three Acts (Colantoni), conducted by Nicola Ricci. In the intervals: Talk and Announcements. Giornale Radio after the Programme.

VIENNA (Austria) Radio-Wien. 581 kc/s (517 m.); 15 kW. Relayd by Graz, 852 kc/s (352.1 m.); Innsbruck, 1,058 kc/s (283 m.); Klagenfurt, 662 kc/s (453.2 m.); Linz, 1,220 kc/s (246 m.); and Salzburg, 1,373 kc/s (218 m.). Transmits at intervals from 7.20 a.m. 5.0 p.m.—Gramophone Concert: Part I: Edith Lorand and her Orchestra. Part II: The Philadelphia Symphony Orchestra, conducted by Leopold Stokovsky. 6.15—Talk: The Viennese Theatre in the Festival Weeks. 6.25—Agricultural Talk. 6.45—Talk on Art. 7.10—Physical Culture. 7.30—Time Signal, Weather Report and Programme Announcements. 7.40—Concert of Viennese Music by the Otto Römisch Orchestra, with Dolesch and Weynert (Duets), Pepi Wichart and a Folk Music Quartet. 8.40—Part Relay from the Concert House of the Goethe-Haydn Concert by the Vienna Women's Symphony Orchestra, conducted by Viktor Keldorfer, with a Children's Choir, the Viennese Schubert Society and Soloists. Gesang der Geister über den Wassern, for Male Voice Choir and Strings (Schubert). Rhapsody, Harzreise, for Contralto, Male Voice Choir and Orchestra (Brahms). Mailed, for Male Voice Choir A-cappella (Kienzl). Vanitas, vanitatum, for Male Voice Choir and Orchestra (Reiter). Three Canons by the Schubert Choir (Haydn): (a) Menschengefühl, (b) Das böse Weib (Lessing), (c) Das Hexeneinmaleins. Hochgesang der Deutschen (Haydn-Keldorfer), for Children's and Male Voice Choir, Soloists, Speaker, Orchestra and Organ. 9.35—News, Weather Report and Announcements. 9.50—Dance and Light Music relayed from the Oase Restaurant.

WARSAW (Poland) Polskie Radio. 212.5 kc/s (1,411 m.); 120 kW. 10.0 a.m.—Service relayed from Cracow. 11.55—Time Signal and Bugle Call from the Tower of St. Mary's Church, Cracow. 12.5 p.m.—Programme Announcements. 12.10 Weather Report. 12.15—Concert by the Warsaw Philharmonic Orchestra and the "Lutnia Warszawska" Choir, conducted by Josef Oziminsky and Pierre Maszynsky. Soloists: S. Argasinska (Soprano), M. Janovsky (Tenor) and T. Zygodal (Violin). Overture, "The Pariah" (Moniuszko). Violin Concerto in D Minor (Wieniawsky). Echo de souvenirs (Noskovsky). Ballad, Switezianka, for Mixed Choir, Vocal Soloist and Orchestra. 2.0—Agricultural Talk. 2.20—Songs by Eugen Maj. 2.35—Reading: A Country Lawsuit. 3.0—Concert of Light Polish Music by the Jean Rozewicz Orchestra. Soloist: Eugen Maj (Baritone). 3.55—Programme for Children. 4.20—Light Music on Gramophone Records. 4.40—Talk: Polish Politics and Democracy. 4.55—Popular Music on Gramophone Records. 5.15—Talk relayed from Wilno, 533 kc/s (563 m.). 5.30—Talk (to be announced). 5.45—Concert of Popular Polish Music, by Mme. Adamska (Cello), Josef Oziminsky (Violin) and G. Lefeld and Louis Urstein (Pianoforte). 7.0—Miscellaneous Items. 7.25—Variety Music on Gramophone Records. 7.40—Programme Announcements. 7.45—Sketch relayed from Wilno. 8.15—Concert by the Station Orchestra, conducted by Josef Oziminsky. Soloist: W. Walewska (Soprano). Potpourri of Polish Melodies (Osmansky). Songs: (a) Song (Troszel), (b) Conversation with the Nightingale (Troszel), (c) May Idyll (Niewiadomsky), (d) Air (Niewiadomsky). Overture, "Die Griffin" (Moniuszko). Mazurka in D Major, Op. 33 (Chopin). Cracoviak and Waltz from the Ballet "Pan Twardowski" (Rozewki). Selection from "The Haunted Castle" (Moniuszko). Songs: (a) Deception (Karłowicz), (b) Snowball (Komorovsky), (c) Popular Airs (Szoszky). Couaivienne (Lada). Cracovienns (Rajczak). Oberek fantastique (Sonnenfeld). 9.55—Talk on Chorography. 10.10—Recital of Songs by Moniuszko, sung by Alex. Michalovsky (Bass). 10.40—Weather and Police Notes. 10.45—Sports Notes. 10.55—Interval. 11.0—Dance Music. 12 midnight (approx.)—Close Down.

WILNO (Poland) 533 kc/s (563 m.); 16 kW. Transmits at intervals from 10.0 a.m. 7.0 p.m.—Historical Talk. 7.20—Wireless Technical Talk. 7.40—Programme Announcements. 7.45—An Historical Sketch. 8.30—See Warsaw. 12 midnight (approx.)—Close Down.

PRINCIPAL EVENTS

WEDNESDAY (May 4)

SYMPHONY CONCERTS

- 8.0 p.m. Brussels No. 1 and No. 2: The New Augmented Symphony Orchestra, conducted by Defauw.
- 8.0 Heilsberg: Beethoven Concertos.
- 8.15 " Daventry: B.B.C. Orchestra and National Chorus, conducted by Adrian Boult. Ninth Symphony (Beethoven).

CONCERTS (Vocal and Instrumental)

- 6.25 p.m. Heilsberg: Motet.
- 7.40 " Leipzig: Military Band.
- 8.0 " Schweizerischer Landessender: Zither Programme.
- 8.30 " Stockholm: Military Band.
- 8.45 " Radio-Paris: The Station Orchestra, conducted by Eugène Bigot.
- 8.45 " Strasbourg: Metz Conservatoire Concert.
- 9.25 " Munich: Hans Sachse Programme.
- 10.15 " Vienna: Light Orchestral Programme.

RECITALS

- 9.0 p.m. Warsaw: Pianoforte and Songs.
- 10.30 " Stuttgart, Frankfurt: Pianoforte.

PLAYS AND TALKS

- 7.30 p.m. Frankfurt, Stuttgart: Spring on the Bergstrasse.
- 8.30 " Langenberg: Goethe's Werther Days.
- 9.10 " Hamburg and Heilsberg: "The River Elbe" (described in word and music).
- 9.10 " Leipzig: Wilhelm Lehmanns 50th birthday.

MISCELLANEOUS

- 7.30 p.m. Berlin (Witzleben), Breslau, Königs Wusterhausen: Old Berlin Dance Evening.

DANCE MUSIC

- 7.45 p.m. Vienna (till 8.45).
- 8.30 " Copenhagen (till 2.0 a.m.).
- 10.30 " Strasbourg (till 12.0).

The Zither

In one form or another, the zither must be among the oldest of man's instruments of music. How



An Open-air Zither Concert

far it has altered in its design from the old Greek *Kithara* we can only guess, but for many generations it has been popular in the shape in which many German-speaking parts of the world may fairly regard it as their national instrument. Throughout most of Tyrol, Styria, Bavaria, and German-Switzerland, you will not easily find an inn without its zither for the entertainment of its guests. In all open-air festivals and merry-makings of the people in those parts of the world, the instrument has a big share, and contests of skill in playing it are a regular part of rustic holidays. Many of the people play it in a way which is the wonder and admiration of less gifted visitors. There are several varieties, differing in size and in the number of their strings, but the principle throughout is the same, the player plucking the strings with his right hand while he stops the notes with his left on a fretted keyboard. It has a very full and mellow tone, and whether as a solo instrument, or as our picture shows it, as an accompaniment to singing, it lends itself admirably both to outdoor and indoor music-makings. A programme of zither music is to be broadcast from SCHWEIZERISCHER. LANDESENDER today.

Hummel

One of the giants of Beethoven's day, and, as a child, a pupil of Mozart's, Hummel made his first appearance in public when he was only nine. He was so successful that he at once set out on the first of a long series of concert tours, and for many years was looked up to as one of the foremost pianists of his generation. He, and the great Beethoven were for many years good friends, until an unfortunate remark of Hummel's offended the irritable Beethoven; only on his deathbed did he forgive his former friend in a touching scene of reconciliation. Despite the busy life he led as a concert pianist, he found time to compose a great deal of music, most of it for his own instrument. It is but seldom played now, but when chances are offered of hearing it, like that which RADIO-PARIS gives this evening, it impresses hearers both by its fresh vitality and by the admirable way in which it is laid out to make the fullest use of all the instrument's resources.

NATIONAL

	kc/s.	m.	kW.
London:	1,148	261.3	50
Daventry:	193	1,554.4	30
Northern:	995	301.5	50

- 10.15 a.m.—The Daily Service.
- 10.30—Time Signal (Greenwich).
- 10.45—11.0—"New Pennies, Old Purses"—I. Miss Helen Simpson.
- 12 noon—Quentin Maclean at the Organ.
- 12.45 p.m.—Gramophone Records.
- 1.0—Time Signal (Greenwich).
- 1.30—Jack Martin and his Hotel Majestic Orchestra.
- 2.25—Reception Test.
- 2.30—Biology and Hygiene for Senior Schools. Professor Winifred Cullis, C.B.E.—"Your Body Every Day."
- 3.0—English Literature. Miss N. Niemeyer: "Delight in Poetry."
- 3.25—Interval.
- 3.30—The Bournemouth Municipal Augmented Orchestra. Conductor, Sir Dan Godfrey. Cyril Smith (Pianoforte).
- 4.45—Time Signal (Greenwich).
- 4.45—Reginald New at the Organ.
- 5.15 (Daventry)—The Children's Hour.
- 5.15 (London and Northern)—Dance Music.
- 6.0—"The First News."
- 6.30—Time Signal (Greenwich).
- 6.30—"The Foundations of Music." Schumann Quartets. Played by The Kutcher String Quartet. Mr. Gerald Heard.
- 7.10—"Talk on Farming." Sir Daniel Hall, K.C.B., F.R.S.
- 7.30—"Must Britain Starve?"—IV. Sir John Russell, F.R.S.
- 8.0—Interval.
- 8.15—B.B.C. Symphony Concert—XXIII. (Last Concert of the Series.) Isobel Baillie, Muriel Brunskill, Walter Widdop, Horace Stevens. The National Chorus. (Chorus-master, Stanford Robinson.) The B.B.C. Symphony Orchestra (Leader, Arthur Catterall). Conductor, Adrian Boult.
- 8.50—"The Second News."
- 9.0—Time Signal (Greenwich).
- 9.5—Symphony Concert. Part II.
- 10.25—Shipping Forecast; New York Stock Market Report.
- 10.30—Musings without Method.
- 10.45—12 midnight—Dance Music.
- 11.30—Time Signal (Greenwich).

