

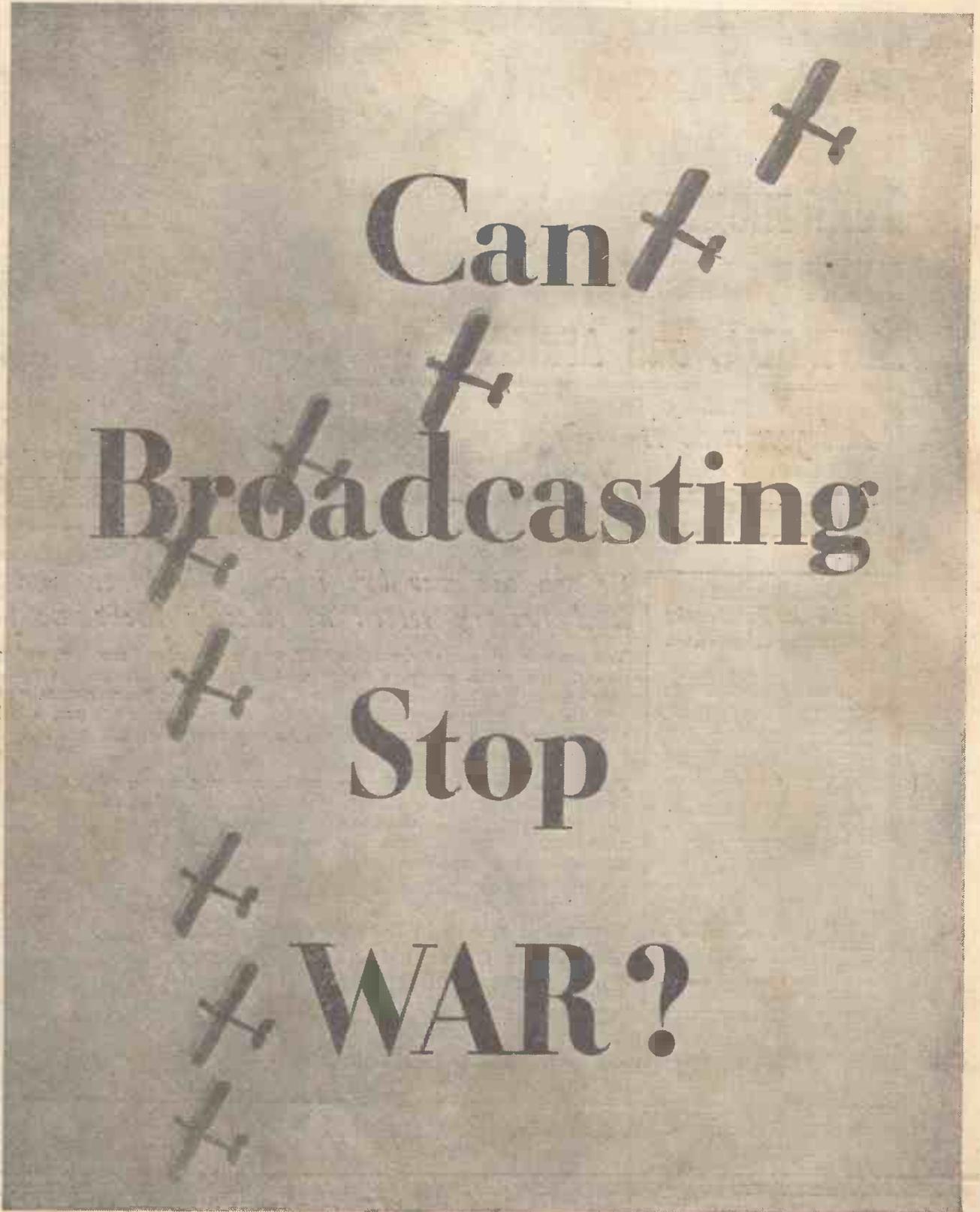
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THE B.B.C. FOREIGN PROGRAMME AND TECHNICAL JOURNAL

3rd WORLD-RADIO

VOLUME XVIII. No. 460. FRIDAY, MAY 18, 1934.

B.B.C. WORLD-RADIO



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WORLD RADIO



VOLUME EIGHTEEN, NO. 460, FRIDAY, MAY 18, 1934

An Australian Programme

THE presentation on Empire Day of an Australian programme to British listeners is an interesting and important stage in the history of Empire communications. During the next few years it is hoped that all the Dominions will contribute successively, on Empire Day, programmes representative of their national life. The programme on May 24 will be as typical of Australia as is possible within the space of half an hour, but it must not necessarily be judged by the artistic standard of British or European programmes, for it is less an effort to let the Mother Country hear the best that Australia can do than an attempt to reproduce as much of the authentic atmosphere of that Dominion as is possible in a short time. The material selected must, too, be suitable for transmitting over enormous distances.

It may be argued that an occasional broadcast of this character cannot do much in cementing the Empire in these days, when the possessor of even a modest set can listen to European stations any evening and occasionally to American medium-wave stations. But a transmission such as this is more than a card sent at Christmas to a relative in Australia: it is a reminder that even the remotest parts of the Empire can be linked up with Home listeners. It is a demonstration that, should the occasion arise, it is possible for the King to speak to all his subjects who are within reach of a receiving set. It is all to the good that there should be occasional Empire transmissions just to remind ourselves that we are all members of one family.

So far as links with the Homeland are concerned, the Empire station is now received regularly in all the Dominions at relayable strength, and it has been frequently relayed in many parts. And, of course, there is an ever-increasing number of short-wave listeners throughout the world who receive Daventry direct. The future of inter-Empire broadcasting rests on a still further development of short-wave transmissions within itself. In the course of the next few years it might be possible to have as a regular feature in the British programmes "In the Empire Tonight." Many British short-wave listeners have had the pleasure of listening to transmissions which originated in the Empire. Those of VK2ME (Sydney) and VE9GW Bowmanville (Canada) are especially well known, though the latter is not received with any regularity.

It is not only in Canada that the listeners have other than British fare. The transmissions of Radio-Colonial and other foreign short-wave stations are heard all over the British Empire. The time has gone past when the British listener can say he has no interest in Empire transmissions. If he is interested in the Empire he must be concerned with the

fact that several times daily foreign countries are broadcasting to all parts of the British Empire. He surely cannot wish that the voice of Britain alone should be silent in the British Empire.

Vià Ether

The Twenty-Four-Hour Clock

AFTER a period in which the twenty-four-hour system of time notation has been gradually introduced, the new method is now being used throughout the pages of WORLD-RADIO. It is probable that most readers and listeners have become quite accustomed to dividing the day into twenty-four hours, and have realised that it ends all possibility of confusing morning and evening transmissions. A few may still wish for the "a.m." and "p.m." method, but even the keenest *laudatores temporis acti* (admirers of the old way of reckoning time) will soon find that such times as 17.15 and 18.55 are perfectly easy to recognise. It will be interesting to see how other public bodies react to the B.B.C.'s experiment.

Next Week's Operas

Broadcast celebrations in Czechoslovakia of the Smetana anniversary still continue. Next week, for instance, no fewer than three of his operas are to be relayed by the Prague station from the Czech National Opera House: *The Kiss*, *The Secret*, and *The Devil's Rock*, on Sunday, Monday, and Thursday, respectively. Two interesting operatic broadcasts are announced for TUESDAY. One is the French National transmission, in which, with the exception of Radio-Paris, all stations participate, for which a Chabrier comic opera, *L'Etoile*, has been chosen. The other comes from the North Italian group. This is a relay from Florence of Mozart's *Don Giovanni*, with a cast which includes Ezio Pinza as Don Giovanni, Dino Borgioli as Don Ottavio, Iva Pacetti as Donna Anna, and Gina Cigna as Donna Elvira.

The Future of Television

The appointment of the Advisory Committee on Television is a reminder that broadcasting in its early stages was the occasion of several investigating committees. The new committee has been appointed to consider the development of television; to advise the Postmaster-General on the relative merits of the several systems, as well as on the conditions under which any public service of television should be provided. In these circumstances it is not surprising that the committee should consist mainly of Post Office and B.B.C. experts. Lord Selsdon, the Chairman, and Sir John Cadman, the Vice-Chairman, in addition to guiding the proceedings and weighing the opinions of the experts, may be presumed to be specially interested in the conditions governing the future service of television. Lord Selsdon, better known to listeners as Sir Wm. Mitchell-Thomson, was P.M.G. during some of the most important developments of broadcasting. Sir John Cadman is one of the most distinguished industrialists of the day.

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Can Broadcasting Stop War?

By Brigadier-General P. R. C. GROVES, C.B., C.M.G., D.S.O., Author of *Behind the Smoke Screen*

COULD the Great War have been prevented had it been possible to broadcast the following warning, for several years before 1914, and to convince the world that it was fully warranted?

"If this conflict for which the Great European Powers are preparing should take place, it will spread until most of the civilised states in the world are involved. In the main theatre the opposing forces will, after three months of continuous fighting on a frontage of hundreds of miles, establish a trench barrier across Europe reaching from Switzerland to the North Sea. Ever-increasing numbers of guns will thunder across that barrier night and day for a period of four years. Throughout that period there will be fighting all along the line and a series of desperate engagements on an unheard-of scale. Simultaneously, large armies will be grappling with each other in other theatres—on and within the borders of Russia, of Italy, in Gallipoli, Macedonia, Palestine, Mesopotamia, East Africa, and West Africa. Naval operations will extend round the globe, their northern boundary will be the latitude of Archangel and their southern that of Cape Horn. In the course of these operations some 18,000,000 tons of shipping will be sunk. There will be constant fighting in the air over the battle zones and many of the great cities of Europe will be bombed. The total casualties in the war will be approximately 9,000,000 dead and 21,000,000 wounded. The total cost of the war will be about £84,261,000,000 sterling."

It is conceivable that some far-sighted genius might, before 1914, have made some near forecast of the above summary of what actually occurred. For the data necessary to deduce the nature of the struggle which was then looming up were available. Indeed, a war of entrenchments, culminating in the deadlock of trench warfare, was actually predicted by a Russian writer, M. Bloch, in a book entitled *Modern Weapons and Modern War*, published in 1900. The potentials of the submarine were also foreseen long before 1914. Finally, the degree of interdependence between civilised states which had already been reached pointed to the probability that a conflict would spread.

But while there were some who foresaw in the years before 1914 something of the nature of the coming struggle, none, so far as I am aware, predicted either its gigantic dimensions or its outcome. The question as to which side would win was quite beyond the scope of logical deduction, for the future held too many unknown factors and too many "imponderables."

Postponement or Prevention?

But to revert to our query: supposing, for the sake of argument, that it had been possible—say, in the half-decade before 1914—repeatedly to broadcast the above warning, a supposition which, of course, includes that of development in wireless which had not then been reached, would the warning have been heeded? Would it have prevented the conflict? The answer, I think, is that it would have served to postpone it, but not to prevent it.

My reasons for this view are that among the root causes of the War, in my opinion, was this: The German nation felt the need for "a place in the sun." Appearing on the international scene as a great Power at a time when the scramble for unoccupied territories was nearly over, Germany was by no means content with what remained for her.

There are to-day many who scoff at the ancient doctrine that among the origins of war are "the human stomach and the human womb," but it was these factors which in 1914 were expressed in terms of "seventy millions

crowding down."* The Germans had become a numerous and highly industrialised people, and were increasing at the rate of 800,000 annually. Their dominant needs were raw materials for their industries, markets for their goods, and lands to which their surplus population might emigrate without forfeiting their nationality. Because Germany was a late comer on the scene there were obstacles to the satisfaction of these needs; other countries had already annexed the richest areas, monopolised many desirable markets, and occupied the best territories for white settlement. And yet, because of her great annual increase in population and the ever-growing standard of living which resulted from her rapid industrial development, Germany's need for expansion became ever more pressing. The urge grew to a dynamic force, and then at length became an explosive force. The explosion followed.

In view of these considerations, I think that a warning that the War would be long and costly, had it carried conviction, might perhaps have shaken Germany's confident belief in her invincibility, and consequently have led her to postpone her attack until greater preparations had been completed.

The Belief in War

Even after the catastrophe, and its aftermath of wars, revolutions, and shortages, the belief in war as the ultimate form of arbitrament still obtains throughout the world. That belief, together with the truth that many of the root causes of war remain and that armaments are constantly increasing, cannot but result, sooner or later, in renewed conflict. Can that conflict be averted by a broadcast prediction of its probable consequences? To simplify the inquiry, let us confine it to Europe, which is both the world's storm centre and the continent most amply served by broadcasting.

He would be a bold prophet indeed who

* "The Song of Hate."

ventured to make any detailed prediction regarding the scope and consequences of another European war. But we have certain data warranting deductions which may indicate some of the main features of a major struggle on that continent if it occurred in the near future. First, there seems to be no doubt that aviation would play a decisive part. Referring to this, Marshal Foch wrote, as far back as 1921:—

"The military mind always



imagines that the next war will be on the same lines as the last. That has never

been the case and never will be. One of the great factors in the next war will obviously be aircraft. The potentialities of aircraft attack on a large scale are almost incalculable, but it is clear that such attack, owing to its crushing moral effect on a nation, may impress public opinion to the point of disarming the Government and thus become decisive."

Aerial Warfare

The twelve years which have elapsed since that statement was made have witnessed a *grecendo* of progress and discovery in the science of aeronautics. And this has been accompanied by a prodigious increase in the strength of military air forces, and in the number of civil and commercial aircraft, all of which are in some degree convertible to war purposes. The net result is that the form of attack to which Marshal Foch referred is now practicable upon a nation-wide scale. It follows that if war recurs in Europe it will be primarily an affair of areas, whereas hitherto warfare has been primarily an affair of fronts.

There is no need to draw lurid pictures in an attempt to forecast the possibilities of a "war of areas." If great disparity existed between the air power of the belligerents the weaker would be quickly overwhelmed. But if the two air forces were approximately equal in strength there might be a more prolonged struggle, in which the cities and other nerve centres of both sides would be devastated.

If the issue were not settled out of hand by air warfare, sea and land forces would presently come into action. Given local air superiority, a highly mechanised Army might swiftly overrun the enemy's territory. In sea-warfare the submarine—greatly improved since the War—would probably play a leading and sinister part; but the chances are that merchant shipping—which is particularly vulnerable to attack

from the air—would suffer more from aircraft, for these could sink it wholesale in the narrow seas and in crowded harbours.

A Broadcast Warning

Without pursuing the issue further by speculating upon the possibilities of secret improvements in warfare, including the invention of new weapons, our forecast and warning might not be far out if it declared:—



Brig.-Gen. Groves

"Another major European war in which the belligerents are well matched will entail extensive damage to the common fabric of civilisation. Because of the interdependence of nations the conflict will almost certainly spread. It is highly improbable that any

economic, political, or territorial advantage which the victors may gain will compensate them for the immense loss of life amongst their own nationals, the widespread destruction throughout their territories, and the collapse of the purchasing power of neighbouring States, who in peace time may be amongst their best customers. Moreover, the victor's own political systems may, in common with those of the vanquished, be unable to withstand the revolutionary excesses which would inevitably follow on so destructive a conflict."

Would such a warning have the desired effect? The answer depends upon what causes were making for war. If they embraced the existence of liberty of a people, or some burning wrong, or even an imperative need for national expansion due to over-population and a high birth-rate, then in my view the warning would not in the long run prevent strife. Fear will not deter a nation from following a course which is dictated by considerations which, as all history shows, men value more than life itself.

The majority of those who seek to abolish war sadly under-estimate the difficulties of the task. For, as H. G. Wells has so aptly expressed it in his *The Salvaging of Civilisation*:—

"If abruptly man determines to give up the waging of war, he may find this determination involves the most extensive and penetrating modifications of political and social conceptions that do not at first glance betray any direct connexion with belligerent activities at all. . . . Let us face the truth in this matter; the abolition of war is no casting of ancient, barbaric, and now obsolete traditions, no easy and natural progressive step; the abolition of war, if it can be brought about, will be a reversal not only of the general method of human life hitherto, but of the general method of nature—the method, that is, of conflict and survival."

The Need for Organised Effort

If Europe wishes to preserve peace it can do so not by words, whether broadcast or otherwise, but by an organised effort to remove the potential causes of war. Chief among these are international injustice and fear of aggression. There is also need to satisfy the legitimate aspirations of peoples who require lands for expansion owing to ever-increasing population pressure.

Without doubt all such measures would involve concessions by the "Have" to the "Have nots." But in comparison with the cost of the eventual alternative—an attempt by the latter to achieve redress and to change the *status quo* by force—the concessions, which would entail no severe hardships to those who made them, would be economy itself.

"But," it may well be argued, "even when everything that can be done to establish justice in an imperfect world has been done; and even when all the concessions that can reasonably be made have been made, some of the dynamic causes of war will still remain, and these will sooner or later create once more the tensions which culminate in strife. For example, you may satisfy the need for expansion of a prolific people to-day and in ten years' time that need may be as pressing as ever. It is all very well to say that the 'Haves' should make concessions to the 'Have nots,' but such concessions have obvious limits and the procedure cannot be repeated indefinitely. No State can be expected to carry sacrifice to the point of suicide, or even to a point which may involve serious penalisation of its own nationals."

This brings us back to the fundamental truth that in the ultimate analysis war is dictated by the old grey law of struggle, or, as Wells puts it—"the general method of nature, the method of conflict and survival."

The Scope of Wireless Propaganda

Hence the internationalists' contention that so long as nationalism continues, war will recur. Most of the suggested solutions of the difficulty centre upon the establishment of an international mechanism of judgment and enforcement as an alternative to war. That would obviously be effective if it could be created. But how is it to be created? Can broadcasting bring it about? None can say what the ultimate achievements of this method of popular education may be, but in the light of present-day realities the answer so far as the immediate, and therefore more predictable, future is concerned, is, I feel, in the negative. First because broadcasting is not under single control, even in Europe. Consequently, wireless propaganda from one quarter can be countered, and even neutralised, from another. Secondly because nationalism—never so powerful or so deeply entrenched as it is to-day—would undoubtedly take steps to discount any propaganda which it regarded as subversive.

But while that is the present position, there is no reason to suppose that it is immutable. Broadcasting, which can project ideas simultaneously into the minds of millions, is an incalculable factor in human enlightenment. It is quite conceivable that pacifist ideas spread by this means may eventually sap the foundations of nationalism and lead European States to adopt some system of collective security or federation with a view to eliminating conflict between themselves.

CAN BROADCASTING STOP WAR?

a further article on this subject
by SIR NORMAN ANGELL
author of "The Great Illusion"
will appear in next week's
issue of "World-Radio"

Union Internationale de Radio- diffusion

THE annual general meeting of the U.I.R., which is normally held in Switzerland during June, will take place this year in London, from June 12 to June 20. Meetings of the various commissions of the Union will be held during this period, that of the General Assembly of the Union taking place on the latter date.

The meetings will take place at Grosvenor House, Park Lane.

Young Listeners

THE effects of wireless on us grown-ups have already begun to make themselves apparent. But the results on those youngsters who started their lives under the influence of the loudspeaker remain to be seen. Will the constant sound of music breed contempt, or will it rear a generation of music-lovers?

Observation of my own four-year-old suggests that a great deal depends upon the conduct of parents. Left to herself, the youngster was just as indifferent to the sound of music as our cat is. Nor did advice: "Just listen to this lovely tune, Betty!" arouse her interest.

It was purely by chance that we discovered how to attract her musical attention. Having been to a performance of the ballet *La Boutique Fantasque*, we told her, as a change from the usual fairy tales, the story of the ballet. After that, the tale of the dollies who got up and danced in the toyshop after the shopkeeper had gone home had to form a regular part of our repertoire.

Better than Nursery Rhymes

Some time later we happened to hear a wireless performance of part of the music from this ballet, so we explained to the youngster that this was the music to which the dollies in the toyshop danced. The interest which this caused her to take in the music encouraged us to buy a gramophone selection from the ballet. Before long this record was demanded even more frequently than the nursery rhymes which previously had been the only form of music to arouse any enthusiasm.

In the hope of awakening interest in other music, we visited the *Casse Noisette Ballet*, which was being performed at the Sadler's Wells Theatre, and passed on the story with equal success.

Then we started making our own stories. To the "Blue Danube" waltz we fitted a tale about a number of people dancing beside a river, and we gave similar treatment to other pieces of music. Our tales, we found, did not necessarily make the music to which they referred enjoyable to the child, but merely induced her to listen to it sufficiently closely to decide whether she liked it or not. Some of our efforts merely led to the complaint: "I don't like it. Please will you turn it off!"

An Admirer of Strauss

It was soon obvious that, once her interest had been aroused by our tale, the youngster was attracted by the music itself. Having once attracted her to Johann Strauss by our "Blue Danube" tale, we found that other works by the same composer made an appeal to her when she heard them, even though we attached no story to them. Before long, it seems probable, the necessity for using a story as bait will disappear altogether.

Our experience suggests to us that plentiful music will not, unaided, develop a love of music in a youngster, even when there are inherited tendencies towards musical appreciation. Rather, in fact, will it tend to cause indifference.

Home and foreign wireless programmes, with the wide choice of music which they offer, may indeed have an immensely beneficial effect on the musical tastes of the coming generation—but only if parents realise that to sit back and leave the loudspeaker to do its work is not enough.

R. A. S.

A New Broadcasting Bill in Turkey

A Bill relating to broadcasting is at present under consideration in Turkey. It will contain, among other things, provisions relating to receiving apparatus used by foreigners residing in the country. Until the Bill becomes law, foreigners using wireless receiving sets will be allowed to employ only portable receiving sets for the reception of broadcast programmes.

France Speaks to her Empire

An Account of the French Short-Wave Station, Radio-Colonial

(From our Paris Correspondent)

BRITISH travellers between England and France *viâ* Dieppe or Havre may remember seeing from their carriage window two imposing groups of wireless masts which dominate the countryside near Pontoise. The larger group belongs to the French telegraphic service. The other, with which we are concerned in this article, is the State Colonial short-wave station, whence, at most hours of the day and night, entertainment and news are being broadcast to French overseas possessions in particular, and to the world in general.

Before attempting to describe the main outlines of the policy and equipment of Radio-Colonial (Paris), something of its history may be of interest, both to those who find it in their daily "bag" and to those in distant lands who take pleasure in its programmes. It was not until a comparatively recent date that the possibilities of the Herzian waves were fully realised in France, but few schemes sponsored by the French State can have been brought to fruition more rapidly. In the late summer of 1930 the Government of the day decided that the Colonial Exhibition at Vincennes, planned for the spring of the following year, demanded the construction of a short-wave station. Time was short, and the technicians had neither material nor site at their disposal. Few people believed that the exhibition itself would be ready in time, let alone a wireless station involving so many unknown factors as Radio-Colonial. But there was a hustle in the accepted American style, and by the end of 1930 the buildings and pylons had been erected at Pontoise. A month later, the single transmitter envisaged was installed, the finishing touches were put to the studios in the exhibition park, and the special land-line, twenty-five miles long, between Vincennes and Pontoise was laid.

More was to come. It is seldom that Governments exceed their promises when it is a matter of delving into the money-bags, but in this case the desire of the technicians to have a complete station was so keen that a second transmitter was put into service with six days to spare. The great day arrived on May 6, 1931, when Radio-Colonial came on the ether officially for the first time by broadcasting the inaugural ceremonies of the exhibition. The next mail from Noumea, away in the islands of Oceania, brought a copy of a colonial journal issued the day after the opening, in which the speeches of Marshal Lyautey and of the Minister of Colonies were reproduced in full. The voice of France had been clearly heard on the other side of the world; it has been heard regularly ever since.

Technical Problems

The very purpose of its existence places Radio-Colonial among the most progressive of French stations. As is the case with short-wave stations in other countries, complex technical problems must be tackled at a range of thousands of miles; and they can hardly be tackled at all without the constant co-operation of listeners on the spot. It is for this reason that the directors of the station appeal to listeners abroad to let them know as often as possible their exact position (longitude and latitude), the wavelength on which signals are received, the type of receiving set used, and the hours at which signals are strongest.

The advance of France as a great colonising Power is relatively so recent that it is often forgotten that she is, in fact, the second Colonial Empire of the world. A brief study of the map

will show that her Colonies and Protectorates are almost as far-flung as those of the British Empire. They are to be found in the West Indies, in West and Equatorial Africa, in Madagascar and Indo-China, and on to the Aus-



tralasian Settlements, to give only a round indication. Further, there are several regions of North and South America in which the prestige enjoyed by French culture calls for individual treatment in any scheme of colonial broadcasting.

It will thus be appreciated that, apart from the problem of distance, others exist, equally complex, chiefly regarding the geographical position of the various colonies and the need for programmes to reach them at appropriate hours. They are too well known in British experience to need enlarging upon here. Briefly, Radio-Colonial has coped with them by installing at Pontoise two directional aerials, the one serving the north and south (intended for Africa), the other the east and west (Asia and America), working on different wavelengths, either independently or simultaneously, according to the special needs of the occasion and the hour of transmission. As elsewhere, it has been found that one wavelength is peculiarly suited to transmission by night, and another to transmission by day. The aerials, supported by three 300-ft. pylons, form the sides of a broad V, in the angle of which are housed the transmitters, each giving a power of 15 kW.

With so many remote corners of the earth to serve, there are few hours of the day and night during which Radio-Colonial is silent. A system of separate transmissions, each intended to meet the needs of specified regions, has been evolved, though it is naturally subject to modification as those needs become more clearly defined. In general, the guiding principle has been that Radio-Colonial programmes should reach listeners in the designated areas between 19.00 and midnight (local time).

It may be as well to append the present schedule of Radio-Colonial transmissions:—

	HOUR	WAVELENGTH	DESTINATION
1	13.00 to 16.00	19.68 m.	Asia (Indo-China)
2	16.15 to 19.15	25.20 m.	Madagascar and Reunion
3	20.00 to 23.00	25.20 m. and 25.60 m.	French West Africa, French Equatorial Africa
4	23.15 to 02.00	25.60 m.	America, West Indies, and New Caledonia
5	03.00 to 05.00	25.60 m.	

Programmes and Policy

Recent articles in WORLD-RADIO have made it clear that French broadcasting plans are now in a stage of transition. There are hopes, for instance, that one day all the State studios in Paris will be brought together in a central Broadcasting House, in which event Radio-Colonial would be among them. At present, however, the studios and brain-centre of Radio-Colonial are housed in a converted flat in the Boulevard Haussmann, amid the roar of one of the main traffic arteries of Paris. They are subject to the inevitable drawbacks of such an arrangement—noise and lack of space.

The Station Director is M. Marcel Caillon, and his right-hand man is M. Julien Maigret, the Programme Director. I recently found them, surrounded by maps and charts, carefully examining the hundreds of letters which each overseas mail brings them. These have shown, strangely enough, that the greatest number of listeners to Radio-Colonial are not in the French Colonies at all, but rather in countries, chiefly in South America, where French is the language of culture. They are particularly numerous in Brazil and Argentina, and in French-speaking parts of Canada round Montreal. The programmes are widely heard in the big towns on the seaboard of French overseas possessions; there are fewer listeners in the interior owing to the difficulty of transport and maintenance of receiving sets.

The correspondence has revealed many curious phenomena. In some regions, for instance, signals are received at greater strength during wet weather, while in others they are stronger during dry spells. Listeners in Indo-China are worried by "echo," which M. Caillon thought was due to the same signal being received direct by the shortest route and a fraction of a second later after having encircled the globe. Generally speaking, however, the letters show that French programmes are received at loud-speaker strength with quite modest apparatus, much of it home-made, in most parts of the world.

The Directors take pride in the fact that no publicity is included in their programmes, and they avoid polemical storm-clouds. They endeavour to give an objective and impartial picture of metropolitan life and activity in all its aspects, without broadcasting anything in the nature of propaganda—which cannot always be easy.

Each of the five transmissions given above is begun and ended with the "Marseillaise," which makes identification a simple matter. In the four main transmissions, roughly two hours are devoted to news, the weather, Stock Exchange information, and talks by well-known authorities on artistic and intellectual subjects,

IN NEXT WEEK'S PROGRAMMES

THE ENDEARING WALTZ

Melodious Three-Fours

THE programme by the Radio Orchestra at Brussels No. 1 on Monday, May 21, at 21.15, makes it clear how the waltz measure has appealed to composers of every race for generations past. Where it had its birth and through what changing forms it arrived at the one we know, is a mystery which no research is likely to solve. But what matters far more to music-lovers than its birthplace or its invention, is the wealth of melody and rhythmic tunefulness with which it has enriched mankind. We are wont to divide it into two great classes—for dancing to, and only for listening to. But the dividing line is a rather shaky one; there are waltzes, with that and other names, by Mozart, Schubert, Beethoven, Weber, Brahms, and many more of the great masters, which bid the laziest feet to take the floor, and amid the joyous tunes of Lanner, the two Johann Strauss, father and son, and their countless followers, there is a wealth of what wise people call real music. It is only within the last century that it has been popular; when Byron wrote his apostrophic hymn to it, beginning:—

"Endearing Waltz—to thy more melting tune
Bow Irish Jig and ancient rigadoon,"

it was unfamiliar enough in English ballrooms to call for a preface to the hymn. It is over the pseudonym of Horace Hornem, a country gentleman. He, we are to suppose, came to town with his wife and daughter, and in the fashionable assemblies of the time saw the waltz as a new dance of which he could not at first wholly approve. "Judge of my surprise," the preface tells us, "to see poor dear Mrs. Hornem with her arms half round the loins of a huge hussar-looking gentleman I never set eyes on before; and his, to say truth, rather more than half round her waist, turning round and round to a see-saw up and down sort of tune till it made me quite giddy wondering if they were not so." "Like two cockchafers spitted on the same bodkin" the dancers looked; but before embarking on the hymn the preface admits "Now that I know what it is, I like it of all things."

Liszt and the Countess D'Agoult

THE Radio-Paris programme on Tuesday evening, May 22, at 21.30, is called "An Evening with Liszt and Mme. D'Agoult." Exactly what form it will take is not shown in the programme, but there will no doubt be music as well as description. The world still awaits a trustworthy account of the relations of those two headstrong people, and some years must still elapse before their full correspondence can be made public. Liszt was only twenty-three when he made the Countess's acquaintance in Paris, and had not yet reached the height of his fame as a virtuoso. She, under the pen-name of Daniel Stern, was already well known to the literary world, counting Victor Hugo, Lamartine, and all the chief French writers of her day as her friends. Their association lasted for ten years, but how far

their interest in one another remained free from bitterness after that, is still in doubt; some of Liszt's letters to her certainly show him in a somewhat unkind light. Of their four children, Cosima, who became first Frau von Bülow and then Frau Wagner, was much the best known, and in the course of a long and active life on her second husband's behalf, showed herself to be an even more strong-willed personality than either of her parents. It will be interesting to discover whether Mme. Gabrielle Reval, who is responsible for Tuesday's programme, has any fresh light to throw on a subject which has already provoked much controversy.

Stravinsky's *Pulcinella*

THE revival of interest in the classics which influenced even such ultra-modern composers as Stravinsky, made itself strongly felt all over the world during the war. The fact that audiences consisted necessarily of old people, must have had something to do with that. It certainly sent Diaghilev, of the Russian Ballet, to look for subjects among the older stories, and it was in some MSS. at Naples that he unearthed the story of the four marionettes in which he at once saw possibilities for an intriguing ballet. Picasso devised the stage setting for it, all carried out in blue, black, and grey, capturing the spirit of the piece with all his uncanny skill. What it was that made Diaghilev look to old Pergolesi for his music, no one quite knows, but its suitability has always been hailed as a stroke of genius on his part. In the library at Milan, he found some complete pieces and a good many jottings and sketches, many of them mere themes which had never been worked out. He took these to Stravinsky and asked him to arrange and orchestrate a complete ballet from such scraps, and the result was not only one of the most successful pieces in his repertoire, but one of the most interesting of Stravinsky's works. It is to be heard from Huizen on Tuesday, May 22, at 21.50. There is one well-known air embodied in the ballet—listeners often hear it as the song *Si tu m'ami* (If thou lovest me)—but the other themes are for the most part unknown except in Stravinsky's version.

A Sonata Pian e Forte

BRUSSELS No. 2 is to begin its concert at 17.00 on Sunday, with an old Italian piece with the above name. Giovanni Gabrieli, its composer, was the most illustrious member of an Italian family of musicians, and though he spent all his life in Venice, from 1557 till about 1612, the whole of musical Europe looked up to him, and German and other masters were proud to count themselves his pupils. This so-called Sonata must have been meant for church use and is laid out for two instrumental choirs, one on each side of the church; it makes its effect of *pian* and *forte* mainly by the use of one choir at a time, or both together. Several of the instruments for which it was first written are now obsolete, and the Sonata has been re-arranged by Dr. Fritz Stein. He has laid out the first choir for two horns and two trombones, and the second for trombones and tuba. It can be played either by one instrument or more to each part, and listeners who enjoy the effect of brasses in combination are bound to be impressed by it, especially when they remember how old it is.

Listeners' Verdicts for the past week will be found on page 714.



M. Henri Tomasi

M. Julien Maigret

such as literature, science, and so on; while the remaining hour is occupied with music or the theatre. There is a studio orchestra of forty-five instruments under the baton of M. Henri Tomasi, *Grand Prix de Rome*, but programmes of other State stations in Paris and the provinces are also relayed. Lest it should be thought that Radio-Colonial has only to sit back and "milk" other stations, it should be pointed out that operas and plays are often performed in the studio for "federal" radiation throughout France. *Crainquebille* and *Ramuntcho* are cases in point which met with great success.

Incidentally, a lighter note is sometimes sought by placing the microphone in a Paris cabaret when the fun is fast and furious. That such efforts to amuse may not meet with universal success was recently shown by a settler who, writing from Borneo, said that whenever, in the freshness of the dawn, he tuned-in the *boîtes-de-nuit* of Paris or Berlin he was brought to a deeper appreciation of the verdure of his forests.

M. Doumergue's Broadcasts

Naturally, outstanding ceremonies or speeches receive special treatment. The recent broadcast addresses of M. Doumergue, the Prime Minister, for example, were broadcast to all those parts of the world where the hour of day or night permitted their reception, and at the same time they were preserved by the special recording system in the studio for later transmission to those, notably in Asia, who were asleep. In the special circumstances Radio-Colonial was relayed by stations in Buenos Aires and in Morocco, but M. Caillon told me that in principle he was not a partisan of such relays. In the interests of research work it was better that programmes were received direct.

It is interesting to note that part of the first and fourth transmissions of Radio-Colonial is devoted to news in English, intended for British settlers in the East and West and generally for all listeners who are without French. This news, moreover, is not a mere translation from the French, but is specially supplied by British and American newspapers published in Paris.

Five Announcers

We cannot conclude without a hurried glance at the studios. There are only two, and it has already been indicated that space is limited. Concerts are given in the larger studio, which is draped, but when it is a question of a full opera, the chorus often find themselves near the door. A very small studio, also draped, is reserved for talks. The station has five announcers, who work in shifts in their own separate room. Their only contact with the studios is by luminous signals, though loud-speakers installed all over the building, even down to a miniature model on the Director's desk, make the system foolproof. Finally, there are the control-room, in which the recording apparatus is lodged, and the administrative offices. It is in these surroundings that France speaks to her Empire.



The Young Mozart, whose violin Sonatas furnish Frankfurt's programme at 19.30 on Monday

FOREIGN BROADCASTING NEWS

OSLO'S NEW ORCHESTRA

Advantages of a Recent Agreement

(From our Oslo Correspondent)

RECENT negotiations between the Norwegian broadcasting authorities and the Oslo Philharmonic Society have now resulted in an agreement which, no doubt, will be of interest to the many British listeners who listen to the Oslo transmissions.

The Oslo Philharmonic Society, which is a private enterprise, possesses a first-class orchestra of about fifty musicians. Owing to the economic depression and the consequent reduction in public contributions, the orchestra during recent years has had a precarious existence, despite the comparatively large revenue accruing to the Society as a result of concerts arranged especially for broadcasting. In fact, conditions have been so adverse that the question of dissolving the orchestra has been discussed.

According to the new agreement all members of the present Oslo station orchestra, most of the members of which are also members of the Philharmonic orchestra, will be engaged by the Philharmonic orchestra, thereby increasing its personnel to about sixty. This orchestra will then be equally divided into two sections which will act in turn as the station orchestra, under the conductor of the previous station orchestra, Mr. Hugo Kramm.

Under this arrangement the Philharmonic orchestra will be saved, and Norwegian broadcasting will benefit by a bigger and better orchestra.

The new station orchestra will continue the present practice of giving broadcast concerts on four days a week. Moreover, the broadcasting service will have the right to broadcast all the symphony concerts of the first Philharmonic orchestra. The number of these concerts will normally be reduced to sixteen during the season. They will be conducted by the usual conductor of the Society. Both parties will co-operate in the arrangement of the programmes for these concerts, the broadcasting authorities having the casting vote in case of disagreements, and the engagement of guest conductors will be subject to their approval.

The new agreement will come into force from September 1.

Simultaneously with these negotiations, the broadcasting service has hired a hall from the National Art Galleries in Oslo from which it is proposed to relay the concerts. Certain necessary alterations are being made and it is hoped that the first relay will take place during July.

AUSTRIA

The Price of an Easy Conscience

(From our Vienna Correspondent)

Hitherto any possessor of a receiving set in Austria, whether use of the set was made or not, has been liable for the monthly fee. Many people, of course, did not declare sets they did not use. In future, the postal and telegraph authorities, who collect the fees for Ravag, will allow owners of sets not in use to declare them accordingly, and to pay merely two schillings annually to register them. At any time inspectors are to be given access to sets so registered, and may affix lead seals to any essential part. If at any time the sets are brought into use, the owner naturally becomes liable for the full fee of two schillings monthly. The State considers that it will profit by this new arrangement, as a schilling half-yearly (equal to about ninepence at the present rate of exchange) is not too much to pay for an easy conscience, and a large number of people have been defying the regulations for years.

FRANCE

An Inspector-General of Broadcasting

(From our Paris Correspondent)

Some weeks ago several French papers criticised the appointment of a former senator as Inspector-General of Broadcasting, the reason for the objections being that the Government was at that time endeavouring to make as many economies as possible, and that such an appointment was an additional expense. An official denial of the appointment was issued immediately, but a decree has now appeared in the *Journal Officiel* promoting M. Pellenc to the post of Inspector-General of Broadcasting. Presumably this appointment will not entail anything more than the increase in salary which is usually associated with a promotion in rank, as M. Pellenc will continue to act as Director of French Broadcasting.

GERMANY

Developments at Munich

(From our Berlin Correspondent)

Transmissions from the Munich high-power station are now taking place daily from noon onwards, an auxiliary aerial being used. This arrangement will continue until about June 15, by which time, it is hoped, the new anti-near-fading aerial will be ready for service.

HUNGARY

"Answers to Critics" Feature Not Wanted

(From our Budapest Correspondent)

"A Broadcast on Broadcasting" is the title of a feature which has recently been introduced into the Budapest programmes. Once a week, for a quarter of an hour, the Publicity Manager of the broadcasting company reviews comments and articles on the Budapest programmes which have appeared in Hungarian and foreign journals, and answers both Press criticisms and letters written directly to the company finding fault or submitting suggestions. The answers are not directed to any individual, and no names are mentioned, but are given in general with the intention of notifying the public of the company's attitude on any of the points raised. In introducing this new feature, the company announced that it wished merely to avert misconceptions which may be spread among the public by Press articles based on insufficient information. The innovation, however, has not met with general appreciation, and listeners have urged that it should be discontinued.

ITALY

Minister of Posts and Telegraphs Resigns

(From our Turin Correspondent)

Following his election as President of the Chamber of Deputies, H. E. Costanzo Ciano has resigned his post as Minister of Posts and Telegraphs, and Professor Umberto Puppini, formerly Under-Secretary at the Treasury, has been appointed as his successor. H. E. Costanzo Ciano held his former post for ten years, during which he was responsible for the organisation of Italian broadcasting. His successor is Professor of Physics at Bologna University, the author of a number of scientific works, and a member of the Supreme Council for Scientific Research.

PORTUGAL

Programmes from Bacarena

(From our Lisbon Correspondent)

Listeners to the experimental transmissions of the new National station recently heard an unexpected Gilbert and Sullivan broadcast when a recording of the full score of *Princess Ida* was radiated between 21.30 and 22.30. (A reader's

- Swiss Efforts to Check Interference
- Modern Methods of U.S.A. Police
- Progress of Portugal's National Station

appreciation of this programme was printed in our last issue under the heading of "A Surprise Item.") This transmission was from the station at Bacarena, but the nightly transmissions are now coming from the studios in Lisbon. Outside broadcasts are also being made; the Don Cossack Choir was recently relayed from the Sao Luiz Theatre, and during April, listeners heard an open-air concert from the famous cloisters of St. Jeronimo. Though not yet officially appointed, it is understood that the Musical Director of the station will be a well-known amateur who has been largely responsible for the selection of gramophone records for the experimental transmissions. At the moment of writing it seems problematical whether the station will be ready for the formal opening on May 28, as announced.

SWITZERLAND

(From a Correspondent)

Press Demand for Government Broadcasts

After having heard the broadcasts by President Doumergue, Herr Hitler, Signor Mussolini, President Roosevelt, and Mr. Ramsay MacDonald, the Swiss Press are urging that the leaders of the Federal Government should speak at regular intervals to the people.

Contemplated Legislation

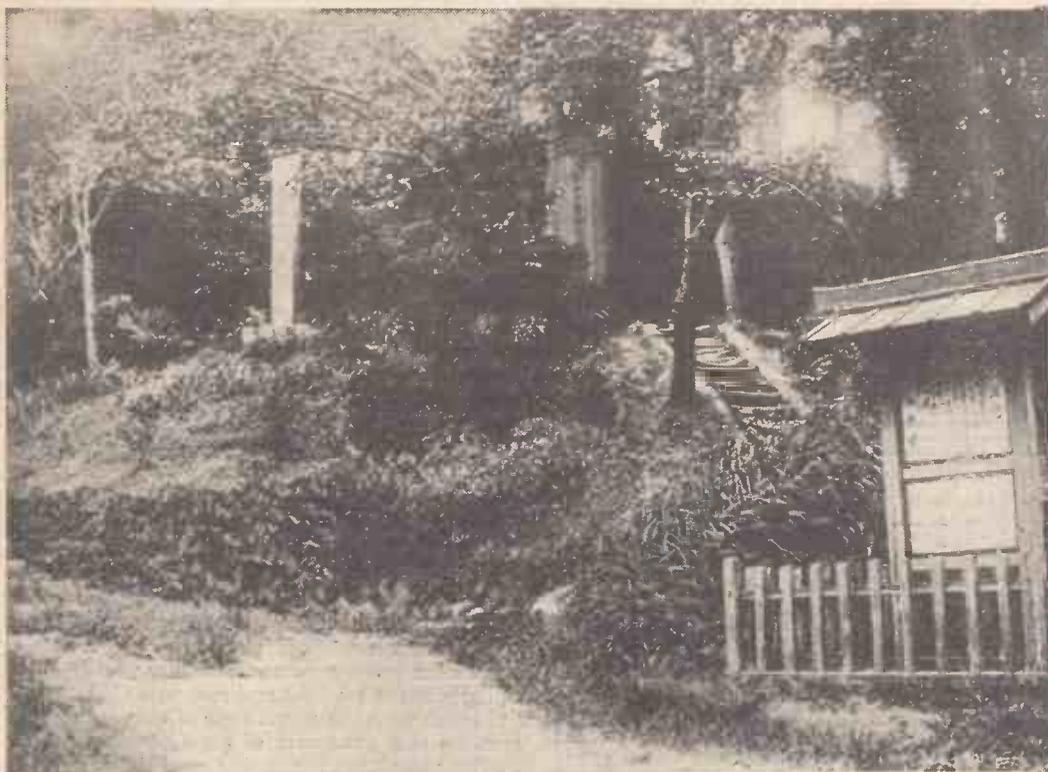
During a meeting held at Berne, at which economic organisations interested in broadcasting were represented, several questions were put to the representative of the Federal P.T.T. It was stated that in certain areas it was impossible to sell a receiving set, owing to the local interference. The representative of the administration of the Federal P.T.T. assured the assembly that the Government hoped to introduce an anti-interference Bill in the Federal Chamber before the end of the summer. The proposed Bill will make compulsory such modification of offending apparatus as is necessary to eliminate interference. The Federal Commission are endeavouring to establish the legal basis of the proposed law without delay, and will make a special effort to pass the Bill through the Chamber as a special measure.

U.S.A.

Radio's Part in Suppression of Crime

(From our New York Correspondent)

Commercial sponsors are seeking more frequently to incorporate people and events of real significance into their programmes, instead of relying solely on the appeal of light entertainment. An interesting illustration of this trend recently occurred. During a sponsored programme, the traditional attraction of which is a dance orchestra, the first demonstration was given of the radio police patrol system, under the supervision of General John F. O'Ryan, the New York City Police Commissioner. From the stage of the CBS Radio Playhouse, General O'Ryan told of the part that wireless and automotive sciences are playing in the suppression of crime. Conducting an actual investigation into a hypothetical disturbance reported from the scene of the broadcast, General O'Ryan described to his audience at Radio Playhouse and to listeners what was happening as the investigation proceeded. Following the report from Radio Playhouse to police headquarters, the programme continued from the Bureau of Police Telegraph, where those in charge explained their operations. It is claimed that, through the radio patrol system, the police can be brought to the scene of any crime in any sector of New York City in under two minutes.



The Will Adams Memorial near Yokosuka : the steps leading to the grave in the pine clump

The First Englishman in Japan

By Professor A. F. THOMAS,
College of Science and Literature, University of Tokyo

A special programme in honour of Will Adams, the first Englishman to settle in Japan, is being broadcast from the Tokyo station this year, and a Will Adams Memorial Clock Tower was unveiled at his birthplace, Gillingham, Kent, on Friday, May 11.

THERE is at least one Englishman's name that will live in Japan, and it is fitting that it should be a sailor's. Just as English children are familiar with the name of Admiral Togo, so Japanese children learn of what the humble English seaman, Will Adams, did for Japan in the early seventeenth century; and in fact it is no exaggeration to say that Japan knows much more of Will Adams and his doings than his fellow-countrymen do. This is because it is not customary for an unofficial ambassador to any country to be inscribed on his homeland's roll of honour, especially when he is nothing more than a humble able-bodied seaman. It is therefore to Japan's honour that she has done all she can to perpetuate the memory of a very modest foreign sailor whose services she recognises as having been so valuable.

"Miura Anjin"

The Japanese could hardly have chosen a better name than "Miura Anjin" for Will Adams. "Miura" is the place near Yokosuka and Yokohama where Adams lived and worked. "Anjin" means "pilot." Now Adams was a pilot by profession on the seas, and when, probably as a willing prisoner, he worked for the Shogun Iyeyasu, Adams was none the less a pilot, guiding the Japanese in the art of ship-building and navigation. It is significant that even in the early seventeenth century Japan was keen to learn the chief among those crafts, in the perfection of which she was so quickly able to take her place among the Powers when the country was opened in the middle of the nineteenth century. There are those who speak of the three hundred years during which Japan was closed to the outside world as her

hibernation. It would be truer to think of it as her chrysalis stage.

It is not without significance that at the place where Will Adams worked there now stands Japan's most powerful naval base, Yokosuka, in Kanagawa Prefecture. It was in the impregnable Miura Peninsula that Adams worked for the Shogun. There, Iyeyasu granted him a plot of land in the village of Hemmi, near which the Adams monument now stands. This plot brought the pilot an annual allowance of 220 Koku (or 900 bushels) of rice. There it was also that Adams married a Japanese girl, the daughter of Kageyu Magome.

There are many who would blame Adams for this, since he left a wife and two children in England, when he sailed in 1598 for America; and there are others who facetiously say that Adams did his best to respect the sailors' tradition of having a wife in as many ports as is convenient. Nevertheless, what ought at least to condone, if not exonerate, his bigamy is the fact that he was virtually a prisoner in Japan. Unlike the average bigamist, however, Adams did not seek to forget his first English wife altogether, for in 1611, when he was told by the Dutch that a British trading company had been established on the Malabar coast of India, he wrote two letters to England. One was addressed to his wife in Kent, but it is not certain whether she ever received it.

Will Adams's Grave and Monument

It is unfortunate that the grave where Will Adams's spirit officially reposes is not the one in which he lies buried. Yet, it is not unfitting that this world rover, sea-dog, pilot, and diplomat landlubber should have been buried in a grave which was never marked, a fitting end for one who must have been a very humble soul.

Until February of 1934 even the authentic date of Will Adams's death was not known. In order to establish the date officially the Japanese Ministry of Education made an investigation and was able, a short time ago, to establish beyond doubt that Will Adams died

on May 16, 1620 (April 24 of the first year of Genna).

The "Anjin-Tsuka" (Pilot Mound), within the precincts of the Jodoji Temple, now called Tsukayama Park, is about one mile from Yokosuka. It is on the top of this mound, in a clump of century-old, gnarled pine-trees, that the Will Adams memorial is built. Pilgrims going there have cut hundreds of steps into the hill-side leading to the memorial. After Davy Jones's locker it would perhaps be impossible to find a more suitable resting-place for a sailor. On the way up, and from the top of the mound, the devotee can obtain a magnificent view of Tokyo Bay and the country of the Miura Peninsula, around which Adams must have roved contentedly in what was his adopted home. Steamers and cruisers, successors of the craft the Miura pilot taught the Japanese to build more than three hundred years ago, now nestle in the Yokosuka harbour. Fishing smacks with their picturesque Japanese sails, as they cast their nets in one of the most fertile fishing grounds around Japan's coast, salute the mighty cruisers, dreadnoughts, and gunboats of Japan's formidable fleet.

An important part of the Will Adams memorial is a large granite slab which gives, in classical Chinese characters, the history of Will Adams's stay in Japan. Japanese visitors to the grave patiently read the lengthy history, for they are all keen to understand the import of the pilot's work in Japan's history. The grave itself was erected by the Magome family, to which Adams's Japanese wife belonged, and it is on the estate which the Shogun Iyeyasu granted to Adams. It is typically Japanese, and it is surmounted by two monuments, the larger being dedicated to Will Adams, the smaller to his wife.

His "Valuable Services"

In front of the tomb are two impressive stone lanterns, the type usually found before Japanese shrines. These were presented by the people living near Nihombashi, Tokyo, the place where, in Old Edo, Will Adams lived for some time. There is a small monument near this place in modern Tokyo, bearing the inscription:—

In memory of William Adams, known as Miura Anjin, the first Englishman to settle in Japan. He came as a pilot on board the ship *The Charity*, 1600, and lived in a house built on this spot. Adams instructed Iyeyasu, the first Tokugawa Shogun, in gunnery, geography, mathematics, etc. He also constructed for the Shogun several ships on the European model and rendered valuable services in foreign affairs. He married a Japanese lady, Miss Magome, and died on May 16th, 1620, at the age of forty-five years. Erected by the Principal Residents of Anjin-cho, July 28th, 1930.

The "Principal Residents" also contributed the stone lanterns before the tomb on "Pilot Hill," and among other contributors to the national memorial were H.I.M. Emperor Taisho, H.I.H Prince Arisugawa, and Prince Arthur of Connaught.

During the time I spent on "Pilot Hill" many Japanese sailors of different ranks came from Yokosuka to read Will Adams's history, salute, and then pass on their way back to barracks. As I left the shrine in the company of a Japanese friend and colleague I observed that he reverently bowed before the tomb. This was not out of courtesy for the Englishman with him, but because the name "Miura Anjin" and Will Adams really meant something to him and his people, much more, I felt, than to me. I needed no further proof than that of the place Will Adams still occupies in Japan's heart, and of the real sense of gratitude the country feels for its humble benefactor.

THE EMPIRE SECTION

BROADCASTING AND THE COLONIES

EMPIRE Broadcasting has been established for little more than a year; this Empire Day is the second in the history of the new service and the first which finds any accumulated experience at the disposal of those who are still learning their way in a little-explored field. Difficulties of transmission still mean poor reception on many occasions and in many parts of the Empire. But the progress is steady and most encouraging. This is particularly true of the zones which contain the Colonies. The Dominions, with their own vigorous broadcasting organisations, are not dependent on a central service in the same way as the scattered populations of the smaller Colonies. It is for the lonely white man, the plantation manager up country, or the official in a remote station that Empire broadcasting can make the greatest difference. The new service has been started, from this point of view, at a particularly appropriate time. The Colonial Empire is an Empire of growers and producers, even more than the Dominions can claim to be. With a few exceptions the towns of the Colonies are small, and life is generally lived with few of the social amenities that cities can give. In a period of unprecedented low prices, with Governments faced with diminished revenues and consequently compelled to reduce official services, the outlook has not been a cheerful one either for officials faced with the axe or at best the cut, or for growers, whatever their crop, faced with the impossibility of selling at a price which would encourage them to plant further crops. At a time when the expense of a journey Home has compelled many colonists to forego that necessary luxury, the opportunity of keeping in touch to some extent through the Empire programmes has been particularly welcome.

British Populations in the Empire

It is easily forgotten how many of our fellow countrymen live in the tropical or semi-tropical Colonies. Thus there are nearer 150,000 than 100,000 white men at sea in the different zones served by the Empire programmes. There are in British Colonial Africa, as opposed to the Union of South Africa, something like 50,000 whites, nearly all of them English, living largely isolated lives. More than half of them, it is worth while to note, live in Southern Rhodesia and enjoy self government. In the oldest part of the Empire—the West Indies—there are at least 50,000, without counting the mixed, largely European, population of Trinidad. Even the small and scattered British islands of the Pacific have between 10,000 and 15,000 white men, while the number resident in Malaya are calculated as around 12,000, and those in Ceylon at around 8,000. In India, in all its parts, the white population is something like 130,000. These figures show how very well worth while it is to lavish pains on a good Empire service, and in fact there is abundant evidence from all these Colonies of an eager desire to reap the fullest benefit from the improvements in wireless technique.

It is a reflection that easily occurs to those who from London survey the Colonial Empire, how little each Colony knows or cares about the rest, and yet what great similarity marks their political and economic problems. Whether a man is interested in growing sugar in the West Indies, or rubber in Malaya, or tobacco in the Rhodesias, or palm oil and copra in West Africa or Mauritius or the Pacific, the basic elements of his situation are the same, the acute need for higher prices, the problem of combining administrative efficiency with great economy,

by DOUGLAS WOODRUFF

the difficulty of making economies without prejudicing the future, or sacrificing social and educational services which are quite essential for countries with large and backward non-European populations. Empire Day, 1934, is a more cheerful anniversary than its predecessor a year ago, for there has been a general move of

prices away from their record low levels. The curve has begun to move upward. But the future still holds ground for anxiety. The primary producer cannot enjoy the mobility and liquidity of a manufacturer or a middle man. Nature cannot be hurried and needs notice well in advance of what she is expected to do. Where manufacturers can buy raw materials as and when they want them, the producers of such materials have to decide well in advance how much or how little it will be prudent to produce. To-day, in all the great staple commodities of the Colonial Empire, large stocks overshadow the market. Colonial growers need in a special degree the fullest information about the market position, lest there should be excessive hopes or excessive fears. No portion of the Empire derived greater benefits from the intelligence and kindred activities of the late Empire Marketing Board or more energetically strove to keep that central organisation in being. Wireless has here a prominent and valuable part to play in keeping the smallest and remotest Colonies in full touch with the actual state of markets. The growers and producers of the Colonial Empire do their work for the most part as pioneers, not in technical processes but also in civilisation, among large native populations. The great characteristic of the African Colonies, for example, is the rise of native industries. The English supervision on the West Coast, the English settler in the eastern highlands, is set among millions of natives who are taking their first steps in industrial life. The native cotton-grower in Uganda, the native cocoa-grower in the Gold Coast are but the most conspicuous examples of the established British policy of introducing industries to natives and natives to industry. The old occupations of war are now forbidden, while life in reserves without occupation or anticipation produces, only too easily, apathy and decline. Peasant industries have offered a partial solution for native peoples, and afford an initiation into the European scheme of life.

Modern Agents of Empire

The recent catastrophic falls in prices have been particularly unfortunate, because they are quite inexplicable to the primitive minds of growers who are conscious of having done their part as usual. Like the film, the wireless has plainly a great part to play in the future in helping those peoples to widen their horizons and to understand both how to make the most of their own lives and how their fortunes are intertwined with those of the people of Great Britain. These are early days yet, both for the educational talkie and for the wireless as informers, but enough has been already admitted to make plain what wonderful instruments lie ready to the hand of the modern Colonial administrator. The aeroplane, the film, the wireless are the great simplifiers of tropical life, and they are each year becoming increasingly serviceable for the purposes of building up civilised life in parts of the world where European man has hitherto had every sort of obstacle to contend against. Of Africa and of the Pacific alike it is true to say that the last century was the century of unchecked individual enterprise, productive of much heroism but bad in its large results. The new century of the age of governmental responsibility, and the duties of government to backward subjects are interpreted more generously than ever before. It is a happy coincidence that this new sense of responsibility should find to its hand new instruments by science which are so plainly capable of being turned to immensely advantageous use.

A
programme of
AUSTRALIA
in celebration of
EMPIRE DAY
devised and produced
by the
Australian
Broadcasting
Commission

To be broadcast by the B.B.C. on
May 24 at 19.00

1

The Chimes of the General Post Office
Clock at Sydney, New South Wales

2

The Laughing of the Kookaburra
(Laughing Jackass)

3

A Message of Good Will to the Empire

4

Orchestra: "Australia will be there"
(A favourite War-time Song of
Australian Soldiers)

5

Three Dramatic Cameos:

- (a) The Discovery of Gold
- (b) The Birth of the Merino Sheep Industry
- (c) The Foundation of the Wheat Industry

with interludes of Orchestral and
Choral Items

6

Finale, The Australian Anthem, "Ad-
vance Australia Fair" (by Orchestra,
Boy-soloist, and Chorus)

IT IS HOPED THAT SIMILAR PROGRAMMES
WILL BE BROADCAST FROM CANADA
(WITH NEWFOUNDLAND) IN 1935; INDIA
(WITH CEYLON), 1936; THE IRISH FREE
STATE, 1937; NEW ZEALAND, 1938; AND
SOUTH & EAST AFRICA IN 1939.

A MESSAGE TO "WORLD-RADIO"

FROM THE ACTING HIGH COMMISSIONER FOR AUSTRALIA,

Mr. J. G. MCLAREN, C.M.G.

EMPIRE DAY is observed in no part of the British Empire with greater enthusiasm than in Australia, where all but two per cent. of the population are of British stock.

It is, therefore, deeply gratifying to Australians that the first of the series of Empire Day programmes from the Overseas Dominions which is being inaugurated this year is to come from Australia. We sincerely hope that the conditions for its reception in this country may be wholly favourable.

The present year is one of exceptional promise. The clouds of depression seem definitely to be lifting, not only from Australia, but also from the other countries of the Empire, and the indications are pointing to a period of renewed prosperity for us all.

Australia is looking forward eagerly to the forthcoming visit of H.R.H. the Duke of Gloucester, an event which will add lustre to the Centenary Celebrations of the State of



Victoria, do signal honour to the Commonwealth generally, and, above all, serve to reinforce the spirit of Empire which is so vital a link between our respective countries.

In the realm of sport, too, the year promises to be of great interest. Our cricketers are here again, to give of their best, and Australia will be worthily represented on the tennis courts of Wimbledon in the contest for the Davis Cup.

We are confident that the year which has begun so auspiciously will end as happily; that real and substantial progress will have been made towards the solution of our economic and financial problems; and that the ever-increasing facilities

of intercourse by wireless and by aviation may be instrumental in still further promoting goodwill and understanding, and in bringing about an even closer union than exists at present between the component parts of the Empire to which we are so proud to belong.

Australia's "Big Ben"

[Chimes from the G.P.O. clock at Sydney, New South Wales, will be broadcast in the programme which has been arranged by the Australian Broadcasting Commission, and which is to be relayed from Australia on Empire Day.]

THE General Post Office in Sydney is usually regarded as the *chef d'œuvre*, architecturally, of the late James Barnet, formerly Government architect of New South Wales.

The central tower, which has four clock faces, was at the time of its completion recorded as the loftiest in the Southern Hemisphere, and probably is still entitled to that distinction; the great bell hanging in the tower is one of the largest in the Southern Hemisphere; on that bell the hours are struck, and the clock has also a set of "Westminster Chimes" sounding the quarter hours. The Sydney Post Office clock, therefore, may be described as the Big Ben of the capital city of the Mother State of Australia.

The splendid building in which it is placed may be regarded as the centre of the Metropolis. It occupies a rectangle fronting both George and Pitt Streets—the two main thoroughfares of Sydney. And its long façade facing north forms one side of Martin Place—a fine city feature running between George and Pitt Streets, which gives ample room to show the architectural beauty of the General Post Office. The main entrance to the Post Office is in the centre of this façade, and a statue of Queen Victoria, enthroned, occupies a canopied niche over its principal arch.

The spandrels of the arches on the western, or Pitt Street, front are adorned with some symbolical sculpture representing

the progress of civilisation, more particularly in telegraphy and other postal activities. Having regard to the date of its execution, which is upwards of forty years ago, this work is remarkable for the modernism of its boldly impressionistic style, and is a monument to the imaginative genius of its designer, the late Signor Sani.

The building is of Hawkesbury sandstone, of local derivation, which is much in use in and around Sydney. This stone is varied with massive granite in the pillars that support the arches of its long colonnade.



[By courtesy of the High Commissioner for Australia]

The General Post Office, Sydney, New South Wales

A Link of Empire

[Mrs. Couchman, who is one of the five members of the Australian Broadcasting Commission, and who is at present in London, gave a special interview to WORLD-RADIO in connexion with the Empire Day relay from Australia. Mrs. Couchman has been a prominent figure in Australian public life for the past seventeen years. She has been connected with many women's organisations, the functions of which were social service or some form of political activity. She is a Bachelor of Arts and a Justice of the Peace, and is Australia's woman delegate to the League of Nations this year, and also to the Conference at Paris of the International Council of Women.]

"I am proud that Australia should be the first Dominion to broadcast in the Empire Day Programme," she said.

"I was interested in broadcasting from the first; as a listener—and a somewhat critical one—and as a social worker, I realised what an enormous new power had come into our national life—a power which could be of infinite service in giving pleasure and information to all sorts and conditions of men and women. Entering, as it does, right into the home, it needs to offer entertainment of vastly different types as well as to be informative in every sense of the word. As an instrument for better understanding between nations, it may be a powerful factor in helping to maintain peace in the world.



Mrs. Couchman

"It is the greatest boon to our scattered population, tucked away in the vast spaces 'out-back' in Australia.

"It is in travelling that one realises the closeness of the older nations one to another, and the loneliness of our position in Australia, with all our undeveloped territory; and so the ties of Empire seem desirable, not only for reasons of sentiment and blood relationship, but from the stark necessity of safety.

"An Australian in England is received with warmth and hospitality, and one is justified in calling it 'a trip Home'—as we say 'down under'.

"Australian problems are British problems—Empire problems; and in travelling through Canada I realised, as never before, how closely akin are the difficulties that beset people in various parts of the Empire, no matter how different the local conditions. My heart warmed to those in the sister Dominion who are grappling with the identical problems that we in Australia have had to tackle in these last few years, both in the realm of Government and of social service. All the experiences one gains in Empire travelling emphasise the old conclusion that only through closer co-operation can we advance towards a solution of our common problems. It is indeed a case of 'united we stand,' and undoubtedly broadcasting can be a supremely valuable binding force.

"So far as Australian broadcasting goes, we have perhaps one great advantage over less isolated nations, in that our wavelengths are free from interference from nearby countries. On the other hand, we cannot so readily tap artistic sources as can those living in diversified and highly evolved cultural centres. And so we have had to develop our own resources with what seem to be increasingly satisfactory results.

"I do hope that Australia's Empire Day broadcast will be a success from every point of view."

The Strength of Australia

THE Kangaroo, like the tripod, rests his weight upon three supports—two legs and a tail, thus proving himself once more a good symbol of his native land. The economic life of Australia has for tail and feet three great industries, one much ahead of the other two: wool growing, wheat growing, and gold mining. (These three main industries are to be depicted in dramatic form in the programme to be broadcast from Australia on May 24.)

The sheep takes pride of place not only in bulk but in time. Wool-growing is nearly as old as Australia. It was as far back as 1801 that McArthur made his successful experiment in introducing merino wool. From that day the characteristic Australian farm was a Squatter's station, the enormous sheep run the boundaries of which could only be covered laboriously by men on horse-back. The vast sailing ships, the cutters, began to establish their memorable races to be the first to reach the London market and sell their clip for the highest prices. Sheep made possible the spacious country life which made emigration to Australia peculiarly attractive to men of means in the last century. Production increased year by year till in 1931 the record crop of over 3,000,000 bales was reached. But prices were then only half what they had been in 1928, and Australia was receiving not £60,000,000 a year, but under £30,000,000. The last year has seen a welcome upward turn, and prices are now 50 per cent. better than their lowest. The depression caused a tremendous cutting of expenses by as much as 40 per cent., and much of these economies—like the conversion schemes lowering the rate of interest—are a permanent gain.

The gold mining began half a century later.

It was a chance discovery in 1851 that led to the great Australian gold rush. Two years before, the world had been startled by the finds in California, and all those who had been just too late or too unlucky in the San Francisco rush were suddenly given another chance in Australia. The rush happened just after representative institutions had been granted to the Australian States, and a new element, the non-farming digger, took the stage to give that special character of eager social experimentation to Australian political life, a character it has never since lost. Gold mining in Victoria was followed by lesser finds in other parts of the Continent, culminating in the minor rushes at the end of the century and the boom in Western Australia mines.

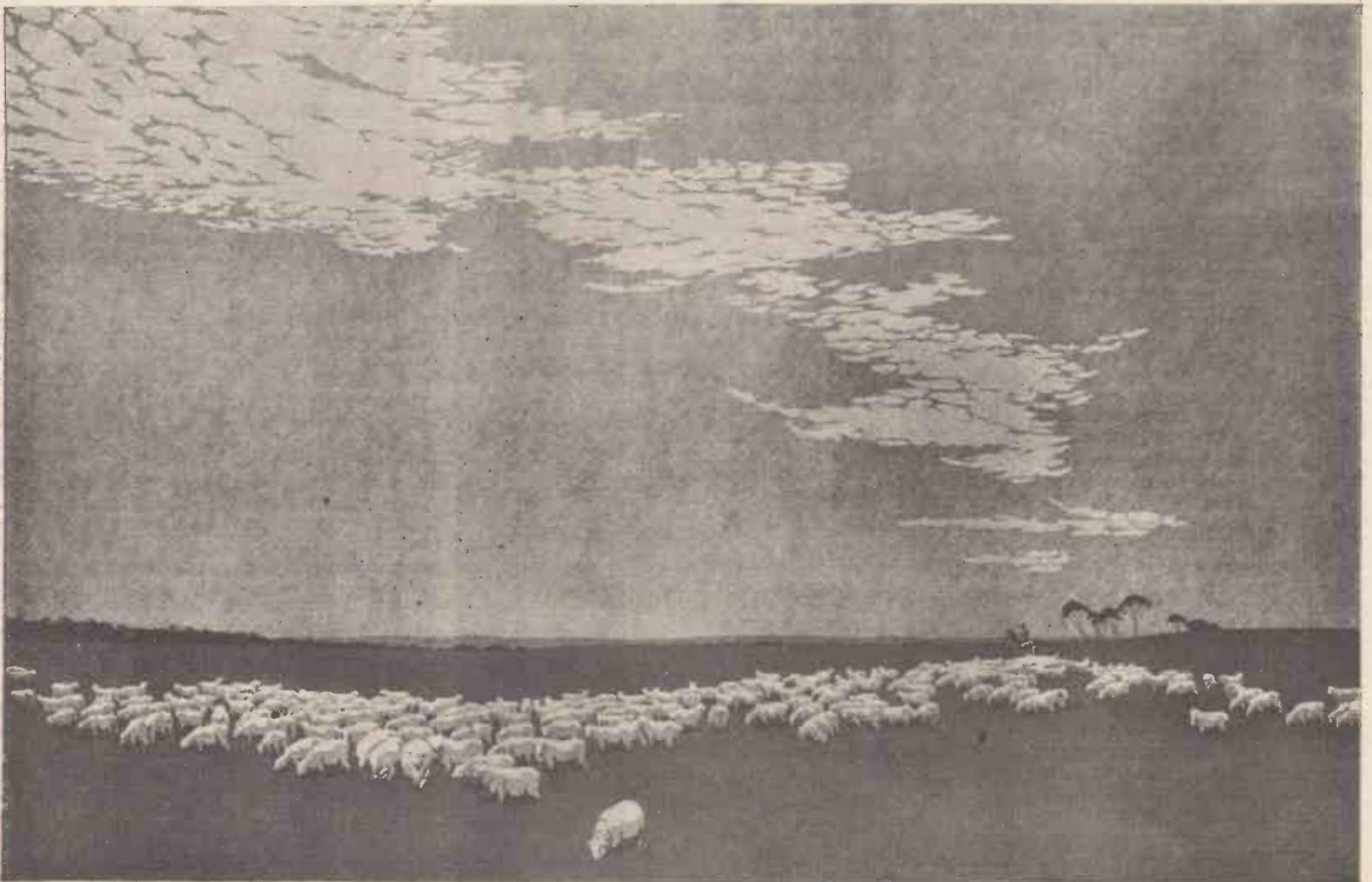
Minerals to-day are relatively less important than they used to be to Australia. All minerals do not equal half the wool in value, but gold at the present juncture has proved itself a strong support when many other minerals have dropped not only in quantity but in value. The third great industry, wheat-growing, came last of all. But Australia in the last few years has shown the greatest increase of all wheat-growing countries. The export, which had been 55 million bushels on an average before the war, was nearly a hundred million bushels on an average in the years from 1924-29, and Australia had taken fourth place among the exporters of the world. The total yield last year was as much as 225 million bushels. The decline in the price has been a very serious matter, as wheat ranks second to wool now, and Australia is essentially an exporter. If it were not for the enormous annual payments of interest, Australia might be less troubled about export prices, for she possesses

the essentials of an abundant life. Her huge exports to Great Britain point to another flourishing branch of agriculture. From the first days there have been people to shake their heads over the vast unirrigated desert of Australia. But each decade has shown that the area that is of little value to man is much smaller than was at first supposed. The science of irrigation is increasing the natural wealth of Australia each year, and so vast a continent, with a sub-tropical climate in its northern half, can produce not only the staples of the temperate zone but sugar and bananas as well. As far as growing things goes—and it is the major part of the human economic problem—Australia is happily placed to provide good and varied food and warm clothing for all its population. D. W.

The Empire Day Movement

It is not given to many men to have ideas which are recognised by the Legislature, and so affect the life of millions. Lord Avebury was the patron saint of Bank Holidays; Mr. Willett was the tireless crusader for Daylight Saving, and the Earl of Meath first thought of Empire Day. May 24 was the birthday of Queen Victoria, a day long dedicated to the holiday spirit. It was a happy inspiration on the part of Lord Meath to take the day associated with an illustrious queen, and link it up with a most vital issue to the British people—the Empire. Lord Meath had been agitating for the recognition of an Empire Day from 1892. The idea was enthusiastically adopted by the Dominions in 1905, but it was not until 1916 that it was officially recognised by the Home Government. Lord Meath was a devoted servant of the people.

"To him the British Empire was a goodly heritage
To be fashioned like unto a City of God."



An Australian Sheep Farm

[E. M. B. poster, reproduced by permission of H.M.S.O.]

EMPIRE NEWS

AUSTRALIA

(From our Australian Correspondent)

Right of Control of Broadcasting

The Commonwealth Government assumed jurisdiction in respect of wireless broadcasting from the earliest days, but the Attorney-Generals of the States of Victoria and Tasmania have now raised the question whether such power is constitutional. They point out that the constitution can make laws in respect to postal, telegraph, telephonic, and other like services, and it is under this authority that the Commonwealth has acted. This part of the Commonwealth constitution (section 51, paragraph 5), however, refers only to means of communication between persons who desire to send messages for commercial or other private purposes. The matter was referred to at a conference of State Ministers recently, and while representatives of the States did not object to the Commonwealth having power over broadcasting, objections were raised, by at least two States, to the Commonwealth having exclusive power.

Churches Want Broadcasting Stations

The Methodist Conference of Queensland has recommended the Council of Churches to undertake the establishment of a B class station in Brisbane for the broadcasting of religious services. In this connexion the Rev. R. J. R. Delbridge has done considerable work with an experimental station. His programmes have been restricted to gramophone records of sacred music and Bible readings, and on his experience Methodists believe that the churches could do a very fine work with a regular station. In Sydney the B class transmitter 2CH is connected with the Council of Churches. Its programmes in the main resemble those of other privately-owned stations supported by advertising, but certain religious exercises are definitely part of the programme, and the station eschews horse-racing and certain sports.

A.B.C. Studio at Perth

Commenting on the complaints of West Australian broadcasting artists against the alleged inadequate accommodation which the Australian Broadcasting Commission proposes to erect in Perth for studio purposes, Mr. Charles Lloyd-Jones, Chairman of the Commission, stated that the studio will be second to none in the Commonwealth in equipment and programme facilities. The new building will cost about £12,500, and although, for the present, it will consist of only one storey, its foundation will permit the addition of further stories from time to time as programme requirements develop and the Commission's funds justify the expenditure. The design is simple and dignified, and the new studio will enable the Commission to give West Australians a better service. Mr. Lloyd-Jones added that the plan of the building prematurely published is not the plan actually selected. The only sensible course for the Commission was to spend on buildings only what was required for the presentation of programmes.

Short Waves for the Homesick

To the thousands of Australians staying in the British Isles, or in some other part of the Empire staying for a short visit, there comes sometimes a pang of homesickness. Long distance wireless has provided at least a partial remedy for this nostalgia. As the Englishman exiled from his country, living perhaps on the Canadian prairie, or in the back blocks of Australia, tunes in the Empire station on his short-wave receiver, so the homesick Australian can pick up "The Voice of Australia," VK2ME, the short-wave station at Sydney. VK2ME



Kookaburras, the birds that laugh. The laughing of the kookaburra is to be heard in the Empire Day broadcast from Australia

sends out four programmes during each week-end for reception throughout the world. Each session is opened by the laugh of the kookaburra.

CANADA

(From our Montreal Correspondent)

Radio Communication with Australia

Mr. Bennett, the Prime Minister, answering a question put by a Member, informed the House of Commons on April 30 that the matter of radio communication between Australia and Canada had been under consideration by the Postmasters-General of Canada and Australia. He had no further statement to make on the matter; it was largely one for technicians.

"Nationalisation a Great Success"

The work of the Canadian Radio Broadcasting Commission was much praised by Mr. Frank Denton, Chairman of the Radio Committee of the National Council of Education, at the hearing by the Parliamentary Committee on Radio, on April 30. He said that the nationalisation of radio had been a great success. The Radio Commission had changed the situation in regard to radio broadcasting in Canada, and its enforced reduction of advertising had made programmes more agreeable. If advertising were to be allowed "on the air," witness considered the Commission personally should be able to advertise what it was doing so as to educate the public in the work of the Commission. The functions of broadcasting as a cultural, educational, and social force were much larger than the provision merely of "sheer entertainment and vaudeville."

R.E.S. Empire Day Celebrations

THE annual Empire Day dinner of the Royal Empire Society will be held in the Connaught Rooms, Great Queen Street, W.C.2. The speakers will include the Marquess of Londonderry, K.G., P.C., M.V.O. (Secretary of State for Air); Major-General Winston Dugan, C.B., C.M.G., D.S.O. (Governor-Designate of South Australia); and Lt.-Colonel Sir John R. Chancellor, G.C.M.G., G.C.V.O., D.S.O. Sir Archibald Weigall, K.C.M.G., Chairman of the Council, will preside. Lord Londonderry's speech will be broadcast in the National programme and in the five Empire transmissions. There will be no inter-Dominion relay this year on the lines of the ambitious broadcast of Empire Day, 1933, when speeches and musical items emanating from Royal Empire Society dinners in Australia and Canada were relayed to the annual dinner of the Sydney branch of the R.E.S.

An Empire Causerie

A Radio Auction

NEWFOUNDLAND has been in the news of recent months largely because of financial difficulties which have necessitated the benevolent intervention of the Mother Country. The financial stringency has affected all sections of the community. St. John's Y.M.C.A. had a deficit, which the directors decided must be wiped out. It was a bad time to appeal for money when more than a touch of poverty made the whole island kin. But many people will give in kind when they cannot give in cash. So an appeal was made for goods. The response was amazing. Not only gifts in kind, but offers of services poured in. For example, a shoe-black would give twelve shoe-shines, value \$1.20. A decorator would offer to paint a room. This was equal to a gift of \$10. The goods varied from ponies and tons of coals to packets of pins and tubes of paste. The next step was to dispose of the articles, which were auctioned by radio. Listeners telephoned their bids or made offers previous to the sale. The radio auctions lasted for several nights, and a most gratifying sum of money was raised in this ingenious way.

"The Greatest Vocalist"

"Who was the first man?" was the question addressed to the American schoolboy, who replied, "George Washington." When reminded that Adam had slightly prior claims, the boy patriotically explained that he was not counting foreigners. In the same way it is to be hoped that the *Indian Radio Times* was excluding foreigners when in a recent issue it roundly declared that Miyan Tansen was the greatest vocalist who ever lived. The Indian State Broadcasting Service is taking steps to create a permanent nucleus of musicians, both for the Indian and European programmes. This is gratifying news, because it is an evidence that the broadcasting service has come to stay, and that it has weathered the financial storms which threatened to overwhelm it. A European, Dr. M. Fredelis, who has spent the greater part of his life in India, and who has wide experience in organising programmes of Indian and Western music, has been appointed to put the Calcutta programmes on a sounder basis. Dr. Fredelis was at one time Director of Music to the Gaekwar of Baroda. He has also some remote connexion with the said Miyan Tansen, which is a great asset to him.

The Mining Boom

The mining boom in South Africa is having its repercussions in the arena of broadcasting. Now that there is so much more money in circulation, it is expected that there will be a demand for the more expensive sets. Another sign of the times is the fact that the Cape Town station is now broadcasting daily a report of the Johannesburg Stock Exchange prices. This step has been rendered necessary by the boom in mining shares and by the number of people who are following the gold prices. This will mean a temporary increase in the number of listeners, but there is always a possibility that those who lose money in mining speculation will vent their disappointment on their sets. It is to be hoped that there will not be too intimate a connexion between wireless receivers and Official Receivers. The present and prospective activity in broadcasting has led to a revival of the rumour that the South African Government intends to take over broadcasting. A leading newspaper asked Senator C. F. Clarkson, Minister of Posts and Telegraphs, if that was true. He replied that the Government had not even considered the matter as the P.M.G. had been in England. The paper in question was able to print three columns on that answer.

EMPIRE PROGRAMME LETTERS

A Counter-Attraction to Head-Hunting

SIR,—I bought a short-wave superhet last July, and since then I have received the Daventry Station without fail every night, and fairly often Transmission 5 in the morning.

I do a lot of touring in the hills, and since I bought the set I have toured for 240 days, carrying the set with me on the back of a coolie. Together with batteries I can get it all in a basket under 60 lbs. weight, and, therefore, carried by one man. I use a small portable aerial 25 ft. long, and just hang it up on a couple of 10 to 12 ft. bamboos or posts. On some nights reception is very good, on others it is good; but mostly it is excellent, and I can get all the wavelengths without much trouble.

I listened a short while ago to my cousin playing football for Ireland. I was sitting in a jungle stockade right in the midst of the trans-frontier head-hunters—sentries passing the word all the night. A head had been taken not a quarter of a mile from the stockade that afternoon! When Captain Wakelam started to speak I called in some of my interpreters, and they listened in dead silence. You can hardly imagine the effect that wireless has on the head-hunters. It has certainly become a counter-attraction! The announcer's cough has become the *pièce de resistance*, and, amongst the village headmen who have come to listen, there is great disappointment when he doesn't cough.

I have practically nothing to say about your programmes except respectfully to ask that the dance music in Transmission 3 might be put on a little earlier in the day, as I don't get it here until 23.30. I like cheery music now and then, as I am the only European here. My nearest neighbour is five days' solid marching from my headquarters, and I only see him about once or twice a year. There are no roads or railways in this undeveloped, jungly, hilly tract, and all touring has to be done on foot, or on a pony when there is a bridle-path. The only words of English that I hear, for months on end, are when I switch on the wireless in the evening.

I have to congratulate you on the fact that I have heard Daventry every single night since July 3 last, and I hope to continue thus until I go home on leave in a couple of years' time.

Again thanking you for your excellent service,

Yours faithfully,

E. M. L. LAMBERT.

Naga Hills, Assam, India, March 13, 1934

Not Enough of Henry Hall

SIR,—May I congratulate and thank you for the marvellous programmes radiated through your Empire transmitters. They are all receivable in this country with full volume and good quality, too; in fact, it is the only means of reliable entertainment we may have through the radio over here.

But I would like to stress one point for your kind consideration; that is, Dance Music in your No. 3 Transmission. Don't you think that twenty-five or thirty minutes is not enough for the listener to get satisfied from the beautiful tunes of Mr. Henry Hall? Surely he will be good enough to extend his programmes for some time longer. This, I am sure, will be appreciated by, shall we say, eighty per cent. of your listeners.

Hoping that my suggestion will be favourably received,

Yours faithfully,

B. EMIN ZEK.

Baghdad, Iraq, April 22, 1934.

"None Comparable to Daventry"

From s.s. "Hartington," at Durban:—

"No criticism is necessary concerning the programmes radiated. I appreciate and enjoy them all. The news is perhaps of most interest, and when I mention that I am frequently at sea for more than a month on end—completely cut off from the rest of the world—you will easily understand how particularly welcome the Empire News Bulletins are.

"The announcer is to be congratulated on his perfect enunciation and clarity of speech; his voice is a treat to listen to.

"I have heard many short-wave broadcasting stations from different parts of the world, but none is comparable to Daventry for its excellent quality, clearness, and steadiness of transmission.

"In conclusion, may I thank you once again for the pleasure I receive through the medium of the Empire transmitters at Daventry."

Insult Added to Injury

From Southern Rhodesia:—

"We get Daventry quite well, which is wonderful out here; and if you wait till 22.30 it becomes as clear as if it were in the room—only one is too sleepy, having got up at six.

"The first two evenings it would say nothing. After we had struggled with it till we were worn out, the wireless suddenly came to life and

exclaimed in a deep, throaty voice: 'Now, my friends, we will take the collection.' A disheartening beginning, especially when there had been no performance!"

Difficult to Improve Programmes

From Cairo, Egypt:—

"I am more than grateful for the many hours' enjoyment which I have derived from the British Empire broadcasts from Daventry. While there are several items in the programme which I, for my part, do not much care for, I realise the difficulty of catering for an audience which, I imagine, must be the biggest in the world. I fear, therefore, that it would be useless for me to begin to criticise or to make suggestions for the improvement of a programme which, considered universally, would be exceedingly difficult to improve."

"Lining Up" by GSB

From Brisbane, Australia:—

"As one of the oldest users of high-frequency experimental transmitters in this State, I desire to offer you appreciation of your broadcast transmissions on the Empire chain.

"I would point out that, whereas over twelve months ago the Paris short-wave transmitter was the standard against which your transmissions were judged, GSB is now used for 'lining up' all short-wave receivers in this part of the world."

"That British Spirit"

From Chatham, Ontario, Canada:—

"Am I asking too much if I request you to play 'Land of Hope and Glory' some night? We never hear same these days; and we still have that British spirit, and like to hear such songs. Maybe I am asking too much, but I hope not. We are proud to be living still under the Union Jack in another country; and while we love Canada, might I say:—

'My motherland, my other land,
My heart is true to you.'

"I only wish the B.B.C. would take a fee each year, I for one would gladly pay same. It is very kind of you to put on these broadcasts. They bring back old memories of days gone by; and so, Daventry, we salute you and congratulate you!

"And may this letter give you as much pleasure as it gives me in touching memories of the past. God bless you—good night, everybody."

Listeners' Verdicts

Pilgrim's Way, No. 5

THE nightly readings of poetry and prose are not entirely successful, chiefly because of their rural context. To be plunged, while still humming a gay vaudeville chorus, into the depths of poetic despair, and then, before we have fairly attuned ourselves to that mood, to be assailed by "cuties" and comedy numbers, is too much for any sensitive listener.

On Sundays, however, the B.B.C. gives us poetry as it should be heard—with the accompaniment and interpolation of music. No. 5 of the "Pilgrim's Way" Anthologies, which dealt with "Love," was a revelation of great ideas perfectly expressed.

It was noticeable that while the men's voices were beautiful and expressive, that of Miss Janet Taylor—who, incidentally, read Sidney's dainty song, "My True Love hath my Heart," without any trace of the joy which must have prompted it—came over the air reedy and toneless, though sweet enough. This seems to be a common fault with feminine broadcasters.

The only other complaint that a critical

listener can make is that the musical side of these programmes might justifiably be more definite and less of a purely interpolatory character, as it is at present.

Mr. Humbert Wolfe is to be congratulated on the variety shown in his selections. Though many famous poems of love, both human and divine, were of necessity omitted, few people will quarrel with his choice.

The man or woman who will read poetry is rare nowadays, but we must remember that its original vehicle was the expressive human voice, and not the cold indifference of print. Where few will trouble to read for themselves, many will listen to verse read finely, as it is in these Sunday broadcasts.

Such anthologies are valuable as revealing the varying outlook of many noble minds; they also provide listeners with some echoing line of loveliness to carry in their minds through the workaday week that follows. N. M. G.

Readers are invited to submit short commentaries on outstanding broadcast items of the week May 20 to May 26. Contributions should not exceed 350 words, and payment will be made for those items published.

Journalists' Conference and Wireless

(From our Brussels Correspondent)

THE first International Conference of the New Forms of the Press (which include the *Journal Parlé* and film journalism) will be held in Brussels in October next, simultaneously with the Conference of the International Federation of Journalists. M. Herman Dons, President of the Federation, will preside over the new conference, and M. René Sudre will be Rapporteur-Général. The Secretary-General of the Federation, M. Stéphan Valot, will also fill that office for the new body.

The conference will be divided into three sections: the Professional Section, which will study the relations of the *Journal Parlé* with the printed Press; the Technical Section, the function of which will be to consider problems arising out of recording, television, tele-photography, and *téléclilage*—a new invention for the transmission by wireless of a complete page of a newspaper; and the Juridical Section, which will deal with questions of copyright, censorship, etc.

The *Journal Parlé* and film journalism will be equally represented in each of these sections.

FOREIGN LANGUAGES

GERMAN

Tuesdays, 18.50—19.20 (National Programme).

Translation of Poem, Pamphlet, p. 28

(1) Stars with their golden little feet wander above timidly and softly, so that they may not awaken the earth which sleeps (there) in the lap of night.

(2) Harkening stand the silent forests, every leaf a green ear (to hear with).*

And the mountain, as if dreaming, (it) stretches forth its shadowy arm.

(3) But what was that calling? Into my heart reaches the echo of the sounds, Was it the voice of my beloved, or but the nightingale?

* The ear of corn is in German *die Ähre*.

Translation of the Reading Text of Lesson 18.

Carl Spitzweg: The Serenade

Carl Spitzweg lived from 1808 till 1875. Most of the time he lived in Munich. When he was still a boy he liked painting and drawing. But his father did not understand (lit., had no understanding for) this and apprenticed him to a chemist. When he had finished his apprenticeship, he worked for two years as a chemist in Straubing, a small town in Bavaria. Then he went back to Munich. Some of his friends were painters. They advised him to give up his profession and (to) become a painter too. He followed their advice, for his father had died in the meantime and left him a small inheritance (lit., fortune, property). Spitzweg now rented a large room on the third floor of a house, where he painted. Next to it was his little bedroom—this was his home. He stayed at the house as long as he lived. He never married.

Many of Spitzweg's pictures represent old, lonely eccentrics. The painter was an eccentric himself. He had not many friends and was not well-known in his time, for he went his own way. The king of Bavaria was very much interested in (lit., a great friend of) painting, but only Greek art pleased him (or, he only liked, etc.), and his painters imitated it. But Spitzweg painted from nature. In Straubing he had observed (the) life in a provincial town, and this (is what) he represented. That time was still the "good old days." Railways were unknown, there was no telephone and no motor-cars, people had plenty of (lit., much, very much) time and took things easy. At that time Munich had also many old corners. Spitzweg often visited the small towns in Bavaria, (as) e.g. Rothenburg. Even now Rothenburg still looks like a mediæval town, with its gates, town walls, towers and narrow lanes.

But Spitzweg did not paint realistic pictures like the painters at the end of the century. He only made sketches from nature, he saw the great paintings in his imagination.

This is how one of his most famous pictures, "The Serenade," came into being (ist entstanden=Perfect tense of *entstehen*, to come into existence or being). On a warm night in July he was wandering along the old streets of some town. The moon had just risen. In his imagination he connected the scene with an opera the action of which takes place in Spain (the Barber of Seville). He saw the count with the musicians walking through the quiet streets. Underneath a balcony they stopped. Quietly they took their instruments out of their cases. The violinists tuned their violins, the flute-players blew a few notes. Then one of them counted one, two, three, and they all began. The gentleman had taken up his position (lit., placed himself) in the shadow and listened. Now the room was lit up. A beautiful young lady came on the balcony. She looked towards

the count and smiled to him. This is the moment that Spitzweg has caught. The greatness of the picture is the wonderful atmosphere: we feel the stillness of the night and the magic of the silvery moonlight and breathe the perfume of the warm summer wind.

Questions (Fragen). p. 82

Das Bild heisst: "Das Ständchen." Im Vordergrund stehen die Musikanten mit ihren Instrumenten. Ich zähle acht. Er steht hinten im Schatten. Dem schönen Fräulein auf dem Balkon bringt er das Ständchen. Natürlich (or, Gewiss) hört sie zu. Im Hintergrund sieht man einen Kirchturm und davor einige alte Häuser. Carl Spitzweg hat es gemalt. Im neunzehnten Jahrhundert. Jetzt sind (or, leben) wir im zwanzigsten Jahrhundert. Als Maler hat er nur in München gewohnt. Ja, jetzt ist er berühmt, und seine Bilder sind sehr beliebt. Das Bild gefällt mir sehr gut. Ja, ich kenne auch andere Bilder von ihm. Ja, ein wenig (or, Nein, ich male nicht, ich kann nicht malen). Ja, aber nur im Winter, wenn das Wetter schlecht ist (or, Nein, ich interessiere mich nicht für Gemälde).

Key to Lesson 18, Exercises, pp. 83-84

A. 1. Der Frieder klettert auf den Baum (*hinauf*; this adverb may in this case be left out, as it only repeats and emphasises the preposition *auf*). Er findet *darauf* ein Nest. Er nimmt die Eier *heraus*. Er klettert wieder *hinunter*. Der Heiner legt die Eier in das (or, ins) Nest (*hinein*). Der Dieter wartet *unten*.

2. Heinrich und Johann packen. Ja, er ist schon *darin* (or, more colloquially, *drin*). Geht dieser Anzug noch *hinein*? Ja, aber wir müssen ein Paar Schuhe *herausnehmen*. . . bitte hole ihn *herunter*; das ist nicht der rechte (or, richtige), bitte lege ihn wieder *hinauf*. Ist der andere Schläger nicht *dort* (or, *da*, or, *oben*)?

3. Wie weit kann man in den Wald *hinein* gehen? Bis in die Mitte; dann kommt man wieder *heraus*.

B. (a) Hans ist um 7 Uhr *aufgestanden*. Er hat . . . *hinausgeschaut*. Er hat . . . *eingeatmet*. Er hat sich *angezogen*. Er hat sich . . . *vorbereitet*. Nach einer Stunde hat er das Buch *weggelegt* und ist ins Esszimmer *hinuntergegangen* (or, und ist hinunter ins Esszimmer gegangen).

(b) *aufstehen, hinausschauen, einatmen, sich anziehen, sich vorbereiten, weglegen, hinuntergehen*.

C. (a) 1. Er hat sich . . . *überlegt* und (er) hat . . . *unterschrieben*. 2. Der Lehrer hat . . . *übersetzt* und . . . hat ihn *wiederholt*. 3. Wir sind . . . *ausgegangen*. Aber . . . hat uns *überrascht* (taken by surprise). Wir sind . . . *wiedergekommen* und haben uns sofort *umgezogen*. Dann haben wir uns . . . *gesetzt* und uns *unterhalten*.

(b) 1. Er *überlegt* sich . . . und (er) *unterschreibt* . . . 2. Der Lehrer *übersetzt* . . . und der Schüler *wiederholt* ihn. 3. Wir gehen . . . *aus*. Aber . . . *überrascht* uns. Wir kommen . . . *wieder* und ziehen uns sofort *um*. Dann setzen wir uns . . . und *unterhalten* uns.

MAX KROEMER.

(To be continued)

Esperanto Transmissions

Sunday—Lille, 09.30, News. Leningrad, 19.30, Duonhoro da esperanta literaturo. Minsk, 22.05, Koncertvespero. Monday—Leningrad, 22.45, Mcmvolontulaj asocioj. Tuesday—Tallinn, 20.00, News. Minsk, 22.05, La vero pri Sovitio. Wednesday—Vienna, etc., 22.00, News. Thursday—Paris, Limoges, Alpes-Grenoble, 17.45, Course: Talk. Kaunas, 21.20, Talk. Minsk, 22.05, Niaj atingoj—Pri kresko de industrio en BSSR. Leningrad, 22.45, S. Petersburgo—Petrogrado—Leningrado. Helsingborg, 23.00, Turisma parolado: Skanio. Friday—Sottens, 18.30, Course. Radio-Côte d'Azur, 20.15 Course. Saturday—Brno, 17.15, Talk. Lyon-Ir-Doua, 20.10, Novajoj (M. Borel).

SPANISH

Thursdays, 18.50—19.20 (National Programme).

Galdós Y Los "Episodios Nacionales"

PARA los ingleses Galdós (1) es el Dickens español, y los franceses comparan su obra con 'La Comédie Humaine' de Balzac. Pero para los españoles, Galdós (y es inevitable este gastado epíteto), es el padre de la nueva España. En su obra, de unos ochenta volúmenes, escrita con profundo amor patrio, analiza y critica a la España del siglo XIX, poniendo de relieve sus defectos y cualidades, y abogando con insistencia por la reforma social e individual de sus compatriotas. Galdós escribía durante la época de mayor abatimiento y desorganización. España había logrado su independencia con heroicos esfuerzos, pero quedó desorientada . . . desesperada. Terminada la Guerra de la Independencia, volvió a España Fernando VII, 'el Rey Deseado,' en 1814. Pero ¡qué desilusión para su leal pueblo español! Luego que pisó el suelo de España, Fernando disolvió las Cortes, abolió el régimen constitucional, y restableció la Inquisición. Siguieron unos años de tiranía y retroceso. Como era de esperar (*as was to be expected*) el partido liberal crecía de día en día, hasta que en 1820, se sublevaron las tropas bajo el mando del coronel Riego, y al son del himno de Riego (que es hoy himno nacional) proclamaron la Constitución de Cádiz, obligando al rey a restablecer el régimen constitucional. A la muerte de Fernando VII, sobrevinieron las Guerras Carlistas, tristes guerras civiles, que dejaron a la nación aun más desequilibrada y exhausta. Después, en 1873 proclamamóse la I^a República, que duró un año; y en 1874 con la restauración, trajo Alfonso XII la paz a la afligida España. Por fin en el reinado de Alfonso XIII, hizose sentir el renacimiento espiritual y físico, que hoy está dando tan notables resultados. Este renacimiento se debe en gran parte a la crítica severa aunque sumamente amorosa, de Pérez Galdós. Muchos españoles lamentan la tendencia anti-clerical que inspiraba algunas de sus obras, pero hay que reconocer que en aquella época, merecían censura y crítica algunos de los clerós. Los extranjeros suelen preferir las 'Novelas contemporáneas' de Galdós, a sus 'Episodios Nacionales.' Efectivamente, algunas de aquellas, *Realidad, Doña Perfecta, Electra, El Abuelo*, son sus mejores obras, y ofrecen interés universal. En cambio para apreciar los 'Episodios Nacionales,' se necesita un conocimiento íntimo de la historia de España del siglo XIX. Las dos primeras series (veinte volúmenes) valen más que las tres otras. Los primeros diez tomos, tratan de los magníficos esfuerzos de los españoles para expulsar a las tropas de Napoleón, En 'El 19 de marzo y el dos de mayo, en Zaragoza y en Bailén (Véase W.R. 27 de Abril) describe sin exageración y sin retórica, algunos de los episodios más gloriosos de aquella contienda. Las demás series, por tratar de las luchas políticas y civiles, tienen menos interés para los extranjeros.' Son episodios en el fondo, tristes, desprovistos de gloria, aunque todos ellos contienen rasgos interesantes. Galdós, como buen español, amaba los personajes que creaba, por consiguiente evita el estilo psicológico-científico tan en boga en Francia, y crea personajes de carne y hueso, individuos que piensan, sufren, aman, y sienten, como típicos españoles de entonces.

