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WORLD-RADIO CHRISTMAS NUMBER

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FULL FOREIGN PROGRAMMES FOR CHRISTMAS

IN THE NEW “WORLD-RADIO” HOUR-BY-HOUR ARRANGEMENT

SEE PAGE 835

THIS CHRISTMAS . . .

. . . . in cottage or in castle, in city or the wilds of wooded countryside; when the turkey has fulfilled its plump and satisfying task; when the pudding remains no more than a luscious memory; when spirits are warm and goodwill to all men swells in each British heart . . . when, in short, Christmas festivities are just needing a gentle twist upon a knob to find completion in a flow of satisfying entertainment—then it is that Mullard Master Valves will assure you of radio as perfect as good radio can be. • Are you depending on the valves which you depended on last Xmas—or the Xmas before? Fit new Mullard Master Valves—and be sure, this Christmas.



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Arks



CHRISTMAS time is the season for celebration. We give presents one to another and are generally on our best behaviour; at least on the twenty-fifth itself. Therefore, we might be permitted to indulge ourselves by imagining an international broadcast programme that would please our individual taste without running the risk of being thought unduly selfish. I have been making out a list of what I should like to hear from the different countries, though there is part of a news bulletin I have not included which I should like to know would be broadcast from every station that day: a news bulletin which could inform us that Peace and Goodwill were the aim and object of every nation and that such an era would be inaugurated by the immediate abolition of all deadly instruments of destruction.

From Germany, in my programme, I should look forward to hearing a good half-hour of old drinking-songs; those songs with the rousing choruses that the old German brass bands used to play in this country with such gusto before the War; songs that speak of youth and good-fellowship and force one to join in with the singing out of sheer happiness. And then to follow on and complete my hour, some Schubert *Lieder*, sung by a good full-throated bass-baritone. *Lachen und Weinen*, *Das Wandern*, *Das Fischermädchen*, *Erl-könig*, for instance.

Next let me switch to a French station to hear Sacha Guitry and his wife in one of those charming duologues from one of his plays, such as the one about Napoleon III. In this little play his great art and superbly modulated voice are at their best. Then give me that exquisite artist Lucienne Boyer singing *Parlez-moi d'amour* and *La barque d'Yves*, followed by some sympathetic soprano in such old French songs as *Il n'est point d'amour sans peine*, *Margoton va l'iau*, and *Gardez-vous d'être sévère*. That French programme would be appreciated by all listeners, and of my whole list I would recommend those three separate turns above all.

Now Belgrade should give us some Balkan gipsy music, where violins and zithers would give welcome relief from the blare of brass and the whining and popping of the modern saxophone. In the music of the Balkans we shall find a strange excitement, for the start of their songs is slow and plaintive and the gradual crescendo works up to a final dance of great speed and melody. To appreciate this music one needs no lighted restaurant where people eat in uncomfortable clothes, but the open space in the forest and the musicians clustered round the camp fire—for that is how these tunes are played at their best.

Next we will switch over to the United States and, having agreed to cut out the advertisements for tooth-paste, chewing-gum, or cigarettes, we should—or I should—enjoy a good talk on the greatest pride of America—her domestic architecture. I want to learn why her houses are so comfortable and so nice to

look upon. I want to learn why they are warm in winter and cool in summer, and why the poorest of her people can have central heating whilst we are content with one coal fire in the living-room. I should learn why electric power is so cheap and how everyone has labour-saving devices and no house (in the towns at any rate) need be without a refrigerator.

Will then switch over to Moscow, where I want to hear a balalaika orchestra playing those quick Caucasian melodies and glorious folk songs such as *Harochie Malchick* and *Ochen Chorny*. To me there is something about a balalaika orchestra that is different from any other; perhaps it is the abandon of the music or the fact that every song or dance has a real tune to it: not like modern jazz where so many are alike. Then if there is time I would wish for a good singer to give me *The Song of the Flea* and a quartet to sing one or two eighteenth-century Russian songs of the type the *Chauve Souris* company have made famous throughout the world.

To Milan I go next, in order to listen to Italian opera, of which I prefer *Rigoletto*. As I cannot resurrect Caruso, Scotti, or Calvé, I shall have to be content with artists I do not know, but I shall enjoy to lean back in my chair and imagine I am at the great opera house in Milan, while I listen to singing of people who seem to be able to put so much go into opera and so much charm into their rendering. High-brow musicians do not care for Italian opera, but my tastes are more plebeian and, of all countries' operas, I infinitely prefer Italy's. It gives me the warmth of that land and the sunshine, and I am grateful for that at Christmas time.

From Holland I want a talk, and it will have to be in English so that I can understand. I want to hear about their co-operative farming and how they can buy young heifers and fatten them up and then sell them at a profit, because I have tried to do that over here and failed miserably. I want to hear how they market their vegetables and make money on that as well. Then I want to know why their flower growing has suddenly ceased to be profitable after so much success in the past years. Anything on these lines that the Dutch can tell me I shall be grateful for, and I shall try to profit from their advice.

Let Ireland thrill me with a play of Lady Gregory's—*The Rising of the Moon* for preference, which I have always considered one of the best one-act plays ever written. It is a story of the old troubles when the R.I.C. are on the look out for a leader of the nationalist movement upon whose head is a reward. A ballad singer comes along, and he and the sergeant start talking together to bear each other company in the lonely vigil by the wild seashore. This conversation is superbly written, and the skilful way in which the ballad singer undermines the policeman's faith in his duty is a delight to listen to. Then the sergeant

realises the ballad singer is the wanted man but instead of giving him away he lets him slip through his fingers and wonders if he was a fool to lose the reward.

From Scotland I would hear some Songs of the North—*The bonnie Earl of Moray*, *O'er the moor*, *Turn ye to me*, *Sound the pibroch* and *The lament for the Maclean of Argdour*, and surely there are few better national songs written. I should even like them sung in Gaelic, for it is a strange wild tongue to listen to, but very stirring. Let Wales give me a sermon in the Welsh tongue by one of their best preachers and let him finish up with the Lord's Prayer in Welsh, for that always sounds magnificent. It is a language I do not know, but it conveys its meaning in the skill of the good Welsh preacher.

London Regional shall give me an hour of Vaudeville, and I should like to listen to the music-hall songs of my youth. I could do with the choruses being sung in the studio as well, and I should like the Veterans of Variety to do much of the singing. We could start from *Champagne Charlie* and finish with *Charlie Brown*, and at the very end I want to hear that old country song about the sow, which I understand shocked several members of our urban population when it was broadcast some years ago. I always think we are better at Vaudeville than anything else, although so much of the humour depends on action, which I shall not be able to see until we get television.

Madrid shall now give us one of her Tango bands, and this hesitating and graceful rhythm will soothe me considerably. The tango is easily the most graceful of modern dances, but I have never heard of it being danced correctly in this country. We never seem to have taken it up except in a modified form, and even the French do not dance it in the same way as the Spaniards. Occasionally we are able to see it in our music-halls, but we have to go to Spain to see it at its best. There is so much colour in this dance that unless one has seen it in its home-land one misses the full enjoyment in merely listening to its music.

From Oslo I would wish to hear a talk on domestic economy, and to learn from the Norwegians (or the Swedes, for that matter) how to make sixpence do the work of a shilling. I suppose there are no people like the Scandinavians who know so well the art of housewifery, and the little tips one can get from them make all the difference between good and bad running of even a bachelor's establishment like mine.

That, then, is my programme, and when it is over, I will gather a few friends together and we shall all perform Dickens's *Christmas Carol*, in which I shall take the part of Scrooge and thereby teach myself the real message of Christmas, which should be one held in the heart all the year round. Perhaps, as a last good-night the wireless could let Tiny Tim speak for us all and wish the world, in as many languages as he can, the joy that we need at this time, with the words "God bless us, every one."



Michigan Avenue Bridge, Chicago



Puerta del Sol, Madrid



Troglodyte dwellings in Medenine, Tunis

RING IN THE NEW by Louis Golding

THE New Year bells will soon be reverberating in our ears, and I'm sure they will usher in a more blissful year than the one which is just ending for us. A mysterious old lady who lives in a side street off Aldgate told me so. She does charing usually, but she's always in great demand on December the Thirty-first. For she's fey.

She has a crystal and a shabby black velvet cloth in her back parlour. And whenever I'm in London on New Year's Eve, I go and see her at eleven p.m. Of course, I don't let her look in the crystal and tell me what's going to happen. That would cramp my style fearfully. But she makes marvellous coffee and pancakes for my friends and me. If she whistles, I know the year's going to be all right for all of us. Last year, she didn't whistle.

Then we thrust our way through the seething crowds to the shadow of St. Paul's. What noises we all make with our striped trumpets and toy drums! What do these bottles contain out of which we quaff so deeply, throwing our heads back and closing our eyes? Look at these lads with girls' hats on their heads and these girls wearing so heartily the abstracted bowler hats of staid insurance agents!