REGIONAL

	kc/s.	m.	kW.
London:	842	356.3	50
Midland:	752	398.9	25
Northern:	626	479.2	50

- 10.15 a.m. (London and Northern)—The Daily Service.
- 10.30—11.0 (London and Northern)—Daventry National Programme.
- 11.30—12 noon (London)—Experimental Television Transmission by the Baird Process.
- 12 noon—The Midland Studio Orchestra. Kathleen Watkins (Pianoforte).
- 1.15 p.m.—An Organ Recital by G. D. Cunningham.
- 2.0—3.0—The Northern Studio Orchestra. Harold Uttley (Pianoforte).
- 3.30 (London and Northern)—Daventry National Programme.
- 5.15—"The Children's Hour."
- 6.0—"The First News."
- 6.30 (London)—Reginald King and his Orchestra.
- 6.30 (Midland)—Light Music. Pattison's Salon Orchestra, under the direction of Norris Stanley.
- 6.30 (Northern)—The Northern Studio Orchestra. Dorothy Weaver (Songs at the Piano).
- 7.15 (Midland)—A Recital. The Midland Studio Chorus. Harry Stanier (Violoncello).
- 7.30 (London)—An Organ Recital by Guy Weitz.
- 7.45 (Northern)—A Sonata Recital by Leonard Baker (Violoncello) and Doris Baker (Pianoforte).
- 8.15—"Little Miss Make-Believe." A Radio Musical Comedy. Book and Additional Lyrics by Charles Brewer.
- 9.15 (London)—The Wireless Military Band, conducted by Charles Leggett. Waddington Cooke (Pianoforte).
- 9.15 (Midland)—Dance Music. Billy Merrin and his Commander.
- 9.15 (Northern)—"When I retire—North or South?" A Discussion between Mr. K. R. Brady and Professor T. H. Pear.
- 10.0 (Northern)—Gram. Records.
- 10.15—Second News Bulletin.
- 10.35 (Midland)—Experimental Transmission by the Fultograph Process.
- 10.35—12 midnight (London and Northern) Dance Music.

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

- ALGIERS (N. Africa). 825.3 kc/s (363.3 m.); 13 kW. Transmits at intervals from 12.30 p.m. 7.0 p.m.—Financial Report and Exchange Quotations. 7.10—Agricultural Report and Shipping Notes. 7.20—Selections by a Viennese Orchestra. 7.35—Programme for Women. 7.50—News and Time Signal. 7.55—Selection from "Beau Brummel"—Operetta (Hahn). 8.30—Review of New Books.
- 8.45—Concert by the Station Orchestra, conducted by Hubert Guillet. Overture, Fingal's Cave (Mendelssohn). Cinq Haï-Kaï (Pillois). Prelude and Death of Isolde, from "Tristan and Isolde" (Wagner). Le Festin de l'araignée (Roussel). Dolly (Fauré). 10.0 (approx.)—Close Down.

BARCELONA (Spain)

- Radio-Barcelona (EAJ1). 860 kc/s (349 m.); 8 kW. Transmits at intervals from 8.30 a.m. 8.0 p.m.—Concert by the Station Trio. 8.30—Exchange Quotations and Lesson in Catalan Grammar. 9.0—Request Gramophone Records and Press Review. 10.0—Chimes, Market Prices and Exchange Quotations.
- 10.5—Orchestral Concert. March, The Washington Post (Sousa). Selection from "La Gran Via" (Chueca and Valverde). Waltz (Waldteufel). Oriental Dance (Bortkiewicz). Pyrrhic Dance (Berger). Mazurka brillante (Liszt).
- 11.0—"La Leyenda del Maestro"—Two-Act Comedy (José Ramos Martín). 12.30 a.m. (Thursday)—Gramophone Concert of Popular Music. 1.0 (approx.)—Close Down.

BELGRADE (Yugoslavia)

- 697 kc/s (430.4 m.); 2.5 kW. Transmits at intervals from 9.55 a.m. 4.0 p.m.—Popular Music on Gramophone Records.
- 5.0—Concert of Operetta Music, by the Station Orchestra. Overture, "Casanova" (Lincke). Selection from "Mam'zelle Nitouche" (Hervé). Selection from "The

- Circus Princess" (Kálmán). Waltz from "Gri-Gri" (Lincke).
- 6.55—Time Signal and Programme Announcements. 7.0—German Lesson. 7.30—Cigány Music relayed from the "Rudnicainin" Restaurant.
- 8.0—Light Music on Gramophone Records. 8.30—Programme relayed from Zagreb, 977 kc/s (307 m.). 10.30—News and Sports Notes.

BERLIN (Germany)

- Königs Wusterhausen. 183.5 kc/s (1,635 m.); 60 kW. Transmits at intervals from 5.45 a.m. (Weather, Gymnastics and Concert from Witzleben).
- 12 noon—Weather for Farmers, followed by Gramophone Concert of Vocal Music and Second Weather Report for Farmers. 12.55 p.m.—Nauen Time Signal. 1.30—News Bulletin. 2.0—Wagner Concert on Gramophone Records, relayed from Berlin (Witzleben). 2.45—Through the Desert—Radio Play for Children. 3.30—Weather Forecast and Exchange Quotations. 3.45—Talk for Women: A Kitchen Garden on Balcony and Roof. 4.0—Educational Talk. 4.30—See Hamburg. 5.30—Talk: Technical Discoveries and the Industrial Crisis. 6.0—Talk: Music and Nationality.
- 6.30—See Berlin (Witzleben). 6.55—Weather for Farmers, followed by Wireless Technical Talk. 7.10—Talk: The Economic Position of England. 7.30 till Close Down—See Berlin (Witzleben). 12 midnight—Close Down.

BERLIN (Germany)

- (Witzleben). 715 kc/s (419.5 m.); 1.5 kW. Transmits at intervals from 6.0 a.m. (Gymnastics and Concert).
- 5.50 p.m.—"The Musical Magazine"—Review of New Music, with illustrations. 6.30—Legal Talk. 6.55—"The Witzleben Station informs its Listeners..." 7.0—Topical Talk. 7.10—Talk: England during the past Month.
- 7.30—Old Berlin Dance Music Evening, by the Otto Kernbach Band, with Alexander Flessburg (Tenor). 9.0—News Bulletin. 9.10—See Hamburg. 10.0—Political Press Review. 10.15—News Bulletin. 10.30—See Munich. 12 midnight (approx.)—Close Down.

BORDEAUX-LAFAYETTE (France)

- (PTT). 986 kc/s (304 m.); 13 kW. Transmits at intervals from 12.45 p.m. 7.30 p.m.—News and Market Prices. 7.40—Light Music on Gramophone Records. 7.55—Lottery Results. 8.0—Agricultural Talk. 8.15—News and Weather Forecast. 8.30—Recital of Songs and Melodies by Carlo Bertossa.
- 8.50—Concert of Spring Music. Spring March (Filippucci). "The First Swallows (Gung'l). Voici que le Printemps (Debussy-Salabert). Le Temps a laissé son manteau (Charles d'Orléans). Spring Symphony (Theurier). Gramophone Records: (a) Spring Song, Op. 16 (Sibelius), (b) Selection from "Samson and Delilah" (Saint-Saëns), (c) May (Hahn). The Swallows (Hirschmann-Casadesus). Spring Minuet (Beethoven-Salabert). Bouffées Printanières (Waldteufel). Spring (Debussy-Branga). Gramophone Records: (a) Salut de Printemps, (b) Voilà l'Printemps (Pellemelle), (c) Le Printemps chante (Marinier Poncin), (d) Le Parfum des Lilas (Bisio). Spring Song (Mendelssohn-Salabert). Frühlingsnacht (Schumann-Salabert). Spring (Verdi-Salabert). After the Programme, Bordeaux Amusement Guide and Time Signal.

BRATISLAVA (Czechoslovakia)

- 1,076 kc/s (279 m.); 14 kW. Transmits at intervals from 11.0 a.m. 7.0 p.m.—See Prague. 7.20—Choral Concert. 8.15—See Prague. 9.0—Orchestral Concert, conducted by M. Odchazel. 10.0—See Prague. 10.45—Programme Announcements.

BRESLAU (Germany)

- 923 kc/s (325 m.); 1.5 kW. Relayed by Gleiwitz, 1,184 kc/s (253 m.). Transmits at intervals from 6.0 a.m. 6.50 p.m.—Weather Forecast. 6.55—Topical Pictures. 7.0—Workers in the Works of Gustav Freytag—Reading. 7.25—Weather Forecast. 7.30—See Berlin (Witzleben). 8.50—Topical Talk.
- 9.10—Chamber Music by the Pozniak Trio. Trio in B Major (Pizetti). Trio in C Minor, Op. 101 (Brahms).

WEDNESDAY continued

Talk on Politics in French. 11.0.—Dance Music from the "Bagatela" Variety Theatre. 12 midnight (approx.)—Close Down.

LYONS (France)

La Doua (P.T.). 644 kc/s (465.8 m.); 1.5 kW. Transmits at intervals from 8.0 a.m. 7.0 p.m.—Popular Music on Gramophone Records. 7.30—Radio Gazette for Lyons and the South-East. 8.30—Sponsored Literary Programme.

MADRID (Spain)

Union Radio. (EAJ7). 707 kc/s (424.3 m.); 2 kW. Transmits at intervals from 9.0 a.m. 8.0 p.m.—Chimes, Exchange, Market Prices, Horticultural Talk and Request Gramophone Concert. 9.15—6.30—News Bulletin. 10.30—Chimes, Time and Concert of Chamber Music relayed from the Aeolian Hall. 12.45 a.m. (Thursday)—News Bulletin. 1.0 (approx.)—Chimes and Close Down.

MILAN (Italy)

Ente Italiano Audizioni Radiofoniche. 905 kc/s (331.5 m.); 7 kW. See Turin.

MORAVSKÁ-OSTRAVA (Czechoslovakia)

1,137 kc/s (263.8 m.); 11 kW. Transmits at intervals from 11.0 a.m. 7.0 p.m.—See Prague. 7.20—Orchestral Concert, conducted by Fr. Sochor. 8.25—See Prague. 10.45—Programme Announcements and Theatre Guide.

MOSCOW (Russia)

Trades Union. 230.1 kc/s (1,304 m.); 100 kW. Transmits at intervals from 5.0 a.m. 6.30 p.m.—Proletariat Radio Journal. 7.15—Programme for Komsomols. 8.0—Talk in (a) Czech and (b) Swedish: The First of May in the U.S.S.R. 9.55—Time Signal. 10.0—Review of the Week and Answers to Correspondents in French. 11.0 (approx.)—Close Down.