En aquella época, había vuelto la moda del estilo retórico e hinchado en la oratoria y en la literatura. Galdós inició el estilo sencillo, conciso, y sobrio que rige en la literatura moderna española.

Los 'Episodios Nacionales' sirvieron de espejo a los españoles. Se vieron allí tal como eran. Se dieron cuenta de que estaban desperdiciando su energía, y malgastando el tiempo en luchas inútiles, en hablar por hablar, en una política estéril. Por desgracia (*unfortunately*), fué justamente este período de desorientación

que los escritores y turistas extranjeros han descrito con más prolijidad. Ésta es la España que todavía perdura en la imaginación extranjera; la España de bandidos, de carreteras malas, de apatía y retrasos.

Al leera Galdós pues, téngase presente que esa España es cosa pasada, tan pasada como el siglo XIX a que pertenecía.

Diferencias políticas aún existen, y existirán, pero la España de hoy es otra. . . . Todos los españoles se sienten ahora unidos por nuevos lazos regeneradores, hijos del estudio, y de una nueva vitalidad: la fé en sí mismos (lo cual equivale a la fé en el porvenir) y amor a España, a la España de los grandes hechos, logrados y por lograr (2).

(Traducción) Benito Pérez Galdós. (1) 1843-1920 AL revelar a España a sus propios compatriotas, y al mundo, Galdós demostró (3) que quedaban en ella (4) muchos hombres razonables, hombres de buena voluntad, a pesar de las guerras, los generales, y los empleados (5) de gobierno. Sus protagonistas favoritos (6) son ingenieros civiles y médicos, competentes hombres profesionales de la clase media, pero todas las clases están representadas. Sus novelas son como la Puerta del Sol en Madrid, donde (7) todo madrileño y todo español tiene la seguridad de encontrarse con (8) algún conocido suyo. Pérez Galdós vivió lo bastante (9) para ver adelantar a España, hasta recuperar todo el prestigio (10) que perdió por haberse dejado bogar sin rumbo (11) durante la mayor parte del siglo XIX, en estado de revolución y guerra.

(J. B. Trend.)

(1) Pérez is a very common name, so he is generally known by his maternal surname Galdós. (2) *por lograr*='still to be achieved.' This construction should be studied. . . *hecho y por hacer*='done, and still to be done.' (3) Notice the difference between *enseñar* to show or teach, and *demostrar* 'to show' in the sense used above. (4) 'were . . . left': *quedaban*; (5) *oficial* would mean 'officer.' (6) Or *predilectos*. (7) *donde* makes a better sentence than *allí*. (8) *encontrar*='to find,' but *encontrarse* suits 'to meet.' (9) Notice *lo*. (10) The nautical metaphor suits the English but not the Spanish rendering. (11) to drift=*derivar*, but *bogar sin rumbo* suits better.

MARIA F. DE LAGUNA.

FRENCH Du Verbe (Suite)

A. (1) Est-il besoin de rappeler à ceux qui traduisent de l'anglais en français, que nous n'admettons pas, dans notre langue, l'emploi du présent dans la proposition subordonnée, lorsque le verbe de la proposition principale est au futur? En anglais, nous écrivons: *We'll have our meal as soon as he returns. When you are in the country I'll come to see you. She'll live in London when she is married.*

Dans ces cas-là, le français demande le futur dans la proposition subordonnée; il faudra donc traduire: *Nous nous mettrons à table dès qu'il sera revenu. Quand vous habitez la campagne, j'irai vous voir. Elle habitera (demeurera) à Londres quand elle sera mariée.*

N'oublions pas, non plus, que *can, may, must*, etc. . . . sont, en anglais, des verbes *défectifs*, et correspondent, selon les cas, soit au futur ou au présent. Il faut donc étudier le contexte, et ne pas traduire à l'étourdie: Ex.

He may go home when he likes = Il pourra rentrer quand il voudra. *She can borrow the book when she has learned to read* = Elle pourra emprunter le livre quand elle aura appris à lire. *You must bring the coffee when I ring the bell* = Il faudra apporter le café quand je sonnerai.

Le Passé

B. Nous abordons, maintenant, un problème vraiment difficile: la traduction du passé anglais. Quand faut-il se servir du *passé historique* ou *prétérit* français? Quand faut-il avoir recours au *passé indéfini* ou *passé composé*? Quelles formes anglaises aboutissent à notre imparfait? à notre *plus-que-parfait*? à notre *passé antérieur*?

Nous allons essayer de vous donner quelques indications qui, bien qu'incomplètes, vous em-

pêcheront de tomber dans des erreurs grossières.

(1) Quand l'action ou le fait dont il s'agit vous apparaît dans le passé comme un phénomène *unique*, et qu'il est exprimé par le passé simple anglais, rendez-le en français par le passé historique ou prétérit.

Ex. *The water at once was still, the boat glided over it and made the opposite bank* = L'eau, tout de suite, devint tranquille, la barque glissa dessus et toucha l'autre berge.

He succeeded in opening the door = Il put (réussit à) ouvrir la porte. *When he arrived, everything became clear to me* = Quand il arriva je compris tout. *He jumped out of bed and ran to the window* = Il sauta du lit et courut à la fenêtre. *I realized my good fortune* = Je connus mon bonheur.

(2) Rappelons ici à nos lecteurs que le passé indéfini français (passé composé) s'emploie aussi couramment, surtout dans le style familier, pour désigner une action unique située dans une période de temps complètement écoulée:

Ex. *I did what I could* = J'ai fait ce que j'ai pu. *We saw him twice last week* = Nous l'avons vu deux fois la semaine dernière. *Why did not you tell me that yesterday?* = Pourquoi (Que) ne m'avez-vous pas dit cela hier?

(4) De même, dans les formes suivantes, où l'anglais se sert du passé simple, le français emploie le passé indéfini (passé composé) qui marque une relation plus étroite de l'événement passé avec l'instant présent:

Ex. *My sister died two years ago* = Ma sœur est morte il y a deux ans. *How long is it since he went away?* Combien (de temps) y a-t-il qu'il est parti?

C. Voici un passage tiré de *Charles Lamb*; vous en trouvez la traduction ci-dessous:

Ravenscroft was a man, I have heard say, of all men least calculated for a treasurer. He had no head for accounts, paid away at random, kept scarce any books, and summing up at the week's end, if he found himself a pound or so deficient, blest himself that it was no worse.

Now Barbara's weekly stipend was a bare half-guinea. By mistake he popped into her hand—a whole one. Barbara tripped away. She was entirely unconscious at first of the mistake. Ravenscroft would never have discovered it.

But when she had got down to the first of those uncouth landing-places, she became sensible of an unusual weight of metal pressing her little hand.

Her first impulse was to go back to the old treasurer, and explain to him his blunder. But he was already so confused with age, besides a natural want of punctuality, that she would have had some difficulty in making him understand it. And then it was such a bit of money!

Ravenscroft était, à ce que j'ai entendu dire, de tous les hommes le moins fait pour être trésorier. Il n'avait pas la tête au calcul, payait au hasard, tenait à peine des livres, et quand il faisait ses comptes, à la fin de la semaine, s'il trouvait un déficit d'une vingtaine de schellings, il se félicitait qu'il n'y en eût pas davantage.

Or, les gages de Barbara étaient d'une seule demi-guinée par semaine. Par erreur, il lui mit dans la main une guinée tout entière. Barbara s'en alla lestement.

Elle n'avait pas, au premier abord, la moindre idée d'une erreur. Ravenscroft, de son côté, ne l'eût jamais découverte.

Mais, dès qu'elle fut descendue au premier des sombres paliers, elle commença à sentir que le métal pesait d'un poids inaccoutumé dans sa petite main.

Son premier mouvement fut de retourner auprès du trésorier et de lui expliquer son erreur. Oui, mais il avait déjà l'esprit si confus par suite de son grand âge, et de plus il était si peu exact de son naturel, qu'elle aurait de la peine à la lui faire comprendre. D'ailleurs, cette guinée était si peu de chose!

E. M. STÉPHAN.

Letters to the Editor

A Loudspeaker by Any Other Name

SIR,—The subject of Mr. John Ogilvy's letter in *WORLD-RADIO* of April 27, is a matter which, some two years ago, prompted me to think out some alternative term for "loudspeaker," when I concocted the following:—

RE—Prefix: Change of condition
SON—Latin: SONUS—a sound
IO—Two letters of the word "Radio"
M—Letter M added to harmonise

RESONIOM

The meaning of the term "Resoniom," would be: "A reproducer of sounds transmitted and received by means of radio."

Yours faithfully,

WILLIAM ANGUS MACKENZIE

Earlbank Avenue, Scotstoun, Glasgow, W4.

May 7, 1934.

SIR,—In reply to Mr. Ogilvy's letter under the above heading in your issue of April 27, as the chain of transmission starts at a "microphone" it should end with a "megaphone."

But this latter term has already been appropriated.

Yet, to maintain something of the classical consistency suggested above, I suggest the term "magnophone." If our purists wish to spell it "magnaphone," they may! And if they shudder at this "portmanteau" word, let them consider the alternatives to it, viz., "audiblisier," "sonorophone," "phonofier," "audiofier," and "oraliser"! From these one comes back, surely, with relief to "magnophone"!

Yours faithfully,

E. W. G. HUDGELL

Port Said, Egypt, May 2, 1934.

Trans-Atlantic Reception

SIR,—I read with keen interest the letter from Mr. T. E. Cutts on trans-Atlantic reception, in your issue of April 27. I myself received the following U.S. and Canadian stations on the morning of April 14, from 00.00 hrs. to 04.00 hrs.:

WEAF, WLW, WOR, CKAC, WJZ, WGY, WABC, WBZ-WBZA, WTIC, WTAM, WPG, WHAM, WCAU, WOAI (faintly), WNAC, and WIOD and WJAX, as well as five others not identified. The best signals were WBZ, WTIC, WJZ, WPG, WNAC (though heterodyned badly at times), and WIOD. A station I have noticed that is coming in very frequently lately is WJAX, Jacksonville, Alexandria. By the time this letter appears, we will have put a good period of DX listening over us.

Re American programmes: The best programme I have heard for some time from the States, I heard on the morning of April 14, through WTIC. It was a "sponsored" programme of one hour's duration, put "over the air" by the City Service Orchestra, from 01.15—02.15 hrs. G.M.T. (or 02.15—03.15 B.S.T.). The programme was 90 per cent. intelligible. The announcer told his listeners (one of which I luckily was) that this programme "is repeated each Friday evening at 8.15 p.m. Eastern Standard Time."

I thank you and your staff for the help which you give DX'ers through the medium of your "Which Station Was That?" column. Congratulations to you on your new programme arrangement, which I have begun to appreciate after being at first antagonistic to it. Congratulations also to the B.B.C. on the adoption of the 24-hour clock, as well as for the introduction of the Bow Bells as an interval signal. Best radió wishes!

Yours faithfully,

ALBERT BANNON.

Adare, Limerick, I.F.S., April, 28, 1934.

Last Week's Log

(May 6—12)

By "NORTHERNER"

ON the Sunday and Monday atmospherics were rather troublesome, and I fully expected a bad week for long-distance reception. Fortunately, however, conditions improved day by day, and interference was only moderate from the Wednesday onwards.

On the medium waveband, of course, it is not possible to capture quite as large a number of stations owing to the longer daylight hours, but it is interesting to compare to-day's results with those of some two or three years ago, when high-powered stations were not so commonplace. In those days, such stations as Budapest, Vienna, and Prague were rarely heard at this time of the year with enough volume for loudspeaker results, but to-day we are still enjoying almost first-rate reception.

Athlone was very fair during daylight, but many listeners must find it difficult to obtain adequate separation after dark with sets of normal selectivity. Beromünster and Mühlacker were well heard; Vienna was not quite so good on the Monday and the Wednesday. Sundsvall was coming through with splendid results on the Friday; Florence gave a fine performance from the Tuesday to the Saturday; and Lyons PTT was equally good after about 20.00. Langenburg does not appear to be quite up to form. Sottens was good on the Wednesday, Thursday, and Saturday, but poor during the remaining days.

Stockholm varied a little more than usual, its best nights being on the Tuesday, Friday, and Saturday. Rome, on the other hand, was steady throughout the week, providing just enough strength for good results. Munich promises to be very reliable during the coming summer months, and Leipzig and Berlin Funkstunde should also continue to be well received. Toulouse PTT was only fair; Katowice on the whole was not too good, and Lwów is still heterodyned by Barcelona.

Milan was first-rate on the Wednesday to the Friday, but poor on the Saturday; Strasbourg was clear on the Tuesday, Wednesday, and Thursday, but the station is often subject to bad interference. Hamburg was well received only on the Friday, but Brussels No. 2 was excellent whenever I tuned in to the station. Göteborg is still well worth attention, and Poste Parisien is as good as ever. Genoa was well heard on the Thursday; Breslau was very good on most nights, and Hilversum scored full marks on the greater number of evenings with splendid volume and very little fading.

Heilsberg had good nights—and very bad ones, for this excellent station is still heterodyned at intervals during each week. Bordeaux was moderately well received on occasion, while Turin gave a fairly successful run of results from the Tuesday to the Saturday, although the volume was not quite up to normal, owing, no doubt, to summer deterioration. Trieste has fully maintained its good volume up to the time of writing, but it is most unlikely that those results will continue much longer. Copenhagen is still occasionally well received after dusk, and Nürnberg can usually be found with very good results.

On the long waves Huizen had a very successful week, and was again quite free from interference. Radio-Paris was excellent at all times. The Deutschlandsender was moderately well received, and Warsaw was perhaps a little weaker than usual.

Motala was heard with fair results on the Tuesday and Thursday; Luxembourg was quite up to form; and Kalundborg, on the whole, gave quite a good performance, despite occasional periods of interference.

Oslo is still below normal, and results are not to be relied upon from day to day.

Interference between Stations

(May 6—12)

THERE has been a further change in the long waveband during the above period. Kharkov, the Russian station which has been using 223 kc/s since January 15, has adopted a frequency of 229 kc/s—very close to that of Radio-Luxembourg, and in spite of the high power of Luxembourg, the latter is slightly heterodyned at times, the heterodyne principally consisting of a weak whistle.

Reykjavik is still synchronised with Minsk on 208 kc/s. This remote station can now be heard fairly easily after midnight, when Daventry National has closed down. At that time Minsk has also finished its transmission.

The Latvian station, Madona (20 kW), is now working regularly on the long waveband, on 265 kc/s. It is interfering on that frequency with Moscow Trades-Union, using 271 kc/s.

On the medium waveband a rather important

STATION IDENTIFICATION PANEL

WARSAW (POLAND)

FREQUENCY: 223 kc/s.

WAVELENGTH: 1,345 m.

POWER (COPENHAGEN): 120 kW.

APPROXIMATE DISTANCE FROM LONDON: 899 miles.

TRUE BEARING FROM LONDON: 78°.

OPENING SIGNAL: Morse letter W (· — —).

CALL: "Hallo! Hallo! Polskie Radjo Warszawa!"

INTERVAL SIGNAL: A few bars from an old "Polonaise" by Oginski.

Closes down by playing Polish National Anthem, "Dombrowski Mazurka."



Jeszcze Polska nie zginie - la Kiedymy zy - je - my!

Metronome before each transmission of a news bulletin, broadcast five to six times a day. Man and woman announcers.

On occasion, announcements are given in French, English, and German, as well as in Polish.

RELAY STATION: Lodz (1,348 kc/s; 222.6 m.; 1.7 kW).

change has taken place: Radio-Toulouse, which had been allotted the 895 kc/s frequency, shared with a Finnish station, Helsinki, has exchanged its wave with that of Limoges PTT, 913 kc/s. Limoges is now sharing 895 kc/s with Helsinki.

Though this exchange does not suppress the heterodynes experienced by Hamburg (704 kc/s) and Radio-Toulouse, it has had, nevertheless, favourable consequences for the French station; the heterodyne caused to Toulouse by Helsinki is removed, and the former will now be authorised to use its full power of 60 kW. The change took place on May 7.

Barcelona EAJ1 is still working on a wrong frequency—792 kc/s, where it interferes with Leipzig.

Radio-Sofia, which was hitherto on about 871 kc/s, where it heterodyned Poznań and also London Regional, is now on about 864 kc/s. Poznań is thus still heterodyned, but London Regional is now clear of that slight interference. Strasbourg PTT is the other station to be heterodyned by Radio-Sofia. Fortunately, the latter station works irregularly at night, and is not powerfully received.

Napoli, which shared 1,104 kc/s with Madona, is now alone on that frequency and one of the rather numerous interferences to be observed in the lower part of the medium waveband has thus been removed. L. B.

Heard on the Continent

(April 29—May 12)

By "CENTRAL EUROPEAN"

Two sharply-divided periods characterise reception conditions during the last fortnight. Up to May 7 conditions were relatively good, and they differed little from those that I described in my last report. On the evening of that day, however, a sudden deterioration set in, which affected all wavebands, but principally, as is usual, the long waveband. With few exceptions it became totally impossible to hear without interference any station in this region during the day, and the number of those which were heard free from interference during the evening was strictly limited. Among the stations heard tolerably well during the day was the Deutschlandsender; indeed, its field strength was so great here that it was completely free from fading.

Little could be heard of Huizen; its signal was very weak during the day and not much better in the evening. Warsaw, Radio-Luxembourg, and Radio-Paris, on the other hand, were quite good signals even during the second of the weeks under review, but reception of Scandinavian transmitters—especially of Kalundborg and Oslo—was so poor that parts of the programmes were occasionally unintelligible. On Saturday last Oslo improved somewhat, and Motala was an excellent signal.

The Medium Waveband

Reception of Budapest has been particularly good. Considering that stations in the region of the longer medium waves can now be expected to show some falling off, this fact should be specially emphasised. Generally speaking, transmitters in this band do not use great power; on the other hand, they are subject to the same atmospheric disturbances as those on the long waveband; it is, therefore, unusual to find a station in the region of 600–500 m. free from blemish.

There are still a number of such stations coming through night after night with the same signal strength (allowing, of course, for such changes in reception conditions as are caused by local thunderstorms, etc.). First and foremost among these is Florence. During the last days of the first week reviewed it came through with astonishing strength. The same applies to Vienna, in spite of strong static; and on Saturday of last week, the "gala-day" of the period, it came through at local loud-speaker strength. Rome, Munich, Leipzig, Milan, Berlin, Strasbourg, Poste Parisien, Bari, Turin, and Monte Ceneri are stations which belong to the same category.

British stations, however, cannot be clearly heard any longer. London Regional proved the best signal of these. It was, however, subject to much fluctuation, and it reached its usual signal strength only occasionally. Nor could many Scandinavian stations be heard. Hörby was the best heard. On Saturday it reached a signal strength such as it has not attained for a long time past. Reception of Copenhagen, too, was quite good on several occasions.

Tuesday last was by far the worst day for reception. With very few exceptions—high-power transmitters with a power of more than 60 kW—not one station could be heard clearly. Curiously enough, local reception was also bad on that day, although atmospheric conditions were no worse on Tuesday than they had been on either the previous or the following day. Conditions on the band below 300 m. have been so bad during the whole period since May 7 that, with the exceptions already named, no reception of any kind could be recorded.

PROGRAMME STATIONS IN ALPHABETICAL ORDER

The Frequencies and Wavelengths shown are those on which the Stations are at present working

	kc/s	m.	kW		kc/s	m.	kW
Aberdeen	1285	233.5	1	Lahti (Finland) .. Relayed by Helsinki	166	1807	40
Algiers (North Africa)	941	318.8	12	Leipzig (Germany) .. Relayed by Dresden	785	382.2	120
Athlone (Ireland) .. Relayed by Dublin and Cork	565	531	60	Linz (Austria) .. Relays Vienna	1294	231.8	0.5
Augsburg (Germany) .. Relays Munich	1267	236.8	2	London Regional (Gt. Britain)	877	342.1	50
Barcelona (Spain) EAJ1	795	377.4	5	London National (Gt. Britain)	1149	261.1	50
Bari (Italy) .. Relays Rome	1059	283.3	20	Lwów (Poland) .. Relays Warsaw	795	377.4	16
Basle (Switzerland) .. Relayed by Beromünster	1375	218.2	0.5	Lyons (La Doua) (France)	648	463	15
Belfast (N. Ireland)	1122	267.4	1	Madrid (Spain) EAJ7	1095	274	7
Belgrade (Yugoslavia)	686	437.3	2.5	Magdeburg (Germany) .. Relays Hamburg	1330	225.6	1.5
Berlin (Germany)	841	356.7	100	Midland Regional (Gt. Britain)	767	391.1	25
Berne (Switzerland) .. Relayed by Beromünster	1375	218.2	0.5	Milan (No. 1) (Italy) .. Relays Turin	814	368.6	50
Beromünster (Switzerland) .. Relays Basle and Berne	556	539.6	60	Milan (No. 2) (Italy) .. Relays Rome	1348	222.6	4
Bordeaux Lafayette (France)	1077	278.6	12	Monte Ceneri (Switzerland)	1167	257.1	15
Bournemouth	1474	203.5	1	Moravská-Ostrava (Czechoslovakia)	1158	259.1	11.2
Bratislava (Czechoslovakia)	1004	298.8	13.5	Moscow (No. 1) (Russia)	174	1724	500
Bremen (Germany) .. Relays Hamburg	1330	225.6	1.5	Motala (Sweden) .. Relays Stockholm	216	1389	30
Breslau (Germany) .. Relayed by Gleiwitz	950	315.8	60	Munich (Germany) .. Relayed by Augsburg, Kaiserslautern, and Nürnberg	740	405.4	100
Brno (Czechoslovakia)	922	325.4	32	Naples (Italy) .. Relays Rome	1104	271.7	1.5
Brussels (No. 1) (Belgium)	620	483.9	15	North National (Gt. Britain)	1013	296.2	50
Brussels (No. 2) (Belgium)	932	321.9	15	North Regional (Gt. Britain)	668	449.1	50
Bucharest (Romania)	823	364.5	12	Notodden (Norway) .. Relays Oslo	1357	221.1	0.08
Budapest (No. 1) (Hungary)	546	549.5	120	Nürnberg (Germany) .. Relays Munich	1267	236.8	2
Cassel (Germany) .. Relays Frankfurt	1195	251	1.5	Oslo (Norway) .. Relayed by Fredriksstad, Hamar, Notodden, Porsgrund, Rjukan, Stavanger ..	254	1181	60
Cologne (Germany)	658	455.9	17	Paris (Poste Parisien) (France)	959	312.8	100
Copenhagen (Denmark) .. Relayed by Kalundborg	1176	255.1	10	Paris (Ecole Supérieure) (France)	695	431.7	7
Cork (I.F.S.) .. Relays Athlone	1240	241.9	1	Paris (Radio-Paris) (France)	182	1648	75
Danzig (Free City) .. Relays Königsberg	1303	230.2	0.5	Pittsburgh (U.S.A.) .. (See also Short-Wave List)	980	305.9	50
Daventry National (Gt. Britain)	200	1500	30	Porsgrund (Norway) .. Relays Oslo	850	352.9	0.7
Deutschlandsender (Germany)	191	1571	60	Poznań (Poland) .. Relays Warsaw	868	345.6	16
Dornbirn (Austria) .. Relays Vienna	1294	231.8	0.5	Prague (Czechoslovakia)	638	470.2	120
Dresden (Germany) .. Relays Leipzig	1285	233.5	1.5	Radio-Normandie (France)	1456	206	0.2
Dublin (Ireland) .. Relays Athlone	1348	222.6	1	Riga (Latvia)	583	514.6	15
Flensburg (Germany) .. Relays Hamburg	1330	225.6	1.5	Rjukan (Norway) .. Relays Oslo	1348	222.6	0.15
Florence (Italy) .. Relays Turin	610	491.8	20	Rome (Italy) .. Relayed by Naples, Milan (No. 2), and Bari	713	420.8	50
Frankfurt-am-Main (Germany) .. Relayed by Trier, Kaiserslautern, Cassel, and Freiburg	1195	251	17	Salzburg (Austria) .. Relays Vienna	1348	222.6	0.5
Fredriksstad (Norway) .. Relays Oslo	776	386.6	0.7	Schenectady (U.S.A.) .. (See also Short-Wave List)	790	379.5	50
Freiburg (Germany) .. Relays Frankfurt and Stuttgart	1195	251	5	Scottish National (Gt. Britain)	1050	285.7	50
Geneva (Switzerland) .. Relayed by Sottens	401	748	1.3	Scottish Regional (Gt. Britain)	804	373.1	50
Genoa (Italy) .. Relays Turin	986	304.3	10	Sottens (Switzerland) .. Relays Geneva	677	443.1	25
Gleiwitz (Germany) .. Relays Breslau	1231	243.7	5	Stavanger (Norway) .. Relays Oslo	1276	235.1	0.5
Göteborg (Sweden) .. Relays Stockholm	941	318.8	10	Stettin (Germany) .. Relays Hamburg	1330	225.6	1.5
Graz (Austria) .. Relays Vienna	886	338.6	7	Stockholm (Sweden) .. Relayed by Motala, Göteborg and Hörby	704	426.1	55
Hamar (Norway) .. Relays Oslo	519	578	0.7	Strasbourg (France)	859	349.2	15
Hamburg (Germany) .. Relayed by Bremen, Flensburg, Hanover, Magdeburg, and Stettin	904	331.9	100	Stuttgart (Germany) .. Relayed by Freiburg ..	574	522.6	100
Hanover (Germany) .. Relays Hamburg	1330	225.6	1.5	Toulouse (Radio-Toulouse) (France)	895	335.2	10
Helsinki (Finland) .. Relays Lahti	895	335.2	10	Trier (Germany) .. Relays Frankfurt	1195	251	2
Hilversum (Holland)	995	301.5	20	Trieste (Italy) .. Relays Turin	1222	245.5	10
Hörby (Sweden) .. Relays Stockholm	1131	265.3	10	Turin (Italy) .. Relayed by Milan, Genoa, Florence and Trieste	1140	263.2	7
Huizen (Holland)	160	1875	7	Vatican City (Italy) (See Short-Wave List)			
Innsbruck (Austria) .. Relays Vienna	519	578	0.5	Vienna (Bisamberg) (Austria) .. Relayed by Graz, Innsbruck, Klagenfurt, Linz, Salzburg, and Dornbirn	592	506.8	120
Juan-les-Pins (Radio Côte d'Azur) (France)	1249	240.2	2	Warsaw (No. 1) (Poland) .. Relayed by Katowice, Lwów, Poznań, and Wilno	223	1345	120
Kaiserslautern (Germany) .. Relays Munich and Frankfurt	1195	251	1.5	West National (Gt. Britain)	1149	261.1	50
Kalundborg (Denmark) .. Relays Copenhagen ..	238	1261	75	West Regional (Gt. Britain)	977	307.1	50
Katowice (Poland) .. Relays Warsaw	758	395.8	12	Wilno (Poland) .. Relays Warsaw	536	559.7	16
Kaunas (Lithuania)	155	1935	7				
Klagenfurt (Austria) .. Relays Vienna	1294	231.8	0.5				
Königsberg (Germany) .. Relayed by Danzig	1031	291	60				

(For List of Stations in order of Frequencies and Wavelengths see page 734.)

Programmes: SUNDAY May 20

NATIONAL

Time Signals: Big Tom.—12.30, 22.30.
Greenwich.—10.30, 21.00.
10.30-10.45 (Daventry)—Weather.
11.00-12.00 (Daventry)—Service from Birmingham Cathedral.
12.30 (Daventry)—The Black Dyke Mills Band. Leyland White (Baritone). Band: Overture, Peter Schmolli (Weber); Selection from Rossini's Music. Leyland White: Bright is the ring of words (Vaughan Williams); Sea Winds (Harrison); Love went a riding (Bridge); Sea Fever (Ireland); The Tramp (Stanley-Taylor); Sea Reiver's Song (arr. Kennedy-Fraser); King Charles (Valerie White). Band: Cornet Duet. Humming Birds (Sutton); Hungarian Rhapsody No. 1 (Liszt); Fantasy, Once Upon a Time (Dacre).
13.30 (Daventry)—Esmé Haynes (Violin).
14.00 (Daventry)—Records. An Orchestral Concert.
14.40 (Daventry)—Queen Elizabeth's Subjects: "Cardinal Allen."
15.00 (Daventry)—Fred Hartley and his Novelty Quintet.
16.00 (Daventry and Scottish)—A Recital by Norman Allin (Bass).
16.30—For the Children.
16.50—Church Cantata No. 82—Bach. "It is enough." Keith Falkner (Bass). Ernest Lush (Harpisichord). Berkeley Mason (Organ). The B.B.C. Orchestra (Section C) (Oboe and Strings). Conducted by Stanford Robinson.
17.30—Pillars of the English Church: Prophets—II: Frederick Denison Maurice.
17.45—The Reginald Paul Pianoforte Quartet. Margrit Franke (Mezzo-Soprano).
19.00—Classical Reading—61.
19.30—A Pianoforte Recital by Mrs. Norman O'Neill.
19.55—Service relayed from Govan Old Church, Glasgow.
20.45—An appeal on behalf of the British Empire Cancer Campaign by Lord Moynehan, K.C.M.G., C.B., M.B., F.R.C.S.
20.50—"The News."
21.05—Albert Sandler and the Park Lane Hotel Orchestra. Mary Hamlin (Soprano). Orchestra: Selection, The Gypsy Princess (Kálmán); Prelude (Haydn Wood); For Love of You (Franz Vienna). Mary Hamlin: Aubade (Le Roi d'Ys) (Lalo); After a Dream (Fauré) Albert Sandler: Midnight Bells (Heuberser); Introduction and Rondo Capriccioso (Saint-Saëns). Mary Hamlin: Cuckoo Song (Quilter); The Castanets of Spring (Besly). Orchestra: Selection, II Trovatore (Verdi).
22.30—Epilogue.

REGIONAL

Time Signals: Greenwich.—16.30, 21.00.
Big Tom.—12.30, 22.30.
11.00-12.00 (ex. Midland)—Daventry.
12.30-16.30 (except Midland, Scottish till 16.00)—Daventry.
16.00 (Scottish)—Children's Service.
16.30—The Wireless Military Band. Ben Davies (Tenor). Band: Overture, Benvenuto Cellini (Berlioz). Ben Davies: Where'er you walk (Semele) (Handel); Serenade (Schubert). Band: Rhapsody No. 1 (Liszt). Ben Davies: Flower Song (Carmen) (Bizet); To Mary (Maude Valerie White). Band: English Scenes (Bantock).
17.30—The Radio Orchestra, under the direction of Charles Walpot, relayed from Brussels. Harry Collin (Tenor). Mme. Graindorge and Paul Douliez (Pianofortes). Armand Steurs (Accordion). Overture, The Bat (Strauss). Fantasy on Flemish Songs (Walpot). Symphonic Rhapsody (Coates). Moto Perpetuo, for violins (Paganini). Explosifs (Jean Douliez).
18.30-19.45 (except Midland)—The B.B.C. Theatre Orchestra. Leo Fuld (Tenor). Orchestra: March, London Bridge (Coates); Serenade (Elgar); Czardas, Where the woods are green (Brodsky). Leo Fuld and Orchestra: Vienna, City of my Dreams (Sieczynski); Song of the nightingale (Ailbout). Orchestra: Suite, Old China (Niemann). Leo Fuld: Raisins and Almonds (Roskin); Ich fuhr Aheim (Meierowitz). Orchestra: The Spinning Wheel (Catalani); Two American Sketches (Grisele). Leo Fuld and Orchestra: Zwei Märchenaugen (The Circus Princess) (Kálmán); Servus Du (Stolz). Orchestra: Schubert Fantasy.
18.30 (Midland)—The Music of Tchaikovsky. A Recital by Walter Payne (Baritone). Tom Bromley (Ptc.).
19.30 (Midland)—Poems of Morris.
19.55 (London)—Service from Eastbourne Parish Church.
19.55 (North)—Service from Ripon Cathedral.
19.55 (Scottish)—Scottish Episcopal Service from the Cathedral Church of St. Mary, Edinburgh.
20.00 (Midland)—Service from Coventry Cathedral.
20.00 (West)—Presbyterian Service from Trinity Church, Bath.
20.45—National Programme.
20.50—"The News."
21.05—B.B.C. Orchestra (Section B). Conductor, Adrian Boult. The Men's Chorus. Overture, King Stephen (Beethoven). Symphony No. 2, in C (Schumann). The Feast of Pentecost (A Biblical scene for Men's Chorus and Orchestra (Wagner)).
22.30—Epilogue.
22.40 (West)—"Silent Fellowship."

EMPIRE SUMMARY

For wavelengths, see S.W. List
Transmission 1 (GSD, GSB) B.S.T.
05.30—Big Tom. A Light Orchestral Concert.†
06.00—Service from St. Martin-in-the-Fields.*
06.45—An Organ Recital by Elizabeth Campbell. Choral Prelude (Bach). Overture, Justin (Handel). Solemn Melody (Walford Davies). Trumpet Tune and Air (Purcell). Adagio in D flat (Liszt). Postlude (Stanford).
07.15—Newsletter.
07.30—"The Sinking of the Egypt."*
07.35—Close Down.
Transmission 2 (GSH, GSG)
12.00—Big Tom. Service from Birmingham Cathedral.
12.30—A Brass Band Concert.
13.30—Esmé Haynes (Violin).
14.00—An Orchestral Concert.†
14.30—Close Down.
Transmission 3 (14.45—17.00) GSF, GSE; 17.00—18.45 GSE, GSB)
14.45—Big Tom. Newsletter.
15.00—Service from St. Martin-in-the-Fields.*
15.45—Fred Hartley and his Novelty Quintet with Webster Booth.
16.00—Norman Allin (Bass).
16.30—The Wireless Military Band. Ben Davies (Tenor).
17.30—Light Concert from Brussels.
18.30—Newsletter (second reading).
18.45—Close Down.
Transmission 4 (GSD, GSB)
19.00—Big Tom. The B.B.C. Theatre Orchestra. Leo Fuld (Tenor).
19.45—A Pianoforte Recital by Mrs. Norman O'Neill.
19.55—Service from Govan Parish Church, Glasgow.
20.45—An Appeal for the British Empire Cancer Campaign by Lord Moynehan, K.C.M.G., C.B., M.B., F.R.C.S.
20.50—Newsletter.
21.05—Albert Sandler and the Park Lane Hotel Orchestra. Mary Hamlin (Soprano).
22.30—Epilogue.
22.40—Close Down.
Transmission 5 (GSD, GSC)
00.00—Big Tom. Norman Allin (Bass).
00.30—Service* (see 19.55).
01.15—Appeal* (see 20.45).
01.20—Light Orchestral Concert.†
01.45—Newsletter.
02.00—Close Down.
* Electrical Recording.
† Gramophone Records.

PRINCIPAL EVENTS

SERVICES AND SACRED MUSIC
09.30 Strasbourg: Mass from Cathedral.
10.00 Warsaw: Service and Music from Cracow.
11.00 Italian stations: Missa Cantata from Florence.
11.30 Leipzig and German stations: Church Cantata (Bach).
11.55 Huizen: Carillon from Tilburg Church.
12.00 Radio-Paris: Religious Address.
18.30 Brussels No. 1: Bach programme.
20.45 Hilversum: Sacred Organ and vocal music.
CONCERTS
12.15 Warsaw: Operetta music.
17.00 Brussels No. 2: Old classical music.
19.55 Hilversum: Lamond (Pianoforte) and Orchestra.
20.00 Frankfurt, Stuttgart, Königsberg: Opera music.
20.00 Hamburg: Light orchestral and vocal.
20.45 Huizen: K.R.O. Orchestra. Conductor: van Beinum.
20.45 Monte Ceneri: Wagner Concert.
21.00 Berlin: Operatic programme.
21.00 Brussels No. 2: De Boeck programme.
21.05 Regional: B.B.C. Symphony Orchestra.
21.30 Turin, etc.: Conductor, Defauw; Hubermann (Viola).
22.00 Oslo: Station Orchestra. Conductor: Kramm.
23.10 Budapest: Cigány Band.
OPERA, OPERETTAS
20.00 Leipzig: "The Lost Waltz" (Stolz).
20.00 Prague: "The Kiss" (Smetana).
20.45 Rome, etc.: "Bambù" (Carabella).
CHAMBER MUSIC
19.00 Königsberg: Quartet, Flutes and Clarinet (Haydn).
RECITALS
15.00 Radio-Paris: Wanda Landowska (Harpisichord).
18.45 Cologne: Pianoforte (Dances).
19.20 Vienna: Music for Two Pianofortes.
21.10 Berömünster: Organ from Basle Cathedral.
PLAYS
19.50 Stockholm: "The Tempest" (Shakespeare), with Sibelius' music.
20.00 Munich, Cologne: "The Whitsun Organ" (Lippl), with music by Karl List.
20.30 Ecole Supérieure: "Madame Sans-Gêne" (Sardou-Moreau).
DANCE MUSIC
17.00 Brussels No. 1; 22.10, Brussels No. 1 and No. 2; 22.25, Warsaw; 22.30, Hamburg, Berlin, etc.; Radio-Paris; Strasbourg; 23.15, Breslau.

Hours of Transmission in British Summer Time.

06.00

The Programme for Radio-Normandie did not arrive in time for inclusion in this Week's Issue.
BERLIN, 06.00—Gym. 06.15—Military Band.
BRESLAU, COLOGNE, DEUTSCHLANDSENDER, FRANKFURT, LEIPZIG, MUNICH, and STUTTGART, 06.15—See Hamburg.
HAMBURG, 06.15—Harbour Concert.
KÖNIGSBERG, 06.15—Military Band.
MOSCOW, 06.15—Programme Notes.
06.30—Records.
MUNICH, 06.15—Whitsuntide in Swabia—Literary Programme in Dialect.
PRAGUE, 06.30—Time: Gym; Music; News.
07.00
BERLIN, 07.00—Military Band.
BRESLAU, COLOGNE, DEUTSCHLANDSENDER, FRANKFURT, MUNICH, and STUTTGART, 07.00—See Hamburg.
HAMBURG, 07.00—Harbour Concert.
KÖNIGSBERG, 07.00-07.50—Military Band.
LEIPZIG, 07.00—The Dresden Male Voice Choir and Wind Instruments.
MOSCOW, 07.00—Records. 07.15—Light Music.
PARIS (Radio-Paris), 07.00—Records. 07.15—News. 07.45—Gym.
PRAGUE, 07.00—Municipal Orchestra from Karlsbad.

08.00

BARCELONA, 08.15—News.
BERLIN, 08.15—Between Town and Country. 08.25—"Die Arbeit ist Ruhm"—Cantata (Fortner) on Records. 08.55—Chimes; Service.
BRESLAU, 08.00—See Hamburg. 08.15—Watchword. 08.25—Organ and Choir Recital.

COLOGNE, 08.00—Time; News. 08.10—Talk; Whitsuntide Customs in the Country. 08.30—Service.
DEUTSCHLANDSENDER, 08.00—Service. 08.55—Mystical Poetry.
FRANKFURT, 08.00—Report of the Hoisting of the Flag at the Aerodrome, Rhön. 08.15—Time; News. 08.25—Chimes. 08.45—Trombone Ensemble: Sacred Music.
HAMBURG, 08.00—Harbour Concert. 08.15—Time; News. 08.30—Gym. 08.45—Wind Instrument Quintet.
HILVERSUM, 08.40—Pigeon Flying and Football Report. 08.43—Gardening Talk.
HULZEN, 08.10—Religious Programme.
KALUNDBORG, 08.00—Brass Band. 08.30-08.50—Eilen Laub (Songs).
KÖNIGSBERG, 08.00—Roman Catholic Service.
LEIPZIG, 08.15—Talk: Old Whitsuntide Customs. 08.35—The Station Orchestra. Conductor and Pianist: Theodor Blumer. Hilde Weyer (Soprano).
MOSCOW, 08.00—Light Music. 08.15—For Children.
MUNICH, 08.00—See Hamburg. 08.45—Chamber Music. Elisabeth Hallstein (Soprano); Anna Speckner (Harpisichord).
PARIS (Radio-Paris), 08.00-08.30—Records.
PRAGUE, 08.00—Orchestra (contd. from 07.00). 08.30—Talk: The Prague Olympic Games, 1934.
STUTTGART, 08.00—See Hamburg. 08.15—Time; News. 08.25—Announcements.
VIENNA, 08.00—Hymn; Time; Weather. 08.05—Gym. 08.25—Records.
09.00
BARCELONA, 09.00, Chimes; Gym.; Records. 09.20—News.
BELGRADE, 09.25—Announcements. 09.30—Gym.
BRATISLAVA, 09.00—Service.

BRESLAU, 09.00—Chimes. 09.05—Protestant Service.
BRNO, 09.45—Records.
BUDAPEST, 09.00—Service. 10.00—Service.
COLOGNE, 09.00—Service. 09.30—"May"—Literary and Musical Programme.
DEUTSCHLANDSENDER, 09.00—Service. 09.35—Mystical Poetry.
FRANKFURT, 09.00—See Stuttgart. 09.45—Station Orchestra. Conductor: Merten. Maria Beringer (Songs to the Lute).
HAMBURG, 09.00—Orchestra. 09.55—Service from Magdeburg Cathedral.
HILVERSUM, 09.00—Gardening Talk. 09.10-09.40—Organ.
HULZEN, 09.10—Records: Sacred Music.
KALUNDBORG, 09.00-09.30—Talk.
KÖNIGSBERG, 09.00—Service.
MADRID (EAJ7), 09.00—News.
MOSCOW, 09.00—Light Music. 09.55—Time.
MUNICH, 09.00—Chamber Music (contd. from 08.45). 09.20—Literary and Musical Sequence.
PRAGUE, 09.00—Records. 09.05—For Workers. 09.25—Records. 09.30—Talk. 09.45—Records. 09.55—Poems. (Prochazka).
ROME, 09.40—News.
SOTTENS, 09.40—Chimes. 09.45—Protestant Service.
STRASBOURG, 09.30—Mass from the Cathedral.
STUTTGART, 09.00—Roman Catholic Service. 09.45—See Frankfurt.
TURIN, 09.40-09.55—News.
VIENNA, 09.00—Pontifical High Mass from Graz.
WARSAW, 09.00—Time; Hymn. 09.05—Gym. 09.25—Records. 09.35—News. 09.40—Records. 09.55—For Housewives.
10.00
BARCELONA, 10.00—Obituary.
BELGRADE, 10.00—Roman Catholic Service.

BERLIN, 10.00—Cathedral Chimes. 10.05—Weather.
BEROMÜNSTER, 10.00—Protestant Service. 10.45—Old Songs for String Orchestra and Harpsichord.
BORDEAUX-LAFAYETTE, 10.00—Records.
BRATISLAVA, 10.00—Service. 10.20—Announcements.
BRESLAU, 10.00—Beethoven and Brahms Music by Mann (Violin) and Kopmann (Pianoforte). 10.40—Silesian Epics and Tales.
BRUSSELS (No. 1), 10.00—Records.
BRUSSELS (No. 2), 10.00—The Chass Remue Orchestra. In the Interval: Records.
BUCHAREST, 10.30—Religious Notes. 10.45—Sacred Music.
COLOGNE, 10.10—"May" (contd. from 09.30).
DEUTSCHLANDSENDER, 10.05—Weather.
FRANKFURT, 10.15—See Stuttgart.
HAMBURG, 10.00—Service (contd. from 09.55).
HILVERSUM, 10.10—Service.
HULZEN, 10.00—Service. After the Service: Records: Sacred Music.
KALUNDBORG, 10.00—Service.
KUNAS, 10.00—For Wilno. 10.15—Service.
KÖNIGSBERG, 10.00—Service (contd. from 09.00). 10.50—Talk: Children and the Nation.
LEIPZIG, 10.00-10.30—Talk: The Indestructible German Reich.
MADRID (EAJ7), 10.00-10.30—Announcements.
MOSCOW, 10.00—News. 10.15—Concert Version, "Carmen"—Opera (Bizet).
MUNICH, 10.00—Roman Catholic Service. 10.45—Chimes. 10.50—Reading.
PARIS (Poste Parisien), 10.00—News. 10.20—Records.
PRAGUE, 10.00—Poems. 10.25—An Appeal. 10.30—Smetana Concert from the National Theatre. Station Orchestra; Conductor: Jirak; The Ondricek Quartet; Herman (Pianoforte). Toms (Tenor)

and Konstantin (Baritone). Pianoforte: Dreams. String Quartet in E minor, From out my Life. Songs. Duets in A minor and G minor. Czech Dances. Introduction and Polonaise, The Prague Carnival.
ROME, 10.00—Radio Rurale: Educational Programme.
SOTTENS, 10.00—Service (contd. from 09.45).
STOCKHOLM, 10.15—Records: Symphony in A (Beethoven). The Philadelphia Symphony Orchestra. Conductor: Stokowski.
STRASBOURG, 10.45 Protestant Service in German.
STUTTGART, 10.00 See 19.45 Frankfurt. 10.15—Service.
TURIN, 10.00—News for Country People.
VIENNA, 10.00—Pontifical High Mass (contd. from 09.00). 10.15—Laying of Wreaths on the Empress Maria-Theresa Memorial. 10.45—Hints for the Week.
WARSAW, 10.00—Service and Sacred Music from Cracow.
ZESENS, 10.00—News in English. 10.15—"Die Glocke" (Schiller), arranged for Choir and Soloist (Romberg).
11.00
BELGRADE, 11.00—Roman Catholic Service. 11.30—Talk.
BERLIN, 11.30—See Leipzig.
BEROMÜNSTER, 11.30—Reading (Wenger).
BRESLAU, 11.00—Silesian Epics and Tales. 11.15—See Leipzig.
BRUSSELS (No. 1), 11.00—Orchestra. In the Interval, Records.
BRUSSELS (No. 2), 11.00—Carillon Recital from Bruges.
BUCHAREST, 11.00—Orchestra.
COLOGNE, 11.30—See Leipzig.
DEUTSCHLANDSENDER, 11.00—Hans Voss reads his Translation of the Edda. 11.15—Weather. 11.30—See Leipzig.

readers should cut off the bottom corner of the whole of the programme section as indicated by the dotted line, so as to enable them to turn back to the Alphabetical List without delay.

SUNDAY May 20

11.00 (contd.)

FRANKFURT, 11.00—Talk : Trier. 11.30—See Leipzig.
 HAMBURG, 11.00—Service (contd. from 09.55). 11.15—Talk : Pentecost. 11.30—See Leipzig.
 HILVERSUM, 11.00—Service. 11.40—Time. 11.41—Children's Choir. Conductor : Hamel.
 HUIZEN, 11.55—Carillon—Recital from St. Joseph's Church. Tilburg.
 KALUNDBORG, 11.00—Service (contd. from 10.00). 11.30—Weather. 11.40—News.
 KÖNIGSBERG, 11.00—Weather : Programme Announcements. 11.10—Master Ekkehard's Pentecost Sermon. 11.30—See Leipzig.
 LAHTI, 11.00—Pianoforte and Violin Sonata in D minor (Brahms). 11.30—Recitations. 11.55—Weather. 11.59—Time.
 LEIPZIG, 11.15—Talk on the following Transmission. 11.30—"Erschallet, ihr Lieder"—Cantata (Bach). The St. Thomas' Choir, the Municipal and Gewandhaus Orchestras and Soloists. Conductor : Karl Straube.
 MONTE CENERI, 11.30—Religious Address.
 MOSCOW, 11.00—"Carmen" (Bizet) (contd. from 10.15). 11.15—Talk in Swedish : The Factory Committee.
 MUNICH, 11.00—Reading. 11.15—See Leipzig.
 PARIS (Poste Parisien), 11.20—Concert. 11.50—Records.
 PARIS (Radio-Paris), 11.30—Revel (Organ) Sonata in C (Bach). Prelude and Fugue in E (Saint-Saëns).
 PRAGUE, 11.00—Smetana Concert (contd. from 10.30).
 ROME, 11.00—See Turin.
 SOTTENS, 11.00—Records.
 STOCKHOLM, 11.00—Service from Uppsala Cathedral.
 STRASBOURG, 11.00—Protestant. Service in German. 11.30—Roman Catholic Service.
 STUTTGART, 11.00—Kübler (Pianoforte). Ten Variations on "Come un agnello (Gatti-Mozart)". German Dances (Schubert). 11.30—See Leipzig.
 TOULOUSE, 11.00—Dance Refrains. 11.30—Songs : Light Music.
 TURIN, 11.00—Mass from the Cathedral of San Giusto, Florence.
 VIENNA, 11.05—Humorous Stories. 11.25—Vienna Symphony Orchestra. Conductor : Nilius Schneiderhan (Violin). Symphony in F (Beethoven). Concerto in A (Mozart). Prelude, "The Mastersingers" (Wagner).
 WARSAW, 11.00—Service (contd. from 10.00). 11.57—Fanfare from St. Mary's Church, Cracow.

12.00

BARCELONA, 12.00—Chimes ; Weather. 12.15—Band.
 BARI, 12.00—12.15—Bible Reading.
 BELGRADE, 12.05—Announcements. 12.15—Records. 12.30—Choir.
 BERLIN, 12.00—See Cologne.
 BEROMÜNSTER, 12.00—Records. 12.30—Time ; News. 12.40—Orchestra.
 BRESLAU, 12.00—Records.
 BRUSSELS (No. 1), 12.00—Orchestra.
 BRUSSELS (No. 2), 12.00—Orchestra. Conductor : Walpot.
 BUCHAREST, 12.00—Records.
 BUDAPEST, 12.30—Radio Report of a Rowing Race.
 COLOGNE, 12.00—Small Station Orchestra. Conductor. Eysoldt. 12.55—Greetings.
 DEUTSCHLANDSENDER, 12.00—Greetings. 12.10—See 12.00 Munich. 12.55—Time.
 FRANKFURT, 12.00—Military Band.
 HAMBURG, 12.00—Cologne. 12.55—Time ; Weather.
 HILVERSUM, 12.00—Choir (contd. from 11.41). 12.10—Orchestra.
 HUIZEN, 12.25—Records. 12.40—Literary Talk.
 JUAN-LES-PINS (Radio Côte d'Azur), 12.30—Amusement Guide ; Variety.
 KALUNDBORG, 12.00—Chimes. 12.05—Mogens Hansen's Instrumental Ensemble. Reading in the Interval.
 KÖNIGSBERG, 12.00—Königsberg Opera House Orchestra. Conductor : Börschel.
 LAHTI, 12.00—Service in Swedish.
 LEIPZIG, 12.00—Military Band from Dresden.
 MADRID (EAJ7), 12.30—Municipal Band. Conductor : Villa. In the Interval : Anecdotes.
 MONTE CENERI, 12.00—Time ; Weather. 12.03—Records. 12.30—Orchestra. 12.55—News.
 MOSCOW, 12.00—Talk : The Past Theatre Season.
 MUNICH, 12.00—Military Band.
 PARIS (Ecole Supérieure), 12.30—The Locatelli Orchestra.

PARIS (Poste Parisien), 12.05—Records for Children. 12.15—Records : Sound Film Music. 12.45—News. 12.50—Paul Weill Song Records.
 PARIS (Radio-Paris), 12.00—Religious Address. 12.20—Records : Sacred Music. 12.30—Bilboquet. 12.45—Records.
 PRAGUE, 12.00—Smetana Concert (contd. from 10.30). 12.10—News. 12.20—Band.
 REYKJAVIK, 12.40—Weather.
 ROME, 12.00-12.15—Bible Reading. 12.30—Records.
 SOTTENS, 12.00—Records. 12.30—News. 12.40—Records.
 STOCKHOLM, 12.00—Service from Uppsala Cathedral. 12.45—Weather
 STRASBOURG, 12.00—Records. 12.45—News.
 STUTTGART, 12.00—Records.
 TOULOUSE, 12.00—Opera Music. 12.15—Orchestra. 12.30—Roman Catholic Service.
 TRIESTE, 12.00-12.15—Religious Address.
 TURIN, 12.00-12.15—Bible Reading. 12.30—Records.
 VIENNA, 12.00—Vienna Symphony Orchestra (contd. from 11.25). 12.15—Vienna Symphony Orchestra. Conductor : Schönherr. Rosner (Violin). Overture, "Post and Peasant" (Suppe). Waltz (Strauss). Two Pieces (Fall). Ballet Suite (Lehár). Prize Song, Paraphrase (Wagner-Wilhelmi). Sehnsucht (Weinberger). Selection, "Der Zigeunerprimas" (Kálmán). Two Pieces (Goetz). Waltz (Strauss). Overture (Millöcker).
 WARSAW, 12.00—Programme Announcements. 12.10—Weather. 12.15—The Philharmonic Orchestra. Conductor : Gorzynsky. Mme. Karwowska (Songs). Operetta Music. In the Interval : Music Talk.

13.00

ATHLONE, 13.00—Popular Programme.
 BELGRADE, 13.00—Choir. 13.30—News.
 BERLIN, 13.00—Radio Report. 13.15—See Cologne.
 BEROMÜNSTER, 13.30—For Farmers.
 BRATISLAVA, 13.30—For Farmers.
 BRESLAU, 13.00—See Deutschlandsender.
 BRUSSELS (No. 1), 13.00—News. 13.10—Orchestra. Conductor : Walpot. Mme. Marville (Songs).
 BRUSSELS (No. 2), 13.00—News. 13.10—Orchestra from Antwerp.
 BUCHAREST, 13.00—News. 13.15—Records.
 BUDAPEST, 13.00—The Royal Hungarian Opera Orchestra. Conductor : Rajter.
 COLOGNE, 13.00—Announcements. 13.15—Orchestra.
 DEUTSCHLANDSENDER, 13.00—Military Band.
 FRANKFURT, 13.00—Records.
 HAMBURG, 13.00—See Cologne.
 HILVERSUM, 13.00—Orchestra. 13.40—Book Review.
 HUIZEN, 13.00—K.R.O. Boys. Conductor : Lustenhower. 13.40—Religious Address.
 JUAN-LES-PINS (Radio Côte d'Azur), 13.00—News. 13.15—"Visite de Coloquinte"—Sketch (Bigot). 13.30—Concert.
 KALUNDBORG, 13.00—Instrumental Ensemble (contd. from 12.05).
 KÖNIGSBERG, 13.00—Königsberg Opera House Orchestra.
 LEIPZIG, 13.00—See Cologne.
 MADRID (EAJ7), 13.00—Band (contd. from 12.30).
 MONTE CENERI, 13.00—News. 13.05—Orchestra. 13.25—Surprise Programme. 13.30—Trio.
 MUNICH, 13.00—Records.
 PARIS (Ecole Supérieure), 13.00—Soloists.
 PARIS (Poste Parisien), 13.00—Paul Weill Song Records. 13.30—Records.
 PARIS (Radio-Paris), 13.00—Pascal Orchestra.
 PRAGUE, 13.00—Band ; For Farmers.
 REYKJAVIK, 13.00—Service ; After the Service : To be announced.
 ROME, 13.00—Records.
 SOTTENS, 13.00—Records.
 STOCKHOLM, 13.20-13.45—Military Band, from the Royal Palace.
 STRASBOURG, 13.00—Time ; Records.
 STUTTGART, 13.00—See Deutschlandsender.
 TOULOUSE, 13.00—Amusement Guide. 13.05—Songs. 13.15—Operetta Music. 13.30—Sound Film Music. 13.45—Protestant Service.
 TURIN, 13.00—Time ; News ; Records.
 VIENNA, 13.00—Vienna Symphony Orchestra (contd. from 12.15).
 WARSAW, 13.00—Orchestra (contd. from 12.15).

14.00

BARCELONA, 14.00—Records. 14.30—Theatre Notes ; Records.

BERLIN, 14.00—Radio Reports. 14.15—Records.
 BRATISLAVA, 14.15—14.20—Tides.
 BRESLAU, 14.00—See 13.00 Deutschlandsender. 14.45—News. 14.50—For Women.
 BRNO, 14.00—For Farmers. 14.15—Records. 14.20-14.50—German Transmission : For Farmers.
 BUDAPEST, 14.00—Records.
 COLOGNE, 14.00—Records.
 DEUTSCHLANDSENDER, 14.00—Talk : German Customs. 14.15—Military Band.
 FRANKFURT, 14.00—Records. 14.20—"A Whitsuntide Excursion into the Country"—Radio Sequence.
 HAMBURG, 14.00—"Three on the Island"—Radio Play for Children (Schmelzer).
 HILVERSUM, 14.00—Book Review. 14.10—Trio, Op. 50 (Tchaikovsky). 14.20—Opera Records.
 HUIZEN, 14.00—Religious Address. 14.10—KRO Orchestra. Conductor : van 't Woud. 14.40—Records.
 JUAN-LES-PINS (Radio Côte d'Azur), 14.00—Protestant Service.
 KALUNDBORG, 14.00—For Children. 14.30—Aida Lhoir (Pianoforte). 14.50—Talk.
 KÖNIGSBERG, 14.00—Chess. 14.30—Topical Report. 14.50—Records.
 LEIPZIG, 14.00—Weather ; Time. 14.05—Programme Announcements. 14.35—Records.
 MADRID (EAJ7), 14.00—Chimes ; Time ; Variety Music. 14.30—Sextet.
 MUNICH, 14.00—Time ; Weather ; Programme Announcements. 14.10—Radio Report from the Chiemees Yachting School. 14.30—Orchestra. Conductor : Böhm. Lissy Bühler (Mezzo-Soprano).
 PARIS (Ecole Supérieure), 14.00—Soloists. 14.30—Concert.
 PARIS (Radio-Paris), 14.00—Orchestra (contd. from 13.00).
 PRAGUE, 14.00—For Farmers. 14.15-14.25—Social Report.
 ROME, 14.00—Time ; News. 14.05-14.15—Records.
 STRASBOURG, 14.00-14.15—For Farmers (in German). 14.30—Symphony Orchestra. Conductor : Tomasi.
 STUTTGART, 14.30—Songs to the Lute.
 TOULOUSE, 14.00—Protestant Service. 14.15—For Farmers. 14.30—Opera Music. 14.45—Orchestra.
 TURIN, 14.00-14.15—Records.
 WARSAW, 14.00—For Farmers. 14.30—Orchestral Records.

15.00

BARCELONA, 15.00—Sextet.
 BELGRADE, 15.00—Records. 15.15—Talk. 15.30—Records.
 BERLIN, 15.00—"May" : Talk with Musical Illustrations. 15.45—Boating on the Brandenburg Lake : Programme by Boys.
 BRESLAU, 15.00—For Women. 15.10—Movements, Sonata in E flat (Haydn), by Ely Pietsch (Pianoforte). 15.30—For Children.
 BUDAPEST, 15.00—For Farmers. 15.45—Military Band.
 COLOGNE, 15.00—Talk : Reminiscence of the South. 15.40—With the Microphone through Osnaabrück.
 DEUTSCHLANDSENDER, 15.05—Talk : Chess. 15.20—Reading in Dialect.
 FRANKFURT, 15.00—"Punch among the Savages"—Play for Children (Freyberg).
 HAMBURG, 15.00—Talk. 15.35—May Songs by the Station Choir. Conductor : Gregor.
 HILVERSUM, 15.00—Opera Records.
 HUIZEN, 15.00—Records. 15.50—Male Voice Choir. Conductor : Geyzel.
 KALUNDBORG, 15.00—Talk. 15.15—Choral Concert. 15.45—The Station String Orchestra. Conductor : Reesen. Serenade in E (Dvořák). Herzvunden (Grieg). "To Spring" (Grieg). Serenade in A (Pierné). Gaelic Melody and Reel (Bantock).
 KÖNIGSBERG, 15.00—Records. 15.30—Talk.
 LAHTI, 15.00—Songs.
 LEIPZIG, 15.00—Humorous Programme. 15.35—Quartet in D. "Die Lerche" (Haydn) by the Dresden String Quartet.
 MADRID (EAJ7), 15.00—Amusement Guide ; Variety Music. 15.30—Sextet.
 MOSCOW, 15.15—For Children. 15.55—Time.
 MUNICH, 15.00—Orchestra : Mezzo-Soprano Solos. 15.30—For Children.
 PARIS (Radio-Paris), 15.00—Couperin Concert by Wanda Landowska (Harpichord), from the Salle Saint-Leu-la-Forêt. 15.45—Records.
 PITTSBURGH, 15.00—Southernaires. 15.30—News. 15.35—Sacred Songs. 15.52—Joint Christian Science Church.

SOTTENS, 15.30—Radio Suisse Romande Orchestra. Conductor : Echenard. Overture, "Le Jeune Henri" (Méhul). Suite, La Feria (Lacôme). Selection, "Don César de Bazan" (Massenet). Selection, "The Daughter of the Regiment" (Donizetti). Ballet Music (Finck). Records. Waltz (Lincke). Airs, "La Fête des Vignerons" (Doret). Fortissimo (Kálmán).
 STOCKHOLM, 15.00—Ruth Moberg Lundgren (Songs) from Karlsbad. 15.30—For Children.
 STRASBOURG, 15.00—Symphony Orchestra. Conductor : Tomasi.
 TOULOUSE, 15.00—Songs. 15.15—Symphony No. 7 (Beethoven), by the Symphony Orchestra.
 VIENNA, 15.00—Time ; News. 15.10—For Farmers. 15.30—Book Review. 15.55—Chamber Music—Quartet in C minor (Brahms). Movement, Quartet in C minor (Schubert).
 WARSAW, 15.00—For Farmers. 15.20—Mme. Adamska-Grossmann's Orchestra.
 ZEESEN, 15.00—Music of the time of Frederick the Great. Diwenski's Orchestra.

16.00

BARCELONA, 16.00—For Hospitals.
 BELGRADE, 16.00—Concert. 16.30—Songs. Arias : "L'Elisir d'amore" (Donizetti), "Werther" (Massenet), "Manon" (Massenet), "Mignon" (Thomas), "Carmen" (Bizet), "L'Africaine" (Meyerbeer).
 BERLIN, 16.00—Small Station Orchestra. Conductor : Steiner. Carl de Vogt (Songs to the Lute).
 BEROMÜNSTER, 16.00—Popular Programme.
 BRESLAU, 16.00—Orchestra from Bad Altheide. Conductor : Eschrich. In the Interval : Talk.
 BRNO, 16.00—Orchestra. Conductor : Bakala.
 BUCHAREST, 16.00—For Farmers.
 BUDAPEST, 16.00—Military Band. 16.30—Talk.
 COLOGNE, 16.00—Folk Songs from Lindlar. 16.30—Recitation. 16.40—Military Band from the Kurhaus, Unna-Königsborn. In the Intervals : Whitsuntide Excursions with the Microphone.
 DEUTSCHLANDSENDER, 16.00—See Königsberg.
 FRANKFURT, 16.00—See Königsberg.
 HAMBURG, 16.00—Concert.
 HILVERSUM, 16.00—Sports Notes. 16.10—Records ; Sports Notes. 16.40—For Children.
 HUIZEN, 16.00—Male Voice Choir (contd. from 15.50). 16.10—For Invalids. 16.40—Service from The Hague.
 KALUNDBORG, 16.00-16.45—String Orchestra (contd. from 15.45).
 KAUNAS, 16.00—For Children. 16.30—Boy Scout Programme. 16.50—Talk : The Eucharistic Congress.
 KÖNIGSBERG, 16.00—The Small Station Orchestra. Conductor : Wilcken.
 LAHTI, 16.00—Records.
 LEIPZIG, 16.00—See Berlin.
 MADRID (EAJ7), 16.00—Variety Music. 16.30—Sextet.
 MOSCOW, 16.00—News. 16.30—Communist Party Programme.
 MUNICH, 16.00—Symphony Orchestra. Conductor : von Spallart.
 PARIS (Radio-Paris), 16.00—For Children.
 PITTSBURGH, 16.00—Joint Christian Science Church.
 PRAGUE, 16.00—See Brno.
 ROME, 16.00—For Children ; Weather ; Sports. 16.15—Talk. 16.30—Records.
 SOTTENS, 16.00—Orchestra (contd. from 15.30).
 STOCKHOLM, 16.00—For Children. 16.15—Scandinavian Songs. The Hålsingfors Academy Choral Society. Conductor : Carlson. Soloist : Björkman.
 STRASBOURG, 16.00—Symphony Orchestra. Conductor : Tomasi.
 STUTTGART, 16.00—See Königsberg.
 TOULOUSE, 16.00—Operetta Music. 16.30—Thé Dansant.
 TURIN, 16.00—Records ; Sports.
 VIENNA, 16.00—Chamber Music (contd. from 15.55). 16.40—Talk.
 WARSAW, 16.00—For Children. 16.30—Records of Tito Ruffo (Baritone). 16.45—Reading.

17.00

BELGRADE, 17.00—Records.
 BERLIN, 17.00—Sports Report.
 BEROMÜNSTER, 17.00—Popular Programme. 17.30—Records : Sacred Music. 17.45—Catholic Address.
 BRESLAU, 17.00—Talk. 17.10—Orchestra (contd. from 16.00).

BRNO, 17.00—Orchestra. Conductor : Bakala. 17.30—Talk. 17.40—Records. 17.55—German Transmission : Talk : European States. To be announced.
 BRUSSELS (No. 1), 17.00—Dance Music. 17.30—Football Results. 17.33—Orchestra. Collin (Tenor).
 BRUSSELS (No. 2), 17.00—The Symphony Orchestra. Conductor : Kumps. Old Classical Music. 17.30—Sports Results.
 BUCHAREST, 17.00—Orchestra.
 COLOGNE, 17.00—Band (contd. from 16.40).
 DEUTSCHLANDSENDER, 17.10—See Königsberg.
 FRANKFURT, 17.00—Sports Notes. 17.15—See Königsberg.
 HAMBURG, 17.00—Concert (contd. from 16.00). 17.15—"De Spitzbartvereen"—Radio Play in Dialect (Winter).
 HILVERSUM, 17.00—For Children. 17.10—Variety. Carlquist (Hawaiian Guitar) ; Charmon (Songs and Accordion) ; Steyn (Organ) ; Vogel (Pianoforte). 17.40—Sports Note.
 HUIZEN, 17.00—Service (contd. from 16.40) ; Organ Music.
 KALUNDBORG, 17.00—Service.
 KAUNAS, 17.00—Orchestra. 17.40—Cookery.
 KÖNIGSBERG, 17.00—Racing Results. 17.10—Orchestra.
 LAHTI, 17.00—Records. 17.10—Talk. 17.35—Harp Recital. 17.59—Time ; Weather.
 LEIPZIG, 17.00—Report from the Dresden Horse Races. 17.20—Mandoline Concert.
 MONTE CENERI, 17.00—Dance Music. 17.30—Sports News ; Accordion Duets.
 MORAVSKÁ-OSTRAVA, 17.30—Reading. 17.50—Record.
 MOSCOW, 17.00—Communist Party Programme. 17.30—"The First Prize"—Radio Play (Kvasnitsky).
 MUNICH, 17.00—Symphony Orchestra (contd. from 16.00). 17.40—Reading (Goethe).
 OSLO, 17.00—Choir from Stavanger. 17.45—Surprise Programme.
 PARIS (Radio-Paris), 17.00—Records.
 PITTSBURGH, 17.00—Joint Christian Science Church. 17.15—Baby Rose Marie. 17.30—Radio City Concert.
 PRAGUE, 17.00—See Brno. 17.30—Talk : Religion in Abyssinia. 17.45—Records. 17.55—Music Review in German.
 ROME, 17.00—Vocal and Instrumental Concert.
 SOTTENS, 17.00-17.15—Orchestra (contd. from 15.30).
 STOCKHOLM, 17.05—Talk. 17.25—Records.
 STRASBOURG, 17.00—Orchestra. Conductor : Roskam.
 STUTTGART, 17.10—See Königsberg.
 TOULOUSE, 17.00—Bal Musette. 17.30—Orchestra.
 TURIN, 17.00—Light Music.
 VIENNA, 17.00—Talk (contd. from 16.40). 17.10—Military Band.
 WARSAW, 17.00—Talk : Spring. 17.15—"A Wedding at Cracow"—Radio Sequence (Szczepanski-Woycicki), with Music by Wallek-Walewski.

18.00

BARCELONA, 18.30—For Farmers ; Records.
 BELGRADE, 18.00—Records. 18.55—Time ; Announcements.
 BERLIN, 18.00—"Whitsuntide"—Radio Sequence of Music and Stories (Hlbenfeld).
 BEROMÜNSTER, 18.00—Catholic Address (contd. from 17.45). 18.15—Records : Sacred Music. 18.30—Talk : Falconry.
 BORDEAUX-LAFAYETTE, 18.15—News.
 BRATISLAVA, 18.10—Hungarian Transmission.
 BRESLAU, 18.00—Reading. 18.15—Love in National Folk Songs. 18.45—Talk : Gymnastics.
 BRNO, 18.00—German Transmission (contd. from 17.55).
 BRUSSELS (No. 1), 18.00—Orchestra (contd. from 17.33). 18.30—Bach Concert. Symphony Orchestra. Conductor : Kumps. Ria Lenssens (Songs). Concerto in G. Aria, Pfingstkantata. Aria, Suite in D. Two Sacred Songs. Two Cantatas. Arias. Overture.
 BRUSSELS (No. 2), 18.00—Alice Nahon Memorial Programme. Talk : Alice Nahon. Songs to Poems of Alice Nahon. 18.30—Records.
 BUCHAREST, 18.00—Time ; News. 18.15—Orchestra.
 BUDAPEST, 18.00—The Bura Cigány Band.
 COLOGNE, 18.00—Military Band (contd. from 16.40). 18.30—Report from the Cologne Chemical Apparatus Exhibition. 18.45—Egbert

18.00 (contd.)

Grape (Piano). Invitation to the Dance (Weber). Waltz and Two Mazurkas (Chopin). Piece (Grieg). Waltz, "Coppelia" (Delibes—Dohnányi).
DEUTSCHLANDSENDER, 18.00—Monologues. 18.30—Variety.
FRANKFURT, 18.00—A Radio Picture of Biereck. 18.20—Humorous Programme. 18.40—César Fleischlein Memorial Programme: Address, Recitations, and Songs.
HAMBURG, 18.00—Variety from Kiel.
HILVERSUM, 18.00—Records. 18.10 Play (Schiller—Krauss). The V.A.R.A. Ensemble, the V.A.R.A. Orchestra and Mixed Choir. Conductors: Cappellen and de Groot.
HUIZEN, 18.00—Organ Music. 18.55—Records: Sacred Music.
KALUNDBORG, 18.00—Service (contd. from 17.00). 18.20—Talk. 18.50—Weather.
KAUNAS, 18.00—Military Programme. 18.30—Time; Weather; Political Review. 18.50—Songs.
KÖNIGSBERG, 18.00—Readings. 18.20—Mandolin Orchestra.
LAHTI, 18.00—Talk. 18.30—Orchestra. Conductor: Linko.
LEIPZIG, 18.00—Talk: The Erzgebirge. 18.30—"In Praise of Wine"—Concert by a Male Voice Choir, a String Quartet, Three Wind Instruments, Eva Anschütz (Soprano), Gertrude Buchheim (Contralto), Ulbricht (Tenor), Göppolt (Baritone) and Sammler (Harpischord).
MADRID (EAJ7), 18.00—Chimes; Light Music.
MONTE CENERI, 18.00—For Children. 18.15—Records. 18.30—For Youths. 18.45—Sports News; Records.
MOSCOW, 18.00—Radio Play (contd. from 17.30). 18.30—Orchestral Dances; Neapolitan Songs.
MUNICH, 18.00—May in Literature and Music. Poems and Lieder of Josef von Eichendorff. Margot Leander (Soprano); Muller-Ahremberg (Baritone); Frantz and König (Monologues). 18.45—Zither Music.
OSLO, 18.00—Talk. 18.30—Song, "Cello, and Pianoforte Recital."
PARIS (Ecole Supérieure), 18.00—Talk on Economics. 18.15—News.
PARIS (Poste Parisien), 18.50—Roman Catholic Address.
PARIS (Radio-Paris), 18.00—Andolfi Orchestra.
PITTSBURGH, 18.00—Radio City Concert. 18.30—Old Church Songs. 18.45—Charlie Agnew's Band.
PRAGUE, 18.00—Music Review in German. 18.05—German Transmission: "Die Pfingstleiter"—Folk Play (Blau). 18.55—News in German.
ROME, 18.00—Light Music by the Rome Mandolin Quartet.
SOTTENS, 18.00—The Small Radio-Lausanne Orchestra. Conductor: Moser.
STOCKHOLM, 18.00—Evensong.
STRASBOURG, 18.00—Medical Talk in German. 18.15—Light Music. Conductor: Roskam.
STUTTGART, 18.00—Readings. 18.20—Accordion.
TOULOUSE, 18.00—News. 18.15—Opera Music. 18.30—Military Band. 18.45—Humorous Scenes.
TURIN, 18.00—Sports. 18.15—18.20—Weather.
VIENNA, 18.00—Military Band. 18.35—Whitsuntide Humour.
WARSAW, 18.00—The Happiest Man in the World"—Play (Mavena).

19.00

ALGIERS, 19.00—Records. 19.45—Recitations.
BARCELONA, 19.00—Records. 19.30—Boves Concert from the Orfeo Graciano. Station Orchestra and the Orfeo Vilafraqui Male Voice Choir. Conductor: The Composer.
BELGRADE, 19.00—Records. 19.20—Talk. 19.50—Orchestra. Conductor: Jovanovic.
BERLIN, 19.00—"Whitsuntide"—Radio Sequence (contd. from 18.00). 19.40—Sports Report.
BEROMÜNSTER, 19.00—Time; News. 19.05—Songs to the Lute, by Hugo Fröhlin. 19.30—"Einigkeit"—Male Voice Choir.
BORDEAUX-LAFAYETTE, 19.45—Sports Notes.
BRESLAU, 19.00—Records. 19.30—Kurt Gudian (Guitar).
BRUSSELS (No. 1), 19.00—Bach Concert (contd. from 18.30). 19.15—Religious Address. 19.30—Wireless Notes; Music Review.
BRUSSELS (No. 2), 19.00—Records. 19.15—Religious Address. 19.30—Music Review.
BUCHAREST, 19.00—Educational Programme. 19.20—Records. 19.45—Weekly Review.

BUDAPEST, 19.00—Talk. 19.45—An Operetta.
COLOGNE, 19.00—Piano (contd. from 18.45). 19.10—Talk. 19.30—Records. 19.45—Sports Report.
DEUTSCHLANDSENDER, 19.00—Variety. 19.40—Sports Notes.
FRANKFURT, 19.00—Whitsun Customs—Two Short Plays. 19.50—Sports Notes.
HAMBURG, 19.00—Variety from Kiel. 19.30—An Interview with Ernst Udet (on Records). 19.50—Weather.
HILVERSUM, 19.00—Play (contd. from 18.10). 19.30—Time. 19.41—News. 19.55—Pianoforte Concerto (Beethoven). Frederic Lamond: Wireless Orchestra. Conductor: Treep.
HUIZEN, 19.00—Records. 19.25—Football Results. 19.30—Religious Address: Pentecost. 19.55—Records.
KALUNDBORG, 19.00—News. 19.15—Time. 19.30—Talk: Cycling.
KAUNAS, 19.00—Songs. 19.10—Talk: Children. 19.30—Orchestra.

STOCKHOLM, 19.00—Evensong. 19.15—News. 19.30—Classon (Songs to the Lute). 19.50—"The Tempest"—Play (Shakespeare). Music by Sibelius.
STRASBOURG, 19.00—Light Music. 19.15—Sports Notes. 19.30—Time; News. 19.45—Records.
STUTTGART, 19.00—See Frankfurt.
TOULOUSE, 19.00—Tangos. 19.15—Songs. 19.30—News; Racing. 19.45—Orchestra.
TURIN, 19.30—Time; Announcements. 19.40—News; Sports; Records.
VIENNA, 19.05—News. 19.20—Recital on Two Pianofortes by Maryan Rawicz and Landauer. Slav Dance (Dvořák). Nutcracker Suite (Tchaikovsky). Doblinger Pot-pourri (Rawicz-Landauer).
WARSAW, 19.00—Announcements. 19.30—Topical Talk. 19.45—Theatre Notes. 19.50—Great Thoughts. 19.52—The Station Orchestra. Conductor: Nawrot. Szczepanska (Songs).
ZEESEN, 19.45—Whitsuntide Hymns for Choir and Instruments.

and Duets, "Cosi fan tutte" (Mozart). Overture, "The Caliph of Baghdad" (Boieldieu). Cavatina "La Dame blanche" (Boieldieu). Aria, Song from "Le Postillon de Longjumeau" (Adam). Overture, "Jean de Paris" (Boieldieu). Overture, "The Turk in Italy" (Rossini). Arias and Overture, "William Tell" (Rossini). Aria and Duet, "Manon Lescaut" (Puccini). Aria, Duet, and Overture, "The Force of Destiny" (Verdi).
HAMBURG, 20.00—Station Orchestra. Conductor: Eibenschütz. Miliza Korjus (Songs), Hamann (Violin). Overture, "The Merry Wives of Windsor" (Nicolai). Aria, Il re pastore (Mozart). Swabian Rhapsody (Kämpfert). Aria, "The Barber of Seville" (Rossini). Italian Caprice (Tchaikovsky). Frühlingsstimmen-Walzer (Strauss). Overture, "Die schöne Galathée" (Suppé). Song (Arditi). Hungarian Rhapsody (Liszt). O schöner Mai (Strauss). Selection, "Liselott" (Künneke).
HILVERSUM, 20.00—Concerto (contd. from 19.55). 20.25—Felix Timmermans reads. 20.45—Organ; Sacred Songs.

SUNDAY May 20

PARIS (Radio-Paris), 20.00—Humorous Revue by Moriss. Soloists: Gisele Parry. 20.30—News. 20.45—Comedy; Duets; Saxophone Quartet.
PITTSBURGH, 20.00—Bar X Days and Nights. 20.30—To be announced.
PRAGUE, 20.00—"The Kiss"—Two-Act Opera (Smetana), from the State Opera House. Conductor: Ostrel.
ROME, 20.00—Time; Announcements; Records. 20.45—"Bambù"—Operetta in Three Acts (Carabella). In the Intervals: Talk; Film News.
SCHENECTADY, 20.00—Musical Programme.
SOTTENS, 20.00—Radio Suisse Romande Orchestra. Conductor: Echenard. Bohemian March (Filippucci). Suite, Summer Days (Coates). Roses from the South (Strauss). Two Airs, "Die Teresina" (O. Straus). Lehár pot-pourri (Rubiny). Operetta Music.
STOCKHOLM, 20.00—"The Tempest" (Shakespeare) (contd. from 19.50).
STRASBOURG, 20.00—News in German; Announcements. 20.30—See Paris (Ecole Supérieure).
STUTTGART, 20.00—See Frankfurt.
TOULOUSE, 20.00—Sound-Film Music. 20.15—Operetta Music. 20.30—Records. 20.45—Orchestra.
TURIN, 20.15—Talk. 20.30—Request Records.
VIENNA, 20.00—"Der Krampus"—Comedy in Three Acts (Bahr).
WARSAW, 20.00—Orchestra (contd. from 19.52). 20.50—News.



Basle Cathedral, from which an organ recital is relayed by Beromünster at 21.10

[E.N.A.]

21.00

KÖNIGSBERG, 19.00—Quartet for Three Flutes and Clarinet (Haydn). 19.25—Dialogue in Dialect.
LAHTI, 19.00—Orchestra. 19.10—Talk. 19.30—Sacred Music.
LEIPZIG, 19.00—"In Praise of Wine" (contd. from 18.30). 19.30—Radio Report from a Copper Foundry (on Records). 19.55—Sports Report.
MADRID (EAJ7), 19.00—"Cello Recital. 19.30—Songs; Band.
MONTE CENERI, 19.00—Records. 19.15—For Children. 19.30—Herschel (Pianoforte). Prelude and Fugue in E Minor (Mendelssohn). Barcarolle (Chopin). 19.45—News.
MOSCOW, 19.00—Orchestral Dances; Neapolitan Songs. 19.30—International Review.
MUNICH, 19.00—Zither Music (contd. from 18.45). 19.25—Frieda Stahl (Pianoforte). Papiillons (Schumann). 19.50—Weather; Sports Report.
OSLO, 19.00—Song, "Cello, Pianoforte Recital. 19.15—News. 19.30—Time. 19.31—Chamber Music from Tröndelag. Trio in E flat minor (Mozart). Piece for Pianoforte, Clarinet, Viola (Bruch).
PARIS (Ecole Supérieure), 19.30—Records. 19.45—Talk. 19.52—Talk: Milk.
PARIS (Poste Parisien), 19.00—Rom in Catholic Address. 19.20—News. 19.25—Sports Notes. 19.35—Records. 19.45—Concert.
PARIS (Radio-Paris), 19.00—Radio-Paris Circus. 19.30—Topical Talk.
PITTSBURGH, 19.00—South Sea Islanders. 19.30—Concert Artists.
PRAGUE, 19.00—News. 19.05—Vocal and Instrumental Concert. 19.55—Talk on the Transmission.
ROME, 19.00—The Rome Mandolin Quartet. 19.30—Sports; News.
SCHENECTADY, 19.00—Talkie Picture Time. 19.30—Musical Programme.
SOTTENS, 19.00—Roman Catholic Address. 19.30—Juliane Schmidiger (Pianoforte) and Edna Roulier (Violin). 19.50—Sports Notes.

20.00

ALGIERS, 20.00—Operetta Songs. 20.30—Records. 20.45—Lottery Results. 20.55—News.
ATHLONE, 20.30—Time; Lenzen (Pianoforte).
BARCELONA, 20.00—Boves Concert (contd. from 19.30).
BARI, 20.00—20.10—News in Albanian.
BELGRADE, 20.00—Orchestra. Conductor: Jovanovic. 20.50—Announcements.
BERLIN, 20.00—"Der Holzdieb"—Opera (Marschner) (arr. for Radio).
BEROMÜNSTER, 20.00—Choir (contd. from 19.30). 20.30—Talk: The Renaissance.
BORDEAUX-LAFAYETTE, 20.00—Lottery Results. 20.15—Records. 20.45—One-Act Comedies: "Giboulées" (Karcher-Jeanne). "La suite à demain" (Bastia).
BRESLAU, 20.00—"Spring in Altheide"—Operetta (Sattler), from the Kurtheater, Bad Altheide Station Orchestra and Choir. Conductor: Topitz. Quartet. Soloists. Cabaret in the Intervals.
BRUSSELS (No. 1), 20.00—Popular Concert.
BRUSSELS (No. 2), 20.00—Hungarian Concert by the Radio Orchestra. Conductor: André Hungarian March (Berlioz). Humoresque (Dvořák). Hungarian Pastorale for Flute (Doppler). Hungarian Rhapsody No. 12 (Liszt). Rhapsody in A (Dvořák). Hungarian Dances Nos. 5 and 6 (Brahms). 20.45—Recitations.
BUCHAREST, 20.00—"A Corner of Paradise"—Operetta (Borgovan). In the Interval: Talk. After the Operetta: News.
BUDAPEST, 20.00—Operetta (contd. from 19.45).
COLOGNE, 20.00—See Munich.
DEUTSCHLANDSENDER, 20.00—Station Orchestra, the Station Choir, and Soloists.
FRANKFURT, 20.00—Station Orchestra. Conductor: Rosbaud. Soloists: Hüni-Mihacsek (Soprano), Helge Roswaenge (Tenor), Johannes Drath (Baritone). Overture, Arias,

HUIZEN, 20.00—Concert. In the Interval at 20.15: Records. 20.40—News. 20.45—K.R.O. Orchestra. Conductor: Eduard van Beinum. Loevensohn (Cello). Ciaconna gotica (Doppler). "Cello Concerto (Schumann). Records. Prélude à l'après-midi d'un faune (Debussy). Selection, "El sombrero de tres picos" (Fallá).
JUAN-LES-PINS (Radio Côte d'Azur), 20.00—Service. 20.30—Amusement Guide; Sports Notes. 20.40—Concert.
KALUNDBORG, 20.00—Chimes. 20.05—"Der Erlenhügel"—Operetta in Five Acts (Kuhla).
KAUNAS, 20.00—Talk. 20.20—Songs. 20.40—Talk.
KÖNIGSBERG, 20.00—See Frankfurt.
LAHTI, 20.00—Sacred Music.
LEIPZIG, 20.00—"Der verlorene Walzer"—Operetta in Three Acts (Stolz). The Leipzig Symphony Orchestra and the Leipzig Soloists' Choir—Conductor: Weber.
MADRID (EAJ7), 20.00—Band. 20.30—Literary Review; Orchestra.
MONTE CENERI, 20.00—Sacred Choral Music. 20.30—Literary Review. 20.45—Wagner Concert. Lugano Municipal Orchestra. Conductor: Casella. Lotte Burck (Soprano). Idyll and Aria, "Siegfried." Death of Isolda, "Tristan and Isolda." Selection, "Lohengrin." Aria and March, "Tannhauser." Aria, "The Dusk of the Gods." Overture, "Rienzi."
MOSCOW, 20.00—Trio Concert of Music by Goedike, Mussorgsky, Tchaikovsky, and Taneef.
MUNICH, 20.00—"Die Pfingstorgel" Play (Lipp). Music by List.
OSLO, 20.00—Play (von Hoffmannsthal).
PARIS (Ecole Supérieure), 20.00—Records. 20.30—"Madame Sans-Gêne"—Play in Three Acts and a Prologue (V. Sardou and E. Moreau).
PARIS (Poste Parisien), 20.10—20.40—"Il pleut des mensonges"—Play in One Act (de Mackielo). 20.15—Records. 20.30—News. 20.55—A Film.

ALGIERS, 21.00—Time; Sports; Records. 21.25—News. 21.30—Opera Arias.
ATHLONE, 21.00—Talk by the Rev. James: The Value of Life. 21.20—Station Orchestra. 21.45—O'Dwyer (Soprano).
BARCELONA, 21.00—Dance Music.
BELGRADE, 21.00—Schubert Scenes with Music.
BERLIN, 21.00—Station Orchestra. Conductor: Steiner. Karl Schlottmann (Baritone); Hedwig Jungkurth (Soprano). Overture, "Figaro" (Mozart). Baritone: Aria, "Don Giovanni" (Mozart). Entr'acte, "Susanna's Secret" (Wolf-Ferrari). Soprano: Ständchen (Strauss). Baritone: Aria, "The Barber of Seville" (Rossini). Italian Caprice (Tchaikovsky).
BEROMÜNSTER, 21.00—News. 21.10—Organ Recital from Basle Cathedral.
BORDEAUX-LAFAYETTE, 21.00—Comedies (contd. from 20.45).
BRESLAU, 21.00—"Spring in Altheide"—Operetta (contd. from 20.00).
BRUSSELS (No. 1), 21.00—Station Orchestra. Conductor: André. Thelma (Baritone). Overture, "Le roi l'a dit" (Delibes). Extracts, "Conte d'avril" (Widor). Songs. Symphonic Suite (Ibert). Dances, "Tom Jones" (German).
BRUSSELS (No. 2), 21.00—De Bock Concert by the Symphony Orchestra. Conductor: Kumps. Mme. Loodts-Godenne (Songs). Symphony. Songs. Dance. Rhapsodie dahoméenne.
BUCHAREST, 21.00—"A Corner of Paradise"—Operetta (contd. from 20.00).
BUDAPEST, 21.00—Operetta (contd. from 19.45).
COLOGNE, 21.00—See 20.00 Munich.
DEUTSCHLANDSENDER, 21.00—Orchestra and Choir.
FRANKFURT, 21.00—Orchestra (contd. from 20.00).
HAMBURG, 21.00—Orchestra (contd. from 20.00).
HILVERSUM, 21.00—Organ; Songs (contd. from 20.45). 21.05—News; Records. 21.20—Kovacs Lajos and his Orchestra; A.V.R.O. Girls. In an Interval: Records.
HUIZEN, 21.00—Orchestra (contd. from 20.45).
JUAN-LES-PINS (Radio Côte d'Azur), 21.00—News. 21.15—Concert.
KALUNDBORG, 21.00—"Der Erlenhügel"—Operetta (Kuhla) (contd. from 20.05).
KAUNAS, 21.00—Lithuanian Music. 21.30—Talk. 21.50—Sports Notes. 21.55—Orchestra.
KÖNIGSBERG, 21.00—See 20.00 Frankfurt.

SUNDAY May 20

21.00 (contd.)

LEIPZIG, 21.00—"Der velorene Walzer"—Operetta (Stolz) (contd. from 20.00).
MADRID (EAJ7), 21.00—Orchestra.
MONTE CENERI, 21.00—Wagner Concert (contd. from 20.45).
MOSCOW, 21.00—Trio Concert (contd. from 20.00). 21.55—Weekly Review in German.
MUNICH, 21.00—"Die Pfingstorgel"—Play with Music (contd. from 20.00).
OSLO, 21.00—Play (von Hoffmannsthal). 21.40—News. 21.45—Topical Talk.
PARIS (Ecole Supérieure), 21.00—Play (contd. from 20.30).
PARIS (Poste Parisien), 21.00—A Film.
PARIS (Radio-Paris), 21.00—Comedy; Duets; Saxophone Quartet. In the Interval: News.
PITTSBURGH, 21.00—Organ Recital. 21.30—Princess Pat Players.
PRAGUE, 21.00—"The Kiss" (Smetana) (contd. from 20.00).
ROME, 21.00—"Bambù"—Operetta (Carabella) (contd. from 20.45).
SCHENECTADY 21.00—Musical Programme.
SOTTENS, 21.00—Orchestra (contd. from 20.00). 21.15—News. 21.25—"Music and Poetry" The Chailly Choral Society. Paul Pasquier (Elocutionist).
STOCKHOLM, 21.00—"The Tempest" (Shakespeare) (contd. from 19.50). 21.45—Weather. 21.50—Orchestra. Conductor: Grevillius. Ruth Althén (Songs). Ballet Suite (Grétry-Mottl). Aria, "Whitsun Cantata" (Bach). Marionette Suite (Rosenberg). Pastoral d'été (Honegger). Arias, "The Creation" (Haydn). Per Spelman (Lindberg).
STRASBOURG, 21.00—Play contd. from 20.30 Paris (Ecole Supérieure).
STUTTART, 21.00—See 20.00 Frankfurt.
TOULOUSE, 21.00—Extracts, "Romeo and Juliet"—Opera (Gounod). 21.45—Hunting-Horn Music.
TURIN, 21.30—Symphony Concert. Conductor: Désiré Defauw. Solo-

ist: Bronislaw Hubermann (Violin): Preludietto (Tedesco); Symphony No. 4 (Brahms); Violin Concerto in D (Beethoven). Overture, Tannhäuser (Wagner).
VIENNA, 21.00—"Der Krampus"—Comedy (contd. from 20.00).
WARSAW, 21.00—Talk: Turkey. 21.15—Humorous Programme.

22.00

ALGIERS, 22.00—Dance Music. 22.30—News. 22.35—Dance Music. 22.55—News.
ATHLONE, 22.00—Sports Talk. 22.10—"Twisty Windows"—Play by Gabriel Fallon and Company. 22.40—Station Orchestra.
BARCELONA, 22.00—Chimes; Records.
BELGRADE, 22.00—Time; Announcements; Nikolic (Saxophone). 22.30—Light Music.
BERLIN, 22.00—News. 22.30—See Hamburg.
BEROMÜNSTER, 22.00—Organ (contd. from 21.10). 22.15—Sports Notes.
BORDEAUX-LAFAYETTE, 22.00—Comedies (contd. from 20.45).
BRATISLAVA, 22.30—News in Hungarian; Sports Notes.
BRESLAU, 22.00—"Spring in Alt-heide"—Operetta (contd. from 20.00). In the Interval: Time; News.
BRNO, 22.40—Schrammel Music.
BRUSSELS (No. 1), 22.00—News. 22.10—Alexys Dance Orchestra.
BRUSSELS (No. 2), 22.00—News. 22.10—Dance Music by the Alexys Orchestra.
BUCHAREST, 22.00—"A Corner of Paradise"—Operetta (contd. from 20.00).
BUDAPEST, 22.00—Operetta (contd. from 19.45). 22.15—News. 22.30—Dance Music.
COLOGNE, 22.00—Time; News. 22.30—See Hamburg.
DEUTSCHLANDSENDER, 22.00—Orchestra and Choir. 22.20—News. 22.45—Weather.
FRANKFURT, 22.00—Report from the Air Memorial at Rhön. 22.20—Time; News. 22.45—Music.
HAMBURG, 22.00—News. 22.30—Dances by the Station Orchestra. Quartet. Conductor: Bolt.

HILVERSUM, 22.00—Orchestra (contd. from 21.20).
HUIZEN, 22.00—Orchestra (contd. from 20.45). 22.15—News. 22.20—Choral Epilogue.
JUAN-LES-PINS (Radio Côte d'Azur), 22.00—Request Programme.
KALUNDBORG, 22.00—"Der Erlenhügel"—Operetta (Kukla) (contd. from 20.05). 22.15—Piano-forte Sonata in A flat (Beethoven) by Folmer Jensen. 22.45—Lecture Recital. Russian Folk Music.
KÄUNAS, 22.00—22.30—Orchestra.
KÖNIGSBERG, 22.00—News. 22.30—See Hamburg.
LEIPZIG, 22.00—News. 22.30—See Hamburg.
MADRID (EAJ7), 22.00—Chimes; Time; Astronomical Talk; Sextet.
MONTE CENERI, 22.00—Notes.
MOSCOW, 22.05—Weekly Review in English.
MUNICH, 22.00—Time; News. 22.30—See Hamburg.
OSLO, 22.00—Station Orchestra. Conductor: Kramm. Overture, "A Midsummer Night's Dream" (Mendelssohn). Suite, "L'Arlesienne" (Bizet). Finlandia (Sibelius).
PARIS (Ecole Supérieure), 22.00—Play (contd. from 20.30). 22.30 (approx.)—News; Dance Music.
PARIS (Poste Parisien), 22.00—A Film.
PARIS (Radio-Paris), 22.00—Duets; Saxophone Quartet. 22.30—Dance Music.
PITTSBURGH, 22.00—Vesper Services.
PRAGUE, 22.00—"The Kiss" (Smetana) (contd. from 20.00). 22.15—Time; News. 22.35—News in German. 22.40—See Brno.
ROME, 22.00—"Bambù"—Operetta (Carabella) (contd. from 20.45).
STOCKHOLM, 22.00—Orchestra (contd. from 21.50).
STRASBOURG, 22.00—Play contd. from 20.30 Paris (Ecole Supérieure). 22.30 (approx.)—News in German; Dance Music.
STUTTART, 22.00—See Frankfurt. 22.35—Local News.
TOULOUSE, 22.00—Songs. 22.15—News. 22.30—Soloists. 22.45—Light Music; Songs.
TURIN, 22.00—Talk. 22.10—Dance Music.
VIENNA, 22.0—News. 22.15—Vienna Symphony Orchestra. Con-

ductor: Holzer. Mizzi Färber (Soprano). Rosner (Violin). March (Möse). Ich bin verliebt (Lehár). Song (Frankowsky) Berceuse for violin (Wetchny). Waltz (Komzák). Potpourri (Morena). Song (Roll). Song (Reindl). Two Songs (Flemming). Waltz (Ziehrer). Viennese Song. Potpourri (Muuss).
WARSAW, 22.00—Humorous Programme. 22.15—Sports Notes. 22.25—Dance Music.