And these two lurking in the dark passage here, who can they be? He doesn't say a word. He just kisses her hand once, and again, and again, as the bell in that great belfry strikes again and again. What is she crying about? Did one let the other down some time last year and is he, or she, very sorry about it now? I say! Wipe those tears away! The old lady of Aldgate was whistling as she dished up those pancakes an hour ago! It's going to be a grand New Year!

But as far as I'm concerned, I don't want to engage in prophecy. I want to go back in retrospect to some strange places and strange folk with whom I have from time to time ushered the New Year in. What? Stranger than the heaving mob under the steps of St. Paul's—the costers, the typists, the Bright Young People, the maiden ladies, the mannequins, the stevedores? I lift both arms in surrender. I admit that's as strange and lovely a crowd as any. But I submit they were strange enough, those throbbing nights in Madrid, Medenine, Chicago. . . .

Madrid, first of all. It was just five years ago. For hours and hours before midnight the bells clanged tumultuously above the wide boulevards

and the reeking alleys. Slowly I made my way through the sombre, deliberate city to that great meeting place of streets and cradle of revolutions called the Puerta del Sol. Revolution has only just lately broken out again in Spain, in the fortress of Jaca, in the bodegas of Barcelona, in the twisted calles of Toledo. It was certainly smouldering fiercely enough that night in Madrid.

Hours before midnight, you heard the great concourse preparing, as it might be of waters chasing across a dam. From every region they came irresistibly, darkly, from those joyless bars of the arid suburb called Cuatro Caminos, from the lanes that straddle down to the sewer-like Manzanara, to the portals of Alfonso's palace.

What a night of riotous discord it was! The chief agent of it was the banging of dustpan lids on the bottoms of dustbins. But there were certain other mechanisms for the making of noise to be obtained for a few centimos at the stalls that lined the gutters—raw trumpets and rattles, and an object compounded out of skin and broomsticks. From this last issued a shuddering howl of anguish, such as a creature imprisoned in a tomb might emit.

It was a scavenger's bacchanalia. Tin cans, rusty buckets, petrol tins—on an orchestra of such instruments, the Madrilenos produced his symphony. It was deafening. A thousand bottles of the potent liquor of aniseed passed from hand to hand, the effect of which was to impress a certain strong rhythm on the impact of broomstick and dustbin.

A few minutes before the stroke of twelve the music had attained the desperate fixity of a cannibal tom-tom tattoo in a Bornean swamp. I wondered what climax the high bell in the town hall belfry had in store, what ultimate thunder it would evoke to eclipse its own fateful voice. The first stroke struck. A silence fell on Madrid. I looked round, startled, among the swarthy multitude.

Every man, woman, child, lifted a grape from a bag of twelve grapes, and devoured the first. I did the same promptly. All night long there had been a shrill motif in the treble. Little boys had been crying, "*Las doce uvas.*" The Twelve Grapes, and this was the climax of the New Year's Eve ritual. The second stroke struck. We ate our second grape. The twelfth stroke demolished the twelfth grape. High on

the tower the four figures of the new year flashed upon the blackness. So cynic an uproar greeted them, you might have thought the wires of the electric bulbs must fuse. They did not. All night long the titan music persisted, till the foot of dawn crackled on the frosty plateau.

A year or two after that I spent New Year's day in the craziest town in all the world, a town called Medenine in the south-west of Tunisia. The odd thing about that experience was that only one other person knew it was New Year's Day. He was the little French chauffeur of the large and highly inflammable autobus which had carried me there across the desert. The other passengers were sheikhs and their wives.

There were no church bells to usher in the New Year for us; so, very solemnly, the chauffeur took out an enormous repeater which he had inherited from his grandmother in Brittany. Twelve times sonorously the little bell clanged. Twelve tears rolled from the little chauffeur's eyes. Twelve times each, we sipped a bottle of Burgundy that he had kept in his radiator for months against this contingency. It was an odd thing to do in the middle of the open square of Medenine in the hare-brained moonlight.

It is occupied by troglodytes. For this is the metropolis of a region where men have dwelt in subterranean and cliff-side holes for countless generations. There is a sort of cadaverous humour about them and the things they eat, as Herodotus noted long ago—baby serpents and the bark of trees and various other dainties which Brillat-Savarin never included in the bible of the gastronomes.

And when these dwellers in holes wanted to build themselves a market town to stand in the eye of those who lived in adobe hovels, they built up their cliffs in the naked moonlight and punctured them with holes. The fake cliffs rise storey above storey, pressed down tight on each other's roofs. It's as if a troop of comedians from cheap music-halls, all old clothesmen, stand on the stage before you with silk hat after silk hat pressed down on their heads.

Anyhow, that was what it looked like that incredible New Year's night, as we drank the Burgundy that had been secreted in the radiator so many months. A fat negress ogled by, her feet clanking with silver anklets. She was the Widow Twankey.

Canada's Christmas Tree Harvest

MORE than four million young Christmas trees, cut in the wooded country of Central and Eastern Canada, are now launched upon the market. Five years ago the Christmas tree trade of Canada was negligible, but rich forest land, hard work, and good organisation have established a huge trade which is increasing every year.

Christmas trees are usually cut from young fir, balsam, or spruce, about ten feet in height, but, when these species are not available, cedar, juniper, or pine are used. The trees grow principally in the wooded land of the provinces of Quebec and New Brunswick bordering on the States of New York, Vermont, New Hampshire, and Maine. Some of the trees in these areas are of such good quality that they fetch as much as twenty-five shillings apiece shortly before Christmas.

Harvesting the Christmas tree is highly skilled work in which selection plays an important part. Trees which grow in open spaces, such as pasture fields, are specially suited to the woodman's axe, for, generally speaking, these trees, being knotty, are useless for furniture. Again, land which is being cleared for agriculture usually affords many small trees which are ideal for Christmas purposes.

Unfortunately, these sources of supply do not equal the demand for the little pyramid-shaped trees with their flat, shiny leaves of dark green, and the cutter is compelled to invade true timber land. In many cases his axe does little harm, for a stand of young balsam fir trees of 1,000 timbers to the acre often becomes cramped. As the young trees grow, their increased bulk requires more room, not only above the soil but under it, with the result that the weaker and smaller trees are crowded out and wither. If the woodsman fells these trees while they are still in a healthy condition, he not only secures good material for his Christmas trade, but also saves the forest land from partial rot.

Trees obtained in this manner are not as shapely or satisfactory as those conventionally felled, but they fill a need for the cheaper markets. In any case, to preserve the land a thinning process is inevitable, and so the Christmas tree trader is usually welcomed. Certain woodsmen abuse the privilege of felling on true timber land, and, instead of applying the thinning process, select the flourishing trees, leaving the crowded-out weaklings. Such

tactics are merely destructive, as future harvests are ruined. Some years ago a common method of obtaining Christmas trees was to fell trees of seven and eight inches in diameter, lop off the top, and leave the trunk to rot. Obviously, this method merely resulted in denuding forest land for years of useful timber.

Most Christmas trees are supplied from privately-owned land, and generally private owners resent restrictions placed upon their felling activities. Often they thoughtlessly fell trees without considering the quality, class, and size of future harvests. These methods may result in temporary financial advantage, but eventually the owner loses.

It is doubtful whether an eighth of the trees sold are grown on Crown Land, but here cutting is so rightly restricted by law that there has been an active harvest this year. During the recent harvest there were few cases of illegal cutting on Crown Land.

It would scarcely be thought that an industry which does much to create good feeling and merry-making would be strenuously opposed by thousands of people. Yet many Canadians, convinced of the necessity for forest conservation, are waging an active war on what they term "useless depletion." The Christmas tree trade is condemned as wanton and useless, and contrary to the best traditions of the Canadian timber trade. Admittedly, there are cases of woodsmen felling thoughtlessly, without proper selection or methods, but the vast majority of traders understand their work thoroughly, and are proud of Canada's thickly-wooded lands. The only way to silence the opposition is to use correct methods of selection, felling, and preservation, and so a scheme is now on foot whose object is to educate private owners to cut their trees with an eye to the future.

The United States is Canada's largest buyer, and nearly three million trees have been sent to the large American cities this year. Some of the trees come to England; indeed, it is Canada's ambition to sell more to the Mother Country than to anywhere else. Her own cities also provide good markets, and during the past few months hundreds of trains, stacked with thousands of the little green trees, have poured into centres like Quebec, Montreal, Ottawa, and Toronto. They often arrive covered with snow in typical Christmas card fashion. D. W.



St. Paul's, with a searchlight playing on the cross

A hooded troglodyte, the masked villain of the play, climbed the precarious outer staircase which led to his hutch on the third or fourth floor. He took out from the folds of his burnouse a wooden key as huge as a walking-stick and fitted it into the keyhole of a worm-eaten door which we could have knocked down with a breath. We almost expected to hear him mutter, in a stage-whisper: "Hist! We are observed!"