MUNICH (Germany)

563 kc/s (533 m.); 1.5 kW. Relay by Augsburg and Kaisers-

latern, 536 kc/s (560 m.) and Nürnberg, 1,256 kc/s (239 m.). Transmits at intervals from 6.45 a.m. 5.0 p.m.—Orchestral Concert. 6.15—Time, Weather and Agricultural Notes. 6.25—Talk: Will Wooden Houses come into Fashion? 6.45—English Lesson. 7.5—Friedrich Brodersen and Josef Kainz—Gramophone Records. 7.35—Talk: Sailing. 8.0—See Stuttgart. 9.15—"Heroes of Modern Times"—Four Ballads by Hanns O. Münsterer, set to Music by Werner Egk: (a) "The Arctic Explorer," (b) "The Technical Engineer," (c) "The Aviator" and (d) "The Doctor." Speaker: Hellmuth Renar.

9.25—Choral and Orchestral Concert from the Music of Hans Sachsse. Conductor: The Composer. Soloists: Luise Pfüger (Soprano), Irma Drummer (Contralto) and Dr. Heinz Bischoff (Lute). Serenade for Three-Part Male Voice Choir, Soprano Soloist, Lute and Wood-Wind Instruments. "Das Mittelid"—Cantata for Voice and Orchestra. 10.5—Time, Weather and News.

10.30—Concert by the Station Orchestra, conducted by Karl List. Soloists: Margot Leander (Soprano) and Willy Stuhlfauth (Violin).

OSLO (Norway)

Kringkastingselskapet. 277 kc/s (1,083 m.); 60 kW. Relay by Fredrikstad, 816 kc/s (367.6 m.); Hamar, 536 kc/s (580 m.); Notodden, 671 kc/s (447.1 m.); Porsgrunn, 662 kc/s (453.2 m.), and Rjukan, 671 kc/s (447.1 m.). Transmits at intervals from 11.10 a.m. 5.0 p.m.—Concert by the Orchestra of the Cecil Restaurant. Overture, "Nebuchadnezzar" (Verdi). Waltz, Du und du (Johann Strauss). Serenade (Guitard). Doll Dance (Haines). Dance of the Dervishes (Bendix). 6.0—French Lesson. 6.30—Programme for Boys. 7.0—Announcements, Weather and News Bulletin. 7.30—Talk: Man, in Sickness and Health. 8.0—Time Signal. 8.1—Inge Krokann reads from his own Works. 8.30—Song and Pianoforte; Recital by Mme Elisabeth Munthe Kaas

(Soprano), and M. Waldemar Alme (Pianoforte). 9.10—Talk: Mahatma Gandhi. 9.30—Agricultural Report, Weather Forecast and News Bulletin. 10.0—Topical Talk. 10.15—Concert by the Station Orchestra, conducted by Hugo Kramm and the Pauline Hall Quartet. Second Rhapsody (Liszt). Wedding and Lullaby from "Three Village Scenes" (Bartok). Three Children's Songs (Zoltan Kodaly). Romanian Dances (Bartok). 11.0—Dance Music on Gramophone Records. 12 midnight (approx.)—Close Down.

PALERMO (Italy)

Ente Italiano Audizioni Radiofoniche. 554 kc/s (542 m.); 3 kW. Transmits at intervals from 12.45 p.m. 5.30 p.m.—6.30—Dance Music and Light Music relayed from the Olympia Tea-Room. 8.0—Agricultural Notes and Giornale Radio. 8.20—Light Music on Gramophone Records. 8.30—Time Signal and News Bulletin. 8.50—Concert of Light Music and Selections from Operettas. Overture, "Princess Rosina" (Lincke). Selection (Zerkovitz). Selection from "The Blue Mazurka" (Lehár). Talk by Mario Taccari. Song from "La Fornarina" (Lombardo). Selection from "The Dollar Princess" (Fall). Soprano Solo from "La Vergine Rossa" (Cuscinà). Humorous Duet from "La Fornarina" (Lombardo). Duet from "Frasquita" (Lehár). Selection from "Acqua cheta" (Pietri). Literary Notes. Selection from "Malbruk" (Leoncavallo). Selection from "I Granatieri" (Valenti). Selection from "Fräulein Loreley" (Lincke). 10.35—News Bulletin and Close Down.

PARIS (France)

Eiffel Tower (FLE) 207.5 ck/s (1,445.7 m.); 13 kW. Time Signals (on 2,650 m.) at 10.26 a.m. and 11.26 p.m. (preliminary and 6-dot signals). Transmits at intervals from 1.0 p.m.

6.45 p.m.—Talk on the Theatre: Music and Words. 7.0—Le Journal Parlé. 7.45—Programme for Young People. 8.20—Weather Forecast. 8.30—Symphony Concert, conducted by Edouard Flament. Au village (Mouquet). Ballet Music from "Antar" (Dupont-Mouton). Violin Solo by M. Cantrelle: Tambourin chinois (Kreisler). 9.10—News and Announcements. 9.30—Concert (cont'd). Selection from "Véronique" (Messager-Delsaux). Chants de Matelots (de Séverac-Chapelier). Juegos (Turina-Chapelier). Overture, "Le Baruffe Trasteverine" (Cordoni). Waltz, "Tales from the Vienna Woods" (Joh. Strauss-Winter). 10.0 (approx.)—Close Down.

PARIS (France)

Poste Parisien. 914 kc/s (328.2 m.); 1.2 kW. Transmits at intervals from 12 noon. 6.45 p.m.—News and Announcements. 7.0—Gramophone Records, Talks and News. 7.30—"Le Gone à la tête en bois"—Play in Two Acts by "The Amis de Guignol à Paris." 8.30—Gramophone Records, Talk and News. 8.45—Vocal and Orchestral Concert. Overture, "La Fille de Madame Angot" (Lecocq). Waltz, Arc-en-ciel (Waldteufel). Selection from "Tip-Toes" (Gershwin). Selection from the Ballet "Coppélia" (Delibes). Valse and Danse montagnarde from "La Glaneuse" (Fourdrain). Selection from "The Merry Widow" (Lehar). Petite suite d'antan (Février). Ballet Music from "La petite Bohème" (Hirschmann). La Hussarde (Ganne). March, Semper Fidelis (Souza).

PARIS (France)

Radio-Paris (CFR). 174 kc/s (1,725 m.); 75 kW. 6.45 a.m.—Physical Culture Lesson. 7.30—Weather and Physical Culture (continued). 7.45—Gramophone Records. "La Chanson du Lanterrier" (Halfiter). Le Pas des Fleurs from "Naïla" (Delibes). Le Pas des Echarpes (Chaminade). Rustle of Spring (Schindler).

8.0—News, Weather and Press Review. 12 noon—Educational Talk. 12.30 p.m.—Symphony Concert on Gramophone Records. Concerto in A Minor, for Violin and Orchestra (Vivaldi). Caro mio ben (Giordano). Loreley (Liszt). Le Camp de Wallenstein (d'Indy). Selection from "Romeo and Juliet" (Gounod). Arlequin (Lalo). Pastorale d'été (Honegger). Habanera (Aubert). Bourrée fantasque (Chabrier). In the intervals at 1.0—Exchange, News and Weather and at 1.30 and 2.0—Exchange. 3.45—Exchange and Market Prices. 6.30—Market Prices, Weather, Agricultural Report and Racing Results. 7.0—Talk on German Literature: Heinrich Heine and Young Germany. 7.30—Medical Talk. 7.45—Commercial Prices and News. 8.0—Literary Readings from "Le roman de Tristan." 8.30—News and Weather. 8.40—Fashion Review by Mlle. José. 8.45—Concert. The Station Orchestra, conducted by Eugène Bigot. Soloists: Lina Falk (Song) and Jean Doyen (Pianoforte). Overture, "Phidre" (Massenet). Cantata No. 170 (Bach). Concerto for Pianoforte and Orchestra (Hummel). Scheherazade (Rimsky-Korsakov). In the interval at 9.15—Press Review and News.

POZNAN (Poland)

866 kc/s (335 m.); 1.0 kW. Transmits at intervals from 11.45 a.m. 7.15 p.m.—Light Music on Gramophone Records. 7.30—Talk on Philosophy. 7.45—See Warsaw. 8.0—See Lvov. 8.15—Programme of Students' Songs by the Surma Students' Society. In the intervals, Theatre Guide. 10.0—10.35—See Warsaw. 10.35—Sports Notes and Police Report. 10.45—Dance Music from the "Esplanade" Café. 12 midnight (approx.)—Close Down.

PRAGUE (Czechoslovakia)

614 kc/s (488.6 m.); 120 kW. Transmits at intervals from 11.0 a.m. 4.10 p.m.—Orchestral Concert, conducted by Tvrđy, relayed from Moravská-Ostrava. 5.10—"The Princess Juliana and the Dragon Drobeck"—Puppet Show in Three Acts (Kadlec). 6.0—Gramophone Records

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THURSDAY (May 5)

PRINCIPAL EVENTS

SERVICES AND SACRED MUSIC

9.55 a.m. Hamburg: Ascension Day Service, from Schwerin.
 11.30 ,, Leipzig and all German Stations: Church Cantata (Bach).

SYMPHONY CONCERTS

8.0 p.m. Heilsberg: "The Seasons" (Haydn).
 8.20 ,, Bucharest: "The Bartered Bride" (Smetana).
 9.10 ,, Munich: Orchestral Programme.
 10.15 ,, Oslo: Pastoral Symphony (Beethoven).

CONCERTS (Vocal and Instrumental)

8.0 p.m. Berlin Witzleben: Orchestral programme.
 8.0 ,, Hamburg: Vocal and Orchestral.
 8.0 ,, Leipzig: Orchestral concert.
 8.15 ,, Warsaw: Spring-time Music.
 8.55 ,, Hilversum: Wagner programme.
 9.0 ,, Copenhagen: Classical programme (Emil Telmanyi, violin).
 10.10 ,, Copenhagen: Opéra Comique programme.

OPERAS AND OPERETTAS

7.35 p.m. Vienna: "Tosca" (Puccini) (gramophone records).
 8.0 ,, Langenberg, Königs-Wusterhausen: "I Seraglio" (Mozart).
 8.30 ,, Budapest: "Rigoletto" (Verdi).
 8.50 ,, Palermo: "La cena delle beffe" (Giordano).
 9.0 ,, Italian stations (Northern): I puritani (Bellini).

RECITALS

7.40 p.m. Hilversum: Violin.
 10.10 ,, Warsaw: Violin.

PLAY

9.0 p.m. Breslau: "The German Provincials" (Kotzebue).

DANCE MUSIC

10.30 p.m. Hamburg.
 11.0 ,, Copenhagen (till 12.30).

The Residentie Orchestra

Though the Concertgebouw Orchestra of Amsterdam is better known abroad, the people of The Hague will not admit that it is in any way superior to their own Residentie Orchestra; certainly the latter is not lacking in fine players, like the principals, Sam Svaap, Devert, Ch. van Isterdael, Jaap Stotyn and others. In the summer the Residentie Orchestra



[Nini & Curry Hess, Frankfurt.]

Hans Rosbaud,
 Music Director at Frankfurt Station

in the great concert hall at The Hague under Peter van Anrooy. The Orchestra is engaged at HILVERSUM for a Wagner Festival to-night, when it will be conducted by Albert van Raalte; for the last six years he has been conductor of the Scottish Orchestra at Glasgow, an engagement he has renewed for 1932-1933, and musical adviser of the A.V.R.O. One of his predecessors at Glasgow was his distinguished fellow-countryman Willem Kes.