23.00

ATHLONE, 23.00—Time; News.
BARCELONA, 23.00—Records. 23.45—Chess Lesson.
BELGRADE, 23.00—23.30—Dance Records.
BERLIN, 23.00—See 22.30 Hamburg.
BRESLAU, 23.00—"Spring in Alt-heide"—Operetta (contd. from 20.00). 23.15—Dance Music.
BRUSSELS (No. 1), 23.00—Alexys Orchestra.
BRUSSELS (No. 2), 23.00—See Brussels No. 1.
BUDAPEST, 23.00—Dance Music. 23.10—Cigány Music.
COLOGNE, 23.00—See 22.30 Hamburg.
DEUTSCHLANDSENDER, 23.00—See Stuttgart.
FRANKFURT, 23.00—See Stuttgart.
HAMBURG, 23.00—Orchestra (contd. from 22.30).
HILVERSUM, 23.00—Orchestra (contd. from 21.20). 23.10—Records.
JUAN-LES-PINS (Radio Côte d'Azur), 23.00—Variety.
KALUNDBORG, 23.00—Lecture-Recital (contd. from 22.45).
KÖNIGSBERG, 23.00—See 22.30 Hamburg.
LEIPZIG, 23.00—See 22.30 Hamburg.
MADRID (EAJ7), 23.00—Talk: Bullfighting; Soprano Songs. In the interval, Talk.
MADRID (EAQ), 23.00—Spanish Two-Steps.
MOSCOW, 23.05—Talk in Swedish: Marx's, Lenin's and Stalin's Ideas of Equality.
MUNICH, 23.00—See 22.30 Hamburg.
PARIS (Radio-Paris), 23.00—Dance Music.
PITTSBURGH, 23.00—E. Hall

Downes (Bridges). 23.15—Baseball. 23.30—Hill Billy Heart Throbs.
ROME, 23.00—News.
SCHENECTADY, 23.45—Variety.
STRASBOURG, 23.00—Dance Music.
STUTTART, 23.00—Dance Music and Folk Music. The Station Dance Band; Erich Ocker (Xylophone); Otto Seyfert (Pianoforte); Hans Thaler (Accordion).
TOULOUSE, 23.00—Sound - Film Music. 23.15—Dance Music.
TURIN, 23.00—News.
VIENNA, 23.00—Vienna Symphony Orchestra (contd. from 15); Announcements.
WARSAW, 23.00—Weather; Police Notes. 23.05—Dance Music.

00.00 (Monday)

BERLIN, 00.00—See 22.30 Hamburg.
BRESLAU, 00.00—Dance Music.
COLOGNE, 00.00—See 22.30 Hamburg.
DEUTSCHLANDSENDER, 00.00—See 23.00 Stuttgart.
FRANKFURT, 00.00—See 23.00 Stuttgart. 00.30—See Stuttgart.
HAMBURG, 00.00—Orchestra (contd. from 22.30).
JUAN-LES-PINS (Radio Côte d'Azur), 00.00—Variety.
KÖNIGSBERG, 00.00—See 22.30 Hamburg.
LEIPZIG, 00.00—See 22.30 Hamburg.
MADRID (EAJ7), 00.00—See Madrid (EAJ7).
PITTSBURGH, 00.00—Silken Strings. 00.30—Joe Penner.
SCHENECTADY, 00.00—Popular Programme.
STUTTART, 00.00—Dance Music and Folk Music contd. from 23.30. 00.30—Serenade.
TOULOUSE, 00.00—News. 00.05—"Au Caveau de Minuit" Radio Fantasy. 00.15-00.30—Operetta Music.

01.00

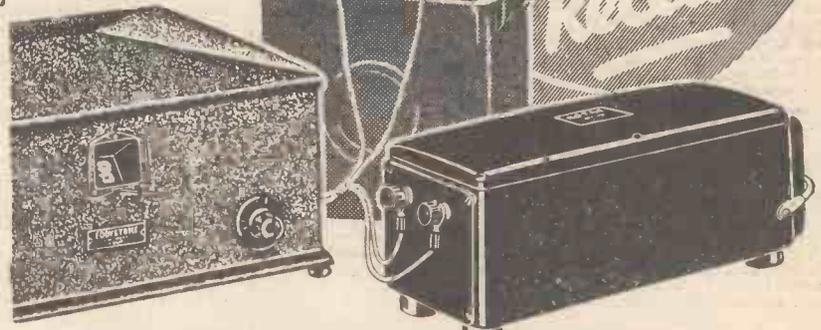
FRANKFURT, 01.00—See 00.30 Stuttgart.
MADRID (EAJ7), 01.00—Chimes.
MADRID (EAQ), 01.00—Variety.
PITTSBURGH, 01.00-05.45—Popular Programme.
SCHENECTADY, 01.00-04.00—Variety.
STUTTART, 01.00—Serenade (con d. from 00.30).

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ANODE CONVERTERS

MONDAY May 21

PRINCIPAL EVENTS

CONCERTS

- 14.45 Kalundborg: Popular orchestral.
- 16.00 Stuttgart, Deutschlandsender: Operatic.
- 17.00 Brussels No. 1: Symphonic poems.
- 19.55 Hilversum: Operatic programme.
- 20.00 Leipzig, Breslau: Popular operatic.
- 20.00 Brussels No. 2: Symphony orchestra.
- 20.00 Oslo: Station orchestra.
- 20.15 Cologne: Whitsun concert.
- 20.30 École Supérieure, Strasbourg, etc.: The National Symphony Orchestra.
- 21.10 Beromünster: Operetta music.
- 22.10 Budapest, Vienna (22.50): Cigány band; "Imre Magyari."

OPERAS, OPERETTAS

- 18.55 Vienna: "Lohengrin" (Wagner), from the State Opera House.
- 19.30 Stockholm: "A Waltz Dream" (Straus).
- 19.35 Munich, Deutschlandsender: "Aida" (Verdi), from the State Theatre.
- 20.00 Königsberg: "Frühlingsluft" (Reiterer, after Strauss).
- 20.00 Prague: "The Secret" (Smetana), from Opera House.
- 21.15 Regional: "Arabella" (Strauss), Act II from Covent Garden.
- 24.00 Frankfurt, Stuttgart: "Othello" (Verdi) (gramophone), La Scala cast.

CHAMBER MUSIC

- 18.40 Berlin: Instrumental and vocal.
- 19.30 Frankfurt: Sonatas. "The Young Mozart."
- 20.00 Kalundborg: German eighteenth century music.
- 20.00 Radio-Paris: French programme.

RECITALS

- 18.20 Frankfurt: Old Flemish Folk-songs.
- 18.30 Brussels No. 1: Violoncello.
- 20.45 Bucharest: Vocal quartet.
- 21.15 Warsaw: Violin.

DANCE MUSIC

- 17.00 Cologne; 17.30, Leipzig; 21.10-02.00, Kalundborg; 22.00, Stockholm; 22.10, Brussels No. 1 and No. 2, Poste Parisien; 22.30, Berlin, Breslau, Königsberg, École Supérieure; 23.00, Oslo; 23.05, Warsaw; 23.30, Budapest.

NATIONAL

Time Signals: Big Tom.—10.15, 12.00, 17.15, 18.30, 24.00. Greenwich.—10.30, 13.00, 16.45, 18.00, 21.00, 23.30.

10.15 (Daventry)—Service.

10.30-10.45 (Daventry)—Weather.

12.00—Cinema Organ (Tom Jenkins).

12.45—The Western Studio Orchestra. Mari Elwyn (Soprano).

14.00—Miscellaneous Records.

15.00 (Daventry and North)—The Northern Studio Orchestra. Waltz, Jolly Life (Translater). Portsmouth Town (Marsden). Selection, C. B. Cochran presents... (arr. Hall). Folk Song and Fairy Tale for Strings (Kozzak). Nocturnette (Hope). Minuet, Beau Brummel (Elgar). Love's Grief (Kreisler). Selection, The Beggar's Opera (Austin).

16.00 (Daventry and North)—Gramophone Records. A Band Concert.

16.30 (Daventry and North)—Scottish Studio Orchestra.

17.15 (Daventry)—The Children's Hour.

17.15 (except Daventry)—The B.B.C. Dance Orchestra.

18.00—"The First News."

18.30—The Foundations of Music. Beethoven's Pianoforte Sonatas played by Edward Isaacs.

18.50—"Books in General." Desmond MacCarthy.

19.05—"Economics in a Changing World." Comdr. Stephen King-Hall.

19.30—"The Treaty of Versailles and After." "Modern Problems: The Treaty and the League."

20.00—Another John Southern's Hour of an Old-time Music-hall, during which some of England's most famous Music-hall stars of years ago will appear.

21.00—"The Second News."

21.10—"The Week-End on the Road." Captain G. Eyston.

21.20—"Mind the Doctor." "Fatigue and the Modern World." A Doctor.

21.35—Bank Holiday! A Whitsun Holiday Radio News-Reel presented by Laurence Gilliam. Commentators, John Watt, John Snagge, and A. E. Lawton. A Microphone at large, where England sends Bank Holiday.

22.10—A relay from "Sporting Love," a musical horse play written and produced by Stanley Lupino. Lyrics by Desmond Carter, Frank Eyton, and Leslie Sarony. Music by Billy Mayerl. Relayed from the Gaiety Theatre. The cast includes: Stanley Lupino, Laddie Cliff, Marjorie Browne, Harry Milton, Arthur Rigby, Jr., Henry Carlisle, Gilly Flower, Basil Howes, Vera Bryer, Arty Ash, Peter Miller, Jenny Dean. Relayed from the Gaiety Theatre.

22.50 (Daventry)—Lew Stone and his Band relayed from Monseigneur.

REGIONAL

Time Signals: Big Tom.—10.15, 12.00, 17.15, 18.30, 24.00. Greenwich.—10.30, 13.00, 16.45, 18.00, 21.15, 23.30.

10.15-10.45 (ex. Midland)—Daventry.

12.00—The Midland Studio Orchestra. March, Sons of the Brave (Bigdoo). Selection, The Student Prince (Romberg). Waltz, Brunette or Blonde (Waldteufel). Fashion's Fancies (Finck). Tango, Beside my Caravan (Vacek). Paso Doble, Ballerina (Boottz). Funiculi, Funicula (Denza).

12.45—Haydn Heard and his Band. March, The Gypsy Caravan (Oscheit). Fantasy, Tannhäuser (Wagner). Sylvia (Speaks). Tango, Denia (Rosenthal). Overture, Pique Dame (Suppe). The Musical Box (Heykens). Snow Flakes (Charrasin). Selection, The Damask Rose (Chopin). Ballet Suite, A Day in Fairyland (Haydn Wood).

14.00—Arthur Salisbury and his Orchestra.

15.00-17.15 (except Midland and North)—Daventry National.

15.00 (North)—Account by A. E. Lawton of Yorkshire v. Lancashire County Cricket Match. Copyright.

17.15—The Children's Hour.

18.00—"The First News."

18.30 (except Midland)—Reginald King and his Orchestra.

18.30 (Midland)—Harry Engleman and his Quintet with Nat Goulding (Tenor).

19.30 (except West)—Students' Songs. The Wireless Male Chorus in a Programme of old Favourites.

19.30 (West)—Datganiad o Ddeuawdau ac Alawon ar y Piano. Emlyn Burns (Tenor). H. Emlyn Jones (Baritone). Hubert Pengelly (Pfte.).

20.00 (London and West)—The B.B.C. Orchestra (Section C). Katharine Goodson (Pianoforte).

20.00 (Midland)—Jan Berenska and his Orchestra. Muriel Sotham (Contralto).

20.00 (North)—Chamber Concert. Alfred Barker, Thomas Matthews (Violins). Sydney Errington (Viola). Kathleen Moorhouse (Violoncello). Mahry Dawes (Soprano).

20.00 (Scottish)—The Studio Orchestra. Patuffa Kennedy-Fraser and Margaret Kennedy in Songs of the Hebrides with Clarsach and Pianoforte Accompaniment.

21.15—Act II of Richard Strauss' Opera "Arabella," relayed from Covent Garden. The cast includes: Alfred Jerger; Berthold Sterneck; Ruth Berglund; Viorica Ursuleac; Eduard Habich; Alfred Bartolothius; Rolf Scharf; Martin Kremer; Margit Bokor. Conductor, Clemens Krauss.

22.15—"The Second News."

22.30-24.00 (Midland till 23.00)—Lew Stone and his Band.

EMPIRE SUMMARY

For wavelengths, see S.W. List.

Transmission 1 (GSD, GSB)

B.S.T.
05.30—Big Tom. A Holiday Programme.
06.15—Sports Talk: "The Australian Team." Mr. Howard Marshall.
06.30—Troise and his Mandoliers with Don Carlos (Tenor).
07.15—Empire News and Dairy Produce Notes.
07.30—Close Down.

Transmission 2 (GSH, GSG)

12.00—Big Tom. Cinema Organ (Tom Jenkins).
12.45—Haydn Heard and his Band.
14.00—Arthur Salisbury and his Orchestra. Waltz, Children's Carnival (Ziehrer). Neapolitan Serenade (Costa). Fox Trot, And they've gotta have love (Carr). Selection, The Lady of the Rose.
14.30—Close Down.

Transmission 3 (14.45—17.00 GSF, GSE; 17.00—18.45 GSE, GSB)

14.45—Big Tom. Empire News.
15.00—The Northern Studio Orchestra.
16.00—Maurice Vinden (Organ).
16.30—Famous Operatic Arias.
17.15—The B.B.C. Dance Orchestra, directed by Henry Hall.
18.00—Empire News (second reading).
18.15—"Whit-Monday Bank Holiday at Brighton." S. E. Reynolds.
18.20—Light French Songs.
18.30—Reginald King and his Orchestra.
18.45—Close Down.

Transmission 4 (GSD, GSB)

19.00—Big Tom. Empire News and Dairy Produce Notes.
19.15—(See 18.15).
19.20—Reginald King's Orchestra.
19.30—Students' Songs. The Wireless Male Chorus.
20.00—John Southern's Hour.
21.00—Sports Talk (see 06.15).
21.15—Light French Songs.
21.35—A Bank Holiday Programme. Half an hour with the crowds.
22.10—(See National Programme).
22.50—Lew Stone and his Band.
23.15—Empire News.
23.30—Close Down.

Transmission 5 (GSD, GSC)

00.00—Big Tom. Variety.
00.30—Troise and his Mandoliers.
01.15—A Pianoforte Recital by Maurice Cole. Fantasy, Op. 17 (Schumann).
01.45—Empire News and Dairy Produce Notes.
02.00—(See 18.15).
02.05—Close Down.

* Electrical Recording.
† Gramophone Records.

Hours of Transmission in British Summer Time.

- 05.00**
BERLIN, 05.55—Greeting.
MOSCOW, 05.00—Fanfare. 05.30—News. 05.45—Gym.
- 06.00**
BERLIN, 06.00—Gym. 06.15—Military Band.
BRESLAU, 06.10—Time; Weather. 06.15—See Hamburg.
COLOGNE, 06.15—Military Band.
DEUTSCHLANDSENDER, 06.10—Motto. 06.15—See Hamburg.
FRANKFURT, 06.15—See Hamburg.
HAMBURG, 06.15—Bremen Harbour Concert.
KÖNIGSBERG, 06.15—Military Band.
LEIPZIG, 06.15—See Hamburg.
MOSCOW, 06.15—Programme Notes. 06.30—Records.
MUNICH, 06.15—See Hamburg.
PRAGUE, 06.30—Time; Gym.; Music; News.
SOTTIENS, 06.00—Gym.
STUTT GART, 06.15—See Hamburg.
- 07.00**
BERLIN, 07.00—Military Band.
BRESLAU, 07.00—See Hamburg.
COLOGNE, 07.00—Military Band.
DEUTSCHLANDSENDER, 07.00—See Hamburg.
FRANKFURT, 07.00—See Hamburg.
HAMBURG, 07.00—Bremen Harbour Concert.
HILVERSUM, 07.40—Time; Records.
KÖNIGSBERG, 07.00—Military Band.
LEIPZIG, 07.00—See Hamburg.
MOSCOW, 07.00—Records. 07.15—Light Music.
MUNICH, 07.00—See Hamburg.
PARIS (Poste Parisien), 07.10—Fanfare; Records.

- PARIS (Radio-Paris), 07.00—Records. 07.15—News. 07.45—Gym.
- PRAGUE, 07.00—Orchestra.
- ROME, 07.45—Gym.
- STOCKHOLM, 07.20—Gym. 07.45—Prayers.
- STUTT GART, 07.00—See Hamburg.
- TURIN, 07.45—Gym.
- 08.00**
BERLIN, 08.55—Chimes.
BRESLAU, 08.00—See Hamburg.
08.15—Greetings. 08.30—Records.
COLOGNE, 08.00—Time; News. 08.10—For Farmers: Records. 08.30—Roman Catholic Service.
DEUTSCHLANDSENDER, 08.00—See Hamburg. 08.15—For Farmers. 08.35—Talk. 08.55—Görner (Organ).
FRANKFURT, 08.00—See Hamburg. 08.15—Time; News. 08.30—Trombone Ensemble: Sacred Music. 08.45—Roman Catholic Service.
HAMBURG, 08.00—Bremen Harbour Concert: 08.15—Time; News. 08.30—Gym. 08.45—Theatre Notes.
HILVERSUM, 08.00—Records. 08.40—Service. 08.55—Organ; Soprano.
HUZEN, 08.10—Sacred Songs; Organ.
KALUNDBORG, 08.00—Gym.
KÖNIGSBERG, 08.00-08.15—Military Band.
LEIPZIG, 08.00-08.15—See Hamburg. 08.30—Roman Catholic Service.
MOSCOW, 08.00—Light Music. 8.15—For Children.
MUNICH, 08.00—See Hamburg. 08.15—Wireless Notes. 08.45—Male Voice Choir.
PARIS (Poste Parisien), 08.00-08.30—Records; News. 08.45—Cookery.
PARIS (Radio-Paris), 08.00-08.30—Records.
PRAGUE, 08.00—Orchestra. 08.30—Talk.
ROME, 08.00—Time; News.
STOCKHOLM, 08.00—Weather.

- STUTT GART, 08.00—See Hamburg. 08.15—Time; News. 08.25—Gym. 08.45—Te Deum for Mixed Choir and Organ (Tinell). Conductor; Enz.
- TURIN, 08.00—Time; News.
- 09.00**
BERLIN, 09.00—Service.
BRATISLAVA, 09.00—Cathedral Service.
BRESLAU, 09.00—Chimes. 09.05—Roman Catholic Service from Gleiwitz.
BRNO, 09.50—Russian Songs.
BUDAPEST, 09.45—Announcements.
COLOGNE, 09.00—Service (contd. from 08.30). 09.30—Viensien Wind Instrument Orchestra and Male Voice Choir and the Dülken Male Voice Choir. Conductor: Karl Seepe.
DEUTSCHLANDSENDER, 09.35—Görner (Organ).
FRANKFURT, 09.00—Service (contd. from 08.45). 09.30—German Folk Songs. Station Choir. Conductor: Merten.
HAMBURG, 09.00—Records. 09.55—Service.
HILVERSUM, 09.00—Organ; Soprano. 09.40—Schoondorbeck (Organ).
HUZEN, 09.00—Organ. 09.10—Records. 09.20—High Mass.
KÖNIGSBERG, 09.00—Service.
LEIPZIG, 09.00—Roman Catholic Service (contd. from 08.30). 09.15-09.45—Records of the London Madrigal Choir.
MORAVSKA-OSTRAVA, 09.00—"Silesian Teachers' Vocal Union. Conductor; Sigmund.
MOSCOW, 09.00—Light Music. 09.55—Time.
MUNICH, 09.00—Male Voice Choir. 09.20—"Bavarian Days and Seasons"—Sequence (Münsterer). Music by Sachsse.

- PRAGUE, 09.00—Band. 09.30—For Workers. 09.50—Records.
- STUTT GART, 09.00—Te Deum (contd. from 08.45). 09.50—Georg von Albrecht Concert. The Composer at the Pianoforte.
- VIENNA, 09.45—Schütz (Organ); Gehr (Soprano).
- WARSAW, 09.00—Time; Hymn; Gym. 09.25—Records. 09.35—News. 09.40—Records. 09.55—For Housewives.
- 10.00**
BERLIN, 10.00—Chimes; Weather.
BORDEAUX-LAFAYETTE, 10.30—See Strasbourg.
BRATISLAVA, 10.00—Roman Catholic Address. 10.15—Announcements. 10.20—Choir.
BRESLAU, 10.00—Reading. 10.20—String Quartet.
BRNO, 10.00—Russian Songs. 10.10—Talk.
BRUSSELS (No. 1), 10.00—Orchestra. Conductor: André.
BRUSSELS (No. 2), 10.00—Orchestra. Conductor: Walpot.
COLOGNE, 10.00—Orchestra and Choirs (contd. from 09.30).
FRANKFURT, 10.00—Protestant Service. 10.45—Choir.
HAMBURG, 10.00—Service (contd. from 09.55).
HILVERSUM, 10.00—Organ. 10.10—Service.
HUZEN, 10.00—High Mass (contd. from 09.20).
KALUNDBORG, 10.00—Service.
MOSCOW, 10.00—News.
MUNICH, 10.00—Protestant Service. 10.45—Chimes. 10.50—Reading.
PRAGUE, 10.00—Records. 10.10—See Brno. 10.30—Readings.
ROME, 10.30-10.50—Radio Rurale; Talk on Tripoli.
STOCKHOLM, 10.15—Records; Act II, "Tannhäuser" (Wagner).

- STRASBOURG, 10.30—Orchestra. Conductor: de Villers.
- STUTT GART, 10.00—Albrecht Concert (contd. from 09.50). 10.40—Ludwig Barthel Poems with Music.
- TURIN, 10.30—See Rome.
- VATICAN CITY, 10.00-10.15—Religious Information in Italian.
- VIENNA, 10.00—Schütz (Organ); Friedl Gehr (Soprano). 10.15—Marien Lieder.
- WARSAW, 10.00—Records. 10.30—Roman Catholic Service.
- ZEESEN, 10.00—News in English.
- 11.00**
BERLIN, 11.30—Caruso Records.
BORDEAUX-LAFAYETTE, 11.00—See Strasbourg.
BRESLAU, 11.00—String Quartet 11.30—Reading.
BRUSSELS (No. 1), 11.00—Orchestra. Conductor: Walpot.
BRUSSELS (No. 2), 11.00—The Radio Orchestra. Conductor: André.
BUDAPEST, 11.00—Records. 11.15—Protestant Service.
COLOGNE, 11.00—Reading. 11.15—Anton Nowakowski (Organ).
DEUTSCHLANDSENDER, 11.00—Reading. 11.15—Weather. 11.30—String Quartet in A minor (Schumann).
FRANKFURT, 11.00—Choir. 11.30—Radio Report of the Gliding at Rhön.
HAMBURG, 11.00—Service (contd. from 09.55). 11.15—Talk.
HILVERSUM, 11.00—Service. 11.40—Time; Records. 11.55—The Minstrels; Choir.
HUZEN, 11.10—Records.
KALUNDBORG, 11.00—Service (contd. from 10.00). 11.30—News.
KÖNIGSBERG, 11.05—News. 11.20—"Die Historie von der schönen Lau" (Mörke).

MONDAY May 21

11.00 (contd.)

LEIPZIG, 11.30—Hermann Burte reads.
MUNICH, 11.00—Reading. 11.15—Chamber Music.
OSLO, 11.15—Service. 11.50—Exchange.
PRAGUE, 11.00—Station Orchestra. Conductor: Jeremias.
STOCKHOLM, 11.00—Service.
STRASBOURG, 11.00—Orchestra. 11.15—Carnival from Wissembourg.
STUTTGART, 11.00—Poems with Music. 11.30—Prelude, Chromatic Fantasia and Fugue (Cesar Franck).
TOULOUSE (Radio-Toulouse), 11.00—Dance Refrains. 11.30—Orchestra. 11.45—Songs.
TURIN—11.30—Quintet.
VIENNA, 11.00—Reading. 11.20—Vienna Symphony Orchestra. Conductor: Konrath. Krottschak (Cello and Viola da Gamba).
WARSAW, 11.00—Roman Catholic Service (contd. from 10.30); Sacred Records. 11.57—Fanfare.
ZEESSEN, 11.30—Whitsuntide Music.

12.00

BARCELONA, 12.00—Chimes; Weather; Television.
BELGRADE, 12.05—Station Orchestra. 12.45—Announcements.
BERLIN, 12.00—See Hamburg.
BEROMÜNSTER, 12.00—Orchestra.
BORDEAUX-LAFAYETTE, 12.00—See Strasbourg. 12.30—Symphony Orchestra.
BRATISLAVA, 12.40—Military Band.
BRESLAU, 12.00—Silesian Philharmonic Orchestra from Bad Reinerz. Conductor: Kaufmann.
BRUSSELS (No. 1), 12.00—Felleman Orchestra.
BRUSSELS (No. 2), 12.00—Records.
BUCHAREST, 12.00—Records.
BUDAPEST, 12.30—Royal Hungarian Opera House Orchestra. Conductor: Fridl.
COLOGNE, 12.00—See Munich. 12.55—Greetings.
DEUTSCHLANDSENDER, 12.00—Greetings. 12.10—See 12.00 Breslau. 12.55—Time.
FRANKFURT, 12.00—See Stuttgart.
HAMBURG, 12.00—Grenzland Orchestra. Conductor: Röder.
HILVERSUM, 12.00—Minstrels; Choir.
HUIZEN, 12.00—Records. 12.10—Zwart (Organ).
JUAN-LES-PINS (Radio Côte d'Azur), 12.30—Amusement Guide; Concert.
KALUNDBORG, 12.00—Chimes. 12.05—The Station Orchestra. Conductor: Mahler. Overture, "Der Freischütz" (Weber). Three German Dances (Mozart). Ballet, "Rosamunde" (Schubert). Scherzo, "A Midsummer Night's Dream" (Mendelssohn). Waltz, "Der Rosenkavalier" (Strauss). Hungarian Rhapsody (Liszt).
KÖNIGSBERG, 12.00—Königsberg Opera House Orchestra. Conductor: Wöllner.
LAHTI, 12.00—Service in Swedish.
LEIPZIG, 12.00—Military Band.
MONTE CENERI, 12.00—News; Records. 12.29—Time; Weather. 12.33—Dance Music. 12.55—News.
MUNICH, 12.00—Military Band. OSLO, 12.55—Time.
PARIS (École Supérieure), 12.30—Orchestra. Conductor: Géoris.
PARIS (Poste Parisien), 12.00—Exchange. 12.05—Orchestra. 12.25—News. 12.35—Orchestra.
PARIS (Radio-Paris), 12.00—Krettl Orchestra. Movements, Surprise Symphony (Haydn). Adagio, Pathetic Sonata (Beethoven). Overture, "The Secret Marriage" (Cimarosa). Finale, Quartet in G minor (Brahms). Spinning Chorus, "The Flying Dutchman" (Wagner). Entr'acte, "Pet Dove" (Gounod). Overture, "Le lac des fées" (Auber). Noce villageoise (Godard). Selection, "The Pearl Fishers" (Bizet). Three Dances (German). Invocation à la nuit (Charpentier). Interlude (Grécourt). Melody (Stalin). Spanish Dance (Sarasate).
PRAGUE, 12.00—Chimes. 12.05—News. 12.15—Karel Hruska Programme. 12.40—See Bratislava.
RÔME, 12.30—Records.
SOTTENS, 12.29—Time; News. 12.40—The Small Radio Lausanne Orchestra. Conductor: Moser.
STOCKHOLM, 12.45—Exchange.
STRASBOURG, 12.00—Records. 12.45—News.

STUTTGART, 12.00—Military Band.
TOULOUSE (Radio Toulouse), 12.00—Military Band. 12.15—Sound Film Music. 12.30—News. 12.45—Request Music.
TURIN, 12.30—Records. 12.45—News.
VIENNA, 12.00—Vienna Symphony Orchestra. 12.30—Chamber Orchestra. Conductor: Wiesmann.
WARSAW, 12.05—Announcements. 12.15—Military Band.

13.00

BARCELONA, 13.00—For Women. 13.45—Records.
BELGRADE, 13.10—Station Orchestra. 13.30—Press Review; Time.
BERLIN, 13.00—News. 13.15—See Hamburg.
BEROMÜNSTER, 13.00—Orchestra. Conductor: Neppach. 13.30—For Farmers.
BRATISLAVA, 13.00—Military Band. Conductor: Langer. 13.45—13.50—Tides.

14.00

BARCELONA, 14.00—Records. 14.30—Theatre Notes; Records.
BERLIN, 14.00—News. 14.15—Records.
BEROMÜNSTER, 14.00—14.30—For Farmers.
BORDEAUX-LAFAYETTE, 14.00—Records.

15.00

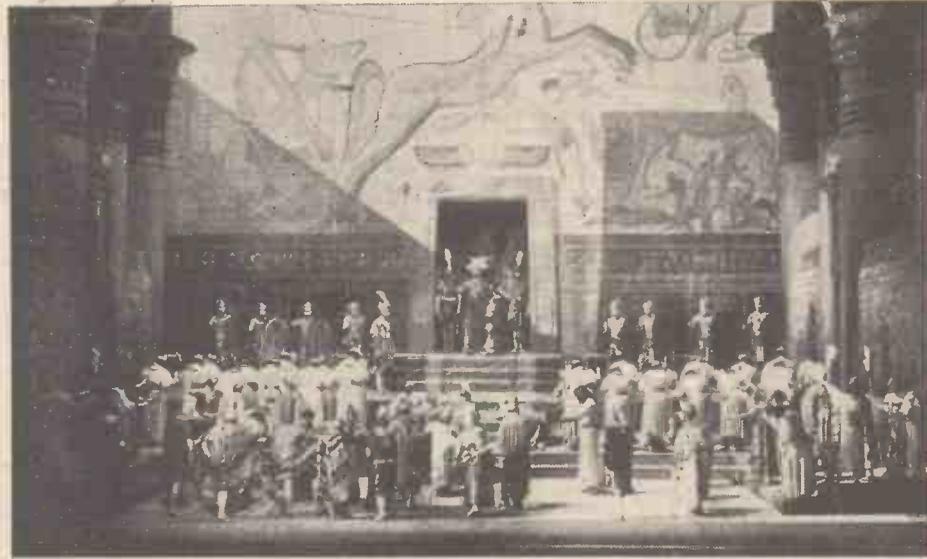
BARCELONA, 15.00—Sextet.
BERLIN, 15.00—Variety Programme. Part I. Children's Band. Part II. Radio Report from a Garden

16.00

BARCELONA, 16.00—For Hospitals.
BELGRADE, 16.00—For Children. 16.30—Records.
BERLIN, 16.00—The "Fröhlich" Orchestra, the Napoli Mandoline Club and the "Fünf Parodisters".
BEROMÜNSTER, 16.00—Orchestra.
BORDEAUX-LAFAYETTE, 16.00—Concert.
BRESLAU, 16.00—Silesian Symphony Orchestra. Conductor: Mundry. Marzony (Xylophone).
BUDAPEST, 16.00—Sports Report. 16.40—Hungarian Folk Songs.
COLOGNE, 16.00—"Bird-lore" (contd. from 15.35). 16.15—Children's Choir. 16.45—Whitsun Customs in Westphalia and Rhineland.
DEUTSCHLANDSENDER, 16.00—See Stuttgart.
FRANKFURT, 16.00—Wiesbaden Kurhaus Orchestra. Conductor: Thierfelder.
HAMBURG, 16.00—Nordmark Workers' Orchestra. Dream Waltz, "Der Feldprediger" (Müllöcker). Drinking Song Potpourri (Rhode). Strauss Potpourri (Lindemann).
HILVERSUM, 16.00—Bach Concert (contd. from 15.40). 16.55—Records.
HUIZEN, 16.10—Records. 16.40—Bouwmeester (Organ).
KALUNDBORG, 16.00—16.45—Orchestra (contd. from 14.45).
KAUNAS, 16.00—Orchestra. 16.30—For Farmers. 16.50—Songs.
KÖNIGSBERG, 16.00—Danzig Municipal Theatre Orchestra. Conductor: Ernst Kallipke.
LAHTI, 16.00—Records.
LEIPZIG, 16.00—Talk (contd. from 15.50). 16.10—Records. 16.30—Wanderlieder by Nagel (Bass).
MADRID (EAJ7), 16.00—Variety Music. 16.30—Sextet.
MONTE CENERI, 16.00—See Beromünster.
MORAVSKÁ-OSTRAVA, 16.00—Orchestra. Conductor: Plichta.
MOSCOW, 16.00—News. 16.30—Talk: Lenin and the Proletariat Dictatorship.
MUNICH, 16.00—See Stuttgart.
PARIS (École Supérieure), 16.00—Concert.
PARIS (Poste Parisien), 16.50—Exchange.
PARIS (Radio-Paris), 16.00—Comedies.
PITTSBURGH, 16.00—Uncle Tom and Betty. 16.15—Singing Strings. 16.30—Rhythm Ramblers. 16.45—Ella Graubert.
PRAGUE, 16.00—See Moravská-Ostrava.
RÔME, 16.30—Children's Radio Review. 16.50—News; Exchange.
SOTTENS, 16.00—See Beromünster.
STOCKHOLM, 16.00—Ender Orchestra.
STRASBOURG, 16.45—Talk: Tunis.
STUTTGART, 16.00—Orchestra. Conductor: Hahn. Lingor (Tenor). Operatic Programme.
TOULOUSE (Radio-Toulouse), 16.00—Songs. 16.15—Light Music. 16.30—Operetta Music.
TURIN, 16.00—Educational Programme; News; Records.
VIENNA, 16.00—Address by Dr. Dollfuss (contd. from 15.00). 16.30—The Vienna Symphony Orchestra. Conductor: Schönherr.
WARSAW, 16.00—For Children. 16.30—Records. 16.45—Reading.

17.00

BARCELONA, 17.15-17.30—Television.
BELGRADE, 17.00—Mejac (Organ).
BERLIN, 17.00—Running Commentary on the Rot-Weiss Tennis Tournament.
BEROMÜNSTER, 17.00—Talk by Johanna Siebel; Reminiscences of Childhood. 17.30—Zürich Zither Quartet.
BRATISLAVA, 17.30—Talk.
BRESLAU, 17.00—Orchestra (contd. from 16.00). In the interval, Reading.



The scene of Act I of "Aida," to be broadcast by Munich at 19.35

[Photo: Paganini.]

BRESLAU, 13.00—Orchestra (contd. from 12.00).
BRNO, 13.30-13.45—For Farmers.
BRUSSELS (No. 1), 13.00—News. 13.10—Records.
BRUSSELS (No. 2), 13.00—News. 13.10—Light Music by the Felleman Orchestra.
BUCHAREST, 13.00—Time; News. 13.15—Records.
BUDAPEST, 13.00—Orchestra (contd. from 12.30).
COLOGNE, 13.00—Johann Strauss Records.
DEUTSCHLANDSENDER, 13.00—See 12.00 Breslau.
FRANKFURT, 13.00—Records.
HAMBURG, 13.00—Grenzland Orchestra.
HILVERSUM, 13.00—Minstrels; Choir. 13.55—Recitation.
HUIZEN, 13.00—Zwart (Organ). 13.40—Relay of the Y.W.C.A.'s Festival Service from the Noorderkerk, Middelburg.
JUAN-LES-PINS (Radio Côte d'Azur), 13.00—News. 13.15—Concert.
KALUNDBORG, 13.05—For Housewives. 13.15—Records. 13.45—Reading.
KÖNIGSBERG, 13.00—Königsberg Opera House Orchestra (contd. from 12.00).
LAHTI, 13.00—Service in Swedish.
LEIPZIG, 13.00—The Dresden Philharmonic Orchestra. Conductor: Schestak.
MONTE CENERI, 13.00—News. 13.05—Dance Music. 13.15-13.30—Cookery.
MUNICH, 13.00—Records.
OSLO, 13.00—Records; For Farmers; Exchange.
PARIS (École Supérieure), 13.00—Orchestra.
PARIS (Poste Parisien), 13.00—Station Orchestra. 13.05—Exchange. 13.15—Station Orchestra.
PARIS (Radio-Paris), 13.00—Krettl Orchestra (contd. from 12.00).
PRAGUE, 13.00—See Bratislava.
13.30-13.45—For Farmers.
REYKJAVIK, 13.00—Service.
RÔME, 13.00—Records. 13.30—Time; News; Exchange. 13.45—Records.

BRESLAU, 14.00—News. 14.10—For Women. 14.40—Dialect Programme with Records.
BUDAPEST, 14.00—Orchestra (contd. from 12.30). 14.20—Records.
COLOGNE, 14.00—Reading. 14.10—"Die Fröhlichen Fünf." Edmund Kirst and Walter Wielsch (Pianofortes).
DEUTSCHLANDSENDER, 14.00—Children sing Whitsuntide Songs.
FRANKFURT, 14.00—Records. 14.30—Report; A Breisgau Whitsun Custom.
HAMBURG, 14.00—For Children.
HILVERSUM, 14.00—Recitation. 14.25—Records.
HUIZEN, 14.00—Y.W.C.A. Programme (contd. from 13.40).
KALUNDBORG, 14.10—Accordion Duets. 14.45—The Station Orchestra. Conductor: Gröndahl. Elna Seidenfaden (Songs). Overture, "The Maid of Orleans" (Söderman). Zorahayda (Svendson). Romanian Folk Dance (Bartok). Selection, "Eugene Onegin" (Tchaikovsky). Romance in C (Sibelius). Homage March, "Sigurd Jorsalfar" (Grieg). Norwegian Songs. Overture, "Il Guarany" (Gomez). Folk Melody (Tarp). Three Pieces (Glass). Selection, "Il Trovatore" (Verdi). Russian Dance.
KÖNIGSBERG, 14.00—Reading: Danzig in the Last Sixty Years. 14.15—Talk: Whitsuntide in Old Königsberg. 14.30—Records.
LAHTI, 14.00—Children's Service.
LEIPZIG, 14.00—Orchestra (contd. from 13.00). 14.30—For Farmers. 14.50—Old German Chamber Music by the Leipzig Soloists' Choir and the Symphony Orchestra. Conductor: Sammler.
MADRID (EAJ7), 14.00—Chimes; Time; Announcements; Music. 14.30—Sextet.
MUNICH, 14.00—Time; News. 14.10—For Farmers. 14.30—Munich Concert Orchestra. Conductor: Planer.
OSLO, 14.00—Relay from a Teachers' Congress at Kongsvinger.
PARIS (École Supérieure), 14.00—Light Music.
PARIS (Poste Parisien), 14.00—Exchange.

Suburb. Part III. "Die Geburtstagslaube." Play (Robert Seitz). 15.45—For Farmers.
BRESLAU, 15.00—Dialect Programme with Records. 15.30—Fairy Play for Children.
BUDAPEST, 15.00—Records. 15.30—Talk.
COLOGNE, 15.00—"Die Fröhlichen Fünf" (contd. from 14.10). 15.15—Talk: Albert Schweitzer. 15.35—"Bird-lore"—Sequence, with Music and Bird Songs.
DEUTSCHLANDSENDER, 15.00—Gisela Binz (Pianoforte). 15.40—Records: The Model Plane Competition on the Wasserkuppe, Rhön.
FRANKFURT, 15.00—See Stuttgart.
HAMBURG, 15.00—Folk Instrumental Music by the Fahrende Musikanten Mandoline and Guitar Society. Lindow (Accordion). Conductor: Dammann. 15.40—Reading (Löns).
HILVERSUM, 15.00-15.25—Records. 15.40—Bach Concert. Conductor: Albert van Raalte. Hélène Cals (Soprano); Annie Hermes (Contralto); Denijs (Bass). Kyrie, Duet and Dona nobis pacem. Cantata, "Ich will den Kreuzstab." Fugue in A minor. Cantata, "Also hat Gott die Welt."
KALUNDBORG, 15.00—Orchestra (contd. from 14.45).
KÖNIGSBERG, 15.00—Records. 15.05—Whitsuntide Songs and Customs. 15.40—See Deutschlandsender.
LAHTI, 15.00—Gym.
LEIPZIG, 15.00—Chamber Music (contd. from 14.50). 15.30—Reading: "The Arabian Nights." 15.50—Talk: The Economic Relations between Germany and Poland.
MADRID (EAJ7), 15.00—Amusement Guide; Exchange; Music. 15.30—Sextet.
MONTE CENERI, 15.59—Time.
MOSCOW, 15.15—For Children. 15.55—Time.
MUNICH, 15.00—Orchestra (contd. from 14.30). 15.20—Musical Programme. 15.40—See Deutschlandsender.
OSLO, 15.00-15.30—Teachers' Congress Relay (contd. from 14.00).
PARIS (École Supérieure), 15.00—Orchestra.

17.00 (cont.)

BRNO, 17.30—Records. 17.55—German Transmission; Prologue and Scene from Goethe's "Faust"; Records: Organ Music. BRUSSELS (No. 1), 17.00—Symphony Orchestra. Conductor: Kumps. BRUSSELS (No. 2), 17.00—The Radio Orchestra. 17.45—For Children. BUCHAREST, 17.00—Orchestra. BUDAPEST, 17.00—Hungarian Folk Songs (cont. from 16.40). 17.40—Talk with Records. COLOGNE, 17.00—Dance Music by Harry Blum's Band. DEUTSCHLANDSENDER, 17.00—"The Coachmen's Guild"—Report of the old Mansfield Whitsuntide Custom. 17.50—"Whitsuntide among the Animals"—Gala Variety. HAMBURG, 17.00—Lower-Saxon Music by Käthe Glenewinkel, Jutta Engelke, Amely Schmidt (Soprano), Dorothea Grelle (Contralto), Grobecker (Baritone), Pflug (Bass), Lower Saxon Quartet. Tiedge, Lehnhoff (Pianofortes). HILVERSUM, 17.00—Records. 17.10—Kovacs Lajos Orchestra. In the interval, Records. HUIZEN, 17.00—Organ (cont. from 16.40). 17.25—Records. 17.55—Beethoven Concert. N.C.R.V. Orchestra. Conductor: Hurk. Keessen (Violin). Leonora Overture. Violin Concerto in D. Jena Symphony. KALUNDBORG, 17.00—Service. KÖNIGSBERG, 17.00—Talk: Cruising. 17.20—Orchestra (cont. from 16.00). KAUNAS, 17.00—Songs. 17.10—Talk: Chemistry. 17.30—Orchestra. LAHTI, 17.00—Talks. 17.35—Pianoforte Recital. 17.59—Time; Weather. LEIPZIG, 17.00—Reading (Ludwig Thoma). 17.30—Dance Music. MONTE CENERI, 17.00—See Beromünster. MORAVSKÁ-OSTRAVA, 17.00—Orchestra: Conductor: Plichta. 17.30—Talk. 17.45—Records. MOSCOW, 17.00—Talk (cont. from 16.30). 17.30—Talk for the Red Army: Sharp-Shooting. MUNICH, 17.00—See 16.00 Stuttgart. 17.30—"Der Ehrendoktor"—Comedy (Engasser). OSLO, 17.15—Light Music. PARIS (École Supérieure), 17.00—Concert. PARIS (Radio-Paris), 17.00—Records. 17.30—Adison Orchestra. PITTSBURGH, 17.00—KDKA Orchestra. 17.15—Honey Boy and Sassafras. 17.30—Vic and Sade. 17.45—Lloyd Huntley's Orchestra. PRAGUE, 17.00—See Moravská-Ostrava. 17.30—Theatre Talk. 17.45—Records. 17.55—German Transmission: "Whitsun"—Radio Scene. REYKJAVIK, 17.00—Variety. ROME, 17.00—Vocal and Instrumental. Luisa Carlevarini (Violin), Vania Massara (Soprano) and Cavagnis (Tenor). Violin: (a) Allegretto (Boccherini-Kreisler), (b) Waltz (Reger-Dushkin). Song (Respighi). Song (Zandonati). Arias: "Luisa Miller" (Verdi). "Mignon" (Thomas), "Manon Lescaut" (Puccini). Serenade (Rachmaninov-Press). Russian Dance (Fairchild). Enchantement (Massenet). Emigma (Zanella). 17.55—Weather: Corn Prices. SOTTENS, 17.00—See Beromünster. STOCKHOLM, 17.00—Weather. 17.05—Reading. 17.35—Sonata in D for Cello and Pianoforte (Mendelssohn)—Gunnar Norrby and Witkowski. STRASBOURG, 17.00—Records. STUTTGART, 17.00—Orchestra (cont. from 16.00). TOULOUSE (Radio-Toulouse), 17.00—The Dansant. 17.45—Orchestra. TURIN, 17.00—Educational Programme; News; Records. VIENNA, 17.00—Vienna Symphony Orchestra. Conductor: Schönherr. WARSAW, 17.00—Talk: Podolia. 17.15—"Lobet den Herrn."—Oratorio (Bach). The Station Symphony Orchestra, the Polish Orchestra and Soloists. Conductor: Kazuro.

18.00

ATHLONE, 18.00—Records. 18.45—News. BELGRADE, 18.00—Mejac (Organ). 18.25—Time; Announcements. 18.30—German Lesson. BERLIN, 18.00—"so zwitschern die Jungen"—Humorous Scenes (Mühlen-Schulte). Music by Günther Neumann. 18.40—Vocal and Instrumental Recital. BEROMÜNSTER, 18.00—Talk. 18.30—Organ. BORDEAUX-LAFAYETTE, 18.15—News.

BRATISLAVA, 18.00—Poems. 18.10—Hungarian Transmission. BRESLAU, 18.00—Orchestra (cont. from 16.00). 18.30—Talk: Domestic Architecture. 18.45—Reading. BRNO, 18.00—German Transmission (cont. from 17.55). BRUSSELS (No. 1), 18.00—Travelogue: Dover to London. 18.15—Records. 18.30—Bouquette ("Cello). Sonata (Dambois). Kol Nidrei (Bruch). Intermezzo (Granados-Cassados). Capriccio (Hindemith). BRUSSELS (No. 2), 18.00—For Children. 18.30—Records: Extracts, "Tannhäuser" (Wagner). BUCHAREST, 18.00—Time; News. 18.15—Orchestra. Potpourri, "The Land of Smiles" (Lehar). Andante (Beethoven). Kol Nidrei (Bruch). Souvenir (Herbert). Slav Dance (Dvorak). BUDAPEST, 18.00—Talk (cont. from 17.40). 18.25—Humorous Dialogue. COLOGNE, 18.00—Dance Music. DEUTSCHLANDSENDER, 18.00—"Whitsuntide among the Animals" (cont. from 17.50). FRANKFURT, 18.00—Talk: Animals. 18.20—Old Flemish Folk Songs with Introductory Talk. Kees Veening (Baritone), Tony Jaekel (Lute), Gerhard Rühl (Violin), and Ulrich Gebal (Flute). HAMBURG, 18.00—Reading (Frank). 18.15—For Young People. HILVERSUM, 18.00—Kovacs Lajos Orchestra. 18.40—Talk: Motoring Excursions in Holland. HUIZEN, 18.00—Beethoven Concert (cont. from 17.55). 18.55—Records. KALUNDBORG, 18.00—Service (cont. from 17.00). 18.20—Dialogue: Songs in Daily Life. 18.50—Weather. KAUNAS, 18.00—Talk. 18.20—Educational Programme. 18.40—Records. KÖNIGSBERG, 18.00—Talk: Old Danzig Whitsuntide Customs. 18.25—Duet for Two Violins (Spohr). LAHTI, 18.10—Talk. 18.30—Lithuanian Songs. 18.55—Talk. LEIPZIG, 18.00—Dance Music. 18.30—Talk: Old German Towns. MADRID (EAJT), 18.00—Chimes; Light Music. MOSCOW, 18.00—Talk (cont. from 17.30). 18.30—Pianoforte and Violin Music by Liszt, Ravel, Wieniawski and Beethoven. MUNICH, 18.00—Comedy (cont. from 17.30). 18.45—Concert. PARIS (École Supérieure), 18.00—Talk. 18.15—News. OSLO, 18.00—Light Music. 18.15—Radio Report. 18.45—Cally Monrad (Sacred Songs). PARIS (Poste Parisien), 18.45—Exchange. 18.49—Talk: Science. 18.57—Records; Les Préludes (Liszt). PARIS (Radio-Paris), 18.00—Adison Orchestra. 18.40—Book Review. PITTSBURGH, 18.00—Market Reports. 18.15—Lloyd Huntley's Orchestra. 18.30—Farm and Home Hour. PRAGUE, 18.00—German Transmission (cont. from 17.55). 18.55—News in German. ROME, 18.30—News in Foreign Languages. SOTTENS, 18.00—For Children. 18.30—Accordion. STOCKHOLM, 18.00—Talk: Swedes in Persia. 18.30—Records. STRASBOURG, 18.00—Talk: Voltaire and England. 18.15—Reading. 18.30—Orchestra. Conductor: de Villers. Overture, "Die schöne Galathée" (Suppé). Valse des blondes (Ganne). La Feria (Lacôme). Selection, "Hans, the Flute-Player" (Ganne). Hungarian Rhapsody (Liszt). Andalusian March (Krier). STUTTGART, 18.00—Talk with Records. 18.40—Russian Music. The Berlin Russian Church Choir. Conductor: Jgramonov. TOULOUSE (Radio Toulouse), 18.00—News. 18.15—Military Band. 18.45—Orchestra. TRIESTE, 18.30—News in Foreign Languages. TURIN, 18.00—18.10—For Farmers. 18.30—News in Foreign Languages. VIENNA, 18.00—Vienna Symphony Orchestra. 18.10—Talk: Sealfield. 18.40—Time; Announcements. 18.55—"Lohengrin"—Opera in Three Acts (Wagner), from the State Opera House. In the Interval: News. WARSAW, 18.00—Songs. 18.20—For Soldiers. 18.45—Records.

19.00

ALGIERS, 19.00—Records. ATHLONE, 19.00—Irish Lesson. 19.15—Talk: Gilbert and Sullivan. 19.30—Station Orchestra: Irish Music. BARCELONA, 19.00—Trio. In the Interval at 19.30: News.

BARI, 19.40—News in Alban; Weather. BELGRADE, 19.00—Orchestra. Songs. 19.30—Station Orchestra. BERLIN, 19.00—Vocal and Instrumental (cont. from 18.40). 19.40—Sports Report. BEROMÜNSTER, 19.00—Time: Sports Notes. 19.10—Records. 19.40—Reading. BORDEAUX-LAFAYETTE, 19.30—Announcements. 19.35—Bordeaux Week. 19.50—Lottery Results. BRATISLAVA, 19.05—Talk. 19.20—Dance Music. BRESLAU, 19.00—Schubert, Brahms and Wolf Lieder by Hedda Ditmar (Soprano). 19.30—Sports Report. BRNO, 19.05—Talk. BRUSSELS (No. 1), 19.00—Records. 19.30—Theatre and Film Review. BRUSSELS (No. 2), 19.00—Records: Extracts, "Tannhäuser" (Wagner). 19.30—Theatre Review. BUCHAREST, 19.00—Educational Talk. 19.20—Songs. 19.45—Talk. BUDAPEST, 19.00—Humorous Dialogue (cont. from 18.25). 19.10—Marguerite Hächt (Pianoforte). 19.40—Talk. COLOGNE, 19.00—See Frankfurt. 19.30—A Visit to the Army Transport Department in Münster (on Records). DEUTSCHLANDSENDER, 19.00—"Whitsuntide Among the Animals" (cont. from 17.50). 19.35—See Munich. In the Interval, News. FRANKFURT, 19.00—Radio Report from Trier of the VDA Procession. 19.30—"The Young Mozart" Sonatas (Violin, Pte. Lenzewski and Seufert). 19.50—Sports Review. HAMBURG, 19.00—Flensburg Wanderkantorei. Conductor: Ilse Struck. 19.35—Sports Notes. 19.50—Weather. HILVERSUM, 19.00—Talk (cont. from 18.40). 19.10—Pianoforte. 19.40—Time; News. 19.55—Orchestra: Opera Music. Conductor: van Raalte. The Excelsior Choir. Conductor: Diamant. Hélène Cals (Soprano). Selection, "Der Freischütz" (Weber), "Lohengrin" (Wagner), "Faust" (Gounod) and "Tannhäuser" (Wagner). HUIZEN, 19.00—Records. 19.10—N.C.R.V. Orchestra. Conductor: Hurk. KALUNDBORG, 19.00—News; Time. 19.30—Talk: Social Economy. KAUNAS, 19.00—Time; Weather. 19.05—Labour Report. 19.25—Programme from the National Theatre. KÖNIGSBERG, 19.00—See Frankfurt. 19.30—Talk: The Whitsuntide Rifle Shooting Festivals. 19.45—Sports. LAHTI, 19.15—Violin. 19.35—Recitations. LEIPZIG, 19.00—"Judith and Holofernes"—Burlesque (Nestroy), with Music by Menzel and Itzel. MADRID (EAJT), 19.00—News; Choir. 19.30—Exchange; Medical Talk; Orchestra. MONTE CENERI, 19.44—News. MOSCOW, 19.00—Pianoforte and Violin (cont. from 18.30). News in the intervals. 19.30—News. MUNICH, 19.00—Concert. 19.15—News. 19.25—To be announced. 19.35—"Aida"—Opera in Four Acts (Verdi) from the State Theatre. OSLO, 19.00—Cally Monrad (Sacred Songs). 19.15—News. 19.30—Time; Talk. PARIS (École Supérieure), 19.30—Records. 19.45—Aviation. 19.53—Assurance Societies' Report. PARIS (Poste Parisien), 19.00—Records: Les Préludes (Liszt). 19.10—News. 19.30—Gardening Talk. 19.38—Theatre Guide. 19.45—Records. PARIS (Radio-Paris), 19.00—Radio-Paris Circus. 19.30—Topical Talk. PITTSBURGH, 19.00—Farm and Home Hour. 19.30—KDKA Home Forum. PRAGUE, 19.00—News. 19.05—To be announced. 19.30—See 19.20 Bratislava. 19.55—Talk on the 20.00 Transmission. ROME, 19.00—News in Foreign Languages. 19.25—Shipping. 19.30—Time; News. 19.40—Records. 19.55—News. SCHENECTADY, 19.00—Soloist. 19.15 Health Hunters. 19.30—Woman's Radio Review. SOTTENS, 19.00—Accordion Solos. 19.05—Talk in Italian: The Balzac of Paolo Arcari. 19.30—Letter-box. 19.59—Weather. STOCKHOLM, 19.00—Records. 19.15—News. 19.30—"A Waltz Dream"—Operetta in Three Acts (Straus). STRASBOURG, 19.00—Orchestra (cont. from 18.30). 19.30—Time; News. 19.45—Records.

STUTTGART, 19.00—Russian Music (cont. from 18.40). 19.10—Recital. The Spring Sonata (Beethoven). Violin and Pianoforte Pieces. 19.50—Sports Notes. TOULOUSE (Radio-Toulouse), 19.00 Light Music; News; Songs. TRIESTE, 19.00-19.30—News in Foreign Languages. TURIN, 19.00—News in Foreign Languages. 19.40—Records. 19.55—News. VATICAN CITY, 19.00-19.15—Religious Information in Italian. VIENNA, 19.00—"Lohengrin" (Wagner) (cont. from 18.55). WARSAW, 19.00—Announcements. 19.30—Polish Records. 19.45—Theatre Review. 19.50—Great Thoughts. 19.52—The Station Symphony Orchestra. Conductor: Oziminski. Mossoczy (Bass). Overture, "William Tell" (Rossini). Prelude and Berceuse (Järnefelt). Fanfare, "Der Trompeter von Säckingen" (Nessler). Arias, "The Barber of Seville" (Rossini), "La Juive" (Halévy), "Lakmé" (Delibes), Suite, "Sylvia" (Delibes). ZEESEN, 19.00—News in English.

20.00

ALGIERS, 20.00—Exchange. 20.10—Shipping. 20.45—Harpisichord. ATHLONE, 20.00—C. Manning (Anglo-Irish Songs). 20.15—Hardebeck (Pianoforte). 20.30—Flynn (Gaelic Songs). 20.40—Station Orchestra. BARCELONA, 20.00—Records. 20.20—Sports Notes. 20.30—Exchange; Talk in Catalan. BELGRADE, 20.00—Station Orchestra. 20.20—Announcements. 20.30—Opera from the National Theatre. In the Interval: Time; News. BERLIN, 20.00—The Four Sly Old Foxes—Biedermeier Farce in Three Acts (Decker-Bars). Music by Goetze. BEROMÜNSTER, 20.00—Zürich Boys' Music Society; Yodelling Octet. BORDEAUX-LAFAYETTE, 20.00—Records. 20.15—News. 20.30—Symphony Orchestra. Conductor: Guitraud. Vadier, and Giraud (Songs). BRESLAU, 20.00—See Leipzig. BRUSSELS (No. 1), 20.00—Station Orchestra. Conductor: André. Mlle. Baritza (Songs). Fischers (Cello). BRUSSELS (No. 2), 20.00—The Symphony Orchestra. Conductor: Kumps. Overture, "The Magic Flute" (Mozart). Symphony in G (Haydn). Leonora Overture No. 3 (Beethoven). Ballad (Pelemans). Heksensabbat (de Schrijver). 20.45—Talk. BUCHAREST, 20.00—Pianoforte Duets. 20.30—Talk. 20.45—Vocal Quartet Recital. BUDAPEST, 20.00—Talk (cont. from 19.40). 20.15—Choir. COLOGNE, 20.00—Sports Notes. 20.15—Whitsun Concert. Station Orchestra. Conductors: Kühn and Eysoldt. The Chamber Choir. Conductor: Breuer. Soloists. DEUTSCHLANDSENDER, 20.00—See 19.35 Munich. FRANKFURT, 20.00—Stuttgart-Frankfurt-Hamburg Inter-Relay. Station Orchestras and Choirs. HAMBURG, 20.00—Stuttgart-Frankfurt-Hamburg Inter-Relay. Station Orchestras and Choirs. HILVERSUM, 20.00—Orchestra (cont. from 19.55). 20.40—Recitation. HUIZEN, 20.00—Orchestra (cont. from 19.10). 20.10—Recitation. 20.55—Records. JUAN-LES-PINS (Radio Côte d'Azur), 20.00—News. 20.20—Concert. KALUNDBORG, 20.00—Chimes. 20.05—Eighteenth Century German Chamber Music. Quartet in G for Flute, Viola, Cello and Harpsichord (C. P. E. Bach). Trio Sonata in D for Flute, Violin, Cello, and Harpsichord (Keiser). 20.35—Reading. 20.50—Records: German Folk Music. KAUNAS, 20.00—Programme from the National Theatre. KÖNIGSBERG, 20.00—"Frühlingsluft"—Operetta in Three Acts (Reiterer, after Strauss). LAHTI, 20.00—Orchestra. 20.45—News in Finnish. LEIPZIG, 20.00—Opera Music. The Leipzig Symphony Orchestra. Conductor: Blumer. Edith Laux-Heidenreich (Soprano), Daum (Tenor), and Horand (Baritone). MADRID (EAJT), 20.00—Orchestra. 20.30—News; Sextet. MONTE CENERI, 20.00—See Beromünster. MOSCOW, 20.00—Extracts, "The Snow Maiden"—Opera (Rimsky-Korsakov). MUNICH, 20.00—"Aida"—Opera (cont. from 19.35).

MONDAY May 21

OSLO, 20.00—Station Orchestra. Conductor: Hugo Kramm. PARIS (École Supérieure), 20.00—Records. 20.30—Symphony Concert by the National Orchestra. Conductor: Desormière. Cottavoz (Songs), Roland Chamy (Violin), and Alice Merkel (Viola). Overture, "Patrie" (Bizet). Mother Goose Suite (Ravel). Aria, "Le Tableau parlant" (Grétry). Aria, "Le Roi d'Ys" (Lalo). Violin and Viola: Symphonie concertante (Mozart). Aria, "L'Enfant et le Sortilège" (Ravel). Aria, Schéhérazade (Ravel). Kikimora (Liadov). The Flight of the Bumble Bee (Rimsky-Korsakov). Impressions d'Italie (Charpentier). PARIS (Poste Parisien), 20.00—Fashion Talk. 20.10—Variety by Régnier and Company. 20.40—Exchange. 20.55—Records. PARIS (Radio-Paris), 20.00—Chamber Music. Gentil Quartet. Yvonne Brothier (Songs). Sonata in C sharp (Breville). Songs. "Cello Solos. Trio (Ravel). In the Interval: News. PITTSBURGH, 20.00—Radio Guild. PRAGUE, 20.00—"The Secret"—Three-Act Opera (Smetana), from the Opera House. REYKJAVIK, 20.45—For Children. ROME, 20.05—Records. 20.30—Government Notes. 20.45—See Turin. SCHENECTADY, 20.00—Woman's Radio Review. SOTTENS, 20.00—Jaques Ehrhart Pianoforte Recital by Mme. Gayrath-Defrancesco and the Composer. Variations on a Gouvy Theme. Waltz Suite in F. 20.30—Cabaret. STOCKHOLM, 20.00—"A Waltz Dream" (cont. from 19.30). STRASBOURG, 20.00—Announcements; Records. 20.30—See Paris (École Supérieure). STUTTGART, 20.00—Stuttgart-Frankfurt-Hamburg Inter-Relay. Station Choirs and Orchestras. TOULOUSE (Radio-Toulouse), 20.00—Instrumental Music. 20.15—Operetta Music. 20.45—Opera Music. TURIN, 20.05—Records. 20.30—Government Notes. 20.45—Request Records. VIENNA, 20.00—"Lohengrin" (Wagner) (cont. from 18.55). WARSAW, 20.00—Orchestra (cont. from 19.52). 20.50—News. ZEESEN, 20.15—Chamber Orchestra. Conductor: Drwenski.

21.00

ALGIERS, 21.02—Records. 21.30—Concert Version, "Aida"—Opera (Verdi), on Records. ATHLONE, 21.00—Sketch by Mai Neville and Company. 21.30—Popular Programme. BARCELONA, 21.00—Educational. 21.10—Talk. 21.20—Records. 21.30—For Children. 21.45—News. BELGRADE, 21.00—Opera Relay (cont. from 20.30). BERLIN, 21.00—Biedermeier Farce (cont. from 20.00). BEROMÜNSTER, 21.00—News. 21.10—Operetta Programme. BORDEAUX-LAFAYETTE, 21.00—Orchestra (cont. from 20.30). BRESLAU, 21.00—See 20.00 Leipzig. BRUSSELS (No. 1), 21.00—Records. 21.15—Waltzes, from Weber to Ardit, by the Station Orchestra. BRUSSELS (No. 2), 21.00—Orchestra. (cont. from 20.00). 21.15—Pauline Arenstein (Pianoforte). Intermezzo (Schumann). Waltzes (Schubert). 21.30—Orchestra (cont.). Adagio for Strings (Lekeu). Symphonic Variations (Gilsou). BUCHAREST, 21.00—Vocal Quartet. 21.45—Records. BUDAPEST, 21.00—Choir. 21.45—Sports Notes. COLOGNE, 21.00—Concert (cont. from 20.15). DEUTSCHLANDSENDER, 21.00—See 19.35 Munich. FRANKFURT, 21.00—Inter-Relay (cont. from 20.00). HAMBURG, 21.00—Inter-Relay (cont. from 20.00). HILVERSUM, 21.00—Light Music. Henk Viskil (Tenor). 21.40—Records. HUIZEN, 21.00—News. 21.10—Concert from The Hague. Bach Choir, Orchestra and Soloists. Conductor: Schellevis. Whitsun Cantata (Bach). Concerto grosso in F minor (Locatelli). "Alles was Ihr tut"—Cantata (Buxtehude). O Jesulein (Selle). Vom Namen Jesu (Schütz). Organ Concerto in G minor (Handel).

MONDAY May 21

21.00 (contd.)

JUAN-LES-PINS (Radio Côte d'Azur), 21.00—News. 21.15—L'Amour et le Voyageur—Play in Three Acts (Morand).
 KALUNDBORG, 21.00—Records: German Folk Music. 21.10—Dance Music.
 KAUNAS, 21.00—Programme from the National Theatre.
 KÖNIGSBERG, 21.00—"Frühlingsluft"—Operetta (Strauss) (contd. from 20.00). 21.40—Humorous Stories.
 LAHTI, 21.00—News in Swedish.
 LEIPZIG, 21.00—Leipzig Symphony Orchestra (contd. from 20.00).
 MADRID (EAJ7), 21.00—Sextet. 21.15—Sports; Sextet.
 MONTE CENERI, 21.00—Reading. 21.10—See Beromünster.
 MOSCOW, 21.00—Talk in German: The Soviet Youth. 21.55—Chimes.
 MUNICH, 21.00—"Aida"—Opera (contd. from 19.35).
 OSLO, 21.00—Orchestra. Conductor: Kramm. 21.10—Poems. 21.40—News.
 PARIS (École Supérieure), 21.00—Symphony Concert (contd. from 20.30).
 PARIS (Poste Parisien), 21.00—Records.
 PARIS (Radio-Paris), 21.00—Chamber Music (contd. from 20.00). In the Interval: News; Review by Reboux.
 PITTSBURGH, 21.00—Betty and Bob. 21.15—Tea Time Tunes. 21.30—Market Reports. 21.45—Orlando's Cosmopolitians.
 PRAGUE, 21.00—"The Secret" (Smetana) (contd. from 20.00).
 REYKJAVIK, 21.00—For Children. 21.10—Weather. 21.25—Music. 21.50—Announcements.
 ROME, 21.00—See Turin. 21.45—Talk: Art.
 SOTTENS, 21.00—Cabaret (contd. from 20.30). 21.15—News. 21.25—Cabaret (contd.).
 STOCKHOLM, 21.00—"A Waltz Dream" (contd. from 19.30). 21.45—News.
 STRASBOURG, 21.00—See 20.30 Paris (École Supérieure).

STUTT GART, 21.00—Inter-Relay (contd. from 20.00).
 TOULOUSE (Radio-Toulouse), 21.00—Soloist Programme. 21.15—"Carmen"—Opera in Four Acts (Bizet). In the Interval—News.
 TURIN, 21.00—Request Records. 21.45—The Station Quartet, Rita De Vincenzi (Soprano), Gallino, Ciliberti (Flute), Savina (Clarinet), De Rosa (English Horn) and Rita Galeati (Harp). Intermezzo and Allegro (Ravel). Suite agreste (Ferro). Oracion del torero for String Quartet (Turina). Adagio (Tedesco).
 VIENNA, 21.00—"Lohengrin" (Wagner) (contd. from 18.55).
 WARSAW, 21.00—Talk. 21.15—Uminska (Violin Recital).

22.00

ALGIERS, 22.00—"Aida" (Verdi) on Records. 22.55—News.
 ATHLONE, 22.00—Popular Programme. 22.30—Time; News. 22.40—MacAonghusa (Pipes) and O'Higgins (Fiddle).
 BARCELONA, 22.00—Chimes; News. 22.10—Humorous Review of the Week. 22.20—Sardanas.
 BELGRADE, 22.00—Opera Relay (contd. from 20.30).
 BERLIN, 22.00—News. 22.30—Dance Music.
 BEROMÜNSTER, 22.00—Operetta Programme. 22.15—Sports Report.
 BRATISLAVA, 22.45—News in Hungarian.
 BRESLAU, 22.00—Records. 22.20—Time; News. 22.50—Dance Music from Berlin.
 BRUSSELS (No. 1), 22.00—News. 22.10—Dance Records.
 BRUSSELS (No. 2), 22.00—News. 22.10—Dance Records.
 BUCHAREST, 22.00—News.
 BUDAPEST, 22.00—Sports Notes. 22.10—Magyar Cigány Band.
 COLOGNE, 22.00—Time; News. 22.20—Orchestra.
 DEUTSCHLANDSENDER, 22.00—News. 22.10—See 19.35 Munich.
 FRANKFURT, 22.00—Variety. 22.20—Time; News. 22.35—Inter-Relay (contd. from 20.00). 22.45—News.
 HAMBURG, 22.00—News. 22.35—Inter-Relay (contd. from 20.00).
 HILVERSUM, 22.00—Records. 22.40—Dance Music.

HUIZEN, 22.00—Concert (contd. from 21.10). 22.40—Records.
 JUAN-LES-PINS (Radio Côte d'Azur), 22.00—"L'Amour et le Voyageur"—Play (contd. from 21.15).
 KALUNDBORG, 22.00—Dance Music. In the intervals at 22.10 and 22.32 (approx.)—Relay from the Palace Theatre: Jan Kiepura singing in the Sound Film, "Tell me To-night."
 KAUNAS, 22.00—Programme from the National Theatre.
 KÖNIGSBERG, 22.00—News. Dance Music from Berlin.
 LEIPZIG, 22.00—News; Sports. 22.30—Dance Records.
 MADRID (EAJ7), 22.00—Chimes. 22.10—Records: An Opera.
 MONTE CENERI, 22.00—22.15—See Beromünster.
 MOSCOW, 22.05—Talk in English: Rationalisation in the U.S.S.R.
 MUNICH, 22.00—News. 22.10—"Aida"—Opera (contd. from 19.35).
 OSLO, 22.00—Topical Talk.
 PARIS (École Supérieure), 22.00—Symphony Orchestra (contd. from 20.30). 22.30 (approx.)—News; Dance Music.
 PARIS (Poste Parisien), 22.00—Records. 22.10—Jazz Records. 22.40—Exchange.
 PARIS (Radio-Paris), 22.00—Chamber Music (contd. from 20.00). 22.30—Dance Music.
 PITTSBURGH, 22.00—Your Health. 22.15—KDKA Kiddies' Klub. 22.30—The Singing Lady. 22.45—Orphan Annie.
 PRAGUE, 22.00—"The Secret" (Smetana) (contd. from 20.00). 22.30—News. 22.45—News in German. 22.50—Talk in German.
 REYKJAVIK, 22.00—Chimes; News. 22.30—Talk.
 ROME, 22.00—Talk (contd. from 21.45). 22.10—Light Music.
 SOTTENS, 22.00—Talk: The Work of the League of Nations.
 STOCKHOLM, 22.00—Dance Music.
 STRASBOURG, 22.00—22.30—See 20.30 Paris (École Supérieure).
 STUTT GART, 22.00—News. 22.20—Time; News. 22.35—Inter-Relay (contd. from 20.00).
 TOULOUSE (Radio Toulouse), 22.00—"Carmen" (Bizet) (contd. from 21.15).

TURIN, 22.30—Dance Music.
 VIENNA, 22.00—"Lohengrin" (contd. from 18.55). 22.50—Cigány Music from Budapest.
 WARSAW, 22.00—News. 22.10—Records.

23.00

BARCELONA, 23.00—Reading. 23.10—Station Orchestra: Musical Comedy Extracts.
 BELGRADE, 23.00—Opera Relay (contd. from 20.30).
 BERLIN, 23.00—Dance Music.
 BRESLAU, 23.00—See Berlin.
 BRUSSELS (No. 1), 23.00—Dance Records.
 BRUSSELS (No. 2), 23.00—Dance Records.
 BUDAPEST, 23.00—Magyar Cigány Band. 23.30—Dance Music.
 COLOGNE, 23.00—Orchestra.
 DEUTSCHLANDSENDER, 23.00—Weather. 23.15—See 23.00, Munich.
 FRANKFURT, 23.00—Inter-Relay (contd. from 20.00).
 HAMBURG, 23.00—Inter-Relay (contd. from 20.00).
 HILVERSUM, 23.00—Dance Music.
 KALUNDBORG, 23.00—Dance Music.
 KÖNIGSBERG, 23.00—See Berlin.
 LEIPZIG, 23.00—See Munich.
 MADRID (EAJ7), 23.00—News. 23.15—Opera (contd. from 22.10). News.
 MADRID (EAQ), 23.30—Light Music. 23.45—News.
 MOSCOW, 23.05—Talk in Hungarian: The Spring Sowing.
 MUNICH, 23.00—Dance Music.
 OSLO, 23.00—Dance Records.
 PARIS (Radio-Paris), 23.00—Dance Music.
 PITTSBURGH, 23.00—Musical Potpourri. 23.15—Baseball. 23.30—Comedy Stars. 23.45—Lowell Thomas.
 PRAGUE, 23.00—Talk (contd. from 22.50). 23.05—Records. 23.10—Political Talk.
 REYKJAVIK, 23.00—Popular Airs; Vocal Quartet; The Brandenburg Concerto (Bach), on Records.
 ROME, 23.00—News.
 SCHENECTADY, 23.40—Stock Reports.

STUTT GART, 23.00—Inter-Relay (contd. from 20.00).
 TOULOUSE (Radio-Toulouse), 23.00—"Carmen" (Bizet) (contd. from 21.15). 23.30—Orchestra. 23.45—Songs.
 TURIN, 23.00—News.

VIENNA, 23.00—See Budapest; News.
 WARSAW, 23.00—Weather; Police Notes. 23.05—Dance Music.

00.00 (Tuesday)

BARCELONA, 00.00—Dance Music.
 BERLIN, 00.00—Dance Music.
 BRESLAU, 00.00—See Berlin.
 COLOGNE, 00.00—Dance Records.
 DEUTSCHLANDSENDER, 00.00—See Munich.
 FRANKFURT, 00.00—"Othello"—Opera in Four Acts (Verdi) (Records). La Scala Cast.
 KALUNDBORG, 00.00—Chimes. 00.05—Dance Music.
 KÖNIGSBERG, 00.00—See Berlin.
 LEIPZIG, 00.00—See Munich.
 MADRID (EAJ7), 00.00—Opera (contd. from 22.10). 00.45—News.
 MADRID (EAQ), 00.00—Catalan Programme.
 MUNICH, 00.00—Dance Music.
 PITTSBURGH, 00.00—Amos 'n' Andy. 00.15—Baby Rose Marie. 00.30—To be announced. 00.45—Frances Ingram.
 SCHENECTADY, 00.00—Comments on Current Events. 00.30—Voice of Firestone.
 STUTT GART, 00.00—See Frankfurt.
 TOULOUSE (Radio-Toulouse), 00.00—News. 00.05—"Au Caveau de Minuit"—Radio Fantasy. 00.15—Operetta Music.

01.00

BARCELONA, 01.00—News.
 FRANKFURT, 01.00—"Othello" (contd. from 00.00).
 KALUNDBORG, 01.00—Dance Music.
 MADRID (EAJ7), 01.00—Chimes.
 PITTSBURGH, 01.00-06.00—Popular Programme.
 SCHENECTADY, 01.00-03.00—Popular Programme.
 STUTT GART, 01.00—See 00.00 Frankfurt.

The International Lawn-Tennis Championships of France, the principal full-dress tournament before Wimbledon, take place at the Stade Roland-Garros, Auteuil, from May 20. During the succeeding fortnight, most of the Paris stations will broadcast running commentaries on outstanding matches.

The French Championships, about to begin in Paris, take second place after Wimbledon in the world calendar of international lawn tennis meetings. Like Wimbledon, the tournament is extended to a fortnight's play. There, however, the resemblance ceases. The French championships have not enjoyed international status long enough to have gained anything like the revered traditions of Wimbledon—and they probably never will. Nothing can be more foreign to French characteristics and temperament than the hoary and dignified traditions so beloved of the British race. As soon might we expect to find Wimbledon turf springing up on the French burnt-clay courts.

Only twice, at the end of each week, for the finals—the first week is confined to doubles, the second to singles—are the stands at the Stade Roland-Garros at all crowded. For the rest, the meeting is a paradise for connoisseurs of the game, who may choose at their leisure and need never miss a stroke in the selected matchés. There are many reasons for the dearth of spectators, the chief among them probably being the long distances between Paris and the big provincial centres, and the fact that sport among the general French public is of comparatively recent growth.

But the championships have already taken their place as something typically and charmingly French in atmosphere. The Stade Roland-Garros, which is reached by an avenue of chestnut trees—if you will, in a fussy little tram-car that billows along like a ship at sea—is

The French Wimbledon

(From our Paris Correspondent)

delightfully set in the Auteuil corner of the Bois de Boulogne, where shady paths and smiling flower-beds make a day's lawn tennis something more than a mere sporting event. It has all the intimacy, and not too much of the opulence, of a country club, and in few other stadiums can the relations between players and spectators, mingling at the dressing-room entrance, be more informal.

The Stade Roland-Garros was built in the recent heyday of French lawn tennis, when the prowess of H. Cochet, R. Lacoste, J. Borotra, and J. Brugnon had brought the coveted Davis Cup across the Atlantic for a sojourn of six years. Six hard courts are laid out in the midst of the trees, separated by pleasant paths along which spectators saunter at their ease, to concentrate at the huge score-board whereon a zealous band of sign-writers inscribe results telephoned to them as soon as matches are won and lost. Then there is the centre court, at the bottom of a well of concrete stands which seat 12,500 people. It was on this court that France defended the Davis Cup for so long. Its rather slow-playing surface earned it the reputation in exasperated American eyes of having been "specially built for Henri Cochet!"

Many of the matches played on this centre-court have now passed into the annals of the game, mingled with stories of the chauvinism of an over-excited crowd (for English terms in calling the score are strictly taboo), the pet habits of umpires, and the feats of the peppermint-sellers, who, with unerring aim, can throw their wares to prospective customers high up in the gods, so to speak, and catch the coins flung down to them with greater ease

than most people can catch a cricket ball.

There it was that many of the classic duels between Cochet and W. T. Tilden were fought, always to the advantage of Cochet until last year, when Tilden, meeting his old foe in professional raiment, showed what a great master of the game he still is by completely turning the tables. Here, too, in 1932, the regrettable incident of Borotra's shoes in his match against W. Allison played its part, in American opinion, in France's retention of the Davis Cup for another year. One could enumerate scores of dramatic incidents—such as the physical collapse of Vines in a Davis Cup match against Perry last year—that have occurred on this court, where the atmosphere is always tense and anything may happen. High up, on a platform near the electric score-board, are the "movie" operators and the microphones through which the French running commentaries are made. It is not Wimbledon, certainly. The almost pastoral atmosphere of those green swards has no place here in the din of battle fought on brick-red courts.

An Englishman has never won the international Singles Championship of France. The next best thing was last year, when J. H. Crawford, of Australia, wrested it from Cochet before going on to his crown at Wimbledon. But Great Britain made increased encroachments upon the French stronghold last year, for Miss M. C. Scriven was the woman champion, winning, with Crawford, the Mixed Doubles as well, while Perry and G. P. Hughes won the Doubles Championship. It would have been a clean British sweep had not Miss B. Nut-hall and Mrs. E. F. Whittingstall, the favourites, struck a bad patch in the Ladies' Doubles.

And now—"Service!"

(A photograph of the Stade Roland-Garros appears on p. xii.)

NATIONAL

For Time Signals, see Monday 10.15 (Daventry)—Daily Service. 10.30 (Daventry)—Weather Forecast. 10.45-11.00 (Daventry)—"The Wise Penny." "A Sixpenny Cake and Others." Emelie Waller. 12.00—Cinema Organ (Reginald New). 12.30—Commodore Grand Orchestra. 12.30—Commodore Records. Vocal and Instrumental Recital. 14.00—The Midland Studio Orchestra. 15.00 (Daventry and North)—The Torquay Municipal Orchestra. Mary Hamlin (Soprano). Orchestra: Overture, Vanity Fair (Fletcher); Oriental Fantasy, Yishma El (Jalowicz). Mary Hamlin and Orchestra: Aria, Batti, Batti (Don Giovanni) (Mozart). Orchestra: Pastorale Suite, Three Woodland Dances (Haines); Piece for Small Orchestra, In a Twilight dim with Rose (Parker). Mary Hamlin; Berceuse, Angels guard thee (Godard). Orchestra: Waltz, Wine, Woman and Song (Strauss). Mary Hamlin; Mary of Alendale (Hook); Spring's Awakening (Sanderson). Orchestra: Selection, The Geisha (Jones). 16.30 (Daventry and North)—Light Classical Concert. The Serre Trio. 17.15 (Daventry)—The Children's Hour. 17.15 (except Daventry)—The B.B.C. Dance Orchestra. 18.00—"The First News." 18.25—Interlude. 18.30—The Foundations of Music. Beethoven's Pianoforte Sonatas, played by Edward Isaacs. 18.50—German Talk. Max Kroemer. 19.20—The Gershom Parkington Quintet. Jan van der Gucht (Tenor). Quintet: Selection, Cavalleria Rusticana (Mascagni); Funeral March of a Marionette (Gounod). Jan van der Gucht; Phillis has such charming graces (Young); The sweet little girl that I love (Hook); The pretty creature (Storace). Quintet: Irish Fantasy (Mulder); Berceuse (Cui); The Butterfly's Wooing (De Blonc). Jan van der Gucht; May Day Carol; The Early Morning (Peel); Sign no more (Aikin). Quintet; Adagio and Corente (Eccles); Galanteria (Ferraris); Simonetta (Curzon); Until (Sanderson). 20.30—The Web of Thought and Action. "Speaking our Minds." Professor H. Levy. A discussion. 21.00—"The Second News." 21.20—A Pianoforte Recital by Dorothy Hildreth. 21.45—Act III of Wagner's Opera, "The Mastersingers," relayed from Covent Garden. Conductor, Sir Thomas Beecham. 23.35-24.00 (Daventry)—Dance Music. Roy Fox and his Band.

REGIONAL

For Time Signals, see Monday 10.15-11.00 (ex. Midland)—Daventry. 12.00 (ex. Scottish)—Scottish Studio Orchestra. Horace Wilson (Tenor). 12.00-13.30 (Scottish)—The Opening of The General Assembly of the Church of Scotland. Devotional Service relayed from St. Giles' Cathedral, Edinburgh. 12.45 (approx.)—Prospect's of this year's Assembly. 13.00—The Opening Ceremony relayed from The Hall of Assembly, Edinburgh. 13.15 (except Scottish)—An Organ Recital by F. E. Bailey. 13.30 (Scottish)—Records. 14.00—The Birmingham Hippodrome Orchestra. 15.00-17.15 (ex. Midland)—Daventry. 17.15—The Children's Hour. 18.00—"The First News." 18.30 (London and Midland)—The Midland Studio Orchestra. Eric Cross (Tenor). 18.30 (North)—"Common Property"—2. Mr. E. R. Thompson. 18.30 (Scottish)—Oriental Music. The Studio Orchestra. Maud Kerr (Soprano). 18.30 (West)—"The Western On-looker." A Regional Review. 18.45 (West)—Organ Recital. Ernest Maynard from Bath Abbey. 18.50 (North)—Some Countryside Music. The Studio Orchestra. 19.30 (except Midland and Scottish)—"Hurdy Gurdy." A selection of songs from the stage, screen and drawing-room which have been or might have been accorded the immortality of the barrel organ. 19.30 (Midland)—"Trapping the Musk rats in Shropshire." 19.30 (Scottish)—Variety relayed from The Tivoli Theatre, Aberdeen. 19.50 (Midland)—Lilian Evetts (Pfte.). 20.15 (except Midland and Scottish)—The Wireless Military Band. The Duet Players. 20.15 (Scottish)—Scots Folk Songs. Anne Ballantine (Contralto). Alexander Carmichael (Baritone). Florence MacBride (Violin). 20.20 (Midland)—Music of Handel. The Studio Chorus (Women's voices). The Birmingham Philharmonic String Orchestra. 21.15—Natalie Hall in "Puritan Lullaby." A new operetta. Book and lyrics by James Dyrenforth. Music by Kenneth-Leslie-Smith. Cast also includes: George Baker; Webster Booth; Renee de Vaux; Arabella Tulloch; Phoebe Hodgson; Charles Barret; Dennis Hoey; Leslie Bradley; Vivienne Chatterton; Peter Penrose. The B.B.C. Theatre Orchestra and Chorus. 22.15—"The Second News." 22.30-24.00 (Midland till 23.35)—Roy Fox and his Band.

EMPIRE SUMMARY

For wavelengths, see S.W. List Transmission 1 (GSD, GSB) B.S.T. 05.30—Big Tom. British Dance Bands.† 06.00—One-act Comedy.* 06.30—British Composers—Ht. Overture, The Wreckers (Ethel Smyth). Stuart Robertson (Bass-Baritone): Bright is the Ring of Words; Silent Noon; The Roadside Fire (Vaughan Williams). The Perfect Fool, Dance of the Spirits of the Earth; The Planets, Jupiter and Uranus (Holst). 07.15—Empire News. 07.30—Whit Monday Bank Holiday* 07.35—Close Down. Transmission 2 (GSH, GSG) 12.00—Big Tom. Cinema Organ (Reginald New). 12.30—The Commodore Grand Orchestra. 13.15—Organ recital by F. E. Bailey. 14.00—The Birmingham Hippodrome Orchestra. 14.30—Close Down. Transmission 3 (14.45—17.00 GSF, GSE; 17.00—18.45 GSE, GSB) 14.45—Big Tom. Empire News. 15.00—Opening of the Shakespeare Season. George W. Bishop. 15.05—The Torquay Municipal Orchestra. Mary Hamlin (Soprano). 15.45—Sports Talk.* "The Australian Team." Mr. Howard Marshall. 16.00—Troise and his Mandoliers with Don Carlos (Tenor).† 16.45—The Serre Trio. 17.15—The B.B.C. Dance Orchestra. 17.55—(See 15.00)* 18.00—Empire News (second reading). 18.15—A Recital of British Music.* The Wireless Singers. Ernest Lush (Pianoforte). 18.45—Close Down. Transmission 4 (GSD, GSB) 19.00—Big Tom. Empire News. 19.15—(See 15.00)* 19.20—Dance Music.† 19.30—"Hurdy Gurdy." 20.15—The Wireless Military Band. The Duet Players. 21.15—London Regional Programme. 22.15—"The Mastersingers" (Wagner). An excerpt from Act III, relayed from Covent Garden. 22.35—Roy Fox and his Band. 23.15—Empire News. 23.30—(See 15.00)* 23.35—Close Down. Transmission 5 (GSD, GSC) 00.00—Big Tom. A Recital by Maurice Vinden (Organ) and F. Weisst Hill (Violin). 00.45—Sports talk* (See 15.45). 01.00—An Orchestral Programme.† 01.45—Empire News. 02.00—(See 15.00)* 02.05—Close Down. * Electrical Recording. † Gramophone Records.

TUESDAY May 22

PRINCIPAL EVENTS

CONCERTS

19.45 Hilversum: Light orchestral and instrumental. 20.00 Bucharest: Symphony concert. 20.00 Oslo: Orchestral, conductor, Kramm. 20.15 Leipzig and German stations: "Bach's Sons." 20.15 Warsaw: Professor Urstein Jubilee. 20.40 Huizen: Symphony concert by K.R.O. Orchestra. 21.00 Deutschlandsender: Wagner programme. 21.15 Sottens: Popular English dances. 21.20 Stockholm: Choral concert. 21.25 Cologne: The Cologne Male Voice Choir. 22.00 Breslau: Orchestral concert. 22.15 Oslo: Old Norwegian dances. 22.30 Leipzig, Berlin, etc.: Old Peasant Music. 23.00 Königsberg, Deutschlandsender: Orchestra.

OPERAS, OPERETTA

20.30 Ecole Supérieure, etc.: "The Star" (Chabrier). 20.55 Turine: "Don Giovanni" (Mozart) from Florence. 21.00 Kalundborg: "Faust" (Gounod) Acts II and III. 21.15 Hamburg: "The Oracle" (Fleischer). 21.45 National: "The Mastersingers" (Wagner) Act III, from Covent Garden.

CHAMBER MUSIC

19.50 Stockholm: Chamber Orchestra and arias. 20.00 Brussels No. 1: Quintet (Mozart), organ, songs. 20.25 Sottens: Quartets (Mozart, Chausson). 21.30 Poste Parisien: Quartet (Beethoven). 22.25 Vienna: String Quintet (Prohaska). 23.00 Munich: Trios (Raphael, Brahms). 23.00 Stuttgart, Frankfurt: Alsatian composers.

RECITALS

20.00 Budapest: Violin (Zathureczky). 21.00 Breslau: Chopin pianoforte music.

PLAY AND TALK

20.00 Brussels No. 2: "Peer Gynt" (Ibsen) with Griegs' music. 22.05 Budapest: Talk (in English): "Two sieges of Budapest: British soldiers defend the Hungarian capital."

DANCE MUSIC

22.10 Brussels No. 2; 22.30, Radio Paris, Prague, Warsaw; 23.00, Budapest, Kalundborg.

MISCELLANEOUS

21.30 Radio Paris: An evening with Liszt and Mme. D'Agout.

Hours of Transmission in British Summer Time.

05.00 DEUTSCHLANDSENDER, 05.45—News. FRANKFURT, 05.45—Hymn; Time; Weather. 05.50—Gym. HAMBURG, 05.45—Time; Weather; For Farmers. KÖNIGSBERG, 05.50—Weather. MOSCOW, 05.00—Fanfare. 05.30—News. 05.45—Gym. STUTTGART, 05.35—For Farmers; Weather. 05.45—Hymn; Tide; Weather. 05.50—Gym. 06.00 BERLIN, 06.00—Greetings; Gym. 06.15—Weather; Meditation. 06.20—Orchestra. BEROMÜNSTER, 06.30-06.15—Gym. BRESLAU, 06.00—Time; Weather; Gym. 06.15—Hymn; Motto. 06.25—Military Band. BUDAPEST, 06.45—Gym. COLOGNE, 06.00—Hymn. 06.05—Records. 06.30—Gym. 06.50—Time; News. DEUTSCHLANDSENDER, 06.00—Gym. 06.15—Motto. 06.20—See Berlin. FRANKFURT, 06.15—Time; News. 06.25—Gym. 06.50—Weather. 06.55—Records. HAMBURG, 06.00—Gym. 06.15—Time; Weather. 06.20—See Berlin. KÖNIGSBERG, 06.00—Gym. 06.20—See Berlin. LEIPZIG, 06.00—For Farmers. 06.05—Gym. 06.25—See Breslau. MOSCOW, 06.15—Programme Notes. 06.30—Records. MUNICH, 06.30—Gym. 06.45—Motto; Records. PARIS (Radio-Paris), 06.45—Gym. PRAGUE, 06.00—Time; Gym; Music. SOTTENS, 06.00—Gym. STUTTGART, 06.00—Gym. 06.15—Time; News. 06.25—Gym. 06.50—Weather. 06.55—Records.

07.00 BERLIN, 07.00—News. 07.20—Orchestra. BRESLAU, 07.00—Time; News. 07.10—Military Band. BUDAPEST, 07.00—Records. COLOGNE, 07.00—Hymn; Records. DEUTSCHLANDSENDER, 07.00—News. 7.20—See Berlin. FRANKFURT, 07.00—Records. HAMBURG, 07.00—Time; News; Motto. 07.20—See Berlin. HILVERSUM, 07.40—Time. 07.41—Records. HUIZEN, 07.40—Records. KALUNDBORG, 07.00—Gym. KÖNIGSBERG, 07.00—News. 07.20—See Berlin. LEIPZIG, 07.00—News. 07.10—See Breslau. MOSCOW, 07.15—Light Music. MUNICH, 07.00—Records. 07.15—Time; News. 07.25—Quartet. PARIS (Poste Parisien), 07.10—Fanfare; Records. In the Intervals, News. PARIS (Radio-Paris), 07.00—Records. 07.15—News. 07.45—Gym. PRAGUE, 07.00-07.15—News. ROME, 07.45—Gym. STOCKHOLM, 07.20—Gym. 07.45—Prayers. STUTTGART, 07.00—Records. TURIN, 07.45—Gym. WARSAW, 07.00—Time; Hymn. 07.05—Gym. 07.25—Records. 07.35—News. 07.40—Records. 07.55—For Housewives. 08.00 BARCELONA, 08.15—News. BERLIN, 08.00—Gym. 08.30—Announcements; Records. BRESLAU, 08.00—Military Band. 08.30—For Women. 08.50—Cookery. COLOGNE, 08.00—News. 08.05—Gym for Women. 08.20—Cookery. DEUTSCHLANDSENDER, 08.45—Gym. FRANKFURT, 08.00—Records. 08.15—Tides; Weather. 08.20-08.40—Gym.

HAMBURG, 08.00—Weather; For Women. 08.15—Wireless Notes. 08.30—Announcements; Records. HILVERSUM, 08.00—Records. HUIZEN, 08.00-08.55—Records. KALUNDBORG, 08.30—Cathedral Service. KÖNIGSBERG, 08.00—Prayers. 08.30—Gym. LEIPZIG, 08.00—Gym. 08.20—Records. LYONS (La Doua), 08.00—News. MOSCOW, 08.00—Light Music. 08.15—For Children. PARIS (Poste Parisien), 08.00—Records. 08.45—Cookery. PARIS (Radio-Paris), 08.00-08.30—Records. ROME, 08.00-08.15—News. STOCKHOLM, 08.00—Weather. STUTTGART, 08.00—Records. 08.15—Tides; Weather. 08.20-08.40—Gym. TOULOUSE (Radio-Toulouse), 08.00—Dance Refrains. 08.30—News. 08.35—Orchestra. 08.45—Songs. TURIN, 08.00-08.20—News. WARSAW, 08.00—Programme Announcements. 09.00 BARCELONA, 09.00—Chimes; Gym. Records. 09.20—News. BERLIN, 09.00—Records. 09.30—For Women. 09.45—For Children. BRATISLAVA, 09.45—Announcements. BRESLAU, 09.00—News. BUDAPEST, 09.45—News. FRANKFURT, 09.25—Concert. HILVERSUM, 09.00—Records. 09.40—Time. 09.55—Records. HUIZEN, 09.40—Records. LEIPZIG, 09.00—For Women. 09.40—Exchange. 09.45—Announcements. 09.55—Weather. MADRID (EAJ7), 09.00—News. MOSCOW, 09.00—Light Music. 09.55—Time. MUNICH, 09.50—For Housewives. PRAGUE, 09.50—News. STUTTGART, 09.00-09.15—For Women.

VIENNA, 09.00—News. 09.20—Market Prices. 09.30—Weather. 10.00 BARCELONA, 10.00—Obituary. BERLIN, 10.00—News. 10.10—Market Prices. BRATISLAVA, 10.10—News in Hungarian; Weather. 10.15—Cinema Organ. 10.45—Records. BUDAPEST, 10.00—Talk; Records. COLOGNE, 10.00—Time; News. 10.10—For Schools. 10.30—Two Talks. DEUTSCHLANDSENDER, 10.00—News. 10.10—Folk Song Records. 10.50—For Children. FRANKFURT, 10.00—News. 10.45—For Housewives. HAMBURG, 10.50—News. HILVERSUM, 10.00—Records. 10.40—Cookery. HUIZEN, 10.10—Concert. 10.40—Records. KÖNIGSBERG, 10.40—News. LYONS (La Doua), 10.30—Concert. MADRID (EAJ7), 10.00-10.30—Exchange; Announcements. MOSCOW, 10.00—News. 10.05—News in German. 10.10—Records. STUTTGART, 10.00—News. 10.10—Records. 10.35—Organ. STRASBOURG, 10.30—Orchestra. VATICAN CITY, 10.00-10.15—Religious Information in English. VIENNA, 10.50—Tides. ZEESEN, 10.00—News in English. 10.15—Extract, "Figaro" (Mozart). 11.00 BELGRADE, 11.00—Announcements. Orchestra. 11.20—Tides; Orchestra. 11.59—Time. BERLIN, 11.25—Exchange. BRATISLAVA, 11.0—Tides. BRESLAU, 11.00—Time; News. 11.45—For Farmers. BRUSSELS (No. 1), 11.55—Weather. BRUSSELS (No. 2), 11.57—Weather. BUDAPEST, 11.00—Records. 11.10—Tides.