By the time we finished that Burgundy (it's odd how it improves its flavour keeping it in radiators) we were convinced that the very camels were synthetic, a sort of Nervo and Knox turn. As soon as we gave them the cue with our horn, they'd stop chewing the cud, get up, wink an eye, and do a step dance with each separate pair of legs.

Yes, that was a fantastic introduction to the New Year. And yet it wasn't more fantastic than a New Year I drank to a year later, across a continent and an ocean, in a Chicago skyscraper. My host and hostess were a famous pair of lion-hunters. All their guests were requested to dress up as wild animals. Tigers were cheek by jowl with okapis, zebras, and baboons. There was an emu, who was strenuously objected to because he was a wild bird. Then he dropped his tail in the soup tureen and became very popular. As for myself, I don't know any wild animal wilder than a novelist. So I came dressed as a novelist.

The idea of the dinner was to give some indication of the discomforts of a safari. So, although there was some discreet illumination from an exquisite Venetian chandelier, most of the light came from candles stuck in beer bottles. We also had to start off the drinks with tepid water in chipped enamel mugs.

A baby lion cub wandered charmingly among the guests, who included a fabulous little Pekinese—a real one—that had insisted on coming with his mistress. At the fateful moment, an enormous negro beat a gong brought over by our hosts from the Zambesi. We were all requested to accompany the twelve gong beats that ushered in the New Year by twelve roars, moos, yelps, howls, or whatsoever other sound was appropriate to our condition.

It was hoped the Pekinese would yap twelve times, too. But he didn't. There wasn't any New Year for that poor little Pekinese. As for the lion cub, he was curled up under the radiator, smiling blissfully. As the gong beat he snored twelve times. The novelist's mind wandered drowsily between the troglodytes of Medenine and the lion-hunters of Chicago; and he thought he would never usher in a New Year so happily again—till he got back once more to the shadow of St. Paul's.



Christmas trees packed on flat cars ready for delivery

NATION SHALL SPEAK PEACE UNTO NATION

BY A. MAUDE ROYDEN

As everyone knows, the motto of the British Broadcasting Corporation is the words "Nation shall speak Peace unto Nation." At the birthplace of our Saviour nineteen hundred years ago was sung "Peace on earth, goodwill towards men."

This is not a fantastic or sentimental analogy; nor is it a quite irrational coincidence that the most striking feature in the Christmas programme of the B.B.C. will be the broadcasting of a service from Bethlehem on Christmas Day. Science, as we know it to-day, is the daughter of Christianity.

This will seem a sufficiently astonishing statement to those whose only knowledge of this particular relationship is a step-daughterly rather than a daughterly one, and who know much more of the "quarrel" between science and religion than of the far more deeply-rooted identity of all truth whether scientific or theological.

Beneath all the quarrels of men of science and Christian theologians this great fact emerges: that Christianity is essentially a religion not of renunciation but of redemption. "God sent not the Son into the world to judge the world; but that the world should be saved through Him." And this Son taught us, when we pray, to say—"Father . . . thy kingdom come on earth as it is in heaven." Those who accept Him as their Master must believe that the world *can* be redeemed—*can* become the Kingdom of God. There is no room here for those to whom the world and all material things are essentially evil, nor for those to whom they are merely a delusion—and therefore essentially evil again, for every lie is evil. The logical outcome of such a belief—a belief common to Eastern faiths and to the Eastern mind—is an attitude of renunciation. The world being evil, life also is evil, and the only aim of man should be to escape from both. If, however, the world is God's world, the whole process of our evolution is seen to be changed; it becomes no longer an escape but a conquest. We must be fellow-workers with God in the establishing of His Kingdom here, and not on the other side of the grave. Christianity must be, in this sense, a militant and an aggressive creed.

Jesus was born in Bethlehem in Judea. That is to say, he belongs neither wholly to the East nor to the West. He was born in Asia indeed (where all great faiths are born), but on the edge of it and at the centre of the known world. To east and west, to north and south, the civilised world stretched at that time and Palestine was at the heart of all. The fact is significant of the universal teaching and appeal of Christ. We are reminded again and again by missionaries that it is not until the East has accepted Christ that we shall enter into our full inheritance of knowledge or understand the profoundly spiritual basis of all His teaching. On the other hand, it is perhaps because this teaching, lofty and spiritual as it is, is based on a sacramental idea of matter as good and not as evil, and is, therefore, as I have said, a redemptive, conquering religion,

that it has in the first instance appealed more directly to the active and practical Western mind.

The earth then is good and not evil: good enough at least to be redeemed and made better.

God knows we have forgotten this often enough, we Christians—misrepresented, ignored, and even violated our own faith. Yet century after century in their slow progress are proving that the Word of God "shall not return unto him void but shall accomplish that which he pleases and shall prosper in the thing whereto he sent it." It is important to note that this great saying goes on—"for ye shall go out with joy, and be led forth in peace: the mountains and the hills shall break forth before you into singing and all the trees of the field shall clap their hands. Instead of thorn shall come up the fir tree, and instead of the briar shall come up the myrtle tree."

We hear much nowadays of the failure of the West and of the disgust of Easterns at our brutal and savage "civilisation." Realisation of the contribution that Eastern thought and religion has to make to the world's development ought not, however, to destroy our sense of the value of the West. It is surely an idle thing to dismiss as insignificant the immense contributions that Western science has made to the uplifting of the burden of Eastern poverty. In Egypt, in India, in Africa, we can see the literal fulfilment of such prophetic sayings as "the wilderness and solitary place shall be glad; and the desert shall rejoice and blossom as the rose . . . for in the wilderness shall waters break out, and streams in the desert, and the glowing sand shall become a pool, and the thirsty ground springs of water." The melancholy fact that a sacramental religion may easily be, by cheap and shoddy minds, distorted into a cheap and shoddy materialism, with a vulgar worship of success, ought not to blind our eyes to the deep truth of sacramentalism itself as taught to us by Jesus of Nazareth. The sacramental view of matter and material things is that they should be the expression of the spirit and spiritual things, and it is at bottom the attempt to make them do so which sets the scientist upon his course, and which culminates in making of the waste places of the earth a garden or a vineyard.

Of all the achievements of modern science the most amazing to the minds of many of us is broadcasting. Even the conquest of the air, with all its adventure, poetry, and romance, seizes the imagination not quite so completely as this miracle of speech flung across the world. Beforehand, I suppose, one would have said, reflecting on the long ambition of man to fly, that this achievement was the apotheosis of science. Now that it has actually come, the more spiritual victory by which thought is conveyed to our minds from the far places of the earth and "spirit with spirit can meet" impresses us even more. This is an undreamed-of thing. It is not one after which men have toiled for centuries, and indeed for thousands of years, as probably they have always toiled

for flight. It has come upon us suddenly and almost, it seems, unawares. It is not much more than a hundred years ago, I think, that "news could not travel faster than a horse could gallop." Now it hardly seems to travel at all: it is to all intents and purposes *simultaneously* conveyed to listeners throughout the world. It would have seemed wonderful enough that sound should travel at the rate of sound: that it should travel at the rate of light is simply incredible but that it has happened.

Perhaps the suddenness of this glorious achievement is accountable for the fact that it has been less prostituted to evil than aviation. I have been told by a man at work in an aircraft factory that the development of aviation since the close of the Great War has been one of the supreme disappointments of life. "We had hoped," he said, "to have turned from war to the development of aviation in the interests of civilisation and peace: we have been profoundly disappointed. All our development has been centred on the war-machine, and commercial aviation has been left a bad second." It has not been so with broadcasting. Lamentable lapses there have been occasionally, it is true, but for the greater part—for much the greater part—"nation has spoken peace unto nation." British listeners will remember with thankfulness some of the more dramatic occasions on which the B.B.C. has used this great scientific power to interpret and to enlighten, just when a narrow or partisan pronouncement might have made anger turn into hatred and confusion be worse confounded. Other nations have their victories to boast of, too.

Moreover science has played its part in the service of the Prince of Peace indirectly as well as directly. The mere fact that people of one nation can sit and listen to the words—the music—the drama—of other nations, in itself creates understanding, and understanding, peace. One of the worst dangers to the world is the universal tendency to objectify those millions of men and women who go to make up the sum of "foreigners" and to think of each nation as one vast (and incomprehensible) Person. Nothing helps to destroy this delusion so much as listening to the individual voice of an individual German, Russian, Frenchman, or Italian.

On Christmas Day nineteen hundred years ago the old story tells us that wise men who were kings brought their gifts to the humble stable in Bethlehem and offered them, with the homage and worship of the shepherds, too, to the infant Prince of Peace: on Christmas Day of the year of grace 1933, the worship that is offered to Christ in Bethlehem will be broadcast among the nations, and those who sit at home can join in it in spirit and in truth. On Christmas Day nineteen hundred years ago the heavens opened and the angels sang—"Glory to God in the highest! Peace on earth, goodwill towards men." On Christmas Day of 1933 shall not the peoples to whom this great message is broadcast reply—"Nation shall speak peace unto nation"?