Bellini's Puritans

In the heyday of Italian opera, a hundred years ago, Bellini's name was a household word. Born in Sicily in 1801, he died at the early age of thirty-four, while on a visit to an English friend who lived near Paris. But in that short span of years he produced several operas which are masterpieces in their own class, full of the simple lyric beauty which was the ideal of that age. *The Puritans*, to a feeble libretto based on one of Scott's Waverley novels, was his last opera, produced shortly before his death: in Paris the season of Italian opera opened with it that autumn—1835—on the very eve of his funeral, and within a few hours after the first performance, the artists who had formed the cast were singing its melodies again to the words of the burial service. How high his position in the world of music was, may be gauged by the devotion with which Rossini, Cherubini, Habeneck and other great men of the day, joined in that service: Bellini was liked for himself, too, by all who came in touch with him. The tenor part of Arthur, and the prima donna's rôle of Elvira, were favourites with all the leading singers a century ago, and "the Puritani season," as 1835 was called, when Grisi sang Elvira, was one of the most brilliant in London's operatic history. The story, unlike most opera plots, ends in happiness, though all the people concerned have to come through many trials and dangers. Thrice—once in each of the three acts—Elvira has a scene in which grief and terror send her mad, though not, of course, too mad to sing brilliantly. The NORTHERN ITALIAN STATIONS broadcast the opera on Sunday and to-day.

NATIONAL

	kc/s.	m.	kW.
London:	1,148	261.3	50
Daventry:	193	1,554.4	30
Northern:	995	301.5	50

10.15 a.m.—The Daily Service.
 10.30—Time Signal (Greenwich); Shipping Forecast.
 10.45—11.0—"Healthy Children." Dr. Cyril Burr.
 12 noon—The Scottish Studio Orchestra. Directed by Guy Daines.
 1.0 p.m.—Time Signal (Greenwich).
 1.0—2.0—The Shepherd's Bush Orchestra. Directed by Harry Fryer.
 2.5—"Tracing History Backwards"—Term III.
 2.30—Speech Training. Mr. A. Lloyd-James: "King's English"—III.
 3.0—3.45—Evensong. From Westminster Abbey.
 4.0—The B.B.C. Dance Orchestra. Directed by Henry Hall.
 4.30—The Midland Studio Orchestra. Directed by Frank Cantell.
 4.45—Time Signal (Greenwich).
 5.15—(Daventry)—The Children's Hour.
 5.15 (London and Northern)—The B.C.C. Dance Orchestra.
 6.0—"The First News."
 6.30—Time Signal (Greenwich).
 6.30—The Foundations of Music. Schumann Quartets. Mr. Otto Siepmann.
 7.20—The Weekly Bulletin of Special Notices.
 7.30—"The Growth of the Modern World Order"—IV.
 8.0—Military Band Transcriptions. By R. J. F. Howgill. The Wireless Military Band. William Dennis (Baritone).
 9.0—Time Signal (Greenwich).
 9.0—"The Second News."
 9.15—Shipping Forecast; New York Stock Market Report.
 9.20—"The Way of the World." Mr. Vernon Bartlett.
 9.35—"Miscellany." Being a collection of Plays, Songs, and Poems chosen and adapted for broadcasting by C. Denis Freeman and M. H. Allen.
 10.30—A Short Service. Relayed from St. Michael's, Chester Square.
 10.45—12 midnight—Dance Music. (Continued at foot of column 2.)

REGIONAL

	kc/s.	m.	kW.
London:	842	356.3	50
Midland:	752	398.9	25
Northern:	626	479.2	50

10.15 a.m. (London and Northern)—The Daily Service.
 10.30—11.0 (London and Northern)—Daventry National Programme.
 11.30—12 noon (London)—Experimental Television Transmission (Baird Process).
 12 noon—Edward O'Henry. At The Organ.
 1.0 p.m.—The Northern Studio Orchestra. Betty McIntyre (Contralto) (From Leeds).
 2.0—3.0—Laddie Clarke's Imperial Hydro Hotel Orchestra.
 4.0 (London and Northern)—The B.B.C. Dance Orchestra.
 4.30 (London and Northern)—The Midland Studio Orchestra.
 5.15—"The Children's Hour."
 6.0—"The First News."
 6.30—Regional Bulletin for Farmers.
 6.35 (Northern and London)—The Northern Studio Orchestra. Helen Jackson (Viola). Stanley Webb (Tenor).
 6.35 (Midland)—A Request Programme. The Midland Studio Orchestra. Chatterly Ingram (Contralto). Mary Abbott (Pianoforte).
 7.30 (London)—Music for Two Violins. Winifred Small. Jean Pougnat.
 8.0—"The Yorkshire Mummings."
 8.45—National Safety First Congress. Address by The Home Secretary, the Right Hon. Sir Herbert Samuel.
 9.0 (London and Midland)—An Orchestral Concert. The B.B.C. Orchestra. (Section E.) Conducted by Joseph Lewis.
 9.0 (Northern)—An Organ Recital. By Dennis Chapman. The Pilsley Lyric Male Voice Quartet.
 9.55 (Northern)—Mr. W. E. Shewell Cooper: "The Northern Garden."
 10.15—Second General News Bulletin.
 10.35—11.0 (Midland)—As London.
 10.35—12 midnight (London and Northern)—Dance Music.
 11.30—Time Signal (Greenwich).
 12 midnight—12.5 a.m.—Experimental Transmission (Ultraphone Process).

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

ALGIERS (N. Africa)

825.3 kc/s (363.3 m.); 13 kW. Transmits at intervals from 12.30 p.m. to 7.0 p.m.—Transmission of Pictures.
 7.15—Financial Notes and Market Prices and Exchange Quotations.
 7.25—Shipping Notes and Weather Forecast.
 7.30—Talk by Professor Cosinus.
 7.40—Light Music.
 7.55—News and Time Signal.
 8.0—"Manon"—Opéra-Comique in Five Acts (Massenet).

BARCELONA (Spain)

Radio-Barcelona (E.A.J.). 860 kc/s (349 m.); 8 kW. Transmits at intervals from 8.30 a.m. to 8.0 p.m.—Concert by the Station Trio. Arioso (Delibes). Selection from "Cavalleria rusticana" (Mascagni). Melody for "Cello (J. de Smetsky). Minuet (P. Steck).
 8.30—Exchange Quotations and Advanced English Lesson.
 9.0—Request Gramophone Records and Press Review.
 10.0—Chimes, Weather, Market Prices and Exchange Quotations.
 10.5—Orchestral Selections. March, The Horse Guards (Gilsourt). Russian Song, Moskwa (Decker). Romance from the Fourth Symphony (Schumann). Ballet (Lortzing).
 10.30—Argentine Programme by Pili Cañete.
 11.0—Ramon Tor recites from his own Poems.
 11.10—Choral Concert.
 12.15 a.m. (Friday)—Request Gramophone Records.
 1.0 (approx.)—Close Down.

BELGRADE (Yugoslavia)

697 kc/s (430.4 m.); 2.5 kW. Transmits at intervals from 11.0 a.m. to 4.0 p.m.—Light Music on Gramophone Records.
 5.0—Dance Music by the Sadoz Jazz Orchestra.
 5.30—"Gymnastics."
 6.55—Time Signal and Programme Announcements.
 7.0—French Dialogue.
 7.30—Dance Music (continued).
 8.0—Medical Talk.
 8.30—See Ljubljana.
 10.30—News and Sports Notes.
 11.0—Concert by the Station Orchestra.
 12 midnight—Czigány Music relayed from the "Potrosacka Zadruga."
 12.30 a.m. (Friday)—Dance Music from the "Ruski Car"

Restaurant. 1.0—Light Music on Gramophone Records.
 2.0 (approx.)—Close Down.

BERLIN (Germany)

Königs-Wusterhausen. 183.5 kc/s (1,635 m.); 60 kW. Transmits at intervals from 5.45 a.m. to 11.30 a.m.—See Leipzig.
 12.10—Part Relay of the Demonstration for the Maintenance of the People's Theatre, relayed from the Schauspielhaus. Talk and Reading (Schiller), followed by Selections by the Berlin Symphony Orchestra, the Orchestras of the State and Municipal Opera Houses, and the United Choirs of the State and Municipal Opera Houses, conducted by Leo Blech.
 1.0—Part Relay of a Concert from Berlin (Witzleben).
 2.20—Reading of Lyrics.
 2.30—Talk: The Return of Genius.
 2.55—Reading from the Works of Goethe, Herder, Rückert, and Friedel Kamnitzer.
 3.10—Recital of Old Danish Ballads and Romances, relayed from Hamburg.
 4.15—Talk: Sea Voyages for Health on German Ships.
 4.40—Talk: Blossom Time in Guben, relayed from Berlin (Witzleben).
 5.20 (approx.)—Concert from Berlin (Witzleben).
 7.0—See Langenberg.
 7.45—Talk: Travelling in Germany.
 8.0—See Langenberg.
 10.30 (approx.)—Dance Music from Berlin (Witzleben).
 12.30 a.m. (Friday)—Close Down.

BERLIN (Germany)

Witzleben. 715 kc/s (419.5 m.); 1.5 kW. Transmits at intervals from 6.0 a.m. (Gymnastics and Hamburg Relay).
 5.10 p.m.—Wind Instrument Concert of Light Music.
 7.0—"Beloved Berlin"—a Variety Programme with Paul Graetz.
 7.50—Sports Notes.
 8.0—Orchestral Concert conducted by Bruno Seidler-Winkler. "Overture," Alessandro Stradella. "Flotow." Ballet Music from "King Manfred" (Reinecke). Der Hirt auf dem Felsen, for Soprano, Clarinet and Orchestra (Schubert). Waltz (Fuchs-Heuberger). Rhapsodic Prelude, The Triumph of Life (Peterka). First Suite from "Peer Gynt" (Grieg). Prelude to "Faust" (Gounod). Soprano Solo from "Faust" (Gounod). Ballet Music, La Source (Delibes). Two Songs for Soprano and Orchestra: (a) Frieden (Plitzner),

(b) In meiner Heimat wird es nun Frühling (Trunk). Waltz, Bei uns zu Haus (Joh. Strauss).
 10.0—Weather, News and Sports Notes.
 10.15 (approx.)—Dance Music from the Europa Pavillon.
 12.30 a.m. (Friday)—Close Down.

BORDEAUX-LAFAYETTE (France)

(P.T.T.). 986 kc/s (304 m.); 13 kW. Transmits at intervals from 12.45 p.m. to 7.30 p.m.—News and Exchange Quotations.
 7.40—Talk: The Decrease in the Volume of International Trade.
 7.55—Lottery Results.
 8.0—Light Music on Gramophone Records.
 8.15—News and Weather Forecast.
 8.30—Popular Music on Gramophone Records.
 9.0—"La Maison avant tout"—Comedy in Three Acts (Pierre Hamp).