COLOGNE, 11.00—Talk. 11.30—Announcements; Records. DEUTSCHLANDSENDER, 11.15—Weather. 11.30—Talk: Paul Wamke. 11.45—Intermezzo (Brahms). FRANKFURT, 11.00—Concert. 11.40—Announcements; Exchange. 11.50—Social Notes. HAMBURG, 11.00—Operetta and March Records. HILVERSUM, 11.00—Cookery. 11.10—Wilhelmine Meder (Cello). Sara-bande (Meder). Two Bourrées (Bach). Larghetto (Mozart-Cassado). Two Guitars (Popper). Tarantella (Popper). 11.40—Time; Records. 11.55—Light Music; Records. HUIZEN, 11.00—Records. 11.10—Religious Address. 11.40—Police Notes. 11.55—KRO Sextet. Conductor: Lustenhouwer. March. Pizzicati (Stabel). Selection, "La Traviata" (Verdi). Dance (Cham-inade-Lustenhouwer). Godard Pot-pourri (Urbach). Records. Whimsical Charms (Fresco). Piece (Micheli). Selection, "The Pearl Fishers" (Bizet). Waltz (Wald-teufel). Nocturne (Chopin). Malaga (Sentis). Sarie Marijs (arr. Ciere). KALUNDBORG, 11.00—Weather; Announcements. KÖNIGSBERG, 11.05—For Farmers. 11.30—Records. LEIPZIG, 11.00—Post Office Propaganda; Records. 11.30—For Farmers. 11.40—Weather. 11.50—News; Time. MORAVSKÁ-OSTRAVA, 11.00—Record. 11.05—Military Band. MUNICH, 11.05—Market Prices; Time; News. 11.30—Post Office Propaganda; Records. OSTLO, 11.15—Service. 11.50—Exchange. PRAGUE, 11.00—See Moravská-Ostrava. 11.55—For Farmers. STRASBOURG, 11.00—Orchestra. STUTTGART, 11.00—Organ. 11.05—Songs to the Lute. 11.25—Post Office Propaganda; Records. 11.55—Weather. TURIN, 11.30—Records.

TUESDAY May 22

11.00 (cont.)

VIENNA, 11.30—Italian. 11.55—Weather.
WARSAW, 11.40—News. 11.50—Ari Notes. 11.57—Fanfare.
ZEESEN, 11.00—Extract "Figaro" (Mozart).

12.00

BARCELONA, 12.00—Chimes; Weather; Television.
BELGRADE, 12.00—Chimes. 12.05—Orchestra. In the Interval. Announcements.
BERLIN, 12.00—Accordion Music. BEROMÜNSTER, 12.00—Radio Orchestra. Conductor: Neppach. 12.29—Time; News. 12.40—Radio Orchestra: Waltzes and Intermezzi.
BORDEAUX-LAFAYETTE, 12.00—See Strasbourg.
BRATISLAVA, 12.10—Local News in Slovak. 12.20—Record.
BRESLAU, 12.00—Orchestra. Conductor: Pöschke.
BRUSSELS (No. 1), 12.00—Light Music.
BRUSSELS (No. 2), 12.00—Records. BUCHAREST, 12.00—Records.
BUDAPEST, 12.00—Chimes. 12.05—Concert.
COLOGNE, 12.00—Orchestra from Solingen. 12.45—Greetings.
DEUTSCHLANDSENDER, 12.00—Weather; Greetings. 12.10—Records; Weather. 12.55—Time.
FRANKFURT, 12.00—Military Band.
HAMBURG, 12.00—For Housewives. 12.05—Time; Announcements. 12.15—Accordion Music from Berlin.
HILVERSUM, 12.00—Light Music.
HUIZEN, 12.00—Sextet (contd. from 11.55).
JUAN-LES-PINS (Radio Côte d'Azur), 12.30—Amusement Guide; Variety.
KALUNDBORG, 12.00—Chimes. 12.5—String Ensemble.
KAUNAS, 12.00—Time; News.
KÖNIGSBERG, 12.00—See Berlin. In the Interval, News.
LEIPZIG, 12.00—See Berlin.
LYONS (La Doua), 12.00—See Strasbourg. 12.30—Concert.
MONTE CENERI, 12.00—News; Records. 12.29—Time; Weather. 12.33—Orchestra. 12.55—News.
MUNICH, 12.00—Records.
OSLO, 12.55—Time.
PARIS (Poste Parisien), 12.00—Exchange. 12.05—Records. 12.25—News. 12.35—Records.
PARIS (Radio-Paris), 12.00—Pascal Orchestra. Soloists.
PRAGUE, 12.00—Time; For Farmers. 12.10—Records. 12.25—News. 12.35—Orchestra.
REYKJAVIK, 12.00—Weather.
ROME, 12.30—Records.
SOTTENS, 12.29—Time; News; Records.
STOCKHOLM, 12.30—Weather. 12.45—Exchange. 12.55—Time.
STRASBOURG, 12.00—Orchestra. Conductor: de Villers. 12.45—News.
STUTTGART, 12.00—See Frankfurt.
TOULOUSE (Radio-Toulouse), 12.00—Orchestra. 12.15—Sound Film Music. 12.30—News. 12.45—Request Music.
TURIN, 12.00—Records. 12.45—News.
VIENNA, 12.00—Tyrolean Folk Music on Records. 12.30—Records.
WARSAW, 12.05—Records. 12.30—Weather. 12.33—Records. 12.55—News.

13.00

ATHLONE, 13.30—Time; Weather; Exchange; Records.
BARCELONA, 13.00—For Women. 13.45—Records.
BELGRADE, 13.00—Orchestra. 13.30—News.
BERLIN, 13.00—News. 13.15—Berlin Opera Productions (on Records).
BEROMÜNSTER, 13.00—Radio Orchestra: Waltzes and Intermezzi. 13.25—Time; Weather.
BORDEAUX-LAFAYETTE, 13.00—See Strasbourg.
BRATISLAVA, 13.45—News in German and Hungarian; Weather.
BRESLAU, 13.00—Orchestra. (Conductor: Pöschke. 13.20—Time; News. 13.35—Orchestra.
BRNO, 13.35—For Tradesmen.
BRUSSELS (No. 1), 13.00—News. 13.10—Records.
BRUSSELS (No. 2), 13.00—News. 13.10—Orchestra.
BUCHAREST, 13.00—Time; News. 13.15—Records.
BUDAPEST, 13.00—Concert. 13.30—Cigany Band.
COLOGNE, 13.00—Orchestra from Solingen. 13.45—Announcements.

DEUTSCHLANDSENDER, 13.00—Records.
FRANKFURT, 13.00—Time; News. 13.20—See Stuttgart. 13.50—Time; News.
HAMBURG, 13.00—Exchange. 13.15—Weather. 13.20—Light Music.
HILVERSUM, 13.00—Light Music.
HUIZEN, 13.00—Sextet (contd. from 11.55). 13.40—For Women.
JUAN-LES-PINS (Radio Côte d'Azur), 13.00—News. 13.15—Concert.
KALUNDBORG, 13.00—String Ensemble.
KÖNIGSBERG, 13.00—Weather; Records; News. 13.30—Records.
LEIPZIG, 13.00—News; Time. 13.10—Records.
LYONS (La Doua), 13.00—News. 13.15—Concert.
MONTE CENERI, 13.00—News. 13.05—13.30—Orchestra.
MUNICH, 13.00—Time; News. 13.25—Orchestra. Conductor: Kloss.
OSLO, 13.00—Records. In the intervals, Weather; For Farmers; Exchange.
PARIS (Poste Parisien), 13.00—Records. 13.30—Exchange. 13.35—Records.
PARIS (Radio-Paris), 13.00—Pascal Orchestra. In the interval: News.
PRAGUE, 13.00—Orchestra. 13.35—Labour Exchange. 13.45—Records. 13.55—Exchange.
ROME, 13.00—Records. 13.10—See Turin. In the interval at 13.30—Time; News; Exchange.
SOTTENS, 13.00—Exchange. 13.05—Records.
STRASBOURG, 13.00—Time; Exchange. 13.05—Orchestra. Conductor: de Villers.
STUTTGART, 13.00—Time; News. 13.20—Records. 13.50—Time; News.
TOULOUSE (Radio-Toulouse), 13.00—Amusement Guide; Time. 13.05—Military Band. 13.15—Opera Arias. 13.30—Orchestra. 13.45—Songs.
TURIN, 13.00—Time; News. 13.10—Quintet; Records.
VIENNA, 13.00—Time; News. 13.10—Records.
ZEESEN, 13.30—News in English.

14.00

ATHLONE, 14.00—14.30—Records.
BARCELONA, 14.00—Records. 14.30—Theatre Notes; Records.
BERLIN, 14.00—News. 14.15—Records.
BORDEAUX-LAFAYETTE, 14.00—Records.
BRATISLAVA, 14.05—14.10—Exchange.
BRESLAU, 14.00—Orchestra (contd. from 13.55). 14.20—Exchange. 14.25—Post Office Propaganda; Records. 14.50—For Farmers. 14.55—News. 12.35—Orchestra.
BUDAPEST, 14.00—Cigany Band.
COLOGNE, 14.00—Records. 14.45—Market Prices.
DEUTSCHLANDSENDER, 14.45—News.
FRANKFURT, 14.00—See Stuttgart. 14.40—For Women.
HAMBURG, 14.00—Light Music. 14.15—News. 14.30—Wagner Records.
HILVERSUM, 14.00—Light Music. 14.10—Betsy van Praag (Pianoforte). 14.40—Dressmaking.
HUIZEN, 14.00—For Women. 14.40—Dressmaking.
KALUNDBORG, 14.00—Sacred Music from Aarhus Cathedral.
KÖNIGSBERG, 14.00—News. 14.15—Records. 14.30—Post Office Propaganda; Records.
LEIPZIG, 14.00—14.15—News; Exchange. 14.45—Klengel Vocal and Instrumental Music.
MADRID (EAJ7), 14.00—Chimes; Time; Weather; Light Music. 14.30—Sextet.
OSLO, 14.00—Military Music.
PARIS (École Supérieure), 14.00—Records.
PRAGUE, 14.00—14.05—Exchange; Weather in German.
REYKJAVIK, 14.15—Variety.
TOULOUSE (Radio-Toulouse), 14.00—Exchange.
STUTTGART, 14.00—Records. 14.30—Organ. 14.50—Talk: Flowers.
TURIN, 14.00—Quintet. 14.15—14.25—Exchange.
MUNICH, 14.00—News; Exchange. 14.20—Lieder and Pianoforte. 14.50—For Women.

15.00

BARCELONA, 15.00—Announcements; Sextet; Labour Exchange.
BERLIN, 15.00—Exchange.
BEROMÜNSTER, 15.30—Orchestra. Conductor: Gilbert. 15.59—Time.
BRNO, 15.45—Talk.
BRESLAU, 15.00—For Farmers. 15.10—Lieder by Käthe Kleinert (Contralto). 15.30—"Anhide"—a Fairy Tale.
COLOGNE, 15.15—Talk. 15.30—Exchange. 15.45—For Women.
DEUTSCHLANDSENDER, 15.00—

Weather; Exchange. 15.15—For Mothers.
FRANKFURT, 15.00—For Women. 15.30—Weather. 15.40—Time; Exchange. 15.50—Economic Review.
HAMBURG, 15.00—Exchange. 15.40—Shipping; Aviation.
HILVERSUM, 15.00—Dressmaking.
HUIZEN, 15.00—15.40—Dressmaking. 15.55—Records.
KALUNDBORG, 15.00—Light Music.
KÖNIGSBERG, 15.00—Market Prices. 15.15—Book Review. 15.30—For Young People.
LEIPZIG, 15.00—15.25—Klengel Recital. 15.35—Exchange.
MADRID (EAJ7), 15.00—Amusement Guide; Exchange; Variety; Music. 15.30—Sextet.
MONTE CENERI, 15.00—For Schools. 15.59—Time.
MOSCOW, 15.15—For Children. 15.55—Time.
MUNICH, 15.00—For Women. 15.30—Talk. 15.50—Weather; For Farmers.
PARIS (École Supérieure), 15.00—Records.
PARIS (Radio-Paris), 15.45—15.50—Exchange.
PITTSBURGH, 15.00—Edward MacHugh. 15.15—Castles in the Air. 15.30—To-day's Children. 15.45—Sammy Fuller.
PRAGUE, 15.55—Exchange; Weather.
SOTTENS, 15.59—Time.
STUTTGART, 15.00—Talk: Flowers. 15.15—Paul Richter Recital.
VIENNA, 15.00—Time; News. 15.20—For Women. 15.45—Music for Children.
WARSAW, 15.05—Announcements. 15.10—Exchange. 15.20—The Manska Orchestra.
ZEESEN, 15.00—Arias, "The Mastersingers" (Wagner).

16.00

BARCELONA, 16.00—For Hospitals.
BELGRADE, 16.00—For Women. 16.30—Lucie Farkas (Pianoforte).
BERLIN, 16.00—See Frankfurt.
BEROMÜNSTER, 16.00—See Sottens.
BORDEAUX-LAFAYETTE, 16.30—See Lyons (La Doua).
BRATISLAVA, 16.50—Educational Talk.
BRESLAU, 16.00—Orchestra. Conductor: Gielik.
BRUSSELS (No. 1), 16.55—Announcements.
BRUSSELS (No. 2), 16.55—News.
COLOGNE, 16.00—Concert.
DEUTSCHLANDSENDER, 16.00—See Königsberg.
FRANKFURT, 16.00—Orchestra. Conductor: Merten. Soloists. Divertimento in D (Mozart). Lieder of Görner, Graun, P. E. Bach and Hiller. Concerto in D (Mozart). Old Dance Music.
HAMBURG, 16.00—Marine Band, Conductor Sass. Choir. Conductor: Lenzer.
HILVERSUM, 16.10—Children's Choir. 16.40—Play for Children.
HUIZEN, 16.00—Records. 16.10—Arias by van Rijnhoven (Tenor). In the Interval: Records.
KALUNDBORG, 16.00—Light Music.
KÖNIGSBERG, 16.00—Small Station Orchestra. Conductor: Wilken.
LAHTI, 16.00—Military Band. Conductor: Näre. 16.30—Talk.
LEIPZIG, 16.00—See Königsberg.
LYONS (La Doua), 16.30—Chamber Music. Trio (Beethoven). Chaconne, Minuet, Musette (Leclair). Trio (Lélu).
MADRID (EAJ7), 16.00—Variety Music. 16.15—Sextet. 16.40—News; Film Review.
MONTE CENERI, 16.00—See Sottens.
MOSCOW, 16.00—News. 16.30—Communist Party Programme.
MUNICH, 16.00—Orchestra. Conductor: Kloss. Overture, "Iphigenia in Aulis" (Gluck). Caprice in B minor (Brahms). Intermezzo (Brahms). Extracts, "The Miracle" (Humperdinck). Three Pieces (Tchaikovsky): (a) Russian Dance, (b) Troika, (c) Slav March. Potpourri (Hupperts). Waltz (Strauss). Ballet, "Sylvia" (Delibes). March (Leuschner).
OSLO, 16.45—Light Music.
PARIS (École Supérieure), 16.00—Concert. 16.45—Lecture-Recital: Lully.
PARIS (Poste Parisien), 16.50—Exchange.
PITTSBURGH, 16.00—Pappy, Ezra, Zeke, Elton. 16.15—Pianoforte Recital. 16.30—Shut-in Hour.
PRAGUE, 16.00—Station Orchestra. Conductor: Parik. Overture, "Sigurd Slembe" (Svendsen). Suite, "The Merchant of Venice" (Mandee). Suite (Skvor). 16.50—For Children.
ROME, 16.30—Children's Radio Review. 16.55—News; Exchange.
SOTTENS, 16.00—The Radio Lausanne Orchestra. Conductor: Moser. Part I. Sonata (Loeillet).

Cantico (di Donato). Part V II. Mascagni and Puccini Opera Music.
STUTTGART, 16.00—See Frankfurt.
TOULOUSE (Radio-Toulouse), 16.15—News. 16.45—See Paris (École Supérieure).
TRIESTE, 16.45—Baïlla Programme.
VIENNA, 16.00—Music for Children. 16.10—News. 16.15—Quartet. 16.55—Handicrafts.
WARSAW, 16.05—Letter-Box. 16.20—Talk: The Polish Language. 16.35—"Children in Music"—Mme. Hennert (Songs) and Rosenbaum (Pianoforte). Sonatina (Ravel). Three Nursery Songs (Mussorgsky). Two Children's Songs (Noskowski). Kinderzzenen (Schumann). Five Songs.

17.00

BARCELONA, 17.00—News.
BARI, 17.15—Esperia Quintet.
BELGRADE, 17.00—Talk.
BERLIN, 17.00—Talk: Berlin in May. 17.15—Records: Extracts, "Der Freischütz" (Weber).
BEROMÜNSTER, 17.00—See 16.00 Sottens.
BORDEAUX-LAFAYETTE, 17.00—See 16.30 Lyons (La Doua).
BRATISLAVA, 17.00—Chamber Music. Actardieff (Violin), Kratochvilova (Viola), Simandl (Cello), Dyk (Pianoforte). 17.55—Talk: Trade Prices.
BRESLAU, 17.00—Orchestra (contd. from 16.00). 17.30—For Farmers. 17.35—Talk: The Artist's Silesia. 17.50—Accordion and Tubaphone Music.
BRNO, 17.10—Chess Lesson. 17.45—Records. 17.55—Music Review.
BRUSSELS (No. 1), 17.00—Records. 17.10—"Feeding Time"—Report from the Antwerp Zoological Gardens. 17.45—For Children.
BRUSSELS (No. 2), 17.00—The Radio Orchestra. Selection, "Frasquita" (Lehar). Three Dances (Finck). Waltz (Ziehrer). Italian Suite (Kostal). Piece (Armandola). 17.45—For Children.
BUCHAREST, 17.00—Orchestra.
BUDAPEST, 17.00—Talk. 17.30—Gutenberg Chamber Orchestra.
COLOGNE, 17.00—Talk: Blossoms and Leaves. 17.20—Schreiber (Cello). Delscit (Piano). Pictures from an Exhibition (Mussorgsky). Sur le lac (Godard). Rondo (Boccherini). 17.45—Science Talk.
DEUTSCHLANDSENDER, 17.00—For Young People. 17.20—Book Review. 17.35—Request Records.
FRANKFURT, 17.00—Orchestra (contd. from 16.00). 17.30—Talk: In Wood and Field. 17.45—Anneliese Singelstein-Hürlimann (Soprano).
HAMBURG, 17.00—Marine Band and Choir (contd. from 16.00). 17.30—For Women.
HILVERSUM, 17.00—Play for Children. 17.10—Orchestra. Conductor: Tresp. March (Blon). Overture, "La grande Duchesse de Gérolstein" (Offenbach). Dolores (Waldeufel). Pot-pourri (Fetras). Nocturne (Beccce). Serenata amorosa (Beccce). Fairy Feet (Finck). Wiener Spezialitäten (Hrubý). American Cake-Walk (Lincke). Durch's Ziel (Translater).
HUIZEN, 17.00—Van Rijnhoven (Tenor Arias). 17.10—Records. 17.40—KRO Boys. Conductor: Lustenhouwer.
KALUNDBORG, 17.00—For Children. 17.30—Exchange; Fish Prices. 17.42—Recitation. 17.45—Talk.
KAUNAS, 17.30—Wilno Report in Polish. 17.50—Letterbox.
KÖNIGSBERG, 17.00—For Women. 17.15 (approx.)—Orchestra (contd. from 16.00). 17.50—Talk: Electricity.
LAHTI, 17.10—Pianoforte Duets. 17.35—Talk. 17.50—News in Finnish. 17.59—Time; Weather.
LEIPZIG, 17.00—For Young People. 17.20—Technical Talk. 17.45—Exchange; Weather; Time. 17.55—Talk: Friedrich Wilhelm, the Great Elector.
LYONS (La Doua), 17.00—Chamber Music (contd. from 16.30); Dance Music.
MONTE CENERI, 17.00—See 16.00 Sottens.
MORAVSKÁ-OSTRAVA, 17.20—Records.
MOSCOW, 17.00—Communist Party Programme. 17.30—"The Bolsheviks"—Radio Play (Farguin).
MUNICH, 17.00—Orchestra (contd. from 16.00). 17.30—Talk: The Social Order. 17.50—Karl Kittel Songs by Joo Herma Kittel (Soprano) and Käthe Jordan (Mezzo-Soprano). The Composer at the Pianoforte.
OSLO, 17.00—Light Music. 17.45—Poems.
PARIS (École Supérieure), 17.00—Lecture-Recital: (contd. from 16.45) 17.45—German.
PITTSBURGH, 17.00—Shut-in Hour. 17.30—Vic and Sade. 17.45—Lloyd Huntley's Orchestra.

PRAGUE, 17.00—For Children. 17.10—Technical Talk. 17.20—Records. 17.30—German Lesson. 17.45—Hertl (Flute); Maxian (Pianoforte). Sonatina (Haba). Two Movements, Concerto in D minor (Bern).
REYKJAVIK, 17.00—Weather.
ROME, 17.05—Recitations. 17.15—Instrumental Concert. 17.55—Weather.
SOTTENS, 17.00—Orchestra (contd. from 16.00).
STOCKHOLM, 17.00—Weather. 17.05—Nordqvist Sacred Songs—Harru Sagner. 17.25—For Children. 17.45—Records.
STRASBOURG, 17.00—Orchestra. Conductor: Roskam.
STUTTGART, 17.00—See 16.00 Frankfurt. 17.30—Unfamiliar Schumann Lieder. Sehnsucht. Die Weinende. Erinnerung. Kurzes Erwachen. Gesanges Erwachen. An Anna. 17.50—Talk: Liebig.
TRIESTE, 17.00—17.10—Baïlla Programme.
TURIN, 17.00—For Children. 17.10—Records. 17.55—Weather.
VIENNA, 17.00—Handicrafts. 17.20—Announcements. 17.30—Dolnicki (Baritone).
WARSAW, 17.00—"Children in Music" (contd. from 16.35). 17.30—History Talk. 17.50—Talk.

18.00

ATHLONE, 18.00—For Children. 18.45—News.
BARI, 18.30—News in Foreign Languages.
BELGRADE, 18.25—Time; Announcements. 18.30—Serbian Lesson.
BERLIN, 18.00—Wireless Notes. 18.05—For Young People. 18.30—Reading (Britting). 18.45—Adolf Jensen Recital. Hollger (Baritone); Hoppe (Piano). Extracts, "Idyllen," Op. 43, for Pianoforte. Songs from "Gauedeamus".
BEROMÜNSTER, 18.00—Records. 18.30—Talk: Swiss Tourist Traffic.
BORDEAUX-LAFAYETTE, 18.00—See Lyons (La Doua). 18.15—News.
BRATISLAVA, 18.05—For Housewives. 18.10—Hungarian Transmission.
BRESLAU, 18.10—Silesian Anecdotes of Frederick the Great. 18.50—Announcements; For Farmers.
BRNO, 18.00—Music Review. 18.10—For Workers. 18.20—German Transmission: For Workers; For Farmers.
BRUSSELS (No. 1), 18.00—For Children. 18.15—Records: Pulcinella" (Stravinsky). 18.30—Orchestra. Conductor: Walpot. Extracts, from "Le Carnaval des animaux" (Saint-Saëns). La poule (Rameau). Selection, "The Golden Cockerel" (Rimsky-Korsakov). Idylle d'oiseaux (Sermon). The Flight of the Bumble-Bee (Rimsky-Korsakov). Melody (Sokolov). Piece (Keler-Béla). The Squirrel (Elliot). Marche funèbre (Dubois).
BRUSSELS (No. 2), 18.00—For Children. 18.30—Records.
BUCHAREST, 18.00—Time; News. 18.15—Orchestra. Conductor: Polgar.
COLOGNE, 18.00—For Young People. 18.30—Talk: Electricity. 18.40—Topical Talk. 18.50—Exchange; Sports Notes.
DEUTSCHLANDSENDER, 18.00—Request Records. 18.20—Legal Talk. 18.35—Political Press Review. 18.55—A Poem; Weather.
FRANKFURT, 18.00—Talk: Wines. 18.15—Economic Report. 18.25—Italian. 18.45—News; Time. 18.50—Topical Talk.
HAMBURG, 18.10—Topical Talks. 18.45—Exchange. 18.55—Weather.
HILVERSUM, 18.00—Orchestra (contd. from 17.10). 18.10—Talk. 18.40—Orchestra.
HUIZEN, 18.00—K.R.O. Boys. Conductor: Lustenhouwer. 18.30—Records. 18.40—Police Notes. 18.55—Educational Talk.
KALUNDBORG, 18.00—Talk. 18.15—German Lesson. 18.45—Weather; Announcements.
KAUNAS, 18.00—Letter-box. 18.10—Mandoline Sextet. 18.40—News.
KÖNIGSBERG, 18.00—Talk (contd. from 17.50). 18.15—Market Prices. 18.35—See Deutschlandsender. 18.40—Poetry Reading (Schiller). 18.55—Weather.
LAHTI, 18.10—News in Swedish. 18.15—Songs. 18.40—Talk.
LEIPZIG, 18.00—Talk (contd. from 17.55). 18.15—The Leipzig Symphony Orchestra. Conductor: Blumer.
LYONS (La Doua), 18.00—Dance Music. 18.15—News.
MADRID (EAJ7), 18.00—Chimes; Light Music.

18.00 (contd.)

MORAVSKÁ - OSTRAVA, 18.00—Talk.
 MOSCOW, 18.00—Radio Play (contd. from 17.30). 18.30—Readings; Music; News.
 MUNICH, 18.00—Karl Kittel Songs (contd. from 17.50). 18.10—For Young People. 18.30—Records of Bockelmann (Baritone). 18.50—Time; Weather; For Farmers.
 OSLO, 18.00—Poems. 18.10—Violin Sonata (Franck). Röberg (Violin); Raknerud (Pianoforte). 18.30—For Women.
 PARIS (Ecole Supérieure), 18.00—German. 18.15—News.
 PARIS (Poste Parisien), 18.45—Exchange. 18.49—Talk: The Music-Hall. 18.56—Records.
 PARIS (Radio-Paris), 18.20—Weather; For Farmers; Exchange; Racing. 18.40—Dialogue.
 PITTSBURGH, 18.00—Market Reports. 18.15—Lloyd Huntley's Orchestra. 18.30—Farm and Home Hour.
 PRAGUE, 18.00—Flute; Pianoforte (contd. from 17.45). 18.10—For Farmers. 18.20—German Transmission. Talk: Economic Relief; Josef Mühlberger reads. 18.55—News in German.
 ROME, 18.00—Corn Prices. 18.30—News in Foreign Languages.
 SOTTENS, 18.00—For Women. 18.45—Film Talk.
 STOCKHOLM, 18.00—Records. 18.45—French.
 STRASBOURG, 18.00—Talk: Madame Roland. 18.15—Topical Talk. 18.30—Orchestra. Conductor: Roskam.
 STUTTGART, 18.00—Talk: Liebig. 18.15-18.45—See Frankfurt. 18.45—"Stop!"—Humorous Programme.
 TOULOUSE (Radio-Toulouse), 18.00—News. 18.15—Orchestra. 18.30—Operetta Music. 18.45—Accordion Music.
 TURIN, 18.00-18.10—For Farmers. 18.30—News in Foreign Languages.
 VIENNA, 18.00—Talk. 18.25—For Women. 18.30—French. 18.50—For Women.
 WARSAW, 18.00—Talk. 18.10—Orchestra. 18.50—Announcements.

19.00

ATHLONE, 19.00—Irish Talk. 19.15—Talk. 19.30—Time. 19.31—Station Orchestra.
 BARCELONA, 19.00—Trio. In the Interval at 19.30 News.
 BARI, 19.00-19.30—News in Foreign Languages. 19.40—News in Alban; Weather.
 BELGRADE, 19.00—Records. 19.30—Jovanovic (Songs).
 BERLIN, 19.00—Adolf Jensen Recital (contd. from 18.45). 19.20—"Modern Dwellings"—A Radio Sketch (Wendland). 19.40—Today's News.
 BEROMÜNSTER, 19.00—Time; News. 19.10—Handel and Haydn Bass Viol and 'Cello Concertos. The Berne Chamber Music Society. 19.55—Talk: Mental Illness and Music.
 BORDEAUX-LAFAYETTE, 19.30—Announcements. 19.40—For Women.
 BRESLAU, 19.00—See Munich.
 BRNO, 19.10—Operetta Songs: by Mila Lederová, Jaros. Sinder. Orchestra. Conductor: Bakala.
 BRUSSELS (No. 1), 19.00—Orchestra (contd. from 18.30). 19.15—Religious Notes; Film Review. 19.30—Art Review; For Women.
 BRUSSELS (No. 2), 19.00—Records. 19.15—Talk. 19.30—For Women.
 BUCHAREST, 19.00—Educational Programme. 19.20—Records. 19.45—Talk.
 BUDAPEST, 19.00—Orchestra. Conductor: Polgar. 19.30—Travelogue.

COLOGNE, 19.00—Orchestra. Conductor: Eysoldt. 19.30—Weekly Review.
 DEUTSCHLANDSENDER, 19.00—"In May"—Folk Song Play (Gabriel).
 FRANKFURT, 19.00—Der Rodensteiner—Play (Geisow).
 HAMBURG, 19.00—For Young People. 19.40—Camp Songs of the Thirty Years' War, by Gümmer.
 HILVERSUM, 19.00—Orchestra (contd. from 18.40). 19.10—Travel Talk. 19.40—Time; News. 19.45—Station Orchestra. Conductor: Treep. Lensky (Violin).
 HUIZEN, 19.00—Educational Talk. 19.15—Records. 19.20—K.R.O. Boys.
 HAMBURG, 19.00—News. 19.15—Time. 19.16—Talk. 19.30—Talk: Religion in India.
 KAUNAS, 19.00—Time; News. 19.30—Service.
 KÖNIGSBERG, 19.00—Reading. 19.30—Maria Manuelli (Contralto). Five Old Japanese Songs (Lendvai). Three Chinese Songs (Braunfelds).
 LAHTI, 19.05—Talk. 19.30—Orchestra. Conductor: Haapanen.
 LEIPZIG, 19.00—Symphony Orchestra (contd. from 18.15). 19.35—Workers' Songs.
 LYONS (La Doua), 19.30—Local News. 19.50—Legal Talk.
 MADRID (EAJ7), 19.00—News; Flamenco Songs. 19.30—Exchange Band.
 MONTE CENERI, 19.44—Announcements; News.
 MORAVSKÁ-OSTRAVA, 19.00—Orchestra. Conductor: Bednář.
 MOSCOW, 19.00—Readings; Music; News. 19.30—Talk: Thirty Arctic Expeditions.
 MUNICH, 19.00—The Station Orchestra. Conductor: Winter. Wolf (Pianoforte).
 OSLO, 19.00—Book Review. 19.15—News. 19.30—Time. 19.31—Talk.
 PARIS (Ecole Supérieure), 19.30—Records. 19.45—Science Talk. 19.53—Talk.
 PARIS (Poste Parisien), 19.00—Records. 19.03—Film Talk. 19.10—News. 19.30—Theatre Guide. 19.35—Talk: Aviation. 19.45—Cluny (Songs).
 PARIS (Radio-Paris), 19.00—Talk: Philosophy. 19.30—Topical Talk.
 PITTSBURGH, 19.00—Farm and Home Hour. 19.30—K.D.K.A. Home Forum.
 PRAGUE, 19.00—Time; News. 19.10—See Brno.
 ROME, 19.00—News in Foreign Languages. 19.25—Shipping; Sports. 19.30—Time; News. 19.40—Records. 19.55—News.
 SCHENECTADY, 19.00—Musical Programme. 19.15—WGY Matinee Players. 19.30—Woman's Radio Review.
 SOTTENS, 19.00—Talk (contd. from 18.45). 19.05—Chess Lesson. 19.30—Wireless Notes. 19.59—Weather.
 STOCKHOLM, 19.00—French. 19.15—News. 19.30—Parliamentary Review. 19.50—Göteborg Chamber Orchestra. Conductor: Mann. Greta Torpadie-Bratt (Songs). Allemande, Sarabande, and Cebell (Purcell). Arias, "Alcina" (Handel); Was mir behagt (Bach); Suite in F (Parry). Two Songs. Serenade in C (Volkmann).
 STRASBOURG, 19.00—Orchestra (contd. from 18.30). 19.30—Time; News. 19.45—District Review.
 STUTTGART, 19.00—"Stop!"—Humorous Programme. 19.45—Time; Weather; For Farmers.
 TOULOUSE (Radio-Toulouse), 19.00—Opera Music. 19.15—Pianoforte. 19.30—News. 19.45—Songs.
 TRIESTE, 19.00-19.30—News in Foreign Languages.
 TURIN, 19.00—News in Foreign Languages. 19.20—Report of the Royal Geographical Society. 19.30

—Time; News. 19.40—Records. 19.55—News; Weather.
 VATICAN CITY, 19.00-19.15—Religious Information in Italian.
 VIENNA, 19.00—Time; News. 19.15—Old and New Dances. Vienna Symphony Orchestra and a Jazz Band.
 WARSAW, 19.00—Announcements. 19.15—For Farmers. 19.25—Topical Talk. 19.40—Sports Notes. 19.47—News.

20.00

ALGIERS, 20.00—Records. 20.30—Lottery Results. 20.40—News.
 ATHLONE, 20.00—A Play by Mary Sheridan and Company. 20.30—Mabel Home and Hilda White (Vocal Duets). 20.50—Station Orchestra.
 BARCELONA, 20.00—Request Records. 20.30—Exchange; Talk in Catalan.
 BELGRADE, 20.00—Talk. 20.30—Hauser (Violin). Chaconne (Bach). Suite (Papandopulo).
 BERLIN, 20.00—News. 20.15—See Leipzig.
 BEROMÜNSTER, 20.00—Talk (contd. from 19.55). 20.25—Concert.
 BRATISLAVA, 20.10—Art Talk.
 BORDEAUX-LAFAYETTE, 20.00—Science Talk. 20.15—News.
 BRESLAU, 20.00—News. 20.15—See Leipzig.
 BRNO, 20.00—Operetta Songs (contd. from 19.10). 20.10—Talk: Smetana.
 BRUSSELS (No. 1), 20.00—Old Students' Concert from the Royal Conservatoire. de Middelcer (Organ), Marguerite Brullez (Songs). Four Songs. Quintet for Strings and Clarinet (Mozart). Organ Solos.
 BRUSSELS (No. 2), 20.00—"Peer Gynt"—Drama (Ibsen); Music by Grieg. Conductor: Meulemans.
 BUCHAREST, 20.00—Symphony Orchestra. Conductor: Alessandresco. Suite, "Pelleas et Melisande" (Fauré). Pianoforte Concerto (Schumann) Madeleine Co. Corasco.
 BUDAPEST, 20.00—Zathureczky (Violin). Sonata in B (Tartini). Grave and Fugue in A minor (Bach). Prelude and Rondo (Stravinsky). Rhapsody (Bartok). Berceuse (Zsolt). Czardas (Hubay).
 COLOGNE, 20.00—News. 20.15—See Leipzig.
 DEUTSCHLANDSENDER, 20.00—Motto; News. 20.15—See Leipzig.
 FRANKFURT, 20.00—Time; News. 20.15—See Leipzig.
 HAMBURG, 20.00—Announcements. 20.15—See Leipzig.
 HILVERSUM, 20.00—Orchestra (contd. from 19.45). 20.40—Play.
 HUIZEN, 20.00—K.R.O. Boys. 20.10—News. 20.15—Religious Address. 20.30—Records. 20.40—KRO Orchestra. Conductor: Bijl. Soloist: Hellmann (Violin). Concerto (Bijl). Symphony in A (Stamitz).
 JUAN-LES-PINS (Radio Côte d'Azur), 20.00—Amusement Guide; News. 20.10—For Farmers. 20.20—English Lesson. 20.40—Concert.
 KALUNDBORG, 20.00—Chimes. 20.05—Karin Juel (Songs). English Dance Songs. Spanish Tangos. Swedish Sailors' Waltzes. 20.30—"The Hansen Family"—Sketch (Locher). 20.45—Talk: Gounod's "Faust."
 KAUNAS, 20.00—For Farmers. 20.20—Songs. 20.40—Travelogue: Pirate Land.
 KÖNIGSBERG, 20.00—News. 20.15—See Leipzig.
 LAHTI, 20.00—Orchestra. 20.45—News in Finnish.
 LEIPZIG, 20.00—News. 20.15—Transmission for all German Stations: "Bach's Sons." The Leipzig Symphony Orchestra. Conductor: Blumer. Grete Welz (Soprano), Ramin (Harpsichord). Günther

(Flute) and Hitzig (Monologue). Symphony in D minor (Wilhelm Friedemann Bach). Septet for Two Horns, Oboe, Violin, Viola, 'Cello and Pianoforte (Johann Christoph Bach). Aria, "L'Endimione" (Johann Christian Bach). Concerto in E flat for Harpsichord, Pianoforte and Strings (Philipp Emanuel Bach).
 LYONS (La Doua), 20.00—L'egal Talk. 20.10—Medical Talk. 20.20—Variety. 20.30—Concert from Paris.
 MADRID (EAJ7), 20.00—Band. 20.15—Talk. 20.30—News. 20.45—Conservatoire Orchestra.
 MONTE CENERI, 20.00—Recital on Two Pianofortes. Piece (Couperin). Concerto in A (Bach). Duoeto concertante (Busoni). Rondo (Chopin). Gavotte (Pirani). 20.45—Fashion Review.
 MORAVSKÁ-OSTRAVA, 20.25—Orchestra. Conductor: Bednář.
 MOSCOW, 20.00—Operetta Music. Conductor: Krish. Amatova, Berkovitch and Legostaieva (Songs).
 MUNICH, 20.00—News. 20.15—See Leipzig.
 OSLO, 20.00—Orchestra. Conductor: Kramm.
 PARIS (Ecole Supérieure), 20.00—Records. 20.30—"L'étoile"—Opera in Three Acts (Chabrier).
 PARIS (Poste-Parisien), 20.10—A Russian Choir. 20.40—Exchange. 20.55—Unfinished Verse Competition.
 PARIS (Radio-Paris), 20.00—Songs by L'accord Parfait. Vocal Quartet. 20.30—News. 20.45—Wiener and Dvoiet Programme.
 PITTSBURGH, 20.00—Nathan Stewart (Baritone). 20.30—Magic Music.
 PRAGUE, 20.00—See 19.10—Brno. 20.10—Economics Talk. 20.25—Slovak Transmission: Poems, Songs; Records.
 ROME, 20.05—Records. 20.30—Government Notes. 20.45—Iole Baccara (Violin) and Gigliola Galli (Pianoforte). Sonata in A (Handel). Réverie (Debussy). Tambourin (Leclair).
 SCHENECTADY, 20.00—Woman's Radio Review.
 SOTTENS, 20.00—Talk: The Sinai Deserts. 20.25—The Appia Quartet. Quartet in C (Mozart). Unfinished Quartet (Chausson).
 STOCKHOLM, 20.00—Chamber Music (contd. from 19.50). 20.50—Literary Review.
 STRASBOURG, 20.00—News in German; Lottery Results; Announcements. 20.30—See Paris (Ecole Supérieure).
 STUTTGART, 20.00—News. 20.15—See Leipzig.
 TOULOUSE (Radio-Toulouse), 20.00—Military Band. 20.15—Songs; Light Music. 20.30—Orchestra. 20.45—Madame Serverius (Songs).
 TURIN, 20.05—Records. 20.30—Government Notes. 20.55—"Don Giovanni"—Opera in Three Acts (Mozart), from Florence. Conductors: Serafin and Finzi. In the Intervals: Talk; Announcements; News.
 VIENNA, 20.00—Old and New Dances (contd. from 19.15). 20.15—Variety. 20.25—Vienna Symphony Orchestra and a Jazz Band.
 WARSAW, 20.00—Great Thoughts. 20.02—Talk: Louis Urstein. 20.15—Concert for the Fortieth Anniversary of Louis Urstein's Musical Professorship. The Philharmonic Orchestra. Conductor: Oziminski. Louis Urstein (Pianoforte), Ada Sari (Songs), and Dubiska (Violin). Polonaise in A flat (Chopin-Noskowski). Mazurka (Chopin-Balakirev). Tarantella (Chopin-Glazunov). Two Movements, Pianoforte Concerto (Chopin). Songs: Aria, "Louise" (Charpentier), Variations (Mozart). Violin Solos: Romance (Zarzycki), Rondo (Bazzini). Songs: Après un Réve (Fauré), Deception

TUESDAY May 22

(Szopski), Ma mignonne (Niewiadomski). In the Interval: Reading (Kipling).
 21.00
 ALGIERS, 21.02—Sound-Film Songs. 21.30—News. 21.35—"Patrel"—One-Act Comedy (Meilhac).
 ATHLONE, 21.00—Illustrated Lecture by John Brennan: Songs of the Counties. 21.30—Variety.
 BARCELONA, 21.00—Educational Programme. 21.10—Talk. 21.20—Tourist Talk. 21.30—Educational Programme. 21.45—News.
 BELGRADE, 21.00—Announcements. 21.10—Station Orchestra.
 BERLIN, 21.00—Mozart Records; Extracts, "The Magic Flute," "Figaro." 21.20—Prenzlau—Radio Report.
 BEROMÜNSTER, 21.00—News. 21.10—Lecture Recital: Forty Years of Dance Music.
 BRATISLAVA, 21.25—Orchestra. Conductor: Schimpel. Introduction, "Carmen" (Bizet). Ballad (Ondricek). Gopak (Bullerian). Legend (Chlup). Wine, Woman and Song (Strauss). March (Macudzinski).
 BRESLAU, 21.00—Chopin Recital by Johannes Strauss (Pianoforte). Twenty-four Preludes. Six Etudes. Berceuse. Waltz in E minor (Posth.).
 BRNO, 21.25—Opus Vocal Union. Conductor: Steinmann.
 BRUSSELS (No. 1), 21.00—Talk: Music. 21.15—Old Students' Concert from the Royal Conservatoire. Organ Solos. Two Songs. Rhapsody for Pianoforte and Wind Instruments (Jongen).
 BRUSSELS (No. 2), 21.00—"Peer Gynt"—(Ibsen) (contd. from 20.00).
 BUCHAREST, 21.00—Talk on Romania in French and German. 21.15—Symphony Orchestra, Norwegian Dances (Grieg), Selection, "Prince Igor" (Borodin). Waltz, "Der Rosenkavalier" (Strauss).
 BUDAPEST, 21.00—Arpad Toll Cigány Band.
 COLOGNE, 21.00—See Deutschlandsender. 21.25—Male Voice Choir. Conductor: Trunk. German Folk Songs. Pieces (Trunk).
 DEUTSCHLANDSENDER, 21.00—Wagner Concert. Conductor: Lindner. Prelude to "Parsifal." Forest Murmurs, "Siegfried." Wotan's Farewell and Fire Magic, "The Valkyrie." Prelude and Death of Isolde, "Tristan and Isolde." Aria, "The Flying Dutchman." Prelude, "The Mastersingers."
 FRANKFURT, 21.00—See Deutschlandsender. 21.20—Light Music.
 HAMBURG, 21.00—Reading: Das Largo von Händel (Ernst). 21.15—"Das Orakel"—Musical Play (Fleischer).
 HILVERSUM, 21.00—Play. 21.10—Kovacs Lajos Orchestra. Hilde Jagar (Soprano).
 HUIZEN, 21.00—K.R.O. Orchestra (contd. from 20.40). 21.30—"The Clairvoyante"—Radio Play (Melchior). 21.50—K.R.O. Orchestra. Suite, "Pulcinella" (Stravinsky). Symphony in G (Haydn). In the Interval: News.
 JUAN-LES-PINS (Radio Côte d'Azur), 21.00—News. 21.15—Concert.
 KALUNDBORG, 21.00—Acts II and III of "Faust"—Opera (Gounod), from the Royal Theatre. Conductor: Johan Hye-Knudsen. 21.50—News.
 KAUNAS, 21.00—Orchestra. 21.35—Talk: Astronomy. 21.55—Sports Notes.
 KÖNIGSBERG, 21.00—"Das Extemporale"—Comedy in Three Acts (Hans Sturm and Moritz Färber).
 LAHTI, 21.00—News in Swedish.
 LEIPZIG, 21.00—"Herr Savolta's Card"—Comedy (after Alfred Bock).



Starnberg and its Lake, the scene of Munich's radio play at 21.00

TUESDAY May 22

21.00 (cont.)

LYONS (La Doua), 21.00—Concert.
MADRID (EAJ7), 12.00—Conservatoire Orchestra.
MONTE CENERI, 21.00—Orchestra. Massegia (Tenor).
MORAVSKA-OSTRAVA, 21.15—Talk: Reminiscences of Touring Companies.
MOSCOW, 21.00—Talk in German: Workers' Strikes in Czarist Russia. 21.55—Chimes.
MUNICH, 21.00—"Petri Heil"—Bavarian Sketch (Bauer). 21.40—Recital by Maria Peschke (Contralto). Three Songs (Trunk). Three Songs (Graener). Two Songs (Pfitzner). Two Songs (Strauss).
OSLO, 21.05—Review of Foreign Affairs. 21.35—For Workers. 21.40—Weather. 21.45—News.
PARIS (Ecole Supérieure), 21.00—"L'etoile"—Opera (Chabrier) (contd. from 20.30).
PARIS (Poste Parisien), 21.00—Unfinished Verse Competition. 21.30—String Quartet (Beethoven).
PARIS (Radio-Paris), 21.00—Wiener and Doucet Programme. 21.30—Lecture-Recital: An Evening with Liszt and Mme. D'Agout. In the Interval: News; Review by Seize.
PITTSBURGH, 21.00—Betty and Bob. 21.15—Singing Stranger. 21.30—Market Report. 21.45—Congress of Clubs.
PRAGUE, 21.00—Slovak Transmission (contd. from 20.25). 21.25—See Brno.
REYKJAVIK, 21.00—Music. 21.25—English Lesson. 21.50—Announcements.
ROME, 21.00—Violin and Pianoforte (contd. from 20.45). 21.15—"Il più forte"—Play in Three Acts (Giuseppe Giacosa) (on Records).
SOTTENS, 21.00—Quartet (contd. from 20.25). 21.10—News. 21.15—Popular English Dances. Radio Suisse Romande Orchestra. Conductor: Echenard.
STOCKHOLM, 21.00—Literary Review. 21.20—Choral Concert. Conductor: Granér. Spring Song (Peterson-Berger). Vaarlaat (Boberg). Two Songs (Norman). När vildgässen draga förbi (Svennung). Kung Liljekonvalje (Wikander).

The Shepherd and Shepherdess (arr. Anderssen). Swedish Folk Melody (Paulsson). 21.45—News.
STRASBOURG, 21.00—See 20.30 Paris (Ecole Supérieure).
STUTT GART, 21.00—See Deutschlandssender. 21.20—See Frankfurt.
TOULOUSE (Radio-Toulouse), 21.00—Opera Music. 21.15—"Au Cirque"—Radio Fantasy. 21.45—Sound-Film Music.
TURIN, 21.00—"Don Giovanni" (Mozart) (contd. from 20.55).
VIENNA, 21.00—Vienna Symphony Orchestra and a Jazz Band. 21.15—To be announced.
WARSAW, 21.00—Concert (contd. from 20.15).
ZEESEN, 21.15—Arias, "The Mastersingers" (Wagner).

22.00

ALGIERS, 22.05—String Quartet (Mozart). 22.45—Records; News.
ATHLONE, 22.00—Variety. 22.30—Time; News. 22.40—Molly Flynn (Flute). 22.50—O'Hogain (Traditional Fiddle).
BARCELONA, 22.00—Chimes; Announcements; Exchange. 22.10—Variety. 22.40—Station Orchestra.
BELGRADE, 22.00—Time; Press Review. 22.15—Songs; Orchestra. 22.45—Records.
BERLIN, 22.00—News. 22.30—See Leipzig.
BEROMÜNSTER, 22.00-22.20—Lecture Recital (contd. from 21.10).
BRATISLAVA, 22.15—News in Hungarian.
BRESLAU, 22.00—Orchestra. Conductor: Rischka. Time; News.
BRUSSELS (No. 1), 22.00—News. 22.10—Request Records. 22.55—Christus vincit (Liszt).
BRUSSELS (No. 2), 22.00—News. 22.10—Dance Records.
BUCHAREST, 22.00—News.
BUDAPEST, 22.00—Cigány Band. 22.05—"Two Sieges of Buda. British Soldiers defend the Hungarian Capital" (in English). 22.20—Records.
COLOGNE, 22.00—Time; News. 22.20—To be announced.
DEUTSCHLANDSENDER, 22.00—Wagner Concert (contd. from 21.00). 22.45—Weather.
FRANKFURT, 22.00—German Folk Song Play (Zilcher); Weather. 22.20—Time; News. 22.35—See Stuttgart. 22.45—News.

HAMBURG, 22.00—News. 22.20—Light Music.
HILVERSUM, 22.00—Kovacs Lajos Orchestra. 22.40—News. 22.50—Records.
HUIZEN, 22.00—K.R.O. Orchestra (contd. from 21.50). 22.30—Records.
JUAN-LES-PINS (Radio Côte d'Azur), 22.00—International Programme.
KALUNDBORG, 22.00—"Faust" (Gounod) (contd. from 21.00).
KAUNAS, 22.00-22.30—Orchestra.
KÖNIGSBERG, 22.00—News. 22.30—The Small Station Orchestra. Conductor: Wilcken.
LEIPZIG, 22.00—News. 22.30—Old German Peasant Music.
LYONS (La Doua), 22.00—Concert; News.
MADRID (EAJ7), 22.00—Conservatoire Orchestra; Sports. 22.30—Ballet from the Gran Teatro del Liceo.
MOSCOW, 22.05—Talk in French: Pioneers of the U.S.S.R.
MUNICH, 22.00—Time; News. Exchange. 22.25—Talk on Records: The Projected German Himalaya Expedition 1934.
OSLO, 22.00—Topical Talk. 22.15—Old Norwegian Dances.
PARIS (Ecole Supérieure), 22.00—"L'etoile"—Opera (Chabrier) (contd. from 20.30). 22.30 (approx.)—News; Dance Music.
PARIS (Poste Parisien), 22.00—Records. 22.30—Exchange.
PARIS (Radio-Paris), 22.00—Lecture Recital (contd. from 21.30). 22.30—Dance Music.
PITTSBURGH, 22.00—Brown Palace Orchestra. 22.15—K.D.K.A. Kiddies' Klub. 22.30—The Singing Lady. 22.45—Orphan Annie.
PRAGUE, 22.00—Time; News. 22.15—News in English. 22.30—Dance Music.
REYKJAVIK, 22.00—Chimes; News. 22.30—Talk.
ROME, 22.00—Play (contd. from 21.15).
SOTTENS, 22.00—Talk: The Work of the League of Nations.
STOCKHOLM, 22.00—Galli Orchestra from King's Park, Malmö. Overture, "The Barber of Seville" (Rossini). Troica (Bottari). Berceuse; Prelude (Järnefelt). Swedish Folk Melodies and Dances (Söderman). Spanish Dance (Sarasate). Selection, "The Bird Fancier" (Zeller). March (Blankenburg).
STRASBOURG, 22.00—See 20.30 Paris (Ecole Supérieure). 22.30 (approx.)—News.

STUTT GART, 22.00—See Frankfurt. 22.20—Time; News. 22.35—Topical Talk. 22.45—News.
TOULOUSE (Radio-Toulouse), 22.00—Soloist Programme. 22.15—News. 22.30—Operetta Music. 22.45—Orchestra.
TURIN, 22.00—"Don Giovanni" (Mozart) (contd. from 20.55).
VIENNA, 22.00—News. 22.15—Hungarian Programme. 22.25—Quintet for Strings (Prohaska).
WARSAW, 22.00—Concert (contd. from 20.15). 22.30—Dance Music.

23.00

BARCELONA, 23.00—Orchestra (contd. from 22.40). 23.30—Military Band.
BERLIN, 23.00—See Leipzig.
BUDAPEST, 23.00—Dance Music.
COLOGNE, 23.00—See Leipzig.
DEUTSCHLANDSENDER, 23.00—Orchestra.
FRANKFURT, 23.00—See Stuttgart.
HAMBURG, 23.00—Military Band. Conductor: Lukaschik. March, Vom Rhein zur Donau (Rhode). Kaiser-Walzer (Strauss). Glockenserenade (Kockert). Potpourri (Woitschach). Intermezzo (Lindemann). March (Kutsch).
HILVERSUM, 23.00—Records.
HUIZEN, 23.00-23.40—Records.
JUAN-LES-PINS (Radio Côte d'Azur), 23.00—International Programme.
KALUNDBORG, 23.00—Dance Music.
KÖNIGSBERG, 23.00—Orchestra.
LEIPZIG, 23.00—The Station Orchestra. Conductor: Weber. Kindscher (Violin). Sammler (Pianoforte). Overture, "The Siege of Corinth" (Rossini). First Movement, Violin Concerto in D (Paganini). Suite for Strings and Pianoforte (Rinkens). Prelude, "Die Zwillinge" (Weis). Rhapsody in B minor (Hartung). Ballet, "Andersen" (Nedbal). Waltz (Millöcker).
MADRID (EAJ7), 23.00—News. 23.10 (approx.)—Theatre Relay (contd. from 22.30).
MADRID (EAQ), 23.30—Popular Music. 23.45—News.
MOSCOW, 23.05—Talk in Dutch: Syndicates in the U.S.S.R.
MUNICH, 23.00—The Stubenrauch Trio. Trio in C (Raphael). Trio in B (Brahms).
PARIS (Radio-Paris), 23.00—Dance Music.

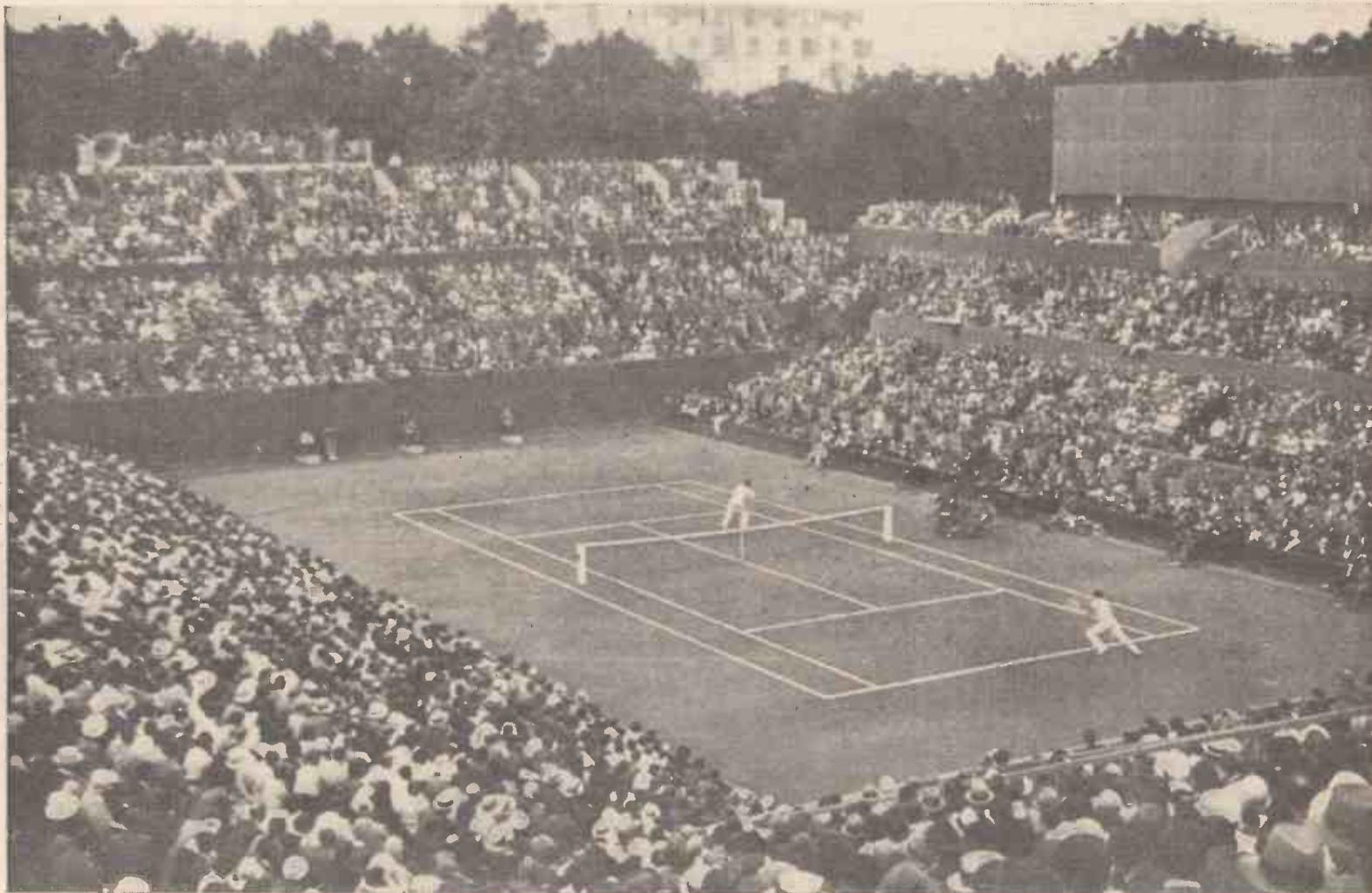
PITTSBURGH, 23.00—Musical Programme. 23.15—Baseball. 23.30—To be announced. 23.45—Lowell Thomas.
REYKJAVIK, 23.00—Thoroddsen (Pianoforte). Quartet in F major (Beethoven) on Records. After the Recital, Dance Music.
ROME, 23.00—News.
SCHENECTADY, 23.40—Stock Reports.
STUTT GART, 23.00—"Paris 1785" Radio Sequence of Music by Alsatian Composers (Kipp).
TOULOUSE (Radio-Toulouse), 23.00—Request Music. 23.15—Dance Music.
TURIN, 23.00—News.
VIENNA, 23.00—Quintet (contd. from 22.25). 23.15—News.
WARSAW, 23.00—Weather; Police Notes. 23.05—Dance Music.

00.00 (Wednesday)

BARCELONA, 00.00—Military Band.
BERLIN, 00.00—See 23.00—Leipzig.
COLOGNE, 00.00—See 23.00, Leipzig.
DEUTSCHLANDSENDER, 00.00-00.30—See Königsberg.
FRANKFURT, 00.00—See Stuttgart.
KALUNDBORG, 00.00—Chimes. 00.05—Dance Music.
KÖNIGSBERG, 00.00-00.30—Orchestra.
LEIPZIG, 00.00—Orchestra (contd. from 23.00).
MADRID (EAJ7), 00.00—Theatre Relay (contd. from 22.30). 00.45—News.
MADRID (EAQ), 00.00—Orchestra. 00.45—Light Music.
PITTSBURGH, 00.00—Amos 'n' Andy. 00.15—Pittsburgh Varieties. 00.45—The Sizzlers.
REYKJAVIK, 00.00—Dance Music.
SCHENECTADY, 00.00—Leo Reisman's Orchestra. 00.30—Wayne King's Orchestra.
STUTT GART, 00.00—Serenade.
TOULOUSE (Radio-Toulouse), 00.00—News. 00.05—"Au Caveau de Minuit"—a Radio Fantasy. 00.15—Songs.

01.00

BARCELONA, 01.00—News.
MADRID (EAJ7), 01.00—Chimes.
PITTSBURGH, 01.00-06.00—Popular Programme.
SCHENECTADY, 01.00-03.00—Popular Programme.



A Davis Cup Match at the Stade Roland-Garros, at Auteuil [see article on page viii]

NATIONAL

For Time Signals, see Monday
10.15 (Daventry)—Daily Service.
10.30 (Daventry)—Weather Forecast.
10.45-11.00 (Daventry)—"Thinking Aloud" A. G. Street.
12.00—Cinema Organ (Quentin Maclean). Second Entr'acte, Nero (Coleridge - Taylor). Goodnight, Lovely little lady (Revel). Minuet and Rondo (Serenade in G) (Mozart). Love, I give you my all (Besly). Spanish Waltz, Santiago (Corbin). The same time, the same place (Green). Fantasy, Rigoletto (Verdi, arr. Tavan).
12.45—The Western Studio Orchestra. W. Salusbury Baker (Baritone).
14.00—Troadero Cinema Orchestra.
15.00 (Daventry)—A Pianoforte Interlude by Cecil Dixon.
15.30 (Daventry)—The Bournemouth Municipal Orchestra. Conductor, Sir Dan Godfrey: Grand March, La Reine de Saba (The Queen or Sheba) (Gounod). Overture, Vanity Fair (Percy Fletcher). Invitation to the Dance (Weber). Selection, The Mikado (Sullivan). Prelude (Haydn Wood). A Manx Tone Poem, Mannin Veen (Haydn Wood).
16.30 (Daventry)—Records. Variety.
17.15 (Daventry)—The Children's Hour.
17.15 (except Daventry)—The B.B.C. Dance Orchestra.
18.00—"The First News."
18.25—Interlude.
18.30—The Foundations of Music. Beethoven's Pianoforte Sonatas, played by Edward Isaacs.
18.50—"Science in the Making." Gerald Heard.
19.05-19.25—"For Farmers Only." John Morgan.
19.30—"In Trouble." "The Adult Offender"—Lt.-Colonel Sir Vivian Henderson, M.C., M.P.
20.00—"Puritan Lullaby." Book and Lyrics by James Dyrenforth. Music by Kenneth Leslie-Smith.
21.00—"The Second News."
21.10—Impressions of Germany. Sir Arnold Wilson, K.C.I.E., C.M.G., D.S.O.
21.20—"Films Worth Seeing." Oliver Baldwin.
21.35—Symphony Concert. The B.B.C. Orchestra (Section E). Conducted by Frank Bridge. Franz Osborn (Pianoforte). Orchestra: Symphony No. 39, in E flat (K. 543) (Mozart). Franz Osborn and Orchestra: Variations Symphoniques (Franck). Orchestra: Tone Poem, Summer (Bridge); Overture, Carnival (Dvořák).
22.50—Reading from Pope's "Essay on Man."
22.55-24.00 (Daventry)—Sydney Kyte and his Band from the Piccadilly Hotel.
23.00-23.30 (London)—Television.

REGIONAL

For Time Signals, see Monday
10.15-11.00 (except Midland)—Daventry National Programme.
12.00—The Northern Studio Orchestra. Patience Gilman (Soprano).
13.00—Gramophone Records. Light Orchestral and Vocal.
13.30—Organ Recital by Maurice Vinden.
14.00 (except Scottish)—Midland Studio Orchestra.
15.00-17.15 (except Midland)—Daventry National Programme.
17.15—The Children's Hour.
18.00—"The First News."
18.25—Interlude.
18.30 (North and London)—The Northern Studio Orchestra. The Huddersfield Male Voice Quartet.
18.30 (Midland)—Sir Barry Jackson presents The Birmingham Repertory Theatre Company in "High Dudgeon." A Comedy in One Act by James R. Gregson, and "The Battle of the Pump"—a Comedy in One Act by C. A. C. Davis.
18.30 (West)—Y Parch. H. T. Jacob: "Pan oedd fy nhad a minnau yn fechgym."
18.30 (Scottish)—Gardening Talk.
18.50 (West)—"Ar y Cei." Trefnydd y rhaglan gan R. Lloyd Griffiths.
18.50 (Scottish)—Talk to Young Scots by Druce Raven.
19.00 (Midland)—The Annington Band. Jack Profumo and Tom Asher (Entertainers).
19.30 (except Midland)—Medvedeff's Balalaika Orchestra with Olga Alexeewa (Soprano).
20.00 (London and Midland)—The Leslie Bridgewater Quintet. Phyllis Evens (Soprano).
20.00 (West)—"A Modern Walton in Wales." 4—"North Wales."
20.00 (North)—Pianoforte Interlude by Eric Fogg. Lyric Pieces, Op. 43 (Grieg).
20.00 (Scottish)—"Edinburgh Entertainers." A Play for Assembly Week by Christine Orr.
20.15 (North and West)—The Manvers Main Colliery Band. Ronald Hoyle (Baritone).
20.45 (Scottish)—"In Praise of Scotland"—4. "Argyllshire."
21.15 (London, Midland, West)—Dance Music. Records.
21.35 (North)—"Northern Eloquence"—8. "William Wilberforce."
21.55—A relay and descriptive Commentary from the Gravesend Pilot Station, Royal Terrace Pier.
22.15—"The Second News."
22.30-24.00 (Midland till 23.00)—Sydney Kyte and his Band.
23.00-23.30 (Midland)—Television.

EMPIRE SUMMARY

For wavelengths, see S.W. List
Transmission 1 (GSD, GSB) B.S.T.
05.30—Big Tom. A Sonata Recital.†
06.00—Talk: "Books in General." Mr. Desmond McCarthy.
06.15—Variety.*
06.45—Cinema Organ (Quentin Maclean). Spanish Waltz, Santiago (Corbin). Love, I give you my all (Besly). Minuet and Rondo from Serenade in G (Mozart). Fantasia on Rigoletto (Verdi, arr. Tavan).
07.15—Empire News.
07.30—"The Open-air Shakespeare Season"*.
07.35—Close Down.
Transmission 2 (GSH, GSG)
12.00—Big Tom. Cinema Organ (Quentin Maclean).
12.45—The Western Studio Orchestra. Salusbury Baker (Baritone).
14.00—The Troadero Cinema Orchestra. 14.30—Close Down.
Transmission 3 (14.45—17.00 GSF, GSE; 17.00-18.45 GSE, GSB)
14.45—Big Tom. Empire News.
15.00—Cecil Dixon. Pianoforte.
15.30—The Bournemouth Municipal Orchestra.
16.00—Sydney Baynes' Light Orchestra.*
16.45—Gramophone Records.
17.15—The B.B.C. Dance Orchestra.
18.00—Empire News (second reading).
18.15—Variety.* 18.45—Close Down.
Transmission 4 (GSD, GSB)
19.00—Big Tom. Empire News.
19.15—Variety.† Stanelli and his Hornorchestra. Reilly and Comfort. The Five Spirits of Rhythm. Benny Goodman and his Orchestra.
19.30—Medvedeff's Balalaika Orchestra. Olga Alexeewa (Soprano).
20.00—The Leslie Bridgewater Quintet. Phyllis Evens (Soprano).
21.15—Recital of British Music.
21.45—Interlude.†
21.55—A relay from Gravesend Pilot Station.
22.15—The B.B.C. Orchestra, conducted by Frank Bridge. Franz Osborn (Pianoforte). Variations symphoniques (Franck). Tone Poem, Summer (Bridge). Overture, Carnival (Dvořák).
22.50—Sydney Kyte and his Band.
23.15—Empire News.
23.30—Close Down.
Transmission 5 (GSD, GSC)
00.00—Big Tom. Callender's Brass Quartet. The Gresham Singers.
00.40—Relay from Gravesend Pilot Station.*
01.00—Lew Stone and his Band.
01.45—Empire News.
02.00—Close Down.
* Electrical Recording.
† Gramophone Records.

WEDNESDAY May 23

PRINCIPAL EVENTS

CONCERTS

15.30 Kalundborg: Light orchestral programme.
18.30 Strasbourg: Charles Lévadé Hour.
19.00 Cologne: Scandinavian music.
19.00 Hilversum: Handel, Scarlatti, Haydn, etc.
19.50 Beromünster: Ballet music.
20.00 Brussels No. 2: Italian vocal and orchestral music.
20.00 Stockholm: Military Band.
20.15 Zeesen: "The Lay of the Bell" (Romberg).
20.30 Brussels No. 1: From Brussels Conservatoire.
20.30 Deutschlandsender: Military band.
20.30 Stuttgart, Frankfurt, Leipzig: Orchestral serenades.
20.45 Radio-Paris: The National Orchestra.
21.00 Oslo: Helsingfors University Choir.
21.00 Strasbourg: The Verdun Philharmonic.
21.05 Vienna: Yugoslav evening.
22.05 Kalundborg: Slav and Czech music.
22.10 Hilversum: Popular orchestral music.
22.45 Breslau: Fritz Lubrich Concert.
22.45 Budapest: Mozart, Schubert, Haydn.
23.00 Frankfurt, Deutschlandsender, Stuttgart: Beethoven programme.

OPERAS

20.00 Warsaw: "Manon" (Massenet), from Opera House.
20.10 Poste Parisien: "La belle Hélène" (Offenbach).
21.45 Monte Ceneri: "I Pagliacci" (Leoncavallo).
23.00 Hamburg, Munich: From two contemporary operas (Kempff, Hindemith).

CHAMBER MUSIC

15.40 Huizen: Sonatas and Suites; Pianoforte, violin, cello.

RECITALS

18.15 Brussels No. 1: Song.
20.00 Bucharest: Pianoforte, Song, Harp (21.15).
21.10 Beromünster: Romanic songs.
21.25 Sottens: Schubert, Schumann, Brahms, Songs.

PLAYS

20.30 Sottens: Dramatic programme.

DANCE MUSIC

20.30-01.00 Berlin, etc.; 22.00, Stockholm; 22.10, Brussels No. 1, Brussels No. 2; 22.30, Ecole Supérieure, Radio-Paris; 22.45, Oslo; 23.00, Leipzig, Kalundborg, Vienna; 23.25, Breslau.

Hours of Transmission in British Summer Time.

05.00

DEUTSCHLANDSENDER, 05.45—Weather; News.
FRANKFURT, 05.45—Hymn; Time; Weather. 05.50—Gym.
HAMBURG, 05.45—Time; News; For Farmers.
KÖNIGSBERG, 05.50—Weather.
MOSCOW, 05.00—Fanfare. 05.30—News. 05.45—Gym.
STUTT GART, 05.35—For Farmers; Weather. 05.45—Hymn; Time; Weather. 05.50—Gym.

06.00

BERLIN, 06.00—Nature's Greeting; Gym. 06.15—Weather; Meditation. 06.20—See Königsberg.
BEROMÜNSTER, 06.30-06.45—Gym.
BRÉSLAU, 06.00—Time; Weather. 06.20—See Königsberg.
BUDAPEST, 06.45—Gym.; Records.
COLOGNE, 06.00—Hymn; Records. 06.30—Gym. 06.50—Time; News.
DEUTSCHLANDSENDER, 06.00—Gym. 06.15—Motto. 06.20—See Königsberg.
FRANKFURT, 06.15—Time; News. 06.25—Gym. 06.50—Weather. 06.55—Orchestra.
HAMBURG, 06.00—Gym. 06.15—Time; Weather. 06.20—See Königsberg.
KÖNIGSBERG, 06.00—Gym. 06.20—Police Band.
LEIPZIG, 06.00—For Farmers. 06.05—Gym. 06.20—Records.
MOSCOW, 06.15—Programme Notes. 06.30—Records.
MUNICH, 06.30—Gym. 06.45—Motto. 06.50—Italian.
PARIS (Radio-Paris), 06.45—Gym.
FRAGUE, 06.00—Time; Gym.; Music.

SOTTENS, 06.00—Gym.
STUTT GART, 06.00—Gym. 06.15—Time; News. 06.25—Gym. 06.50—Weather. 06.55—Records.

07.00

BERLIN, 07.00—News. 07.20—See Königsberg.
BRÉSLAU, 07.00—News. 07.20—See Königsberg.
BUDAPEST, 07.00—Records.
COLOGNE, 07.00—Hymn; Records.
DEUTSCHLANDSENDER, 07.00—News. 07.20—See Königsberg.
FRANKFURT, 07.00—Orchestra.
HAMBURG, 07.00—Time; News; Motto. 07.20—See Königsberg.
HILVERSUM, 07.40—Records.
HUIZEN, 07.40—Bible Reading; Prayers. 07.55—Records.
KALUNDBORG, 07.00—Gym.
KÖNIGSBERG, 07.00—News. 07.20—Police Band.
LEIPZIG, 07.00—Records. 07.10—Orchestra.
MOSCOW, 07.00—Records. 07.15—Light Music.
MUNICH, 07.00—Italian. 07.15—Time; News. 07.25—Records.
PARIS (Poste Parisien), 07.10—Fanfare; Records. In the Interval: News.
PARIS (Radio-Paris), 07.00—Records. 07.15—News. 07.45—Gym.
PRAGUE, 07.00-07.15—News.
ROME, 07.45—Gym.
STOCKHOLM, 07.20—Gym. 07.45—Prayers.
STUTT GART, 07.00—Records.
TURIN, 07.45—Gym.
WARSAW, 07.00—Time; Hymn. 07.05—Gym. 07.25—Records. 07.35—News. 07.40—Records. 07.55—For Housewives.
08.00

08.00

BARCELONA, 08.15—News.
BERLIN, 08.00-08.35—Gym.

BORDEAUX-LAFAYETTE, 08.00—News.
BRÉSLAU, 08.00—Records. 08.30—Gym. 08.50—Cookery.
BUDAPEST, 08.00—Records.
COLOGNE, 08.00—Time; News. 08.05—Gym. 08.20-08.35—For Women.
DEUTSCHLANDSENDER, 08.45—Gym.
FRANKFURT, 08.00—Orchestra. 08.15—News. 08.20-08.40—Gym.
HAMBURG, 08.00—Weather; For Housewives. 08.15-08.25—Wireless Notes. 08.30—Records.
HILVERSUM, 08.00—Records. 08.40—Ensemble Concert.
HUIZEN, 08.00—Records.
KALUNDBORG, 08.30—Cathedral Service.
KÖNIGSBERG, 08.00—Prayers. 08.30—Gym.
LEIPZIG, 08.00—Gym. 08.20—Orchestra.
LYONS (La Doua), 08.00—News.
MOSCOW, 08.00—Light Music. 08.15—For Children.
PARIS (Poste Parisien), 08.00-08.30—Records. In the Interval: News. 08.45—Cookery Hints.
PARIS (Radio-Paris), 08.00-08.30—Records.
ROME, 08.00-08.15—Time; News.
STOCKHOLM, 08.00—Weather.
STUTT GART, 08.00—Records. 08.15—News. 08.20-08.40—Gym.
TOULOUSE (Radio-Toulouse), 08.00—Dance Refrains. 08.30—News. 08.35—Opera Music. 08.45—Songs.
TURIN, 08.00-08.20—Time; News.
WARSAW, 08.00—Announcements.

09.00

BARCELONA, 09.00—Chimes; Gym.; Records. 09.20—News.
BERLIN, 09.00-09.40—For Schools.
BRÉSLAU, 09.00—Time; News.
BUDAPEST, 09.00—Records; News.
DEUTSCHLANDSENDER, 09.40—Gym.
HAMBURG, 09.00—Records.
HILVERSUM, 09.00—Ensemble Con-

cert; Talk. 09.40—Religious Programme. 09.55—Music; Recitations; Talk.
HUIZEN, 09.00-09.10—Records.
KALUNDBORG, 09.00—Service (contd. from 08.30).
LEIPZIG, 09.40—Exchange. 09.45—News.
MADRID (EAJ7), 09.00—Chimes.
MOSCOW, 09.00—Light Music. 09.55—Time.
MUNICH, 09.50—Gym.
PRAGUE, 09.50—News.
VIENNA, 09.00—News. 09.20—Market Prices.

10.00

BARCELONA, 10.00—Obituary.
BERLIN, 10.00—News. 10.10—Market Prices. 10.30—Records.
BORDEAUX-LAFAYETTE, 10.30—See Lyons (La Doua).
BUDAPEST, 10.00—Talk; Records.
COLOGNE, 10.00—Time; News. 10.30—Three Talks.
DEUTSCHLANDSENDER, 10.01—News. 10.10—German Military Music—Lecture-Recital. 10.50—For Children.
FRANKFURT, 10.00—News. 10.45—For Housewives.
HAMBURG, 10.50—News.
HILVERSUM, 10.00—Music; Recitations; Talk.
HUIZEN, 10.10—Religious Programme. 10.40—Mlle. Beuming (Soprano).
KALUNDBORG, 10.00—Service (contd. from 08.30).
KÖNIGSBERG, 10.40—News.
LYONS (La Doua), 10.30—Orchestra.
MADRID (EAJ7), 10.00—Exchange; Announcements.
MOSCOW, 10.10—News.
MUNICH, 10.10—For Schools. 10.55—Market Prices; For Farmers; Time; News.
PRAGUE, 10.00—News. 10.05—News in German. 10.10—Records.
ROME, 10.30-10.50—Radio Rurale; Talk; Patriotic Songs.

STRASBOURG, 10.30—See Lyons (La Doua).
STUTT GART, 10.00—News. 10.10—Records. 10.35—For Women.
TURIN, 10.30-10.50—See Rome.
VATICAN CITY, 10.00-10.15—Religious Information in Spanish.
VIENNA, 10.20—For Schools. 10.50—Tides.

11.00

BELGRADE, 11.00—Announcements; Records. 11.20—Tides; Records. 11.59—Time.
BERLIN, 11.00—Records. 11.25-11.30—Exchange.
BRÉSLAU, 11.30—Time; News. 11.45—For Farmers.
BORDEAUX-LAFAYETTE, 11.00—See Lyons (La Doua).
BRUSSELS (No. 1), 11.55—Weather.
BRUSSELS (No. 2), 11.57—Weather.
BUDAPEST, 11.00—Records; Tides.
COLOGNE, 11.00—Talks. 11.15—Records. 11.45—For Farmers.
DEUTSCHLANDSENDER, 11.00—For Children. 11.15—Weather. 11.30—For Housewives.
FRANKFURT, 11.00—Concert. 11.40—News. 11.50—Social Notes.
HAMBURG, 11.00—Records; Ballet Music. 11.30—Records.
HILVERSUM, 11.00—Talk. 11.40—Light Music. Conductor: Wins. In the Intervals: Records.
HUIZEN, 11.00—Mlle. Beuming (Soprano). 11.40—Police Notes. 11.55—Records.
KALUNDBORG, 11.00—Weather; Announcements. 11.15—For Schools.
KÖNIGSBERG, 11.05—For Farmers. 11.30—Records.
LEIPZIG, 11.00—Announcements; Records. 11.40—Weather. 11.50—News; Time.
LYONS (La Doua), 11.00—Orchestra.
MORAVSKÁ-OSTRAVA, 11.00—Records. 11.05—Police Band.

WEDNESDAY May 23

11.00 (contd.)

MUNICH, 11.30—Announcements; Records.
OSLO, 11.15—Service. 11.50—Exchange.
PRAGUE, 11.00—See Moravská-Ostrava. 11.55—Market Prices; Weather.
STRASBOURG, 11.00—See Lyons (La Doua).
STUTTGART, 11.0—For Women. 11.05—Brahms Waltz Recital. 11.25—Post Office Programme; Records. 11.55—Weather.
VIENNA, 11.30—For Women. 11.55—Weather.
WARSAW, 11.40—News; 11.50—Theatre Review. 11.57—Fanfare from St. Mary's Church, Cracow.
TURIN, 11.30—Light Music.
ZEESEN, 11.30—Romantic Lieder Cycle for Soprano and Chamber Orchestra. Conductor: Hannemann.

12.00

BARCELONA, 12.00 — Chimes; Weather; Television.
BELGRADE, 12.00—Chimes. 12.05—Station Orchestra. 12.45—Exchange; Announcements.
BERLIN, 12.00—Orchestra. In the interval: Weather.
BEROMÜNSTER, 12.00—Records. 12.29—Time; News. 12.40—Talk with Records: Animals and Composers.
BORDEAUX-LAFAYETTE, 12.30—Symphony Concert.
BRESLAU, 12.00—See Munich.
BRATISLAVA, 12.00—For Farmers; Review. 12.10—Local News in Slovak. 12.20—Record. 12.35—Orchestra.
BRNO, 12.00—Market Prices.
BRUSSELS (No. 1), 12.00—Orchestra. Conductor: Walpot. Loos (Tenor).
BRUSSELS (No. 2), 12.00—Orchestra.
BUCHAREST, 12.00—Records.
BUDAPEST, 12.00—Chimes. 12.05—Smirnoff Balalaika Orchestra.
COLOGNE, 12.00—Orchestra. 12.45—News.
DEUTSCHLANDSENDER, 12.00—Weather; Greetings. 12.10—Records; Greetings. 12.55—Time.
FRANKFURT, 12.00—See Stuttgart.
HAMBURG, 12.00—For Housewives. 12.05—Time; News. 12.15—Orchestra from Berlin.
HILVERSUM, 12.00—Light Music.
HUIZEN, 12.00—Records. 12.10—Quintet.
JUAN-LES-PINS (Radio Côte d'Azur), 12.30—Amusement Guide; Variety.
KALUNDBORG, 12.00 — Chimes. 12.05—String Ensemble.
KAUNAS, 12.00—Time; News.
KÖNIGSBERG, 12.00—See Berlin.
LEIPZIG, 12.00—See Stuttgart.
LYONS (La Doua), 11.30 — Records. 12.55—News.
MONTE CENERI, 12.00—News; Records. 12.29—Time; Weather. 12.33—Orchestra. 12.55—News.
MORAVSKÁ-OSTRAVA, 12.00—Time; News.
MUNICH, 12.00—Orchestra. Conductor: Kloss.
PARIS (École Supérieure), 12.30—Orchestra.
PARIS (Poste Parisien), 12.00—Exchange. 12.05—New Records. 12.35—News. 12.45—Dance Music; Carol King's Songs.
PARIS (Radio-Paris), 12.00—Educational. 12.15—Goldy Orchestra.
PRAGUE, 12.00—For Farmers. 12.10—Records. 12.25—News. 12.35—See Bratislava.
REYKJAVIK, 12.00—Weather. 12.40—Records.
ROME, 12.30—Records.
SOTTENS, 12.29—Time; News. 12.40—Records.
STOCKHOLM, 12.30 — Weather. 12.45—Exchange. 12.55—Time.
STRASBOURG, 12.00 — Records. 12.45—News.
STUTTGART, 12.00—Contemporary Scandinavian Music. The Philharmonic Orchestra. Conductor: Wallenborn.
TOULOUSE (Radio-Toulouse), 12.00—Orchestra. 12.15—Operetta Music. 12.30—News. 12.45—Request Music.
TURIN, 12.00—Light Music. 12.30—Records. 12.45—News.
VIENNA, 12.00—Vienna Symphony Orchestra. Conductor: Wacek.
WARSAW, 12.00—Fanfare. 12.05—Records. In the Interval: Weather. 12.55—News.

13.00

ATHLONE, 13.30—Time; Weather; Exchange; Records.
BARCELONA, 13.00—For Women. 13.45—Records.
BELGRADE, 13.10—Station Orchestra. 13.30—News.
BERLIN, 13.00—News. 13.15—Records.
BEROMÜNSTER, 13.00 — Talk (contd. from 12.40). 13.25—Time; Weather; Exchange.
BORDEAUX-LAFAYETTE, 13.00—Symphony Concert.
BRATISLAVA, 13.00 — Orchestra. Conductor: Schimpel. 13.45—News in German and Hungarian; Weather.
BRESLAU, 13.00—See Munich. 13.20—Time; News. 13.35—Records.
BRUSSELS (No. 1), 13.00—News. 13.10—Felleman Orchestra.
BRUSSELS (No. 2), 13.00—News. 13.10—Orchestra. Conductor: Walpot. Loos (Tenor).
BUCHAREST, 13.00—Time; 13.15—Records.
BUDAPEST, 13.00—The Smirnoff Balalaika Orchestra. 13.30 — Orchestra.
COLOGNE, 13.00—The Station Chamber Orchestra. Conductor: Keiper.
DEUTSCHLANDSENDER, 13.00—Records.
FRANKFURT, 13.00—News; Time. 13.20—See Stuttgart. 13.50—News; Time.
HAMBURG, 13.00—Exchange. 13.15—Weather. 13.20—Light Music.
HILVERSUM, 13.55—Dressmaking.
HUIZEN, 13.00—Quintet (contd. from 12.10). 13.40—Records.
JUAN-LES-PINS (Radio Côte d'Azur), 13.00—News. 13.15—Concert.
KALUNDBORG, 13.00—String Ensemble.
KÖNIGSBERG, 13.05—Wagner Records. In the intervals, News.
LEIPZIG, 13.00—News; Time. 13.10—Records.
LYONS (La Doua), 13.00—News. 13.05—See Strasbourg.
MONTE CENERI, 13.00—News. 13.05-13.30—Orchestra.
MUNICH, 13.00—Orchestra. 13.15—Time; News. 13.25—Records.
OSLO, 13.00—Records. In the Intervals, Weather; For Farmers; Exchange.
PARIS (École Supérieure), 13.00—Orchestra.
PARIS (Poste Parisien), 13.00—Dance Music (contd. from 12.45). In the Intervals, Exchange.
PARIS (Radio-Paris), 13.00—Goldy Orchestra. In the Interval, Exchange; News.
PRAGUE, 13.00—See Bratislava. 13.25—Talk. 13.35—Talk: Economics. 13.45—Records. 13.55—Exchange.
ROME, 13.00—Time; News. 13.05—Orchestra. In the interval at 13.30—News.
SOTTENS, 13.00—Exchange. 13.05—Records.
STRASBOURG, 13.00—Time; Exchange. 13.05—Orchestra. Conductor: Roskam.
STUTTGART, 13.00—Time; News. 13.20—Military Band. 13.50—Time; News.
TOULOUSE (Radio-Toulouse), 13.00 Amusement Guide; Time. 13.05—Orchestra. 13.15—Songs. 13.30—Military Band. 13.45—Sound Film Music.
TURIN, 13.00 — Time; News. 13.05-13.30—Light Music. 13.45—Light Music.
VIENNA, 13.00 — Time; News. 13.10—Vienna Symphony Orchestra. Conductor: Wacek.

14.00

ATHLONE, 14.00-14.30—Records.
BARCELONA, 14.00—Records. 14.30—Theatre Notes; Records.
BERLIN, 14.00—News. 14.15—Italian Records.
BORDEAUX-LAFAYETTE, 14.00—Records.
BRESLAU, 14.00—Records. 14.20—Exchange. 14.25—Announcements; Records. 14.50—Market Prices.
BRNO, 14.05-14.15—Exchange.
BUDAPEST, 14.00—Orchestra.
COLOGNE, 14.00-14.45—Orchestra (contd. from 13.00).
DEUTSCHLANDSENDER, 14.00—Records. 14.45—News.
FRANKFURT, 14.00—Records. 14.30—Freiburg-Trier-Cassel Inter-Relay Concert; Old-Time Music, from Freiburg; Viola and Cello Duet

(Beethoven) from Trier; Community Singing from Cassel.
HAMBURG, 14.00—Light Music. 14.15—News. 14.30—Records.
HILVERSUM, 14.00—Dressmaking. 14.40—For Children.
HUIZEN, 14.00—Records. 14.10—Talk for Young Philatelists. 14.40—Blaauw (Organ).
KALUNDBORG, 14.55—Instrumental.
KÖNIGSBERG, 14.00—Wagner Records. 14.30—Announcements; Records.
LEIPZIG, 14.00—News. 14.15-14.25—Art Review. 14.40—For Country-Women.
LYONS (La Doua), 14.00—Records.
MADRID (EAJ7), 14.00—Chimes; Time; Weather; Variety Music. 14.30—Sextet.
MUNICH, 14.00—News. 14.20—Vocal and Instrumental. 14.50—Talk: Bettina von Arnim.
PARIS (École Supérieure), 14.00—Records.

KÖNIGSBERG, 15.00—Exchange. 15.20—For Women. 15.30—For Children.
LEIPZIG, 15.00—Petronella Hofmann (Soprano) and Kunad (Pianoforte). 15.40—Exchange.
LYONS (La Doua), 15.00—Concert.
MADRID (EAJ7), 15.00—Announcements; Exchange; Music. 15.30—Sextet.
MONTE CENERI, 15.59—Time.
MOSCOW, 15.15—For Children. 15.55—Time.
MUNICH, 15.00—Talk (contd. from 14.50). 15.10—Lecture-Recital by Richard Staab. 15.30—Talk: The Soldier's Life. 15.50—Weather; For Farmers.
PARIS (École Supérieure), 15.00—Two One-Act Plays: (a) "Spring" (Marcelle Maurette), (b) "A Telephone Message" (Hennequin).
PARIS (Poste Parisien), 15.15—Exchange. 15.45—Exchange.

Records. 16.40—Review of Historical Novels.
MADRID (EAJ7), 16.00—Variety Music. 16.15—Sextet. 16.40—News; Film Review.
MONTE CENERI, 16.00—See Beromünster.
MORAVSKÁ-OSTRAVA, 16.00—Orchestra. Conductor: Musil.
MOSCOW, 16.00—News. 16.30—Talk: The Communist Party's Struggles with Trotskyism.
MUNICH, 16.00—Musical Variety.
PARIS (École Supérieure), 16.00—Plays (contd. from 15.00).
PARIS (Poste Parisien) 16.50—Exchange.
PITTSBURGH, 16.00—Uncle Tom and Betty. 16.15—Singing Strings. 16.30—U.S. Army Band.
PRAGUE, 16.00—See Moravská-Ostrava. 16.50—For Children.
ROME, 16.30—Children's Radio Journal. 16.55—News.



"Helen of Troy," as Offenbach makes merry of her story. Poste Parisien broadcasts the opera at 20.10

PARIS (Poste Parisien), 14.00—Exchange.
PRAGUE, 14.00—Weather. 14.05—Labour Exchange in German.
REYKJAVIK, 14.15—Variety.
ROME, 14.00-14.15—Records.
STUTTGART, 14.00—Military Band.
TOULOUSE (Radio-Toulouse), 14.00—Exchange.
TURIN, 14.00-14.25—Records; Exchange.

15.00

BARCELONA, 15.00 — Humorous Dialogue; Sextet; Labour Exchange.
BERLIN, 15.00-15.20—Exchange.
BEROMÜNSTER, 15.30 — For Women. 15.59—Time.
BORDEAUX-LAFAYETTE, 15.00—See Paris (École Supérieure).
BRESLAU, 15.00—Market Prices. 15.10—Reading (Leutelt). 15.30—For Children.
BRNO, 15.45—For Children.
COLOGNE, 15.15—Talk. 15.30—Exchange. 15.50—Topical Talk.
DEUTSCHLANDSENDER, 15.00—Weather; Exchange. 15.15—For Children. 15.40—Talk.
FRANKFURT, 15.00 — Inter-Relay Concert (contd. from 14.30). 15.30—Weather; Time; Exchange. 15.50—Economic Review.
HAMBURG, 15.00—Exchange. 15.40—Shipping; Aviation.
HILVERSUM, 15.00—For Children.
HUIZEN, 15.00-15.25—Blaauw (Organ). 15.40—Bahler (Violin), Mlle. Janszen (Cello), and Mme. Bahler-Rieuwerts (Pianoforte).
KALUNDBORG, 15.00—Instrumental. In the Interval: Song Records. 15.30—Orchestra. Conductor: Schröder. Overture, "Tancred" (Rossini). Extract, "Peer Gynt" (Grieg). Selection, "Il Trovatore" (Verdi). Dance, "The Damnation of Faust" (Berlioz). Slavj Dance (Dvořák). Talk for Women. Overture, "The Bartered Bride" (Smetana). Elegy, Serenade in C (Tchaikovsky). Mazurka, "Coppelia" (Delibes). Selection, "The Tales of Hoffmann" (Offenbach). Waltz, "Der Rosenkavalier" (Strauss). Bacchanale, "The Seasons" (Glazunov).

PARIS (Radio-Paris), 15.45—Exchange.
PITTSBURGH, 15.00—The Lorraine Trio. 15.15—Sammy Fuller. 15.30—To-day's Children. 15.45—KDKA Salon Orchestra.
PRAGUE, 15.55—Exchange; Weather.
SOTTENS, 15.59—Time.
STUTTGART, 15.00—Military Band (contd. from 14.00). 15.30—Matthäus Koch Recital.
VIENNA, 15.00—Time; News. 15.20—Gym. for Children. 15.40—Talk.
WARSAW, 15.05—News; Exchange. 15.20—Mme. Davidson (Pianoforte). 15.50—For Children.
ZEESEN, 15.00—Trios.

16.00

BARCELONA, 16.00—For Hospitals.
BARI, 16.30—For Children.
BELGRADE, 16.00—For Women. 16.30—Schubert Songs.
BERLIN, 16.00—Military Band. Anecdotes in the interval.
BEROMÜNSTER, 16.00—The Radio Orchestra. 16.30—Classical Dances.
BRATISLAVA, 16.50—For Children.
BRESLAU, 16.00—Bad Salzbrunn Orchestra. Conductor: Kaden.
BRUSSELS (No. 1), 16.55—Announcements.
BRUSSELS (No. 2), 16.55—Announcements.
BUDAPEST, 16.00—Sports Talk.
COLOGNE, 16.00—Folk Songs.
DEUTSCHLANDSENDER, 16.00—See Cologne.
FRANKFURT, 16.00—Concert.
HAMBURG, 16.00—See Breslau.
HILVERSUM, 16.00—For Children.
HUIZEN, 16.00—Violin, Cello and Pianoforte (contd. from 15.40). 16.40—For Children.
KALUNDBORG, 16.00—Orchestra (contd. from 15.30). 16.15—Talk for Children. 16.30—Orchestra (contd.).
KÖNIGSBERG, 16.00—The Danzig State Theatre Orchestra. Conductor: Kallipke.
LAHTI, 16.30—Violin, Pianoforte and Cello.
LEIPZIG, 16.00—"Hans Michael Obentraut"—Play (Paul Laven) on

SOTTENS, 16.00—See Beromünster.
STRASBOURG, 16.45—Talk in German. Electricity.
STUTTGART, 16.00—See Munich.
TOULOUSE (Radio-Toulouse), 16.15—Exchange.
TURIN, 16.35—News. 16.45—For Children.
VIENNA, 16.00—News. 16.05—Talk: Photography. 16.15—Record.
WARSAW, 16.00—For Children. 16.20—Letter Box. 16.35—Records.

17.00

BARI, 17.15—Esperia Quintet.
BELGRADE, 17.00—Announcements.
BERLIN, 17.00—Military Band. 17.40—Discussion.
BEROMÜNSTER, 17.00—Dialect Programme. 17.15—Yodels. 17.25—Opera Records.
BRATISLAVA, 17.00—For Children. 17.35—Symphonic Variations (Boellmann), by Vanous (Cello).
BRESLAU, 17.00—Orchestra (contd. from 16.00). 17.30—Announcements. 17.35—Discussion: Rilke. 17.50—For Women.
BRNO, 17.35—Records. 17.45—For Students.
BRUSSELS (No. 1), 17.00—Station Orchestra. Conductor: André.
BRUSSELS (No. 2), 17.00—Dance Music.
BUCHAREST, 17.00—Orchestra.
BUDAPEST, 17.00—The Virany Orchestra.
COLOGNE, 17.00—Book Review. 17.10—Songs to the Lute. 17.30—Westphalian Legends. 17.40—Chamber Music.
DEUTSCHLANDSENDER, 17.00—Hygiene. 17.20—Legal Talk. 17.35—Sea Shanties and Sailors' Yarns (on Records).
FRANKFURT, 17.00 — Concert (contd. from 16.00). 17.30—Reading 17.45—For Young People.
HAMBURG, 17.00—See 16.00 Breslau. 17.30—Gardening Talk. 17.50—"Eating and Drinking in Lower Germany"—Radio Sequence in Dialect (Behlau). Möller (Songs to the Lute).