A VISION OF EMPIRE BROADCASTING

By SIR EVELYN WRENCH, Founder of the Overseas League

DURING the past year, at the World Headquarters of the Overseas League in London, I have received letters from many parts of the Empire referring to Empire Broadcasting—usually from people born in Great Britain. There is a certain monotony about these letters. They speak with enthusiasm of the King's broadcast last Christmas, they express their gratitude to the authorities at Broadcasting House for arranging so wonderful a Christmas programme, they comment on the "thrill" they receive every time they hear Big Ben.

Reading letters from oversea listeners leaves the impression that if the chief object of Empire Broadcasting, as at present conducted, is to link up lonely dwellers in remote parts of the Empire, it has succeeded. The man "out back" no longer feels so isolated, if he is a wireless "fan" and is the possessor of a powerful receiving set. It would be interesting to know, however, what percentage of listeners overseas possess sets capable of receiving the B.B.C. programmes. I have been told that the United States has largely captured the market overseas for cheap wireless sets, and that the majority of these sets do not give very satisfactory results, as far as the Empire programme is concerned.

Whether the B.B.C. Empire Service really plays the part it might in populous centres in the Dominions is another subject. I take it that the aim of Empire broadcasting is threefold: (1) to link up the remote dwellers on the fringe of civilisation; (2) to provide a programme to our fellow-citizens in the Dominions, which will interest them and at the same time emphasise the bonds which unite the free nations within the British Commonwealth; (3) to keep emigrants and those born in the British Isles in touch with the old land.

I have no technical knowledge, nor am I in a position to know whether the average wireless listener overseas can obtain a receiving set at a reasonable figure which will enable him to listen to the B.B.C. programmes. Assuming that he can, I think that the chief aim of Empire Broadcasting should be to concentrate on the second category. Empire Broadcasting has its greatest opportunity in promoting a sense of common citizenship with the British Commonwealth among the peoples of Australia, Canada, Newfoundland, New Zealand, and South Africa. In the case of India and of the dependencies of the British Empire, where the peoples have not yet arrived at Dominion status, the advantages of membership in the British Commonwealth might be emphasised, and a programme to give gradual instruction in the arts of self-government should be introduced.

Twenty years ago, I went for an eighteen months' tour round the self-governing Dominions of 64,000 miles. I addressed 250 public meetings in all the large cities, and also in the smaller towns, in connexion with the task of establishing the Overseas League. I have never forgotten the lessons I learnt on that trip—primarily, that the only way to learn what the peoples of the Dominions are thinking is to visit them doing their daily vocations "out back." The Empire sentiment to be heard at patriotic gatherings in London, at Toronto or Montreal, at Sydney or Melbourne, at Auckland or Wellington, at Johannesburg or Cape Town, is one thing; the outlook of the "habitant" in Quebec province, of the farmer on the Canadian prairie, of the lumberman in British Columbia, of the miner in Tasmania, the sheep-shearer in Australia, of the fruit-grower in New Zealand, of the Dutch farmer

in the Orange Free State, of the diamond-digger on the Vaal river, of the fisherman in Newfoundland, is another.

Empire problems as seen from the Old Country are entirely different when viewed from "out West" in Canada, "in the bush" in New Zealand, or "out back" in Australia. No one can claim to understand the Empire who has not first-hand knowledge of conditions up-country in the various Dominions. I know that in my own case, my views on the British Commonwealth changed completely as the result of my wanderings off the beaten track. When I am in a reminiscent mood, I like to recall some of the meetings that I have addressed where folk born in the Old Country were in a minority. The itinerant speaker soon learns that references such as "blood is thicker than water" and "our kith and kin across the seas" have no meaning there.

I recall a meeting held under a midsummer sky on the Canadian prairie, in Saskatchewan. In this particular township there were children of twenty nationalities in the local school. After I had tried to give my hearers a picture of the wonderful political institution the British Empire is, members of the audience came up to me and asked me questions. The citizens' first duty was to Canada, the land of their adoption: what had they got to do with "effete Great Britain"? (This was before the War.) I talked to Icelanders, Russians, Swedes, Romanians, Hungarians, Germans, Italians, English, Scots, Irish and, of course, large numbers of Americans, who had sold their farms in the Dakotas, Minnesota, and had come across the international line to make their home in Canada's "last best West." To these people the Old Country did not imply Great Britain, it meant Iceland or Italy, Russia or Romania. I then learnt for the first time that Canada was a veritable human melting-pot. I took back to England with me the knowledge that Western Canada would never be just a new England or a new Scotland transplanted across the seas.

In mining towns you meet every type of human being. I have talked to hundreds of miners in the gold mines of Queensland, South Africa, in the coal mines of New Zealand and Tasmania, in the mining camps of British Columbia. In many respects the miner is the salt of the earth. I enjoyed addressing meetings of miners. They were full of heart and very responsive. They spend their lives in the bowels of the earth. They have right values. Social barriers and taboos seem very trivial when you are making your living far below the earth's surface. But no section of the community gave more enthusiastic support to the cause of Empire unity than the miners.

A meeting in a purely Dutch *dorp* (village) in South Africa will always remain in my memory. My audience was entirely Dutch, and the town hall of the little town of Utrecht, Natal, was crowded. The majority of my audience had fought against the

British Empire in the South African War. My chairman introduced me in Dutch and then in English. It would have been impossible to address a more attentive audience. The doctrine that I was preaching of a great World Commonwealth of free peoples bound together by common interest met with a ready response. I only refer to these meetings because they are typical of many others. They typify the extraordinary variety of the population of the British Empire.

The crucial fact to remember, then, is that the vast majority of our fellow-citizens in the Dominions were not born in Great Britain. In the case of the children of parents who were born in the Old Country Big Ben and British football results may be of interest, but to the vast majority the "Old Country" is an unknown land. If Empire broadcasting is to realise its wonderful possibilities we have got to plan our programmes so as to emphasize the advantages of citizenship in the British Commonwealth. We have first got to interest our hearers and work by degrees.

In our dealings with the Dominions the recognition of Dominion status—that is, the absolute equality of the Dominion with Great Britain—has reconciled the two apparent opposites of co-operation and independence. The next half century will give us the opportunity in the even more difficult task of teaching the politically backward races in Crown Colonies and Dependencies the art of self-government.

It is easy to see that the opportunities before those responsible for Empire Broadcasting are limitless. It will require men of wide vision, men who dream dreams of what the British Commonwealth might become. But the dreamers must be men who can translate their dreams into action.



AN EXPERIMENT IN INDIA

by F. Yeats-Brown

GREAT beginnings are often small. That the North-West Frontier Province is to spend £1,400 on equipping a broadcasting station to give a service to the villagers near Peshawar is news of importance to more than Indians.

So also is the work of Mr. F. L. Brayne, I.C.S., in the Panjab; his views (well known to readers of WORLD-RADIO) must have the support of all who love India and wish to see her take an increasing part in world affairs. Programmes are to be local, in the dialect of the district, so that each group that gathers round the village guest-house will feel that its needs and interests are understood. By these means, and only by these means, shall we succeed in reaching by wireless the homes of the people who matter in India—namely, the peasants.

If these experiments succeed, a loudspeaker may eventually be installed in each of the 250,000 villages of India. The effect would be revolutionary. India would become conscious—racially, religiously, and perhaps even nationally conscious—as she has never yet been. Not that she would desire to sever the British connexion; on the contrary, the revolution may well be in the opposite direction. This is not the place to write of politics, but, obviously, a radio-minded India would be a very different country from the present land of slow-thinking, isolated peasants. A better-informed India would be a more stable India.

The Panjab Experiment

No doubt it was wise to begin broadcasting in the North. The population is more homogeneous there. There are no caste prejudices, for the villagers are predominantly Moslem. They are travelled, mechanically-minded. The Pathan is a clever craftsman; he can even make a tolerable imitation of a British rifle. He is often an expert chauffeur. Moreover, he is one of the best story-tellers in the world, quick on the uptake, with a keen sense of humour. Programmes found acceptable in the North-West Frontier Province would also find favour, with the necessary local modifications, in the Panjab, whose area is three-quarters that of Germany.

Much, of course, will depend on the kind of programmes produced. Propaganda is a two-edged weapon which will have to be carefully handled by Government. In the North, *poetical* has come to be a slang word for a dirty trick, and this through no fault of an admirable Civil Service, whose integrity is respected from Quetta to Abbottabad, but only because politics is synonymous with intrigue in the Pathan mind. However, there are indirect ways in which village broadcasting will be invaluable to the authorities. It will be possible, for instance, to contradict the misrepresentations which sometimes appear in the vernacular newspapers in spite of the recent Press Act; this will be far more useful than any regular official statement of policy. News can be given of dacoity gangs (house-breakers) still prevalent in these regions, and the wiles of the *baniyas* (money-lenders) in obtaining possession of the land and chattels of the fantastically extravagant peasants will no doubt be the subject of advice; then there are such unending and world-wide topics (particularly important in a country nine-tenths of whose population live on the land) as the weather, crops, and prices. No doubt, also, the experimental programmes will give due prominence to the songs of nautch girls, and to sports such as coursing and hawking. Even to cock-fighting. Each district will have its own idiosyncrasies; India is not yet mass-minded, fortunately for herself.