BRATISLAVA (Czechoslovakia)

1,076 kc/s (279 m.); 14 kW. Transmits at intervals from 5.10 p.m. to 6.45 p.m.—Light Music on Gramophone Records.
 7.0—See Prague.
 10.15—Programme Announcements and News.
 10.20—See Prague.

BRESLAU (Germany)

923 kc/s (325 m.); 1.5 kW. Relayed by Gletwitz, 1,184 kc/s (253 m.). Transmits at intervals from 6.30 a.m. to 5.40 p.m.—See Berlin (Witzleben).
 7.5—Weather Forecast.
 7.10—Talk: The Earth a Schoolroom.
 7.30—"Rustle of Spring"—a Radio Potpourri by the Station Choir and Orchestra, conducted by Franz Marszalek, and Soloists.
 8.50—News Bulletin.
 9.0—"The German Provincials"—a Comedy (August von Kotzebue).
 10.15—Time, Weather, News, Sports Notes and Programme Announcements.
 10.40—Dance Music from Berlin (Witzleben).
 12 midnight (approx.)—Close Down.

BRNO (Czechoslovakia)

878 kc/s (342 m.); 35 kW. Transmits at intervals from 7.0 a.m. to 7.0 p.m.—Reading (Bruno Brehms).
 7.30—See Prague.
 10.15—Announcements.
 10.20—See Prague.

BRUSSELS (Belgium) (No. 1)

I.N.R. 590 kc/s (509 m.); 15 kW. 7.0 a.m. and at hourly intervals

STUTTGART (MÜHL-ACKER) (Germany)
 Süddeutscher Rundfunk. 832 kc/s (160.5 m.); 65 kW. Relayed by Freiburg, 527 kc/s (570 m.). Transmits at intervals from 6.15 a.m. (Hamburg Relay).
 10.40 a.m. (from Freiburg)—Catholic Morning Recital. 11.30—See Leipzig.
 12.10 p.m.—Hugo Kaun Memorial Programme. "The German Rhine"—a Song Cycle (Kaun) by the St. Georgen Men's Choral Society, relayed from St. Georgen.
 1.10—Quartet Concert relayed from Karlsruhe. Abschied von der Mutter (Bäcker). My old Kentucky Home (Jüngst). O Wald in deinem Schatten (Baumann). Die Rosen (Wagenblass). Sternennacht (Schulken). Ae Spätzle liegt dort auf der Gass (Sonnet). Pfälzer Musikante (Landhäuser).
 1.40—Readings from the Works of Eduard Mörike and Annette Droste-Hülshoff. 2.0—Gramophone Concert of Folk Music. 3.0—Programme for Children.
 4.0—Orchestral Concert, conducted by Gustav Görlich. Soloist: Else Grünwald (Contralto). Selections from "Carmen" (Bizet): (a) Prelude to Act One, (b) Song, Habanera, (c) Prelude to Act Three, (d) Song. Prelude to "La Traviata" (Verdi). Song from "Il Trovatore" (Verdi). Waltz from "Faust" (Gounod). March, Preussens Gloria (Piefke). Waltz, Moonlight on the Alster (Fetras). Selections (Tschernetzki): (a) Fanfarenmarsch, (b) Brüder lustig! Overture, "Berlin wie es weint und lacht" (Conradi). Polka-Mazurka from "Die schöne Polin" (Millocker). Three Russian Folk Songs with Balalaika Accompaniment. Zwanzinette (Lehar). Song from "Boccaccio" (Suppé). Two Russian Folk Songs. Egyptian Serenade, Amina (Lincke). Two Songs. March, Frühlingskinder (Blankenburg). 6.0 (from Karlsruhe)—Author's Programme—Wilhelm Kohl.
 6.25—Trio Concert relayed from Mannheim. Trio for Violin, Cello and Pianoforte (Schubert). Trio for Violin, Cello and Pianoforte (Haydn).
 7.20—Sports Notes. 7.45—See

Frankfurt. 10.30—News Bulletin. 10.50—Concert by the Stuttgart Philharmonic Orchestra.
TOULOUSE (France)
 Radiophonie du Midi. 779 kc/s (385 m.); 8 kW.
 Transmits at intervals from 12.45 p.m. 5.0 p.m.—Transmission of Pictures. 5.15—Orchestral Selections. Minuet (Mozart). Pardon, Madame (Abraham). Solveig's Song (Grieg). Tes yeux sont aussi profonds que la Volga (Strinsky). Selection from "The Desert Song" (Romberg).
 5.30—News Bulletin. 5.45—Orchestral Selections from "The Drum-Major's Daughter" (Offenbach) and "Rose Marie" (Friml). 6.0—Chansonnettes. 6.15—Military Music. 6.30—News Bulletin. 6.45—Orchestral Selections from the Ballet "The Three-Cornered Hat" (Fallal). 7.0—Report for Tourists. 7.15—Sound Film Music. 7.30—News Bulletin. 7.45—Selections for Hunting Horn.
 8.0—Concert. Noce de campagne (Cheffer). La revanche (Laurenz). Lejos del rancho (Polito). Si tu veux ma mignonne (Massenet). Le parfum impérissable (Bizet). Selection from "Die Fledermaus" (Joh. Strauss). 8.30—Orchestral Selections. 9.0—Songs from "The Barber of Seville" (Rossini) and "La Tosca" (Puccini). 9.15—Military Music. 9.30—Accordion Solos. 9.45—Medical Talk: Laryngitis.
 10.0—Songs from "Pénélope" (Fauré) and "The Marriage of Figaro" (Mozart). 10.15—Orchestral Selections. Ballet Music from "Manon" (Massenet). Overture, "Mirella" (Gounod). 10.30—News Bulletin. 10.45—Songs from "L'Eau à la Bouche" (Parès-Van Parys).
 11.0—Concert. Ballet Music from "Faust" (Gounod). The Stars were shining from "La Tosca" (Puccini). L'Angelus de la mer (Goublier). Señor commissario (Canaro). Im Linthal (Geiser). Gymnastic March. Quand les lilas fleuriront. In a Persian Market (Ketelbey). Les patineurs (Waldteufel). Overture, "Sémiramis" (Rossini). Torch March (Meyerbeer). In the interval at 11.15—North African News. 12

THURSDAY continued

midnight—Weather, Announcements and Close Down.
TRIESTE (Italy)
 Ente Italiano Audizioni Radiofoniche. 1,211 kc/s (247.7 m.); 10 kW.
 Transmits at intervals from 8.15 a.m. 7.0 p.m.—Quintet Concert. Ojos negros (Negri). Flower Magic (Lindsay). Bambola Lenci (Maccello). Tokio (Lombardo). Selection from "La Donna perduta" (Pietri). Dialogo con la Luna (Chiri). La Villanella (Fiaccone). L'andalusiana (Carosio).
 8.0 till Close Down—See Turin.
TURIN (Italy)
 Ente Italiano Audizioni Radiofoniche. 1,096 kc/s (273.7 m.); 7 kW. Relayed by Milan, 905 kc/s (331.5 m.); Florence, 599 kc/s (500.8 m.); and Genoa, 959 kc/s (312.8 m.).
 Transmits at intervals from 8.15 a.m. 6.45 p.m.—Agricultural Notes. 7.0—Announcements.
 7.5—Musical Selections. Fantasia (Yoshitomo). Prelude to the Third Act of "The Cricket on the Hearth" (Goldmark). Festa villereccia (Billi). Puppazzetti giapponesi (Ranzato). 7.30—Time and Announcements. 7.31—Gramophone Records of Variety Music. 8.0—Giornale Radio and Announcements. 8.15—Concert by a Plucked String Orchestra. 8.30 (in an interval)—Talk for Housewives.
 9.0—"I Pugitani"—Opera in Three Acts (Bellini). In the intervals—Film Notes, Talk and Giornale Radio. News after the Programme.
VIENNA (Austria)
 Radio-Wien. 581 kc/s (517 m.); 15 kW. Relayed by Graz, 852 kc/s (352.1 m.); Innsbruck, 1,058 kc/s (283 m.); Klagenfurt, 662 kc/s (453.2 m.); Linz, 1,220 kc/s (246 m.); and Salzburg, 1,373 kc/s (218 m.).
 Transmits at intervals from 9.40 a.m. 6.50 p.m.—Song Recital by Niels Hansen. Legend of the Graal from "Lohengrin" (Wagner). Song at the Forge from "Siegfried" (Wagner). Siegmund's Love Song

from "The Valkyries" (Wagner). Aria from "Manon" (Massenet). Prize Song from "The Mastersingers" (Wagner).
 7.25—Time Signal, Sports Notes and Programme Announcements. 7.35—"La Tosca"—Opera in Three Acts (Puccini) on Gramophone Records by the Cast of the Scala, Milan, conducted by Lorenzo Malajoli. 9.35—News Bulletin and Announcements. 9.50—Programme of Dance Music by the Hanns Robert Korngold Jazz Band, with Vocal Refrains by Charles Baker.
WARSAW (Poland)
 Polskie Radio. 212.5 kc/s (1,411 m.); 120 kW.
 10.0 a.m.—High Mass relayed from Cracow, 959 kc/s (312.8 m.). 11.58—Time Signal and Bugle Call from the Tower of St. Mary's Church, Cracow. 12.5 p.m.—Programme Announcements. 12.10—Weather Report. 12.15—Symphony Concert by the Warsaw Philharmonic Orchestra, conducted by B. Wolfstal. Soloists: J. Goldevska (Vocalist) and S. Tawrozewicz (Violin). Symphony No. 8 in F Major (Beethoven). Songs: (a) Two Arias from "Orpheus and Eurydice" (Glück), (b) Addio (Mozart), (c) Erinnerung (Beethoven), (d) Kennst du das Land? (Beethoven). Violin Concerto.
 2.0—Talk: Honey.
 2.20—Concert of Light Music by the Rachon Sextet. Janiszewsky (Cello) and B. Nietyksza (Tenor). March of the Janissaries (Reiterer). Waltz, Gold and Silver (Lehar). Cello Solo: Chanson triste (Tchaikovsky). Mazurka (Namyslovsky). 2.40—Agricultural Talk. 3.0—Concert (contd.). Waltz, The Vistula (Pianovsky). Potpourri, Dividenden (Morena). Cello Solo: Childhood Memories (Popper). Waltz from "Pan Twardowski" (Rozycky). Elegy (Lincke). Tango, Pourquoi (Valerio). The Sparrows' Parade (Rathke). Tango (Lebkovsky). Memories of Wilno (Eilenberg). Boston (Freudenthal). Mazurka (Pianovsky). March (Fucik).
 3.55—Programme for Children. 4.20—Light Music on Gramophone Records. 4.40—Talk: Napoleon in Fiction and in Reality. 4.55—Popular Music on Gramophone Records.