17.00 (contd.)

HILVERSUM, 17.00—For Children. 17.10-17.40—Records. 17.45—Records. HUIZEN, 17.00—For Children. 17.40—Friesian Recitations. KALUNDBORG, 17.00—Orchestra (contd. from 15.30). 17.30—Exchange; Fish Prices. 17.45—Talk. KAUNAS, 17.30—For Wilno. 17.50—Records. KÖNIGSBERG, 17.00—Book Review. 17.30—Orchestra (contd. from 16.00). 17.50—Talk. LAHTI, 17.00—Stories and Songs. 17.40—For Girls. 17.59—Time; Weather. LEIPZIG, 17.00—Review of Historical Novels. 17.15—Serenade in D (Beethoven), for Flute, Violin, and Viola. 17.35—Reading (Rosegger). 17.50—News; Time. MONTE CENERI, [17.00—See Beromünster. MORAVSKÁ-OSTRAVA, 17.35—Records. 17.40—News for Sokols. 17.45—Talk: The Siberian Army. 17.55—Literary Talk. MOSCOW, 17.00—Talk (contd. from 16.30). 17.30—“Something Unique in the World”—Radio Play (Pohákov). MUNICH, 17.00—Musical Variety. 17.30—For Children. 17.50—Impromptu, Op. 142 (Schubert), by Wiedemann (Pianoforte). OSLO, 17.00—Orchestra, from Trøndelag. PARIS (Ecole Supérieure), 17.05—Science Talk. 17.45—English. PITTSBURGH, 17.00—KDKA Salon Orchestra. 17.15—Honey Boy and Sassafras. 17.30—Vic and Sade. 17.45—Lloyd Huntley's Orchestra. PRAGUE, 17.00—For Children. 17.35—Records. 17.45—Talk; Passports. 17.55—Advanced French. REYKJAVIK, 17.00—Weather. ROME, 17.00—News. 17.10—Orchestra. 17.55—Weather. SOTTENS, 17.00—See Beromünster. STOCKHOLM, 17.00—Weather. 17.05—A Visit to a Golf Course. 17.40—Talk; Fishing. STRASBOURG, 17.00—Trio. STUTTGART, 17.00—See Munich. 17.30—Talk: Franz Messner, the first Mesmerist. 17.45—Legal Talk. TURIN, 17.00—For Children. 17.10—Chamber Music. 17.55—Weather. VIENNA, 17.00—Talk: After-Work Associations. 17.20—Tyrolean Music. WARSAW, 17.00—March Records. 17.30—History Talk. 17.50—Talk: Dante.

18.00

ATHLONE, 18.00—For Children. 18.45—News. BARI, 18.30—News in Foreign Languages. BELGRADE, 18.25—Time; Announcements. 18.30—French Lesson. BERLIN, 18.00—Announcements. 18.05—“The Handkerchief down the Ages”—Radio Sequence for Women. 18.30—Request Records. BEROMÜNSTER, 18.00—For Children. 18.30—Talk: Electricity. BORDEAUX-LAFAYETTE, 18.15—News. BRATISLAVA, 18.20—Hungarian Transmission; Weather; To be announced. BRSLAU, 18.00—Zanke (Flute). 18.30—To be announced. 18.50—News. BRNO, 18.10—Book Review. 18.20 German Transmission: For Children; For Women. BRUSSELS (No. 1), 18.00—Wireless Notes. 18.15—Weynandt (Songs). 18.45—Lecture-Recital: French Operettas. BRUSSELS (No. 2), 18.00—Records. 18.30—Flemish Music. August Bruylants (Baritone) and Hansen (Pianoforte). BUCHAREST, 18.00—Time; News 18.15—Orchestra. BUDAPEST, 18.00—The Virany Orchestra. 18.15—Talk. 18.50—Songs. COLOGNE, 18.00—Economics. 18.20—Reading (Gottfried Keller). 18.40—News. 18.50—Exchange; Sports. DEUTSCHLANDSENDER, 18.00—Sea Shanties and Sailors' Yarns (on Records). 18.35—Discussion. 18.55—Poem; Weather. FRANKFURT, 18.00—For Young People. 18.35—Talk. 18.20—Geology. 18.45—News; Time. 18.50—Topical Talk. HAMBURG, 18.00—“Eating and Drinking in Lower Germany” (Behlan) (contd. from 17.50). 18.30—Records. 18.45—Exchange. 18.55—Weather.

HILVERSUM, 18.00—Records. 18.10—Light Music. 18.40—Talk: Chess. HUIZEN, 18.00—Friesian Recitations. 18.10—To be announced. 18.40—Announcements. 18.55—Records. KALUNDBORG, 18.00—Talk. 18.15—French. 18.45—Weather; Announcements. KAUNAS, 18.00—Medical Talk. 18.20—Concert. 18.40—News. KÖNIGSBERG, 18.00—Talk (contd. from 17.50). 18.15—Market Prices. 18.25—Wireless Hints. 18.40—Talk: Josef Nadler's Race Theories. 18.55—Weather. LAHTI, 18.10—News in Swedish. 18.15—Esperanto. 18.40—Flute. LEIPZIG, 18.00—Talk: Wilhelm Wundt. 18.15—Dialect Songs and Recitations (on Records). LYONS (La Doua), 18.15—News. MADRID, 18.00—Chimes; Light Music. MORAVSKÁ - OSTRAVA, 18.05—Record. 18.10—For Workers. 18.20—Prague Pianoforte Duoists. MOSCOW, 18.00—Radio Play (contd. from 17.30). 18.30—For Collective Farm Workers. MUNICH, 18.00—Impromptu (Schumann) (contd. from 17.50). 18.10—For Young People. 18.50—Time; News. OSLO, 18.00—French Lesson. 18.30—For Boys. PARIS (Ecole Supérieure), 18.00—English. 18.15—News. PARIS (Poste Parisien), 18.05—Exchange. 18.25—Jewish Programme. 18.45—Exchange. 18.49—Legal Talk. 18.56—Records. PARIS (Radio-Paris), 18.20—Weather; For Farmers; News. 18.40—Medical Talk. PITTSBURGH, 18.00—Market Reports. 18.15—Lloyd Huntley's Orchestra. 18.30—Farm and Home Hour. PRAGUE, 18.00—Advanced French. 18.10—For Workers. 18.20—German Transmission: Art Notes; For Workers; Announcements. 18.55—News in German. ROME, 18.00-18.10—Corn Prices. 18.30—News in Foreign Languages. SOTTENS, 18.00—For Children. STOCKHOLM, 18.00—Records. 18.45—German Lesson. STRASBOURG, 18.00—Legal Talk. 18.15—Medical Talk. 18.30—Charles Lévyadé Concert. Station Orchestra. Conductor: de Villers. STUTTGART, 18.00—Reading. 18.25—Records. 18.35—German for Germans. 18.45—Folk Music. Military Band. Conductor: Hanker. TOULOUSE (Radio-Toulouse), 18.00—Opera Music. 18.45—Operetta Music. TRIESTE, 18.30—News in Foreign Languages. TURIN, 18.00-18.10—For Farmers. 18.30—News in Foreign Languages. VIENNA, 18.00—Tyrolean Music. 18.10—Medical Talk. 18.35—For Workers. WARSAW, 18.00—Talk: (contd. from 17.50). 18.10—String Quartet in A minor (Tcherepnin). 18.50—Announcements.

19.00

ALGIERS, 19.00—Records. ATHLONE, 19.00—Irish Lesson. 19.15—German Lesson. 19.30—Time. 19.31—Workers' Union of Ireland Band. BARCELONA, 19.00—Trio. In the Interval at 19.30—News. BARI, 19.00-19.30—News in Foreign Languages. 19.40—News in Albanian; Weather. BELGRADE, 19.00—Station Orchestra. 19.50—Announcements. BERLIN, 19.00—Request Records. 19.20—Folk Songs. 19.40—Topical Talk. BEROMÜNSTER, 19.00—Time; News. 19.20—English. 19.50—Ballet Music. BORDEAUX-LAFAYETTE, 19.30—Announcements. 19.40—Theatre Notes. BRATISLAVA, 19.10—Talk; The President of Czechoslovakia. 19.25—Orchestra. Conductor: Schimpel. Polak (Violin). BRSLAU, 19.00—See Hamburg. BRNO, 19.10—Talk: Hygiene. BRUSSELS (No. 1), 19.00—Lecture-Recital (contd. from 18.45). 19.30—Week-end Review; Medical Talk. BRUSSELS (No. 2), 19.00—Flemish Music (contd. from 18.30). 19.30—News. BUCHAREST, 19.00—Educational Programme. 19.20—Records. 19.45—Talk. BUDAPEST, 19.00—Songs. 19.35—A Play.

COLOGNE, 19.00—Scandinavian Music. The Station Orchestra. Conductor: Kühn. Müller (Violin). DEUTSCHLANDSENDER, 19.00—“The Nightingale”—Fairy Tale (Hans Andersen), with Music by Winteritz. 19.30—Italian. FRANKFURT, 19.00—See 18.45 Stuttgart. HAMBURG, 19.00—Military Band. Conductor: Schierhorn. HILVERSUM, 19.00—V.A.R.A. Orchestra. Conductor: Gebert. Bresser (Cello). Overture, “Theodora” (Handel). Toccata, Bourrée and Gigue (Scarlati-Casella). “Cello Concerto (Haydn). 19.40—S.O.S. Messages; News. 19.55—Sports Talk. HUIZEN, 19.00—Records. 19.10—For Farmers. 19.40—Religious Programme: Addresses, Songs and Records. KALUNDBORG, 19.00—News. 19.15 Time. 19.30—Discussion: Literature, Democracy, Dictatorship. KAUNAS, 19.00—Time; News. 19.30—Programme from the National Theatre. In the Interval: Talk; News. KÖNIGSBERG, 19.00—Ballet Music. The Station Orchestra. Conductor: Wilcken. LAHTI, 19.00—Talk. 19.20—Choir. 19.40—Talk. LEIPZIG, 19.00—Dialect Songs and Recitations (on Records). 19.35—Medical Talk. LYONS (La Doua), 19.30—Local News. 19.40—Gardening Notes. 19.50—Theatre Notes. MADRID (EAJ7), 19.00—News; Talks. 19.30—Exchange; Orchestra. MONTE CENERI, 19.44—News. MOSCOW, 19.00—For Collective Farm Workers. 19.30—Talk: The Volga Irrigation Works. MUNICH, 19.00—“Der Herr von Malepartus”—Radio Play (Kuhner). OSLO, 19.00—Book Review. 19.15—News. 19.30—Time; For Farmers. 19.40—Orchestra. Conductor: Kramm. PARIS (Ecole Supérieure), 19.30—Records. 19.45—Tourist Report. PARIS (Poste-Parisien), 19.00—Records. 19.10—News. 19.30—Theatre Review. 19.35—Topical Talk. 19.50—Records. PARIS (Radio-Paris), 19.00—Talk. 19.30—Topical Talk. PITTSBURGH, 19.00—Farm and Home Hour. 19.30—KDKA Home Forum. PRAGUE, 19.00—Time. 19.02—News. 19.10—See Bratislava. 19.25—Military Band. ROME, 19.00—News in Foreign Languages. 19.25—News. 19.30—Time; News; Announcements. 19.40—Records. 19.55—News. SCHENECTADY, 19.00—Soloist. 19.15—The Wise Man. 19.30—Woman's Radio Review. SOTTENS, 19.00—Talk. 19.15—Talk: Rhône Fêtes. 19.30—Talk: Agriculture in Vaud. STOCKHOLM, 19.00—German Lesson. 19.15—News. 19.30—Talk: Dangerous Spiders. STRASBOURG, 19.00—Lévyadé Concert (contd. from 18.30). 19.30—Time; News. 19.45—For Children. STUTTGART, 19.00—Folk Music (contd. from 18.45). 19.45—Time; Announcements. TOULOUSE (Radio-Toulouse), 19.00—Orchestra. 19.15—Songs. 19.30—News. 19.45—Light Music. 19.50—Talk. TRIESTE, 19.00-19.30—News in Foreign Languages. TURIN, 19.00—Report of the International Institute of Agriculture. 19.20—Tourist Report. 19.30—Time; News. 19.40—Records. 19.55—News. VATICAN CITY, 19.00-19.15—Religious Information in Italian. VIENNA, 19.00—Time; News. 19.15—Talk: The Black Sea. 19.45—Hellmesberger Music. The Vienna Symphony Orchestra. Conductor: Schönherr. WARSAW, 19.00—Records. 19.15—For Farmers. 19.25—Reading: Religious Poems. 19.40—Sports Notes. 19.47—News.

20.00

ALGIERS, 20.00—Exchange; Shipping. 20.20—Records. 20.55—News. ATHLONE, 20.00—Band (contd. from 19.31). 20.30—Mary Burke Collins (Soprano). 20.45—“Discreet Enquiries”—Play by Flora MacDonald and Company.

BARCELONA, 20.00—Request Records; Aviation. 20.30—Exchange; Records. BELGRADE, 20.00—Relay (from Ljubljana Opera House. BERLIN, 20.00—News. 20.10—See Frankfurt. 20.30—Gala Dance Programme. Barbabas von Gezy, The Station Orchestra. Conductor: Merten. The Small Station Orchestra. Conductor: Steiner. BEROMÜNSTER, 20.00—Ballet Music. 20.30—Wilhelm Herzog reads from his Play, “Panama.” BORDEAUX-LAFAYETTE, 20.00—For Farmers. 20.15—News. 20.30—See Paris (Ecole Supérieure). BRATISLAVA, 20.00—Orchestra. Conductor: Schimpel. BRSLAU, 20.00—News. 20.10—See Frankfurt. 20.30—Dance Music. Station Orchestra. Conductor: Rischka. Ilgner Dance Band. BRNO, 20.10—“Christopher Columbus”—Play (Colon). BRUSSELS (No. 1), 20.00—Records. 20.30—Concert from the Royal Conservatoire. BRUSSELS (No. 2), 20.00—The Radio Orchestra. Conductor: André Crabbé (Songs), Fischers (Cello) and Nora Gevers (Recitations). Italian programme. BUCHAREST, 20.00—Pianoforte Recital. 20.30—Talk. 20.45—Songs. BUDAPEST, 20.00—Play (contd. from 19.35). 20.30—Records. COLOGNE, 20.00—News. 20.10—See Frankfurt. 20.30—See Hamburg. DEUTSCHLANDSENDER, 20.00—Motto; News. 20.10—See Frankfurt. 20.30—Military Band. In the Interval: Announcements. FRANKFURT, 20.00—Time; News. 20.10—Transmission for all German Stations. Rural Programme. 20.30—See Stuttgart. HAMBURG, 20.00—News. 20.10—See Frankfurt. 20.30—Dance Music. Conductor: Bolt. HILVERSUM, 20.00—Sports Talk. 20.15—Orchestra. Andante, Scherzo and Capriccioso (Mendelssohn). Ballet Music, “Rosamunde” (Schubert). The Blue Danube (Strauss). HUIZEN, 20.00—Religious Programme (contd. from 19.40). JUAN-LES-PINS (Radio Côte d'Azur), 20.00—Amusement Guide; News. 20.10—Tides. 20.20—Concert. KALUNDBORG, 20.00—Discussion (contd. from 19.30). KAUNAS, 20.00—National Theatre Programme. KÖNIGSBERG, 20.00—News. 20.10—See Frankfurt. 20.30—Königsberg Opera House Orchestra and University Choir. Conductor: Seidler, Eva Liebenberg (Contralto) and T. Schlott (Bass). LAHTI, 20.00—Dance Music. 20.45—News in Finnish. LEIPZIG, 20.00—News. 20.10—See Frankfurt. 20.30—See Stuttgart. LYONS (La Doua), 20.00—Educational Talk. 20.20—Book Review. 20.30—See Vienna. MADRID (EAJ7), 20.00—Orchestra. 20.30—News; Address. MONTE CENERI, 20.00—For Farmers. 20.15—Waltzes and Marches. 20.45—“L'Angerin l'è goraa via”—Dialect Play (Glauco). MOSCOW, 20.00—“Contemporary Humour and Satire”—Reading; Music. MUNICH, 20.00—News. 20.10—See Frankfurt. 20.30—The Station Orchestra. Conductor: List. Erna Sack (Coloratura Soprano), Luise Willer (Contralto) and Marius Andersen (Tenor). OSLO, 20.00—Orchestra. Conductor: Kramm. 20.30—Talk. PARIS (Ecole Supérieure), 20.00—Records. 20.30—Orchestra. Conductor: Chobillon. PARIS (Paris Parisien), 20.10—“La belle Hélène”—Opera in Three Acts (Offenbach). In the Interval: Exchange. PARIS (Radio-Paris), 20.00—Talk: Coppée, Rivoire and Géraldy. 20.30—News. 20.45—Symphony Concert. The National Orchestra. Conductor: Inghelbrecht. Mme. Balguer (Songs). Overture, “The Ruins of Athens” (Beethoven). Suite for Voice and Orchestra, “Le cercle des heures” (Samazeuilh). Tasso (Liszt). Act II, “L'Etranger” (d'Indy). PITTSBURGH, 20.00—Mid-week Matinee. 20.15—Happy Days in Dixie. 20.45—Human Values. PRAGUE, 20.00—Military Band. 20.10—See Brno.

WEDNESDAY May 23

ROME, 20.00—News. 20.10—Records. 20.30—Government Notes. 20.45—Albeniz Musical Concert. In the Interval: Talk: Literature and Art. SCHENECTADY, 20.00—Woman's Radio Review. SOTTENS, 20.00—David (Cello) and Mougna Altizer (Pianoforte). 20.30—Dramatic Programme. STOCKHOLM, 20.00—Time. 20.02—Military Band. Conductor: Grundström. STRASBOURG, 20.00—For Children. 20.15—News in German; Lottery Results; Announcements. 20.45—Talk on the 21.00 Transmission. STUTTGART, 20.00—News. 20.10—See Frankfurt. 20.30—Serenades Orchestra. Conductor: Drost. TOULOUSE (Radio-Toulouse), 20.00—Operetta Music. 20.30—Orchestra. TURIN, 20.05—Records. 20.30—Government Notes. 20.45—A One-Act Play. VIENNA, 20.00—Hellmesberger Music (contd. from 19.45). 20.45—Topical Talk. WARSAW, 20.00—Great Thoughts. 20.02—“Manon”—Opera (Massenet), from the Opera House in the intervals, Talks. ZEESEN, 20.15—“Das Lied von der Glocke” (Schiller). Music by Romberg.

21.00

ALGIERS, 21.10—Songs. 21.30—Orchestra. ATHLONE, 21.00—“Discreet Enquiries”—Play (contd. from 20.45). 21.15—Lindsay (Bass). 21.30—Variety. BARCELONA, 21.00—Educational Programme. 21.10—Records. 21.30—Educational Talk. 21.45—News. BELGRADE, 21.00—Opera Relay (contd. from 20.00). BERLIN, 21.00—Gala Dance Programme (contd. from 20.30). BEROMÜNSTER, 21.00—News. 21.10—Romanic Songs. BORDEAUX-LAFAYETTE, 21.00—See 20.30, Paris (Ecole Supérieure). BRSLAU, 21.00—Dance Music. BRNO, 21.00—“Christopher Columbus”—Play (contd. from 20.10). BRUSSELS (No. 1), 21.00—Concert (contd. from 20.30). 21.15—Records. 21.30—Conservatoire Concert (contd.). BRUSSELS (No. 2), 21.00 Italian Music (contd. from 20.00). BUCHAREST, 21.00—Songs. 21.15—Harp. 21.45—News. BUDAPEST, 21.00—Records. 21.30—News. 21.50—Farkas Cigány Band. COLOGNE, 21.00—See Hamburg. DEUTSCHLANDSENDER, 21.00—Military Band. FRANKFURT, 21.00—See 20.30 Stuttgart. HAMBURG, 21.00—Dance Music. HILVERSUM, 21.00—“Fire down below”—Play (Heyermans). HUIZEN, 21.00—Religious Programme (contd. from 19.40). 21.40—News. 21.50—Records. JUAN-LES-PINS (Radio Côte d'Azur), 21.00—News. 21.15—Concert. KALUNDBORG, 21.00—Discussion (contd. from 19.30). 21.30—Ludolf Neilsen Songs, by Holger Bruusgaard. 21.50—News. KAUNAS, 21.00—National Theatre Programme. KÖNIGSBERG, 21.00—Orchestra and Choir (contd. from 20.30). 21.15—Dance Music. LAHTI, 21.00—News in Swedish. LYONS (La Doua), 21.00—Jules Buisson Concert, from the Municipal Theatre, Vienna. MADRID (EAJ7), 21.00—Address. MONTE CENERI, 21.00—Dialect Play (contd. from 20.45). 21.45—“I Pagliacci”—Opera in Two Acts (Leoncavallo). Scala Theatre Orchestra and Choir. Conductors: Molajoli and Veneziani. MOSCOW, 21.00—Talk in Czech: Spring in Soviet Russia. 21.55—Chimes. MUNICH, 21.00—The Station Orchestra and Soloists (contd. from 20.30). OSLO, 21.00—Helingsfors University Choir, Conductor: Carlsson. 21.40—News. PARIS (Ecole Supérieure), 21.00—Orchestra. PARIS (Poste-Parisien), 21.00—“La Belle Hélène” (Offenbach) (contd. from 20.10).

WEDNESDAY May 23

21.00 (contd.)

PARIS (Radio-Paris), 21.00—Symphony Concert (contd. from 20.45). In the interval, News; Fashion Review.

PITTSBURGH, 21.00—Betty and Bob. 21.15—Karen Fladoes. 21.30—Market Reports. 21.45—Concert Favourites.

PRAGUE, 21.00—See Brno.

REYKJAVIK, 21.00—Music. 21.10—Weather. 21.25—Talk. 21.50—Announcements.

ROME, 21.00—Albéniz Memorial Concert (contd. from 20.45).

SOTTENS, 21.00—Dramatic Programme (contd. from 20.30). 21.15—News. 21.25—Schubert, Schumann, Brahms Songs by Carl Rehfuss (Baritone). Introductory Talk.

STOCKHOLM, 21.00—Reading. 21.30—Radio Report. 21.45—News.

STRASBOURG, 21.00—The Verdun Philharmonic Orchestra. Conductor: Kiffel. In the Interval, Tourist Talk.

STUTTGART, 21.00—Serenade Concert.

TOULOUSE (Radio-Toulouse), 21.00—"Rétrospective de la Danse"—Radio Fantasy. 21.30—Sound Film Music. 21.45 (approx.)—Orchestra.

TURIN, 21.00—Play (contd. from 20.45). 21.30—Orchestra. Conductor: Tansini. In the interval: Talk; Announcements.

VIENNA, 21.05—Yugoslav Programme.

WARSAW, 21.00—"Manon"—Opera (Massenet) (contd. from 20.02).

ZEESEN, 21.00—"Das Lied von der Glocke" (Schiller) (contd. from 20.15).

22.00

ALGIERS, 22.05—News. 22.15—Orchestra. 22.55—News.

ATHLONE, 22.00—Variety. 22.30—Time; News. 22.40—Rowsome (Pipes) and O'Duinn (Fiddle).

BARCELONA, 22.0—Chimes; Weather. 22.05—Announcements. 22.10—Station Orchestra. Turkish Patrol (Palau). Selection, "Iris"

(Mascagni). Cradle Song (Grieg) Minuet, "Samson" (Handel). Gavotte, "Armida" (Gluck). Overture, Coriolanus (Beethoven).

BELGRADE, 22.0—News. 22.15—Variety.

BERLIN, 22.0—News. 22.30 (approx.)—Gala Dance Programme (contd. from 20.30).

BEROMÜNSTER, 22.00-22.15—Songs.

BORDEAUX - LAFAYETTE, 22.0—See Paris (École Supérieure).

BRATISLAVA, 22.20—News in Hungarian.

BRESLAU, 22.00—Dance Music. 22.10—Wireless Notes. 22.20—Time; News. 22.45—Fritz Lubrich Concert. Station Orchestra. Conductor and Accompanist: The Composer. Heidrich (Tenor).

BRUSSELS (No. 1), 22.00—News. 22.10—Dance Records.

BRUSSELS (No. 2), 22.00—News. 22.10—Dance Records.

BUCHAREST, 22.00—Light Music.

BUDAPEST, 22.00—Farkas Cigány Band. 22.45—Royal Hungarian Opera House Orchestra. Conductor: Ferencsik. Piece (Mozart). Moments musicaux (Schubert-Dohnányi). Symphony (Haydn).

COLOGNE, 22.00—Time; News. 22.20—Records.

DEUTSCHLANDSENDER, 22.00—Wireless Notes. 22.20—News. 22.45—Weather. 23.00—See Frankfurt.

FRANKFURT, 22.00—Variety. 22.20—Time; News. 22.35—See Stuttgart. 22.45—News.

HAMBURG, 22.00—News. 22.20—Dance Music. Conductor: Bolt.

HILVERSUM, 22.00—Play (contd. from 21.00). 22.10—Concert. Hungarian Comedy Overture (Keler-Bela). Piece (Lehár). Rhapsody in F (Liszt). Schlummerlied (Doppler). Selection, "Countess Maritza" (Kálmán). 22.55—Records.

HUIZEN, 22.00—Records.

KALUNDBORG, 22.05—Slav and Czech Music. The Station Orchestra. Conductor: Grön Dahl. Overture, "The Bartered Bride" (Smetana). Slav Rhapsody in A flat (Dvořák). Mazurka (Glazunov). Polovtsian Dances, "Prince Igor" (Borodin). Bacchanal, "Le Pavillon d'Armide" (Tcherepnin).

KAUNAS, 22.00—National Theatre Programme.

KÖNIGSBERG, 22.00—News. 22.30—Records.

LEIPZIG, 22.00—News. 22.30—Radio Report of a Popular Mansfeld Festival.

LYONS (La Doua), 22.00—Jules Buisson Concert (contd. from 21.00); News.

MADRID (EAJ7), 22.00—Chimes; Time; Wireless Notes. 22.30—Sextet.

MONTE CENERI, 22.00-22.30—"I Pagliacci"—Opera (Leoncavallo), (contd. from 21.45).

MOSCOW, 22.05—Talk in English: The Factory Committee.

MUNICH, 22.00—Time; News. 22.20—To be announced.

OSLO, 22.00—Topical Talk. 22.15—Poems. 22.45—Dance Records.

PARIS (École Supérieure), 22.00—Orchestra. 22.30—Dance Music.

PARIS (Poste Parisien), 22.00—"La belle Hélène" (Offenbach) (contd. from 20.10). 22.15—News.

PARIS (Radio-Paris), 22.00—Concert (contd. from 20.45). 22.30—Dance Music.

PITTSBURGH, 22.00—Roy Shields' Orchestra. 22.15—KDKA Kiddies' Klub. 22.30—The Singing Lady. 22.45—Orphan Annie.

PRAGUE, 22.15—Sports. 22.20—News in French.

REYKJAVIK, 22.00—Chimes; News. 22.30—Talk.

ROME, 22.00—Albéniz Memorial Concert (contd. from 20.45).

SOTTENS, 22.00—Talk: The Work of the League of Nations.

STOCKHOLM, 22.00—Dance Music.

STRASBOURG, 22.00—The Verdun Philharmonic Orchestra (contd. from 21.00). 22.30 (approx.)—News. 22.35 (approx.)—Orchestra.

STUTTGART, 22.00—Serenade Concert. 22.20—Time; News. 22.35—Topical Talk. 22.45—News.

TOULOUSE (Radio-Toulouse), 22.00—Songs. 22.15—News. 22.30—Military Band. 22.45—Operetta Music.

TURIN, 22.00—Orchestra. Conductor: Tansini.

VIENNA, 22.00—Yugoslav Programme. 22.15—News. 22.20—Talk. 22.30—Dance Music.

WARSAW, 22.00—"Manon"—Opera (Massenet) (contd. from 20.00);

23.00

BARCELONA, 23.00—"La Pubilla del Valles"—Comedy (Arnau).

BERLIN, 23.00—Gala Dance Programme (contd. from 20.30).

BRESLAU, 23.00—Fritz Lubrich Concert (contd. from 22.45). 23.25—Dance Music. Station Orchestra. Conductor: Rischka. Ilgner Dance Band.

BUDAPEST, 23.00—Opera House Orchestra (contd. from 22.45). 23.30—Talk in German.

COLOGNE, 23.00—See Leipzig.

DEUTSCHLANDSENDER, 23.00—See Frankfurt.

FRANKFURT, 23.00—Beethoven Concert. The Station Orchestra. Conductor: Rosbaud. Schmid (Pianoforte).

HAMBURG, 23.00—Concert. Introductory Talk by Fuhrmann. Part I: Extracts, "Famille Gozzi"—Opera (Kempff). Station Choir and Soloists. Conductor: Eibenschütz. Part II: "Mathis der Maler" (Hindemith). Station Orchestra. Conductor: Maasz.

HILVERSUM, 23.00—Records.

HUIZEN, 23.00-23.10—Records.

KALUNDBORG, 23.00—Dance Music.

KÖNIGSBERG, 23.00—Records.

LEIPZIG, 23.00—Dance Music by the Emde Orchestra.

MADRID (EAJ7), 23.00—News. 23.15—Dramatic Programme. In the Intervals, Sextet.

MADRID (EAQ), 23.30—Spanish Music. 23.45—News.

MOSCOW, 23.05—Talk in German: Soviet Art.

MUNICH, 23.00—See Hamburg.

OSLO, 23.00—Dance Records.

PARIS (École Supérieure), 23.30—Dance Music; News.

PITTSBURGH, 23.00—Musical Potpourri. 23.15—Baseball. 23.30—Comedy Stars of Hollywood. 23.45—Lowell Thomas.

REYKJAVIK, 23.00—The Radio Trio; Record; Piano Concerto in E flat (Beethoven).

ROME, 23.00—News.

SCHENECTADY, 23.40—Stock Reports.

STRASBOURG, 23.00—Orchestra (contd. from 22.35).

STUTTGART, 23.00—See Frankfurt.

TOULOUSE (Radio-Toulouse), 23.00—Request Music. 23.15—Dance Music.

TURIN, 23.00—News.

VIENNA, 23.00—Dance Music; Announcements.

WARSAW, 23.00—News. 23.15—Records.

00.00 (Thursday)

BARCELONA, 00.00—Comedy (contd. from 23.00).

BERLIN, 00.00—Gala Dance Programme (contd. from 20.30).

BRESLAU, 00.00-00.30—Dance Music.

COLOGNE, 00.00-00.30—See Leipzig.

FRANKFURT, 00.00—Records.

HAMBURG, 00.00—Concert (contd. from 23.00).

KALUNDBORG, 00.00—Chimes. 00.05—Dance Music.

KÖNIGSBERG, 00.00-00.30—Records.

LEIPZIG, 00.00-00.30—Dance Music by the Emde Orchestra.

MADRID (EAJ7), 00.00—Dramatic Programme (contd. from 23.15). 00.45—News.

MADRID (EAQ), 00.00—Concert. 00.45—Light Music.

PITTSBURGH, 00.00—Amos 'n' Andy. 00.15—Nancy Martin. 00.30—To be announced. 00.45—Irene Rich.

SCHENECTADY, 00.00—Variety. 00.30—Wayne King's Orchestra.

STUTTGART, 00.00—See Frankfurt.

TOULOUSE (Radio-Toulouse), 00.00—News. 00.05—"Au Caveau de Minuit"—Radio Fantasy. 00.15—Orchestra: Waltz (Ziehrer). Anno Dazamal (Morena).

01.00

BARCELONA, 01.00—News.

MADRID (EAJ7), 01.00—Chimes.

MADRID (EAQ), 01.00-01.30—Variety.

PITTSBURGH, 01.00-06.00—Popular Programme.

SCHENECTADY, 01.00-03.00—Popular Programme.

ZEESEN, 01.30—Trios.

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NATIONAL

For Time Signals, see Monday
10.15 (Daventry)—Service.
10.30 (Daventry)—Weather Forecast.
10.45-11.00 (Daventry)—"The Year in Whitehall"—Mrs. Oliver Strachey.
11.00-11.10 (Daventry)—"Empire Day." Admiral of the Fleet, Earl Jellicoe.
12.00—The Rutland Square and New Victoria Orchestra. Overture, Raymond (Ambrose Thomas).
Waltz, Tales of the Vienna Woods (Johann Strauss). Hungarian Rhapsody No. 3, in D (Liszt). Ballet Suite, A Day in Fairyland (Haydn Wood). Two English Dances (Grainger). Selection, More Melodious Memories (Finck).
13.00—A Recital of New Gramophone Records by Christopher Stone.
14.00-15.00—The Western Studio Orchestra.
15.00—Evensong from Westminster Abbey.
15.50 (Daventry and West)—The Scottish Studio Orchestra. Lois Stott (Contralto).
17.15 (Daventry)—The Children's Hour.
17.15 (except Daventry)—The B.B.C. Dance Orchestra.
18.00—"The First News."
18.25—Interlude.
18.30—Spanish Talk. Maria de Laguna, M.A.
19.00—An Empire Day Programme from Australia. Devised and produced by the Australian Broadcasting Commission.
19.30—From Tolpuddle to T.U.C. "The International Side of Trade Unionism." Walter M. Citrine.
20.00—The B.B.C. Orchestra (Section E), conducted by Julian Clifford. Suite, Capriol (Peter Warlock). Prelude, The Forgotten Rite (Ireland). Suite, Farrago (Moeran). A Song before Sunrise (Delius). Suite, Façade (Walton).
21.00—"The Second News."
21.20—Royal Empire Society Banquet. Speech by The Most Honble. the Marquess of Londonderry, K.G., M.V.O., Secretary of State for Air. Relayed from the Connaught Rooms.
21.35—A Recital. Stiles-Allen (Soprano), Eda Kersey (Violin), Berkeley Mason (Organ).
22.30—A Short Mid-Week Service, relayed from St. Michael's, Chester Square.
22.45-24.00 (Daventry)—Dance Music. The Casani Club Orchestra, directed by Charles Kunz, relayed from Casani's Club.

REGIONAL

For Time Signals, see Monday
10.15—The Daily Service.
10.30-11.00 (except Midland)—Daventry.
12.00—Cinema Organ (Sydney Gustard).
12.45—The Coventry Hippodrome Orchestra.
13.45—The Midland Studio Orchestra. Grace Field (Soprano).
15.00-16.05 (London, Midland, North)—Symphony Concert. Records.
15.00 (West)—Montgomery County Music Festival. Elena Danieli (Soprano), Hughes Macklin (Tenor), Keith Falkner (Bass), Charles Clements (Pianoforte). Trio: Evelyn Cooke (Violin), Haydn Lewis (Violoncello), Sir Walford Davies (Pianoforte). The Festival Choir, The Festival Orchestra, conducted by Adrian Boult.
15.00-15.25 (Scottish)—Records.
15.25 (Scottish)—Mid-Week Service.
15.50-17.15 (except Midland)—Scottish Studio Orchestra. Lois Stott (Contralto).
17.15—The Children's Hour.
18.00—"The First News" and Farmers' Bulletin.
18.30 (except Midland)—Organ. R. Dixon.
18.30 (Midland)—Organ (F. Newman).
18.55—Act 1 of Wagner's Opera "Die Meistersinger von Nürnberg." Cast: Max Lorenz, Kate Heidersbach, Ruth Berglund, Martin Kremer, Alexander Kipnis, Eduard Habich, Rudolf Bockelmann, Alfred Bartolitus, Samuel Worthington, Herbert Jansen, Ronald Stear, Rolf Scharf, Powell Lloyd, Trefor Jones, Frederick Woodhouse, Franklyn Kelsey. Conductor: Sir Thomas Beecham, relayed from The Royal Opera House, Covent Garden.
20.20 (London and West)—An Empire Day Programme of Gramophone Records.
20.20 (Midland)—An Eye-Witness Account of the Shropshire and West Midland Show.
20.20 (North)—"Through Foreign Eyes"—Scene III.
20.20 (Scottish)—"Roaming." The Studio Orchestra. Philip Malcolm (Baritone).
20.35 (Midland)—The Studio Orchestra. The Hadley Orpheus Male Voice Choir.
21.00 (except Midland)—Lance Sieveking's New Radio Play. "Wings of the Morning."
21.30 (Midland)—"Divertissement."
22.15—"The Second News."
22.30-24.00 (Midland till 23.00)—The Casani Club Orchestra, directed by Charles Kunz.

EMPIRE SUMMARY

For wavelengths, see S.W. List
Transmission 1 (GSD, GSB)
B.S.T.
05.30—Big Tom. Music from the Empire.†
06.15—A Relay from Gravesend Pilot Station.*
06.35—Famous Operatic Arias—II.†
07.15—Empire News.
07.30—Close Down.
Transmission 2 (GSH, GSG)
12.00—Big Tom. The Rutland Square and New Victoria Orchestra.
13.00—Christopher Stone.
14.00—The Western Studio Orchestra.
14.30—Close Down.
Transmission 3 (14.45-17.00 GSF, GSE; 17.00-18.45 GSE, GSB)
14.45—Big Tom. Empire News.
15.00—Talk. "Empire Day." Earl Jellicoe.
15.05—Evensong relayed from Westminster Abbey.
15.45—Music from the Empire.†
16.30—Talk.
16.45—The Scottish Studio Orchestra. Lois Stott (Contralto).
17.15—Relay from Gravesend Pilot Station.*
17.35—The B.B.C. Dance Orchestra.
17.55 (See 15.00).*
18.00—Empire News (second reading).
18.15—Cinema Organ (Reginald Dixon). 18.45—Close Down.
Transmission 4 (GSD, GSB)
19.00—Big Tom. A Programme from Australia.
19.30—Empire News.
19.45—(See 15.00).*
19.50—Music from the Empire.†
20.00—The B.B.C. Orchestra (Section E), conducted by Julian Clifford.
21.00—Music from the Empire.†
21.20—Daventry National Programme
21.35—A Recital by Berkeley Mason (Organ), Stiles Allen (Soprano), Eda Kersey (Violin).
22.30—The Casani Club Orchestra.
23.15—Empire News.
23.30—(See 15.00).*
23.35—Close Down.
Transmission 5 (GSD, GSC)
00.00—Big Tom. Cinema Organ (Reginald Dixon). March, Here's the Band (Pryor). Tone Poem, Finlandia (Sibelius). Foxtrot, Let's fall in love (Arlen). Selection, The Golden Toy (Schumann). Old-Time Tunes (arr. Stoddon).
00.30—Programme from Australia.*
01.00—Speeches from the Banquet of the Royal Empire Society.*
01.15—Elgar.† Froissart Overture. Wand of Youth Suite No. 1. Pomp and Circumstance No. 4, in G.
01.45—Empire News.
02.00—(See 15.00).*
02.05—Close Down.
* Electrical Recording.
† Gramophone Records.

THURSDAY May 24

PRINCIPAL EVENTS

CONCERTS

17.00 Brussels No. 2: Flemish composers.
19.40 Huizen: Relay of open-air concert.
20.00 Brussels No. 1: Symphony Orchestra.
20.10 Kalundborg: Operetta programme.
20.30 Lyons-la-Doua, Strasbourg: Conductor, Witkowsky.
20.40 Hilversum: Smetana, Dvořák; Operatic (21.40).
20.45 Sottens: Radio Suisse Romande Orchestra.
21.00 Cologne: Violin Concerto (Spohr) and operatic (22.30).
21.00 Frankfurt, Stuttgart: Orchestral and instrumental.
21.00 Leipzig: New music by Leipzig composers.
21.00 Munich: Symphony No. 6 (Bruckner).
22.25 Kalundborg: Debussy programme.
22.45 Breslau, Deutschlandsender (23.00): Light Music.
23.00 Budapest: Cigány Band "Béla Rác."
00.05 Hamburg: Scandinavian music.

OPERAS

18.55 Regional: "The Mastersingers" (Wagner), Act I, from Covent Garden.
19.30 Budapest: "The Barber of Seville" and Stravinsky's "Petrushka," from Royal Opera House.
19.30 Prague: "The Devil's Rock" (Smetana).
20.00 Oslo: "Tales of Hoffmann" (Offenbach).

CHAMBER MUSIC

20.30 Ecole Supérieure: Quartet (Borodine); Kedroff Vocal Quartet.
20.45 Monte Ceneri: Quintet (Mozart).
21.00 Deutschlandsender: Music on old instruments.
21.20 Berlin: The lute and guitar in chamber music.

RECITALS

18.45 Brussels No. 2: Organ (Rev. Père Plum).
19.00 Berlin: Dances for pianoforte duet.
20.30 Beromünster: Pianoforte.
21.00 Breslau: Student songs.
21.10 Huizen: Organ.

PLAYS AND TALK

20.10 Poste Parisien: "The Marriage of Mdlle. Beulemans" (Fonson et Wicheler).
20.30 Beromünster: Literary Talk: "Oriental Fairy Tales."
20.45 Radio-Paris: "Tovaritch" (Deval).

DANCE MUSIC

22.30 Vienna; 22.50, Hilversum; 23.05, Warsaw; 23.10, Kalundborg; 23.30, Königsberg.

MISCELLANEOUS

10.00-13.00 Prague: The Presidential Election.

Hours of Transmission in British Summer Time

06.00

BERLIN, 06.00—Nature's Greeting. 06.15—Weather; Meditation. 06.20—Orchestra.
BEROMÜNSTER, 06.30—Gym.
BRESLAU, 06.00—Time; Weather; Gym. 06.15—Song; Motto. 06.25—Orchestra.
BUDAPEST, 06.45—Gym.
COLOGNE, 06.00—Hymn. 06.05—Records. 06.30—Gym. 06.50—Time; News.
DEUTSCHLANDSENDER, 06.00—Gym. 06.15—Motto. 06.20—See Berlin.
FRANKFURT, 06.00—Gym. 06.15—Time; News. 06.25—Gym. 06.50—Weather. 06.55—Records.
HAMBURG, 06.00—Gym. 06.15—Time; Weather. 06.20—See Berlin.
KÖNIGSBERG, 06.00—Gym. 06.20—See Berlin.
LEIPZIG, 06.00—For Farmers. 06.05—Gym. 06.20—See Berlin.
MOSCOW, 06.15—Programme Notes. 06.30—Records.
MUNICH, 06.30—Gym. 06.45—Motto; Records.
PARIS (Radio-Paris), 06.45—Gym.
PRAGUE, 06.00—Time; Gym; Music.
SOTTENS, 06.00-06.15—Gym.
STUTTART, 06.00—Gym. 06.15—Time; News. 06.25—Gym. 06.50—Weather. 06.55—Records.

07.00

BERLIN, 07.00—News. 07.20—Orchestra.
BRESLAU, 07.00—Time; News. 07.10—Orchestra.
BUDAPEST, 07.00—Records.
COLOGNE, 07.00—Hymn; Records.
DEUTSCHLANDSENDER, 07.00—News. 07.20—See Berlin.
FRANKFURT, 07.00—Records.

HAMBURG, 07.00—Time; News; Motto. 07.20—See Berlin.
HILVERSUM, 07.40—Time; Records.
HUZEN, 07.40—Records.
KALUNDBORG, 07.00—Gym.
KÖNIGSBERG, 07.00—News. 07.20—See Berlin.
LEIPZIG, 07.00—News. 07.20—See Berlin.
MOSCOW, 07.00—Records. 07.15—Light Music.
MUNICH, 07.00—Records. 07.15—Time; News. 07.25—Records.
PARIS (Poste Parisien), 07.10—Fanfare; Records. In the Intervals: News.
PARIS (Radio-Paris), 07.00—Records. 07.15—News. 07.45—Gym.
PRAGUE, 07.00-07.15—News.
ROME, 07.45—Gym.
STOCKHOLM, 07.20—Gym. 07.45—Prayers.
STUTTART, 07.00—Records.
TURIN, 07.45—Gym.
WARSAW, 07.00—Time; Hymn. 07.05—Gym. 07.25—Records. 07.35—News. 07.40—Records. 07.55—For Housewives.

08.00

BARCELONA, 08.15—News.
BERLIN, 08.00-08.20—Gym.
BRESLAU, 08.00—Orchestra. 08.30—For Women. 08.50—Cookery.
COLOGNE, 08.00—Time; Tides. 08.05—Gym.
DEUTSCHLANDSENDER, 08.45—Gym.
FRANKFURT, 08.00—Records. 08.15—News. 08.20-08.40—Gym.
HAMBURG, 08.00—Weather; Hygiene Talk. 08.15—Wireless Notes. 08.30—Records.
HILVERSUM, 08.00—Records.
HUZEN, 08.00—Records.
KALUNDBORG, 08.30—Service from Copenhagen Cathedral.
KÖNIGSBERG, 08.00—Prayers. 08.30—Gym.

LEIPZIG, 08.00—Gym. 08.20—Records.
MOSCOW, 08.00—Light Music. 08.15—For Children.
PARIS (Poste Parisien), 08.00—Records. 08.45—Cookery Hints.
PARIS (Radio-Paris), 08.00-08.30—Records.
ROME, 08.00-08.15—Time; News.
STOCKHOLM, 08.00—Weather.
STUTTART, 08.00—Records. 08.15—News. 08.20-08.40—Gym.
TOULOUSE (Radio-Toulouse), 08.00—Dance Refrains. 08.30—News. 08.35—Songs. 08.45—Operetta Music.
TURIN, 08.00-08.20—Time; News.
WARSAW, 08.00—News.

09.00

BARCELONA, 09.00—Chimes; Gym; Records. 09.20—News.
BERLIN, 09.00—See Deutschlandsender. 09.40—For Children.
BRATISLAVA, 09.40—Announcements.
BRESLAU, 09.00—Time; News.
BUDAPEST, 09.45—News.
DEUTSCHLANDSENDER, 09.00—"Great Britain at Home and Abroad"—The English Character in Song. 09.40—Reading (Miegel).
HAMBURG, 09.00—Records.
HILVERSUM, 09.00—Records. 09.40—Time; Service. 09.55—Records.
HUZEN, 09.40—Records. 09.55—Religious Programme.
KÖNIGSBERG, 09.15—For Housewives.
LEIPZIG, 09.40—News.
MADRID (EAJT), 09.00—News.
MOSCOW, 09.00—Light Music. 09.55—Time.
MUNICH, 09.50—For Housewives.
PRAGUE, 09.45—News.
STUTTART, 09.00—For Women. 09.15-09.30—Post Office Propaganda; Records.
VIENNA, 09.00—News. 09.20—Market Prices. 09.30—Weather.

10.00

BARCELONA, 10.00—Obituary.
BERLIN, 10.00—News. 10.10—Market Prices. 10.30—Records. 10.45—Radio Play.
BUDAPEST, 10.00—Talk; Records.
COLOGNE, 10.00—Time; News. 10.10—For Schools. 10.40—Talk.
DEUTSCHLANDSENDER, 10.00—News. 10.10—"Gudrun"—Radio Play (Hasenauer), on Records. 10.50—Talk: Physical Culture.
FRANKFURT, 10.00—News. 10.45—For Housewives.
HAMBURG, 10.50—News.
HILVERSUM, 10.00—Records. 10.10—Violin and Pianoforte. 10.40—Recitations.
HUZEN, 10.00—Religious Programme. 10.25—Records. 10.40—Records.
KÖNIGSBERG, 10.00—For Women. 10.40—News. 10.50—Weather.
LYONS (La Doua), 10.30—Concert.
MADRID (EAJT), 10.00—Exchange; Announcements.
MOSCOW, 10.00—News.
MUNICH, 10.10—For Schools: Harmony. 10.40—For Farmers. 10.50—Market Prices.
OSLO, 10.00—Exchange.
PRAGUE, 10.00—Commentary on the Presidential Election, from Prague Castle.
STRASBOURG, 10.30—Orchestra.
STUTTART, 10.00—News. 10.10—For Schools. 10.40—Suite in A minor for Violin (Courvoisier).
VATICAN CITY, 10.00-10.15—Religious Information in French.
VIENNA, 10.50—Tides.
ZEESSEN, 10.15—Maria Oertel (Soprano); Liebermann (Cello); Welsch (Pianoforte).

11.00

BELGRADE, 11.00—Announcements; Records. 11.20—Tides; Records. 11.59—Time.

BERLIN, 11.00—Radio Play. 11.25-11.30—Exchange.
BRESLAU, 11.30—Time; News. 11.45—For Farmers.
BRUSSELS (No. 1), 11.55—Weather.
BRUSSELS (No. 2), 11.57—Weather.
BUDAPEST, 11.00—Records. 11.10—Tides.
COLOGNE, 11.00—Talks. 11.30—Records.
DEUTSCHLANDSENDER, 11.00—Talk (contd. from 10.50). 11.15—Weather. 11.30—Song Records.
FRANKFURT, 11.00—Concert. 11.40—News. 11.50—Social Notes.
HAMBURG, 11.00—Song Records. 11.30—See Königsberg.
HILVERSUM, 11.00—Recitations. 11.10—Violin and Pianoforte. 11.40—Time; Concert.
HUZEN, 11.00—Records. 11.10—Religious Address. 11.40—Police Notes. 11.55—The K.R.O. Orchestra. Conductor: van 't Woud.
KALUNDBORG, 11.00—Weather. 11.10—Fish Prices. 11.15-11.45—For Schools.
KÖNIGSBERG, 11.30—Small Station Orchestra. Conductor: Wilcken.
LEIPZIG, 11.00—Post Office Propaganda; Records. 11.20—For Farmers. 11.40—News.
MUNICH, 11.00—The Erfurt Agricultural Exhibition. 11.20—Time; News. 11.30—Post Office Propaganda; Records.
OSLO, 11.15—Service. 11.50—Exchange.
PRAGUE, 11.00—The Election (contd. from 10.00).
STRASBOURG, 11.00—Orchestra.
STUTTART, 11.00—Suite (contd. from 10.40). 11.10—Records. 11.25—Post Office Propaganda; Records. 11.40—For Farmers. 11.55—Weather.
TURIN, 11.30—Records.
VIENNA, 11.30—Talk: Austrian Fauna. 11.55—Weather.
WARSAW, 11.40—Press Review. 11.50—Theatre Notes. 11.57—Fanfare from St. Mary's Church, Cracow.

THURSDAY May 24

12.00

BARCELONA, 12.00—Chimes; Weather; Television.
 BELGRADE, 12.00—Chimes. 12.05—Announcements. 12.15—Station Orchestra.
 BERLIN, 12.00—See Königsberg. In the Interval at 12.30: Weather.
 BEROMÜNSTER, 12.00—Station Orchestra. Conductor: Hofmann. 12.29—Time; News. 12.40—To be announced.
 BORDEAUX-LAFAYETTE, 12.00—To be announced. 12.30—Dance Music.
 BRESLAU, 12.00—Military Band.
 BRUSSELS (No. 1), 12.00—Orchestra. Ferrari (Violin).
 BRUSSELS (No. 2), 12.00—Records.
 BUCHAREST, 12.00—Records.
 BUDAPEST, 12.00—Chimes. 12.05—Cigány Music.
 COLOGNE, 12.00—Records. 12.45—News; Greetings.
 DEUTSCHLANDSENDER, 12.00—Weather; Greetings. 12.10—Records; Weather. 12.55—Time.
 FRANKFURT, 12.00—The Freiburg Concert Orchestra. Conductor: Döhrmann.
 HAMBURG, 12.00—For Housewives; News. 12.15—See Königsberg.
 HILVERSUM, 12.00—Concert.
 HUIZEN, 12.00—The K.R.O. Orchestra (contd. from 11.55).
 JUAN-LES-PINS (Radio Côte d'Azur), 12.30—Amusement Guide; Variety.
 KALUNDBORG, 12.00—Chimes. 12.05—The Gyldmark String Ensemble.
 KAUNAS, 12.00—Time; News.
 KÖNIGSBERG, 12.00—Orchestra. Conductor: Wilcken.
 LEIPZIG, 12.00—The Dresden Soloists' Ensemble.
 LYONS (La Doua), 12.30—Records. 12.55—News.
 MONTE CENERI, 12.00—Announcements; Records. 12.29—Time; Weather. 12.33—Orchestra. 12.55—News.
 MUNICH, 12.00—Records.
 OSLO, 12.55—Time.
 PARIS (École Supérieure), 12.30—Records.
 PARIS (Poste Parisien), 12.00—Exchange. 12.05—Records. 12.15—Concert. 12.25—News. 12.35—Exchange.
 PARIS (Radio-Paris), 12.00—Protestant Address. 12.30—Pascal Orchestra. Petitjean (Pianoforte); Capoulade (Violin); Pascal (Cello). In the Interval: News.
 PRAGUE, 12.00—The Election (contd. from 10.00).
 REYKJAVIK, 12.40—Weather.
 ROME, 12.30—Records.
 SOTTENS, 12.29—Time; News. 12.40—Records.
 STOCKHOLM, 12.30—Weather. 12.45—Exchange. 12.55—Time.
 STRASBOURG, 12.00—Records. 12.45—News.
 STUTTGART, 12.00—See Frankfurt.
 TOULOUSE, 12.00—Bal Musette. 12.15—Orchestra. 12.30—News. 12.45—Request Music.
 TURIN, 12.00—Records. 12.45—News.
 VIENNA, 12.00—Vienna Symphony Orchestra. Conductor: Schönherr.
 WARSAW, 12.05—Operetta Records. 12.30—Weather. 12.35—Concert for Schools. The Philharmonic Orchestra and a Mixed Choir. Conductor: Wolfsthal. Dubiska (Violin). Wilkomirski (Pianoforte).

13.00

ATHLONE, 13.30—Time; Weather; Exchange; Records.
 BARCELONA, 13.00—For Women. 13.45—Records.
 BELGRADE, 13.00—Songs; Orchestra. 13.30—Press Review; Time.
 BERLIN, 13.00—News. 13.15—Ballet Records.
 BEROMÜNSTER, 13.00—To be announced. 13.25—Time; Weather; Exchange.
 BORDEAUX-LAFAYETTE, 13.00—Dance Music.
 BRATISLAVA, 13.00—Records. 13.45—News in German and Hungarian; Weather.
 BRESLAU, 13.00—Military Band. 13.20—Time; News. 13.35—Military Band.
 BRNO, 13.00—Records.
 BRUSSELS (No. 1), 13.00—News. 13.10—Records.
 BRUSSELS (No. 2), 13.00—News. 13.10—Orchestra.
 BUCHAREST, 13.00—Time; News. 13.15—Records.
 BUDAPEST, 13.00—Cigány Music. 13.30—Bertha Orchestra.
 COLOGNE, 13.00—Orchestra. Conductor: Lorenz. 13.45—News.
 DEUTSCHLANDSENDER, 13.00—Classical Records.

FRANKFURT, 13.00—Time; News. 13.20—See Stuttgart. 13.50—Time; News.
 HAMBURG, 13.00—Exchange. 13.15—Weather. 13.20—Light Music.
 HILVERSUM, 13.00—Concert. 13.25—Records.
 HUIZEN, 13.00—The K.R.O. Orchestra (contd. from 11.55). 13.40—Handicrafts.
 JUAN-LES-PINS (Radio Côte d'Azur), 13.00—News. 13.15—Concert.
 KALUNDBORG, 13.00—The Gyldmark String Ensemble.
 KÖNIGSBERG, 13.05—Records. In the Intervals: News.
 LEIPZIG, 13.00—News; Time. 13.10—Choral Records.
 LYONS (La Doua), 13.00—For Women. 13.30—For Children.
 MONTE CENERI, 13.00—News. 13.05—Sports Notes. 13.15—13.30—Orchestra.
 MORAVSKÁ-OSTRAVA, 13.00—Records.
 MUNICH, 13.00—Records. 13.15—Time; News. 13.35—Orchestra. Conductor: Kloss.
 PARIS (École Supérieure), 13.00—Concert.
 OSLO, 13.00—Records. In the Intervals: Weather; For Farmers.
 PARIS (Poste Parisien), 13.05—Exchange. 13.15—Records; Ballet russe (Luigin). 13.30—Exchange. 13.35—Records.
 PARIS (Radio-Paris), 13.00—Orchestra (contd. from 12.30).
 PRAGUE, 13.00—Time; Records. 13.35—Labour Exchange. 13.45—Records. 13.55—Exchange.
 REYKJAVIK, 13.00—Service.
 ROME, 13.05—Humorous Programme 13.10—See Turin. In the Interval at 13.30: Time; News; Exchange.
 SOTTENS, 13.00—Exchange; Records.
 STRASBOURG, 13.00—Time; Exchange. 13.05—Records.
 STUTTGART, 13.00—Time; News. 13.20—Song Records. 13.50—Time; News.
 TOULOUSE, 13.00—Amusement Guide; Time. 13.15—"Au Cabaret Toulousain"—Radio Fantasy. 13.15—Instrumental Music. 13.30—Operetta Music. 13.45—Military Band.
 TURIN, 13.00—Time; News. 13.05—See Rome. 13.10—Light Music. In the Interval at 13.30: Records; Exchange.
 VIENNA, 13.00—Time; News. 13.10—Vienna Symphony Orchestra. Conductor: Schönherr.
 WARSAW, 13.00—Concert for Schools (contd. from 12.35).

14.00

ATHLONE, 14.00-14.30—Records.
 BARCELONA, 14.00—Records. 14.30—Theatre Notes; Records.
 BERLIN, 14.00—News. 14.15—Verdi Records.
 BORDEAUX-LAFAYETTE, 14.00—Records.
 BRATISLAVA, 14.05-14.10—Exchange.
 BRESLAU, 14.00—Military Band (contd. from 13.35). 14.20—Exchange. 14.25—Post Office Propaganda; Records. 14.50—Market Prices.
 BRNO, 14.05-14.15—German Transmission: The Labour Exchange.
 BUDAPEST, 14.00—Bertha Orchestra.
 COLOGNE, 14.00-14.45—Orchestra.
 DEUTSCHLANDSENDER, 14.45—News.
 FRANKFURT, 14.00—See Stuttgart. 14.40—For Children.
 HAMBURG, 14.00—Light Music. 14.15—News. 14.30—Verdi Opera Records.
 HILVERSUM, 14.15—Recitations. 14.40—Aeolian Quartet. String Quartet (Roegen-Champion). String Quartet in D flat (Dohnányi).
 HUIZEN, 14.00—Handicrafts. 14.40—Records.
 KALUNDBORG, 14.45—Rydahl's Instrumental Ensemble.
 KÖNIGSBERG, 14.00—Records. 14.30—Exchange.
 LEIPZIG, 14.00—News. 14.15—Radio Report of a Popular Festival in Torgau. 14.45—Talk: The Screech-Owl.
 LYONS (La Doua), 14.00—For Children. 14.30—A Visit to a Shoe Factory in Limoges.
 MADRID (EAJ7), 14.00—Chimes; Time; Weather; Light Music. 14.30—Sextet.
 MUNICH, 14.00—News. 14.20—Kloth (Pianoforte) and Ludwiga Kuckuck (Soprano).
 PARIS (École Supérieure), 14.00—Radio Report from Chantilly.
 PARIS (Poste Parisien), 14.00—Exchange.
 PRAGUE, 14.00-14.05—Exchange; Weather; in German.
 ROME, 14.00-14.15—See Turin.
 STRASBOURG, 14.00—For Children.

STUTTGART, 14.00-14.30—Waltz Records. 14.45—Lieder Sequence.
 TOULOUSE, 14.00—Exchange.
 TURIN, 14.00—Light Music. 14.15—Exchange.
 WARSAW, 14.00—News.

15.00

BARCELONA, 15.00—Announcements; Film Review; Sextet; Exchange.
 BERLIN, 15.00-15.20—Exchange.
 BEROMÜNSTER, 15.30—Records. 15.59—Time.
 BRESLAU, 15.00—Market Prices. 15.10—Worpswede (Scheinpalto), by Charlotte Scherbening (Contralto); Janz (Violin); Birke (Horn); Hattwig (Pianoforte). 15.30—Folk Dances.
 BRNO, 15.45—For Parents.
 BUCHAREST, 15.15—For Schools.
 COLOGNE, 15.00—Talk: Labour Problems. 15.30—Exchange. 15.50—Topical Talk.
 DEUTSCHLANDSENDER, 15.00—Weather; Exchange. 15.15—Talk by Walter von Molo: My Childhood and Youth. 15.35—Hermann Feist discusses his book "Bolschewismus und Judentum."
 FRANKFURT, 15.00—For Children. 15.30—Weather. 15.40—Time; Exchange. 15.50—Economic Review.
 HAMBURG, 15.00—Exchange. 15.40—Shipping; Aviation.
 HILVERSUM, 15.00—Quartet (contd. from 14.40). 15.40—For Hospitals.
 HUIZEN, 15.00-15.25—Records. 15.40—Bible Reading; Baritone, Organ.
 KALUNDBORG, 15.00—Ensemble (contd. from 14.45). In the Interval, Reading.
 KÖNIGSBERG, 15.00—Exchange. 15.15—Book Review. 15.30—Eurhythmics.
 LEIPZIG, 15.20—Records. 15.25—Finals of the National Vocational Competitions. 15.40—Exchange.
 LYONS (La Doua), 15.00—A Visit to a Shoe Factory (contd. from 14.30). 15.15—For Invalids.
 MADRID (EAJ7), 15.00—Amusement Guide; Exchange; Light Music. 15.30—Sextet.
 MONTE CENERI, 15.59—Time.
 MOSCOW, 15.15—For Children. 15.55—Time.
 MUNICH, 15.00—Readings. 15.30—"Frída, Bettingen, the Mothers' Authoress"—Radio Sequence. 15.50—Weather; For Farmers.
 PARIS (École Supérieure), 15.15-15.30—Concert.
 PARIS (Poste Parisien), 15.15—Exchange. 15.45—Exchange.
 PARIS (Radio-Paris), 15.45-15.50—Exchange.
 PITTSBURGH, 15.00—Edward MacHugh. 15.15—Castles in the Air. 15.30—To-day's Children. 15.45—Sammy Fuller.
 PRAGUE, 15.55—Exchange; Weather.
 SOTTENS, 15.59—Time.
 STRASBOURG, 15.00—Orchestra. Conductor: de Villers.
 STUTTGART, 15.00—Lieder Sequence (contd. from 14.45). 15.15—Rumpelstiltskin—a Fairy Play.
 VIENNA, 15.00—Time; News. 15.20—For Unemployed Juveniles. 15.40—Fairy Tales and Songs for Children.
 WARSAW, 15.05—Announcements. 15.10—Exchange. 15.20—Records.
 ZEESEN, 15.00—Dance Music.

16.00

BARCELONA, 16.00—For Hospitals.
 BARI, 16.30—For Women.
 BELGRADE, 16.00—For Schools.
 BERLIN, 16.00—The Station Orchestra. Conductor: Steiner. Kronsbain-Rummel (Contralto). Interlude: A Dialogue.
 BEROMÜNSTER, 16.00—See Sottens.
 BORDEAUX-LAFAYETTE, 16.00—For Children.
 BRATISLAVA, 16.00—Orchestra. Conductor: Dyk.
 BRESLAU, 16.00—Orchestra. Conductor: Rischka.
 BRNO, 16.45—The Station Orchestra. Conductor: Bakala.
 BRUSSELS (No. 1), 16.55—News.
 BRUSSELS (No. 2), 16.55—Announcements.
 COLOGNE, 16.00—See Breslau.
 DEUTSCHLANDSENDER, 16.00—See Breslau.
 FRANKFURT, 16.00—See Stuttgart.
 HAMBURG, 16.00—See Stuttgart.
 HILVERSUM, 16.00—For Hospitals. 16.10—Pianoforte Recital. Sonata (Paradisi). Italian Concerto (Bach). First Movement from a Sonata (Beethoven). 16.40—For Children.
 HUIZEN, 16.00—Bible Reading; Baritone and Organ. 16.40—For Young People.
 KALUNDBORG, 16.00—Ensemble (contd. from 14.45). 16.45—For Boys.
 KÖNIGSBERG, 16.00—The Small

Station Orchestra. Conductor: Wilcken.
 LAHTI, 16.00—Records. 16.30—Humoresques. 16.50—Accordion.
 LEIPZIG, 16.00—See Munich.
 LYONS (La Doua), 16.00—Concert.
 MADRID (EAJ7), 16.00—Light Music. 16.15—Sextet. 16.50—News.
 MONTE CENERI, 16.00—See Sottens.
 MOSCOW, 16.00—News. 16.30—Communist Party Programme.
 MUNICH, 16.00—Orchestra. Conductor: Kloss. Nini Diehl (Soprano).
 PARIS (École Supérieure), 16.00—Classical Records.
 PITTSBURGH, 16.00—U.S. Navy Band. 16.30—Sweetheart Melodies. 16.45—Al and Lee Reiser.
 PRAGUE, 16.00—See Bratislava. 16.45—See Brno.
 ROME, 16.30—Children's Radio Journal. 16.50—News.
 SOTTENS, 16.00—French Music. Radio Suisse Romande Orchestra. Conductor: Echeard. 16.45—Mme. Bredschneider (Songs).
 STRASBOURG, 16.00—Orchestra (contd. from 15.00). 16.15—See 16.00—Bordeaux-Lafayette.
 STUTTGART, 16.00—Station Orchestra. Conductor: Görlich. Oswald (Violin); Schrempf (Baritone).
 TOULOUSE (Radio-Toulouse), 16.15—News.
 TRIESTE, 16.45—Ballila Programme.
 TURIN, 16.35—News. 16.45—For Children.
 VIENNA, 16.00—Tales and Songs (contd. from 15.40). 16.05—News. 16.10—Stefanie Beyer (Pianoforte). Margarete Angerholzer (Soprano).
 WARSAW, 16.00—Records. 16.20—For Women; 16.35—Werner (Pianoforte).

17.00

BARCELONA, 17.00—News.
 BELGRADE, 17.00—Songs with Orchestra.
 BEROMÜNSTER, 17.00—See Sottens.
 BORDEAUX-LAFAYETTE, 17.00—For Children.
 BRATISLAVA, 17.10—Talk: Producing Plays for Broadcasting. 17.20—Records. 17.45—Beran (Viola) and Macudzinska (Pianoforte).
 BRESLAU, 17.00—Orchestra (contd. from 16.00). 17.30—News. 17.35—Art Talk.
 BRNO, 17.00—Orchestra (contd. from 16.45). 17.10—For Children. 17.20—Records. 17.45—Records. 17.55—Theatre; Film Review.
 BRUSSELS (No. 1), 17.00—Radio Orchestra. 17.30—For Children.
 BRUSSELS (No. 2), 17.00—The Symphony Orchestra. Conductor: Meulemans. Flemish Composers. 17.45—For Children.
 BUCHAREST, 17.00—Orchestra.
 BUDAPEST, 17.30—Songs.
 COLOGNE, 17.00—With the Microphone through Osnabrück. 17.15—Christel Kitzig (Songs); Maria Kitzig (Pianoforte); Kisselbach (Violin); Haass (Pianoforte). 17.30—See Hamburg.
 DEUTSCHLANDSENDER, 17.00—Reading. 17.15—Fröhlich's Orchestra. 17.50—A Visit to a Printing Works.
 FRANKFURT, 17.00—See 16.00 Stuttgart. 17.30—See Hamburg. 17.45—Topical Talk.
 HAMBURG, 17.00—See 16.00 Stuttgart. 17.30—Talk: German Scientists and Doctors. 17.45—For Young People.
 HILVERSUM, 17.00—For Children. 17.10—Kovacs Lajos Orchestra.
 HUIZEN, 17.00—For Young People. 17.10—Sacred Songs.
 KALUNDBORG, 17.00—For Boys. 17.30—Exchange. 17.42—A Poem. 17.45—Talk: Slavery in the Twentieth Century.
 KAUNAS, 17.30—Veterinary Talk.
 KÖNIGSBERG, 17.00—Orchestra (contd. from 16.00). 17.30—See Hamburg. 17.50—Talk: Language and Race.
 LAHTI, 17.10—Talk. 17.30—"Cello".
 LEIPZIG, 17.00-17.15—Luzie Schläper-Zeuner (Soprano). 17.30—See Hamburg. 17.45—News.
 LYONS (La Doua), 17.00—Concert; Dance Music.
 MONTE CENERI, 17.00—See 18.15 Sottens.
 MORAVSKÁ-OSTRAVA, 17.10—Literary and Book Review. 17.20—Records. 17.45—Book Review.
 MOSCOW, 17.00—Communist Party Programme. 17.30—Variety.
 MUNICH, 17.00—Orchestra (contd. from 16.00). 17.30—Discussion: The Competition between "Buses, Trains, and Trams. 17.50—Violin and Pianoforte Sonata in a minor (Schumann), by Strub and Hahn.
 OSLO, 17.00—Björkman (Songs).
 PARIS (École Supérieure), 17.00—

Classical Records. 17.45—Espéranto.
 PARIS (Radio-Paris), 17.00—"Le Malade imaginaire"—Play (Molière).
 PITTSBURGH, 17.00—Neil Sisters. 17.15—Honey Boy and Sassafras. 17.30—Vic and Sade. 17.45—Lloyd Huntley's Orchestra.
 PRAGUE, 17.00—See 16.45 Brno. 17.10—Book Review. 17.20—Records. 17.30—French Lesson. 17.45—For Farmers. 17.55—German Transmission: For Young People; For Farmers.
 REYKJAVIK, 17.00—Variety.
 ROME, 17.00—"Il Milite"—Patriotic Sketch in One Act (Migliati Raimond). 17.30—Records: Patriotic Music. 17.55—News.
 SOTTENS, 17.00—Mme. Bredschneider (Songs). 17.15—Radio Suisse Romande Orchestra.
 STOCKHOLM, 17.00—Weather. 17.05—Evensong from Umea. 17.30—Children's Letter-box. 17.45—Records.
 STRASBOURG, 17.00—See Bordeaux-Lafayette.
 STUTTGART, 17.00—Orchestra (contd. from 16.00). 17.30—Talk. 17.45—Lions Lieder Recital.
 TRIESTE, 17.00—Ballila Programme.
 TURIN, 17.00—For Children. 17.10—Dance Music: Announcements.
 VIENNA, 17.00—Talk. 17.10—Talk. 17.30—Bulgarian Folk Songs by Vera Zdravow, with Commentary.
 WARSAW, 17.00—Pianoforte (contd. from 16.35). 17.10—Songs. 17.30—History Talk. 17.50—Talk: Economic Questions.

18.00

ATHLONE, 18.00—For Children. 18.45—News.
 BARI, 18.30—News in Foreign Languages.
 BELGRADE, 18.25—Time; Announcements. 18.30—Polish Lesson.
 BERLIN, 18.00—Programme Announcements. 18.05—Music for Young People. 18.30—A Visit to the Exhibition: German Folk—German Work.
 BEROMÜNSTER, 18.00—Records. 18.30—Haydn Anecdotes.
 BORDEAUX-LAFAYETTE, 18.00—For Children. 18.15—News.
 BRATISLAVA, 18.00—Viola and Pianoforte (contd. from 17.45). 18.10—Hungarian Transmission.
 BRESLAU, 18.00—Friedrich Kayssler reads. 18.30—To be announced. 18.50—Announcements.
 BRNO, 18.00—Theatre; Film Review. 18.10—Records. 18.20—German Transmission: For Workers; Symphonic Poem, "My Fatherland" (Smetana).
 BRUSSELS (No. 1), 18.00—Talk: William Morris. 18.15—Orchestra.
 BRUSSELS (No. 2), 18.00—For Children. 18.30—Records. 18.45—Rev. Father Plum (Organ) in a Recital of his own Compositions.
 BUCHAREST, 18.00—Time; News. 18.15—Orchestra. 18.50—Educational Programme.
 BUDAPEST, 18.00—Songs. 18.30—Violin.
 COLOGNE, 18.00—Anthropology for Young People. 18.20—Science Talk on Records: Audible Atoms. 18.40—Topical Talk. 18.50—Exchange; Sports.
 DEUTSCHLANDSENDER, 18.00—Fröhlich's Orchestra. 18.30—Discussion: The Theatre. 18.55—A Poem.
 FRANKFURT, 18.00—Topical Talk. 18.15—See Stuttgart. 18.45—News; Time. 18.50—Topical Talk.
 HAMBURG, 18.00—Topical Programme: A Visit to Hamburg Harbour; Topical Talk. 18.25—Talk: The Battle of Gallipoli. 18.45—News.
 HILVERSUM, 18.00—Kovacs Lajos Orchestra. 18.10—Sports Talk. 18.40—Kovacs Lajos Orchestra.
 HUIZEN, 18.00—Sacred Songs. 18.10—Records. 18.40—Police Notes; Records. 18.55—Talk.
 KALUNDBORG, 18.00—Talk (contd. from 17.45). 18.15—English. 18.45—Weather. 18.54—Announcements.
 KAUNAS, 18.00—Legal Talk. 18.10—Wind Band. 18.40—News.
 KÖNIGSBERG, 18.00—Talk (contd. from 17.50). 18.15—Market Prices. 18.25—For Farmers. 18.55—Weather.
 LAHTI, 18.00—"Cello". 18.15—Orchestra. Conductor: Linko.
 LEIPZIG, 18.00—Talk: George Bähr. 18.20—Military Band.
 LYONS (La Doua), 18.00—Dance Music. 18.15—News.
 MADRID (EAJ7), 18.00—Chimes; Light Music.
 MORAVSKÁ-OSTRAVA, 18.20—German Transmission: Talk.
 MOSCOW, 18.00—Variety. 18.30—Readings and Music for Collective Farm Workers.
 MUNICH, 18.00—Sonata (Schumann) (contd. from 17.50). 18.10—Book



By courtesy of the German Railways Bureau.

Nürnberg, from which a concert is to be relayed by German stations at 23.00

18.00 (contd.)

Review, 18.30—Records, 18.50—Time; Weather; For Farmers.
 OSLO, 18.00—German Lesson, 18.30—Service.
 PARIS (Ecole Supérieure), 18.00—Espéranto, 18.15—News.
 PARIS (Poste Parisien), 18.40—For Children. In the Interval, Exchange.
 PITTSBURGH, 18.00—Market Reports, 18.15—Lloyd Huntley's Orchestra, 18.30—Farm and Home Hour.
 PRAGUE, 18.00—German Transmission (contd. from 17.55), 18.55—News in German.
 ROME, 18.00—Grain Prices, 18.10—Educational Talk, 18.30—News in Foreign Languages.
 SOTTENS, 18.00—For Children, 18.20—Records, 18.30—Sports Notes, 18.50—Bridge Lesson.
 STOCKHOLM, 18.00—Records, 18.45—English Lesson.
 STRASBOURG, 18.00—Talk, 18.15—For Women, 18.30—Orchestra. Conductor: de Villers.
 STUTTGART, 18.00—Talk: The Choice of a Career, 18.15—Talk, 18.25—Spanish Lesson, 18.45—Dance Music, Conductor: Görlich.
 TOULOUSE (Radio-Toulouse), 18.00—News, 18.15—Sound-Film Music, 18.30—For Children.
 TRIESTE, 18.30—News in Foreign Languages.
 TURIN, 18.00—For Farmers; Grain Prices, 18.30—News in Foreign Languages.
 VIENNA, 18.00—For Workers, 18.35—History Talk: Maximilian I, 18.50—Theatre Review.
 WARSAW, 18.00—Talk (contd. from 17.50), 18.10—Reading: "The Sunken Bell" (Gerhardt Hauptmann), 18.50—Announcements.
 ZEESSEN, 18.45—Humorous Ballads by Rau.

19.00

ATHLONE, 19.00—French Lesson, 19.15—Talk, 19.30—Time, 19.31—Fagan (Harp) and Lange (Violin), 19.50—The Serenaders (Vocal Duets).
 BARCELONA, 19.00—Trio. In the Interval, Talk; News.
 BARI, 19.40—News in Alban Dialect; Weather.
 BELGRADE, 19.00—Records, 19.10—Talk, 19.50—Announcements.
 BERLIN, 19.00—Pianoforte Duets and Vocal Quartet, Polonaise for Pianoforte Duet (Schumann), Leibliesder - Walzer (Brahms), 19.40—Topical Talk.

MUNICH, 19.00—Bavarian Zither Music and Folk Songs, 19.40—"Austria."
 OSLO, 19.00—Book Review, 19.15—News, 19.30—Time; For Farmers.
 PARIS (Ecole Supérieure), 19.30—Records, 19.45—Talk: Social Hygiene, 19.53—Astronomy.
 PARIS (Poste Parisien), 19.00—For Children, 19.10—News, 19.30—Theatre Review, 19.35—Records, 19.52—Weekly Review by Régnier.
 PARIS (Radio-Paris), 19.00—Weather; Talk for Farmers; Racing Results, 19.05—Legal Talk, 19.20—German Press Review, 19.30—Topical Talk.
 PITTSBURGH, 19.00—Farm and Home Hour, 19.30—KDKA Home Forum.
 PRAGUE, 19.00—Time; News, 19.10—Music Talk, 19.25—Talk on the Following Transmission, 19.30—"The Devil's Rock"—Three Act Opera (Smetana), from the State Opera House.
 ROME, 19.00—News in Foreign Languages, 19.30—Time; News; Sports.
 SCHENECTADY, 19.00—Barnacle Bill, 19.15—The Upstaters Quartet, 19.30—Woman's Radio Review.
 SOTTENS, 19.00—Bridge Lesson (contd. from 18.50), 19.10—For Mountaineers, 19.30—Wireless Notes, 19.59—Weather.
 STOCKHOLM, 19.00—English Lesson, 19.15—News, 19.30—Orchestra. Conductor: Wiklund. De Frumerei (Pianoforte).
 STRASBOURG, 19.00—Orchestra (contd. from 18.30), 19.30—Time; News, 19.45—Saar District Review.
 STUTTGART, 19.00—Dance Music, 19.30—Time; Weather; For Farmers, 19.40—See Munich.
 TOULOUSE (Radio-Toulouse), 19.00—Cello, 19.15—Songs, 19.30—Exchange, 19.45—Orchestra.
 TRIESTE, 19.00-19.30—News in Foreign Languages.
 TURIN, 19.00—News in Foreign Languages, 19.30—Time; Announcements, 19.40—Records, 19.55—News; Weather.
 VATICAN CITY, 19.00-19.15—Religious Information in Italian.
 VIENNA, 19.00—Time; News, 19.15—German Folk Dances in Austria—Musical Radio Sequence (Lugmayer), by the Vienna German Folk Song Society.
 WARSAW, 19.15—For Farmers, 19.40—Sports Notes, 19.47-19.55—News.

20.00

ALGIERS, 20.20—Records, 20.30—Lottery Results, 20.40—For Women, 20.55—News.
 ATHLONE, 20.00—The Serenaders (contd. from 19.50), 20.05—Station Orchestra, 20.30—The Serenaders (contd.), 20.45—Station Orchestra.
 BARCELONA, 20.00—Request Records, 20.30—Exchange; Records.
 BELGRADE, 20.00—Choir.
 BERLIN, 20.00—News, 20.15—See Hamburg.
 BEROMÜNSTER, 20.00—Talk: Eastern Fairy Tales, 20.30—Elly Katzigheras (Pianoforte Recital).
 BORDEAUX-LAFAYETTE, 20.00—Talk on Wine, 20.15—News, 20.30—"L'Homme qui assassina"—Play in Four Acts. (Frondeur).
 BRESLAU, 20.00—News, 20.15—See Hamburg.
 BRUSSELS (No. 1), 20.00—Symphony Orchestra. Conductor: Meulemans.
 BRUSSELS (No. 2), 20.00—Light Music by the Radio Orchestra, De Laet (Songs), 20.45—Film and Book Review.
 BUCHAREST, 20.00—Opera (contd. from 19.30).
 BUDAPEST, 20.00—Opera House Relay (contd. from 19.30).
 COLOGNE, 20.00—News, 20.15—See Hamburg.
 DEUTSCHLANDSENDER, 20.00—Motto; News, 20.15—See Hamburg.
 FRANKFURT, 20.00—Time; News, 20.15—See Hamburg.
 HAMBURG, 20.00—News, 20.15—Transmission for all German Stations: "Wilhelm Raabe"—Radio Sequence (Tegtmeyer), with Readings, Station Choir. Conductor: Gregor, Station Trio, Böttcher (Poems), Helene Guhl (Contralto), Margarethe Raabe.
 HILVERSUM, 20.00—Children's Choir, 20.40—Orchestra. Conductor: van Raalte, Francis Koene (Violin); Erich Fuchs (Songs), Overture, "The Bartered Bride" (Smetana), Violin Concerto (Dvořák), Records, Overture, "Il Seraglio" (Mozart), Arias, "Il Seraglio" (Mozart), Gavotte, "Idomenio" (Mozart), Arias, "The Magic Flute" (Mozart), Overture, "Fidelio" (Beethoven).

Aria, "Fidelio" (Beethoven), Selection, "Czar and Carpenter" (Lortzing), Aria, "Der Freischütz" (Weber), Overture, "Preciosa" (Weber).
 HUIZEN, 20.00—Open-Air Meeting (contd. from 19.40).
 JUAN-LES-PINS (Radio Côte d'Azur), 20.00—Amusement Guide; News, 20.10—Science Talk, 20.25—Concert.
 KALUNDBORG, 20.00—Danish Lesson, 20.10—Operetta Music by the Radio Orchestra. Conductor: Reesen, Paul Hansen and Mary Alice Therp (Songs), March and Song, "Der liebe Augustin" (Fall), Selection, "Roses from Florida" (Kálmán), Extracts, "Countess Maritza" (Kálmán), Song, "The Land of Smiles" (Lehár), Waltz-Intermezzo, "The Count of Luxembourg" (Lehár), Duet, "The Land of Smiles" (Lehár), Viennese Music, "The Duchess of Chicago" (Kálmán), Duet, "The Land of Smiles" (Lehár).
 KAUNAS, 20.00—Talk, 20.20—Vocal Duets by Sodeika and Santvaras, 20.40—Talk, 20.50—Sports Notes.
 KÖNIGSBERG, 20.00—News, 20.15—See Hamburg.
 LAHTI, 20.05—Talk, 20.20—Orchestra, 20.45—News in Finnish.
 LEIPZIG, 20.00—News, 20.15—See Hamburg.
 LYONS (La Doua), 20.00—Talk, 20.10—Talk: The Alps, 20.20—Art Notes, 20.30—Gala Concert, Conductor: Witkowsky.
 MADRID (EAJ7), 20.00—For Children, 20.30—News, 20.45—Relay of Foreign Stations.
 MONTE CENERI, 20.00—Orchestra, Klaus (Xylophone), 20.30—Seleno Brignoni (Songs), 20.45—Quintet (Mozart), Milan Quartet, Felice Albini (Horn).
 MOSCOW, 20.00—Request Concert, Orchestra of National Instruments; Kovaleva (Songs); Beckman-Tscherbina (Pianoforte).
 MUNICH, 20.00—News, 20.15—See Hamburg.
 OSLO, 20.00—"The Tales of Hoffmann"—Opera in Three Acts (Offenbach) from the National Theatre. In the Intervals, News; Topical Talk.
 PARIS (Ecole Supérieure), 20.00—Records, 20.30—Chamber Concert, String Quartet (Borodin) and the Kedroff Vocal Quartet.
 PARIS (Poste Parisien), 20.10—"The Marriage of Mlle. Beulemans"—Play (Fonson-Wicheler). In the Interval, Exchange.
 PARIS (Radio-Paris), 20.00—Suzie Welty (Pianoforte); 20.30—News, 20.45—"Tovaritch"—Play in Three Acts (Jacques Deval), from the Théâtre de Paris.
 PITTSBURGH, 20.00—Sleepy Hall's Orchestra, 20.30—Musical Keys.
 PRAGUE, 20.00—"The Devil's Wall" (Smetana) (contd. from 19.30).
 ROME, 20.45—Patriotic Songs.
 SCHENECTADY, 20.00—Women's Radio Review.
 SOTTENS, 20.00—Gipsy Songs, 20.25—Talk, 20.45—Radio-Suisse Romande Orchestra. Conductor: Echenard, Delgay (Cello).
 STOCKHOLM, 20.00—Orchestra (contd. from 19.30).
 STRASBOURG, 20.00—News in German; Lottery Results; Announcements, 20.30—See Lyons (La Doua).
 STUTTGART, 20.00—News, 20.15—See Hamburg.
 TOULOUSE, 20.00—Opera Music, 20.15—Hawaiian Guitar, 20.30—Sound Film Music, 20.45—Military Band.
 TURIN, 20.05—Records, 20.30—Government Notes, 20.45—Choirs and Orchestra.
 VIENNA, 20.00—Topical Talk, 20.15—"Acestis"—Play (Prechtl).
 WARSAW, 20.00—Great Thoughts, 20.02—The Station Symphony Orchestra. Conductor: Oziminski, Soloist: Maj (Baritone), Overture, Chal Romano (Ketelbey), Berceuse de Jocelyn (Godard), Two Pieces (Hellmesberger), Ballet, "William Tell" (Rossini), Arias, "La Gioconda" (Ponchielli), "L'Africaine" (Meyerbeer), "Don Carlos" (Verdi), Anitra's Dance, "Peer Gynt" (Grieg), Rhapsody No. 2 (Liszt).

21.00

ALGIERS, 21.02—Songs, 21.30—Records.
 ATHLONE, 21.00—Station Orchestra, 21.15—K. McCaffery (Soprano), 21.30—Variety.
 BARCELONA, 21.00—Educational Programme, 21.10—Talk in Catalan, 21.20—Records, 21.30—Educational Talk, 21.45—News.
 BELGRADE, 21.00—Choir.

THURSDAY May 24

BERLIN, 21.00—"An Air Attack"—Radio Play (Lange), on Records, 21.20—Chamber Music, Divertimento for Lute and String Trio (Haydn), Old German Folk Dances for Lute, Extracts, Trio for Violin, Guitar and Cello (Paganini), Guitar Solos: (a) Pavane (Ganz), (b) Harp Etude (Sor), (c) Allegro moderato (Coste), Minuet and Zingara, Quartet for Flute, Guitar, Violin, and Cello (Matiegka-Schubert).
 BEROMÜNSTER, 21.00—News, 21.10—"Spiel im Schloss"—Sketch (Molnar).
 BORDEAUX-LAFAYETTE, 21.00—Play (contd. from 20.30).
 BRESLAU, 21.00—Students' Songs, from the Hassitz Youth Hostel.
 BRUSSELS (No. 1), 21.00—Medical Talk, 21.15—Symphony Orchestra, Conductor: Meulemans, Gilberte Dantoin (Cello), Overture, "Leroi d'Ys" (Lalo), Concerto (Lalo), Parade de foire et fête foraine (Lalo).
 BRUSSELS (No. 2), 21.00—Light Music (contd. from 20.00), 21.50—The Angelus.
 BUCHAREST, 21.00—Opera (contd. from 19.30).
 BUDAPEST, 21.00—Opera House Relay (contd. from 19.30).
 COLOGNE, 21.00—The Augmented Station Orchestra, Conductor: Buschötter, Richartz (Violin), Comedy Overture (Scheinflug), Violin Concerto in D minor (Spohr).
 DEUTSCHLANDSENDER, 21.00—Old-Time Chamber Music, from Charlottenburg Castle, Ramin (Harpis'chord), Wolf (Viola d'amore), and Grümmer (Viola da Gamba), Sonata for Viola d'amore and Harpsichord (Ariosti), Suite in G, for Harpsichord (Handel), Toccata in G minor for Harpsichord (Bach), Duet for Viola d'amore and Viola da Gamba (Milandre), English Suite for Viola da Gamba and Harpsichord (Purcell), Trio (Buxtehude). In the Interval at 21.30 (approx.): Radio Report: Fred Könger.
 FRANKFURT, 21.00—The Station Orchestra, Conductor: Rosbaud, Rose Stein (Harp) and Bauer (Trumpet).
 HAMBURG, 21.00—See Berlin, 21.15—Schleswig-Holstein Music, Käthe Trass (Soprano), Elisabeth Witkugel (Pianoforte), Schultz (Violin), Huth (Viola), Berse (Cello).
 HILVERSUM, 21.00—Orchestra (contd. from 20.40).
 HUIZEN, 21.00—Open-Air Meeting (contd. from 19.40), 21.10—Stretomini (Organ) Overture, "Poet and Peasant" (Suppe), Selection, "Norma" (Bellini) and "Tosca" (Puccini), Waldblume (Gänschals), El Capitan (Sousa), Three Pieces (Stretomini). In the interval: News.
 JUAN-LES-PINS (Radio Côte d'Azur), 21.00—News, 21.15—Concert.
 KALUNDBORG, 21.00—Operetta Music (contd. from 20.10), 21.20—Talk, 21.50—"Aus meinen Tagebuch" (Reger), by Helge Bonnén (Pianoforte).
 KAUNAS, 21.00—Orchestra, 21.30—Talk in Esperanto: The Lithuanian Coast, 21.50—Orchestra.
 KÖNIGSBERG, 21.00—See Berlin, 21.15—Königsberg Opera House Orchestra, Conductor: Brückner, Schultze (Pianoforte), Tragic Overture (Brahms), Pianoforte Concerto in G (Schumann), The Noonday Witch (Dvořák).
 LAHTI, 21.00—News in Swedish.
 LEIPZIG, 21.00—Contemporary Leipzig Music by the Symphony Orchestra, Conductor: Weisbach, Concerto for Strings (Fortner), Erzgebirge Suite (Thieme), Songs to Words of Nietzsche (Thomas), Seven German Dances and Fugue (Sigfried Müller).
 LYONS (La Doua), 21.00—Gala Concert (contd. from 20.30).
 MADRID (EAJ7), 21.50—Relay of Foreign Stations, 21.50—Sports Notes.
 MONTE CENERI, 21.00—Mozart Quintet (contd. from 20.45), 21.30—Records.
 MOSCOW, 21.00—Talk in German: The Workers' Code, 21.55—Chimes.
 MUNICH, 21.00—The Sixth Symphony in A (Bruckner), The Station Orchestra, Conductor: Winter.
 OSLO, 21.00—"The Tales of Hoffmann" (Offenbach) (contd. from 20.00).
 PARIS (Ecole Supérieure), 21.00—Chamber Concert (contd. from 20.30).
 PARIS (Poste Parisien), 21.00—"The Marriage of Mlle. Beulemans"—Play (contd. from 20.10).



2 NEW

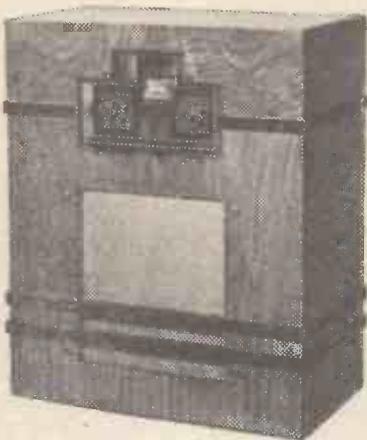
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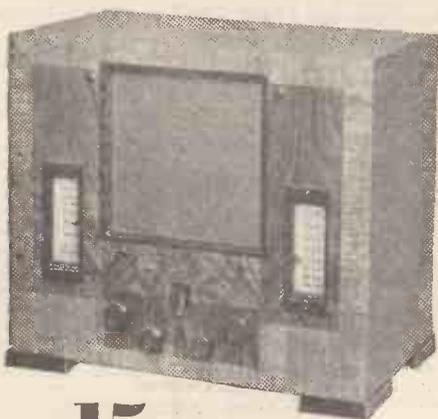


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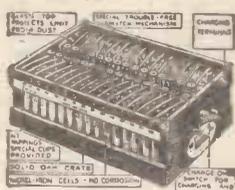
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PLEASE WRITE IN BLOCK LETTERS F.11



21.00 (contd.)

PARIS (Radio-Paris), 21.00—"Tovaritch"—Play (contd. from 20.45). In the Interval: News; Review by Christophe.
PITTSBURGH, 21.00—Betty and Bob, 21.15—Parent-Teacher Talk. 21.30—Business News; Markets. 21.45—Betty Cruikshank.
PRAGUE, 21.00—"The Devil's Wall" (Smetana) (contd. from 19.30).
ROME, 21.00—Patriotic Songs (contd. from 20.45) 21.15—Comedy.
REYKJAVIK, 21.00—Music. 21.10—Weather. 21.35—English Lesson. 21.50—Announcements.
SOTTENS, 21.00—Orchestra (contd. from 20.45). In the Interval: News.
STOCKHOLM, 21.00—Discussion: Marriage and Modern Society. 21.45—News.
STRASBOURG, 21.00—See 20.30 Lyons (La Doua).
STUTTGART, 21.00—See Frankfurt.
TOULOUSE, 21.00—Extracts, "Tosca" (Puccini). 21.45—Orchestra.
TURIN, 21.00—Choirs and Orchestra (contd. from 20.45). 21.30—Comedy. In the Intervals: Talk; Announcements.
VIENNA, 21.00—"Alceste"—Play (Precht) (contd. from 20.15).
WARSAW, 21.00—The Station Symphony Orchestra (contd. from 20.02). 21.15—Light Music by the Station Orchestra. Conductor: Nawrot. Olga Kamienska (Songs).

22.00

ALGIERS, 22.05—Orchestra.
ATHLONE, 22.00—Variety. 22.30—Time; News. 22.40—Jack MacGarvey (Entertainer).
BARCELONA, 22.00—Chimes; Weather. 22.05—News. 22.10—Orchestra. 22.30—Variety.
BELGRADE, 22.00—News; Cigany Music. 22.45—Dance Records.
BERLIN, 22.00—News.
BEROMÜNSTER, 22.00—"Spel im Schloss"—Sketch (contd. from 21.10).
BRATISLAVA, 22.15—News in Hungarian. 22.30—Records.
BRESLAU, 22.00—Short Stories (Bierkowski). 22.20—Time; News. 22.45—Orchestra. Conductor:

Rischka. Overture, "Zampa" (Hérold). Hopak (Tchaikovsky). Selection, "La Traviata" (Verdi). Waltz (Waldeufel). Selection, "Liselott" (Künneke). Revue Overture (Lincke). Waltz (Zimmer). Marathon March (Schicke).
BRNO, 22.15—Records.
BRUSSELS (No. 1), 22.00—News. 22.10—Request Records.
BRUSSELS (No. 2), 22.00—News. 22.10—Records: "Manon"—Opera (Massenet).
BUCHAREST, 22.00—Opera (contd. from 19.30).
BUDAPEST, 22.00—Opera House. Relay (contd. from 19.30).
COLOGNE, 22.00—Time; News; Announcements. 22.30—The Augmented Station Orchestra. Conductor: Buschkötter. Overture, "Il Seraglio" (Mozart). Aria, "Don Giovanni" (Mozart). Overture, "Nebuchadnezzar" (Verdi). Aria, "A Masked Ball" (Verdi). Prelude, "Lohengrin" (Wagner). Elsa's Dream, "Lohengrin" (Wagner). Olafs Hochzeitsreigen (Ritter).
DEUTSCHLANDSENDER, 22.00—Old-Time Chamber Music (contd. from 21.00). 22.20—News. 22.45—Weather.
FRANKFURT, 22.00—"Songs my Mother Sang"—Recital by Löser, from Karlsruhe. 22.20—Time; News. 22.35—See Stuttgart. 22.45—News.
HAMBURG, 22.00—News. 22.20—Light Music.
HILVERSUM, 22.00—Orchestra (contd. from 20.40). 22.40—News. 22.50—Dance Music.
HUIZEN, 22.00—Organ (contd. from 21.10). 22.10—Records.
KALUNDBORG, 22.00—Reger Recital (contd. from 21.50). 22.10—News. 22.25—Debussy Concert. The Radio Orchestra. Conductor: Reesen. Le Printemps. Prélude à l'après midi d'un faune. Marche ecossaise.
KAUNAS, 22.00—22.30—Orchestra.
KÖNIGSBERG, 22.00—News. 22.30—Königsberg Opera House Orchestra. Conductor: Brückner. Overture, "Mignon" (Thomas). Selection, "Gasparone" (Millöcker). Selection, "Carmen" (Bizet). Tales from The Vienna Woods (Strauss). Rhapsody No 1 (Micheli).