This, I think, will be the chief effect of broadcasting in India; to divert the mind of the masses from long, expensive litigation over land and inheritance into smoother and pleasanter channels. The peasant goes to law as a sort of gamble. It is his way of seeking adventure.

The villages of the plains of Hindustan (but not on the northern trade routes where these experiments are being made) remain almost as far to-day from the tide of the world's affairs as they were in Mahmud the Ghazi's time. Their inhabitants live in a world of the Vedic epics, where giants fight with demons, and where the gods of the Aryans come down from the Himalayas to love the daughters of men. To us, huddled in cities, harried by telephones, bemused by overmuch print, such lives are almost unimaginable. We are inclined to pity the Indian peasants in our ignorant arrogance, whereas there is much in them to respect and admire, and something also in their psychology which Western Christendom once had, and might well regain. It would be a great mistake if it were supposed that an Indian audience, because it is simple, will put up with poor radio programmes. It will not. In my opinion its taste is as good as or better than ours.

The Indian peasant is not suffering from boredom; I think that is a wrong estimate of his situation. News-reels, late editions, stop-press telegrams are not essential to a full life, although it is difficult for us Europeans to realise the superficiality of the events they record. (Difficult until one is actually in Fleet Street; at a news-editor's desk one can see what world-shaking news goes straight into the waste-paper basket every night.) The poor peasant who listens, evening after evening, to the village story-teller relating the events of the Mahabharata or the Ramayana—how Rama rescued Sita from the ape-demons of Ceylon, and how Krishna fluted to the milkmaids of Bindrabun—is not at all to be pitied. He hears better fairy-tales than those invented now.

The Example of Russia

But although the peasant is happy enough with his gods, his gossip, his marriage feasts, and pilgrimages (and in the North the occasional raids and blood feuds which provide such good talk in the guest house), he is ready to enlarge his interests, provided that the enlarger does his work tactfully. In Russia, there are plans to instal 800,000 village receiving-sets. Allowing for some exaggeration, it is none the less certain that India, with three times the population of Russia and roughly the same geographical area, has lagged far behind the Soviets. Village broadcasting is long overdue in India. By means of the ether, the technical science of the West can add yet another to the many contributions it has made to the development of the East.

It is a startling thought that there is in India a potential audience equal to all the present listeners in the world—say, 160,000,000. What results will come from reaching these millions no one can say, except that something will be set in motion. First, there will be a stirring of the mind (especially of woman's mind, for we must not forget that the two strongest forces in India are woman and tradition), and then, later, perhaps in distant lands, the wheels of all sorts of machinery will be set revolving. In India, however, one thing will slow down, namely, the work of the *vakils* and pleaders—given a better amusement than litigation, the peasants should be glad to contribute to the support of broadcasting rather than of the law-courts.

Naim Shah, an Adam Khel Afridi from near Peshawar, for ten years orderly to Mr. F. Yates-Brown

But radio, coming to him in an accent that he knows, will open the door of an imagination that has always been lively, but that has been starved of suitable material since *pax Britannica* brought a certain dullness as well as security into his life. Eve, as always, will tempt her partner to eat of the fruit of the tree of knowledge. Better clothes, better food, more education will be demanded, and after them will come reforms in such matters as sanitation and maternity and child-welfare. Everything is possible in an India whose ears are attuned to the voices of the outer world.



"ONCE UPON A TIME"

By A. R. BURROWS

BELLS at Bethlehem will peal across the world on Christmas Eve.

For the first time the venerated Church of the Nativity, aided by one of the marvels of applied science, will proclaim outside the sacred zone the anniversary of the greatest event in history.

The realisation by broadcasters this Christmas of this long-nourished ambition would alone make memorable the programmes of the approaching season. But international cooperation promises yet more.

The message of the bells at Bethlehem will not pass unanswered. In the precious hours following the first Christmas peal, the bells of various European cities—the deep-throated voices of their several States—will ring back in their own traditional fashion the message of peace and good will. These bells will be joined by choirs—in some cases choirs of children—singing those treasured hymns and carols which by time-honoured custom interpret national sentiment at this season. Not less than fifty—possibly even one hundred—of the principal broadcasting stations of Europe will radiate these welcome sounds.

This is but one manifestation arranged for the present Christmas by means of which broadcasters will show how common still is the desire among peoples—despite contrary impressions given by current political events—to live under the conditions proclaimed to the shepherds on the first Christmas Eve. The British Empire will have, in addition, its own special programme—an exchange of greetings between a Commonwealth of Nations across all the seas—to conclude with a message from the King-Emperor.

As a technical achievement this second programme will surpass even that which will open the windows of perhaps thirty million homes to the bells of Bethlehem. Sentimentally it will show how great a measure of peace is possible among those who, like our compatriots, seek it through the practice of well-tried principles of human brotherhood.

Christmas is, *par excellence*, a season for reminiscences. The Bells of Bethlehem, which are to ring across the world on Christmas Eve, recall to me the first Christmas in the history of British broadcasting. Looking back into the mist of "Once upon a time" I am reminded how great is the contrast between that which will be accomplished in a few hours and that attempted in the programmes of Christmas, 1922.

The first Christmas programme radiated over Great Britain took place but eleven years ago. These eleven years have been years of extraordinary technical development. One is apt to forget to-day (when it is possible to ring up Melbourne and exchange conversation with the Antipodes as clearly as one can with Harrow or Streatham) that, in December, 1922, there were only three countries outside Great Britain which could be reached from London by telephone, and that telephonic conversation with subscribers even in these countries was really an ordeal. The relay of music to or from abroad was technically out of the question.

Although British technique, on the purely wireless side of broadcasting, was equal, and

possibly superior, to that elsewhere at the end of 1922, it could not be said that great advance had been made in microphone research, and in some other departments where the needs of broadcasting differ from those of other forms of applied wireless. Our microphones were insensitive and refractory. Whereas, to-day, a single microphone will suffice to pick up the performance of a great symphony orchestra,



(Left to right) Miss Cecil Dixon, Messrs. L. Stanton Jefferies, Rex Palmer, Arthur Burrows, and Cecil Lewis, in one of the early B.B.C. studios at Savoy Hill

the microphones of late 1922 had an effective range of a few inches. One was needed for each instrument in the orchestra and the piano swallowed two. Each of these microphones had to be shaken at periods of five or six minutes in order to keep them in action. For this reason the frequent intervals in the programme, required by law, were altogether welcome.

London was favoured in its broadcasting equipment. It had, at any rate a studio with four walls and a roof. This was more than could be said for Newcastle on the memorable Christmas Eve of 1922. Newcastle kept faith with its listeners by giving its first programme from a stable yard—the necessary technical gear being housed in the back of a motor lorry. The transmitting aerial was attached to a factory chimney.

But London's studio was on a seventh floor. The lift believed in the observance of Sunday and public holidays. Announcers and artists were often *hors de combat* at the end of the climb.

The studio, too, was hardly to be compared with the studios of to-day. Hardly! When off duty from broadcasting it served as a small private cinema. It was also the office of the Musical Director, a music library, band store, listening station, and a kind of research laboratory in which bright young men, teeming with new ideas in acoustics and microphone technique, used to "practise on the dog." Amongst the furnishings of the studio were a pianola (a very present help in time of trouble), a set of tubular bells (which stirred, I am sure, the jealousy of the chimes at Westminster), and an organ pipe (which provided a tuning signal). It depended for its sweetness of tone upon a prosaic pair of bellows.

The Christmas Eve programme of 1922 included a real wireless play written specially

Mr. A. R. Burrows, once "Uncle Arthur," now Secretary-General, International Broadcasting Union, Geneva, recalls the days of the old 2LO

for the occasion. The play was called: "The Truth about Father Christmas," and its authoress was Mrs. Phyllis Twigg, who later made several other happy contributions to the London "Children's Hour." The play was possibly the first to be written in Europe specially for broadcasting. I will not be positive on this point, as Writtle and Birmingham and Manchester had introduced many novelties during their experimental transmissions. The cast included children, and a number of "effects" were introduced. How many of the then 30,000 listeners recall, I wonder, that early incursion into the realm of radio-drama? The evening programme was notable also for the first broadcast religious address, by the Rev. John Mayo, Vicar of Whitechapel, whose initiative was "rewarded" in later years, if I remember rightly, by his being the first also to broadcast a religious address from Great Britain to the people of the United States.