5.10—Talk relayed from Cracow. 5.35—Useful Hints. 5.45—Concert by the State Police Band, conducted by Al. Sielski, with Edv. Zwidryn (Soprano). Pianoforte accompaniment by Louis Urstein. Polonaise No. 5 (Oginsky). Waltz, Wo die Zitronen blüh'n (Johann Strauss). Selection from "Carmen" (Bizet). Minuet (Paderevsky). Songs: (a) Air from "Die tote Stadt" (Korngold), (b) Song from "Lakmé" (Delibes), (c) Air from "The Magic Flute" (Mozart), (d) Air from "The Marriage of Figaro" (Mozart). Overture, "Light Cavalry" (Suppé). Intermezzo (Siede). Cavatina (Raff). March, El Capitan (Souza).
 7.0—Miscellaneous Items. 7.35—Light Music on Gramophone Records. 7.40—Programme Announcements. 7.45—Dramatic Programme. 8.15—Concert of Spring-time Music, by the Station Orchestra, conducted by S. Nawrot. Soloists: M. Fogg (Vocalist), R. Szulc (Xylophone) and Louis Urstein (Pianoforte). Overture, The Festival of Flowers (Fetras). Frühlingserwachen (E. Bach). Intermezzo (Mannfred). Blumengefüster (Blon). Songs: (a) Lily of the Valley (Julsky), (b) Air (Hakos), (c) Spring is singing (Gordon). Xylophone Solos: (a) Fantasia on the Air "Home Sweet Home" (Fredhe), (b) Nightingale's Song (Rektenwald). Rustle of Spring (Sinding). Waltz (Haines). Spring (Mauder). The Narcissus (Nevin). Die Lotusblume (Lincke). Songs: (a) Air (Krupinsky), (b) Frauen und Blumen (Grothe), (c) Song (Mis). Xylophone Solos: (a) The Awakening of the Spring Flowers (Löhner), (b) Polka (Radcke). Spring Suite (Nevin-Artok). Waltz, Frühlingsstimmen (Johann Strauss). March, Frühlingsankunft (Blon). 9.55—Reading. 10.0—Violin Recital by Z. Roesler. Sonata, Il Trillo del diavolo (Tartini). Catalan Song (Albeniz-Dushkin). Arab Melody (Glazounov). Poème (Chausson). Melody (Nick-Frenkel). Waltz (Hummerl-Burmester). 10.40—Weather and Police Notes. 10.45—Sports Notes. 10.55—Interval. 11.0—Dance Music. 12 midnight (approx.)—Close Down.

PRINCIPAL EVENTS

SYMPHONY CONCERTS

8.15 p.m. Warsaw: The Philharmonic Orchestra.
 9.10 " Vienna: The Bruckner Symphonies, No. 5.

CONCERTS (Vocal and Instrumental)

7.25 p.m. Vienna: Old Dance Music and Songs.
 8.0 " Leipzig, Königs Wusterhausen, Langenberg: Operetta music.
 8.0 " Radio-Paris: "Faust in Music."
 9.15 (app.) Brussels No. 1: The new Radio Orchestra.
 9.20 " Stuttgart, Frankfurt: Cembalo music.
 10.15 " Copenhagen: Old Danish Music.
 10.30 " Strasbourg: Programme relayed from Paris.
 10.45 " Frankfurt, Stuttgart: Late Concert.

OPERAS AND OPERETTAS

7.55 p.m. Hamburg: "Knight Roland" ("Orlando Paladino") (Haydn).
 8.0 " Breslau: "The Barber of Bagdad" (Cornelius).
 8.5 " Heilsberg: Opera Excerpts.

CHAMBER MUSIC

9.0 p.m. Budapest: Pianoforte Trios.
 9.0 " Italian stations (Northern).
 9.0 " Radio-Suisse. Romande: Pianoforte Trios.

PLAYS AND TALKS

4.45 p.m. Radio-Paris: "The History of Music," (Paul Landormy).
 7.30 " Berlin (Witzleben): "Humboldt and Berlin University."
 9.0 " (app.) Rome: "Peccato" (Poggio).

MISCELLANEOUS

9.0 p.m. Munich: The Trautonium and the Neo-Bechstein.

DANCE MUSIC

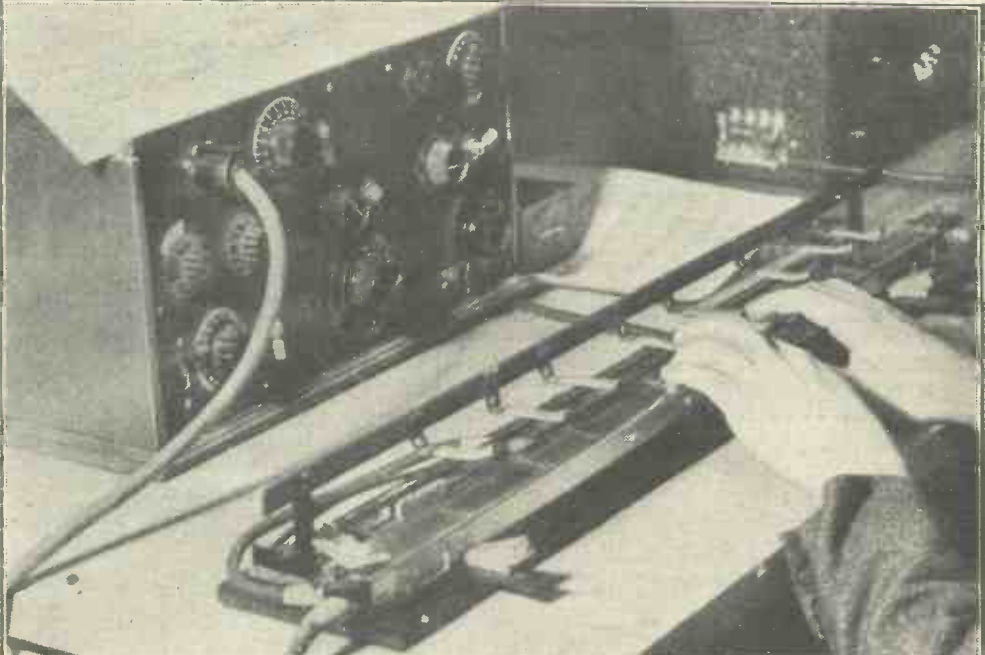
10.35 p.m. Vienna.
 11.15 " (app.) Berlin (Witzleben), Königs Wusterhausen.

FRIDAY (May 6)

Two Electric Inventions

"Das Deutsche Museum," Munich, is the largest of the world's museums which are devoted wholly to technical inventions. Once a year its governing body organises a meeting of distinguished scientists; this year it takes the form of a dinner in the old Town Hall, at which two of the guests are to be Geheimrat Professor Dr. Nernst of Berlin University,

by which the tones are "picked up." Dr. Trautwein will speak of his Trautonium, the electric musical instrument which Telefunken make, and of which some account has already been given in our pages. Recitals on both instruments will follow, and speeches and recitals are to be broadcast by MUNICH station. The time is 9 p.m.



The Trautonium Manual

[Photo: A. A. Gulliland.



MEASURE IT UP

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ARKS

SATURDAY (May 7)

PRINCIPAL EVENTS

CONCERTS (Vocal and Instrumental)

- 6.30 p.m. Brussels No. 1: Mathieu Crickboom programme.
7.20 ,, Hamburg : Double quartet (Vocal).
8.0 ,, Brussels No. 2: Jef Van Durme programme.
8.0 ,, Leipzig: "The Seven Last Words" (Haydn).
8.0 ,, Munich, Berlin (Witzleben), Breslau, Hamburg: Folk Music.
8.0 ,, Oslo.
8.0 ,, Schweizerischer Landessender: Chamber Orchestra.
8.45 ,, Radio-Paris: An Evening of Song.
9.0 ,, Italian stations (Northern): Orchestral.
9.15 ,, Prague: Orchestral.
9.25 ,, Copenhagen: Suppé programme.
9.30 ,, Radio-Suisse Romande: Schubert programme.

OPERAS, OPERETTAS

- 7.30 p.m. Budapest: "The Land of Smiles" (Lehár).
8.15 ,, Stuttgart, Frankfurt: "Frühlingsluft" (operetta on Strauss melodies).
8.45 ,, Rome: Studio Opera.
8.45 ,, Strasbourg: "Monsieur de la Palisse" (Terrasse).
8.50 ,, Palermo: "A Waltz Dream" (Lehár).

RECITALS

- 7.35 p.m. Vienna: Pianoforte.
8.30 ,, Prague: Piskacek's music.
10.10 ,, Warsaw: Chopin.

MISCELLANEOUS

- 8.0 p.m. Langenberg, Heilsberg, Königs-Wusterhausen: Variety programme.

DANCE MUSIC

- 8.0 p.m. Stockholm: Spring Ball.
10.30 ,, Strasbourg (till 12.0).
11.0 ,, Copenhagen (till 12.15).

Festival in Annaberg

The Central German Broadcasting Company is arranging a Festival of Music in the Erzgebirge-town of Annaberg to-day and to-morrow, and the Saxon Government is lending its patronage to the



(Photo: Paul Schaefer, Wiesbaden.)

Carl Schuricht, who recently succeeded Dr. Adolf Szendrei as Music Director of the Central German Broadcasting Company

undertaking. One object of the Festival is to do honour to the composer Heinrich Koselitz; born in Hamburg, he achieved distinction not only as a musician under the assumed name of Peter Gast, but also as a friend of the philosopher Nietzsche. On both days of the Festival, the Leipzig Symphony Orchestra is to perform programmes chosen from the big symphonic music of Beethoven and Bruckner, and the Haydn oratorio, The Seven Words at the Cross, will also be given. That last is to be broadcast from LEIPZIG station, as will also be a big popular competition in singing set down for to-morrow afternoon (May 8th).

Franz von Suppé

The composer whom the whole world knows as Franz von Suppé, had the much more imposing name of Francesco Ezechiele Ermenegildo Cavaliere Suppé Demelli. Although his taste for music developed so early that when he was fifteen he had a Mass of his own sung in church, he was intended, like many another musician, for a more prosaic career. It was only after his father's death that he persuaded his mother to allow him to take up music in earnest. For the greater part of his life he lived in Vienna, and it was there that most of his operas and operettas were first staged, though many of them quickly made their way much farther afield. More than one was produced in London, and Paris also succumbed to the lure of his melodious gaiety. His industry was such that, according to one authority, he left the amazing number of 165 light operas and smaller works, as well as at least two grand operas. Among the former there is one which anticipated Lilac Time, a little opera called Franz Schubert, in which some of Schubert's own melodies were incorporated. Known now chiefly by the overtures to about half a dozen of his operettas, he is so popular a figure by virtue of them alone, that his name is likely to endure for many generations to come. The overture to Poet and Peasant, for instance, is published by one firm alone in no less than fifty-nine arrangements for different combinations of instruments. A programme of his music is being broadcast from COPENHAGEN at 9.25 this evening.

NATIONAL

Table with columns: London, Daventry, Northern, kc/s, m., kW.

REGIONAL

Table with columns: London, Midland, Northern, kc/s, m., kW.