LEIPZIG, 22.00—News. 22.30—Austria (on Records).
LYONS (La Doua), 22.00—Gala Concert (contd. from 20.30); News.
MADRID (EAJT), 22.00—Chimes; Time; Literary Talk. 22.30—Musical Programme.
MORAVSKA - OSTRAVA, 22.15—Records.
MOSCOW, 22.05—Talk in French: The Factory Committee.
MUNICH, 22.00—Time; News. 22.20—To be announced.
OSLO, 22.00—"The Tales of Hoffmann" (Offenbach) (contd. from 20.00).
PARIS (École Supérieure), 22.00—Chamber Concert (contd. from 20.30). 22.30 (approx.)—News; Dance Music.
PARIS (Poste Parisien), 22.00—"The Marriage of Mlle. Beulemans"—Play (contd. from 20.10). 22.10—News.
PARIS (Radio - Paris), 22.00—"Tovaritch"—Play (contd. from 20.45).
PITTSBURGH, 22.00—Womens' Clubs. 22.15—KDKA Kiddies' Klub. 22.30—The Singing Lady. 22.45—Little Orphan Annie.
PRAGUE, 22.00—"The Devil's Wall" (Smetana) (contd. from 19.30). 22.15—News. 22.30—Records.
REYKJAVIK, 22.00—Chimes; News. 22.30—Talk.
ROME, 22.00—Comedy (contd. from 21.15). 22.15—Verdi Concert.
SOTTENS, 22.00—Orchestra (contd. from 20.45). 22.05—22.30 (from Geneva)—Talk: The Work of the League of Nations.
STOCKHOLM, 22.00—Discussion (contd. from 21.00).
STRASBOURG, 22.00—See 20.30 Lyons (La Doua). 22.30—News.
STUTTGART, 22.00—Reminiscences of an Ex-Serviceman. 22.20—Time; News. 22.35—Topical Talk. 22.45—News.
TOULOUSE (Radio-Toulouse), 22.00—Orchestra. 22.15—News. 22.30—Songs. 22.45—Orchestra.
TURIN, 22.00—Comedy (contd. from 21.30).
VIENNA, 22.00—"Alceste"—Play (Precht) (contd. from 20.15). 22.15—News. 22.30—Jazz Band.

WARSAW, 22.00—Lecture-Recital: Bach's Brandenburg Concertos. 22.30—Dance Music.

23.00

ALGIERS, 23.00—Oriental Music.
BARCELONA, 23.00—Variety. 23.30—Alfonso (Guitar).
BERLIN, 23.00—See Munich.
BRESLAU, 23.00—Orchestra (contd. from 22.45).
BUDAPEST, 23.00—Béla Racz Cigany Band.
COLOGNE, 23.00—Orchestra (contd. from 22.30). 23.30—"Dietrich Eckart and Christian Dietrich Grabbe"—Radio Sequence.
DEUTSCHLANDSENDER, 23.00—See Breslau.
FRANKFURT, 23.00—See Stuttgart.
HAMBURG, 23.00—See Munich.
HUIZEN, 23.00—Records.
KALUNDBORG, 23.00—Debussy Concert (contd. from 22.25). 23.10—Dance Music.
KÖNIGSBERG, 23.00—Orchestra (contd. from 22.30). 23.30—Dance Records.
MADRID (EAJT), 23.00—Musical Programme. 23.30—News. 23.45—Georges Genni (Tenor).
MADRID (EAQ), 23.30—Spanish Two-Step.
MOSCOW, 23.05—Talk in Spanish: Reminiscences of an Old Bolshevik.
MUNICH, 23.00—The Josef Schwarz Orchestra relayed from Nürnberg.
PITTSBURGH, 23.00—Musical Potpourri. 23.15—Baseball. 23.30—Reed Kennedy and Orchestra. 23.45—Lowell Thomas.
REYKJAVIK, 23.00—The Radio Quartet; Records; Dance Music.
ROME, 23.00—News.
SCHENECTADY, 23.40—Stock Reports.
STUTTGART, 23.00—Bali-Gramophone Sequence with Commentary. 23.30—Recital: Sound-Film Songs.
TOULOUSE (Radio-Toulouse), 23.00—Operetta Music Extracts, "The Flower of Hawaii" (Abraham). "The Dubarry" (Millöcker). "Frascquita" (Lehár). 23.15—Dance Music.
TURIN, 23.00—News.

THURSDAY May 24

VIENNA, 23.00—Jazz Band; Announcements.
WARSAW, 23.00—News. 23.05—Dance Music.

00.00 (Friday)

BARCELONA, 00.00—Dance Music.
BERLIN, 00.00—See Munich.
BRESLAU, 00.00-00.30—Orchestra (contd. from 22.45).
COLOGNE, 00.00-00.30—Radio Sequence (contd. from 23.30).
DEUTSCHLANDSENDER, 00.00-00.30—See 22.45 Breslau.
FRANKFURT, 00.00—See Stuttgart.
HAMBURG, 00.05—Scandinavian Music. Station Symphony Orchestra. Conductor: Eibenschütz. Hattenbach (Pianoforte). Firstoforte: The River (Palmgren). First Symphony (Sibelius).
KALUNDBORG, 00.00—Chimes. 00.05-00.30—Dance Music.
KÖNIGSBERG, 00.00-00.30—Dance Records.
MADRID (EAJT), 00.00—Georges Genni (Tenor); Sextet. 00.45—News.
MADRID (EAQ), 00.45—News.
MUNICH, 00.00—The Josef Schwarz Orchestra.
PITTSBURGH, 00.00—Amos 'n' Andy. 00.15—Lois Miller (Organist). 00.30—To be announced.
REYKJAVIK, 00.00—Dance Music.
SCHENECTADY, 00.00—Variety.
STUTTGART, 00.00—Serenade.
TOULOUSE, 00.00—News. 00.05—"Au Caveau de Minuit"—Radio Fantasy. 00.15—Operetta Music.

01.00

BARCELONA, 01.00—News.
MADRID (EAJT), 01.00—Chimes.
PITTSBURGH, 01.00-06.00—Popular Programme.
SCHENECTADY, 01.00-03.00—Popular Programme.
ZEESEN, 01.00—Capriccio in G and Fantasy in C (Haydn). Susanne Fischer (Pianoforte).

NATIONAL

For Time Signals, see Monday
10.15 (Daventry)—Service.
10.30 (Daventry)—Weather Forecast.
10.45-11.0 (Daventry)—"Common Sense and the Child." "How can you work out their meals?"—2. By a Doctor.
11.00-11.30 (London)—Television.
12.00—An Organ Recital by Henry Coleman.
12.30—The B.B.C. Dance Orchestra.
13.15—The Northern Studio Orchestra. Tom Sherlock (Baritone).
14.15—A Ballad Concert. Mai Ramsay (Soprano), Ben Date (Baritone), Harold Rubens (Pianoforte).
15.00 (Daventry)—Light Music. Records.
15.30 (Daventry)—Charles Manning and his Orchestra.
16.30 (Daventry)—The Hotel Metropole Orchestra. Directed by Emilio Colombo.
17.15 (Daventry)—The Children's Hour.
17.15 (except Daventry)—The B.B.C. Dance Orchestra.
18.00—"The First News."
18.25—Weekly Bulletin of Special Notices.
18.30—The Foundations of Music. Beethoven's Pianoforte Sonatas, played by Edward Isaacs.
18.50—Keyboard Talk. Sir Walford Davies.
19.10-19.25—Gardening Talk. Beverley Nichols: "Flower Shows."
19.30—"Along the Roman Roads." G. M. Boumphey.
20.00—The B.B.C. Orchestra (Section C). Conducted by Joseph Lewis. Overture, Opéra Bouffe (Finck); Romance and Rondeau (Suite Ancienne) (Lacome); Suite (from Early Pianoforte Suite) (Edward German, orch. Henry Geehl); May (The Months) (Cowen); Day Dreams (Sullivan, orch. Finck); Valse de la Reine (Coleridge-Taylor); March, Pomp and Circumstance (No. 1 in D) (Elgar).
21.00—"The Second News."
21.20—Lance Sieveking's New Radio Play "Wings of the Morning." The story of a fantastic crime committed in the 4th Dimension.
22.35—Short Story: "The Red Lantern." By Richard Hughes.
22.55-24.00 (Daventry)—Harry Roy and his Band from The May Fair Hotel.

REGIONAL

For Time Signals, see Monday
10.15-10.30 (ex. Midland)—The Daily Service.
10.30-11.00 (ex. Midland)—Daventry.
11.00-11.30 (Midland)—Television.
12.00—The New Victoria Cinema Orchestra.
13.00—Records. Orchestral Concert.
14.00-15.00—The Western Studio Orchestra. Overture, Figaro (Mozart); Dancing Doll (Poldini); Hungarian Harvest Festival (Dohnányi); Capriccio in B minor (Brahms); Suite, Brae and Burnside (Vivian May); Brahmsiana (arr. Finck); Waltz, Morning Papers (Strauss).
15.00-17.15 (except Midland)—Daventry National Programme.
17.15—The Children's Hour.
18.00—"The First News."
18.25—Interlude.
18.30 (Scottish and London)—The Studio Orchestra. Anna Marsh (Pianoforte).
18.30 (Midland)—Billy Merrin and his Commanders.
18.30 (West)—Records. Orchestral Concert.
18.30 (North)—"Old English Music." The Studio Orchestra. Muriel Taylor (Pianoforte).
19.15 (West)—The Mousehole Male Voice Choir.
19.30 (London, North, Scottish)—The Pierre Fol Quintet.
19.30 (Midland)—The Norris Stanley Pianoforte Trio.
19.45 (West)—Maudie Edwards in Songs and Impressions.
20.00 (West)—For Western Farmers in Particular.
20.15—"Evening in Budapest." A short story with music by Vera Biro. Told by Robert Speaight with Lola Shari, André Balogh and Java with his Tziganes.
21.00 (except North)—B.B.C. Concert of Contemporary Music—7. A Béla Bartók Programme. Trefor Jones (Tenor). Frank Phillips (Baritone). Béla Bartók (Pianoforte). The Wireless Chorus (Section A). The B.B.C. Symphony Orchestra (Section D), conducted by Aylmer Buesset.
21.00 (North)—A Blackpool Night's Entertainment.
22.15—"The Second News."
22.30-24.00 (Midland till 23.00)—Harry Roy and his Band.

EMPIRE SUMMARY

For wavelengths see S.W. List
Transmission 1 (GSD, GSB)
B.S.T.
05.30—Big Tom. Elgar.†
06.00—A Programme from Australia.*
06.30—Speeches from the Annual Banquet of the Royal Empire Society.*
06.45—Recital. Philip Bertram (Bass). Gwendo Paul (Pianoforte).
07.15—Empire News and Announcements and Fruit Market Notes.
07.30—"Empire Day." Earl Jellicoe.*
07.35—Close Down.
Transmission 2 (GSH, GSG)
12.00—Big Tom. Organ Recital by Dr. Henry Coleman.
12.30—The B.B.C. Dance Orchestra.
13.15—The Northern Studio Orchestra. Tom Sherlock (Baritone).
14.15—See National Programme.
14.30—Close Down.
Transmission 3 (14.45—17.00 GSF, GSE; 17.00—18.45 GSE, GSB)
14.45—Big Tom. Empire News and Announcements.
15.05—Programme from Australia.*
15.35—Speeches.* (See 06.30).
15.50—Charles Manning and his Orchestra.
16.10—Talk: "Music and the Ordinary Listener." Sir Walford Davies.
16.30—The Hotel Metropole Orchestra.
17.15—John Southern's Hour.*
18.15—News and Announcements.
18.35—Dance Music.
18.45—Close Down.
Transmission 4 (GSD, GSB)
19.00—Big Tom. News and Announcements and Fruit Market Notes.
19.20—Interlude.†
19.30—The Pierre Fol Quintet.
20.15—"Evening in Budapest."
21.00—Talk.
21.15—Variety.
21.45—Famous Operatic Arias.†
22.30—Harry Roy and his Band.
23.10—News and Announcements.
23.30—Close Down.
Transmission 5 (GSD, GSC)
00.00—Big Tom. A Welsh Concert.
00.30—Talk.
00.45—Light French Songs.†
01.00—The Pierre Fol Quintet.
01.45—News and Announcements.
02.05—Close Down.
* Electrical Recording.
† Gramophone Records.

FRIDAY May 25

PRINCIPAL EVENTS

CONCERTS
17.15 Cologne: Contemporary orchestral and vocal.
19.40 Huizen: The Arnhem Orchestra.
20.05 Oslo: Symphony Orchestra: Norwegian programme.
20.15 Warsaw: Stabat Mater (Szymanowski).
20.30 Strasbourg: Alsace-Lorraine programme.
21.00 Berlin: Haydn, Beethoven.
21.00 Stuttgart, Frankfurt: Smetana, Dvořák.
21.05 Prague: Orchestra, pianoforte.
21.15 Brussels No. 1: Symphony orchestra.
21.20 Beromünster: Popular English and French music.
22.00 Budapest: Veres Cigany Band.
22.05 Kalundborg: Contemporary music.
23.00 Hamburg: Orchestral Serenade.
OPERAS
20.30 Poste Parisien: "Les Dragons de Villars" (Maillart).
20.55 Rome: "Don Giovanni" (Mozart).
CHAMBER MUSIC
17.00 Prague: The Ondříček Quartet (Dvořák, Haydn).
20.00 Bucharest: Quintet, Op. 29 (Beethoven).
20.00 Stockholm: Schubert's Trout Quintet.
20.30 Ecole Supérieure: Trio, songs, quartets.
22.30 Leipzig: Chamber Symphony, Op. 27 (Juon).
22.45 Breslau: Music on old instruments.
RECITALS
18.30 Berlin: Songs to the Lute.
21.00 Hamburg: Spring Songs.
21.25 Sottens: Clara Haskil (Pianoforte).
21.25 Vienna: Two pianofortes.
PLAY AND TALK
20.45 Radio-Paris: "Scampolo" (Niccodemi).
22.00 Sottens: Talk on The League of Nations.
DANCE MUSIC
17.00, Brussels No. 2; 22.10, Brussels No. 2; 22.25, Brussels No. 1; 22.30, École Supérieure, Königsberg; 22.40, Warsaw; 23.00, Cologne, etc., Kalundborg.

FRIDAY May 25

Hours of Transmission in British Summer Time

05.00

DEUTSCHLANDSENDER, 05.45—Weather. 05.50—News.
FRANKFURT, 05.45—Hymn; Time; Weather. 05.50—Gym.
HAMBURG, 05.45—Time; Weather; For Farmers.
KÖNIGSBERG, 05.00—Weather.
MOSCOW, 05.00—Fanfare. 05.00—News. 05.45—Gym.
STUTT GART, 05.35—Announcements; Weather. 05.45—Hymn; Time; Weather. 05.50—Gym.

06.00

BERLIN, 06.00—Nature's Greeting. 06.05—Gym. 06.15—Weather; Meditation. 06.20—See Hamburg.
BEROMÜNSTER, 06.30-06.45—Gym.
BRESLAU, 06.00—Time; Weather; Gym. 06.15—Hymn; Motto. 06.20—See Hamburg.
BUDAPEST, 06.45—Gym.
COLOGNE, 06.00—Hymn. 06.05—For Farmers, on Records. 06.15—Records. 06.30—Gym. 06.50—Time; News.
DEUTSCHLANDSENDER, 06.00—Gym. 06.15—Motto. 06.20—See Hamburg.
FRANKFURT, 06.15—Time; News; Gym. 06.50—Weather. 06.55—Records.
HAMBURG, 06.00—Gym. 06.15—Time; Weather. 06.20—Orchestra.
KÖNIGSBERG, 06.00—Gym. 06.20—See Hamburg.
LEIPZIG, 06.00—For Farmers. 06.05—Gym. 06.20—See Hamburg.
MOSCOW, 06.15—Programme Notes. 06.30—Records.
MÜNICH, 06.30—Gym. 06.45—Motto; Records.
PARIS (Radio-Paris), 06.45—Gym.
PRAGUE, 06.00—Time; Gym; Music.
SOTTENS, 06.00-06.15—Gym.
STUTT GART, 06.00—Gym. 06.15—Time; News. 06.25—Gym. 06.50—Weather. 06.55—Records.

07.00

BERLIN, 07.00—News. 07.20—See 06.20 Hamburg.
BRESLAU, 07.00—Time; News. 07.20—See Hamburg.
BUDAPEST, 07.00—Records.
COLOGNE, 07.00—Hymn; Records.
DEUTSCHLANDSENDER, 07.00—News. 07.20—See Hamburg.
FRANKFURT, 07.00—Records.
HAMBURG, 07.00—Time; News. 07.10—Motto. 07.20—Orchestra.
HILVERSUM, 07.40—Records.
HUIZEN, 07.40—Bible Reading; Prayers. 07.55—Records.
KALUNDBORG, 07.00—Gym.
KÖNIGSBERG, 07.00—News. 07.20—See Hamburg.
LEIPZIG, 07.00—News. 07.20—See Hamburg.
MOSCOW, 07.00—Records. 07.15—Light Music.
MÜNICH, 07.00—Records. 07.15—Time; Weather; News. 07.25—Morse. 07.35—Songs.
PARIS (Poste Parisien), 07.10—Fanfare; Records. In the Interval: News.
PARIS (Radio-Paris), 07.00—Records. 07.15—News. 07.45—Gym.
PRAGUE, 07.00-07.15—News.
ROME, 07.45—Gym.
STOCKHOLM, 07.20—Gym. 07.45—Prayers.
STUTT GART, 07.00—Records.
TURIN, 07.45—Gym.
WARSAW, 07.00—Time; Hymn. 07.05—Gym. 07.25—Records. 07.35—News. 07.40—Records. 07.55—For Housewives.

08.00

BERLIN, 08.00—Gym. 08.30—Records; Announcements.
BORDEAUX-LAFAYETTE, 08.00—News.
BRESLAU, 08.00—Records. 08.30—Gym. For Women. 08.50—Cookery.
COLOGNE, 08.00—Time; News. 08.05-08.20—Gym. For Women.
DEUTSCHLANDSENDER, 08.45—Gym.
FRANKFURT, 08.00—Records. Frankfurt. 08.15—Tides; Weather. 08.20-08.40—Gym.
HAMBURG, 08.00—Weather; For Housewives. 08.30—Announcements; Records.
HILVERSUM, 08.00—Records.
HUIZEN, 08.00—Records.
KALUNDBORG, 08.30—Service from Copenhagen Cathedral.
KÖNIGSBERG, 08.00—Prayers. 08.30—Gym.

LEIPZIG, 08.00—Gym. 08.20—Records.
MOSCOW, 08.00—Light Music. 08.15—For Children.
PARIS (Poste Parisien), 08.00-08.30—Records. In the Interval: News. 08.45—Cookery Hints.
PARIS (Radio-Paris), 08.00-08.30—Records.
ROME, 08.00—Time; News; Market Prices.
STOCKHOLM, 08.00—Weather.
STUTT GART, 08.00—Records. 08.15—Tides; Weather. 08.20-08.40—Gym.
TOULOUSE (Radio-Toulouse), 08.00—Dance Refrains. 08.30—News. 08.35—Songs. 08.45—Orchestra.
TURIN, 08.00—Time; News; Market Prices.
WARSAW, 08.00—Programme Announcements.

09.00

BARCELONA, 09.00—Chimes; Gym; Records. 09.20—News.
BERLIN, 09.00—Folk Songs. 09.00—For Women.
BRESLAU, 09.00—Time; News.
BUDAPEST, 09.45—News.
DEUTSCHLANDSENDER, 09.00—Folk Song. 09.40—Poems.
HAMBURG, 09.00—Records.
HILVERSUM, 09.00—Records. 09.40—Religious Programme. 09.55—Organ.
HUIZEN, 09.00-09.10—Records.
KÖNIGSBERG, 09.00—French for Schools.
LEIPZIG, 09.40—Exchange. 09.45—Announcements. 09.55—Weather; Tides.
MADRID (EAJ7), 09.00—News.
MOSCOW, 09.00—Light Music. 09.55—Chimes.
MÜNICH, 09.20—Post Office Propaganda; Records. 09.50—Gym.
PRAGUE, 09.50—News.
STUTT GART, 09.00-09.15—For Women.
VIENNA, 09.00—News. 09.20—Market Prices. 09.30—Weather.

10.00

BARCELONA, 10.00—Obituary.
BERLIN, 10.00—News. 10.10—Market Prices.
BEROMÜNSTER, 10.20-10.50—Radio Play for Schools; Time; News.
BORDEAUX-LAFAYETTE, 10.30—Concert.
BRATISLAVA, 10.10—News in Hungarian; Weather. 10.30—For Schools.
BUDAPEST, 10.00—Talk; Records.
COLOGNE, 10.00—Time; News. 10.10—For Schools. 10.30—Talks.
DEUTSCHLANDSENDER, 10.00—News. 10.10—Lesser-known Professions (on Records). 10.50—Gym.
FRANKFURT, 10.00—News.
HAMBURG, 10.50—News.
HILVERSUM, 10.00—Organ. 10.25—Recitation. 10.40—Records.
HUIZEN, 10.10—Religious Programme. 10.40—The Dutch Harp Quartet.
KÖNIGSBERG, 10.40—News. 10.55—Weather.
LYONS (La Doua), 10.30—Concert.
MADRID (EAJ7), 10.00—Exchange; Announcements.
MOSCOW, 10.10—News. 10.55—Market Prices. For Schools.
MÜNICH, 10.10—For Schools. 10.55—Market Prices.
OSLO, 10.00—Exchange.
PRAGUE, 10.00—News. 10.05—News in German. 10.10—Records. 10.30—See Bratislava. 10.45—For Schools.
STRASBOURG, 10.30—See Bordeaux-Lafayette.
STUTT GART, 10.00—News. 10.10—Sonata in F, for Piano and Cello (Beethoven). 10.40—Kanetscheider Songs.
VATICAN CITY, 10.00-10.15—Religious Information in German.
VIENNA, 10.20—For Schools. 10.50—Tides.
ZEESEN, 10.15—Haydn Concert. Orchestra. Conductor: Richter-Reichhelm. Symphony in C minor. Arias, "The Creation," "The Seasons."

11.00

BERLIN, 11.25—Exchange.
BORDEAUX-LAFAYETTE, 11.00—Symphony Concert.
BRATISLAVA, 11.00—Tides. 11.50—News.
BRESLAU, 11.30—Time; News. 11.50—Silesian Philharmonic Orchestra. Conductor: Rischka.
BRNO, 11.00—Records. 11.05—For Schools.
BUDAPEST, 11.00—Records. 11.10—Tides.

COLOGNE, 11.00—Talks. 11.30—Records.
DEUTSCHLANDSENDER, 11.00—Gym. 11.15—Weather. 11.30—For Women.
FRANKFURT, 11.00—Concert. 11.40—Announcements.
HAMBURG, 11.00—Records. 11.30—Orchestra from the Old Town Hall, Bremen. Conductor: Niemann.
HILVERSUM, 11.00—Records. 11.10—Recitation. 11.25—Records. 11.40—Time; Records.
HUIZEN, 11.00—The Dutch Harp Quartet. 11.20—Kloek (Organ). 11.40—Police Notes; Records.
KALUNDBORG, 11.00—Weather. 11.10—Fish Prices.
KÖNIGSBERG, 11.30—See Hamburg.
LEIPZIG, 11.00—Records. 11.40—Weather. 11.50—News.
LYONS (La Doua), 11.00—Concert.
MÜNICH 11.05—For Farmers; Time; Weather; News. 11.30—Records.

BRUSSELS (No. 1), 12.00—Orchestra. Conductor: Walpot.
BRUSSELS (No. 2), 12.00—Records: Act I, Ballet and Finale of Act II, "Aida" (Verdi).
BUCHAREST, 12.00—Records.
BUDAPEST, 12.00—Chimes.
COLOGNE, 12.00—See Munich. 12.45—Announcements.
DEUTSCHLANDSENDER, 12.00—Weather; Greetings. 12.10—Records; Weather. 12.55—Time.
FRANKFURT, 12.00—Records.
HAMBURG, 12.00—For Housewives. 12.05—Time; Announcements. 12.15—Orchestra (contd. from 11.30).
HILVERSUM, 12.00—Records. 12.10—Orchestra; Records.
HUIZEN, 12.00—Records. 12.10—The Dutch Harp Quartet. 12.55—Kloek (Organ).
JUAN-LES-PINS (Radio Côte d'Azur), 12.30—Amusement Guide; Variety.
KALUNDBORG, 12.00—Chimes. 12.05—Bendix String Ensemble.

Band. 12.30—News. 12.45—Request Programme.
TURIN, 12.00—Quintet. 12.30—Records. 12.45—News.
VIENNA, 12.00—Vienna Symphony Orchestra. Conductor: Holzer.
WARSAW, 12.05—Records. In the Interval: Weather. 12.55—News.

13.00

ATHLONE, 13.30—Time; Weather; Exchange; Records.
BARCELONA, 13.00—For Women. 13.45—Records.
BELGRADE, 13.00—Announcements. 13.10—Records. 13.30—News.
BERLIN, 13.00—News. 13.15—Records.
BEROMÜNSTER, 13.00—Kremo Orchestra. 13.25—Time; Weather; Exchange.
BORDEAUX-LAFAYETTE, 13.00—Classical and Modern Music.
BRATISLAVA, 13.45—News in German and Hungarian; Weather.
BRESLAU, 13.00—Orchestra (contd. from 11.50). 13.20—Time; News. 13.35—Silesian Philharmonic Orchestra. Conductor: Rischka. Overture, "Die Landstreicher" (Ziehrer). Selection, "Polenblut" (Nedbal). Waltz (Strauss). Marches (Blankenburg).
BRNO, 13.35—For Tradesmen.
BRUSSELS (No. 1), 13.00—News. 13.10—Records; Songs.
BRUSSELS (No. 2), 13.00—News. 13.10—Orchestra. Conductor: Walpot.
BUCHAREST, 13.00—Time; News. 13.15—Records.
BUDAPEST, 13.00—Orchestra. Conductor: Fridl.
COLOGNE, 13.00—Orchestra. Conductor: Eysoldt. In the Interval, News.
DEUTSCHLANDSENDER, 13.00—Records.
FRANKFURT, 13.00—Time; News. 13.20—See Stuttgart. 13.50—Time; News.
HAMBURG, 13.00—Exchange. 13.15—Weather. 13.20—Light Music.
HILVERSUM, 13.00—Orchestra.
HUIZEN, 13.00—The Dutch Harp Quartet. 13.25—Karin Kwant (Soprano).
JUAN-LES-PINS (Radio Côte d'Azur), 13.00—News. 13.15—Variety.
KALUNDBORG, 13.00—The Bendix String Ensemble.
KÖNIGSBERG, 13.00—Time; Weather. 13.05—Records. 13.20—News; Records.
LEIPZIG, 13.00—News. 13.10—Records.
LYONS (La Doua), 13.00—Concert. 13.05-13.30—Orchestra.
MONTE CENERI, 13.00—News. 13.05-13.30—Orchestra.
MORAVSKÁ-OSTRAVA, 13.00—Orchestra (continued from 12.35).
MÜNICH, 13.00—Orchestra. 13.15—Time; Weather; News. 13.25—Records.
OSLO, 13.00—Records. In the Intervals, Weather; For Farmers.
PARIS (Ecole Supérieure), 13.00—Orchestra.
PARIS (Poste Parisien), 13.00—New Records. 13.05—Exchange. 13.15—Records. 13.30—Exchange. 13.35—Records.
PARIS (Radio-Paris), 13.00—Krettl Orchestra. In the Interval, News.
PRAGUE, 13.00—See 12.35 Moravská-Ostrava. 13.35—Economic Notes. 13.45—Records. 13.55—Exchange.
ROME, 13.00—Instrumental. In the interval at 13.30—Time; News; Exchange.
SOTTENS, 13.00—Exchange. 13.05—Radio-Lausanne Orchestra. Portraits (Closset). Selection, "The Flower of Hawaii" (Abraham). Dance Music.
STRASBOURG, 13.00—Time; Exchange. 13.05—Records.
STUTT GART, 13.00—Time; News. 13.20—Philharmonic Orchestra. Conductor: Klener. 13.50—Time; News.
TOULOUSE (Radio-Toulouse), 13.00—Amusement Guide; Time. 13.05—Operetta Music. 13.15—Orchestra. 13.30—Sound-Film. Music. 13.45—Orchestra.
TURIN, 13.00—Time. 13.05—Popular Music. 13.30—Records; Exchange. 13.45—Popular Music.
VIENNA, 13.00—Time; News. 13.10—Vienna Symphony Orchestra (continued from 12.00).
ZEESEN, 13.45—Romantic Lieder Cycle for Soprano and Chamber Orchestra. Conductor: Hanne-mann.

14.00

ATHLONE, 14.00-14.30—Records.
BARCELONA, 14.00—Records. 14.30—Theatre-Notes; Records.
BERLIN, 14.00—News. 14.15—Records; Sound Film Music.
BORDEAUX-LAFAYETTE, 14.00—Records.



The Barber of Bagdad. The overture to Cornelius's opera of which he is the hero, is to be broadcast by Hamburg at 19.00

OSLO, 11.15—Service. 11.50—Exchange.
PRAGUE, 11.00—Records. 11.05—See Brno. 11.25—For Schools. 11.55—For Farmers.
STRASBOURG, 11.00—See Bordeaux-Lafayette.
STUTT GART, 11.00—Kanetscheider Songs. 11.10—Records. 11.25—Post Office Propaganda; Records. 11.55—Weather.
TURIN, 11.30—Quintet.
VIENNA, 11.30—Italian. 11.55—Weather.
WARSAW, 11.40—News. 11.50—Theatre Review. 11.57—Fanfare from St. Mary's Church, Cracow.
ZEESEN, 11.00—Haydn Concert (contd. from 10.15).

12.00

BARCELONA, 12.00—Chimes; Weather; Television.
BELGRADE, 12.00—Chimes. 12.05—Station Orchestra. 12.45—Exchange; Announcements.
BERLIN, 12.15—See 11.30 Hamburg. In the Interval, Weather.
BEROMÜNSTER, 12.00—Records. 12.40—Kremo Orchestra.
BORDEAUX-LAFAYETTE, 12.00—Tourist Report; News. 12.30—Classical and Modern Music.
BRATISLAVA, 12.10—Local News in Slovak. 12.20—Record.
BRESLAU, 12.00—Orchestra (contd. from 11.50).

12.15—For Schools. 12.45—Bendix String Ensemble.
KAUNAS, 12.00—Time; News.
KÖNIGSBERG, 12.00—News. 12.15—See 11.30 Hamburg.
LEIPZIG, 12.00—See 11.50 Breslau.
LYONS (La Doua), 12.30—Concert.
MONTE CENERI, 12.00—News; Records. 12.29—Time; Weather. 12.33—Orchestra. 12.55—News.
MORAVSKÁ-OSTRAVA, 12.35—Orchestra. Conductor: Musil.
MÜNICH, 12.00—Orchestra. OSLO, 12.55—Time.
PARIS (Ecole Supérieure), 12.30—Orchestra.
PARIS (Poste Parisien), 12.00—Exchange. 12.05—Records. 12.20—News. 12.35—New Records.
PARIS (Radio-Paris), 12.00—Jewish Address. 12.30—Krettl Orchestra.
PRAGUE, 12.00—For Farmers. 12.10—Records. 12.25—News. 12.35—See Moravská-Ostrava.
REYKJAVIK, 12.00—Weather.
ROME, 12.30—Records.
SOTTENS, 12.29—Time; News. 12.40—Radio-Lausanne Orchestra. Conductor: Moser. Popular Music.
STOCKHOLM, 12.30—Weather. 12.45—Exchange. 12.55—Time.
STRASBOURG, 12.00—Records. 12.45—News.
STUTT GART, 12.00—Records.
TOULOUSE (Radio-Toulouse), 12.00—Bal Musette. 12.15—Military

14.00 (contd.)

ERESLAU, 14.00—Orchestra (contd. from 13.35). 14.20—Exchange. 14.25—Post Office Propaganda; Records. BRNO, 14.05-14.10—Market Prices. BRUSSELS (No. 1), 14.00—Negro Literature and Songs. 14.25-14.45—American music. BRUSSELS (No. 2), 14.00-14.45—For Schools. BUDAPEST, 14.00—Orchestra. Conductor: Fridl. COLOGNE, 14.00—Orchestra (contd. from 13.00). DEUTSCHLANDSENDER, 14.45—News. FRANKFURT, 14.00-14.30—See Stuttgart. 14.40—For Women. HAMBURG, 14.00—Light Music. 14.15—News. 14.30—Fischer (Pianoforte). Concerto in D minor (Mozart) on Records. HILVERSUM, 14.00—Orchestra. 14.10—Dressmaking. 14.40—Records. HUIZEN, 14.00—Soprano (contd. from 13.25). 14.10—Bible Reading. 14.40—The Van der Horst Ensemble. KALUNDBORG, 14.00—Radio Report from the Agricultural High School. KÖNIGSBERG, 14.00—News; Records. 14.30—Records. LEIPZIG, 14.00—News; Exchange; Weather. 14.15—Art Review. Literary Talk and Reading: Timm Kröger. 14.45—Helene Müller-Schäfer (Contralto). LYONS (La Doua), 14.00—Orchestra. MADRID (EAJ7), 14.00—Chimes; Time; Weather; Light Music. 14.30—Sextet. MUNICH, 14.00—News; Exchange; Announcements. 14.20—Children's Choir; Recitations. 14.50—For Women. OSLO, 14.00—Exchange. PARIS (Ecole Supérieure), 14.00—Records. PARIS (Poste Parisien), 14.00—Exchange. PRAGUE, 14.00-14.05—Exchange; Weather in German. REYKJAVIK, 14.15—Variety. ROME, 14.00—Instrumental. STUTTGART, 14.00—Philharmonic Orchestra. 14.30—For Schools. TOULOUSE (Radio-Toulouse), 14.00—News. TURIN, 14.00—Popular Music. 14.15—Exchange. ZEESEN, 14.00—Lieder Cycle (contd. from 13.45).

15.00

BARCELONA, 15.00—Sextet; Exchange. In the Interval: Tourist Talk. BERLIN, 15.00—Exchange. BEROMÜNSTER, 15.30—Records. 15.59—Time. BORDEAUX-LAFAYETTE, 15.00—Records. BRESLAU, 15.00—Market Prices. 15.10—Literary Talk: Waggelel. 15.25—Talk. 15.40—Film Talk: News Reels. 15.50—Market Prices. BRNO, 15.45—Talk: Vacations. DEUTSCHLANDSENDER, 15.00—Weather; Exchange. 15.15—Radio Report from the Grunewald Stadium. 15.40—Talk: The Oil Wells of Germany. COLOGNE, 15.05—Political Talk. 15.30—Economic Notes. 15.45—For Women. FRANKFURT, 15.00—For Women. 15.30—Weather. 15.40—Time; Exchange. 15.50—Economic Review. HAMBURG, 15.00—Exchange. 15.40—Shipping; Aviation. HILVERSUM, 15.00—Records. 15.40—Light Music. Conductor: de Groot. HUIZEN, 15.00—The Van der Horst Ensemble. KALUNDBORG, 15.00—Radio Report (contd. from 14.00). 15.40—The Radio Orchestra. Conductor: Reesen. KÖNIGSBERG, 15.00—Exchange. 15.15—For Children. 15.40—For Women. LEIPZIG, 15.00—New Songs (contd. from 14.45). 15.15—Talk: Karoline von Humboldt. 15.35—Exchange. MADRID (EAJ7), 15.00—Amusement Guide; Exchange; Music. 15.30—Sextet. MONTE CENERI, 15.59—Time. MOSCOW, 15.15—For Children. 15.55—Time. MUNICH, 15.00—For Women. 15.30—Talk: German Flags. 15.50—Weather; For Farmers. PARIS (Ecole Supérieure), 15.00—Records. PARIS (Poste Parisien), 15.15—Exchange. 15.45—Exchange. PARIS (Radio-Paris), 15.45-15.50—Exchange. PITTSBURGH, 15.00—The Gospel Singer—Edward MacHugh. 15.15—

Sammy Fuller. 15.30—To-day's Children. 15.45—K.D.K.A. Salon Orchestra. PRAGUE, 15.55—Exchange; Weather. SOTTENS, 15.59—Time. STUTTGART, 15.00—For Schools. 15.30—Siegfried Kuhn (Songs). VIENNA, 15.00—Time; Weather; Exchange. 15.20—For Women. WARSAW, 15.05—News; Exchange. 15.20—Light Music. Conductor: Gorzynski, Vera Irene (Songs).

16.00

BARCELONA, 16.00—For Hospitals. BELGRADE, 16.00—Songs. 16.30—Gym for Children. BERLIN, 16.00—Military Band. In the Interval; Report: Work on the Land. BEROMÜNSTER, 16.00—Italian Music. BRESLAU, 16.00—Orchestra. Conductor: Rischka. Kosiol (Violin); Evers (Piano). BRNO, 16.00—Orchestra. Conductor: Janota. BRUSSELS (No. 2), 16.55—Announcements. BUDAPEST, 16.00—Talk. 16.30—Talk. COLOGNE, 16.00—Orchestra. Conductor: Kühn. DEUTSCHLANDSENDER, 16.00—See Leipzig. FRANKFURT, 16.00—Orchestra from Rüsselsheim. Conductor: Cornelius. Soloist: Leni Gehrig (Songs). HAMBURG, 16.00—See Frankfurt. HILVERSUM, 16.00—Light Music. 16.10—For Children. 16.40—Light Music. HUIZEN, 16.00—The Van der Horst Ensemble. 16.10—Records. 16.55—Hengeveld (Pianoforte). KALUNDBORG, 16.00—Orchestra (contd. from 15.40). 16.40—Radio Play for Children. KÖNIGSBERG, 16.00—Station Orchestra. Conductor: Wilcken. LAHTI, 16.00—Orchestra. LEIPZIG, 16.00—The Station Orchestra. Conductor: Steffen. LYONS (La Doua), 16.30—Organ; Song and Cello Recital. MADRID (EAJ7), 16.00—Light Music. 16.15—Sextet. 16.50—News. MONTE CENERI, 16.00—See Beromünster. MOSCOW, 16.00—News. 16.30—Talk: Communist Party Politics. MUNICH, 16.00—Orchestra. Conductor: Kloss. PARIS (Poste Parisien), 16.50—Exchange. PITTSBURGH, 16.00—Music Appreciation Hour. PRAGUE, 16.00—See Brno. 16.45—Czech for Germans. ROME, 16.30—For Children. 16.50—News; Exchange. SOTTENS, 16.00—See Beromünster. STRASBOURG, 16.45—Literary Talk: Conrad. STUTTGART, 16.00—See Frankfurt. TURIN, 16.45—For Children. VIENNA, 16.05—News. 16.10—Records. 16.55—Handicrafts for Children. WARSAW, 16.20—Book Review. 16.35—Records of Ignaz Friedman.

17.00

BARCELONA, 17.00—News. BELGRADE, 17.00—Records. BERLIN, 17.00—Military Band (contd. from 16.00). BEROMÜNSTER, 17.00—Records. 17.10—Radio Orchestra. BORDEAUX-LAFAYETTE, 17.00—Literary Programme. BRESLAU, 17.00—Orchestra (contd. from 16.00). 17.25—For Farmers. 17.30—Talk: South German Traces in Silesia. 17.50—Literary Programme. BRUSSELS (No. 1), 17.00—Symphony Orchestra. Conductor: Meulemans. BRUSSELS (No. 2), 17.00—Dance Music. BUCHAREST, 17.00—Orchestra. BUDAPEST, 17.00—Dora Barsony (Songs). COLOGNE, 17.00—Talk. 17.15—Orchestra. Conductor: Kühn. Milli Engelmann-Gillrath and Engels (Songs). Contemporary Music. DEUTSCHLANDSENDER, 17.00—See Leipzig. 17.10—Records. 17.55—"Homiesickness"—Radio Sequence of Poems, Folk Songs and Vocal Quartets. FRANKFURT, 17.00—Orchestra (contd. from 16.00). 17.30—Illustrated Talk: Children's Songs. 17.45—To be announced. HAMBURG, 17.00—See 16.00 Frankfurt. 17.30—Talk: Chess. 17.45—For Young People. HILVERSUM, 17.00—Light Music. 17.45—Records. 17.55—Orchestra. Conductor: de Groot. HUIZEN, 17.00—Hengeveld (Pianoforte). 17.40—Talk.

18.00

ATHLONE, 18.00—For Children. 18.45—News. BELGRADE, 18.55—Time; Announcements. BERLIN, 18.00—Announcements. 18.05—Book Review. 18.30—Armin Knab Concert. Part I. Songs to the Lute. Oscar Besmfelder (Baritone): Du bist mein; Aria: Reveille; Zu Augsburg steht ein hohes Haus; Werjst denn draussen; Wohin ich geh und schau. Part II: Variations on a Children's Song for String Quartet. BEROMÜNSTER, 18.00—For Children. 18.30—Talk: Hygiene. BORDEAUX-LAFAYETTE, 18.00—Literary Programme. 18.15—News. BRATISLAVA, 18.00—Hungarian Transmission: To be announced; Weather. BRESLAU, 18.00—Literary Programme. 18.15—For Children; Gotthold's Flight to Africa. 18.50—Programme Announcements; Market Prices. BRNO, 18.00—Art Review. 18.10—Records. 18.20—German Transmission: Photography; Customs in the Wine District. BRUSSELS (No. 1), 18.00—Talk: Motoring. 18.15—Request Records. 18.30—Light Music. 18.45—Mendelssohn Recital by Maria Boon (Pianoforte). Presto. Two Romances. Spring Song. BRUSSELS (No. 2), 18.00—Dialogue: Making Gramophone Records. 18.30—Records. BUCHAREST, 18.00—Time; News. 18.15—Orchestra.

BUDAPEST, 18.00—Sports Notes. 18.15—Trio (Gyoeri). COLOGNE, 18.00—For Young People. 18.20—English Lesson. 18.40—Topical Talk. 18.50—Economic Notes; Sports Report. DEUTSCHLANDSENDER, 18.00—Radio Sequence (contd. from 17.55). 18.55—Poem; Weather. FRANKFURT, 18.00—For Young People. 18.25—Talk: Pforzheim. 18.45—Announcements. 18.50—Topical Talk. HAMBURG, 18.00—Krynitz (Recitations); Marianne Harms (Soprano). 18.45—Exchange. 18.55—Weather. HILVERSUM, 18.00—Orchestra (contd. from 17.55). 18.25—Talk. 18.40—Musical Play (Vries). HUIZEN, 18.00—Talk. 18.10—For Gardeners. 18.40—Police Notes; Ecclesiastic News. 18.55—Records. KALUNDBORG, 18.00—Talk (contd. from 17.45). 18.15—German. 18.45—Weather. 18.54—Announcements. KAUNAS, 18.00—Talk. 18.10—Concert. 18.40—News. KÖNIGSBERG, 18.00—Talk (contd. from 17.50). 18.15—Market Prices. 18.30—Talk: The East Prussian Landscape. 18.55—Weather. LAHTI, 18.00—Viola. 18.15—Talk. 18.40—Orchestra. LEIPZIG, 18.00—Talk: Friedrich Siemens. 18.15—"The Birthday Cake"—Play. LYONS (La Doua), 18.00—Dance Music. 18.15—News. MADRID (EAJ7), 18.00—Chimes; Light Music. 18.30—Talk; Touring in Morocco; Light Music. MORAVSKA-OSTRAVA, 18.00—Tourist Report. 18.20—Record. 18.25—German Transmission: Literary Talk. MOSCOW, 18.00—Radio Play. 18.30—Programme for Collective Farm Workers: "The President of the Kolhoz"—Sketch with Music; Popular Songs; Literary Notes; News. MUNICH, 18.00—Quartet in F (Tchaikovsky) (contd. from 17.50). 18.10—Discussion on Photography. 18.30—New Sound-Film Records. 18.50—Time; Weather; For Farmers. OSLO, 18.00—English Lesson. 18.30—Popular Swedish Music for Two Violins, Clarinet, and Viola. PARIS (Ecole Supérieure), 18.00—For Workers. 18.15—News. PARIS (Poste Parisien), 18.45—Exchange. 18.49—For Farmers. 18.50—Talk. 18.58—Records. PARIS (Radio-Paris), 18.20—Weather; For Farmers; Exchange; Racing. 18.45—German. PITTSBURGH, 18.00—Market Reports. 18.15—Lloyd Huntley's Orchestra. 18.30—Farm and Home Hour. PRAGUE, 18.00—For Farmers. 18.10—For Workers. 18.20—German Transmission: Talk; For Workers. 18.55—News in German. ROME, 18.00—Wheat Market Prices. 18.30—News in Foreign Languages. SOTTENS, 18.00—For Women. 18.30—Dance Music. STOCKHOLM, 18.00—Practical Hints. 18.15—Records. STRASBOURG, 18.00—Talk in German. 18.15—Elocution Lesson. 18.30—Records. STUTTGART, 18.00—Readings. 18.25—Medical Talk: Summer Sports. 18.45—Orchestra. Conductor: Görlich. Hanni Krauss (Soprano); Gustav Bombal (Baritone). TOULOUSE (Radio-Toulouse), 18.00—News. 18.15—Opera Music. Extracts, "The Pearl Fishers" (Bizet), "Aida" (Verdi), "The Tales of Hoffmann" (Offenbach). 18.30—Tourist Talk. 18.45—Songs. TURIN, 18.00—For Farmers. VIENNA, 18.05—Sports Report. 18.15—Talk: The Chemical Industry. 18.40—Talk: Gleichenberg. 18.55—Talk. WARSAW, 18.00—Talk on Economics. 18.10—Light Music. 18.50—Announcements.

19.00

ALGIERS, 19.00—Military Music. 19.30—English Talk by the English Vice-Consul. 19.45—Topical Talk. ATHLONE, 19.00—Gardening Talk. 19.15—Talk: The Irish Tourist Association. 19.30—Time. 19.31—Station Orchestra: Irish Music. 19.50—Reamonn (Irish Songs). BARCELONA, 19.00—Trio. In the Interval at 19.30—News. BARI, 19.40—News in Alban Dialect; Weather. BELGRADE, 19.00—Records. 19.20—Announcements. 19.30—Talk. BERLIN, 19.00—Legal Talk. 19.15—Topical Talk. 19.40—Announcements.

FRIDAY May 25

BEROMÜNSTER, 19.00—Time; Announcements. 19.20—Records. 19.30—With the Microphone in Enlebuch. BORDEAUX-LAFAYETTE, 19.30—Announcements. 19.40—Tourist Talk. BRATISLAVA, 19.10—"Romance of Old Times"—Play in One Act (Vyskocil). 19.40—Orchestra. Conductor: Haiser. BRESLAU, 19.00—See Stuttgart. BRNO, 19.55—Operetta. Arias by Fadruova. BRUSSELS (No. 1), 19.00—Mendelssohn Recital (contd. from 18.45). 19.15—Wireless Talk. 19.30—Legal Talk; Literary Review. BRUSSELS (No. 2), 19.00—Records. 19.30—Wireless Review. BUCHAREST, 19.00—Educational Programme. 19.20—Records. 19.45—Talk. BUDAPEST, 19.00—Talk. 19.30—Records. COLOGNE, 19.00—Records. 19.50—News. DEUTSCHLANDSENDER, 19.00—See Stuttgart. FRANKFURT, 19.00—See 18.45 Stuttgart. HAMBURG, 19.00—Operatic Music Conductor: Von Sosen. HILVERSUM, 19.00—Musical Play. 19.10—Talk. 19.30—Records. 19.40—Talk. HUIZEN, 19.00—Records. 19.10—Literary Talk. 19.40—The Arnhem Orchestra. Conductor: Manks. KALUNDBORG, 19.00—News. 19.15—Time. 19.20—Talk: P. Munch, Minister for Foreign Affairs. 19.50—Review by Per Knutzon. KAUNAS, 19.00—Time; News. 19.30—Records. 19.40—Medical Talk. KÖNIGSBERG, 19.00—"Treasure Hunters and Sailors"—Play for Children. 19.40—Records. LAHTI, 19.00—Orchestra. 19.25—Recitations. 19.45—Songs and Duets. LEIPZIG, 19.00—Play (contd. from 18.15). 19.35—Talk: Art and Race. LYONS (La Doua), 19.30—Local News. 19.50—Wireless Notes. MADRID (EAJ7), 19.00—Announcements; Medical Talk; Music. 19.30—Exchange. 19.35—Orchestra. MONTE CENERI, 19.44—Announcements; News. MOSCOW, 19.00—For Collective Farm Workers (contd. from 18.30). 19.30—Topical Talk. MUNICH, 19.00—See 18.45 Stuttgart. OSLO, 19.00—Book Review. 19.15—News. 19.30—Time. 19.45—Theatre Review. PARIS (Ecole Supérieure), 19.30—Request Programme. 19.45—Talk: The Louvre. 19.53—Review of Foreign Affairs. PARIS (Poste Parisien), 19.00—Record. 19.02—Talk: Music. 19.10—News. 19.34—Records. 19.45—Records. PARIS (Radio-Paris), 19.00—Theatre Review. 19.15—Film Review. 19.25—Assurance Societies' Report. 19.30—Topical Talk. PITTSBURGH, 19.00—Farm and Home Hour. 19.30—KDKA Home Forum. PRAGUE, 19.00—Times; News. 19.10—Play (Jogel-Rukel). 19.55—Fleischhans (Saxophone). ROME, 19.00—News in Foreign Languages. 19.25—Shipping; Sports Notes. 19.30—Time; News. 19.40—Records. 19.55—News. SCHENECTADY, 19.00—Showboat Matinee. SOTTENS, 19.00—Dance Music. 19.30—Talk: Inventions and Inventors. 19.59—Weather. STOCKHOLM, 19.00—Records. 19.15—News. 19.30—Talk: Hunting and Trapping. STRASBOURG, 19.00—Records. 19.30—Time; News. 19.45—Records. STUTTGART, 19.00—Orchestra (contd. from 18.45). 19.45—Time; Weather; For Farmers. TOULOUSE (Radio-Toulouse), 19.00—Overture, 1812 (Tchaikovsky). 19.15—Songs. 19.30—News. 19.45—Operetta Music. TRIESTE, 19.00—News in Foreign Languages. TURIN, 19.00—For Farmers. 19.20—Geographical Report. 19.30—Time; News. 19.40—Records. 19.55—News. VATICAN CITY, 19.00-19.15—Religious Information in Italian. VIENNA, 19.00—Talk. 19.10—Time; News. 19.25—Operetta Music by

FRIDAY May 25

19.00 (contd.)

the Vienna Symphony Orchestra. Conductor: Schönherr. Otti Santera (Soprano); Guttmann (Tenor).
WARSAW, 19.00—Announcements. 19.10—Holiday Hints. 19.15—For Farmers. 19.25—Topical Talk. 19.40—Sports Notes. 19.47—News.
ZEESEN, 19.45—Capriccio in G and Fantasy in C (Haydn). Susanne Fischer (Pianoforte).

20.00

ALGIERS, 20.00—Exchange. 20.10—Shipping. 20.15—Weather. 20.20—Records. 20.40—Literary Review. 20.55—News.
ATHLONE, 20.00—Devlin (Flute and Piccolo). 20.10—G. Mortimer (Soprano). 20.25—Delaney (Fiddle). 20.35—Variety: T. Madden and Company and the Station Orchestra.
BARCELONA, 20.00—Medical Talk; Request Records.
BERLIN, 20.00—Political Notes. 20.15—Transmission for all German Stations: "Night Work"—Radio Play (Fiddickow-Krohne), with Incidental Music by Karl Knauer. The Small Station Orchestra. Conductor: The Composer.
BEROMÜNSTER, 20.00—With the Microphone in Entlebuch.
BORDEAUX-LAFAYETTE, 20.00—Spanish. 20.15—News. 20.30—Symphony Orchestra with Soloists.
BRATISLAVA, 20.00—Orchestra (contd. from 19.40). 20.35—Accordion Concert. Conductor: Miksa.
BRESLAU, 20.00—News. 20.15—See Berlin.
BRNO, 20.00—Operetta Arias by Fadrusová. 20.35—Moravian Wind Quintet.
BRUSSELS (No. 1), 20.00—Programme for Ex-Servicemen.
BRUSSELS (No. 2), 20.00—Orchestra. 20.30—"The Call of the Stars"—Play (after the Novel of Erich Dolerat).
BUCHAREST, 20.00—Quintet (Beethoven). 20.30—Talk. 20.45—Songs.
BUDAPEST, 20.00—Records. 20.15—"Mademoiselle Primrose"—Play in Three Acts (Caillavet de Fiers).
COLOGNE, 20.00—See Berlin.
DEUTSCHLANDSENDER, 20.00—Motto; News. 20.15—See Berlin.
FRANKFURT, 20.00—See Berlin.
HAMBURG, 20.00—See Berlin.
HILVERSUM, 20.00—Talk. 20.10—String Quartet. 20.40—Talk.
HUIZEN, 20.00—The Arnhem Orchestra (contd. from 19.40). 20.40—Talk.
JUAN-LES-PINS (Radio Côte d'Azur), 20.00—Amusement Guide; News. 20.10—Esperanto Lesson. 20.30—Concert.
KALUNDBORG, 20.00—Time. 20.02—Songs by Per Knudsen. 20.15—A Visit to the Sea Birds' Sanctuary at Illut.
KAUNAS, 20.00—Debate: Home Industry. In the Interval: Records; Sports Notes.
KÖNIGSBERG, 20.00—See Berlin.
LAHTI, 20.00—Songs and Duets. 20.30—Records. 20.45—News in Finnish.
LEIPZIG, 20.00—See Berlin.
LYONS (La Doua), 20.00—Talk: Photography. 20.10—Dental Talk. 20.20—Aviation. 20.30—Variety.
MADRID (EAJ7), 20.00—Orchestra (contd. from 19.35). 20.30—News; For Women.
MONTE CENERI, 20.00—Crocé Verde. Report from Bellinzona. 20.30—Italian and French Opera Arias. Orchestra. Serra (Bass). Arias from "The Italian Girl in Algiers" (Rossini). "L'Elisir d'amore" (Donizetti). "Il Carnevale di Venezia" (Petrrella). Romance. Arias from "Napoli di Carnevale" (De-Giosa). "Don Giovanni" (Mozart).
MORAVSKÁ-OSTRAVA, 20.35—Dance Music. Conductor: Plichta.
MOSCOW 20.00—Two Plays: (a) "The Needle" (Borodin). Music by Riauzov; (b) "Seven Minutes" (Vinnikov). Music by Mossolov.
MUNICH, 20.00—See Berlin.
OSLO, 20.05—Symphony Orchestra. Conductors: Hjellemo, Kramm, Simonson (Violin). Piece (Hjellemo). Violin Concerto in C

(Hjellemo). Fanasuite (Kristofersen). Variations on a Norwegian Theme (Hjellemo).

PARIS (Ecole Supérieure), 20.00—Talk: A Visit to an Organ Factory. 20.30—Trio for Piano, Violin and Cello (Schumann). Three Airs (Pergolèse-Balconieri). Tränenregen (Schubert). Auf dem Strome (Schubert). Les cloches (Debussy).
PARIS (Poste Parisien), 20.10—Records. 20.30—"Les Dragons de Villars"—Opera (Maillart) from the Porte-Saint-Martin Theatre. In the Interval, Exchange.
PARIS (Radio-Paris), 20.00—Reading. 20.30—News. 20.45—"Scampolo"—Three-Act Comedy (Nicodemi).
PITTSBURGH, 20.00—U.S. Marine Band.
PRAGUE, 20.00—Saxophone. 20.10—Topical Talk. 20.35—See Moravská-Ostrava.
ROME, 20.05—Records. 20.30—Government Notes. 20.55—"Don Giovanni," Opera (Mozart).
SCHENECTADY, 20.00—Showboat Matinee.
SOTTENS, 20.00—Scotts Songs.
STOCKHOLM, 20.00—Schubert Music. Marianne Möner (Songs). Haquinic (Pianoforte). Barkel (Violin). Grönwall (Viola). Bramme (Cello). Fors (Double Bass). The Tront Quintet. Songs. In the Interval, Reading.
STRASBOURG, 20.00—News in German; Lottery Results; Announcements. 20.30—Composers of Alsace-Lorraine. Conductor: De Villers. Mme. Guth-Quénéel (Soprano). In the Interval, News.
STUTTGART, 20.00—See Berlin.
TOULOUSE (Radio-Toulouse), 20.00—Opera Music. 20.15—Orchestra. 20.30—Medical Talk. 20.45—Sound Film Music.
TURIN, 20.00—News. 20.05—Records. 20.30—Government Notes 20.45—To be announced.
VIENNA, 20.00—Operetta Music (contd. from 19.25).
WARSAW, 20.00—Great Thoughts. 20.02—Music Talk. 20.15—The Warsaw Philharmonic Orchestra. Conductor: Stoinski. The Katowice Choir and Soloists. Stabat Mater (Szymanowski). Prayer (Stoinski). Pianoforte Solos. In the Interval, Reading.

21.00

ALGIERS, 21.02—Orchestra. 21.25—News. 21.30—Lecocq. Concert. Station Orchestra.
ATHLONE, 21.05—Station Orchestra. 21.30—Variety.
BARCELONA, 21.00—Educational Programme. 21.10—Records. 21.20—Tourist Report. 21.30—Educational Talk. 21.45—News.
BERLIN, 21.00—Haydn-Beethoven Concert. Station Orchestra. Conductor: Frickhoeffer. Gertraud Dirrigl (Pianoforte). Symphony in B flat (Haydn). Pianoforte Concerto in G (Beethoven).
BEROMÜNSTER, 21.00—With the Microphone in Entlebuch. 21.10—News. 21.20—Popular English and French Music.
BORDEAUX-LAFAYETTE, 21.00—Symphony Orchestra and Soloists.
BRESLAU, 21.15—Folk Dance Programme from the Schiesswerder Hall.
BRUSSELS (No. 1), 21.00—Programme for Ex-Servicemen. 21.15—Symphony Orchestra. Conductor: Meulemans. Simone Naus (Songs). Overture, "The Bartered Bride" (Smetana). Elégie, Scherzo (Mahy). Le cygne (Saint-Saëns). Songs. Printemps qui commence (Saint-Saëns). Aria from "Carmen" (Bizet). Après un rêve (Fauré). Four Norwegian Dances (Grieg).
BRUSSELS (No. 2), 21.00—Play (contd. from 20.30). 21.15—Orchestra.
BUCHAREST, 21.00—Songs. 21.15—Pianoforte Duets. 21.45—News.
BUDAPEST, 21.00—"Mademoiselle Primrose"—Play (contd. from 20.15). 21.45—News.
COLOGNE, 21.00—Light Music. Jonathan-Walzer (Millöcker). Melody (Komzak). Intermezzo (Köpping). Vogelhochzeit (Lindemann). 21.30—Radio Report: The Middle Classes.

DEUTSCHLANDSENDER, 21.00—Herbert Jaeger and Willy Stech (Two Pianofortes) and Erwin Hartung (Songs). 21.40—"An Air Attack"—Radio Play (Werner Lange) on Records.
FRANKFURT, 21.00—See Stuttgart.
HAMBURG, 21.00—Spring Songs. Recitations. 21.40—See Munich.
HILVERSUM, 21.00—String Quartet. 21.10—String Quartet. 21.40—Religious Notes. 21.45—News. 21.55—Reading.
HUIZEN, 21.00—Talk. 21.10—The Arnhem Orchestra. Overture, Nachklänge aus Ossian (Gade). Symphony No. 13 (Haydn). Piece "Romeo and Juliet" (Berlioz). 21.45—News.
JUAN-LES-PINS (Radio Côte d'Azur), 21.00—News. 21.15—Concert.
KALUNDBORG, 21.00—Extracts from the Partita in E flat for Harpsichord (Krebs) by Folmer Jensen. 21.15—Radio Humoresque (Soya). 21.50—News.
KAUNAS, 21.00—Debate (contd. from 20.00).
KÖNIGSBERG, 21.00—The Königsberg Opera House Orchestra. Conductor: Brückner. Brig Fair (Delius). Don Juan (Strauss). Mазeppа (Liszt).
LAHTI, 21.00—News in Swedish.
LEIPZIG, 21.00—The Leipzig Symphony Orchestra. Conductor: Weber. London Symphony No. 1 (Haydn). Overture in E (Schumann). Hungarian Rhapsody No. 9 (Liszt). Suite, "Sylvia" (Delibes).
LYONS (La Doua), 21.00—Variety.
MADRID (EAJ7), 21.00—For Women. 21.30—Recitations. 21.50—Sports Notes.
MONTE CENERI, 21.00—Opera Arias (contd. from 20.30). 21.30—Serenades.
MORAVSKÁ-OSTRAVA, 21.00—Dance Music.
MOSCOW, 21.00—Literary Programme in Czech. 21.55—Chimes.
MUNICH, 21.00—Folk Songs. 21.40—Discussion.
OSLO, 21.00—Orchestra (contd. from 20.05). 21.40—News.
PARIS (Ecole Supérieure), 21.00—Concert (contd. from 20.30). 21.15—The Gertler Quartet and a Children's Choir.
PARIS (Poste Parisien), 21.00—"Les Dragons de Villars"—Opera (contd. from 20.30).
PARIS (Radio-Paris), 21.00—"Scampolo"—Comedy (contd. from 20.45) In the Interval, News; Talk: Dietetics.
PITTSBURGH, 21.00—Betty and Bob. 21.15—Singing Stranger. 21.30—Karen Fiadoes. 21.45—Dr. Emlyn Jones.
PRAGUE, 21.05—Station Orchestra. Conductor: Parik. Soloist: Rypl (Pianoforte). Pianoforte Toccata and Fugue (Rypl). Suite (Schrieber).
REYKJAVIK, 21.00—Music. 21.10—Weather. 21.25—Talk. 21.50—Announcements.
ROME, 21.00—"Don Giovanni" (Mozart) (contd. from 20.55).
SOTTENS, 21.00—Humorous Monologues. 21.15—News. 21.25—Clara Haskil (Pianoforte). Sonata in E flat (Haydn). Sonata (Pescetti). Sonata (Solér). Nocturne (Chopin). Two Bagatelles (Miklos-Rozsa). Au jardin du vieux Sérail (Blanchet).
STOCKHOLM, 21.00—Schubert Music (contd. from 20.00). 21.15—Legal Talk. 21.45—News.
STRASBOURG, 21.00—Music by Local Composers (contd. from 20.30).
STUTTGART, 21.00—Slav Music. Station Orchestra. Conductor: Hahn. Max Strub (Violin). Overture, "The Bartered Bride" (Smetana). Violin Concerto in A minor (Dvořák).
TOULOUSE (Radio-Toulouse), 21.00—Extracts, "The Land of Smiles"—Operetta (Lehár). 21.30—Orchestra. 21.45—Opera Music.
TURIN, 21.15—Symphony Concert. Conductor: Lualdi.
VIENNA, 21.00—Operetta Music (contd. from 19.25). 21.25—Two Pianofortes—Schmidt and Schiffmann.
WARSAW, 21.00—Orchestra and Choir (contd. from 20.15).

22.00

ALGIERS, 22.00—News. 22.10—Lecocq Concert. (contd. from 21.30). 22.55—News.

ATHLONE, 22.00—Variety. 22.30—Time; News. 22.40—Ballinasloe Traditional Trio.
BARCELONA, 22.00—Chimes; Weather. 22.05—Announcements; Exchange. 22.10—Station Orchestra. 22.45—Enrequeta Noguera (Soprano).
BELGRADE, 22.00—News; Dance Records. 22.35—Light Music.
BERLIN, 22.00—News; Records.
BEROMÜNSTER, 22.00-22.15—English and French Music.
BRATISLAVA, 22.15—News in Hungarian.
BRESLAU, 22.00—Folk Dance Programme (contd. from 21.15). 22.20—Time; News. 22.45—Chamber Music on Old Instruments. Pavane, Chaconne (Purcell). Four Dances (Staden). Sonata in D (de Fesch). Three Dances (Vintz).
BRUSSELS (No. 1), 22.00—News. 22.10—Request Records. 22.25—Dance Records.
BRUSSELS (No. 2), 22.00—News. 22.10—Dance Records.
BUDAPEST, 22.00—Veres Cigány Band. 22.50—Chamber Music.
COLOGNE, 22.00—Time; News. 22.20—Theatre Review.
DEUTSCHLANDSENDER, 22.00—Political Review (on Records). 22.10—Talk. 22.20—News. 22.45—Weather.
FRANKFURT, 22.00—See 21.00 Stuttgart. 22.20—Time; News. 22.40—"Spiers 1689"—Radio Play (Roland Betsch).
HAMBURG, 22.00—News. 22.20—Light Music.
HILVERSUM, 22.00—Talk. 22.25—Records. 22.40—Records.
HUIZEN, 22.00—Orchestra (contd. from 21.10). 22.10—Records.
JUAN-LES-PINS (Radio Côte d'Azur), 22.00—International Programme.
KALUNDBORG, 22.05—Contemporary Music by the Radio Orchestra. Conductor: Mahler. Sigurd Rascher (Saxophone). Saxophone Concerto (Dressel). Suite, "Mahagonny" (Weill).
KAUNAS, 22.00—Debate (contd. from 20.00).
KÖNIGSBERG, 22.00—News. 22.30—Dance Music.
LEIPZIG, 22.00—News. 22.30—Chamber Symphony, Op. 27 (Juon), by the Leipzig Symphony Orchestra. Conductor and Pianist: Theodor Blumer.
LYONS (La Doua), 22.00—Variety; News.
MADRID (EAJ7), 22.00—Chimes; Time; Sextet. 22.30—Records.
MOSCOW, 22.05—English Programme: Mother and Child in Music; Letter Box.
MUNICH, 22.00—Time; Weather; News; Exchange. 22.20—To be announced.
OSLO, 22.00—Topical Talk. 22.15—Poem.
PARIS (Ecole Supérieure), 22.00—The Gertler Quartet and a Children's Choir. 22.15 (approx.) Quartet for Piano, Violin, Viola, and Cello (Fauré). 22.30 (approx.)—News; Dance Music.
PARIS (Paris Parisien), 22.00—"Les Dragons de Villars"—Opera (contd. from 20.30). 22.10—News.
PARIS (Radio-Paris), 22.00—"Scampolo"—Comedy (contd. from 20.45). 22.30—Dance Music.
PITTSBURGH, 22.00—Market Report. 22.15—KDKA Kiddies' Klub. 22.30—The Singing Lady. 22.45—Orphan Annie.
PRAGUE, 22.00—Time; News. 22.15-22.30—News in Russian.
REYKJAVIK, 22.00—Chimes; News. 22.30—Talk.
ROME, 22.00—"Don Giovanni" (Mozart) (contd. from 20.55).
SOTTENS, 22.00—Talk: The Work of the League of Nations.
STOCKHOLM, 22.00—Eliit Orchestra. Aivsborgsalaar (Löfgren). Gipsy Romance (Meisel). The Flight of the Bumble Bee (Rimsky-Korsakov). Aquarellenwalzer (Strauss). Two Pieces (Peterson-Berger). Indian Ballet (Delibes). Hawaiian Waltz (Elmer-Westling). Extras (Ganne). Slav Rhapsody (Friedemann).
STRASBOURG, 22.00—Orchestra from the Café Odeon.
STUTTGART, 22.00—Slav Music (contd. from 21.00). 22.20—Time; News. 22.45—Sports Talk.
TOULOUSE (Radio-Toulouse), 22.00—Orchestra. Melody (Zanowsky). España (Waldteufel). Tales from

the Vienna Woods (Strauss). Künstlerleben (Strauss). 22.15—News. 22.30—Operetta Music. 22.45—Accordion Solos.
TURIN, 22.00—Concert (contd. from 21.15). 22.15—Dance Music.
VIENNA, 22.05—News. 22.20—Records; News.
WARSAW, 22.00—Orchestra and Choir (contd. from 20.15). 22.40—Dance Music.

23.00

BARCELONA, 23.00—Soprano Songs. 23.10—Sextet.
BERLIN, 23.00—Records. 23.30—"Sparta"—a Literary Sequence.
BRESLAU, 23.00—Chamber Music (contd. from 22.45). 23.15—See 23.00 Cologne.
BRUSSELS (No. 1), 23.00—La Brabançonne.
BUDAPEST, 23.15—Ludwig Heimlich (Piano).
COLOGNE, 23.00—Light Music and Dance Music. Orchestra. Conductor: Keiper.
DEUTSCHLANDSENDER, 23.00—See Cologne.
FRANKFURT, 23.00—Talk and Reading: Annette von Droste-Hülshoff.
HAMBURG, 23.00—Orchestral Serenade. Conductor: Krug.
HILVERSUM, 23.00—Records.
HUIZEN, 23.00-23.10—Records.
KALUNDBORG, 23.00—Dance Music by Erik Tuxen's Orchestra. Victor Cornelius, Willy Kierulff and Jacob Schmit (Pianofortes).
KÖNIGSBERG, 23.00—Dance Music.
LEIPZIG, 23.00—Chamber Symphony, Op. 27 (Juon) (contd. from 22.30). 23.10—See 23.00—Cologne.
MADRID (EAJ7), 23.00—News; Records.
MADRID (EAQ), 23.30—Spanish Music. 23.45—News.
MOSCOW, 23.05—Talk in German by a Worker
MUNICH, 23.00—See Cologne.
PARIS (Radio-Paris), 23.00—Dance Music.
PITTSBURGH, 23.00—Musical Potpourri. 23.15—Baseball. 23.30—Comedy Stars. 23.45—Lowell Thomas.
REYKJAVIK, 23.00—Records: Quintet in F minor (Brahms); Arias.
ROME, 23.00—News.
SCHENECTADY, 23.40—Stock Reports.
STUTTGART, 23.00—See Frankfurt.
TOULOUSE, 23.00—Songs. 23.15—Dance Music.
TURIN, 23.00—News.
WARSAW, 23.00—Dance Music.

00.00 (Saturday)

BARCELONA, 00.00—Sextet.
BRESLAU, 00.00-00.30—Dance Music from Cologne.
COLOGNE, 00.00—Dance Music (contd. from 23.00).
DEUTSCHLANDSENDER, 00.00-00.30—See Cologne.
FRANKFURT, 00.00—Records: Spanish Music.
KALUNDBORG, 00.00—Chimes. 00.05—Dance Music (contd. from 23.00).
KÖNIGSBERG, 00.00-00.30—Dance Music.
LEIPZIG, 00.00-00.30—See Cologne.
MADRID (EAJ7), 00.00—Records. 00.45—News.
MADRID (EAQ), 00.00—Concert. 00.45—Light Music.
PITTSBURGH, 00.00—Amos 'n' Andy. 00.15—Silvertoppers. 00.30—To be announced.
SCHENECTADY, 00.00—Cities Service Concert. 00.30—WGy Farm Programme.
STUTTGART, 00.00—See 23.00, Frankfurt.
TOULOUSE, 00.00—News. 00.05—"Au caveau de minuit"—Radio Fantasy. 00.15—Orchestra.

01.00

BARCELONA, 01.00—News.
PITTSBURGH, 01.00-05.00—Popular Programme.
SCHENECTADY, 01.00-03.00—Popular Programme.
ZEESEN, 01.30—Songs to the Late: Agnes Schultz-Lichterfeld.

SATURDAY May 26

PRINCIPAL EVENTS

CONCERTS

- 16.00 Hamburg, Deutschlandsender: Military band.
- 18.20 Leipzig: Operetta programme.
- 20.00 Brussels No. 2: Orchestral dances.
- 20.00 Bucharest: Popular orchestral.
- 20.00 Kalundborg: Danish music.
- 20.10 Hilversum: Light orchestral and vocal.
- 20.15 Berlin: "Potsdam Radio Parade."
- 20.15 Frankfurt, Stuttgart: Orchestra, Songs.
- 20.30 Ecole Supérieure: National Symphony Orchestra.
- 20.45 Sottens: Operatic programme.
- 20.45 Strasbourg: The Municipal Orchestra.
- 20.55 Huizen: Light music.
- 21.30 Budapest: Opera and operetta overtures.
- 22.05 Kalundborg: Light orchestral.
- 23.00 Cologne: Serenade.

OPERA, OPERETTAS

- 20.00 Brussels No. 1: "Voyage en Chine" (Bazin) (concert version).
- 20.00 Oslo: "Don Giovanni" (Mozart), from Opera House.
- 20.00 Radio-Paris: "Les canards mandarins" (Beydts).
- 20.10 Breslau: "Little Dorrit" (Künneke).
- 20.10 Munich: "Herzdeame" (Queen of Hearts) (Trunk).
- 21.00 Moravská-Ostrava, Prague: Studio operetta.

CHAMBER MUSIC

- 18.30 Brussels No. 2: Pianoforte Quartets (Mozart, Strauss).
- 19.30 Königsberg: Bach Trios.
- 20.15 Beromünster: Chamber Orchestra—Popular programme.

RECITALS

- 18.10 Hilversum: Male Voice Quartet.
- 20.00 Warsaw: Chopin Pianoforte music.

PLAY

- 19.00 Frankfurt: "Till Eulenspiegel" (Rahn).

DANCE MUSIC

- 17.00 Brussels No. 1; 21.05, Poste Parisien; 22.00, Beromünster; Stockholm; Warsaw; 22.10, Brussels No. 1; 22.30, Radio-Paris; Leipzig; Strasbourg; 22.35, Sottens; 23.00, Budapest; Kalundborg; Oslo.

MISCELLANEOUS

- 19.20 Deutschlandsender: Open-air Festival.
- 19.30 Vienna: Poetry and Music from Carinthia.

NATIONAL

- For Time Signals, see Monday
- 10.15 (Daventry)—The Daily Service.
 - 10.30 (Daventry)—Weather Forecast.
 - 10.45-11.00 (Daventry)—"A Traveller in Search of Music." P. Thornton.
 - 12.00 (Daventry)—The Northern Studio Orchestra. Miniature Suite (Adam Carse). Punch and Judy Ballet (The Punch Bowl) (O'Neill). Canzonetta (Godard). Selection, The Glory of Russia (Kreine).
 - 12.45 (Daventry)—Gramophone Records. Dance Music.
 - 13.15 (Daventry)—The Commodore Grand Orchestra, directed by Joseph Muscant. Selection, Les Airs de Padilla (arr. Salabert); Valse Viennoise (Viennese Waltz) (Lakay); Chinese Suite, Po Ling and Ming-Toy (Friml); Pot-pourri, A Musical Extravaganza (arr. Muscant); Hungarian Rhapsody No. 4 (Liszt, arr. Roberts); Paso-doble, Spanish Gypsy Dance (Marquina).
 - 14.15 (Daventry)—Gramophone Records. A Pianoforte Interlude.
 - 14.30 (Daventry)—The Sixth National Eisteddfod of the Children of Wales.
 - 15.00 (Daventry)—Miscellaneous Gramophone Records.
 - 15.30 (Daventry)—The Serge Krish Septet. Edith Furmedge (Contralto).
 - 16.45 (Daventry)—Organ (H. Ramsay).
 - 17.15 (Daventry)—The Children's Hour.
 - 17.15 (except Daventry)—Jack Jackson and his Band.
 - 18.00—"The First News."
 - 18.25—Interlude.
 - 18.30—Sports Talk. Bernard Darwin: "The New Amateur Golf Champion."
 - 18.45 (except Daventry)—A Violin Recital by Harold Fielding.
 - 18.45 (Daventry)—Welsh Interlude. W. J. Gruffydd, M.A.: "Place Names"—6.
 - 19.05-19.25—"Island Tour"—2. S. P. B. Mais: "The Inner Hebrides."
 - 19.30—"In Town To-night." A Topical Supplement to the Week's Programmes.
 - 20.00—Variety. John Olivere and Morey Wicks, in Harmonious Humour. Muriel George. Entertainer. Donald Peers, with Bryan Seymoure at the Piano. Alexander and Mose. The B.B.C. Theatre Orchestra, under the direction of Kneale Kelley.
 - 21.00—"The Second News."
 - 21.20—"Time to Spare."
 - 21.35—The Wireless Military Band. Conductor, B. Walton O'Donnell. Joseph Farrington (Bass).
 - 22.30—Reading of an extract from Pepys's Diary. Entry for July 14, 1667, read by Ian Sinclair Phail.
 - 22.35-24.00 (Daventry)—The B.B.C. Dance Orchestra, directed by Henry Hall.

REGIONAL

- For Time Signals, see Monday
- 10.15 (except Midland)—The Daily Service.
 - 10.30-11.00 (except Midland)—Daventry National.
 - 12.00-17.15 (except Midland, West and North, till 14.30)—Daventry National.
 - 14.30 (West and North)—Chweched Eisteddfod Genedlaethol Ieuenctid Cymru.
 - 15.30-17.15 (West and North)—Daventry National.
 - 18.00—"The First News" and Sports Bulletin.
 - 18.30 (London and Scottish)—Mantovani and his Tipica Orchestra.
 - 18.30 (Midland)—Records. Synco-pation.
 - 18.30 (West)—Dance Records.
 - 18.35 (North)—Organ (R. O'Grady).
 - 18.45 (West)—Egwyll Gymraeg. W. J. Gruffydd: "Enwau Llevedd."
 - 19.00 (Midland)—Chamber Music. The Midland String Quartet.
 - 19.05 (West)—Gramophone Records. "High Lights."
 - 19.05 (North)—Jack McCormick and his Ambassadors Dance Band.
 - 19.30 (London and Scottish)—The New Georgian Trio.
 - 20.00 (except Scottish)—The B.B.C. Orchestra (Section D), conducted by Warwick Braithwaite. Walter Widdop (Tenor). Orchestra: Overture, and Venusburg Music (Tannhäuser) (Wagner). Walter Widdop and Orchestra: "Un di' azzurro spazio (Andrea Chenier) (Giordano); Nessun dorma (Turandot) (Puccini). Orchestra: Three Symphonic Fragments from Goldoni Comedies (Malipiero). Walter Widdop: Flower Song (Carmen) (Bizet); Celeste Aida (Aida) (Verdi). Orchestra: Oriental Fantasy, Islamey (Balakirev, orch. Liapounov).
 - 20.00 (Scottish)—A Festival Concert by Prize Winners from The Twenty-fourth Glasgow Musical Festival, 1934.
 - 21.15 (London)—A Recital. Thelma Reiss (Violoncello). Niedzielski (Pianoforte).
 - 21.15 (Midland)—The Studio Chorus. Dorothy Hemming (Violin).
 - 21.15 (West)—The Choir of The Bristol Choral Society.
 - 21.15 (North)—Organ Recital (P. H. Weale).
 - 21.40 (North)—"The Marleys of Tyneside."
 - 22.00 (North)—"The News of the North."
 - 22.15—"The Second News."
 - 22.30-22.40 (Midland)—An Eye-Witness Account of the Sports Event, Birchfield Harriers v. London Athletic Club.
 - 22.30-24.00 (except Midland)—The B.B.C. Dance Orchestra.

EMPIRE SUMMARY

- For wavelengths, see S.W. List
- Transmission 1 (GSD, GSB)**
B.S.T.
05.30—Big Tom. Talk.*
05.45—Symphony No. 5, in C minor (Beethoven)†
06.15—John Southern's Hour.*
07.15—Empire News.
07.30—Close Down.
- Transmission 2 (GSH, GSG)**
12.00—Big Tom. The Northern Studio Orchestra.
12.45—Gramophone Records.
13.15—The Commodore Grand Orchestra. (See Daventry National Programme.)
14.15—Gramophone Records.
14.30—Close Down.
- Transmission 3 (14.45—17.00)**
GSF, GSE; 17.00—18.45 GSE, GSB
14.45—Big Tom. Empire News.
15.00—Old Colwyn Urdd Eisteddfod.
15.30—The Serge Krish Septet. Edith Furmedge (Contralto).
16.45—Cinema Organ (Harold Ramsay). Spanish March, Amparito Roca (Texidor). Home on the range (Guion). Selection, Carmen (Bizet). Mauna Loa (Dale) Hungarian Rhapsody No. 3 in D (Liszt).
17.15—Jack Jackson and his Band, relayed from the Dorchester Hotel.
18.00—Empire News (second reading).
18.15—Margot MacGibbon (Violin). Fugue in A (Tartini). Adagio (Tartini). Dance of the Princess (Newsidler). Allegro Giocoso (Handel). Romanian Dances (Bartók). Danza Triste (Granados). Tarantella (Szymanowski).
18.45—Close Down.
- Transmission 4 (GSD, GSB)**
19.00—Big Tom. Empire News.
19.15—Mantovani and his Tipica Orchestra.
19.30—"In Town To-Night."
20.00—Variety.
20.45—The B.B.C. Orchestra (Section D). Walter Widdop (Tenor).
21.15—A Pianoforte Recital by Cecil Dixon.
21.35—The Wireless Military Band. Joseph Farrington (Bass).
22.30—The B.B.C. Dance Orchestra, directed by Henry Hall.
23.15—Empire News.
23.30—Close Down.
- Transmission 5 (GSD, GSC)**
00.00—Big Tom. Short Story.*
00.15—Symphony No. 5, in C minor (Beethoven)†
00.45—John Southern's Hour.*
01.45—Empire News.
02.00—Close Down.
- * Electrical Recording.
† Gramophone Records.

Hours of Transmission in British Summer Time.

- 05.00**
- DEUTSCHLANDSENDER, 05.45—Weather. 05.50—News.
 - FRANKFURT, 05.45—Hymn; Time; Weather. 05.50—Gym.
 - HAMBURG, 05.45—Time; Weather; For Farmers.
 - KÖNIGSBERG, 05.50—Weather.
 - MOSCOW, 05.00—Fanfare. 05.30—News. 05.45—Gym.
 - STUTTGART, 05.35—Weather. 05.45—Hymn; Time; Weather. 05.50—Gym.
- 06.00**
- BERLIN, 06.00—Gym. 06.15—Weather; Prayers. 06.20—See Königsberg.
 - BEROMÜNSTER, 06.30-06.45—Gym.
 - BRESLAU, 06.00—Time; Weather; Gym. 06.15—Hymn; Motto. 06.25—Military Band.
 - BUDAPEST, 06.45—Gym.
 - COLOGNE, 06.00—Hymn. 06.05—Records. 06.30—Gym. 06.50—Time; News.
 - DEUTSCHLANDSENDER, 06.00—Gym. 06.15—Motto. 06.20—See Königsberg.
 - FRANKFURT, 06.15—Time; News. 06.25—Gym. 06.50—Weather. 06.55—Records.
 - HAMBURG, 06.00—Gym. 06.15—Time; Weather. 06.20—See Königsberg.
 - KÖNIGSBERG, 06.00—Gym. 06.20—Military Band.
 - LEIPZIG, 06.00—For Farmers. 06.05—Gym. 06.20—See Königsberg.
 - MOSCOW, 06.15—Programme Notes. 06.30—Records.
 - MUNICH, 06.30—Gym. 06.45—Motto; Records.
 - PARIS (Radio-Paris), 06.45—Gym.
 - PRAGUE, 06.00—Time; Gym.; Music.

- SOTTENS, 06.00-06.15—Gym.
 - STUTTGART, 06.00—Gym. 06.15—Time; News. 06.25—Gym. 06.50—Weather. 06.55—Records.
- 07.00**
- BERLIN, 07.00—News.
 - BRESLAU, 07.00—Military Band. In the Interval: News.
 - BUDAPEST, 07.00—Records.
 - COLOGNE, 07.00—Hymn; Records.
 - DEUTSCHLANDSENDER, 07.00—News. 07.20—See Königsberg.
 - FRANKFURT, 07.00—Records.
 - HAMBURG, 07.00—News; Motto. 07.20—See 06.20 Königsberg.
 - HILVERSUM, 07.40—Records.
 - KALUNDBORG, 07.00—Gym.
 - KÖNIGSBERG, 07.00—News. 07.20—Military Band.
 - LEIPZIG, 07.00—News. 07.20—See Königsberg.
 - MOSCOW, 07.00—Records. 07.15—Light Music.
 - MUNICH, 07.15—Time; News. 07.25—Records.
 - PARIS (Poste Parisien), 07.10—Fanfare; Records. In the Intervals: News.
 - PARIS (Radio-Paris), 07.00—Records. 07.15—News. 07.45—Gym.
 - PRAGUE, 07.00-07.15—News.
 - ROME, 07.45—Gym.
 - STOCKHOLM, 07.20—Gym. 07.45—Morning Prayers.
 - STUTTGART, 07.00—Records.
 - TURIN, 07.45—Gym.
 - WARSAW, 07.00—Time; Hymn. 07.05—Gym. 07.25—Records. 07.35—News. 07.40—Records. 07.55—For Housewives.
- 08.00**
- BARCELONA, 08.15—News.
 - BERLIN, 08.00—Gym.
 - BORDEAUX-LAFAYETTE, 08.00—News.
 - BRESLAU, 08.00—Military Band. 08.50—Cookery.

- COLOGNE, 08.00—Time; Weather; Tides. 08.05—Gym. for Women. 08.20—For Women.
 - DEUTSCHLANDSENDER, 08.45—Gym.
 - FRANKFURT, 08.00—Records. 08.15—Tides; Weather. 08.20-08.40—Gym.
 - HAMBURG, 08.00—Weather; For Housewives. 08.15—Technical Talk. 08.30—Announcements; Records.
 - HILVERSUM, 08.00—Records. 08.40—Orchestra.
 - HUIZEN, 08.40-08.55—Records.
 - KALUNDBORG, 08.30—Service from Copenhagen Cathedral.
 - KÖNIGSBERG, 08.00—Prayers. 08.30—Gym.
 - LEIPZIG, 08.00—Gym. 08.20—Records.
 - LYONS (La Doua), 08.00—News; Weather.
 - MOSCOW, 08.15—For Children.
 - PARIS (Poste Parisien), 08.00—Records. 08.45—Cookery Hints.
 - PARIS (Radio-Paris), 08.00-08.30—Records.
 - ROME, 08.00—Time; News.
 - STOCKHOLM, 08.00—Weather.
 - STUTTGART, 08.00—Records. 08.15—Tides; Weather. 08.20-08.40—Gym.
 - TOULOUSE (Radio-Toulouse), 08.00—Dance Refrains. 08.30—News. 08.35—Songs. 08.45—Orchestra.
 - TURIN, 08.00—Time; News.
 - WARSAW, 08.00—Programme Announcements.
- 09.00**
- BARCELONA, 09.00—Chimes; Gym.; Records. 09.20—News.
 - BRATISLAVA, 09.45—Announcements.
 - BRESLAU, 09.00—Time; News.
 - BUDAPEST, 09.45—News.
 - DEUTSCHLANDSENDER, 09.40—Talk: The Olympic Games.
 - HAMBURG, 09.00—Records.

- HILVERSUM, 09.00—Orchestra. 09.40—Protestant Programme. 09.55—Orchestra; Songs; Recitations.
 - HUIZEN, 09.40—Records.
 - KALUNDBORG, 09.00—Service (contd. from 08.30).
 - KÖNIGSBERG, 09.05—For Schools: "Papa Haydn"—Radio Play (Werner).
 - LEIPZIG, 09.40—Exchange. 09.45—Announcements; Weather; Tides.
 - MADRID (EAJ7), 09.00—News.
 - MOSCOW, 09.00—Light Music. 09.55—Time.
 - PRAGUE, 09.50—News.
 - TOULOUSE (Radio-Toulouse), 09.00—Orchestra.
 - VIENNA, 09.00—News. 09.20—Market Prices. 09.30—Weather.
 - ZEESEN, 09.45—Adelheid Armhold (Songs).
- 10.00**
- BARCELONA, 10.00—Obituary.
 - BERLIN, 10.00—News. 10.10—Market Prices. 10.30—Announcements; Records.
 - BORDEAUX-LAFAYETTE, 10.30—To be announced.
 - BRATISLAVA, 10.10—News in German and Hungarian; Weather.
 - BRESLAU, 10.40—For Children.
 - BUDAPEST, 10.00—Talk; Records.
 - COLOGNE, 10.00—Time; News; Tides. 10.10—For Children. 10.30—Talk: Labour Problems.
 - DEUTSCHLANDSENDER, 10.00—News. 10.10—Play for Children: The Young Englishman.
 - FRANKFURT, 10.00—Time; News.
 - HAMBURG, 10.50—News.
 - HILVERSUM, 10.00—Orchestra; Songs; Recitations.
 - HUIZEN, 10.00—Records. 10.10—Concert. 10.40—Records.
 - KALUNDBORG, 10.00—Service (contd. from 08.30).
 - KÖNIGSBERG, 10.00—"Papa Haydn"—Play (contd. from 09.05). 10.40—News. 10.55—Weather.

- LYONS (La Doua), 10.30—Concert.
 - MADRID (EAJ7), 10.00—Exchange; Announcements.
 - MOSCOW, 10.00—News.
 - MUNICH, 10.40—For Farmers; Market Prices.
 - PRAGUE, 10.00—News. 10.05—News in German. 10.10—Records.
 - ROME, 10.30—For Country People.
 - STRASBOURG, 10.30—Orchestra.
 - STUTTGART, 10.00—News. 10.10—Cinema Organ. 10.30—Records.
 - TURIN, 10.30—See Rome.
 - VATICAN CITY, 10.00-10.15—Religious Information in Various Languages.
 - VIENNA, 10.50—Tides; Weather.
- 11.00**
- BELGRADE, 11.00—Announcement; Records. 11.20—Tides; Records. 11.59—Time.
 - BERLIN, 11.00—Exchange.
 - BRATISLAVA, 11.00—Tides.
 - BRESLAU, 11.00—For Children. 11.30—Time; News. 11.50—Records.
 - BRNO, 11.00—Records. 11.05—Orchestra. Conductor: Janota.
 - BRUSSELS (No. 1), 11.55—Weather.
 - BRUSSELS (No. 2), 11.57—Weather.
 - BUDAPEST, 11.00—Records. 11.10—Tides.
 - COLOGNE, 11.00—For Schools. 11.30—Announcements; Records.
 - DEUTSCHLANDSENDER, 11.00—Play for Children (contd. from 10.10). 11.15—Weather. 11.45—Talk on Records: Medical Research.
 - FRANKFURT, 11.00—Concert. 11.40—Announcements; Exchange; Weather. 11.50—Social Notes.
 - HAMBURG, 11.00—For Schools. 11.40—Concert from Königsberg.
 - HILVERSUM, 11.00—Orchestra; Songs; Recitations. 11.40—V.A.R.A. Ensemble. Conductor: Bakels.
 - HUIZEN, 11.00—Records. 11.10—Religious Address. 11.40—Police

SATURDAY May 26

11.00 (contd.)

Notes. 11.55—The K.R.O. Boys. Conductor: Lustenhouwer. KALUNDBORG, 11.00—Weather. 11.10—Fish Prices. KÖNIGSBERG, 11.05—For Farmers. 11.30—The Small Station Orchestra. Conductor: Wilcken. LEIPZIG, 11.00—Post Office Propaganda; Records. 11.40—News. LYONS (La Doua), 11.00—Concert. MUNICH, 11.00—For Farmers. 11.20—Time; News. 11.30—Post Office Propaganda on Records. OSLO, 11.15—Service. 11.50—Exchange. PRAGUE, 11.00—See Brno. 11.55—Opening of the Prague Agricultural Exhibition. STRASBOURG, 11.00—Orchestra. STUTTGART, 11.00—Records. 11.25—Announcements; Records. 11.55—Weather. TURIN, 11.30—Records. VIENNA, 11.30—For Women. 11.55—Weather. WARSAW, 11.40—News. 11.50—Theatre Review. 11.57—Fanfare from St. Mary's Church, Cracow.

12.00

BARCELONA, 12.00—Chimes; Weather; Television. BELGRADE, 12.00—Chimes. 12.50—Orchestra; Songs. 12.45—Exchange; Announcements. BERLIN, 12.00—See Königsberg. In the Interval: Weather. BEROMÜNSTER, 12.00—Records. 12.29—Time; News. 12.40—Records. BORDEAUX-LAFAYETTE, 12.30—Symphony Concert. BRATISLAVA, 12.15—News in Slovak; Records. 12.35—Orchestra. Conductor: Dyk. BRESLAU, 12.00—Records. BRUSSELS (No. 1), 12.00—Symphony Orchestra. Conductor: Kumps. Mlle. Brullez (Songs). BRUSSELS (No. 2), 12.00—Records. BUCHAREST, 12.00—Records. BUDAPEST, 12.00—Chimes. 12.05—Universities' Choirs. COLOGNE, 12.00—Schrammel Quartet. Kreisler (Saxophone), Meyer (Accordion), Schneider (Bass). 12.45—News; Greetings. DEUTSCHLANDSENDER, 12.00—Weather. 12.10—Records; Weather. 12.55—Time. FRANKFURT, 12.00—Trier Municipal Orchestra. Conductor: Creutzburg. HAMBURG, 12.00—Market Prices. 12.05—Time; Weather. 12.15—See 12.00 Königsberg. HILVERSUM, 12.00—V.A.R.A. Ensemble (contd. from 11.40). HUIZEN, 12.00—The K.R.O. Boys. JUAN-LES-PINS (Radio Côte d'Azur), 12.30—Amusement Guide; Variety. KALUNDBORG, 12.00—Chimes. 12.05—The Gylde Mark String Ensemble. 12.15—For Schools. 12.45—The Gylde Mark String Ensemble. KAUNAS, 12.00—Time; News. KÖNIGSBERG, 12.00—Orchestra. LEIPZIG, 12.00—See Frankfurt. LYONS (La Doua), 12.30—Records. 12.55—News. MONTE CENERI, 12.00—Announcements; Records. 12.29—Time; Weather. 12.33—Orchestra. 12.55—News. MUNICH, 12.00—See Frankfurt. OSLO, 12.55—Time. PARIS (Ecole Supérieure), 12.30—Quintet. PARIS (Radio-Paris), 12.00—Goldy Dance Band. Refrains by Sorbier. PRAGUE, 12.00—Opening of the Prague Agricultural Exhibition. (contd. from 11.55). 12.15—Records. 12.25—News. (12.35—See Bratislava. REYKJAVIK, 12.00—Weather. ROME, 12.30—Records. SOTTENS, 12.29—Time; News. 12.40—Records. STOCKHOLM, 12.30—Weather. 12.45—Exchange. 12.55—Time. STRASBOURG, 12.00—Records. 12.45—News. STUTTGART, 12.00—See Frankfurt. TOULOUSE (Radio Toulouse), 12.00—Operetta Music. 12.15—Military Band. 12.30—News; Exchange. 12.45—Request Programme. TURIN, 12.00—Records. 12.45—News. VIENNA, 12.00—Records. WARSAW, 12.05—Chamber Orchestra. In the Interval: Weather. 12.55 News.