How did the listening conditions differ, around Christmas, 1922, from those prevailing to-day? Multivalve receivers were rare and very inefficient when compared with present-day standards. Crystal sets held the field, and gave good service, when coupled to first-class aerials, within eight or ten miles of the transmitter.

Yet reports were occasionally received in London which showed beyond dispute that the British broadcasting stations had been heard through crystal receivers at distances from 800 to 1,000 miles. Loudspeakers were a rarity, and perhaps happily so, for their output was politely referred to as "tinny." Instead, headphones were the usual thing and "one receiver—one set of headphones" was rather the order of the day. "We do so enjoy your programmes," wrote a listener. "My wife sits and sews whilst I listen and repeat to her what I hear." This was not an altogether exaggerated picture of "wireless" in 1922.

To-day at least 100 million persons have the possibility of hearing programmes drawn from all corners of the earth. They can be received direct on short-wave apparatus of great simplicity, or by relays broadcast by their local station, or—in some countries—through instruments attached to the ordinary telephone circuits. Starlight has been trapped and made to operate electrical machinery at a distance. Austrian listeners have heard grass growing in the field. A few nights ago I was present in a room in Geneva listening to a distinguished Norwegian who was explaining to tens of thousands in the United States the efforts which have recently been made to save the world from a new race in armaments. I, too, was using headphones, as was the custom in 1922. The speaker's voice rang as clearly in my ear as it would have had I opened the door between us. Actually, it had travelled over 7,000 miles, having twice crossed the Atlantic. I was listening, not to the Swiss transmitter nearby, but to the re-broadcast taking place in America.

How many listeners, in Palestine, on Christmas Eve, will hear the bells of Bethlehem, floating in from the East—having made a circuit of the world? I wonder!

X ORIONIS

WHEN Professor Petronelli announced to the uninterested world his discovery of a new star of the eighth magnitude in the constellation of Orion, he little knew that in less than a year this celestial find of his would grow into a monster that would freeze human hearts with stark terror and send whole nations into a headlong flight to—nowhere.

The man in the street takes little interest, in the ordinary way, in scientific discoveries. Now and again he will toy with new ideas, scientific tit-bits such as have been thrown to popular imagination by the few great scientists who have caught the common ear through the medium of the Press.

The fourth dimension, space-time, gravitation, the splitting of the atom, the expanding Universe, have all, in turn, become topics of "polite conversation," and have been forgotten as soon as something more exciting has turned up.

And so it happened with Petronelli's discovery. The new star had a paragraph or two to itself in the more scientifically inclined journals and newspapers, but within a fortnight it was completely eclipsed by the affairs of a "star" from a different firmament—a lady who was divorcing her seventh husband and was hoping to marry the eighth.

In the meantime the astronomers were checking up on Petronelli's observations. They photographed, with the help of powerful telescopes, the portions of the sky where the newly-discovered star was located, and, having established the fact that it really did exist, they christened it, in accordance with a time-honoured custom, *X Orionis*—the unknown star in the constellation of Orion.

The *X Orionis* soon became an important and absorbing subject of a widespread scientific controversy. Most of the leading scientific journals were inundated with letters disputing the assessed magnitude of the star. Then somebody suggested that it must be a variable; that, after having increased in brilliancy to a certain maximum, it would start to diminish, as all variables do.

The new star fulfilled the first part of the prediction: it grew to first magnitude, outshining Sirius—the brightest star in the Northern hemisphere; but it refused to diminish, and continued to grow till it became the most conspicuous object in the skies.

This fact produced a new deduction. Since the brilliancy of two stars—other things being equal—depends upon the square of the distance from the observer's eye, it became clear that the *X Orionis* was rapidly approaching the solar system.

Here the mathematicians took a hand in the game, and promptly calculated, the orbit the mass, and the size of the new star. They announced that it was flying through space at a speed of eighteen miles per second, or 64,800 miles per hour, and that it was describing a wide trajectory that would take it well away from the solar system. They proved that the *X Orionis* was as large as the planet Jupiter, or about 1,400 times larger than the earth and approximately of the same density as the earth.

No sooner was this statement published than another appeared, correcting the trajectory and bringing it well within the boundaries of the earth's orbit. The density of the star was also disputed.

This, naturally, set the newspapers going. The *X Orionis* became NEWS.

WILL THE *X ORIONIS* COLLIDE WITH OUR EARTH? asked the newspapers.

The Editors commissioned famous scientists to tell the public what such a collision would mean. The scientists did so. One man

after another gave his views on the results of the earth being hit by something 1,400 times its size. Each man proved

that his particular prediction was the correct one.

It appeared that it did not matter very much, from the point of view of humanity at large, whether the *X Orionis* was a sun or a planet—in other words, a gaseous incandescent or a solid cold body. The effect of its gravitational pull—to say nothing of an actual collision—would be disastrous if it were to invade our solar system.

On the one hand, it would throw out of balance all the planets, scattering them like frightened hens in a back-yard, and, if it did



no other damage, it would shift the axis of rotation of the earth and completely change its climate. Naturally, if it happened to knock the earth away from the sun, the earth would quickly freeze and all life would perish.

The alternative appeared still less promising, although in effect leading to the same general results. There was a possibility of the *X Orionis* falling upon the sun. This would mean that the incandescent mass of the sun would be increased considerably, with a consequent increase of heat. The larger mass of the sun would draw the earth closer to it, so that half of the planet would at once become a sizzling inferno, the other half undergoing a similar process as soon as it was turned towards the sun—and in that case also life would disappear.

There was yet another possibility. The *X Orionis* might be a solid planet, as some mathematician had already suggested, and, being solid, it might hit the earth fair and square in a collision. Two cases were considered. If a continent were to hit a continent both planets would be dented to a very considerable extent. Such a collision would generate enough heat to produce results similar to those already considered. If a continent were to hit an ocean—say the Pacific—the volume of water displaced would be sufficient to produce a hot deluge on the lines of Noah's flood, and here again humanity would be wiped off the globe.

All these hypotheses gave the Press a good sensational topic, but somehow the NEWS fell flat.

A natural reaction set in. Healthy people refused to believe that they were going to be wiped out of existence by a new star. They began to study the subject for themselves. Books on astronomy became suddenly best sellers and went into many editions. Stocks of telescopes were snapped up in a day and new factories had to be set up to keep up the supply.

Whole nations were star-gazing.

Still, all this did not stop the *X Orionis* from growing in size. It grew, and grew, and grew . . .

Then a British astronomer established the fact that the new star was a planet. It was now near enough to be studied in detail through large reflecting telescopes. It was a planet teeming with life. The telescope revealed vast continents washed by still vaster seas. When visibility improved with the approach of the planet, some astronomers declared that they could see large cities, wide rivers, and colossal isolated mountain peaks. Presumably the approaching planet was inhabited by intelligent beings.

Optimistic wireless enthusiasts began sending signals on ultra-short waves, waves that had a

chance of getting past the Heaviside and Appleton layers, and similar layers round *X Orionis*, but they failed to get an answering signal. Government research stations tried to do the same thing, but could not elicit any response. Apparently wireless was unknown on *X Orionis*. Somebody in America tried to signal with beams of light; thousands of dollars were spent on electricity, but all in vain.

In the absence of proof to the contrary, the intelligent beings on *X Orionis* were presumed to be dead, from causes unknown. It was suspected that some catastrophe had overtaken the planet when it broke away from its gravitational moorings.

But one fact loomed large. The *X Orionis* was bound to hit the earth—and very soon, too—in the region of equatorial South America. Every mathematician and astronomer said so.

The tone of the Press changed. The fact that the invading planet refused to be deviated from its chosen course by any gravitational pulls and was heading straight for the earth, was emphasised and, although little hope was held out, counsel was given to South American Governments to evacuate their territories.

In Great Britain questions were asked in Parliament. Cabinet Ministers made cautious answers and were not to be drawn. The Opposition was thundering from the back benches and demanded a clear-cut policy.

The Prime Minister regretted that the Government of the day was unable to interfere with what appeared to be an act of God. As far as he knew, if the approaching planet were to hit the earth there was nothing to stop it from doing so. Should this terrible calamity occur, he hoped that the British nation would display its usual dignity and would refuse to become panic-stricken.

The most remarkable thing about the extra-

ordinary phenomenon was that in spite of the rapid approach of such an enormous celestial body there were still no appreciable perturbation in the solar system. The weather did not appear to be changing, and the tides carried on with their usual regularity and volume.

While there was no disorganisation in the celestial order of things, human affairs, unfortunately, did not follow suit. Slowly but steadily a panic was spreading throughout the world.

Numerous "prophets" appeared in the streets of large cities, appealing to people to repent while there was still time.

Mobs started to get the upper hand and there were daily riots in every country. Life acquired



by Ralph Stranger

an accelerated tempo, as if people tried to compress the sensations of a year into a single day. Morals relaxed.