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

ALGIÈRS (N. Africa) 825.3 kc/s (363.3 m.); 13 kW. Transmits at intervals from 12.30 p.m. 7.0 p.m.—Chansonnettes. 7.15—Financial Report. 7.25—Shipping Report, Agricultural Notes and Weather Forecast. 7.30—Chansonnettes. 7.45—Violin, Cello and Organ Solos. Violin Solo: La Follia (Corelli). Cello Solo: Adagio cantabile (Nardini). Cello and Organ Selection: Nocturne (Faure). 8.0—News and Time Signal. 8.5—Overture from "Les Brigands". Operetta (Offenbach). 8.30—Request Concert on Gramophone Records.

BARCELONA (Spain)

Radio-Barcelona (EAJ1). 860 kc/s (340 m.); 8 kW. Transmits at intervals from 8.30 a.m. 8.0 p.m.—Concert by the Station Trio. 8.30—Exchange Quotations and Elementary English Lesson. 9.0—Request Gramophone Records and News Bulletin. 10.0—Chimes, Weather, Market Prices and Exchange Quotations. 10.15—Orchestral Selections. March, Elektrafilm (Kostal). Waltz, Künstlerleben (Joh. Strauss). Selection from "Molinos de viento" (Luna). Le Matin (Chaminade). 10.30—Programme from Madrid.

BELGRADE (Yugoslavia)

697 kc/s (430.4 m.); 2.5 kW. Transmits at intervals from 11.0 a.m. 4.0 p.m.—Evensong Relay. 4.30—Request Gramophone Concert. 5.30—Yugoslavian Songs by Nada Aleksandrovic. 6.55—Time Signal and Programme Announcements. 7.0—German Dialogue. 7.30—Talk (to be announced). 8.0—Selections from "Rigoletto"—Opera (Verdi). The Station Orchestra. Soloists: Beba Kapmadzija and Pavle Holodkov. 8.45—Dramatic Programme. 9.30—News Bulletin. 9.50—Concerto (Rachmaninov) played by the Composer, on Gramophone Records. 10.30—Dance Music on Gramophone Records.

BERLIN (Germany)

Königs Wusterhausen. 183.5 kc/s (1,635 m.); 60 kW. Transmits at intervals from 5.45 a.m. (Weather, Gymnastics and Concert). 12 noon—Weather for Farmers. 12.2 p.m.—Gramophone Concert of Opera Music, followed by Weather for Farmers. 12.55—Time Signal. 1.30—News Bulletin. 2.0—Gramophone Concert of Sound Film Music, relayed from Berlin (Witzleben). 2.50—Talk: Handwork for Children. 3.30—Weather and Exchange. 3.45—Talk for Women. 4.0—Legal Talk. 4.30—Concert from Hamburg. 5.30—Health Talk. 5.50—Talk: The German Painter, Otto Ubbelohde. 6.5—German Lesson. 6.30—Talk on Aviation. 6.55—Weather for Farmers. 7.0—English Lesson. 7.30—Talk, followed by Weather for Farmers. 8.0—See Langenberg. 10.0—Weather and News. 10.30 (approx.)—Dance Music from Berlin (Witzleben). 12.30 a.m. (Sunday)—Close Down.

BERLIN (Germany)

Witzleben. 715 kc/s (419.5 m.); 1.5 kW. Transmits at intervals from 6.0 a.m. (Gymnastics and Concert from Heilsberg). 4.5 p.m.—Orchestral Concert, conducted by Bruno Seidler-Winkler. Overture, "The Secret Marriage" (Cimarosa). Suite from "Cosi fan tutte" (Mozart-Stueber). Concerto in B Flat Major for Violin and Orchestra (Stamitz, arr. v. Klengel). Musik zu einem Ritterballett (Beethoven). Festliche Musik (Wappenschmitt). Manx Rhapsody (de Massi-Hardman). Prelude to "Khovanschina" (Moussorgsky). Intermezzo (Moussorgsky). Bulgarian Rhapsody, Vardar (Vladigerov). In the interval, Film Notes. 6.0—Talk: Bremen as a German Sea Port. 6.25—Labour Market Report. 6.30—Fantasia in C Major, Op. 17, for Pianoforte (Schumann). 6.55—"The Witzleben Station informs its Listeners. . ." 7.0—Topical Talk. 7.10—Sports Notes. 7.20—Talk: Mother's Day in Germany. 7.35—"The Narrative of the Week." 8.0—See Munich. 9.0—News and Sports Notes. 9.10—A Revue (Karl Schnog, Music by Walter Gronostay). 10.15—Weather, News and Sports

Notes. 10.30 (approx.)—Dance Music from the Eden Hotel. 12.30 a.m. (Sunday)—Close Down.

BORDEAUX-LAFAYETTE (France)

(PIT). 986 kc/s (304 m.); 13 kW. Transmits at intervals from 12.45 p.m. 7.45 p.m.—News, Exchange and Lottery Results. 7.50—Talk on Bullfighting. 8.5—Sports Notes. 8.10—Advanced English Lesson. 8.25—News and Weather Forecast. 8.30—Concert of Light Music on Gramophone Records. 9.0—"Our Youth"—Comedy in Four Acts (Alfred Capus). After the Programme, Bordeaux Amusement Guide and Time Signal.

BRATISLAVA (Czechoslovakia)

1,076 kc/s (279 m.); 14 kW. Transmits at intervals from 11.0 a.m. 7.0 p.m.—See Prague. 7.25—See Moravská-Ostrava. 8.25—See Prague. 10.20—Programme Announcements and Notices. 10.25—See Moravská-Ostrava.

BRESLAU (Germany)

923 kc/s (325 m.); 1.5 kW. Relay by Gietwitz, 1,184 kc/s (253 m.). Transmits at intervals from 6.0 a.m. 6.20 p.m.—Review of the Week's Talks and Literature. 6.45—Weather Forecast. 6.50—Popular Song Potpourri by the Station Orchestra, conducted by Franz Marszalek. Two Selections (Borchert): (a) From Heidelberg to Barcelona, (b) Hören Sie zu! Bitte recht freundlich (Ralph). Hallo! 1930! (Borchert).

7.35—Weather Forecast. 7.40—"That will interest you!"—Surprise Programme. 8.0—See Munich. 9.0—News Bulletin. 9.10—See Berlin (Witzleben). 10.15 (in the interval)—Time, Weather, News, Sports Notes and Programme Announcements. 12 midnight (approx.)—Close Down.

BRNO (Czechoslovakia)

878 kc/s (342 m.); 35 kW. Transmits at intervals from 11.0 a.m. 7.0 p.m.—See Prague. 7.25—Brass Band Concert. 8.15—Reading.

SATURDAY continued

marsch (Kühne). The Blue Danube (Johann Strauss). March, Ein Manneswort (Pollack). Waltz, The Wedding of the Winds (Hall). March, Germania (Keil). Waltz Potpourri No. 3 (Robrecht). 7.30—Reading (Jeremias Gotthelf). 1.0—See Frankfurt. 8.0—Concert by Teachers and Pupils of the Conservatoire of Music, relayed from the Gustav-Siegler-Haus. Part I.—August Halm. Music to Shakespeare's "A Midsummer Night's Dream" for Orchestra and Pianoforte. Part II.—Hugo Hermann. Japan Suite, Op. 71, for Mixed Choir a-cappella. Little Chamber Music in Old Style, Op. 13, for String Orchestra and Pianoforte. Part III.—Paul Hindemith. Frau Musica, Op. 45—Music for Singing and Playing. 5.0—See Frankfurt. 6.15—Time and Sports Notes. 6.25—Talk: Aviation as a Sport and its Aims and Accomplishments in Germany. 6.50—See Frankfurt. 7.15—Time and Weather. 7.30—Cherry Blossom in Stetten, Strümpfelbach and Schnait—a Radio Report. 8.15—"Frühlingsluft" Operetta in Three Acts (Josef Strauss-Reiterer). 10.20—News, Time, Programme Announcements and Weather. 10.45—Jazz on Two Pianofortes by Hilde Loewe and Poldi Donath-Sperling. 11.15—Dance Music from Berlin (Witzleben). 12.30 a.m. (Sunday)—Close Down.

TOULOUSE (France) Radiophonie du Midi. 779 kc/s (385 m.); 8 kW. Transmits at intervals from 12.45 p.m. 5.0 p.m.—Transmission of Pictures. 5.15—Orchestral Selections from "The Mastersingers" (Wagner). 6.0—Sound Film Music. 6.15—Orchestral Selections. Overture, "Rienzi" (Wagner). Jubel-Ouverture (Weber). 6.30—News and Exchange. 6.45—Orchestral Selections from "Un bon garçon" (Yvain), and "Paganini" (Lehar). 7.0—Light Music. 7.15—Spanish Songs. 7.30—News and Horse Racing Results. 7.45—Accordion Solos. 8.0—Military Music. 8.15—Songs from "Lakmé" (Delibes). 8.30—German Lesson. 8.45—Light Music. 8.45—Chansonnettes. 9.0—Selections from (a) "The Merry

Widow" (Lehar), and (b) "Countess Maritza" (Kálmán). 10.0—Savophone Solos. Plaisir d'amour (Martini). Serenade (Saint-Saëns). Serenade (Drigo). Serenade (Rachmaninov). 10.15—Light Music. 10.30—News Bulletin. 10.45—Organ Solos. 11.0—Concert. Souviens-toi (Borel-Clerc). Duet from the First Act of "Manon" (Massenet). Danse macabre (Saint-Saëns). Piedad (Cérenocs). Selection from "A Waltz Dream" (O. Strauss). Salut, demeure chaste et pure (Gounod). When I dance with you (Heymann). Morning from the Peer Gynt Suite (Grieg). Berceuse de Jocelyn (Godard). Tyrolean Dance. Musette (Léojac). Délicieuse (Vacher). 12 midnight—Weather, Announcements and Close Down.

TRIESTE (Italy) Ente Italiano Audizioni Radiofoniche. 1,211 kc/s (247.7 m.); 10 kW. Transmits at intervals from 8.15 a.m. 7.5 p.m.—Quintet Concert. Overture, "Tancred" (Rossini). Memories of the Ukraine (Ferraris). L'ultimo bacio (Mildiego). Selection (Brodzky). Selection from "Fedora" (Giordano). Minuet (Ramella). Gong (Grovesio). 8.0 till Close Down—See Turin.

TURIN (Italy) Ente Italiano Audizioni Radiofoniche. 1,096 kc/s (273.7 m.); 7 kW. Relayed by Milan, 925 kc/s (332.5 m.); Florence, 599 kc/s (500.8 m.); and Genoa, 959 kc/s (312.8 m.). Transmits at intervals from 8.15 a.m. 6.45 p.m.—Agricultural Notes. 7.0—Announcements. 7.5—Musical Selections. Selection (Borchert). Selection from "The Three Musketeers" (Friml). Porzellanpüppchen (Lincke). Oh Donna Clara (Petersbursky). 7.30—Time and Announcements. 7.31—Gramophone Records of Variety Music. 8.0—Giornale Radio and Weather. 8.15—Concert of Light Music. Prelude to "Faust" (Gounod). Suite for Strings (Toni). Zwei Märchenaugen (Kálmán). 8.45—Talk: Events and Problems.