13.00

ATHLONE, 13.30—Time; Weather; Exchange; Records. BARCELONA, 13.00—For Women. 13.45—Records. BELGRADE, 13.00—Orchestra; Songs. 13.30—News. 13.15—Records. BERLIN, 13.00—News. 13.15—Records. BEROMÜNSTER, 13.00—Records. 13.25—Time; Weather; Exchange. 13.30—Parliamentary Notes. 13.45—Wireless Notes. BORDEAUX-LAFAYETTE, 13.00—Symphony Concert. BRATISLAVA, 13.00—Orchestra. Conductor: Dyk. 13.45—News in Hungarian and German; Weather. BRESLAU, 13.00—Records. 13.20—Time; News. 13.35—Records; Exchange. BRUSSELS (No. 1), 13.00—News. 13.10—Request Records. BRUSSELS (No. 2), 13.00—News. 13.10—The Symphony Orchestra. Conductor: Kumps. Mlle. Brullez (Songs). BUCHAREST, 13.00—Time; News. 13.15—Records. BUDAPEST, 13.00—Universities' Choirs. 13.30—Military Band. COLOGNE, 13.00—Station Choir. Conductor: Breuer. Marga Bäuml (Guitar); Grape (Piano). DEUTSCHLANDSENDER, 13.00—Records. FRANKFURT, 13.00—Time; News. 13.20—Records. 13.50—Time; News. HAMBURG, 13.00—Exchange. 13.15—Weather. 13.20—Light Music. HILVERSUM, 13.00-13.40—V.A.R.A. Ensemble (contd. from 11.40). 13.55—Steyn (Organ). HUIZEN, 13.00—The K.R.O. Boys. 13.40—For Young People. JUAN-LES-PINS (Radio Côte d'Azur), 13.00—News. 13.15—Variety. KALUNDBORG, 13.00—The Gylde Mark String Ensemble. KÖNIGSBERG, 13.00—Time; Weather. 13.05—Records. 13.20—News. 13.30—Records. LEIPZIG, 13.00—News; Time. 13.10—Records. LYONS (La Doua), 13.00—See Strasbourg. MONTE CENERI, 13.00—News. 13.05—Orchestra. 13.30—Motoring Notes. 13.40—Records. 13.50—For Housewives. MUNICH, 13.00—See Frankfurt. 13.15—Time; News. 13.25—Records. OSLO, 13.00—Records. In the Interval: Weather; For Farmers. PARIS (Ecole Supérieure), 13.00—Soloists. 13.30—Records. Part I, Mozart Music. Part II, Contemporary French Music. PARIS (Poste Parisien), 13.00—New Records. 13.05—Exchange. 13.15—Quintet. PARIS (Radio-Paris), 13.00—Goldy Dance Band. Refrains by Sorbier. PRAGUE, 13.00—See Bratislava. 13.35—Labour Exchange. 13.45—Records. 13.55—Exchange. ROME, 13.00—Instrumental. In the Interval at 13.30: Time; News. SOTTENS, 13.00—Exchange. 13.05—Records. STRASBOURG, 13.00—Time. 13.01—Orchestra. Conductor: Roskam. STUTTGART, 13.00—Time; News. 13.20—Records. 13.50—Time; News. TOULOUSE (Radio Toulouse), 13.00—Amusement Guide; Market Prices. 13.05—Opera Music. 13.15—Viennese Music. 13.30—Film Songs. 13.45—Opera Music. TURIN, 13.00—Time; Announcements. 13.05—Trio. In the interval at 13.30: Records; Exchange. VIENNA, 13.00—Time; News. 13.10—Records.

14.00

ATHLONE, 14.00-14.30—Records. BARCELONA, 14.00—Records. 14.30—Theatre Notes; Records. BERLIN, 14.00—News; Tides. 14.15—Records. BEROMÜNSTER, 14.00—Book Review. 14.20—Juvenile Accordion Band. 14.40—Talk; Stenography. BORDEAUX-LAFAYETTE, 14.00—Records. BRATISLAVA, 14.05-14.10—Shipping Notes. BRESLAU, 14.00—Records. 14.25—Post Office Propaganda; Records. 14.50—Market Prices. BRNO, 14.05-14.15—Market Prices. BUDAPEST, 14.00—Military Band. COLOGNE, 14.00—Records. DEUTSCHLANDSENDER, 14.45—News; Weather; Exchange. FRANKFURT, 14.00—Records. 14.30—Variety.

HAMBURG, 14.00—Light Music. 14.15—News. 14.30—Records; Lincke Music. HILVERSUM, 14.00—Steyn (Organ). 14.40—Talk. HUIZEN, 14.00—For Young People. 14.10—For Children. KALUNDBORG, 14.30—Records. KÖNIGSBERG, 14.00—News. 14.10—Records. 14.30—Post Office Propaganda; Records. LEIPZIG, 14.00—News; Exchange; Weather. 14.15—Book Review. 14.35—For Children. LYONS (La Doua), 14.00—Records. MADRID (EAO), 14.00—Chimes; Time; Weather; Light Music. 14.30—Sextet. MUNICH, 14.00—News; Exchange. 14.20—Sonata in A flat (Weber), by Ly Peter. 14.45—Chess. PARIS (Ecole Supérieure), 14.00—Records (contd. from 13.30). PARIS (Poste Parisien), 14.00-14.30—Ganne Records. PRAGUE, 14.00-14.05—Exchange; Weather in German. REYKJAVIK, 14.15—Variety. ROME, 14.00—Instrumental. STRASBOURG, 14.00—Legal Talk in German. 14.15—Records. STUTTGART, 14.00—Records. 14.30—The Dam—Play (Cay-Dietrich Voss). TOULOUSE (Radio-Toulouse), 14.00—News. TURIN, 14.00—Trio (contd. from 13.05).

15.00

BARCELONA, 15.00—Announcements; Sextet. BERLIN, 15.00—Exchange. 15.35—"Berlin's Six-Thousand-Year-Old Inhabitant"—Radio Report. BEROMÜNSTER, 15.59—Time. BORDEAUX-LAFAYETTE, 15.00—Concert. BRESLAU, 15.00—Market Prices. 15.10—Reading (Müller). 15.30—Talk: Karl Ulbrich. 15.40—Animal Talk. BRNO, 15.45—Reading. BUCHAREST, 15.15—For Children. COLOGNE, 15.00—Records. 15.30—Economic Notes. 15.45—Talk: Labour Problems. DEUTSCHLANDSENDER, 15.00—Weather; Exchange. 15.15—For Children. 15.45—Weekly Economic Review. FRANKFURT, 15.00—Variety. 15.10—Morse Lesson. 15.30—Weather. 15.45—Economic Review. HAMBURG, 15.00—Exchange. 15.40—Shipping; Aviation. HILVERSUM, 15.00—Orchestra. Conductor: Horst. De Booy (Songs). 15.40—Talk: Neo-Socialism. HUIZEN, 15.00-15.40—For Children. 15.55—Records. KALUNDBORG, 15.00—Preil's Instrumental Ensemble. 15.50—Danish Spring Poems. KÖNIGSBERG, 15.00—Exchange. 15.20—For Women. LEIPZIG, 15.00—For Children. 15.15—Topical Talk. 15.30—Review of Agrarian Policy. 15.45—Exchange. MADRID (EAO), 15.00—Amusement Guide; Exchange; Light Music. 15.30—Sextet. MONTE CENERI, 15.59—Time. MOSCOW, 15.15—For Children. 15.55—Time. MUNICH, 15.00—Chess. 15.15—Reading. 15.35—Weather; For Farmers. 15.50—Market Prices. PARIS (Ecole Supérieure), 15.00—Concert. PARIS (Poste Parisien), 15.15—Exchange. 15.45—Exchange. PARIS (Radio-Paris), 15.00-15.45—For Children. PITTSBURGH, 15.00—Edward Mac Hugh. 15.15—KDKA Home Forum. 15.30—Singing Strings. 15.45—Helen Irwin—Bobby and Sue. SOTTENS, 15.59—Time. STRASBOURG, 15.00—Records. STUTTGART, 15.00—Play (contd. from 14.30). 15.10—Morse Lesson. 15.30—Accordion Music. VIENNA, 15.00—Time; Exchange. 15.15—French. 15.45—News. 15.50—"Pony Express"—Radio Sketch (Lisa Heiss Stähler). WARSAW, 15.05—News; Exchange. 15.20—Spanish Songs by Juna Gordez. 15.35—Aviation and Anti-Gas Drill. 15.40—For Invalids. ZEESEN, 15.00—Lecture-Recital by Gertrud Sonntag.

16.00

BARCELONA, 16.00—For Hospitals. 16.30—Hidden Talent Programme. BARI, 16.30—For Children. BELGRADE, 16.00—Records. 16.30—Orchestra. BERLIN, 16.00—Concert from the Krollgarten. In the Interval: Talk; Young Actors. BEROMÜNSTER, 16.00—See Monte Ceneri. BORDEAUX-LAFAYETTE, 16.00—Concert. BRATISLAVA, 16.50—For Children. BRESLAU, 16.00—See Berlin. BRUSSELS (No. 1), 16.40—News. 16.45—Talk. BRUSSELS (No. 2), 16.40—News. 16.45—Talk: The 1935 International Exhibition. BUDAPEST, 16.00—Concert from the Palais Hubay. COLOGNE, 16.00—See Berlin. DEUTSCHLANDSENDER, 16.00—See Hamburg. FRANKFURT, 16.00—See Berlin. HAMBURG, 16.00—Military Band. HILVERSUM, 16.00—Talk (contd. from 15.40). 16.10—Orchestra. Conductor: Horst. de Booy (Songs). 16.40—Records. HUIZEN, 16.00—Records. KALUNDBORG, 16.00—Instrumental Ensemble (contd. from 15.00). KÖNIGSBERG, 16.00—Königsberg Opera House Orchestra. Conductor: Seidler. LAHTI, 16.00—Records. LEIPZIG, 16.00—See Berlin. LYONS (La Doua), 16.15—Jazz. MONTE CENERI, 16.00—Records. 16.30—School Choir. MADRID (EAO), 16.00—Light Music. 16.15—Sextet. 16.40—News; Film Review. MORAVSKÁ-OSTRAVA, 16.05—Orchestra. Conductor: Brock. MOSCOW, 16.00—News. 16.30—Talk: The Foundations of Bolshevism. MUNICH, 16.00—Orchestra. Conductor: Kloss. Palisca and Schindler (Songs). OSLO, 16.45—Records. PITTSBURGH, 16.00—Pappy, Ezra, Zeke, Elton. 16.15—KDKA Kiddies' Klub. PRAGUE, 16.00—Weather. 16.05—See Moravská-Ostrava. 16.50—Educational Programme. ROME, 16.30—Children's Radio Review. 16.55—News; Exchange. SOTTENS, 16.00—See Monte Ceneri. STOCKHOLM, 16.00—Technical Talk. 16.20—Asti Orchestra. March (Lehnhardt). Waltz, Les Sirènes (Waldeufel). Overture, "The Gipsy Baron" (Strauss). Lisette (Caludi). Tango (Edwards). STRASBOURG, 16.00—Music Talk: Satie. 16.15—Records. STUTTGART, 16.00—See Berlin. TOULOUSE (Radio-Toulouse), 16.15—News; Racing. TRIESTE, 16.45—For Children. TURIN, 16.35—News. 16.45—For Children. VIENNA, 16.00—"Pony Express"—Sketch (contd. from 15.50). 16.45—Talk: The International Chess Championship. WARSAW, 16.00—For Invalids. 16.20—French Lesson. 16.35—Music with Commentary.

17.00

BARCELONA, 17.00—News. BELGRADE, 17.00—Orchestra. BERLIN, 17.00—Concert (contd. from 16.00). BEROMÜNSTER, 17.00—See Monte Ceneri. BORDEAUX-LAFAYETTE, 17.00—See Strasbourg. BRATISLAVA, 17.00—For Children. 17.45—For Workers. BRESLAU, 17.00—Talk. 17.10—See 16.00—Berlin. BRNO, 17.15—For Sokols. 17.20—Records. 17.25—Theatre Review; Records. 17.45—German Transmission: Vocal Quartet with Pianoforte Accompaniment. BRUSSELS (No. 1), 17.00—Dance Music. BRUSSELS (No. 2), 17.00—Records: Selection, "Le Cid" (Massenet). 17.15—For Children. BUCHAREST, 17.00—Orchestra. BUDAPEST, 17.00—Concert from the Palais Hubay. 17.45—Letterbox. COLOGNE, 17.00—Talk: Moritz Jahn. 17.15—Musical Programme by Young People. DEUTSCHLANDSENDER, 17.00—See Hamburg. 17.30—A Member of the Berlin Philharmonic Orchestra at the Microphone. 17.50—Weekly Sports Review. FRANKFURT, 17.00—See 16.00—Berlin. HAMBURG, 17.00—Military Band. 17.30—Reading (Körding). HILVERSUM, 17.00—Records. 17.20—17.40—Literary Talk. 17.45—Pictures from an Exhibition (Musorgsky), by Belitzer (Pianoforte). HUIZEN, 17.00—Jansen (Organ). KALUNDBORG, 17.00—Songs for Children. 17.30—Exchange. 17.45—Talk: The Vaccination of Dogs. KAUNAS, 17.30—Cathedral Service.

KÖNIGSBERG, 17.00—Roads Report. 17.05—Königsberg Opera House Orchestra. LAHTI, 17.00—Talk. 17.40—Hygiene. 17.59—Time; Weather. LEIPZIG, 17.00—See 16.00 Deutschlandsender. 17.30—Reading (Nowak). 17.50—A Modern Dictionary. LYONS (La Doua), 17.00—Jazz. MONTE CENERI, 17.00—Italian Opera Music from the Kursaal, Lugano. Conductor: Casella. Selection, "Adriana Lecouvreur" (Cilea). "Siberia" (Giordano). "Cavalleria rusticana" (Mascagni). "Il Trovatore" (Verdi). MORAVSKÁ-OSTRAVA, 17.15—Weekly Review. 17.25—Records. 17.45—Literary Review. MOSCOW, 17.00—Talk (contd. from 16.30). 17.30—"Big Bertha"—Play (Poliakov). MUNICH, 17.00—Orchestra (contd. from 16.00). 17.30—Talk: Dr. Eisenbarth. 17.50—Herbert Albert (Pianoforte). OSLO, 17.00—Records. 17.45—For Children. PITTSBURGH, 17.00—Whalen Trio. 17.15—Honey Boy and Sassafras. 17.30—Vic and Sade. 17.45—Lloyd Huntley's Orchestra. PRAGUE, 17.00—Educational Programme. 17.15—Talk. 17.25—Record. 17.30—Slovak Lesson. 17.45—For Farmers. 17.55—For Workers. REYKJAVIK, 17.00—Weather. ROME, 17.10—Instrumental. 17.55—Weather. SOTTENS, 17.00—See Monte Ceneri. STOCKHOLM, 17.00—Weather. 17.05—For Children. 17.45—Reading. STRASBOURG, 17.00—Dance Music. STUTTGART, 17.00—See 16.00—Berlin. TURIN, 17.00—For Women. 17.10—Dance Music. 17.55—For Farmers. VIENNA, 17.00—Talk: Moravian Border Rambles. 17.25—Football Match Commentary. WARSAW, 17.00—Music. 17.20—Talk. 17.40—Radio Report.

18.00

ATHLONE, 18.00—Records. 18.45—News. BARCELONA, 18.30—For Children. BARI, 18.30—News in Foreign Languages. BELGRADE, 18.55—Time; Announcements. BERLIN, 18.00—Announcements. 18.05—Dialogue; Rowing. 18.20—"Fahar Nach Glückswinkel"—Humorous Sequence (Keienburg-Neubert). Music by Kunler. BEROMÜNSTER, 18.00—Records. 18.30—Talk: Bettina von Arnim. BRATISLAVA, 18.00—Weekly Review. 18.10—Hungarian Transmission. Weather. BRESLAU, 18.00—Country Tennis Tournament Commentary. 18.25—Schlageter Letters. 18.50—News. BRNO, 18.00—German Transmission (contd. from 17.45). 18.20—Literary Review. 18.30—Records. 18.45—For Workers. BRUSSELS (No. 1), 18.00—Talk: Insurance. 18.15—Records. BRUSSELS (No. 2), 18.00—Records. 18.15—Talk: Zealand. 18.30—The Belgian Pianoforte Quartet. Quartet in E flat No. 2 (Mozart). Quartet in C minor (Strauss). BUCHAREST, 18.00—Time; Announcements. 18.15—Orchestra. BUDAPEST, 18.00—Letter Box. 18.10—Records. COLOGNE, 18.00—Talk: Art and Culture in Lombardy. 18.25—Records. 18.40—News. 18.50—Exchange; Sports Notes. DEUTSCHLANDSENDER, 18.00—Weekly Sports Review. 18.10—Topical Talk; Time. 18.30—Song. Records. 18.50—Programme Announcements. 18.55—Weather. FRANKFURT, 18.00—Talk: Frontier Problems. 18.20—Talk by the Commissioner of Police. 18.30—Time; Weather. 18.50—Weather. HAMBURG, 18.00—Records. 18.35—Radio Report from the Battleship, Schleswig-Holstein. 18.55—Weather. HILVERSUM, 18.00—Pianoforte (contd. from 17.45). 18.10—Male Voice Quartet. 18.40—Records. HUIZEN, 18.00—News. 18.25—K.R.O. Orchestra. 18.40—Police Notes. 18.55—Talk. KALUNDBORG, 18.00—Talk (contd. from 17.45). 18.15—French. 18.45—Weather. KAUNAS, 18.00—Rifle Club Programme. 18.30—Records. 18.40—Announcements. KÖNIGSBERG, 18.00—Book Review. 18.10—Market Prices. 18.25—Ilonka von Ferenczy (Soprano). 18.55—Talk: Photography.

18.00 (contd.)

LAHTI, 18.10—News in Swedish. 18.15—Music. 18.20—Talk. 18.50—Choir
LEIPZIG, 18.05—Talk: Albert Leo Schlageter. 18.20—Operetta Music by the Dresden Philharmonic Orchestra. Overture, "Das Modell" (Suppé). Polka and Gallop, "The Gipsy Baron" (Strauss). Waltz, "Der Feldprediger" (Millöcker). Waltz and Foxtrot, "Die Toni aus Wien" (Lincke). Foxtrot and Tango "Eine Frau von Format" (Krauss). Waltz, "Mädi" (Stolz). Two Foxtrots, "Lady Hamilton" (Künneke). March, "Frauenherz" (Strauss).
LYONS (La Doua), 18.00—Jazz. 18.15—News.
MADRID (EAJ7), 18.00—Chimes; Light Music.

ATHLONE, 19.00—May Pitchford (Recitations). 19.15—Irish Talk. 19.30—Time. 19.31—Grace O'Brien (Pianoforte).
BARCELONA, 19.00—For Children; News.
BARI, 19.40—News in Alban Dialect; Weather.
BELGRADE, 19.00—Talk. 19.30—"Cello Sonata in A (Beethoven).
BERLIN, 19.00—Humorous Sequence (contd. from 18.20). 19.40—Topical Talk.
BEROMÜNSTER, 19.00—Chimes. 19.15—Time; Weather; Market Prices. 19.20—Choral Records. 19.45—Talk: The Bible.
BORDEAUX-LAFAYETTE, 19.30—Sports; Announcements. 19.40—English. 19.55—News.
BRESLAU, 19.00—Chimes. 19.05—Announcements; Records. 19.30—Weekly Review.
BRNO, 19.10—"May"—Literary and Musical Programme. National

MONTE CENERI, 19.44—Announcements; News.
MOSCOW, 19.00—Readings and Music (contd. from 18.30). 19.30—Talk: Wireless Communication in the Arctic.
MUNICH, 19.00—The Station Dance Band.
OSLO, 19.00—Book Review. 19.30—Time; Talk.
PARIS (Ecole Supérieure), 19.30—Records. 19.45—Legal Talk. 19.53—Talk: Protection for Animals.
PARIS (Poste Parisien), 19.00—Records (contd. from 18.56). 19.03—Topical Talk. 19.10—News. 19.30—Theatre Review. 19.34—The Folies-Bergères.
PARIS (Radio-Paris), 19.00—Science Talk. 19.20—Latin Press Review. 19.30—Topical Talk.
PITTSBURGH, 19.00—Farm and Home Hour. 19.30—Concert Echoes.

Hans Bund Orchestra, Wind Band. Leading Operatic Artists.
BEROMÜNSTER, 20.00—Talk (contd. from 19.45). 20.15—Chamber Music from the Musiksaal.
BORDEAUX-LAFAYETTE, 20.00—See Warsaw. 20.30—See Paris (Ecole Supérieure).
BRATISLAVA, 20.10—Talk.
BRESLAU, 20.00—News. 20.10—"Little Dorrit"—Musical Play (Künneke), adapted from the Dickens Novel.
BRNO, 20.00—Literary and Musical Programme (contd. from 19.10). 20.10—Talk.
BRUSSELS (No. 1), 20.00—Concert Version, "Voyage en Chine"—Operetta (Bazin), by the Radio Orchestra. Conductor: André Soloists.
BRUSSELS (No. 2), 20.00—Dances by the Symphony Orchestra. Conductor: Kumps.
BUCHAREST, 20.00—Orchestra. Overture, "Athalie" (Mendelssohn). Lyrical Suite, (Grieg), Selection, "Hansel and Gretel" (Humperdinck).
BUDAPEST, 20.00—Hungarian Folk Music. The Magyar Cigány Band. Isabella Razy and Josef Czelenyi (Songs).
COLOGNE, 20.00—News. 20.10—Humorous Programme from Essen.
DEUTSCHLANDSENDER, 20.00—Motto; News. 20.10—May Folk Dance Festival. Programme from the Volksgarten.
FRANKFURT, 20.00—Time; News. 20.05—Review. 20.15—The Station Orchestra. John Gläser (Tenor) and Erna Sack (Soprano).
HAMBURG, 20.00—News. 20.10—Orchestra. Conductor: Maasz.
HILVERSUM, 20.00—Character Study (on Records). 20.10—V.A.R.A. Orchestra. Conductor: de Groot. 20.40—Address. 20.45—Hellmuth (Bass). Prologue, "I Pagliacci" (Leoncavallo). Aria, "A Masked Ball" (Verdi).
HUIZEN, 20.00—The K.R.O. Orchestra. 20.10—News. 20.15—Records. 20.20—The K.R.O. Orchestra (contd.). 20.40—Film Review. 20.55—Travin and his Russian Orchestra.
JUAN LES PINS (Radio Côte d'Azur), 20.00—Amusement Guide; News. 20.10—Literary Review. 20.30—Concert.
KALUNDBORG, 20.00—Chimes. 20.02—The Radio Orchestra. Conductor: Reesen. Overture, "Little Christie" (Hartmann). Waltz (Lumbye). Interlude: "In the Land of Memory"—Dialogue (Bokenheuser). Dream Pictures (Lumbye). Tarentella, "Napoli" (Paulli).
KAUNAS, 20.00—Letter-box. 20.20—Songs. 20.40—Travelogue.
KÖNIGSBERG, 20.00—News. 20.15—See Berlin.
LAHTI, 20.00—Orchestra (contd. from 19.45). 20.45—News in Finnish.
LEIPZIG, 20.00—News. 20.10—Talk. 20.15—Vogtland Dialect Programme of Songs, Music and Recitations, from the Municipal Theatre, Plauen.
LYONS (La Doua), 20.00—For Soldiers. 20.10—Talk in Esperanto. 20.20—Sports. 20.30—Concert.
MADRID (EAJ7), 20.00—Musical Comedy Selection. 20.30—Dance Music.
MONTE CENERI, 20.00—Request Music. 20.45—History Talk: Locarno Castle.
MOSCOW, 20.00—Radio Play.
MUNICH, 20.00—News. 20.10—"Herzdame"—Operetta in Three Acts (Trunk). Conductor: List.
OSLO, 20.00—"Don Giovanni"—Opera in Two Acts (Mozart), from the National Opera House. In the Interval: Talk.
PARIS (Ecole Supérieure), 20.00—See Warsaw. 20.30—National Symphony Orchestra. Conductor: Inghelbrecht. Cathelat (Songs), Dufrenne (Flute). Overture, "Les Aveugles de Tolédo" (Méhul). Symphony (Haydn). Song, Adelaide (Beethoven). Aria, "Euryanthe" (Weber). Symphonie Concertante for Ten Wind Instruments (Gounod). Ein musikalischer Spass (Mozart). Aria, "Fortunio" (Messenger). Flute Solo, "Namuona" (Lalo).
PARIS (Poste Parisien), 20.10—Weekly Review. 20.20—Light Music.
PARIS (Radio-Paris), 20.00—"Les canards mandarins"—Three-Act Musical Comedy (Beydts). Orchestra and Choir. Conductor: Labis. In the Interval: News; Review.
PITTSBURGH, 20.00—Oriental Gardens Orchestra. 20.30—Saturday's Songsters.
PRAGUE, 20.00—See 19.10 Brno. 20.10—Art Talk. 20.25—Talk.
REYKJAVIK, 20.45—For Children.
ROME, 20.00—News. 20.05—Records. 20.30—Government Notes.

SATURDAY May 26

20.45—Concert. Renata Bogliani (Violin), Claudia Gasperoni (Pianoforte), Emma Carra-Vitolo ('Cello), Guglielmo Castello (Baritone) and Gino Conti (Bass). Trio in D (Wolf-Ferrari). Baritone Solo: Aria, "Germania" (Franchetti). Duet, "The Puritans" (Bellini). Andante from the Nocturne (Bloch). Rondo (Hummel).
SCHENECTADY, 20.00—Springtime Concert.
SOTTENS, 20.00—"La fiancée de Margot"—Operetta (Planquette). 20.30—Humorous Programme. 20.45—Concert by the Radio-Suisse Romande Orchestra. Conductor: Echenard. Nelly Gretillat (Songs). Overture, "Mirella" (Gounod). Selection, "Carmen" (Bizet). Two Airs, "Louise" (Charpentier). Aria, "Samson and Delilah" (Saint-Saëns). Fire Dance, "Antar" (Dupont). Piece for Horn and Orchestra (Strong). Chansons madécistes, for Voice, Pianoforte, Flute and Violin (Ravel). Pavane pour une Infante défunte (Ravel). Spanish Dance (Falla).
STOCKHOLM, 20.00—Cabaret. 20.30—Plamigan Shooting in the Arctic.
STRASBOURG, 20.00—News in German; Lottery Results; Announcements. 20.15—Marianne Serlé (Songs). 20.45—Municipal Orchestra from the Orangerie. Conductor: Munch. In the Interval: News.
STUTTGART, 20.00—See Frankfurt.
TOULOUSE (Radio-Toulouse), 20.00—Opera Music. 20.15—Orchestra. 20.30—Sketches. 20.45—Opera Music.
TURIN, 20.00—News. 20.05—Records. 20.30—Government Notes. 20.45—Operetta (O. Strauss).
VIENNA, 20.00—Bunter Abend. 20.30—To be announced.
WARSAW, 20.00—Chopin Pianoforte Recital by Turczynski. 20.30—Technical Letter-Box. 20.45—The Station Orchestra. Conductor: Nawrot.

21.00

ALGIERS, 21.05—Variety. 21.30—Sound-Film Songs. 21.40—News. 21.45—Orchestra.
ATHLONE, 21.00—Station Orchestra. 21.30—Variety.
BARCELONA, 21.00—Educational Programme. 21.10—Records. 21.30—Medical Talk in Catalan. 21.45—News.
BELGRADE, 21.00—Operetta Concert.
BERLIN, 21.00—Radio Parade (contd. from 20.15).
BEROMÜNSTER, 21.00—Chamber Music from the Musiksaal. 21.30—News. 21.40—"Die Altwiehermühle"—Radio Play (Lisa Wenger).
BRESLAU, 21.00—"Little Dorrit"—Musical Play (contd. from 20.10).
BRUSSELS (No. 1), 21.00—"Voyage en Chine"—Operetta (contd. from 20.00). In the Interval: Musical Monologues by Margleine Renaud.
BRUSSELS (No. 2), 21.00—Cabaret.
BUCHAREST, 21.00—Letter-Box. 21.20—Orchestra.
BUDAPEST, 21.00—Talk. 21.15—News. 21.30—Overtures. Budapest Concert Orchestra. Conductor: Markus. Overture, "Don Giovanni" (Mozart), "Der Freischütz" (Weber), "The Barber of Seville" (Rossini), "The Mastersingers" (Wagner), "Mignon" (Thomas), "Suzanne's Secret" (Wolf-Ferrari), "The Gipsy Baron" (Strauss), "Orpheus in the Underworld" (Offenbach). In the Interval: News.
COLOGNE, 21.00—Humorous Programme (contd. from 20.10).
DEUTSCHLANDSENDER, 21.00—May Folk Dance Festival (continued from 20.10).
FRANKFURT, 21.00—Orchestra and Soloists (contd. from 20.15).
HAMBURG, 21.00—Orchestra. Conductor: Maasz.
HILVERSUM, 21.00—V.A.R.A. Orchestra. Conductor: de Groot. 21.40—Talk. 21.45—News; Announcements. 21.55—Hellmuth (Bass).
HUIZEN, 21.00—Travin and his Russian Orchestra (contd. from 20.55). 21.25—Records.
JUAN LES PINS (Radio Côte d'Azur), 21.00—News. 21.15—Concert.
KALUNDBORG, 21.00—Vibraphone Solos. 21.15—Reading (Gross). 21.30—Trio in G minor (Haydn). 21.50—News.
KAUNAS, 21.00—Orchestra. 21.40—Talk: Physical Culture in Schools. 21.50—Sports Notes.
KÖNIGSBERG, 21.00—See 20.15 Berlin.



A typical Chinese scene, such as Brussels No. 1 depicts in the operetta by Bazin at 20.00

MADRID (EAQ), 18.00—Orchestra.
MORAVSKÁ - OSTRAVA, 18.05—For Workers. 18.45—Literary and Musical Review.
MOSCOW, 18.00—Play (Poliakov) (contd. from 17.30). 18.30—Readings and Music for Collective Farm Workers.
MUNICH, 18.00—Pianoforte (contd. from 17.50). 18.10—For Young People. 18.30—Talk: Corsica. 18.50—Wireless Notes.
OSLO, 18.00—For Children. 18.30—Talks.
PARIS (Ecole Supérieure), 18.15—News.
PARIS (Poste Parisien), 18.45—Exchange. 18.49—Theatre Review. 18.56—Records: The Ride of the Valkyrie (Wagner).
PARIS (Radio-Paris), 18.20—Weather; For Farmers; Racing. 18.45—Talk: Newspaper Production.
PITTSBURGH, 18.00—Words and Music. 18.30—Farm and Home Hour.
PRAGUE, 18.05—German Transmission: A Play (Brod); Sports. 18.55—News in German.
ROME, 18.00—Wheat Market Report. 18.10—Lottery Results. 18.30—News in Foreign Languages.
SOTTENS, 18.00—Science Talk. 18.20—Travelogue. 18.40—Talk: Clairvoyancy.
STOCKHOLM, 18.00—Reading. 18.15—Records.
STRASBOURG, 18.00—French Lesson. 18.15—Gardening Talk. 18.30—Records.
STUTTGART, 18.00—Dance Music. 18.30—Talk. 18.50—Time; Weather.
TOULOUSE (Radio Toulouse), 18.00—News. 18.15—Songs. 18.30—Orchestra. 18.45—Operetta Music.
TRIESTE, 18.10—News in Foreign Languages.
TURIN, 18.00—Wheat Market Prices.
VIENNA, 18.00—Choral Concert. 18.35—Monthly International Review.
WARSAW, 18.00—Roman Catholic Service.

Theatre Actors. The Station Orchestra. Conductor: Bakala.
BRUSSELS (No. 1), 19.00—Records. 19.15—Ballet Music, "Hamlet"—Opera (Thomas), on Records. 19.30—Science Review; Wireless Notes.
BRUSSELS (No. 2), 19.00—Quartet (contd. from 18.30). 19.15—Humorous Programme. 19.30—Film Review.
BUCHAREST, 19.00—Educational Programme. 19.20—Songs. 19.45—Talk.
BUDAPEST, 19.00—Dramatic Programme.
COLOGNE, 19.00—Light Music.
DEUTSCHLANDSENDER, 19.00—Announcements. 19.15—Chimes. 19.20—Light Music from the Volksgarten Open-air Festival.
FRANKFURT, 19.00—"Till Eulenspiegel"—Radio Play (Rahn). Music by Wenheber.
HAMBURG, 19.00—Mandolin Concert. 19.30—"Fahrwoter free"—Radio Play (Kinau).
HILVERSUM, 19.00—Records. 19.10—Jong (Organ). 19.40—S O S Messages. 19.43—Records.
HUIZEN, 19.00—Talk. 19.15—Records. 19.25—Talk. 19.40—The K.R.O. Orchestra.
KALUNDBORG, 19.00—News. 19.15—Time. 19.16—Radio Report: The Gardener's Auction Sale at Aarhus. 19.30—Talk: Agricultural Science.
KAUNAS, 19.00—Time; News. 19.30—Orchestra.
KÖNIGSBERG, 19.00—Talk (contd. from 18.55). 19.15—Topical Talk. 19.30—The Königsberg String Trio. Trio in C (Bach). Trio in C minor (Bach).
LAHTI, 19.10—Talk. 19.30—Talk. 19.45—Orchestra. Conductor: Linko.
LEIPZIG, 19.00—Operetta Music (contd. from 18.20). 19.35—Talk: Animals in Fables. 19.55—Talk.
LYONS (La Doua), 19.30—Local News. 19.40—Lottery Results. 19.50—Horse-racing Notes.
MADRID (EAJ7), 19.00—News; Violin Solos. 19.30—Exchange; Musical Comedy Selection.
MADRID (EAQ), 19.00—Orchestra. 19.15—Talk. 19.30—Light Music.

PRAGUE, 19.00—Time; News. 19.10—See Brno.
ROME, 19.00—News in Foreign Languages. 19.15—Shipping and Sports Notes. 19.30—Time; Announcements. 19.40—Records. 19.55—News.
SCHENECTADY, 19.00—Green Brothers Novelty Orchestra. 19.30—Springtime Concert.
SOTTENS, 19.00—Chimes. 19.03—Music Review by Ernest Ansermet. 19.30—News. 19.59—Weather.
STOCKHOLM, 19.00—Records. 19.15—News. 19.30—Cabaret.
STRASBOURG, 19.00—Records. 19.30—Time; News. 19.45—District Review.
STUTTGART, 19.00—"Ein floter Herr sucht eine Frau"—Operetta in Two Scenes (Schneider-Seyfert). Conductor: Seyfert.
TOULOUSE (Radio Toulouse), 19.00—Violin. 19.15—Duets. 19.30—News. 19.45—Military Band.
TURIN, 19.20—Tourist Report. 19.30—Time; News. 19.40—Records. 19.55—News.
VATICAN CITY, 19.00—19.15—Religious Information in Italian.
VIENNA, 19.00—Time; News. 19.15—Topical Talk. 19.30—Carinthian Literature and Music.
WARSAW, 19.00—Announcements. 19.15—For Farmers. 19.25—Poetry. 19.40—Sports Notes. 19.47—News.
ZEESEN, 19.15—Light Music. In the Interval: Wireless Notes.

20.00

ALGIERS, 20.00—Records; Shipping; Weather. 20.20—Records. 20.45—Lottery Results. 20.55—News.
ATHLONE, 20.00—Songs and Stories by Fay Sargent. 20.15—Station Orchestra. 20.45—Kirwan (Tenor).
BARCELONA, 20.00—Request Records. 20.30—Exchange; Talk: The Protection of Animals.
BELGRADE, 20.00—Announcements. 20.10—Operetta Concert.
BERLIN, 20.00—News. 20.15—"Potsdam Radio Parade," from the Concert House, Potsdam. A Verse-speaking Choir, the Radio Orchestra. Conductor: Steiner. The

19.00

ALGIERS, 19.00—Operetta Songs. 19.30—Sports Notes. 19.45—Hygiene.

SATURDAY May 26

21.00 (contd.)

LAHTI, 21.00—News in Swedish.
LEIPZIG, 21.00—Vogland Dialect Programme (contd. from 20.15).
LYONS (La Doua), 21.00—Concert. MADRID (EAJ7), 21.00—For Farmers; Dance Music. 21.50—Sports Notes.
MONTE CENERI, 21.00—Concert from Locarno Castle.
MORAVSKÁ-OSTRAVA, 21.00—Studio Operetta. Station Orchestra. Conductor: Plichta. Normanova and Kügler (Songs).
MOSCOW, 21.00—Talk in German: The History of the Russian Revolution. 21.55—Chimes.
MUNICH, 21.00—"Herzdame"—Operetta (Trunk) (contd. from 20.10).
OSLO, 21.00—"Don Giovanni" (Mozart) (contd. from 20.00).
PARIS (Ecole Supérieure), 21.00—Symphony Orchestra (contd. from 20.30).
PARIS (Poste Parisien), 21.05—Dance Music, with Vocal Trio. King (Songs).
PARIS (Radio-Paris), 21.00—"Les canards mandarins"—Musical Comedy (contd. from 20.00). In the Interval: Sports Notes; Review by Bonnaud.
PITTSBURGH, 21.00—Miniature Theatre. 21.30—Merry Maes. 21.45—Don Carlos and Orchestra.
PRAGUE, 21.00—See Moravská-Ostrava.
REYKJAVIK, 21.00—Weather. 21.25—The Radio Trio. 21.50—Announcements.
ROME, 21.00—Concert (contd. from 20.45). 21.45—"Il chiromante" (The Palmist)—Play in One Act (Nino Bolla).
SOTTENS, 21.00—Orchestra (contd. from 20.45). News in the interval.
STOCKHOLM, 21.00—Old Dances. The Sköld Orchestra. 21.30—Dialogue: Country and Town.
STRASBOURG, 21.00—Orchestra (contd. from 20.45).
STUTTART, 21.00—See 20.15 Frankfurt.
TOULOUSE (Radio-Toulouse), 21.00—Hahn Concert. 21.30—Operetta Music. 21.45—Film Songs.

TURIN, 21.00—Operetta (Straus) (contd. from 20.45).
VIENNA, 21.00—To be announced.
WARSAW, 21.00—The Station Orchestra and Soloists.

22.00

ALGIERS, 22.00—Orchestra. 22.20—News. 22.30—Orchestra (contd.). 22.55—News.
ATHLONE, 22.00—Variety. 22.30—Time; News. 22.40—Breen (Piccolo) and Byrne (Pianoforte).
BARCELONA, 22.00—Chimes; Weather; Announcements; Exchange. 22.05—See Madrid (EAJ7).
BELGRADE, 22.00—News. 22.15—Operetta Concert.
BERLIN, 22.00—News. 22.15—Radio Parade (contd. from 20.15).
BEROMÜNSTER, 22.00—Robert de Kers and his Cabaret Kings, from the Casino.
BRATISLAVA, 22.15—News in Hungarian; Sports Notes.
BRESLAU, 22.00—"Little Dorrit"—Musical Play (contd. from 20.10). 22.20—Time; News.
BRUSSELS (No. 1), 22.00—News. 22.10—Alexys Dance Orchestra.
BRUSSELS (No. 2), 22.00—News. 22.10—Light Music.
BUCHAREST, 22.00—News. 22.15—Light Music.
BUDAPEST, 22.00—Overtures (contd. from 21.30).
COLOGNE, 22.00—Time; Weather; News. 22.20—Schlageter Memorial Programme.
DEUTSCHLANDSENDER, 22.00—Report on Records: International Motor Trials from the Abus Speedway. 22.20—News. 22.45—Weather.
FRANKFURT, 22.00—Orchestra and Soloists (contd. from 20.15). 22.20—Time; News. 22.25—Topical Talk. 22.45—News.
HAMBURG, 22.00—News. 22.20—See 20.15 Berlin.
HILVERSUM, 22.00—Hellmuth (Bass). 22.10—V.A.R.A. Orchestra. 22.40—Two Cavellis (Accordion).
HUIZEN, 22.00—Records. 22.10—News. 22.15—Travin and his Russian Orchestra. 22.55—Records.
KALUNDBORG, 22.05—The Radio Orchestra. Conductor: Ressen.

Overture, "Gipsy Love" (Lehár). Selection, "Tip-Toes" (Gershwin). Suite, Four Ways (Coates). Melody on a Swedish Folk Tune (Peterson-Berger). March, "Tordenskjöld" (Halvorsen). In the interval at 22.17 (approx.)—Relay from the Palace Theatre: Jan Kiepuru singing in the Sound Film "Teff me To-night."

KAUNAS, 22.00-22.30—Dance Music.
KÖNIGSBERG, 22.00—News. 22.30—See 20.15 Berlin.
LEIPZIG, 22.00—News. 22.30—Dance Music.
LYONS (La Doua), 22.00—Concert; News.
MADRID (EAJ7), 22.00—Chimes; Time. 22.05—A Musical Comedy.
MONTE CENERI, 22.00-22.30—Concert from Locarno Castle.
MOSCOW, 22.05—Weekly Review in French.
MUNICH, 22.00—Time; News. 22.20—To be announced.
OSLO, 22.00—"Don Giovanni" (Mozart) (contd. from 20.00).
PARIS (Ecole Supérieure), 22.00—Symphony Orchestra (contd. from 20.30). 22.30 (approx.)—News; Dance Music.
PARIS (Poste Parisien), 22.00—Dance Music (contd. from 21.05).
PARIS (Radio-Paris), 22.00—"Les canards mandarins"—Musical Comedy (contd. from 20.00). 22.30—Dance Music.
PITTSBURGH, 22.00—Platt and Nierman. 22.15—Neil Sisters. 22.30—A Recreo—Bill and Alex. 22.45—Orphan Annie.
PRAGUE, 22.00—Time; News. 22.15—Records. 22.30—Orchestra. Conductor: Hertl.
REYKJAVIK, 22.00—Chimes; News. 22.30—Talk.
ROME, 22.00—Records.
SOTTENS, 22.00—Orchestra (contd. from 20.45). 22.05—Talk: The Work of the League of Nations. 22.35—Dance Records.
STOCKHOLM, 22.00—Dance Music.
STRASBOURG, 22.00—Orchestra (contd. from 20.45). 22.30—Dance Music.
STUTTART, 22.00—See 20.15 Frankfurt. 22.35—Topical Talk. 22.45—News.
TOULOUSE (Radio Toulouse), 12.00—Hawaiian Guitar. 22.15—News.

22.30—Choir. 22.45—Argentine Orchestra.
TURIN, 22.00—Operetta (Straus) (contd. from 20.45); Records.
VIENNA, 22.00—News. 22.15—Dance Music.
WARSAW, 22.00—Dance Music.

23.00

BELGRADE, 23.00-23.30—Dance Music.
BERLIN, 23.00—Radio Parade (contd. from 20.15).
BRESLAU, 23.00—See Munich.
BRUSSELS (No. 1), 23.00—Dance Music.
BRUSSELS (No. 2), 23.00—Light Music.
BUDAPEST, 23.00—Dance Music.
COLOGNE, 23.00—Serenade.
DEUTSCHLANDSENDER, 23.00—See Munich.
FRANKFURT, 23.00—See Munich.
HAMBURG, 23.00—See 20.15 Berlin.
HILVERSUM, 23.00-23.40—Records.
HUIZEN, 23.00-23.40—Records.
KALUNDBORG, 23.00—Dance Music.
KÖNIGSBERG, 23.00—See 20.15 Berlin.
LEIPZIG, 23.00—Dance Music.
MADRID (EAJ7), 23.00—News. 23.15—Musical Comedy (contd. from 22.05).
MADRID (EAO), 23.30—Light Music. 23.45—News.
MOSCOW, 23.05—Talks in Spanish: Wireless in Soviet Russia; On a Collective Farm.
MUNICH, 23.00—The Station Orchestra. Conductor: Kloss.
OSLO, 23.00 (approx.)—Dance Records.
PARIS (Poste Parisien), 23.00—News.
PARIS (Radio-Paris), 23.00—Dance Music.
PITTSBURGH, 23.00—Musical Potpourri. 23.15—Baseball. 23.30—Twenty Fingers of Harmony. 23.45—Al Williams.
REYKJAVIK, 23.00—Records; Dance Music.
ROME, 23.00—News.
SCHENECTADY, 23.45—Stock Reports.
SOTTENS, 23.00—Dance Records.
STRASBOURG, 23.00—Dance Music.
STUTTART, 23.00—See Munich.
TOULOUSE (Radio-Toulouse), 23.00—Request Programme. 23.15—Dance Music.

—Request Programme. 23.15—Dance Music.
TURIN, 23.00—News.
VIENNA, 23.00—Dance Music; Announcements.
WARSAW, 23.00—News. 23.05—To be announced.

00.00 (Sunday)

BARCELONA, 00.00—News.
BERLIN, 00.00—Radio Parade (contd. from 20.15).
BRESLAU, 00.00—See Munich.
COLOGNE, 00.00—Serenade.
DEUTSCHLANDSENDER, 00.00—00.30—See Munich.
FRANKFURT, 00.00—See Stuttgart.
HAMBURG, 00.00—See 20.15 Berlin.
KALUNDBORG, 00.00—Chimes. 00.02—00.15—Dance Music.
KÖNIGSBERG, 00.00—See 20.15 Berlin.
LEIPZIG, 00.00—00.30—Dance Music.
MADRID (EAJ7), 00.00—Musical Comedy (contd. from 22.05). 00.45—News.
MADRID (EAO), 00.00—Concert. 00.45—Light Music.
MUNICH, 00.00—The Station Orchestra. Conductor: Kloss.
PITTSBURGH, 00.00—Lloyd Huntley's Orchestra. 00.30—Don Bestor's Orchestra.
REYKJAVIK, 00.00—Dance Music.
SCHENECTADY, 00.00—Variety. 00.30—Musical Programme.
STUTTART, 00.00—Serenade.
TOULOUSE (Radio-Toulouse), 00.00—News. 00.05—"Au caveau de minuit"—Radio Fantasy. 00.15—00.30—Orchestra.

01.00

FRANKFURT, 01.00—See Stuttgart.
MADRID (EAJ7), 01.00—Chimes.
MADRID (EAO), 01.00—01.30—Variety Programme.
PITTSBURGH, 01.00—06.00—Popular Programme.
REYKJAVIK, 01.00—Dance Music.
SCHENECTADY, 01.00-03.00—Popular Programme.
STUTTART, 01.00—Serenade.
ZEESEN, 01.30—Dance Music.

02.00

BARCELONA, 02.00—Light Music.

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Wireless Echoes of Long Delay (3)

By Professor E. V. APPLETON, F.R.S.

As was announced in WORLD-RADIO last week, the first series of tests in which members of the Research League are invited to co-operate is to begin on Sunday next, May 20. The published announcement consisted simply of the programme to be radiated by the Empire Daventry station, and no further notes were given for the guidance of experimenters. At the request of the Editor I am, therefore, postponing my article on the theories which have been put forward to account for the phenomena of echoes of long delay, in order to discuss in greater detail the programme already announced.

In the first place it will be noted that the tests are to take place in daylight between 09.25 and 09.55 British Summer Time on Sundays, Tuesdays, and Thursdays. The reason for the choice of a daylight period is that all the available evidence suggests that long-delay echoes occur more readily during daytime than during the night. Actually, a period later in the day would have been preferable, but the tests have naturally had to be arranged so as not to interfere with the Empire broadcasting service. The choice of Sunday as one of the days was natural, in view of the fact that many listeners who wish to co-operate are not free on other mornings.

The signals to be sent out will be modulated at a frequency of approximately 1,000 cycles per second and thus are most suitable for telephone or loudspeaker reception. Since the signals have their own acoustic characteristic it is important to note that non-oscillating receivers must be used; in other words, the listener must adjust his set as he would in listening to a broadcast programme. People who have doubted the existence of these long-delay echoes have often objected that, since the original work on the subject was done with unmodulated continuous-wave signals, any strong heterodyne due to an oscillating receiver in some part of the world might give rise to spurious signals, and it has been considered possible that the observers were being tricked in this way.

One way of ruling out any such possibility is to use modulated signals of a characteristic tone-frequency, and this is the principal reason why signals of the type announced have been chosen. But listeners will readily recognise that if they use sufficient reaction to cause oscillation in their receivers this advantage will disappear and the tests will be open to the same objection as the original series. So please remember that, although reaction may be used, the receiver must be stable and not oscillating. These remarks are, of course, directed to those possessing receivers of the "straight" type in which case any oscillation would heterodyne audibly with the received carrier wave. Any listener using a superheterodyne set must naturally have a local oscillation, but here the frequency is so far removed from the frequency of the carrier wave received that there is no audible interference of the type I have mentioned. In order to avoid any possibility of interference with the experiments, however, receivers or superheterodyne converters of the types which cause radiations from the aerial should not be employed.

We might, of course, be criticised for making any change whatsoever from the original type of signal used in the early tests made by Professor Størmer and Dr. van der Pol, who, in the case of the PCJ transmissions, used unmodulated continuous-wave signals. It is a well-known maxim among research workers that in repeating anyone else's experiments it is advisable, at least at first, to try to reproduce the exact conditions in which a certain effect was observed. I am therefore glad to be able to

announce that, very shortly, it is expected that we shall add to our programme of modulated signal tests from Daventry another series of test signals, of unmodulated type, from the League of Nations transmitter HBL at Geneva. Dr. G. T. van Dirsel, the wireless expert in charge of this station, has very kindly informed me of his great interest in the tests of the World Radio Research League and has offered his very substantial assistance in this matter. Further details in this connexion will be announced later.

Having described the type of signal to be sent out by the transmitting station I now come to the discussion of the listener's own part in this co-operative experiment. But before I go into this important aspect of the tests I want to point out that although we have considered the subject of long-delay echoes as the primary object of study we must make the best use of our opportunities and look out for other things as well. I think it can be said of many scientific investigations in the past that very often the most important thing discovered was not that for which the search was conducted but something entirely different. It is not at all unlikely that this will happen in the present series.

In order that nothing of importance shall be missed it is essential for the listener to keep a careful log. Such a procedure will be found as interesting as it is profitable. Many expert listeners may already have their own system of

recording signal reception, but for those who need a suggestion in this connexion I have drawn up a specimen table below.

A few further words of explanation are necessary. The strength of signal in the third column should be given on the R scale (R 1 to R 9). A note should next be made of the nature of the signal heard, whether clear or distorted. In the fifth column should be entered a record of any echoes heard and the times of incidence.

Date, 20/5/34. Transmitting Station, GSB. Situation of Receiving Station..... Distance from Transmitter..... Wavelength, 31.55 m. Time, 09.00 to 09.25 (B.S.T.) Time Schedule, WORLD-RADIO, page 719, May 18, 1934.

Code Signal	Time	Strength	Nature of Signal	Echoes heard	Atmospherics heard	Other Remarks
A	0930					
B	0931					
C	0932					
D	0933					
E	0934					
F	0935					
etc.						

This can be given in seconds measured from the signal. Thus a figure 25 in the fifth column on the C line would mean that an echo had been heard 25 seconds after the C signal; that is, 25 seconds after 09.32.

Particular care should be taken to ascertain whether any echo heard is an echo of the particular morse signal which immediately precedes it, or whether it is a very long delayed echo of one of the earlier signals. If it is the latter the fact should be stated.

In the sixth column should be entered in a similar way the times at which any atmospheric crashes are heard. The last column is for additional remarks, and particulars of anything unusual which may be observed should be entered in this column.

(To be continued)

First W.R.R.L. Tests

May 20, 1934

For the first series of tests, which will be carried out in daylight, it is proposed to transmit special signals from the Empire station at Daventry on the morning of Sunday, Tuesday, and Thursday each week until further notice, beginning on Sunday, May 20. The transmitter used will be GSB working on a frequency of 9,510 kilocycles per second (31.55 metres).

Gramophone music will be transmitted from 09.25 to 09.29 prior to the tests to enable listeners to adjust their receivers, and for the tests a morse signal will be sent out at intervals of a minute, starting with the letter A at 09.30 and finishing with the letter Z at 09.55 (British Summer Time). The "note" used for the morse signals will have a frequency of approximately 1,000 cycles per second. During the one-minute intervals between signals observers will listen for echoes.

Reports of W.R.R.L. Tests

Reports made out on the lines suggested above by Professor Appleton should be written legibly on foolscap or quarto sheets of paper and forwarded weekly to:—

Ralph Stranger,
Hon. Sec., W.R.R.L.,
c/o Editor, WORLD-RADIO, B.B.C.,
Broadcasting House, Portland Place,
London, W.1, England.

Even if no echoes are observed reports should be sent in as they may furnish valuable information in connexion with short-wave propagation generally.

Each report should contain the member's W.R.R.L. number, together with the member's name and address, type of receiver abbreviated as shown in the next column, and whether reception is by means of telephones or loudspeaker.

Short-Wave Reporting Code

The abbreviations given below, which are employed by readers when submitting short-wave reports, should be utilised where applicable when forwarding W.R.R.L. reports.

TABLE OF SIGNAL STRENGTHS

- R1—Just audible.
- R2—Audible, but unintelligible.
- R3—Audible, partly intelligible.
- R4—Just intelligible.
- R5—Quiet, but intelligible.
- R6—Moderately loud.
- R7—Normal, good clear reception.
- R8—Strong reception.
- R9—Wipe-out signals.

FADING AND ATMOSPHERICS

F=slight fading; FF=fairly deep fading, but no programme lost; FFF=complete fade-out, and programme lost. (N=no fading).
SS=very slow fading (minutes); S=slow (one minute or so). R=fairly rapid (several seconds).
RR=very rapid (one second or less).
X=slight static; XX=rather bad; XXX=very strong atmospherics. (N=no atmospherics.)

TYPE OF RECEIVER

- One-Valve Receiver O-V-0
- Det. and one L.F. O-V-1
- H.F.—Det.—2 L.F. 1-V-2
- Screened Grid—Det.—Pentode SG-v-Pen.
- Screened Grid—S.G. Det.—2 L.F. SG-vSG-2
- Plug-in Adaptor and 2 L.F. AV-2
- Convertor and 2 H.F.—Det.—2 L.F. C+2-V-2
- Convertor and superhet. receiver (6 valve) C+SH6

THE MYSTERY OF SPACE

By RALPH STRANGER



III.—ENERGY

HAVING gone so far, let us review briefly some of our old school-work. Energy is defined as capacity to perform work. A body may perform work in virtue of its motion. We can throw a stone and it will perform work by breaking a pane of glass. The stone has acquired energy from the muscle of the arm that has thrown it. On contact with the glass it communicated this energy to the particles of glass and sent them flying in all directions. Such energy possessed by a body in virtue of its motion is called *kinetic energy*.

Again, we may pick up a stone and place it on the edge of a roof so that it falls immediately we release it. The stone in falling will hit the ground and produce a depression in it. In doing so it will perform work by compressing the particles of the soil. We have communicated energy to the stone by performing work in raising it to a certain height. The stone possessed energy in virtue of its position and has done work in falling freely under the force of gravity. Such energy is called *potential energy*.

Another familiar form of potential energy is the energy possessed by a body on account of the displacement of its parts. In winding up the steel spring of a watch we displace the parts of the spring in respect to its point of fixture. The spring, being elastic, will promptly start resuming its old shape, and in doing so will perform work—it will drive the watch hands—and give up the energy communicated to it in the process of winding up.

On the cosmic scale we find that every celestial body is in possession of a store of energy which is being expended in agitating the ether which is an elastic medium. Throughout the universe material particles in a state of great agitation are disturbing the ether and are communicating part of their energy to it. Ether disturbances carrying energy with them are propagated in space with the velocity of light, and on encountering material particles give up some of the energy to them and cause them to perform work.

The Quantum Theory

The ether disturbances or radiations, as they are called, produced on a cosmic scale are felt in the interior of the atoms. We already know that the interior of an atom is mostly ether with a few specks of matter here and there. An ether disturbance can make itself felt amongst the planetary electrons of the atom and may even affect the nucleus itself.

Our sun, which is an incandescent mass of gases, has all its material particles in a state of violent commotion. Atoms rush here and there, collide violently with each other, expel electrons and protons, are themselves bombarded by them at terrific speeds, so that the ether in the interior of the sun and all round it is constantly receiving a rapid series of jolts and is incessantly disturbed. The disturbances thus created are not all of the same nature. The ether waves radiated from the sun have different wavelengths, and are known to us as infra-red rays, light rays, ultra-violet rays, and so on. Each kind of radiation has a different amount of energy associated with it.

Scientists on examining the amount of energy associated with each kind of radiation or, in other words, with each particular wavelength, have discovered that a radiating body "fires" definite "packets" of energy with each kind

of disturbance. Each wavelength has a definite amount or a definite quantity of energy attached to it. As in each case we can have only a whole quantity of this energy but not a fraction of it, the scientists called this quantity of energy associated with each wavelength a *quantum of energy*.

Thus, the sun is firing into space an incessant stream of energy quanta just like a machine gun is sending out a stream of whole bullets, but never a half or a quarter of a bullet. The cosmic "machine gun" is also peculiar in that it can fire different size bullets at the same time.

Again, on investigation it was found that the smaller the wavelength the larger the quantum of energy associated with it. Long and medium "wireless waves," which are artificial ether disturbances, have feeble quanta of energy. When they reach the atoms of a receiving aerial they are only strong enough to move electrons to and fro along the wire, but are not powerful enough to eject them from the wire.

Short "wireless waves" have somewhat larger quanta of energy associated with them, but still not powerful enough to eject electrons from the conductors they encounter.

The still shorter light rays on striking a metallic conductor are capable of ejecting electrons from its surface as is the case in the photo-electric cell used in television.

Gamma rays which have a still smaller wavelength have sufficiently powerful quanta of energy associated with them to smash up the nuclei of some atoms.

Thus, *the smaller the wavelength of the radiation the more powerful is its action upon material particles.*

Atomic Energy Levels

Let us now examine the interior of the atom and see how the energy quanta reaching atoms from space affect the equilibrium of the material particles within the domain of the atom. Let us remind ourselves, once more, that in every normal or electrically neutral atom there are as many electrons as there are protons. The planetary electrons are arranged around the nucleus in rings of orbits. These electrons can be in equilibrium only if the first ring of orbits nearest to the nucleus contains two orbits. The next ring can accommodate only eight orbits, and so on. Each ring of orbits represents, therefore, a definite *energy level*. An electron rotating in its orbit around the nucleus is acted upon by the attractive force of the protons in the nucleus, by the repelling forces of other electrons, and by the centrifugal force due to its own rotation.

The electrons possessing smaller amounts of energy are to be found nearer to the nucleus. The rings representing atomic energy levels have the higher levels the further they are away from the nucleus. An electron which has a large amount of energy received from some source or other will pass all the energy levels, and will leave the atom altogether.

Now, *an electron when stopped or is changing its direction disturbs the ether and sends out a wave.* Having done so and having thus lost a quantum of energy it has to go to a lower energy level within the atom. On the other hand, should a quantum of energy reach an electron from the outside in the form of radiation, it will acquire more energy and will jump from a lower energy level to a higher one.

The constant exchange of levels, the stopping and the changing of direction of billions upon billions of electrons in the countless numbers of atoms of the sun is responsible for the endless stream of radiations and the energy associated with them that reaches our planet and is poured into space.

The sun not only pours out radiations but also sends out vast numbers of electrons which, after a journey of some 92,000,000 miles and travelling at a speed of some 700 miles per second, reach our atmosphere in about thirty-six hours and cause the electrification of the atoms in the upper reaches of our atmosphere. We may find that these electrons have something to do with the phenomenon we are investigating now and have some influence on the production of long-delayed echoes.

Electric and Magnetic Fields

I have referred to ether disturbances as *electromagnetic waves*. Let us examine this term and see why it is used.

If you take a metallic sphere which is electrically charged and insulated from the earth, and investigate the properties of space surrounding it, you will find that the ether around the sphere is strained in some way and is different from the ether around a sphere which is not electrically charged. You will remember that an electrical charge means either a surplus or a deficit of electrons in the atoms on the surface of the metallic conductor. The abnormal state of the ether around a charged conductor manifests itself in that, in the case of a sphere, there are radial lines of electric force which can be mapped out with the help of light pivoted straws. Such straws brought near a charged sphere will always assume a definite position along the lines of electric force. For this reason we say that there is an *electric field* around a charged body. The word *field* means merely the extent of space where the lines of electric force make themselves felt. It is obvious that since both the electron and the proton are pure electric charges they will have an electric field around them.

Similarly, if we take a steel magnet and cover it up with a sheet of paper and sprinkle some fine iron filings over the magnet we shall find that the iron filings will arrange themselves always in the same pattern, along the lines of magnetic force, and show the *magnetic field* existing around the magnet in all the three dimensions.

Thus, we see that the ether is strained both around an electrically-charged body and around a magnetised body. If an electrically-charged metallic sphere is whirled rapidly in space it will show the existence of a magnetic field around it as well as that of an electric field. Similarly, there is a magnetic field around a conductor in which an electric current is flowing. It has been found that there is always a magnetic field around an electron in motion. Since inside the atom an electron is always in motion in its orbit there is a magnetic field around this orbit, so that an electrified atom has not only electric fields associated with it but also magnetic fields. An isolated electron travelling in space will thus trail after it the two fields—the electric field and the magnetic field. Should it stop or suddenly change its direction, it will break the lines of force of the two fields, and while it goes

(Continued at foot of col. 2, opposite)

W.R.R.L.: THE SECRETARY'S REPORT

Belgian and Spanish Leagues: British Local Circles

I AM happy to be able to begin this week's report with cordial greetings on behalf of all the members of the W.R.R.L. to the LIGUE UNIVERSELLE DE RECHERCHES RADIO-ELECTRIQUES, section Belge de la World Radio Research League (W.R.R.L.).

Our contemporary has started its activities with the issue of May 6, 1934, in which preliminary announcements appear, together with the enrolment coupon.

The Belgian League is working, of course, on the same problem of long-delayed echoes, as a start. It would be a good thing if our own members residing in Belgium were to join the Belgian League as well.

A similar development is taking place in Spain. I have just heard from one of our members out there. An official organ has already been found for the Spanish League, and I hope to be able to announce some definite news from Spain shortly.

Our membership abroad is steadily increasing. Last week brought applications from Algiers, Bermuda, Canada, Cape Verde Islands, Ceylon, and Perak (F.M.S.), and also a number of air mail letters from Cape Town, Kenya, and Sudan.

Local W.R.R.L. Circles

I have received a large number of letters from members who are anxious to join a local W.R.R.L. circle, and some from those who are willing to establish such circles.

In places which possess established and active radio societies our members should join these societies, as they will thus meet experienced radio enthusiasts who will be able to help them with any problems that may arise during our research work.

The following radio societies are members of the W.R.R.L.:—ANGLO-AMERICAN RADIO AND TELEVISION SOCIETY (North British Representative: Mr. Henry B. Shields, 39, Hardman Lane, Failsforth, Lancs.); BISHOP AUCKLAND (DURHAM) and DISTRICT RADIO SOCIETY (Hon. Sec.: Mr. Geo. Spanton, 4, Arthur Terrace, Bishop Auckland); HASTINGS & ST. LEONARDS RADIO SOCIETY (Hon. Sec.: Mr. C. S. Bradley, Radio Editor of the Hastings and St. Leonards Observer, Observer Buildings, Hastings); HORSHAM RADIO CLUB (Hon. Sec.: Mr. Joseph R. H. Cade, 24, Hurst Avenue, Horsham); NOTTINGHAM RADIO RESEARCH SOCIETY (Hon. Sec.: Mr. B. Moore, 27, Johnson Road, Lenton, Nottingham); POPLAR MEN'S INSTITUTE RADIO SECTION, Byron Street, E.14.

A number of members are forming W.R.R.L. circles in their localities. Our members residing at or near the localities indicated should rally round them.

DUNMURRY, BELFAST (N. Ireland) (Mr. Ivan C. Thompson, "Marada," Lisburn Road, Dunmurry, Belfast); DOUGLAS,

I.O.M. (Mr. G. C. W. Addison, 35, Hillside Avenue, Douglas, I.O.M.); ECKINGTON, nr. Sheffield, Derbyshire (Mr. Arthur Stones, 5, Marsh Quarry, Eckington); GREENOCK (Mr. Ronald Hartley, 6, Bank Street, Greenock); INVERNESS. (Mr. F. Holloway, 8, Margaret Street, Inverness); LEWISHAM, LONDON, S.E.13 (Mr. T. W. E. Pring, 92, Fernbrook Road, Lewisham, S.E.13); NEW CROSS, LONDON, S.E.14 (Mr. G. A. Smith, 130, New Cross Road, S.E.14); SOUTH HACKNEY, LONDON, E.9 (Mr. W. A. L. Smith, 55, Cadogan Terrace, Victoria Park, E.9); NOTTINGHAM, (Mr. Eric Linwood, A.M.I.R.E., who has a fully equipped laboratory at his disposal, and would like to hear from our members at Nottingham, with a view to forming a local W.R.R.L. circle); WITHAM, Essex (Mr. Peter A. Tremaine, of Burghley Brook, Witham, Essex).

I should like to hear from secretaries of all the active radio societies throughout the country, with a view to their societies becoming members of the W.R.R.L., co-operating actively with us in our researches and absorbing our local members who wish to form local circles. I should also like to hear from every member who wishes to organise a local circle at the earliest possible moment, as there is definitely a great demand for the local centres.

I have not yet heard of the formation of any women's local circles, but I hope that some will be formed in the near future.

I appeal to all our members to carry on active propaganda on behalf of the W.R.R.L. amongst their friends. It does not matter if they have

short-wave receiving sets or not. Short-wave equipment is required for the first problem, but there will be other problems later on involving ordinary long-wave and medium-wave equipment. Do not wait, join now, so that all the organising and registration work can be finished before we start our research in earnest.

The League Badges

I am sorry that I failed to foresee the great demand for badges. The makers are working at full speed—and still they cannot catch up with the demand. Please wait patiently for your badge to arrive, as I hope that all orders will be dealt with in a few days. In the meantime I should like to have all further orders for badges in hand as soon as possible.

Registration of Members

I have to ask intending members who wish to write to me not to send their letters together with the registration coupons, as this delays the registration work. Please send the enrolment coupon by itself in an open envelope with a 1/2d. stamp.

All technical enquiries should be addressed to the Editor of World-Radio, who will deal with them at the earliest possible moment.

I have also received a number of programme comments. These do not concern me, and should be sent direct to the B.B.C. I must add that I am quite unable to offer employment to members who happen to be out of a job at the moment.

Next week I hope to be able to give you some further interesting news.

THE MYSTERY OF SPACE

(Continued from page 720)

off at a tangent in a new direction, the lines of force shed by the electron will continue in the old direction and will fly off into space in the form of an ether disturbance, or radiation, or an electromagnetic wave, as it is usually called.

In the case of artificially-produced ether disturbances such as those produced by a transmitting aerial, energy is applied to the aerial wire and causes the electrons within the atoms of the wire to rush to and fro and change the direction of motion at great frequency. The numerous electronic electric and magnetic fields will combine into single varying fields around the aerial wire as a whole, so that we have a pulsating electric field and a pulsating magnetic field which periodically change in direction and grow and collapse in turn. When the electric field grows the magnetic field collapses, and vice versa. But at a distance of a quarter of the transmitted wavelength from the aerial (at 100 metres if the wavelength is 400 metres) the two fields are shaken off, in the same manner in which they are shaken off by an electron changing its line of travel, and fall into step in their pulsations—i.e., start to grow and decay at the same time and fly off into space with the speed of light.

Unless the aerial is specially oriented the electromagnetic waves radiated by it spread out in all directions and some of them go up into the upper reaches of our atmosphere. There they encounter electrified layers of atoms or, in other words, extensive electric fields, and somehow or other some of them are sent back to earth. What is happening up there is not yet definitely known and that is what we are trying to find out at the present time.

Next week I propose to deal with the nature of all the known radiations and discuss the behaviour of different "wireless waves."

(To be continued)

WORLD RADIO RESEARCH LEAGUE

HOW TO JOIN

ANY listener can become a member of the World Radio Research League by filling in the coupon below and sending it off to the address indicated, in an open envelope with a halfpenny stamp unless you are writing a letter as well. The next job is to instruct your newsagent to reserve for you a copy of World-Radio, until further notice.

Please write in block capital letters.

TO RALPH STRANGER, (W.R.6) Hon. Secretary, W.R.R.L., C/o Editor, World-Radio, B.B.C., Broadcasting House, Portland Place, London, W.1, England.

Please enrol me as a member of the W.R.R.L.

Name (Mr., Mrs., Miss).....

Address

Scientific Qualifications (if any)

Type of receiver available.....

(State type and make of set, number of valves and if battery or mains supply.)

Type of Transmitter (if any).....

..... Call Sign.....

WIRELESS TOPICS by "ION"

ALL-WAVE SUPERHET SHORT-WAVE RECEIVERS

A MEMBER of the W.R.R.L., Mr. Sydney Nott, of Evrozone Works, 69, Albert Road, Bromley, Kent, has sent me particulars of his all-wave superhet. short-wave receivers.

There are two main types available. One is a six-valve all-electric receiver for A.C. mains. It covers the wavelength ranges from 13 to 2,000 metres, without coil changing; and it has single knob tuning. The first tuning stage, covering 13 to 160 metres, has four sub-stages, divided as follows: (1) 13 to 33 metres; (2) 24 to 56 metres; (3) 48 to 100 metres; and (4) 90 to 160 metres. The second tuning stage is from 240 to 600 metres, and the third stage 1,000 to 2,000 metres. The maker has given me the following technical details:—

The autodyne system is employed on the short and medium waves. Band-pass tuning is said to ensure a perfect nine-kilocycle separation. There is a mains aerial in the A.C. model which can be used when desired. The mains unit comprises a Westinghouse metal rectifier and a thermal delay switch, which is claimed to ensure long life for the indirectly heated valves. The components have been selected to withstand tropical conditions. The consumption of the A.C. set is 64 watts.

The second model is a seven-valve class "B" battery model with a jack provided for a gramophone pick-up. Both models have moving-coil loudspeakers built into the cabinet. The battery model covers the same wavelength ranges as the A.C. model. The consumption of the battery model is stated to be 12½ milliamps H.T. and 0.9 of an ampere L.T. The output of the A.C. receiver is 3½ watts and that of the battery set is 1¼ watts.

The price of the electric model is £32, and that of the battery model £25. The electric model can also be obtained in the form of a radiogram, with Garrard 8 record changer unit, price complete £65.

The maker asks intending customers to state mains voltage and frequency when ordering.

BATTERY CATKIN VALVES

For the benefit of those of my readers who are not familiar with the origin of the name *catkin*, I should like to explain that the catkin receiving valves, manufactured by the G.E.C., are designed on the lines of the large transmitting valves which have a metal water-cooled anode which also serves as an envelope. They are familiarly known to radio engineers as *cats* (cooled anode transmitters). The smaller valves, which are similar in design except that the anodes are not water-cooled, were therefore christened "catkins."

The first line of valves designed on this principle had indirectly-heated cathodes, and was designed for A.C. work. As such valves generate a considerable amount of heat that has to be dissipated, they were made without a glass bulb, with the metal anode serving as an envelope which was thus air-cooled. With battery valves, which do not generate much heat, glass bulbs are satisfactory, and the battery catkins have a glass bulb like other battery valves. But the general features of the catkin design are retained.

The manufacturers claim that the battery catkin has the following advantages:—

(1) The electrodes are supported by a clamped joint made of stamped steel and mica pieces, in place of the glass pinch: this means a reduction in overall size, and increased strength.

(2) A circular seal is employed for the lead-out wires, which means improved insulation and absence of glass strain.

(3) Bends and welds are avoided in the electrode support system, which means a narrower electrode system, i.e., smaller size and greater strength.

(4) Each electrode is rigidly anchored to the remainder and also to the glass envelope by means of mica spacers, which means an assembly of the utmost rigidity, improvement of consistency, and absence of microphonics.

The first three types of battery valves to be produced are the H.L.2/K (a detector and amplifying valve); the V.S.24/K (a "variable-mu." screened-grid valve); and the P.T.2/K (a pentode low-frequency amplifying valve). The characteristics of these three types are identical with those of the present valves bearing the same type numbers in the Osram range, which they will eventually displace. The new valves are considerably smaller than the old types, and will permit the building of a battery set of exceedingly small dimensions. The prices are the same as before.

A CORRECTION

With regard to the AvoMinor competition scheme, which is being advertised in this journal, the manufacturers, Messrs. Automatic Coil Winder and Electrical Equipment Co. Ltd., inform me that an unfortunate error has crept into the folders which they are distributing to the public. Will all readers of WORLD-RADIO who have one of these folders in their possession look at page 3 of the folder, and correct the last range of readings from 0- .3 megohms to 0-3 megohms, which is the correct range?

THE BULGIN THERMAL DELAY SWITCHES

Messrs. A. F. Bulgin & Co. Ltd., of Abbey Road, Barking, Essex, have been good enough to draw my attention to their type 4 V thermal delay switch. This switch is designed for use in conjunction with indirectly-heated A.C. type valves in mains-operated receivers, where the rectifier is either a quick-heating thermionic valve, or a dry-metal rectifier. It is often the case that the full strength of the H.T. supply is available before the valves in the receiver have warmed up and attained full working emission.

With an H.T. supply rectified from A.C., if there is no current flowing the voltage rises, especially across smoothing condensers, until it reaches a peak value, which is generally 1.4 times the normal voltage. Where the normal H.T. voltages are high, as is usually the case nowadays, the peak voltage, if applied to the condensers, places an unnecessary and unfair strain on these components, which may result in the breakdown of the dielectric. In addition, there are many condensers used in a receiver for decoupling purposes where the normal voltage applied to them is lower than the full H.T. voltage, as they are connected to a potential divider system, and to the negative lead.

The function of the Bulgin thermal delay switches is to delay the application of the H.T. voltage until the valves attain their normal working temperature and emission.

As their name implies, these switches are heat-operated. The heat from a small element is applied to a strip consisting of two dissimilar metals joined throughout their length. One of these two metals has a considerably greater expansion coefficient, with the result that on

heating, the strip bends itself with the metal having the greater coefficient of expansion at the top of the arc thus formed. The bending of the strip is utilised to close appropriate contacts connected to the H.T. supply.

Where a thermionic valve is used for rectifying purposes the heater of the switch may be connected across the rectifying valve filament, and models having ratings other than 4 volts are available for this purpose. Under these conditions the switch should have its contacts connected so as to make-and-break the circuit from the rectifier filament winding to the smoothing chokes and condensers (H.T. positive).

Many receivers utilise dry-metal rectifiers, and the 4V type of switch is then to be connected in parallel with the heaters of the valves in the receiver. Its switching contacts are connected so as to make-and-break the H.T. negative circuit from the rectifier system to the earth lead and/or chassis of the receiver.

The double metal strip in the thermal switch is surrounded by a mica bobbin, so arranged that the mica is under no stress to give flaking which would lead to a breakdown upon heating. Over this bobbin is wound a nickel-alloy wire element rated at 4 watts. A method of adjustment is provided in all models of the switch, and the period of delay can be adjusted by altering the position of the double metal strip when it is cold. A second adjustment is provided by means of a restraining spring, which is movable, and which controls the quick make-and-break action of the switch. This is possible owing to the fact that the double metal strip in bending under the influence of heat presses against the abutting spring, and if the strip has acquired sufficient bending force it overcomes the pressure of the spring and moves past it quickly to the co-operating contact.

Further particulars and prices for different voltages can be obtained on application to the manufacturers.

NEW MURPHY BATTERY RECEIVER

The new Murphy model listed as B 24 is a five-valve battery-operated superheterodyne receiver. It incorporates delayed automatic volume control and has a quiescent push-pull (Q.P.P.) pentode output stage. A permanent-magnet moving-coil loudspeaker is fitted and the maximum undistorted output is stated to be one watt. Provision is made for using both an external loudspeaker and a gramophone pick-up. The H.T. battery consumption and the accumulator running-hours-per-charge are about the same as for the model B5, while the average amplification is about double.

The aerial circuit is of the band-pass type and incorporates an image-frequency suppression system. In addition a special diode damping arrangement is fitted which prevents overloading on local stations and which may be regarded as an automatic long-distance switch. This device is provided on account of the fact that a battery valve used as a first detector is much more easily overloaded than a mains valve of corresponding type, used in the same position.

The manual volume control on this receiver operates on both radio and gramophone and is fitted in the grid circuit of the triode section of the double-diode-triode valve. A whistle-filter and tone or brilliance control are also fitted to the receiver.

The price is £14 10s. od. Further particulars on application to the makers, Messrs. Murphy Radio, Ltd., Broadwater Road, Welwyn Garden City.



THE RADIO CIRCLE

FOR BEGINNERS ONLY



Conducted by "Decibel"

BEFORE we go on to consider the tuning circuits in a receiver we require to know a little more about the properties of alternating currents. We have seen that when a direct voltage is applied to a resistance the current which flows is given by Ohm's Law which states that $I = \frac{E}{R}$ when I is the current in amperes, E is the voltage or potential difference between the two ends of the resistance, and R is the resistance in ohms.

If the applied voltage is changed the current will change accordingly, so if the voltage is made to vary sinusoidally—i.e., to alternate from positive to negative according to a sine law—the current will vary in the same way in accordance with Ohm's Law. Now although the mean value of such an alternating current will be zero, since the amount of electricity flowing in one direction is exactly equal to that which flows in the opposite direction, the current obviously has a definite value which we must be able to measure in some manner.

Measurement of Current

We have already seen that the heating effect of a current is independent of the direction of the current, so we have here a method of determining the value of the current. We have also seen that another way is to rectify the alternating current and then to measure the mean value of the rectified current. Both

methods can be used, and there must obviously be some relation between the values obtained by the two methods.

Root-Mean-Square Value

We saw some weeks ago that when a direct current of I amperes flows through a resistance of R ohms the power absorbed by the resistance is equal to $I \times I \times R = I^2 R$ watts. If the value of I is varying from instant to instant as in an alternating current the power will obviously vary from instant to instant according to the variation in I^2 . The mean value of I^2 will be the same for each cycle, so we can indicate the value of our alternating current in terms of the mean value of I^2 which is independent of the direction of the current. It can easily be shown mathematically that this mean value of I^2 is equal to half the square of the amplitude or maximum instantaneous value of the alternating current. Hence we can say that an equivalent direct current will be equal to the square root of this mean value, and such a value is called the *root-mean-square* value of the current.

Let us take an example. Suppose the alternating current varies sinusoidally from 10 amperes in one direction to 10 amperes in the opposite direction—i.e., its amplitude is 10 amperes. The heating effect or instantaneous power supplied at the instant when this maximum value of current is flowing will be proportional to the square of this value—i.e., to $10 \times 10 = 100$. The mean value of the heating effect throughout each cycle during which the current fluctuates between 10 amperes in one direction, through zero to 10 amperes in the opposite direction and back again, will be equal to half this value, which is $\frac{100}{2} = 50$. Hence the equivalent direct current to give the same heating effect will be the square root of 50 which is 7.07. (The square root of a number when multiplied by itself gives that number.) Hence the root-mean-square or R.M.S. value of an alternating current having an amplitude or peak value of 10 is 7.07. The usual way of writing this is

$$I_{R.M.S.} = \frac{I_{peak}}{\sqrt{2}} = \frac{10}{1.414} = 7.07.$$

Similarly it can be shown mathematically that the mean rectified current is equal to $\frac{I_{peak}}{\pi}$ where π is our old friend the ratio of the circumference of a circle to the diameter—i.e., 3.14. So the mean rectified value is equal to the R.M.S. value multiplied by $\frac{\sqrt{2}}{\pi}$.

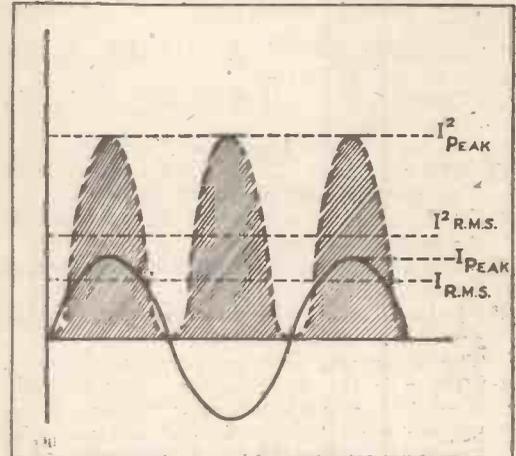
Half-wave and Full-wave Rectification

A point to bear in mind, however, is that this mean rectified value applies only to what is called *half-wave* rectification. We only permit current to flow during alternate half-cycles. If we have two rectifiers arranged to deal with opposite half-cycles, and then we combine the two rectified currents by suitable arrangement of our circuits, we shall get twice the mean rectified current that we get with one rectifier which gives us only half-wave rectification. Rectification by this method is called *full-wave* rectification.

Now that we see how we can define the value of our alternating current we see that an alter-

nating voltage can be similarly defined by its R.M.S. value or by its mean rectified value. R.M.S. values are normally used and we therefore get the relation

$$I_{R.M.S.} = \frac{E_{R.M.S.}}{R}$$



Showing how root-mean-square value of current is derived

It is usually understood that we are dealing with R.M.S. values in alternating current work unless it is explicitly stated to the contrary, so we usually write simply $I = \frac{E}{R}$ where I and E are understood to be R.M.S. values.

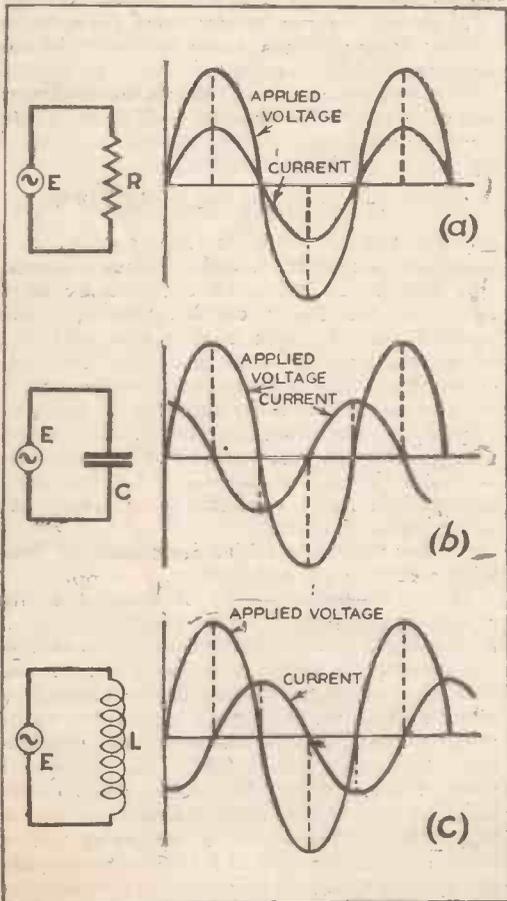
Condenser Voltage and Current

Now let us consider what happens if we connect a condenser in place of our resistance. If the applied voltage is direct—i.e., constant and in one direction—there will be a momentary rush of current and the condenser will become charged up, after which no more current will flow unless there is a change in the applied voltage. If the voltage is increased further, electricity will flow to charge up the condenser still more; if it is decreased the condenser will discharge until its voltage has decreased to the reduced value applied to it. If we go on decreasing the voltage, more and more electricity will flow from the condenser, and if we reverse the voltage the current flow will still be in this direction until the condenser is fully charged in the opposite direction to the previous one.

If we apply an alternating voltage the condenser will be repeatedly charged up, discharged, and charged up again in the opposite direction. The higher the frequency of the alternating voltage and of the corresponding current produced, the less time will there be for the condenser to charge and discharge in sympathy with the applied voltage. If, therefore, we maintain the same voltage across the condenser a larger current will have to flow to and from the condenser each cycle at the higher frequency to enable the condenser to charge and discharge the necessary amount to maintain an equal voltage across it.

Hence we see that the greater the frequency the greater will be the current, and also that the greater the capacity of the condenser the greater will be the current also. Our old friend π comes into the business again and we get the

(Continued on page 725)



Current through a resistance (a) is in phase with the applied voltage; through a condenser (b) current is 90° ahead of voltage, and through an inductance (c) current lags 90° behind the applied voltage

Radio by Wire

The first of two articles in which will be explained the principles and *modus operandi* of relay systems, or, as they are popularly termed, "wireless exchanges"

THE number of licensed listeners in this country is now well over six million. Of this number by far the greater majority are the possessors of wireless receivers, but there are listeners in various parts of the country who receive their programmes by means of relay systems, sometimes called wired wireless. In all these systems the programmes are fed to listeners along wires, the method usually adopted being to supply the programmes at audio frequency, although there is one form of radio relay, known as the carrier system, which is sometimes employed.

The advantages of direct radio reception may be said to be:—

- (1) Complete choice of programmes, within the limits of the set.
- (2) Above a certain capital cost, better quality.
- (3) The maximum volume from a powerful set is greater than that obtainable from relay.
- (4) With the addition of a pick-up and turntable the set may also be used as a gramophone.
- (5) The ability to use the set for amusement at parties, etc.
- (6) Independence! Many people simply abhor any sort of communal system.

The advantages of relay reception are:—

- (1) There is no capital outlay other than the normal Post Office receiving licence. Every listener must have a licence and the relay listener is no exception to this rule.
- (2) Reliable reception of two or three programmes in districts where (a) interference on receivers caused by trams, lifts, signs, violet-ray and other electrical apparatus might render radio reception decidedly unpleasant, and (b) attenuation of signals due to large buildings and masses of steel structures compels the use of an elaborate set if stations other than the locals are to be received.
- (3) Reception at times when only foreign stations are transmitting and for the reasons given above an expensive set would be necessary.
- (4) There are no maintenance costs for valves, batteries, etc.
- (5) There is no depreciation.

A brief description of how the above advantages of relay systems are attained, of how the disadvantages are diminished as far as is economically possible, and of how the system as a whole works can now be given. The more technical considerations will be dealt with later.

The Central Receiving Station

Primarily, and this is of paramount importance, receivers must be installed which are capable of picking up all foreign stations that have any programme value whatever. Moreover, these receivers must be situated so that their powers can be exploited to the full, for one of the main advantages of relay systems is in providing programmes which are unattainable on any normal set. These demands are met in practice by building a receiving station some miles out of the town, in the direction most suitable for reception, and sending the programmes to several amplifying stations in the town over land-lines, the upkeep or rent of which is comparatively small when spread over several thousand subscribers. The lines are usually rented from the Post Office, in which case, so as to avoid cross-talk between circuits, a maximum level which may be fed into them is stipulated and some volume indicating device must be installed to check this.

Several receivers of different types are used to fulfil all requirements, and those to be used are selected by means of a switchboard; their out-

puts being fed through suitable amplifiers on to the lines. Low-powered high-quality receivers are used for the reception of the local station, while very selective receivers with many stages of amplification are used for the reception of distant stations. Special long-wave and short-wave receivers are often also employed and the whole of the apparatus is duplicated in case of breakdown.

Method of Distribution

The amplifying stations to which the outputs of the receivers are fed are built in the most densely populated parts of the town, the sites being chosen for their distribution potentialities alone and without any consideration of radio receiving conditions. They are spaced so that the number of subscribers shall be roughly the same for each station.

As the amplifying stations form the centres from which the feeder lines to the subscribers' houses are run, the apparatus necessary depends upon the number of subscribers who are to be fed, the number of programmes which are to be supplied, and the method employed in their distribution. There are several methods employed for distributing programmes over a relay network, depending to a large extent on the number of programmes supplied. They are:—

For single programme:

One pair of wires is invariably used and the programme transmitted at audio frequency. The subscribers are tapped off these wires and the only apparatus necessary in the house is a loudspeaker and volume control.

For dual programme:

(1) The obvious and perhaps crude method uses four wires. This is of course merely a duplication of the above single programme method, and apart from some form of switch for selecting the programme required, no further apparatus is necessary. Despite the crudity there is much to be said for this method of transmission as will be seen later.

- (2) Three wires, using a half phantom circuit.
- (3) Two wires, transmitting either one programme at audio frequency and the other by modulated carrier, or, alternatively, both programmes by modulated carrier.

For three programmes:

(1) Four wires, using a phantom circuit for the third programme. By this means all three programmes are transmitted at audio frequency.

(2) Three wires with one or more of the programmes by modulated carrier.

(3) Two wires, with either two or all three programmes by modulated carrier.

For more than three programmes:

Almost any number of programmes can theoretically be transmitted by extending any of the above methods and by using a number of different carrier frequencies. The number of carriers that can be used in practice is limited by both economical and technical difficulties, chiefly due to radiation taking place from the lines at a high carrier frequency and the expense of filters for separation.

Arrangement of Lines

The half phantom and phantom circuits necessitate one and two centre-tapped chokes respectively in each house; while the modulated carrier methods require filters, rectifiers, and perhaps amplifiers in each house. The method of running a separate pair of wires for each programme is the simplest and perhaps least expensive, but may be condemned on the grounds of unsightliness. The method employed is dependent on a multiplicity of

conditions, chiefly economic, so nothing further will be said here.

From the amplifying stations are run out the main feeders, or trunk lines, which are usually erected by the firm's own wiremen, though a few firms rent all their wiring from the Post Office. The approximate route to be taken by trunk wiring is decided upon from a large scale plan and a skeleton canvass of the district. In practice the lines can seldom be erected as planned, owing to the impossibility of obtaining wayleaves for certain key positions.

Wayleaves are agreements for a right-of-way, legalised by the nominal payment of a shilling, and are one of the greatest and continual difficulties in connexion with relay systems. Permission must be obtained from the owners in every case where the wires pass over private property and a wayleave obtained for every fixing. As the wires are attached to brackets, which are usually fixed to chimney stacks, at each end of a span, and as the spans cannot exceed about 200 feet, owing to the physical properties of the wire, these difficulties can be well imagined.

Branch lines are run off from the main trunk wires, and the subscriber's installation is connected to these by means of lead cable, which is fixed down the house side, in a similar manner to the telephone installation. There is one great difference between relay and the normal telephone; in the case of the telephone each individual subscriber has a private line to the exchange, while in relay all the subscribers in one district are tapped off one main trunk feeder, and are thus all connected in parallel, like electric lamps across the mains. Since the installations are in parallel across the same circuit special precautions must be taken, both with the lines themselves and in the subscribers' houses, to avoid any possibility of a short circuit across the system, as this might completely cut off several subscribers and ruin reception for all others on the same line.

A general outline having been given of the various relay methods, some of these will now be described in more detail. It is perhaps as well to put the cart before the horse, as it were, and start at the loudspeaker end of the chain, for it is the requirements of this end which fix the design of the other links.

Loudspeaker Equipment

As all the installations are connected in parallel across the main feeder lines it is imperative that high-impedance speakers be used, otherwise the heavy current flowing would result in an excessive copper loss, and in a considerable voltage drop along the line; the copper losses are proportional to the square of the current, so that if the current is doubled the copper losses increase four times. In practice moving-iron speakers with 1,000 to 2,000-ohm windings have almost invariably been adopted, although in many concerns these are rapidly being replaced by moving-coil speakers, which are either wound to a high impedance or fitted with a step-down transformer.

When electrical energy is converted into acoustical energy most of the power is absorbed in the bass, actually about two thirds is used for frequencies below 150 cycles per second. Now the human ear has the happy property of being able to replace to a considerable degree missing notes below this frequency, provided their harmonics are present. If, therefore, a filter is fitted before the power stage of the amplifier to cut off below 150 cycles per second, approximately two-thirds of the power will be saved and the ear will to a large extent restore the missing notes. The quality of reproduction will of course not be ideal, but as the moving-iron speakers employed have no appreciable response below this frequency in any case, this measure is usually adopted. The speakers have also two resonances, one due to the move-

ment and another to the cone; in the case of cabinet speakers there is a third due to the cabinet. If these are controlled so as to give no rattle or boom a considerable sound output is obtained with a comparatively small electrical input, within the limits of the speakers' response, from 150 to about 3,500 cycles per second.

While for perfect reproduction a range of from 30 or less to at least 10,000 cycles per second is necessary, only the most expensive and unselective wireless receivers give any appreciable response above 5,000 c/s. Provided, therefore, that there is no actual distortion otherwise, reproduction comparable with that obtained from the less expensive wireless receivers can be obtained between the comparatively narrow limits given above.

A moving-iron speaker has an impedance which rises rapidly with frequency, thus making it difficult to arrange a suitable form of volume control. A variable series resistance cannot be used as this, for reasons beyond the scope of this article, causes the reproduction to become increasingly high toned as the volume control is turned down. A circuit whose impedance decreases with frequency must therefore be arranged in shunt with the speaker. A simple yet fairly satisfactory arrangement is to use a potentiometer and a fixed condenser in the circuit shown in Fig. 1 and this is the scheme usually adopted in practice.

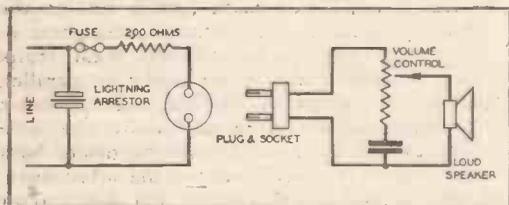


Fig. 1—Circuit arrangements for loudspeakers

In addition to the loudspeaker and volume control a fuse, lightning arrester, and a resistance of about 200 ohms are included in the subscriber's equipment. The use of the fuse and lightning arrester is quite apparent, but the resistance requires a little explanation. It is inserted in series with one leg of the line and is a safeguard against the carelessness and inquisitiveness of the subscriber. It is lamentable, but nevertheless a fact, that the majority of people will tamper with anything, and this resistance ensures that in the event of the subscriber succeeding in putting a short-circuit across his installation, and a great many do, only a load of 200 ohms will be thrown across the line. If the line itself is short-circuited reception is cut off for all subscribers beyond the short-circuit and spoilt for all others on the same line.

Little need be said with regard to the lines. They are usually run in spans of No. 18 S.W.G. cadmium—copper wire from chimney or gutter brackets. The wires themselves are transposed from bracket to bracket so that any interference which may be induced in them from adjacent trolley wires, etc., and passed along to be picked up by wireless aerials some distance away, is cancelled out. Sometimes if the lines have passed near any powerful source of interference, or if *bona fide* complaints are received from people whose aerials run close to the lines, high-frequency chokes are inserted. These consist of two coils closely coupled together, one coil being connected in series with each line. As the signal currents flow in opposite directions in the two windings the fields set up cancel out and the impedance offered to them is small; but for the high-frequency interference currents which are induced and flow in the same direction in each line, the fields set up are additive and so the impedance offered to them by the coils is considerable.

(To be continued)

THE RADIO CIRCLE

(Continued from page 723)

relation $I = E \times 2\pi fC$ where f = frequency in cycles per second and C is the capacity in farads. $2\pi f$ is usually written as ω , as we have seen previously, so we get $I = E\omega C$. It should be noted that it is not ωC which is equivalent to

R in the resistance case but $\frac{1}{\omega C}$ which is called the reactance of the condenser. It follows, therefore, that increasing the value of a condenser has the opposite effect to increasing the value of a resistance.

It should be clearly realised that at the instant when the voltage across a condenser is a maximum there will be no current through the condenser, since it must be fully charged to have the same voltage as that applied to it. Similarly there will be maximum current at the instant of no applied voltage because there is no opposition at that instant to the condenser discharging. Thus the current through the condenser is 90 degrees or a quarter of a cycle ahead of the applied voltage as we have seen.

Now let us take the case of an inductance with an alternating voltage applied between its two ends. We have seen that inductance is the property of a wire which accounts for the voltage induced in the wire by virtue of its presence in the magnetic field produced by the current in the wire. The higher the frequency of the applied voltage the less time will there be for the magnetic field to be produced and to grow and decrease and reverse in sympathy. The faster it tries to change the greater will be the voltage induced in the wire to oppose the applied voltage, and so less current flows through the wire. So we get the relation

$I = \frac{E}{\omega L}$ and we see that ωL corresponds to R and the reactance is ωL which corresponds to $\frac{1}{\omega C}$. L is measured in henries. The current in this case is 90 degrees behind the voltage and, therefore, 180 degrees out of phase with the current through the condenser, as we saw some weeks ago.

Next week we shall see what happens when we have a circuit containing resistance, inductance, and capacity.