Civilisation started rapidly to retrogress.

Suddenly a rumour was spread that the astronomers had made a new discovery. This proved to be true. It was announced that the surface of the invading planet started to lose its definition. From now onwards the nearer it came to earth the less detail could be seen on its surface. This new phenomenon was put down at first to the double refraction of the two atmospheres, but that was denied later on. Still, definition or no definition, the planet continued to increase in size and moved nearer and nearer to the now badly frightened humanity.

And, finally, the day came when scientists, despairing and tired out by months of arduous work of observation and calculations, declared that only two days remained before the collision would take place. The X Orionis now covered the whole of the sky. The usual blue was replaced with intense shimmering gold and green. Friday was to be the fateful day.

There was now no difference between day and night. It seemed as if a tremendous greenish golden sun filled the whole of the sky, motionless, lifeless, and sinister. The colouring of the earth's surface had completely altered, and the whole world seemed to be unreal and strange.

On Thursday morning the B.B.C. made an announcement. All this time broadcasting had gone on as usual, and, owing to the state of emergency, was carried on day and night. At the first the engineers predicted that the approach of X Orionis—which represented,

from their point of view, a tremendous electric and magnetic field—would make broadcasting impossible on account of the disturbed atmospheric conditions. But this particular prophesy was not fulfilled. There were no intensified atmospheric disturbances. So broadcasting went on, and the frightened public listened more closely than ever, especially in the isolated parts of the Empire.

The B.B.C. announced that they had been requested by the Astronomer Royal to allow him to make a statement in connexion with X Orionis. He would address the Empire and the nations of the world that same evening at 8 o'clock, but, in the meantime, he wanted to reassure the public that there was no danger of collision, that the invading planet could not possibly hurt the earth. Arrangements had been made for a simultaneous world broadcast.

Never in the whole history of the B.B.C. had a more popular announcement been made! The British public went mad with joy. Ships in the Pool of London and in every port started a tremendous discordant siren concert that went on for the best part of the morning. The Navy fired salutes of hundreds of guns. Church bells pealed without a stop reminding people of their immediate duty. And every church, mosque, and synagogue was filled to overflowing. Thanksgiving services had to be carried on all day.

The younger generation danced in the streets. Children, carried away by the excitement of their elders, imitated all and sundry, and were romping unattended amongst the crowds.

The police, as stolid and as immovable as ever, stood by, keeping a fatherly eye on the multitudes of now care-free Britons, and winked at each other.

A tremendous crowd stood in front of Buckingham Palace and cheered to the echo the Royal Family who assembled on the balcony. Hyde Park and Trafalgar Square each presented a solid mass of dancing people. Hawkers were selling picture postcards of the X Orionis as souvenirs.

Governments were exchanging congratulatory messages.

At eight o'clock the whole world was listening. The broadcast was arranged in such a way that the address of the Astronomer Royal could be translated immediately, word by word, by interpreters into all the important languages. Each interpreter had a studio to himself so that while listening to the address on head telephones, he could repeat it in his own language into a microphone in front of him. Each microphone was connected to an amplifier with a transmitter and an aerial of its own. Each aerial was radiating on a separate wavelength.

The Astronomer Royal came quickly to the point: "Ladies and gentlemen, you know who I am. You also know that I am quite familiar with the subject in hand and that a mistake on my part, at this stage, is impossible.

"Before we go any further, let me assure you that you, and the world, are in no danger. There will be no collision between the earth and X Orionis. The latter does not exist in the immediate vicinity of our solar system. Wild as this statement may appear to you, in view of the planet, apparently hiding the whole of the sky, it is true nevertheless.

"Let me explain what is happening.

"You, no doubt, know from the Press that in spite of the tremendous bulk of the invading planet, the latter has failed to produce any measurable impressions upon the stability of our solar system. What sort of a planet can it be that is not subject to the laws of gravitation? Can there be a planet, a solid body, that has no mass and no momentum? On the surface of

things this state of affairs seemed to me to be absurd.

"While the movement of X Orionis in space appeared to be consistent with that of a planet of its size and mass, in other respects it behaved in a most unorthodox and suspicious manner. Again, during the last few weeks, the nearer the X Orionis approached the earth, the less detail we were able to distinguish. Even yesterday and early this morning and again this afternoon, the tides were normal.

"As every scientist knows, the approach of a planet of the size of X Orionis should be accompanied with considerable electrical and magnetic disturbances. No disturbances of this nature were detected.

"Well, ladies and gentlemen, the X Orionis, as we see it, is a mere illusion, a phantom, a ghost of the skies! It can be described as a mirage, which is a perfectly natural phenomenon.

"You all know that, normally, light travels in a straight line. This is true on our earthly scale, but it ceases to be true on the cosmic scale. In the depth of the Universe light travels along the circumference of vast circles. Now, imagine a sun radiating light, or a planet reflecting, like a huge mirror, its sun's rays at any point of space. Such a source of light will send out rays in all possible directions, each ray travelling in space with identical speed, roughly, 186,000 miles per second, which is the velocity of light. Each ray of light—a succession of ether waves of a definite length—will start at its source and will travel along the circumference of a huge circle, which it may take the ray millions of years to describe. In this manner all the rays reflected from the surface of the planet will form a huge sphere of rays, a sphere which would be invisible to the eye, as rays of light travelling in space are invisible till they happen to strike our eye.

"Imagine such a vast hollow sphere of rays, with the planet at the top of the sphere. If you do this you will easily see that all the rays issuing from the planet will meet and intersect with mathematical precision at the "antipodes" of the sphere, there forming an exact image of the planet from which they originated. The image thus formed will have every appearance of the planet it represents to the smallest detail, provided that none of the rays are lost, stopped, or deflected on their journey. The reason for this is that after the rays have formed the image they continue on their journey, and if we happen to be in their path, they will strike our eye and will form on the retina an image of the planet. They will produce also a definite impression upon a photographic plate, just like any other ray of light. As the original X Orionis moves in space so its image moves, too, millions upon millions of miles away from the true situation of the planet. This movement of the image is due to the fact that the planet is reflecting light continuously so that the sphere formed by the rays has to move with the movement of the source and, thus the antipodal image moves also.

"All that is happening at this moment is that the earth is running into such an image of a far distant planet, a planet which may be some millions of light years away from us. By 'light year,' I mean, that if we were able to travel with the velocity of light—that is 186,000 miles per second—and an object in the sky were distant from us one light year, it would take us a year to reach it. The haziness of the planet's image, its lack of detail, is due to the fact that some of the rays are failing to reach their destination. They are being stopped by some opaque bodies and deflected in another direction. This lack of definition increased as soon as the solar system surrounded the image—the rays started to be cut off by the planets.

(Continued in column 3, page 820)

50 YEARS ON

ON Solus 16th next the World Radio Control completed the first ten years of its existence.

In the early part of the century people used to say that "broadcasting is in its infancy." They would have been perfectly sure of it if they had been able to see "broadcasting" as it is now. Even the date of the anniversary would have appeared strange, for, half a century ago, the old Gregorian calendar, with its twelve unequal months, was still in use. Our middle month was only a vague suggestion.

What a lot of much bigger surprises there would have been! The old League of Nations was something of a foretaste of international unity, but at that time radio was little more than a "parlour game." In some flash of prophetic genius the people who worked the service in the British Isles chose as their motto "Nation Shall Speak Peace Unto Nation," but at first nobody took this very much to heart.

The power of the politicians was already on the wane, and in a surprisingly short space of time international unity was established on a scientific basis.