9.0—Orchestral Concert, conducted by Arrigo Pedrollo. Overture, "A Midsummer Night's Dream" (Mendelssohn). Two Selections (Beriso): (a) Il vecchio castello sul lago incantato, (b) Notte di luna. Norwegian Rhapsody (Svendsen). Review of Books. Nocturne and Rondo fantastico (Pick-Mangiagalli). Suite, Antiche danze ed arie (Respighi). Overture "The Mastersingers" (Wagner). 11.0—Giornale Radio, followed by Music from the Fiaschetta Toscana, Milan. 11.55—News Bulletin.

VIENNA (Austria) Radio-Wien. 581 kc/s (517 m.); 15 kW. Relayed by Graz, 852 kc/s (352.1 m.); Innsbruck, 1,058 kc/s (283 m.); Klagenfurt, 662 kc/s (453.2 m.); Linz, 1,220 kc/s (246 m.); and Salzburg, 1,373 kc/s (218 m.). Transmits at intervals from 9.20 a.m. 11.30 a.m.—Concert of Popular Music by the Michael Weiss Orchestra. 1.0 p.m.—Time, Weather and Announcements. 1.10—Concert (continued). 1.45—Gramophone Records: by Maurice Ravel conducting: Bolero (Ravel) by the Orchestra of the Concerts Lamoureux, Paris. 3.0—Time, Weather and Exchange. 3.20—"The World on Gramophone Records"—an Excursion to Montserrat, with Explanatory Notes by Wilhelm Ziesemer. 4.0—Reading for Boys. 4.30—Talk: The International Swimming Competitions in the Diana Baths. 4.35 p.m.—Concert by the Alois Dostal Orchestra. Overture, "Die Felsenmühle" (Reissiger). Waltz, Frühlingsstimmen (Johann Strauss). Selection from "Hérodiade" (Massenet). Walter's Prize Song from "The Mastersingers" (Wagner). Two Songs from "Der Teufelsreiter" (Kálmán). Descriptive Piece, Die Post kommt (Eulenberg). Polka (Kling). Scenes from "Der Rastelbinder" (Lehar). Overture, "Die drei Wünsche" (Ziehrer). Waltz, Der letzte Tropfen (Kratzl). Waltz-Song (Hess). Potpourri of Viennese Melodies (Komzak). March (Damberger).

6.20—Fanny Wibmer-Pedit reads from her own Works; Introductory Talk by Gisela Berger. 6.50—Talk: The Pirquet Tuberculin Reaction. 7.20—Time Signal, Weather Report, Sports Notes and Programme Announcements. 7.35—Pianoforte Recital by Tibor Szatmary. Variations on Bach's "Weinen und Klagen" (Liszt). Three Pieces from the Cycle "For Children" (Bartok). Slovakian Dance (Kadosa). Ruralia Hungarica, Nos. 4 and 6 (Dohnanyi). Maroszeker Tánze (Kodaly). Valse nobile (Schubert-Dohnanyi). 8.15—"Circumstantial Evidence"—a Radio Play (Pöller). 10.15—News Bulletin, Weather Report and Announcements. 10.30—Dance Music by the Adolf Pauscher Orchestra, with Vocal Refrains by Viktor Sternau.

WARSAW (Poland) Polskie Radio, 212.5 kc/s (1,411 m.); 120 kW.

11.20 a.m.—Aviation Weather Report. 11.25—Interval. 11.45—Press Review. 11.58—Time Signal and Bugle Call from the Tower of St. Mary's Church, Cracow. 12.5 p.m.—Programme Announcements. 12.10—Educational Programme, relayed from Lubow. 12.45—Light Music on Gramophone Records. 1.20—Weather Report. 1.25—Interval. 1.35—Variety Music on Gramophone Records. 1.55—Interval. 2.45—Popular Music on Gramophone Records. 3.5—Economic Report and Exchange Quotations. 3.15—Answers to Correspondents on Military Questions. 3.25—Talk, relayed from Poznan. 3.45—Hydrographic Report. 3.50—Programme for Invalids, relayed from Lubow. 4.20—Talk on Contemporary Poland: The Polish Constitution. 4.40—Programme for Children. 5.5—Talk (to be announced). 5.25—Report on the International Tennis Match: Racing Club (Paris) v. Logya (Warsaw). 6.0—Service, relayed from Wilno. 7.0—Miscellaneous Items. 7.25—Agricultural Talk. 7.35—Programme Announcements. 7.40—Sports Notes. 7.45—Radio Journal 8.0—"On the Horizon."

8.15—Concert of Light Music by the Station Orchestra, conducted by S. Nawrot. Soloist: M. Korska (Vocalist). Overture (Silvery). Oriental Fantasia (Helmburgh-Holmes). Boston from "Schön ist die Welt" (Lehar). Love's Awakening (Cadman). Flute Solo: Erste Liebe (Suppé). Air for Clarinet (Vollstedt). Three Songs. Potpourri, Tonwellen (Mannfred). Sword Dance (Poldini). Oboe Solo (Garimond). Three—Songs. Waltz (König). Bells across the Meadows (Kettelbey). Wedgwood Blue (Kettelbey). Waltz from "The Geisha" (Jones). Cracovienné (Leopold). Mazurka (Cavella). 9.55—Feuilleton. 10.10—Pianoforte Recital of Chopin's Music, by Mme. Rabczewicz. Variations in B flat Major, Op. 12. Waltz in A Minor, Op. 34. Etude in C Sharp Minor. Preludes: (a) in B flat Major, (b) in G Minor, (c) in F Major, (d) in D Minor.

10.40—Radio Journal. 10.45—Weather and Police Notes. 10.50—Dance Music. 12 midnight (approx.)—Close Down.

WILNO (Poland) 533 kc/s (563 m.); 16 kW. Transmits at intervals from 11.58 a.m. 7.0 p.m.—Review of the Week in Lithuanian. 7.15—Programme for Students. 7.30—Programme Announcements and Miscellaneous Items. 7.40—See Warsaw. 8.15—Request Gramophone Concert. 9.15—See Warsaw. 11.0—Humorous Programme. 11.30—Dance Music on Gramophone Records. 12 midnight (approx.)—Close Down.

ZAGREB (Yugoslavia) Radioklub—Zagreb. 977 kc/s (307 m.) 0.75 kW. 12.20 p.m.—Cooking Recipes. 12.30—Popular Music on Gramophone Records. 1.30—News Bulletin. 1.40—5.0—Interval. 5.0—Gramophone Concert of Light Music. 6.30—7.50—Interval. 7.50—Announcements. 8.5—Medical Talk. 8.30—See Belgrade. 10.30—News and Weather. 10.40—Concert of Light Music. 11.0 (approx.)—Close Down.

Schedule of Advance Programmes

(STRICTLY COPYRIGHT)

For the benefit of traders who may wish to make arrangements for demonstrating, we are printing each week a schedule of the programmes to be transmitted by the National and Regional stations. It will be noticed that these schedules concern programmes to be transmitted a fortnight hence, and it is felt that they will also be of particular service to those of our readers living abroad who will be able to use them in connexion with the reception of the Experimental Short Wave Station, G5SW, which relays either the National (5XX) or London Regional programmes from 7 p.m. News Bulletins are transmitted daily (except on Sunday) at 12.30 p.m. (Saturdays, 12.45), 6.15 p.m., and midnight.

SUNDAY, MAY 15

Table with 5 columns: Time, National, London Reg., Midland Reg., North Reg. Rows for Afternoon and Evening Programme.

MONDAY, MAY 16

Table with 5 columns: Time, National, London Reg., Midland Reg., North Reg. Rows for Morning, Afternoon, 1st Evening Programme, and 2nd Evening Programme.

TUESDAY, MAY 17

Table with 5 columns: Time, National, London Reg., Midland Reg., North Reg. Rows for Morning, Afternoon, 1st Evening Programme, and 2nd Evening Programme.

WEDNESDAY, MAY 18

Table with 5 columns: Time, National, London Reg., Midland Reg., North Reg. Rows for Morning, Afternoon, 1st Evening Programme, and 2nd Evening Programme.

THURSDAY, MAY 19

Table with 5 columns: Time, National, London Reg., Midland Reg., North Reg. Rows for Morning, Afternoon, 1st Evening Programme, and 2nd Evening Programme.

FRIDAY, MAY 20

Table with 5 columns: Time, National, London Reg., Midland Reg., North Reg. Rows for Morning, Afternoon, 1st Evening Programme, and 2nd Evening Programme.

SATURDAY, MAY 21

Table with 5 columns: Time, National, London Reg., Midland Reg., North Reg. Rows for Morning, Afternoon, 1st Evening Programme, and 2nd Evening Programme.

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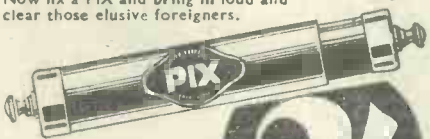
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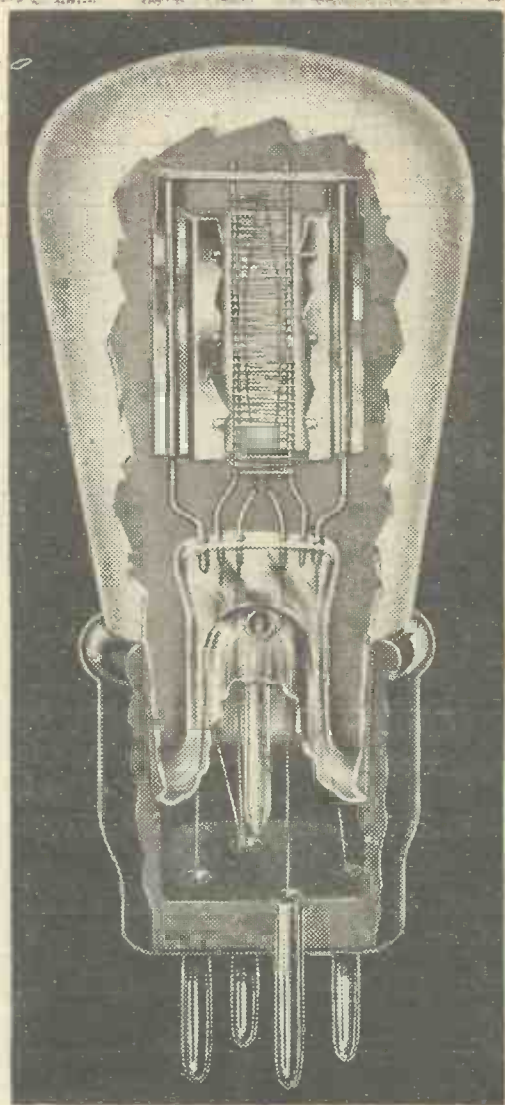
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Printed by NEWNES & PEARSON PRINTING CO., LTD., Exmoor Street, Ladbroke Grove, W.10, and Published for the Proprietors by GEORGE NEWNES, LTD., 8-11, Southampton Street, Strand, London, W.C.2, England.—April 20, 1932.