WTIC'S Synchronisation Experiments

TIME—"on the air" being the most important thing to a broadcasting station in the United States it is not surprising that the possibilities of synchronous transmissions are being carefully explored. A couple of years ago WTIC of Hartford, Conn.—which at present has to share time with WBAL of Baltimore, Maryland, on the frequency of 1,060 kc/s attempted to synchronise with that station on a full-time schedule. The experiment, however, led to the creation of a large mush area and had to be abandoned.

Another attempt is to be made, and as from April 29 WTIC started simultaneous operation with KRLD of Dallas, Texas, the geographical separation between the two stations being 1,700 miles. This will be semi-synchronisation as the programmes radiated will be different, WTIC being on the NBC chain while KRLD is affiliated to the Columbia system.

One of the most interesting problems that faced the engineers in charge was that of picking up the carrier of the other transmitter while it is working on the same frequency. This must then be led to the transmitting room so that it will be known at all times and used to drive the transmitter. It is hoped that this will be found possible within $1\frac{1}{2}$ miles of WTIC'S aerial. As WTIC uses a power of 50 kW, while KRLD is only 10 kW it will be appreciated that the task will not be too simple. L.F.C.

Space and Matter

By "NEUTRON"

A Puzzling Experience

I have received a letter from a correspondent who asks if I can explain a rather unusual experience he has had. He was connecting up a short-wave adaptor and when he caught hold of one end of his headphone leads to connect it up to the adaptor, he heard signals, although the aerial and earth and the batteries were not connected up. He disconnected his apparatus entirely, but he still found that he could hear a station—which he finally discovered to be a Spanish one—when he had hold of the end of one of the headphone leads. The signals were loudest when he faced North, but they disappeared when he stood on a concrete path outside the house, or stood on the garden. His mother and brother experienced the same result. What is the explanation? I have suggested a very simple one to him, but I have not yet heard whether it is the correct one. My suggested explanation is that wires supplying programmes from a wireless exchange to subscribers pass close to the house, and on this particular occasion the wires were out of balance, and possibly carrying greater currents than normal owing to a fault, with the result that there was sufficient direct induction between the wires and the observer, plus the telephones, to produce audible signals in the telephones.

The Structure of the Atom

When theories fail to explain or agree with known facts, it is inevitable that new theories will be sought which will appear more satisfactory. The so-called Electronic Theory has been extremely valuable, but it has been unable to account satisfactorily for certain observed phenomena, and it is not surprising, therefore, that an alternative theory has at last been put forward which claims to afford explanations of known facts which cannot be explained according to the Electronic Theory of the structure of the atom. In a book called *The Atom* by Dr. John Tutin it is claimed that more satisfactory explanations are obtained if the atom is conceived as consisting of a light nucleus instead of a heavy one, with heavy masses outside this. I don't propose to enter into details of this theory, but to wait and see if it finds favour with the scientists.

Wireless in the Mercantile Marine

In an interesting paper he read before the Wireless Section of the Institution of Electrical Engineers recently, Commander J. A. Slee dealt with interference caused by broadcasting, among other things, with wireless communication in the Mercantile Marine. This aspect of the interference problem is often overlooked by the broadcast listener who experiences interference from ships' wireless sets. Commander Slee described the vast amount of work that has been done in arriving at international regulations to minimise interference between the different wireless services. During the discussion which followed one speaker remarked that it was very difficult to read a Morse message through jazz interference, but a few dots and dashes added to a programme of jazz didn't matter!

What is Time?

Readers who have failed to understand Einstein's Theory and regard time as something measured on a clock (even if it is twenty-four time!) will no doubt receive no light on the subject on learning that "the day is getting longer by one second in many thousand years." Apparently it is a real physical fact that the speed of rotation of the earth is changing, so how are we to measure time? Don't ask me! My watch gains three minutes every day according to the Greenwich pips, but it may be right for all that! Who knows?

"World-Radio" Short-Wave Convertors

This article gives further information regarding the performance and operation of the Battery Heptode S.W. Convertor described in our issue of May 4, and the Universal A.C./D.C. model described last week.

VERY good results were obtained from both these convertors when on test, although, as was to be expected, slightly better results were obtained from the mains model. No difficulty was experienced on either model in tuning in LSL on 14.18 metres when these convertors were used in conjunction with a 3-valve A.C. mains receiver, and no hand-capacity effects were noticed even on this short wavelength.

When using the simple tapped choke only and not a tuned output circuit, somewhat better results were obtained with the particular receiver employed by joining the output terminal of the convertor direct to the grid pin of the first valve in the receiver, rather than to the aerial terminal.

No blind spots of any kind could be detected on either convertor, and in both cases oscillation was exceedingly well maintained over both ranges; the Universal A.C./D.C. model continued to function perfectly, even when joined to 110-volt D.C. mains, where the available H.T. voltage will be lowest.

Current Consumption

In the case of the battery model the H.T. current taken from the battery was very low, even on Range 1, where 2 valves are, of course, in use, and never exceeded a total of 4 mA when the heptode or heptode-triode was oscillating. In the non-oscillating condition the anode current rose by several milliamperes.

When the A.C./D.C. convertor was used on 240-volt A.C. mains, the voltages and feeds were as follows:—

Mains	240 Volts	50 cycles per second.
H.T.	260 Volts	(1) Pentode Anode Feed
		Triode oscillating 0.75—1.25 mA
		" not " 0.25 mA
(2)	Triode Anode Feed	
	Oscillating	3.0—3.5 mA
	Not "	9.5 mA
(3)	Total Feed Range	1 12 mA
	" "	2 11 mA
	Potential Divider	6—7 mA
	Screen Feed	1 mA

Lamp Resistance

Some constructors may have difficulty in selecting a suitable $\frac{1}{2}$ -watt lamp for use as a series resistance in the FC13 heater circuit where the current passed should be 200 mA. If an A.C. milliammeter is available, current readings can of course easily be made and a suitable lamp chosen.

In most cases, a 200 or 210-volt, 40-watt gas-filled lamp will pass 190-210 mA when connected to 200 to 240-volt supply mains (a 100 or 110-volt 20 watt type must be used on 110-volt mains) but fortunately some experiments have shown that there is a fairly simple method of determining the magnitude of the current flowing in the heater circuit, which enables one to be quite certain that neither too low nor excessive currents are being passed.

The method consists of wiring in series with the heater circuit a 3.5-volt flashlamp bulb; since the temperature of the bulb filament gives quite a reasonable indication of the magnitude of the current flowing through it.

The following table indicates the manner in which the comparisons may be made with a 3.5-volt flashlamp bulb.

Current.

100 mA.	No light.	150 mA.	Red glow.
175 mA.	Dull white.		

(Same degree of colour as that obtained with 2-volt cell joined across bulb.)

200 mA. *Normal.*

(Equivalent to brilliancy when two 1.5-volt batteries used, *i.e.*, 3 volts.)

250 mA. *Brilliant white.*

(Equivalent to 4 volts across bulb, soon burns out.)

When the convertor is being used on 200-volt mains it is suggested that a 240-volt, 60-watt lamp should be tried, since if the current passed is not too high for the FC13, very long life will be assured for the lamp.

It is interesting to note that a free smoothed H.T. supply of 20 mA at 200-250 volts is available from the A.C./D.C. convertor (up to the capacity of the H.T. 12 metal rectifier, of course) and this may be used for running a battery-operated receiver from the mains for example, without the necessity for any additional components, other than perhaps a decoupling condenser and resistance added to the battery receiver where necessary.

Extending the Wave-Range

The wave-range of these convertors may, of course, be extended below 11 metres by using a 3-pole change-over switch instead of the 2-pole single-throw switch, and tapping the coils in two places instead of one only. (Two tapping points are already provided on the coils before modification.)

A small point worth considering is the screwing of a small block of wood in front of the "prongs" of the slow-motion drive, where they engage with the bracket "D"; this prevents the drive from being pulled out of engagement with its supporting bracket and makes a more rigid job of the assembly.

Mains Hum

Although no hum of either the straight or modulation variety was experienced with the A.C./D.C. convertor, should these occur, the expedient of joining a 0.01-microfarad condenser between the high potential side of the heater and earth should be tried (one side of the heater is already earthed). The addition of a 0.01- μ F condenser across the 2- μ F cathode by-pass condenser (in the main block) may also help in these cases.

For those readers who already have a suitable H.T. supply available from some form of mains equipment, and also a 4-volt heater supply, it is suggested that the battery-type convertor should be slightly modified. The only modifications required are to run two separate wires from the L.T. + and L.T. — negative terminals direct to the appropriate pins of the 7-pin valveholder (only one wire actually need be changed), all the earth connexions being transferred to the H.T. — terminal wiring. It may be found necessary to join two 0.01- μ F condensers in series across the valve heater (or filament) pins and earth the centre point. The convertor is then suitable for use on A.C. mains, and a 7-pin mains heptode may be inserted directly in the valveholder; suitable valves are the Cossor 41 MPG, Ferranti VHT4 (new model) and Marconi-Osram MX40.

Heptode Valves

In the modified Ferranti VHT4 the structure of the oscillator-anode assembly has been altered in order to improve the mutual conductance of the triode section; actually the rods comprising G₂ have been staggered out of the main electrode-assembly line.

If it should be desired to run the convertor from a 12-volt car battery, the new Ferranti heptode VHTS (13-volt, 0.3 amp. heater) may be inserted in the convertor directly, without any alteration to the wiring. In both the above cases, the triode valve is, of course, not necessary.

Image Signal

The question of image signal and second channel interference has been referred to in the earlier articles and as there appears to be some confusion as to the meaning of these terms it might not be out of place to define again what is meant by image signal (and image signal interference), and second channel interference, since, in this country at least, the use and meaning of these terms does not appear to be standardised. In this respect, a quotation from page 23 of the *Marconi Review* for May-June, 1932, may be of interest. When specifying the required attenuations of unwanted signals in a short-wave superhet, the author of the article states "the attenuation, etc., for the cases where:—

(a) The interfering signal lies on the same side of the heterodyne as the desired signal.

(b) "Image signal" interference occurs, *i.e.*, a signal lying on the opposite side of the heterodyne to the wanted signal and beats with the former to the intermediate frequency.

(c) Two unwanted signals enter the first detector and beat together to the intermediate frequency, *i.e.* second channel interference."

The first type of interference, *i.e.* near or adjacent channel interference, is a function of the selectivity of the I.F. circuits, and is therefore not troublesome.

The third type of interference does not occur when an electron-coupled frequency-changer is used, but only occurs when the separate oscillator or autodyne type of circuit is employed, since no rectification occurs at the control grid of the heptode or octode valves.

The second type, or image-signal interference is a function of the number of tuned circuits at the signal frequency, and the intermediate frequency employed.

For high discriminations between the image and wanted signal a high intermediate frequency and a number of signal-frequency tuned circuits must be employed.

Tests made over several nights on the lower wavelength ranges showed what an excellent performance might be expected from both these convertors.

Trimmer Condenser

In tuning, it will be found that the trimmer may be used with success on very weak signals, although as far as searching is concerned the convertor behaves as a pure single-knob short-wave receiver. Very good results have been obtained when used with any commercial receivers of three valves and over, though the convertor will work with a two-valve set comprising a detector and L.F. stage only.

If vibrational noises are experienced owing to the tuning condenser being secured to one side of the screen only, an additional securing bolt should be added on the "loose" side, a clip of some form being used.

The variable condenser used in the image rejector described in last week's issue should have a large capacity, a 0.0005 μ F low-loss, air-dielectric condenser being suitable, L₁ having two turns and L₂ five turns, on two 2 $\frac{1}{2}$ in. formers.

Both these convertors give excellent results on the 30-metre band, on which wavelengths the first W.R.R.L. tests will be carried out.

"RADIO AS A HOBBY"

Part 3 of this series of articles is unavoidably held over until next week.

PRINCIPLES OF TELEVISION

By R. S. H. BOULDING, O.B.E., B.Sc., A.M.I.E.E., D.I.C., F.Inst.P.

Part 7—Receivers

LAST week we reached the point at which we were in possession, at the receiving end, of a signal of fair intensity, whose amplitude at any instant was proportional to the brightness of a particular element of the scene being televised at the transmitting end. Suppose we use this signal to light a lamp of such a nature that the time lag between the application of the current and the attainment of corresponding brilliance is small, and, further, that the brilliance attained is proportional to the current, we then have a light whose instantaneous brightness is directly proportional to the brightness of a particular picture element. All that now remains is to cause this brightness to be visible only over that part of the area occupied by the received picture which corresponds to the particular element being scanned at the moment.

As regards the lamp, the most convenient and simple type is probably a "vacuum-tube" filled with neon at such a pressure that the resulting glow covers one of the electrodes with the required light-intensity. If this electrode is of such a size that, when placed behind a scanning disc similar to that used at the transmitting end, it covers the whole area corresponding to the received picture, the only part of the field of view that is illuminated will be that part occupied by one hole in the disc, and if the disc is in such a position that this hole corresponds to the particular element of the picture being scanned at the transmitting end at the moment, we have a correct reproduction of one picture element. Now if the disc is continuously rotated at the same speed as that at the transmitting end, and, moreover, occupies the same relative position—i.e., is in phase—we obviously shall get a correct reproduction of the whole of the picture.

Scanning Disc Receiver

This, the simplest form of television receiver, is the converse of disc scanning, and is illustrated diagrammatically in Fig. 9. Instead of viewing the picture by looking directly at the disc, it may be magnified by means of a lens, or an image may be thrown on to a screen, although in this case the intensity is likely to be somewhat low.

It has been said that the receiving disc must be rotated synchronously with that at the transmitting end, and as this requirement involves rather more than is implied by the somewhat casual statement, it will be assumed for the present that it has been achieved, the manner in which it is to be done being dealt with at a later stage.

Another practical point to be observed is that, whilst the brightness of the picture is equivalent to a unidirectional current of varying amplitude, which is equivalent to an alternating current of complex waveform superimposed on a steady current corresponding to the mean brightness, only the alternating component is transmitted in practice, the D.C. component being reintroduced at the receiving end. For correct reproduction, the magnitude of this current must be adjusted to correspond to the average brightness of the picture, and in practice this is done by adjusting the bias of the output valve in the case where the neon lamp is in series with the anode circuit, or by similar methods in other cases.

There is, however, a difficulty in that the average brightness will, in general, vary for different pictures, and even for the same picture in the case of a moving picture, thus necessitating at any rate theoretically, a continuous readjustment of the D.C. component, which is obviously

difficult, if not impossible in practice. Fortunately, however, it is found that if the D.C. component is adjusted to an average value, only very occasional readjustment is required to give a satisfactory, even if not theoretically correct, picture.

With such a system as has been described, it is apparent that the size of the unmagnified image cannot be greater than that of the electrode in the neon lamp, and that any optical magnification used must be limited, or the light intensity will be adversely affected. Whilst there is nothing inherently impossible in making a neon lamp with electrodes as large as may be desired, the question of cost soon becomes an important factor, and in practice the size is definitely limited. A common size for ordinary use is something of the order of one to three square inches, and for operation such a lamp requires some twenty to thirty milliamperes at a couple of hundred volts or so. These figures represent a power of some four to six watts, but this is not quite analogous to the "undistorted power output" one hears about in connexion with sound receivers.

Neon Lamps

It has previously been mentioned that the A.C. impedance of these lamps is low, being generally only a fraction of the D.C. impedance obtained by dividing current into voltage. In the case mentioned above, the D.C. impedance is something like 8,000 ohms, whereas the A.C. impedance may be only a matter of some 500 ohms or even less. To get an idea of power requirements, let us suppose that our lamp has such an impedance, and that its steady current is 25 milliamperes, and that this is to be varied sinusoidally between 0 and 50 mA. This corresponds to an alternating current of maximum value equal to 25 mA and R.M.S. value of 17.7 mA, which, when flowing through a resistance of 500 ohms, corresponds to a power of only 0.156 watt. The "steady" power of 5 watts is supplied by the H.T. source, and does not concern the output valve except in so far as the current passes (in general) through the anode circuit.

From a purely "power efficiency" point of view, the obvious thing is to connect the neon lamp to the output stage by means of a transformer of suitable ratio, introducing the required D.C. component into the secondary circuit. This method would save power but is open to the objections already referred to regarding transformers, accentuated by the difficulty of passing any appreciable direct current through transformer windings without adversely affecting their inductances which, as has been seen, are generally already too low for satisfactory results. It is thus necessary to use circuits that are inefficient from a power point of view, and, therefore, a considerable output power, comparable to that taken by a really powerful loud-speaker, is required for television purposes.

As demonstrated above, a transmitter using a scanning disc can, with suitable alterations, be converted into a receiver, and the same arguments apply to some of the

other forms of transmitter. Consider, for example, the mirror drum method illustrated in Fig. 4 and described in Part 4 of this series. Suppose the photo-electric cell P be replaced by a light source whose intensity can be varied in accordance with the received signal current representing the picture, and further, that the drum be rotated synchronously with the drum or disc, or whatever it may be, at the transmitter, then it is obvious that an image of the picture transmitted will be thrown on the screen S. This constitutes an alternative form of complete television receiver.

In practice, a neon lamp may be used for the source of light, as with a disc receiver, but it is convenient to use a slightly different form in which the illumination is confined to a small area corresponding in size to one element of the picture. Generally, it will be slightly larger than this, being masked to give the correct size and shape. Such a lamp is more suitable for this purpose than the type used for disc reproduction, as it is possible to get a greater intensity of illumination for the same power consumption, thus enabling a bigger picture to be obtained without its being too faint for satisfactory viewing. Such a tube or lamp frequently requires a higher D.C. voltage to operate it, and, therefore, in actual practice a more powerful amplifier, but the improved results are well worth having, unless the extra cost of the amplifier and the greater cost and mechanical complexity of the mirror drum rule it out.

Up to now, neon has been mentioned as the usual gas for use in our "vacuum tubes," but good results can be obtained with other gases, for example mercury vapour. The colour of the received picture depends on the nature of the gas used, being reddish with neon, and greenish with mercury vapour, which is rather less pleasant than the warm colour given by the neon lamp. Most other gases require considerably higher voltages, thereby increasing practical difficulties, especially where receivers are required for domestic use.

So far we have only considered light sources whose intensity is actually varied by the amplified signal current, but there is another aspect of the problem, and that is the question of using a light of steady intensity, produced in any convenient manner, and varying the amount of light passing through the system, rather than the amount actually emitted by the source.

Mechanical "Light Valves"

The first method that naturally occurs to the mind is to make use of some form of mechanical "light-valve" which opens and closes an aperture, through which the light passes, to an extent depending on the magnitude of the signal current. Such an arrangement has been developed for a different purpose by Rankine (*Proc. Physical Society*, Vol 31, page 242). In this case a form of shutter was operated mechanically by a gramophone sound-box and used to control the intensity of a beam of light in accordance with the variations of speech sounds. For the pur-

(Continued at foot of column 3, page 730)

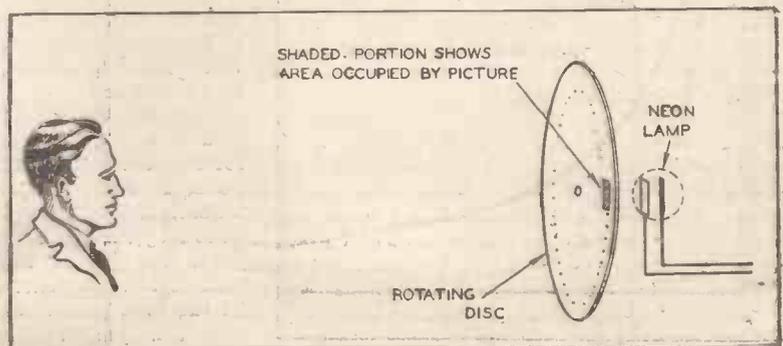


Fig. 9—Principle of simple scanning-disc television receiver

Tone Control

By N. W. McLACHLAN, D.Sc., M.I.E.E.

In the majority of receivers the designer usually aims at getting equal amplification over a band of frequencies covered by the audio-frequency portion of the amplifier. Owing to the congested state of the ether, which we have all unfortunately experienced, it is necessary to restrict the frequency response of the radio circuits to avoid high-pitched heterodyne notes and the like, especially in receiving foreign programmes. If a receiver is designed specifically for local station work, more latitude in the width of the frequency band is permissible, but this depends upon the distance of the transmitter from the receiver. The latitude is greater the nearer these two are to each other, but there is an upper frequency limit above which valve and incidental noises might become rather annoying. This limit can, of course, only be found by experiment. As the average loud-speaker reproduces but little above 5,000 cycles per second, the majority of listeners who live close to the broadcasting transmitters have little hope of finding this limit for themselves, unless they use special speakers, e.g., the Rochelle crystal type recently described in *WORLD-RADIO* (January 12, 1934, page 54), which adequately reproduce frequencies as high as 10,000 c/s or even higher.

By using a chain of radio-frequency circuits of low resistance, it is possible to obtain great selectivity. In this respect the band-pass filter stands out as a system which not only gives selectivity, but enables fairly uniform amplification to be secured over a limited frequency band, say 5,000 c/s on each side of the tune point. It is not difficult to design a bandpass filter to give uniform amplification over the range $\pm 5,000$ c/s at one particular carrier frequency, and to cut off the sidebands outside this range quite sharply. In practice, however, where a carrier waveband from 200 to 600 metres, i.e., 1,500 kc/s to 500 kc/s, has to be covered by a system employing ganged condensers, it is not possible to be quite so precise over the whole range. Nevertheless, the results obtained by a well-designed receiver are a good average.

If, instead of the band-pass system, the high-frequency portion of the receiver consists of a number of intervalve couplings of very low resistance, the tuning curve becomes extremely peaky, and the selectivity is so high that the reproduction from the loudspeaker is woolly and

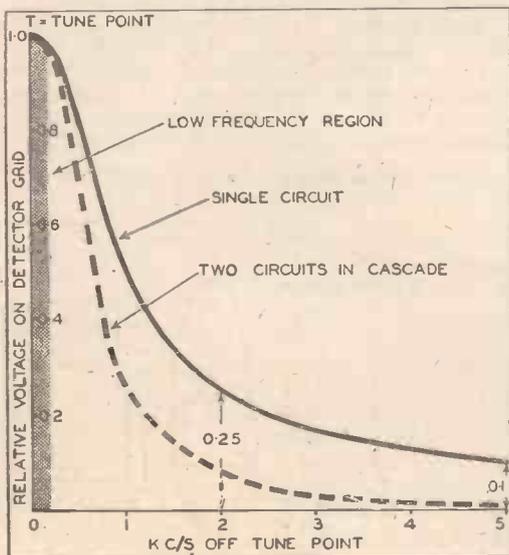


Fig. 1—Typical selectivity curves

lifeless. We know that the "body" in music pertains to the middle and lower registers, i.e., that portion of the frequency spectrum below, say, 512 c/s (an octave above middle C on the piano), and that the vital or interpretational characteristics are given by the frequency band above 2,000 c/s. The human frame likewise depends upon the body for its strength and support, but if the upper region is sluggish! the general result is woolly and inert. In other words, a bright and vivacious brain box is an essential characteristic of any "live" individual, since this is where the interpretational faculties reside. Consequently, in a system where the high-frequency tuning is sharp, it is essential to use some device which will restore the upper frequencies in adequate degree, in order that pleasing reproduction shall be obtained.

Some years ago it was found permissible to use fairly selective circuits and still preserve immunity from "woolliness." This was due to the powerful upper register of the loudspeakers caused by diaphragm resonances. Even so, if "knife-edge tuning" is employed, some form of tone correction is required in the low-frequency part of the amplifier, to compensate for sideband cutting by the radio circuits. If the compensation can be varied, then it is

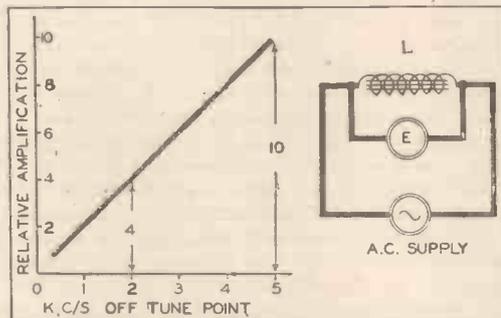


Fig. 2—Condition required for correcting high-note loss illustrated in Fig. 1

feasible to regard the scheme as one of tone control. In general, however, if compensation is used, it is preferable to get a good average setting and leave it at that, since only in exceptional cases is any alteration required.

There are various ways of obtaining tone control, and one of these will now be outlined. Since we are limited to using inductances, condensers, and resistances, it is a matter of combining these in such a fashion as to give the frequency characteristic we desire, or at least to approach it as nearly as practical conditions will permit. Suppose we start with a simple case where there is only one tuned circuit, which might be a tapped aerial coil, with reaction, connected direct to a detector. By skilful design it is possible to get a smooth reaction control, and we shall assume that the selectivity curve of the single circuit at a given reaction setting, where stability ensues, is that of Fig. 1, shown by the full line.

Consider the voltage on the detector valve grid at a frequency of 5,000 c/s. If we agree for simplicity to regard the voltage at the tune point T as unity, the voltage at any frequency on each side of T can be read off as a fraction of this. At 5,000 c/s the fraction is 0.1, so the output from the speaker will be reduced relative to that at low frequencies in the neighbourhood of the tune point. Since the power output as sound is proportional to the square of the voltage it will be 0.01 times that at low frequencies, i.e., below 256 c/s, say. Converting

this into decibels we have $10 \log \frac{P_1}{P_2} = 10 \log$

$\frac{I}{0.01} = 20$ dB, and this is quite an appreciable amount unless resonances in the speaker introduce an adequate degree of compensation.

To illustrate our problem we shall assume that constant voltage is required on the grid of the power valve at all frequencies from 50 to 6,000 c/s, when the incoming signals are constant over this band. To attain this purpose the voltage delivered by the detector valve at 5,000 c/s must be multiplied by 10 to restore it to the value obtained at low frequencies. Choosing another point on the selectivity curve,

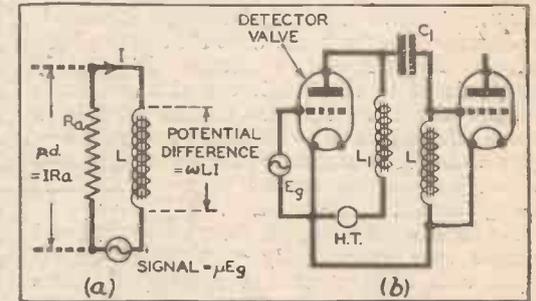


Fig. 3—Illustrating circuits for tone correction

say 2,000 c/s, the ratio is 0.25, so the voltage must be multiplied by 4. Thus we see that the voltage multiplier is the ratio obtained from the curve of Fig. 1 after it is inverted. By plotting this inverted ratio (the reciprocal) against the frequency, the result obtained is illustrated in Fig. 2 and is substantially a straight line.

It follows that a device is required in the anode circuit of the detector, or in one of the valves of the low-frequency amplifier, whose voltage-frequency characteristic, taken in conjunction with the valve, is a straight line as shown in Fig. 2. The problem now resolves itself into one of devising something which will fulfil the above condition, and to solve it requires a knowledge of the behaviour of electrical apparatus of quite a simple character.

In Fig. 2, L is a pure inductance, that is to say, its self-capacity and alternating current resistance are negligible. If we have a source of A.C., which will usually be some form of valve circuit, and if the current through L is the same at all frequencies, there is a very simple relationship between the voltage across L and the frequency. Thus $E = \omega LI$, where E=voltage, I=current which is constant, whilst $\omega = 2\pi \times$ frequency, this being known as the *pulsatance*. Now ω , L and I are constant, so we can write $E = kf$, where k is a constant whose value is $2\pi LI$. Therefore if we connect a valve voltmeter across L, pass a constant current through L at 100, 500, 1,000 c/s, and so on up to 6,000 c/s, the result when plotted will be a straight line as in Fig. 2. Accordingly it appears that if we can reproduce this condition in the anode circuit of our detector valve, the problem is solved.

The next step is clearly to see how an inductance or its equivalent can be connected in the anode circuit of the detector in order to give a linear voltage-frequency characteristic as in Fig. 2. The key to the solution is that when the voltage on the grid of the detector is constant at all frequencies (this, of course, is a condition now introduced solely for the purpose of solving the problem, since it does not occur in practice), the anode current is also constant.

Now the anode circuit of the detector can be replaced by an equivalent circuit as shown in Fig. 3. The valve is represented by a non-inductive resistance R_a , whilst the inductance is L as before. We have seen that the voltage across L rises with the frequency, and this will

reduce the voltage on R_a . Consequently, if the voltage across L is appreciable compared with that across R_a (the valve), the current will fall with rise in frequency, and our attempt to obtain constant current will be defeated. But if the voltage across L at 6,000 c/s is a small fraction of that on R_a , the current will be nearly constant throughout the frequency range 50 to 6,000 c/s.

Now the voltage across R_a is IR_a , whilst from above that across L is ωLI , so for constant current IR_a must be much greater than ωLI . Since I is common to both, it follows that R_a , the anode resistance of the valve, must be much greater than ωL the reactance of the inductance, i.e., $R_a \gg \omega L$. When this is the case, the low-frequency amplification of the detector is very small owing to the low voltage across L . To overcome this practical defect we can make L the primary of a step-up transformer whose secondary winding is connected to the grid and filament of the next valve, as shown in Fig. 4.

In modifying the design in this manner great care must be taken to ensure that the self-capacity of the secondary winding is not large enough to alter the conditions of working. A large self-capacity would introduce resonance

at some frequency between 50 and 6,000 c/s, and this might cause unpleasant reproduction. For example, if the self-capacity of the transformer plus that due to leads and the effect of the succeeding valve resonated with the secondary inductance at 3,000 c/s, the amplification would rise linearly at first and ultimately much more rapidly. This is shown in Fig. 5, where the full line curve represents the voltage-frequency characteristic of the valve and the resonant transformer in its anode circuit, whilst the dotted line shows what the amplification characteristic ought to be. The amplification is approximately linear with frequency up to 2,000 c/s, but rises thereafter and attains a maximum at 3,500 c/s. Beyond the latter frequency the amplification falls off so the frequency band between 3,000 and 6,000 c/s would be reproduced at a relatively low level and the general effect would be unpleasant.

How is this dilemma to be avoided? To answer this query we have to examine the factors which govern the resonant frequency of the transformer. These are (1) the inductance of the secondary winding, (2) the self-capacity of the secondary winding, (3) the mutual capacity between the primary and secondary windings, (4) the additional self-capacity due to the leads and the grid to filament capacity of the following valve, to which must be added an effective capacity due to feed-back from this

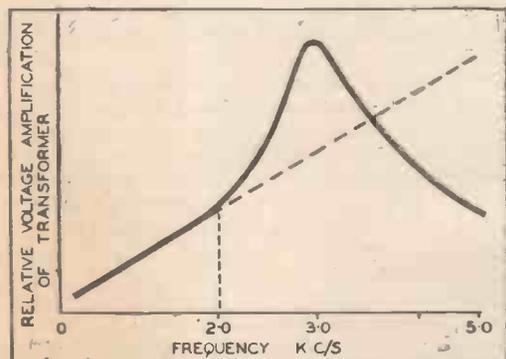


Fig. 5—Illustrating effect of capacity

valve. The inductance of the secondary winding can be varied at will by altering the number of turns. If the winding is constructed in four or even six sections, with separators, the self-capacity is reduced considerably. The same procedure is adopted for the primary winding in order to reduce the mutual capacity to a very low figure. The primary and secondary windings are interleaved or sandwiched with separators. We are now left with what may be termed stray capacity and feed-back.

The stray and feed-back capacity are likely to be appreciable unless care is taken with the leads and in the choice of valve. It is not possible to reduce the grid to cathode capacity of a normal valve below a certain limit, but this may be far exceeded if the stage gain of the following valve is large. Consequently, it is important to see that the gain is not too large or the effective capacity thrown back by the valve on to the transformer secondary may be quite enough to upset the whole scheme. Under this condition all the trouble and expense associated with the construction of the transformer will be rendered useless. From the above remarks it should be quite clear that the design of tone correction devices of this type covering a wide frequency band requires careful consideration, and that accurate correction is incompatible with high voltage gain per stage.

The foregoing analysis can be extended to cover the case where the high-frequency portion of the receiver has more than one selective circuit. Taking the case of two similar circuits for simplicity, the combined selectivity curve is obtained by multiplying the ordinates of Fig. 1 by themselves—i.e., by squaring them. The resulting curve is shown dotted in Fig. 1, and it will be seen on inspection that the power level is reduced by 20 decibels at 1,800 c/s, which means that the reproduction will be adversely affected. To secure uniform response, it is now necessary to add a further correction stage of the type illustrated in Fig. 4. That is to say, a tone correction transformer is connected in the anode circuit of the valve V_2 . The valve following V_2 must, of course, not introduce a large capacity effect across the secondary circuit of the tone correction transformer. The final result of the two transformers in cascade is to give a curve whose ordinates are those of Fig. 2 multiplied by themselves—i.e., squared. This curve, which is illustrated in Fig. 6, is very nearly the same shape as a sagging telegraph wire or suspension bridge chain, and is known as a "parabola." When this tone-correction scheme is applied after the detector valve, the final result is uniform amplification over the desired band of audible frequencies.

If an additional high-frequency circuit is added, more tone correction is required, this being effected as described above. Where the selectivity curves of the various radio-frequency circuits differ, the final or overall selectivity curve is obtained by multiplying the ordinates of the curves together at frequencies within the range of reception. The audio-frequency correction curve is then obtained by taking the reciprocals of the various ordinates of this curve after the manner shown herein.

(To be continued.)

Readers' Queries Answered

Under this heading we publish questions and answers of general interest arising out of our technical correspondence. We are always willing to assist readers who require information on technical points, but all such requests requiring a postal reply must be accompanied by a stamped addressed envelope.

W.R. 1071. *When the detector valve is removed from my receiver I still get faint but quite intelligible signals from the two local transmitting stations.*

Although the detector valve is removed it is possible for the incoming high-frequency signals to find their way *via* stray capacities and leakages (e.g., those of the valveholder of the detector valve) to the first low-frequency stage. If all the valves in the low-frequency stages acted purely as amplifiers, these H.F. signals would produce no effect on the loudspeaker; but in practice a little rectification invariably takes place in all amplifying valves, and with a strong incoming H.F. signal this is often sufficient to produce audible signals when the detector valve is removed. Partial rectification in the high-frequency stages may produce the same effect, provided the low-frequency signals produced by such rectification are able to find their way past the detector valveholder to the low-frequency stages. High-frequency signals, however, will usually have an easier passage than the low-frequency signals.

W.R. 1072. *When I turn up the volume control of my receiver more than about half-way the set begins to howl.*

If there is any feed-back or back-coupling between the later stages of the receiver and earlier ones this will be increased when the volume control is turned up, and may be sufficient to cause the set to burst into oscillation at an audible frequency. The remedy is to take all possible steps to prevent such feedback by providing adequate decoupling for each stage, and not permitting any leads to run close to leads forming part of earlier stages. Loudspeaker leads, for example, should not be allowed to run close to the aerial lead. In addition, every endeavour should be made to prevent high-frequency currents finding their way into the low-frequency stages and then being fed back, *via* such things as loudspeaker leads, to the aerial and so causing instability, which may result in a low-frequency howl. Microphonic valves also may be partially responsible. If this is the case, wrapping cotton wool round the valve which causes the trouble may help matters. Even a valve carton placed over the valve may prove effective. The term "volume control" is sometimes applied to the reaction control, and in such cases turning up the volume control is intended to increase feed-back between the anode and grid circuits of the detector valve to increase the strength of signals. Turning this control too far will naturally cause self-oscillation of the receiver and cannot be avoided except by turning down the control.

W.R. 1073. *Is an ordinary "T" or "inverted-L" aerial directional?*

In practice no directional effect is likely to be noticed with T or inverted-L aeri- als as normally used for reception. Although, theoretically, there is a slightly better pick-up from a signal arriving from a direction in line with the aerial (in the case of the inverted-L aerial when the lead-in is at the end nearest the transmitting station), local conditions at the receiving station (such as trees and buildings) and conditions in the upper layers of the atmosphere usually mask any directional effect there might have been

Looking Backward (3)

Early Trans-Atlantic Reception

(Continued from page 596, April 27)

AFTER a winter spent at Glace Bay an opportunity arose to transfer my activities to the trans-Atlantic receiving station at Louisburg. This meant giving up, *pro tem*, all work associated with transmitters, spark dischargers, batteries, and similar distractions, and concentrating on the more amenable receiving apparatus, a change which was quite acceptable.

Louisburg is situated on an immense natural harbour about twenty-five miles from Glace Bay. The station itself was erected a few yards from the shore of an inner harbour, known as "La Barrasois," and both the main receiving and duplex balancing aerijs were erected in clearings cut through the neighbouring woods. The main aerial was a single, thick wire over a mile long, strong enough to withstand ice storms and supported on six steel masts each 320 ft. high. The balancing aerial was a mile-and-a-half long, but only 50 ft. in height, supported on a number of wooden poles.

Slow-speed reception was originally accomplished by means of balanced carborundum crystals and head telephones. As time went on and the three-electrode valve improved, the crystal was gradually displaced, but it was not until the end of 1915 that reliable valves were introduced to this station. The earlier valves were of the "soft" type, which required careful adjustment, and could not be depended upon to work unattended for any length of time.

High-speed and duplex telegraphy were worked during favourable periods when atmospherics were not too severe, and it is interesting to note the earliest method of receiving high-speed morse signals, in which the signals were magnified from crystal strength by three telephone relays connected in series. They were then loud enough to be transcribed on to the wax cylinders of an ordinary dictaphone by means of a telephone earpiece and the standard dictaphone cutter. Subsequently the recorded signals were read off at low speed.

As valves became more reliable, telephone relays were gradually dispensed with, until finally several valves took the place of relays as magnifiers. The relays were very tricky things to keep up to concert pitch, and to use three in cascade without "reaction or howling" was something of a feat. The final adjustment of these relays took the form of rotating a small magnet near them, so it will be appreciated how sensitive they were.

Louisburg being the point of traffic or message control, the transmitter at Glace Bay was

operated from there over inter-connecting land-lines, using for the purposes either hand tapping keys or Wheatstone high-speed automatic keys. The receiving station was connected *via* land-line to the various telegraphic centres in Eastern Canada in order to distribute the traffic received by wireless from Clifden. It was, in fact, a small "central telegraph office" in the wilds, utilising the latest innovations in radio and line telegraphy.

Development in Valves

It was at Louisburg, in 1916, that I first heard long-distance wireless telephony. The whole continent of America was telephoned across by transmitters, utilising large banks of small valves. About the same time we used to be entertained regularly by the yacht belonging to a certain well-known scientist, which transmitted speech and gramophone records whilst anchored off the coast.

By 1917 much had been done to improve the three-electrode valve as a detector of electromagnetic waves and also as a small power generator. Principles had been investigated and manufacturing processes improved until, after a tremendous amount of research work, a valve was produced which could be depended upon to function satisfactorily. The use of continuous waves for radio transmission had also come to the fore, and the heterodyne method of reception by means of the oscillating valve incidentally put the final seal on the superiority of continuous wave over the spark. The earlier "soft" valves had been replaced by the more reliable high-vacuum valves.

Two years were spent at Louisburg, and it proved a most interesting and pleasant time in every way except for the climate. It would start to freeze in October and ice would form on the sea round the shore in early November. There would be continuous ice and snow until May—then melting ice and snow and slush for at least a month! July brought constant thick, damp fog and mist which penetrated into everything, while August and September, though warm and fine, were memorable for millions of mosquitoes and almost every variety of fly and insect it is possible to imagine.

Direction Finding

On returning to this country from Louisburg, and after a short spell at Poldhu, the writer was attached to a Service Intelligence Department engaged upon the location of hostile craft by means of wireless direction-finding and interception of enemy signals on ultra-sensitive receivers. Enormous progress had been made in the development of direction-finding apparatus by a few well-known radio engineers, and this was perhaps one of the outstanding wireless achievements of the War years. An example of the type of freak apparatus employed for the interception of weak, long-distance signals is that of a receiver having some twenty valves in "cascade." The valve circuits were quickly and simultaneously tuned by means of a joystick which caused iron cores to slide into and out of the coils, thereby allowing quick searching over the wavelength band utilised.

Development in transmitters had, in the intervening years

been somewhat sadly left in abeyance. The British land and ship stations had fulfilled their functions by carrying on the good work as they were, but now that commercial communication had again to be considered, the possible systems which could be utilised were brought under review. Spark systems had been completely superseded by those utilising continuous waves and, in America and elsewhere, the application of the high-frequency alternator and special forms of aerijs had met with considerable success. To enable first-hand information regarding alternators to be obtained, one of 200 kW was installed at the Carnarvon station of the Marconi Co., and employed on trans-oceanic services. Another of 3 kW was experimented with at Poldhu and tried out on communication tests with a European capital.

Carnarvon station is situated almost on the top of a North Welsh mountain at a spot called Ceunant Llanrug, and overlooks the sea. The aerial ran over the top of the mountain and along a plateau for a length of about one mile. It was a multi-wire affair and was supported on triatic wires suspended between sectional steel masts approximately 400 ft. high.

There were two transmitters—a "timed-spark" set and a high-frequency alternator. The total power absorbed by each was of the order of 300 kW. Morse signalling was effected in the case of the alternator by the simple expedient of changing the wavelength slightly. This method of signalling was necessary to ensure constancy of speed of the alternator by not jumping from a "no load" period during spacing to a "full load" signal.

The receiving station was situated at Towyn, about forty miles away, and comprised the latest forms of valve receivers and automatic sending and receiving apparatus, both for radio and land-line telegraphy. Spaced, directive aerijs of limited height, and of the latest type, stretched out along the countryside, presenting quite a different spectacle from the majestic aerial of Louisburg, towering up over the forests.

Another continuous-wave system which had been in use for a number of years employed the electric arc. It had, at one time, been the most reliable and satisfactory continuous-wave system known, and the stations utilising the system were situated in all parts of the world. The basic principle of the arc system is that when high-tension direct-current is fed through chokes to an electric arc, continuous waves are generated in an oscillatory circuit connected across it. Certain refinements are necessary, however, for satisfactory operation, such as an atmosphere of hydrogen and a strong magnetic field in the actual arc chamber.

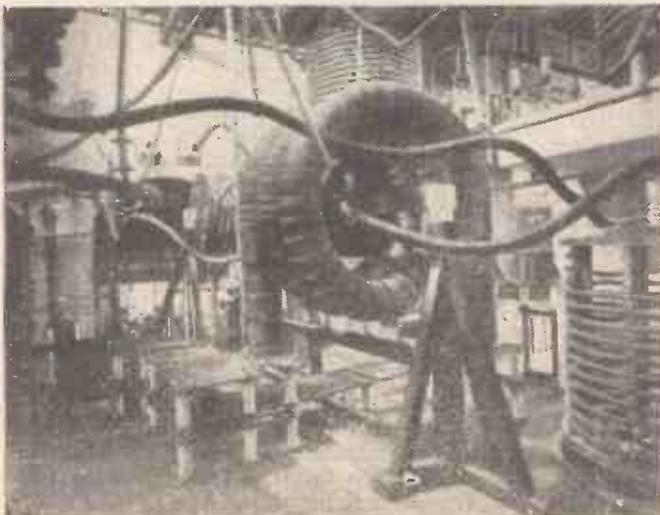
(To be concluded)

PRINCIPLES OF TELEVISION

(Continued from page 727)

pose for which it was designed, this arrangement gave quite good results, but from what has been said in a previous article about the more stringent requirements of television as compared with sound broadcasting, it will be readily appreciated that this apparatus as it stands is likely to fall considerably short of requirements. It is mentioned, however, because it would seem that by careful design for television purposes (we are still considering low definition television) it should be possible to obtain passable results, even if some additional circuit correction should be required to make up for the almost inevitable reduction of the higher frequencies. Such a device would have the great advantage that a powerful light source, such as an arc lamp, could be used, thus giving a brilliant picture. Consideration of this aspect of the matter naturally leads on to a search for a light valve having fewer limitations, and next week we shall consider the "Kerr Cell."

(To be continued)



Carnarvon station showing early type of transmitting inductances

THE SHORT WAVES

Below 100 Metres

By "MICROM"

(May 7-13)

CONDITIONS have been quite good recently, such unusual catches as JNC, Tokio, on 16.70 m. and XGM, Shanghai, on 17.00 m. (both telegraph stations) having been heard at R9 in both cases at midday. The 14.98 m. 60 kW Bandoeng telephone PMB has also been heard at excellent strength at midday recently. Another special catch was the *third harmonic* of Moscow T.U. on 16.66 m. at 21.00 on Sunday, May 13, the call, in German, being heard distinctly at this time.

The best reception this week has been roughly as follows:—

- | | | |
|-----------|--------------|---------------|
| (1) W8XK | 25.27 metres | 22.00 B.S.T. |
| (2) W2XAD | 19.56 " | 20.00 B.S.T. |
| (3) W8XK | 19.72 " | 20.30 B.S.T. |
| (4) W1XAZ | 31.35 " | 23.00 B.S.T. |
| (5) OXY | 31.4 " | when working. |

The last-mentioned station was really the best signal of all, but has been placed last on account of the shorter distance from London. The usual European group—with the exception of OXY who is a newcomer on this wavelength—are, of course, always well received at some time of the day, and are therefore not listed.

Conditions on Monday night seemed to improve suddenly about 20.30, when W8XK (19.72 m.) appeared at R5-7 being a fair signal at this time, increasing rapidly in strength to become a R8-9 signal somewhat later. At the change-over to 25.27 m. at 21.15, the longer wave was not quite so well received as 19 metres had been previously, but by 22.30 the 25-metre channel had improved to excellent, and was showing slightly less fading than had been noticed on 19 metres.

W2XE (or KFZ) was heard faintly at 20.45 and W3XAU (31.38 m.) was fairly good for a short period at 23.45, but X's were heavy above 25 metres. W8XK again allowed us to make an interesting comparison between the efficiencies of his 19 and 25 metres channels at 21.15 on Wednesday, being only R1-2 on 19 metres at this time but starting up on 25 metres three minutes later was quite a good signal, marred only by X's.

At 23.55, the 20-metre U.S. amateurs began to make an appearance, several stations being clearly heard on "phone," and W8XK (25.27 m.) had by this time improved to a very good signal. The U.S. 20-metre amateurs were again very good at 23.00 on Thursday, and W8XK and W1XAZ were also putting up excellent performances at this time on 25.27 and 31.35 metres respectively. W3XAL (16.87 m.) had also been a good signal at 15.30 on Thursday afternoon. W2XAD was fairly well received at 20.15 on Thursday and now appears to be working every day except Sunday at this time.

HVJ (19.84 m.) was a good signal at 11.00 on Saturday, broadcasting a special Ascension Day service. W3XAL (16.87 m.) was again heard for a short period round about 15.00, the signal fading very slowly from R7-8 to zero. The signals which one hears from W3XAL on 16.87 metres at midnight in summer travel by the long route—i.e. through the daylight path over the Pacific and Polar regions, not across the Atlantic.

Extremely strong and clear signals were heard from OXY, Skamlebaek all Sunday afternoon and evening on its 31-metre wave, the actual frequency in use being 9,550 kc/s or 31.4 metres. It would appear that this station has reverted to this wave for summer-time working.

Keeping a Short-Wave Log

A SHORT-WAVE log can be of considerable interest and is well worth the time spent in its preparation. As it grows in size so will it appreciate in value, and, in addition to providing many happy memories for times when conditions are bad, it will also enable one to observe any regularities in the ever-changing short-wave field. Thus, one is enabled to choose the best times for reception of particular stations, and stations which having once been heard might be forgotten may, instead, become regular providers of interesting programmes.

Again, the short-wave log is invaluable for noting, in a convenient and easily-accessible place, up-to-date information concerning new transmitters, operating schedules, and the times of transmission from various foreign stations of news bulletins and other items in English.

Preparing the Log Book

To make the log obtain an exercise book of at least 7 in. width. Leave the left-hand pages blank and divide each right-hand page into five columns, the last column being three times the width of each of the others. The headings of the columns are: (1) Day of Week and Date; (2) Time; (3) Station Call-sign or Name; (4) Strength of Reception, Fading and Atmospheric, stated in the WORLD-RADIO code as used in "Short-Wave Reports"—e.g., R7/FFR/XX; (5) Details of the programme received and any comments regarding unusual points in the reception.

The blank left-hand pages provide space for general notes. Here one may make a short summary of the prevailing conditions and attempt to explain variations in terms of sunspot activity, weather at receiving and transmitting stations, usual seasonal changes, phases of the moon, or anything else which may seem to have any bearing on propagation or reception. The deductions thus made may not be justifiable scientifically, but they are certain to be interesting and perhaps amusing when referred to retrospectively.

On these pages also one may paste appropriate press cuttings, verification or acknowledgment cards, if desired. Finally, at either the front or back of the book should be inserted the WORLD-RADIO List of Short-Wave Stations—with the dial readings of stations which have been received duly inserted—and a list of the R scale of signal strengths and other abbreviations for reference. The log book, together with a fountain pen or pencil, should be kept in a convenient place near the short-wave receiver and all entries should be inserted as soon as heard.

B. S.

Correspondence

LCL?

To the Editor of WORLD-RADIO.

SIR,—I noticed a week or two ago a newcomer to the 49-metre band but was unable to identify it at the time. Last night I again heard this station and its power suggested that it was a European station. At 20.30 I heard the call "Hallo-Oslo" and again at 21.00 the same call. The transmission during this period agreed with the programme for Oslo given in WORLD-RADIO. The station was working on approximately 49 metres; it was below OXY, 49.5 metres, which was also transmitting and whose programme was identified, Has Jeløy, LCL, moved to this wavelength? I am unable to say whether this is permanent but I have heard this station on this new wavelength on several occasions.

Yours faithfully,

London, E.12.

C. M. W.

The entirely new Needle-Armature System embodied in the latest B.T.H. Pick-up supersedes all previous systems for the reproduction of gramophone recordings. It sets a standard hitherto unachieved and unlikely to be surpassed. The compensating characteristic corrects the usual deficiencies in recording and ensures practically linear response over the full range of recorded frequencies.

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THE EDISON SWAN ELECTRIC CO. LTD.
155 CHARING CROSS RD., LONDON, W.C.2

SHORT-WAVE BROADCASTING STATIONS

This list includes stations which broadcast regularly on wavelengths below 100 metres. Where ascertainable the times of operation are given in B.S.T.

m.	kc/s	kW	Station	Dial Readings	m.	kc/s	kW	Station	Dial Readings
84.67	3543	0.15	Mozambique (East Africa) CR7AA. MON., THURS., SAT., 19.30-21.30.	.....	45.38	6610	10	Moscow RW72 (Russia).	.....
80	3750	0.5	Lisbon (Portugal) CT1CT. SUN., 14.00-16.00.	.....	45.31	6620	..	Riobamba (Ecuador) PRADO. FRI., 03.00-05.40.	.....
73	4110	0.15	Quito (Ecuador) HCJB. Daily (ex. TUES.) 01.30-04.00.	.....	45	6667	..	Guayaquil (Ecuador) HC2RL. SUN., 23.00-02.00; TUES., 03.00-06.00.	.....
70.2	4273	20	Kharbarovsk RV15.	.....	43	6976	..	Constantine (Algeria) 8KR.	.....
58.31	5145	..	Prague OK1MPT. Experimental.	.....	42.92	6990	1	Madrid EAR 110. TUES., SAT., 23.00.	.....
58.03	5170	..	Bandoeng (Java) PMY.	.....	41.9	7150	0.2	Jeløy (Norway) LCL (Relays Oslo).	.....
52.7	5692	0.5	Tananarive (Madagascar) FIQA. Dly. (ex. SUN.), 09.00-09.45; 16.00-17.00; SAT., 18.30-20.00; SUN., 08.30-09.00.	.....	41.6	7211	0.2	Manizales (Colombia) HJ4ABB.	.....
50.42	5950	..	Medellin (Colombia) HJ4ABE, 01.00-05.00.	.....	40.3	7444	..	Tenerife Radio Club EA8AB.	.....
50.4	5953	..	Santo Domingo (D.R.) HIX, 02.00-05.00.	.....	38.48	7797	20	Radio Nations (Switzerland) HBQ.	.....
50.26	5969	10	Vatican City (Italy) HVJ. Daily, 20.00-20.15; SUN., 11.00-11.30 also.	.....	37.33	8035	10	Radio Nations (Switzerland) HBP. SAT., 23.30-01.15.	.....
50	6000	..	Barcelona Radio Club (Spain) EAJ25. SAT., 21.30-22.30.	.....	36.65	8186	..	Rabat (Radio Maroc) CNR. SUN., 21.00-22.00.	.....
49.96	6005	0.3	Bucharest (Romania).	.....	31.6	9493	1	Rio de Janeiro (Brazil) PRA3. 01.00-01.30.	.....
49.92	6010	20	Moscow RW59. 22.00-24.00.	.....	31.55	9510	20	Poznań (Poland) SR1. (Suspended.)	.....
49.9	6012	2.5	Montreal VE9DR. Daily (ex. Sun.) 12.30-05.00; SUN., 17.30-04.15.	.....	31.48	9530	40	Caracas (Venezuela) YV3BC.	.....
49.83	6020	8	Montreal VE9DN. 04.00-06.00.	.....	31.41	9550	0.5	*Daventry GSB.	.....
49.83	6020	8	Havana (Cuba) COC. 22.00-24.00.	.....	31.38	9560	8	Melbourne (Australia) VK3ME. WED., 11.00-12.30; SAT., 11.00-13.00.	.....
49.67	6040	2.5	Singapore (S.S.) ZHI. MON., WED., THURS., 12.00-14.00. SUN., 04.30-07.00.	.....	31.35	9570	10	Schenectady (N.Y.) W2XAF. Daily (ex. SAT.) 23.40-03.00. SUN. from 23.45.	.....
49.59	6050	10	Zeesen DJC (Germany). 03.00-05.30; 18.30-20.00.	.....	31.28	9590	20	Skamlebaek (Denmark) OXY.	.....
49.5	6060	0.5	Boston (Mass.) W1XAL. 22.45-00.15; SUN., 00.30-02.30.	.....	31.27	9595	18	Zeesen (Germany) DJA. 12.45-15.45; 23.00-02.00.	.....
49.43	6069	0.007	Miami Beach (Florida) W4XB. 13.00-05.00.	.....	31.25	9600	2	Springfield (Mass.) W1XAZ. Daily, 12.00-06.00 (SUN. from 14.00).	.....
49.42	6070	..	*Daventry GSA.	.....	31.25	9600	2	*Daventry GSC.	.....
49.4	6072	0.02	Cincinnati W8XAL. 23.00-07.00; 11.30-15.30; 18.30-20.30.	.....	30.43	9860	20	Lindhurst (Victoria, Australia) Daily (ex. SAT.), 04.15-08.30.	.....
49.34	6080	0.5	Nairobi (Kenya) VQ7LO. Daily, 17.00-20.00 (SAT. to 21.00); TUES., 09.00-10.00; THURS., 14.00-15.00.	.....	29.04	10,330	9	Philadelphia (Pa.) W3XAU. 17.00-23.00.	.....
49.26	6090	0.1	Philadelphia (Pa.) W3XAU. Daily, 01.00-06.00.	.....	28.98	10,350	..	Sydney (Australia) VK2ME. SUN., 07.00-09.00; 11.00-15.00; 15.30-18.30.	.....
49.22	6095	4	Skamlebaek (Denmark) OXY.	.....	28.86	10,578	..	Radio Nations (Switzerland) HBL. SAT., 23.00-23.45.	.....
49.18	6100	5	Vancouver (B.C.) VE9CS. SAT., 05.30-06.45. SUN., 17.00-05.00.	.....	25.63	11,705	15	Lisbon (Portugal) CT1AA. TUES. and FRI., 21.30-00.00.	.....
49.1	6109	0.5	Maracaibo (Venezuela) YV5BMO. 00.00-03.00.	.....	25.6	11,715	2	Mexico City XETE. 02.00-04.00.	.....
49.09	6110	0.2	Vienna Experimental OER2. TUES. and THURS. (at intervals) from 14.30-22.00.	.....	25.57	11,730	20	Madrid (Spain) EAQ. Daily, 23.30-01.30. SAT., 19.00-21.00 also.	.....
49.08	6112	0.2	Chicago (Ill.) W9XAA. Daily ex. SUN. 20.00-21.00 (TUES., THURS. and SAT. to 06.00); SUN., 16.30-02.15.	.....	25.53	11,750	20	Ruyselede (Belgium). ORK. Daily, 18.00.	.....
49.02	6120	10	La Paz (Bolivia) CP5. 01.00-04.30.	.....	25.27	11,870	40	Buenos Aires LSX. Daily, 21.00-22.00.	.....
49	6122	5	St. John (New Brunswick) VE9BJ. Daily, 00.00-01.30.	.....	25.25	11,880	15	Paris (France) FYB. Time Sig., 10.26 and 23.26.	.....
48.9	6130	..	Bowmanville (Canada) VE9GW. MON. to THURS., 19.00-04.00; FRI., SAT., 13.00-17.00; SUN., 17.00-02.00.	.....	25	12,000	20	Funchal (Madeira) CT3AQ. TUES. and THURS., 23.00-00.30; SUN., 16.30-18.00.	.....
48.86	6140	40	Bound Brook (N.J.) W3XAL. MON., WED. and SAT., 22.00-06.00.	.....	24.53	12,229	0.5	Radio Colonial (Paris) FYA 20.00-02.00; 03.00-05.00.	.....
48.78	6150	..	Chicago (Ill.) W9XF. TUES., THURS., FRI., 22.30-02.00; WED., FRI., SAT., 03.30-08.00.	.....	23.39	12,825	10	Winnipeg (Canada) VE9JR. Experimental. Daily 01.00-04.30.	.....
48	6250	..	Calcutta (India) VUC. D'ly (ex. FRI. and SAT.), 16.30-19.00; FRI., 15.30-16.00; SAT., 18.45-22.00.	.....	19.84	15,123	10	Eindhoven (Holland) PHI. (Suspended.)	.....
47.5	6316	..	Halifax (N.S.) VE9HX. SAT. and SUN., 22.00-04.00; Wk'days, 14.30-17.00; 21.00-04.00.	.....	19.82	15,140	15	*Daventry GSD.	.....
46.69	6425	18	Caracas (Venezuela) YV1BC. Daily (ex. SUN.), 17.00-19.30; 23.45-04.30; SUN., 15.00-17.30; 20.00-00.30; 01.30-04.30.	.....	19.74	15,200	8	Zeesen DJD (Germany). 03.00-05.30; 18.30-20.00.	.....
46.53	6447	0.3	Wayne (N.J.) W2XE. 23.00-04.00.	.....	19.72	15,210	40	Boston (Mass.) W1XAL, SAT., 22.30-04.00.	.....
46.3	6480	..	Johannesburg (S.A.) ZTJ. D'ly (ex. SUN.), 05.45-06.30; 09.30-13.00; 15.00-21.00 (22.45 SAT.), SUN., 14.00-16.15; 18.30-21.00.	.....	19.68	15,243	15	Rome (Italy) 2RO, 16.00-19.30; 22.00-00.30 (irregular).	.....
			Kuala Lumpur (Fed. Malay States) ZGE. SUN., TUES. and FRI., 12.40-14.40.	.....	19.67	15,250	5	Wayne (N.J.) W2XE. 20.00-22.00.	.....
			Pittsburgh W8XK. 21.30-06.00.	.....	19.64	15,270	15	*Daventry GSE.	.....
			Caracas (Venezuela) YV3BC.	.....	19.56	15,330	20	Pittsburgh W8XK. 21.18-03.00 (SUN. to 06.00).	.....
			Bogotá (Colombia) HJ3ABF.	.....	17.33	17,310	20	Radio Colonial (Paris). 16.15-19.15; 20.00-23.00.	.....
			Santo Domingo (D.R.) HIZ.	.....	16.89	17,760	8	Moscow (Russia) RNE. SUN., 05.00-06.00; 12.00-13.00; 16.00-17.00.	.....
			Bound Brook (N.J.) W3XL (Experimental).	.....	16.88	17,770	20	Lisbon (Portugal) CT1CT. SUN., 12.00-14.00. THURS., 21.00-23.00.	.....
			Barranquilla (Colombia) HJ1ABB. Daily 16.45-17.45; 00.00-02.30. MON., 16.45-17.30; 19.00-23.00.	.....	16.87	17,780	15	Rabat (Radio Maroc) CNR. SUN., 12.30.	.....
			Cali (Colombia) HJ5ABD.	.....	16.86	17,790	15	Vatican City (Italy) HVJ. 11.00-11.15.	.....
				.....	13.97	21,470	15	*Daventry GSF.	.....
				.....	13.93	21,540	..	Zeesen (Germany) DJB. 06.35-08.15; 12.45-15.45.	.....

* The Empire Transmitters are occasionally interchanged.

For Long and Medium-Wave Stations see page 734.

Short Waves in the North

By "DIPOLE"

(May 6-12)

A GENERAL summing up for the past week indicates that conditions have been generally very variable—at least, as far as reception in N.E. Scotland is concerned. W8XX (19.72 m.) has averaged a weaker signal during this period than for some time past, and only on one occasion has W3XAL (16.87 m.) been really good. The best heard U.S. transmitters—and by far the most reliable—have been W2XAD, W2XAF, and W8XX (25.27 m.). Atmospheric conditions have been particularly heavy and troublesome on both the 31-metre and 49-metre bands, reception of stations operating on the latter band of wavelengths being at times well nigh impossible. Of course, with the advent of Summer Time and our long Northern evenings, the American stations between 48 and 49 metres are now not heard really well until after midnight.

On Sunday evening, May 6, weak signal levels and rapid flutter were experienced from all stations on both 25 and 31 metres. W3XAL (16.87 m.), however, was found to be giving what proved to be the best signal of the week at 18.00, signal strength being fairly steady at R7 with an occasional slow, deep fade and an extremely low noise level. At 21.00, W2XAD was strongly received with very slight shallow fading, although an appreciable hum was noticeable on his carrier wave. Later in the evening both W8XX (25.27 m.) and W1XAZ were audible at R6, both affected by high noise and slight flutter, W8XX improving to R8 at 23.00. A steady R8 signal was also recorded at 23.00 from LSX (28.98 m.) apparently relaying one of the Buenos Aires broadcast programmes.

Another South American transmitter—Hurlingham LSL—was also heard extremely well on Monday evening calling GCA on an announced frequency of 10,250 kc/s (29.27 m.). Rapid flutter and high noise still persisted on 25 and 31 metres, the strongest signals being recorded from the "locals" DJC, Moscow (50 m.) and OXY (49.4 m.).

Tuesday was noteworthy for two events, namely, the great improvement in signal strength of the European 25-metre stations and the return of an old friend—one I have not heard for some time—CT1AA (31.25 m.). Signal strength at 23.00 was really excellent (R9), but reception was marred by distortion.

W8XX (19.72) showed a great improvement the following evening at 20.00 with a fairly steady signal level of R8, the programme being a special song-recital by Graham McNamane the famous American sports commentator. At 23.45 W8XX (25.27 m.) was audible at R7. W3XAU (31.28 m.) and W1XAZ (31.35 m.) were approximately the same strength as W8XX, but with considerably higher noise levels, partly owing to continuous static. W3XAL (49.18 m.) was easily the best heard U.S. 49-metre station after midnight.

An unusual feature was noted on Thursday, May 10; the Empire transmitter GSH (13.97 m.) 21,470 kc/s, was audible at 13.30. It should be remembered that since the ground radiation of a transmitter operating on such a high frequency is extremely small, it is rather unlikely that even a "whisper" may be heard in this country. On this occasion, however, although the carrier wave was of reasonable strength (R4) and steady, modulation was only perceptible at intervals, but fairly strongly.

W2XE, W8XX (19.72 m.) and W3XAL (16.87 m.) were all heard at 16.00. Shortly after midnight the concluding remarks of a commentary on the arrival of the Burlington "Zephyr" in Chicago were heard, relayed from W1XAZ. W2XAF (31.48 m.) was also heard, quite steady at R8. Several South American transmitters were also heard at "fair" strength.

Short-Wave Reports

To the Editor of WORLD-RADIO

SIR,—Here is a short-wave report for May 5 and 6, which I hope will interest other readers.

- B.S.T.
- May 5—13.30 DJA (31.38 m.) R9/F/N. News.
 - " 5—19.15 EAQ (30.43 m.) R8/F/N. Music.
 - " 5—19.30 GSB (31.55 m.) R4/FR/N. In Town To-night.
 - " 5—20.05 OXY (49.5 m.) R6/FF/N. Music.
 - " 5—20.08 DJC (49.83 m.) R8/F/N. News.
 - " 5—20.09 RW72 (45.83 m.) R7/FF/XX. Music.
 - " 5—20.10 HVJ (50.26 m.) R8/FR/X. Talk.
 - " 6—00.30 W3XAL (49.18 m.) R8/FR/XX. Talk on Art.
 - " 6—00.40 W8XX (48.86 m.) R6/FF/X. Dance Music.
 - " 6—00.45 W3XAU (49.5 m.) R6/FFR/X. Dance Music, Call.
 - " 6—13.30 DJA (31.38 m.) R7/FFR/N. News.
 - " 6—18.00 OXY (49.5 m.) R8/FR/N. Service.
 - " 6—18.15 GSB (31.55 m.) R3/FFR/X. Music.
 - " 6—18.20 RW72 (45.83 m.) R6/FF/X. Music.
 - " 6—19.00 DJC (49.83 m.) R8/FFR/X. News.
 - " 6—21.05 RW59 (50 m.) R8/F/X. Talk.

The receiver used was an o—v—1 and all reception was on 'phones.

Yours faithfully,
A. D. T.

Heswall, Cheshire.

* * *

To the Editor of WORLD-RADIO

SIR,—As I have not seen a report from this district, the enclosed log for Sunday, May 6, may be of interest.

- B.S.T.
- 05.10 DJC (49.83 m.) R7/N/X. Close down.
 - 05.12 W3XAL (49.5 m.) R5/FS/X. Talk.
 - 05.30 W3XAL (49.18 m.) R7/FS/N. Dance Band.
 - 05.35 W8XX (48.86 m.) R8/FS/X. Messages to Listeners in the North.
 - 07.07 GSB (31.55 m.) R7/FFR/N. Symphony Concert.
 - 07.20 VK2ME (31.28 m.) R5/F/X. Call, Time, and Records.
 - 11.07 HVJ (50.26 m.) R5/FS/N. Service.
 - 12.05 RNE (25 m.) R5/N/X. Talk in English.
 - 12.45 DJA (31.38 m.) R8/N/X. Opening Call in English.
 - 15.35 GSE (25.28 m.) R5/N/X. Service.
 - 16.05 W8XX (19.72 m.) R6/FS/X. Service.
 - 16.10 GSF (19.82 m.) R5/N/N. The Templars.
 - 16.17 FYA (19.68 m.) R6/N/X. Orchestra.
 - 18.15 OXY (49.5 m.) R9/N/X. Service and Call.
 - 18.30 W1XAZ (31.35 m.) R1/N/XX. Speech.
 - 19.35 DJC (49.83 m.) R9/FFS/X. Call in English.
 - 19.38 2RO (25.4 m.) R8/N/X. Speech.
 - 19.40 GSD (25.53 m.) R5/F/X. Violin Solos.
 - 21.00 W2XAD (19.56 m.) R7/FS/X. Call and Singing.

All reception on o—v—2, with moving-coil loud-speaker, with the exception of the last entry which was received on o—v—1 with 'phones.

Yours faithfully,
R. A. L.

Handcross, Sussex.

* * *

To the Editor of WORLD-RADIO

SIR,—I beg to submit the following short-wave report for Sunday, May 13.

- B.S.T.
- 17.00 OXY (49.5 m.) R6/FFS/X. Service.
 - 17.15 LCL (31.5 m.) R8/FS/X. Records.
 - 17.30 2RO (25.4 m.) R7/FR/N. Singing.
 - 18.15 W8XX (19.72 m.) R5/FFS/N. Music.
 - 18.45 GSB (31.55 m.) R4/FFS/X. Call.
 - 19.00 RW75 (45.38 m.) R6/FFS/X. Music.
 - 19.05 DJC (49.83 m.) R7/FFS/XX. News.
 - 19.10 FYA (25.25 m.) R3/N/X. Violin.
 - 20.55 W2XE (25.36 m.) R2/N/N. Music.
 - 21.15 W2XAD (19.56 m.) R4/FFR/N. Singing.
 - 21.20 FYA (25.63 m.) R4/FFR/N. A Play.
 - 21.27 RW59 (50 m.) R8/FFR/X. Programme in German.
 - 22.10 W3XAU (31.28 m.) R3/FFS/X. Service.
 - 22.20 W8XX (25.27 m.) R3/FFR/N. Service.
 - 23.30 EAQ (30.43 m.) R7/FS/N. News.
 - 23.43 COC (49.92 m.) R5/FFR/X. Dance Music.
 - 23.55 W1XAZ (31.35 m.) R5/FFR/N. Piano Solos.
 - 00.00 GSC (31.3 m.) R6/FFR/N. Big Tom.

The set used was a i—v—2, with the usual outdoor aerial. All reception on moving-coil loudspeaker.

Yours faithfully,
A. C.

Leeds.

International Short-Wave Club

Future meetings of the London Chapter will be held at the R.A.C.S. Hall, Cavendish Grove, Wandsworth Road, S.W.8, on May 18 and June 1 at 20.00 and Sunday June 24 at 15.00. All short-wave listeners are invited to attend. The meeting to be held on Sunday June 24 is to be a special one, to be attended by many important radio authorities and members from all over the country.

Acknowledgments

Letters and reports regarding short-wave reception have also been received from D. R. W., Hayward's Heath, Sussex; J. F. W., Glasgow; W. A. B., Belvedere, Kent; C. R. C., Burnley, Lancs.

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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

kc/s	m.	kW	Station	Dial Readings	kc/s	m.	kW	Station	Dial Readings
<i>Band No. 1. 150-300 kc/s</i>									
735	1935	7	Kaunas (Lithuania)		850	352.9	1	Bergen (Norway)	
		7	Huizen (Holland)				0.35	Aalesund (Norway)	
160	1875	50	Kootwijk (Holland) (Transmits Huizen prog. after 3.40 p.m.)				0.7	Porsgrund (Norway)	
		20	Brasov (Romania)				1	Sofia (Bulgaria)	
166	1807	40	Lahti (Finland)		859	349.2	1.5	Valencia (Spain)	
174	1724	500	Moscow I (U.S.S.R.)				10	Simferopol (U.S.S.R.)	
182	1648	75	Radio-Paris (France)		868	345.6	15	Strasbourg (France)	
185	1621	5	Istanbul (Turkey)				16	Poznań (Poland)	
191	1571	60	Deutschlandsender (Germany)		877	342.1	0.7	Fredriksstad (Norway)	
200	1500	30	Davenport National (Gt. Britain)		886	338.6	50	London Regional (Gt. Britain)	
		7	Ankara (Turkey)				7	Graz (Austria)	
208	1442	100	Minsk (U.S.S.R.)		895	335.2	10	Toulouse (Radio-Toulouse) (France)	
215	1395	13	Eiffel Tower (Paris) (France)				10	Helsinki (Finland)	
216	1389	30	Motala (Sweden)		904	331.9	100	Hamburg (Germany)	
		16	Reykjavik (Iceland)				0.5	Limoges (PTT) (France)	
223	1345	20	Kharkov (U.S.S.R.)		913	328.6	10	Dnepropetrovsk (U.S.S.R.)	
		120	Warsaw (Poland)				32	Brno (Czechoslovakia)	
230	1304	150	Luxembourg		922	325.4	15	Brussels II (Belgium)	
238	1261	75	Kalundborg (Denmark)		932	321.9	12	Algiers (North Africa)	
240	1250	0.5	Vienna Experimental (Austria)		941	318.8	10	Göteborg (Sweden)	
245	1224	100	Leningrad (U.S.S.R.)		950	315.8	60	Breslau (Germany)	
254	1181	60	Oslo (Norway)		959	312.8	100	Poste Parisien (France)	
271	1107	100	Moscow II (U.S.S.R.)				1.2	Gomel (U.S.S.R.)	
					968	309.9	20	Grenoble (France)	
<i>Band No. 2. 300-500 kc/s</i>									
355	845	1	Finmark (Norway)		977	307.1	10	Odessa (U.S.S.R.)	
		20	Rostov-on-Don (U.S.S.R.)				2	Oukhta (or Tiraspol) (U.S.S.R.)	
364	824	10	Smolensk (U.S.S.R.)		986	304.3	50	W. Regional (Gt. Britain)	
392	765	0.6	Östersund (Sweden)				10	Genoa (Italy)	
401	748	1.3	Geneva (Switzerland)		995	301.5	2	Cracow (Poland)	
		100	Moscow III (U.S.S.R.)		1004	298.8	20	Hilversum (Holland)	
413.5	726	0.6	Boden (Sweden)				13.5	Bratislava (Czechoslovakia)	
		10	Voroneje (U.S.S.R.)		1013	296.2	50	North National (Gt. Britain)	
431	696	2	Oulu (Uleaborg) (Finland)				10	Tchernigov (U.S.S.R.)	
436	688	10	Oufa (U.S.S.R.)		1022	293.5	3	Barcelona EAJ15 (Spain)	
							0.7	Oviedo (Spain)	
<i>Band No. 3. 1500-500 kc/s</i>									
519	578	0.7	Hamar (Norway)		1040	288.5	10	Leningrad II (U.S.S.R.)	
		0.5	Innsbruck (Austria)				2.5	Rennes (PTT) (France)	
		5	Ljubljana (Yugoslavia)		1050	285.7	10	Krasnodar (U.S.S.R.)	
527	569.3	13	Viipuri (Finland)				50	Scottish National (Gt. Britain)	
		0.5	Finnish Common Wave		1059	283.3	20	Bari (Italy)	
536	559.7	1	Bolzano (Italy)		1068	280.9	10	Tiraspol (or Odessa) (U.S.S.R.)	
		16	Wilno (Poland)		1077	278.6	12	Bordeaux Lafayette (France)	
546	549.5	120	Budapest (Hungary)				2	Falun (Sweden)	
556	539.6	60	Beromünster (Switzerland)		1086	276.2	0.7	Zagreb (Yugoslavia)	
565	531	60	Athlone (Irish Free State)				7	Madrid EAJ7 (Spain)	
		4	Palermo (Italy)		1095	274	10	Vinnitsa (U.S.S.R.)	
574	522.6	100	Stuttgart (Germany)				1.5	Naples (Italy)	
583	514.6	15	Riga (Latvia)		1104	271.7	20	Madona (Latvia)	
592	506.8	120	Vienna (Austria)				2.6	Kosice (Czechoslovakia)	
601	499.2	6.5	Rabat (Morocco)		1113	269.5	1	Belfast (N. Ireland)	
		10	Sundsvall (Sweden)		1122	267.4	6.2	Nyiregyháza (Hungary)	
610	491.8	20	Florence (Italy)				10	Hörby (Sweden)	
		10	Murmansk (U.S.S.R.)		1131	265.3	7	Turin (Italy)	
620	483.9	15	Brussels I (Belgium)		1140	263.2	50	London National (Gt. Britain)	
629	476.9	1.2	Trondheim (Norway)				50	West National (Gt. Britain)	
638	470.2	120	Prague I (Czechoslovakia)		1149	261.1	11.2	Moravská-Ostrava (Czechoslovakia)	
648	463	15	Lyons (La Doua) (France)		1158	259.1	15	Monte Ceneri (Switzerland)	
		10	Petrozavodsk (U.S.S.R.)		1167	257.1	10	Copenhagen (Denmark)	
658	455.9	17	Cologne (Germany)		1176	255.1	10	Kharkov II (U.S.S.R.)	
668	449.7	50	North Regional (Gt. Britain)		1185	253.2	10	Cassel (Germany)	
677	443.1	25	Sottens (Switzerland)				1.5	Frankfurt (Germany)	
686	437.3	2.5	Belgrade (Yugoslavia)		1195	251	17	Freiburg-im-Breisgau (Germany)	
695	431.7	7	Paris (École Supérieure) (France)				5	Kaiserslautern (Germany)	
704	426.1	55	Stockholm (Sweden)				1.5	Trier (Germany)	
713	420.8	50	Rome (Italy)				5	Prague II (Czechoslovakia)	
722	415.5	100	Kiev (U.S.S.R.)		1204	249.2	0.1	Tromsø (Norway)	
		3	Madrid (Radio-España) (Spain)				5	Lille (PTT) (France)	
731	410.4	1.5	Seville (Spain)		1213	247.3	10	Trieste (Italy)	
		20	Tallinn (Estonia)				5	Gleiwitz (Germany)	
740	405.4	100	Munich (Germany)		1231	243.7	1	Cork (I.F.S.)	
		5	Marseilles (PTT) (France)				1	Swedish Relay Stations	
749	400.5	0.5	Pori (Finland)		1240	241.9	2	Juan-les-Pins (Radio Côte d'Azur) (France)	
758	395.8	12	Katowice (Poland)				1	Rome III (Italy)	
767	391.1	25	Midland Regional (Gt. Britain)		1249	240.2	3	San Sebastian (Spain)	
776	386.6	10	Stalino (U.S.S.R.)				2	Augsburg (Germany)	
		2	Toulouse (PTT) (France)		1258	238.5	2	Nürnberg (Germany)	
785	382.2	120	Leipzig (Germany)				2	Nürnberg (Germany)	
		5	Barcelona, EAJ1 (Spain)		1267	236.8	0.5	Bodø (Norway)	
795	377.4	16	Lwów (Poland)				0.5	Christiansand (Norway)	
		20	Salonica (Greece)		1276	235.1	0.5	Stavanger (Norway)	
804	373.1	50	Scottish Regional (Gt. Britain)				0.5	Aberdeen (Gt. Britain)	
814	368.6	50	Milan I (Italy)		1285	233.5	1.5	Dresden (Germany) (rlys. Leipzig)	
823	364.5	12	Bucharest (Romania)				0.5	Linz (Austria)	
827	362.8	2	Radio-LL (Paris) (France)		1294	231.8	0.5	Dornbirn (Austria)	
832	360.6	100	Moscow IV (U.S.S.R.)				0.5	Klagenfurt (Austria)	
841	356.7	100	Berlin (Germany)		1303	230.2	0.5	Danzig (Danzig Free City)	

STATIONS IN ORDER OF FREQUENCIES AND WAVELENGTHS (Continued)

kc/s	m.	kW	Station	Dial Readings	kc/s	m.	kW	Station	Dial Readings
1312	228.7	0.25	Karlstad (Sweden) ..	.....	1429	209.9	2	Beziere (France) ..	.....
		1.25	Malmö (Sweden) ..	.....			1	Newcastle (Gt. Britain) ..	.....
		0.25	Norrköping (Sweden) ..	.....			100	Minsk RV10 (Russia) ..	.....
		0.25	Trollhättan (Sweden) ..	.....			1.25	Magyarovar (Hungary) ..	.....
1321	227.1	0.8	Budapest II (Hungary) ..	.....	1438	208.6	1.25	Miskolc (Hungary) ..	.....
		1.5	Bremen (Germany) ..	.....			1.25	Pecs (Hungary) ..	.....
		1.5	Flensburg (Germany) ..	.....			1	Spanish Common Wave ..	.....
1330	225.6	1.5	Hanover (Germany) ..	.....	1447	207.3	1	Radio-Normandie (France)	.....
		1.5	Magdeburg (Germany) (relays Hamburg)	.....	1456	206	0.2	Agen (France) ..	.....
		1.5	Stettin (Germany) (relays Hamburg)	.....	1474	203.5	1	Bournemouth (Gt. Britain)	.....
1339	224	5	Montpellier (P.T.T.) (France)	.....			0.3	Plymouth (Gt. Britain)	.....
		1	Dublin (Irish Free State)	.....			1	Bordeaux-Sud-Ouest (France)	.....
		2	Radio-Vitus (France) ..	.....			0.1	Binche (Belgium) ..	.....
1348	222.6	1.7	Lodz (Poland) ..	.....			0.1	Chatelineau (Belgium) ..	.....
		4	Milan II (Italy) ..	.....	1492	201.1	0.1	Antwerp (Belgium) ..	.....
		0.15	Rjukan (Norway) ..	.....			0.1	Courtrai (Belgium) ..	.....
		0.5	Salzburg (Austria) ..	.....			0.1	Wallonia (Belgium) ..	.....
1357	221.1	0.08	Notodden (Norway) ..	.....			0.2	Nîmes (France) ..	.....
		0.2	Turin II (Italy) (relays Rome)	.....			0.6	Turku (Finland) ..	.....
1366	219.6	1.7	Torun (Poland) ..	.....			0.1	Liège Experimental (Belgium)	.....
		0.5	Basle (Switzerland) ..	.....			0.1	Radio-Cointe (Belgium) ..	.....
1375	218.2	0.5	Berne (Switzerland) ..	.....			0.1	Wallonia (Belgium) ..	.....
1384	216.8	2	Warsaw II (Poland) ..	.....	1500	200	0.1	Seraing (Belgium) ..	.....
1393	215.4	5	Radio-Lyons (France) ..	.....			0.1	Verviers I (Belgium) ..	.....
1402	214	0.4	Swedish Common Wave ..	.....			0.1	Verviers II (Belgium) ..	.....
1411	212.6	2	Portuguese Common Wave ..	.....			0.25	Pietarsaari (Jacobstad) (Finland)	.....
1420	211.3	1.2	Tampere (Finland) ..	.....	1530	196	0.2	Karlskrona (Sweden) ..	.....

DEVIATIONS

The following are the actual deviations from the official frequencies as measured at the Tatsfield Checking Station during the past week,

208	1442	—	Reykjavik (Iceland) ..	.....	895	335.2	—	Limoges (France) ..	.....
229	1310	—	Kharkov (U.S.S.R.) ..	.....	913	328.6	—	Toulouse (Radio-Toulouse)	.....
265	1132	—	Madona (Latvia) ..	.....	1113	269.5	—	Radio-Vitus (France) ..	.....
583.6	514	—	Agen (France) ..	.....	1318.5	227.6	—	Magyarovar (Hungary) ..	.....
792	378.8	—	Barcelona (Spain) ..	.....	1432.5	209.4	—	Beziere (France) ..	.....
864	347.2	—	Sofia (Bulgaria) ..	.....	1465.8	204.7	—	Pecs (Hungary) ..	.....

For list of Short-Wave Stations see page 732.

NEW FREQUENCIES NOT ANNOUNCED

At the time of going to press the new (Lucerne Plan) frequencies of the following stations have not been definitely announced. In many cases they are working on a "common wave" either National or International.

Almeria (Spain)	(Spain) Galicia	Kalmar (Sweden)	Malmberget (Sweden)	St. Quentin (France)
Bilbao (Spain)	Gävle (Sweden)	Kashbah (Tunis)	Örebro (Sweden)	Tartu (Estonia)
Borås (Sweden)	Halmstad (Sweden)	Kiruna (Sweden)	Ornskoldsvik (Sweden)	Uddevalle (Sweden)
Cadiz (Spain)	Hälsingborg (Sweden)	Kristinehamn (Sweden)	Säffle (Sweden)	Umea (Sweden)
Cartagena (Spain)	Hudiksvall (Sweden)	Lisbon (Portugal)	Salamanca (Spain)	Uppsala (Sweden)
Eskilstuna (Sweden)	Jönköping (Sweden)			

Which Station Was That?
Replies to Queries

TRANSATLANTIQUE (Ilfracombe): (1) WIK, Rocky Point (N.Y.), 21.53 m., or WAJ, Rocky Point (N.Y.), 22.26 m.; (2) WEB and WQP, Rocky Point (N.Y.) on 20.31 m. and 21.58 m. respectively. The latter station tests with Moscow. CRIPPLED NIGHT-HAWK (Lincoln): Moscow (1,107 m.), testing with Novosibirsk. BUDGERIGAR (Hampton): A "break through" of the London Regional programme on the lower end of your long-wave coil. SUPERHET (Harrogate): The call you give is mutilated; regret, cannot trace. JOSCA (Bedlington): (1) PSH, Rio de Janeiro, on 10,220 kc/s, testing with WOK, Laurenceville (N.J.) on 10,550 kc/s; (2) VLK, Sydney, 10,525 kc/s, testing with GBP, Rugby, on 10,770 kc/s; (3) LSL2, Hurlingham (Buenos Aires), 10,300 kc/s, testing with GCA, Rugby, on 9,710 kc/s. MARNOCK (Rothsay): Apparently Coltano, on 17,770 kc/s, calling London. ROBBIE (Preston, North Shields): W2XE, Wayne (N.J.): CBS station on 49.02 m. RELITS (Bromley): (1) EAH, Madrid-Vallecas (Spain), 16.46 m.; (2) FZT2, Tananarive (Madagascar), 28.5 m. ZIRCONIUM (Bexley Heath): (1) and (2) the only two Russian stations known to us, nearest to wavelengths given, are Moscow (3), 748 m., and Rostov Don, 845 m. A. S. P. (N.J.): Warsaw, giving gramophone records; this station has a woman announcer. HOO-OZZIT (Dorset): G5XR, amateur transmitter at Easton, Portland, Dorset; address of G5NU not in list; write: Radio Society of Great Britain, 53, Victoria Street, London, S.W.1. FAN (Moffat): Regret, cannot trace any call-signs with prefix "B." ONE VALVER (Oakham): Barcelona Radio Club, EAJ25, on 50 m. F. M. S. (Bletchingley): (1) PY1AA, Rio de Janeiro; (2) FM4AA, unofficial call from amateur at Tunis; (3) regret, cannot trace. Thanks for information regarding Jelöy. A. L. M. (Bristol): (1) LSN, Hurlingham, 14.27 m. (21,120 kc/s); not working on 20,680 kc/s; (2) LSY, Monte Grande, 14.49 m. (20,700 kc/s) and frequently on 15.5 m. (19,355 kc/s); (3) ZSS, Klipheuvell (South Africa), 15.88 m. (18,890 kc/s). G. H. B. (Reigate): G5XH, Croydon; G6WY, Beckenham, Kent; G6YJ, Newport, Mon.; F3DN, Anemasse (Haute Savoie), France; F8GR, Nice, France; F8JD, Toulouse, France; EA8AE, Puerto de la Luz, Canary Islands; cannot trace OH6NN, but if OH6NM, Pietarsaari, Finland; SPIAU, Pruszkow, Poland; cannot trace W4HNS, but if W4HN, Charleston, South Carolina; "W4" calls cover; Alabama, North and South Carolina, Georgia, Florida, and Tennessee; "W7" calls cover; Oregon, Washington, Idaho, Montana, and Wyoming. Station heard on 9,400 kc/s would tally with XDC, Mexico, from which music has been heard recently. THE CHIPPY ROOM (Hendon): Apparently OXY, Skamlebaek; a slightly altered programme. QUI VEUT TOUT (Canterbury): Call appears to be wrong; surely CIA, Drummondville (Que.) on 13,285 kc/s, calling GBB, Rugby? WANDERO (Cambridge): DAN, Norddeich (Germany);

weather reports on 1,571 m.; Budapest (2) is on 360 kc/s, and Magyarovar, relaying Budapest, on 1,321 kc/s; Minsk (U.S.S.R.) is on 208 kc/s only. G3ABC (Yorks): Apparently 6th harmonic of Naples, which was relaying opera from Rome. SPERO (Kensington Court): KDKA, East Pittsburgh, and WBAL, Baltimore; both stations belong to the NBC "Blue" Network. NOSEY PARKER (Bexley Heath): (15) WIK, Rocky Point (N.Y.), 21.53 m. (13,930 kc/s); (16) WAJ, Rocky Point (N.Y.), 22.26 m. (13,480 kc/s). NOTRAB (Tidworth): WQV, WEB, and WQP, Rocky Point (N.Y.) on 20.27, 20.31, and 21.58 m. respectively. The last-named station tests with Moscow. Possibly you received this through WQV. WABERITH (Belvedere): (47) XGD2, Shanghai, on new channel; cannot give exact frequency, but usually heard on 28.74 m. (10,440 kc/s). (48) YTC, Belgrade-Rakovica (Yugoslavia). WIFFLESNARK (Eltham): G6WQ, Ilford; G5PK, West Ham, E.15; G2JV, Ashford, Kent; G2YG, Eltham, S.E.9; call-signs G5OH and G6DD not in list; write: The Radio Society of Great Britain, 53, Victoria Street, London, S.W.1. ACHTUNG (Adare, I.F.S.): (1) possibly LSN, Buenos Aires, on 229 m.; (2) would tally with L88, Radio-Sarmiento (Buenos Aires), on 243.9 m. (20 kW), which has been heard in the British Isles; (3) LR3, Radio-Nacional, Buenos Aires, 316 m. (12 kW); (4) the only German station advertised to work at that hour was Stuttgart (late concert), also taken by Frankfurt-am-Main and relays; (5) telephony conversations with other Russian stations; (6) Barcelona (EAJ1) at 23.10 B.S.T. advertised a relay from the Granja Royal in that city; (7) Reykjavik gives late dance music transmissions every Saturday and Sunday evenings (until about 02.00 B.S.T.), and we suggest this is about the best time to try for reception; (8) testing with other stations. COORIUS (Sheffield): (1) if wavelength approximately correct, telephony service between Algiers (33.48 m.) and Paris; (2) details are too vague to trace. CALEDONIA (Prescot): Believe DAN, Norddeich (Germany), on 66.18 m., but cannot confirm. I NO U NOT (Hayward's Heath); SLEEP LOSER (Reydon); JOSE FIGUERAS PASTELLS (Barcelona): Yes, Jelöy working on a new channel, but have received no official confirmation of the wavelength. SHORT WAYER (Heaton); MODERATOR (Tottenham): Believe it to be one of the Rome short-wave stations, testing on new wavelength. SHORT WAYER (Cambridge): YV5BMO, Maracaibo (Ven.), on 6,070 kc/s. G/3BSK (Beccles): (2) apparently you heard WEA, Rocky Point (N.Y.) on 28.28 m., relaying European concert to America, and call "the Swedish Broadcasting Company." WATTS-IN-THE-AIR (East Ham): Believe this to be the Radio Club of Brazil (Rio de Janeiro) working through one of the Marapicu transmitters on a new channel. Time in Brazil is four hours behind B.S.T. MODERATOR (Tottenham): (1) test by Jelöy, on new channel; (2) believe this to be one of the Rome short-wave stations working on new wavelength. STEAMBOAT BILL (Sutton-in-Ashfield): Can trace the following calls: G6HT, Penn, Wolverhampton; G2NO, Walsall (Staffs); WIIAB, Lynn (Mass.); WIJY (C.7), Newtonville (Mass.); B1BTB, Salfield (Conn.); W2BYK, Ocean Grove (N.J.); W2AJB, New York City; W8BT, Wilkesburg (Pa.); W8BK, Pittsburgh (Pa.); W8BTB, Portsmouth (Ohio); CT1GU, Porto (Portugal);

VE3EG, Toronto; CPS, La Paz (Bolivia). CALEDONIA (Prescot): (2) Belgrade-Rakovica (Yugoslavia); (3) OXR, Skamlebaek, on 23.24 m. (12,910 kc/s). TERRITORIAL (Cove): Moscow; French transmission.

The Alternative Postal Service

In addition to the free service of "Which Station Was That?" printed in these columns, replies to queries regarding station identification 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."

IDENTIFICATION COUPON (No. 275)

This coupon is valid for ONE QUESTION only, and should be cut out and attached to a separate sheet, upon which the following questions should be answered in the order shown, and, in the case of FREE queries, a copy of the answers should be enclosed. No coupon more than one month old is valid. (In the case of readers living in countries outside Europe who desire identification of transmissions, no coupon is necessary.)

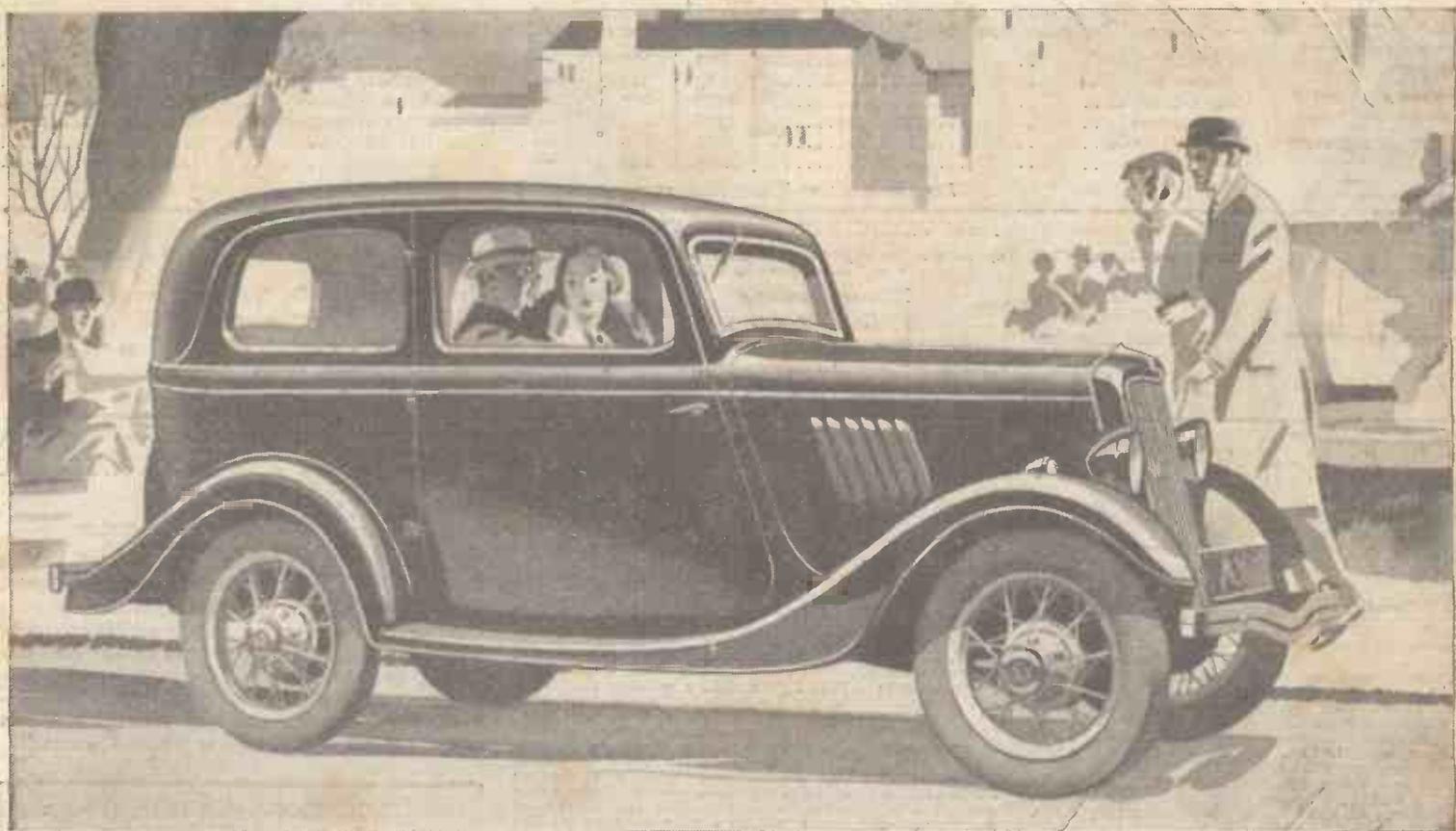
1. Time and date of reception.
2. Approximate frequency in kilocycles per sec. (or wavelength in metres).
3. Nearest known stations, above and below.
4. Call or interval signal, if heard.
5. Language.
6. Type of receiver in use and strength of signals.
7. Details of programme or signal received.
8. Name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

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