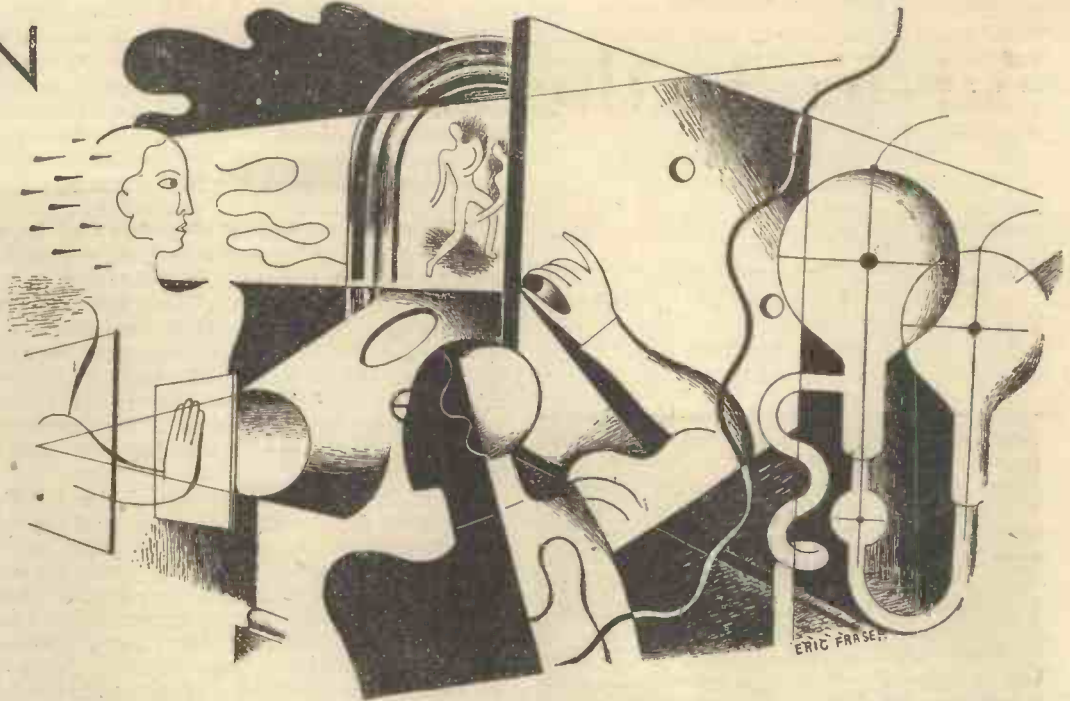
Language was quite an important factor. When the W.R.C. took over, the old Federation of Broadcasting Authorities had already widely introduced the teaching of Unifono as a substitute for the one or more irrational regional languages that used to burden wretched infants. It is amusing to look back at the objections that were raised against a proposed international language. Yet it is much easier for a child to learn its own regional language and Unifono than its own and even only one other regional language, as used to be the custom.

There seems to be no immediate likelihood of the local languages dropping out, and the standard of current literature does not make one strenuously wish them to do so! Curiously enough, no more than sixty years ago the B.B.C. (which then worked the British Isles) was roundly criticised on the charge of trying to standardise the language within that region! It must be remembered, of course, that the British Isles were at that time relatively more important, and the population was actually greater than in the whole of what were called the British Dominions; an almost unimaginable state of affairs. Even now the teaching of Unifono is, as we know, opposed by a few die-hards in such regions as Tibet.

Of course, the W.R.C. cannot claim all the credit. These ten years have seen consolidation rather than creation. So it is more interesting to look back at the really primitive days, fifty or sixty years ago. The main tentacles of radio had hardly sprouted, and there was a great fuss about the new method of spreading entertainment and news. It threatened to upset existing interests!

At first people had to go to darkened public buildings to see things that happened days or even months before. Radio brought sound into the homes, and, of course, vision had to follow. Readers may be surprised to learn that recording at the receiver was done as early as 1920. But apparently the significance of it was not realised even by the pioneers themselves. Not even the development about 1931 of means for transmitting the entire contents of a "newspaper"—admittedly much smaller than ours, and with only still pictures—in less than an hour seems to have suggested the day when news records would be transmitted to every person in less than a minute.

Raking over the old writings reminds one, too, of the perpetual controversy as to the programmes themselves. When one realises that, before the coming of unlimited multiple record-



(Translation of an extract from a W.R.C. news record of 1983)

ing at the receiver, radio entertainment was available only during the actual performance, this failure to please individual tastes can easily be understood. There were records, it is true, but what records! Heavy brittle black discs that had to be changed every three or four minutes, and were so expensive that most people could afford only a few. And in any case this entertainment was limited to what the central recording companies produced, and took many days to become available.

There was great difficulty about channels, or "wavelengths," as they were called. The suggestion to use all channels lower than 400 kilocycles for power would have been definitely unpopular, so hard pressed were they for entertainment channels! The distribution of power by radio, it may surprise some to know, was in view almost from the start, but the early ideas all went astray in assuming transmission of the actual power itself, which was supposed to be generated at a central station by some such crude and wasteful method as burning coal.

The releasing of power locally from the atmosphere by reception of a radio wave seems to have eluded the keenest foresight until comparatively recently. Now one can hardly begin to imagine how the world's work was carried on before radiopower. Perhaps it is a mercy that the discovery was *not* anticipated, because when politicians were in charge they would unquestionably have exterminated one another's populations with it.

There are still those who feel a little uneasy about this. Here is a single agency on which, through its sound, vision, and power channels, depend light, heat, transport, manufacture, education, entertainment, news record, and co-operation. Is it a state of unstable equilibrium? The world depends wholly on the W.R.C., which is kept in power by the world. There is some ground for taking an optimistic view. The old airplanes, that lumbered slowly and uncertainly about under the power of liquid fuel engines, were in their day considered a menace to the peace of the world; what would have been thought of our radioplanes, with almost unlimited power?

Their absolute dependence on the W.R.C. is a new feature of the situation, and perhaps

the saving one. The most exaggerated dreams of the ulterior propagandist can scarcely have risen to the influence which it is given to the W.R.C. to exercise, through its many departments. In this, also, competition would surely involve abuse?

There is, of course, the possibility of this super monopoly being challenged. To do so it would be necessary to discover some entirely new principle, for at present the accumulation of sufficient radium to be effective would be instantly detected by the Geneva instruments.

Those who like to give themselves discomfort imagining such possibilities are free to do so. We ourselves prefer to foresee a beneficial extension of the last ten years.

J. M.

X ORIONIS

(Continued from page 819)

"Thank God, the X Orionis, as we christened this image, is not a danger. Let us look upon it, rather, as a benefactor of science. Before its rays started to fail, it brought to us a picture of life on some distant planet. We know now that there are other planets with an atmosphere very much like our own, with continents and seas, planets which are the abode of life, where intelligent beings live very much in our own fashion. From to-morrow you will find that the phantom planet will pass the earth, or rather the earth will pass through it, and the image will start to recede into the depths of space, disappearing as mysteriously as it came, but not before we catch another glimpse of the surface of the planet that caused this image, as soon as it gets clear of the solar system. Many years ago the theory of relativity predicted such a phenomenon. It has never been tested, as there were no possible means of doing so, and, perhaps for this reason, has never been taken seriously. I am blaming myself and my brother scientists for having failed to assess this phenomenon at its true value earlier. If we had done so many thousands of lives would have been preserved.

"We have learned a great lesson . . . Let us be thankful that we happened to be living at this precise moment to witness the greatness of God's Universe.

"Good-night, everybody."

Advice to the English

BY MORLEY ROBERTS

I HAVE a grievance against the B.B.C. I want to lecture to my countrymen (9.30 p.m. would do me very well). And when I say countrymen, I mean the English. I feel no responsibility as regards the Scotch and Welsh. But I would like my own people to be happy. If a Scotsman is miserable he can at least save something. I can't speak for the Welsh, but if some of their own authors are to be credited they can be happy any old time by telling lies. But when and where was an English man or woman happy? We are a most miserable race, as full of woe as a Hebrew prophet. Nothing is right, and yet we all think it can be put right with a little sense. Which is absurd. The thing to do is obviously to be happy *while you are miserable*. This is the whole real art of life. What Englishman practises it? None. We get up and are miserable, but hope to be happy at breakfast. Who is happy at breakfast? We will be happy at lunch; in the office; at that cursed party.

Now, everyone who knows me knows that in my time I've had a very rough life. Once I camped with a man who ate his partner. I slept alongside him in the snow and thought that if he did not eat me in the night I should have a story to tell. This so pleased me that I slept heavily. Now I ask if most people would have enjoyed that night. Not they. I slept in a bed once with a murderer, and he told me all about it. It was most enjoyable. I find that many would not think so. I slept in the same room, at another time, with a discharged trooper from the Canadian Police who had persecution mania and sat up all night with a razor in his hand muttering and glaring at me, till I fell asleep. I enjoyed that sleep. It was better than watching my friend's glittering eye. I have sailed with bucko mates at sea, and, though I prefer a non-bucko mate, I enjoyed the whole passage by reflecting that as soon as we were at anchor I should bolt. Therefore it is possible to enjoy almost anything if we set about it in the proper spirit. Some people seem to enjoy fighting. I don't. But once I fought three drunken seamen in a Sailor's Home and I didn't even make a draw of it. But how often in gentle, peaceful surroundings which began to pall on me have I reflected with joy on that scene! One man tried to strangle me, and the other two punched me where they could, and the whole scene was real active life. Yes, even dramatic, when the wife of the House Boss rushed in with two girls and came to my rescue as one helpful woman and with loud screams attacked my enemies in the rear and brought me off in comparative safety.

How to Live

This, I take it, is the way to live. I might have been attacked by illness, I hear some say. Well, I have been, and often, but I am a good patient, a great favourite with many nurses, some of them pretty, and as soon as I learn that my doctor or surgeon thinks me an interesting case I am, as they say, awfully bucked, and think of new symptoms to tell him. New symptoms can make the dulllest ordinary illness interesting. I could broadcast innumerable tales of remarkable troubles, and perhaps if I did so some people would forget they were English and therefore miserable because nothing goes right, and won't till next week, which never comes. It occurs to me that some women's lives are made miserable by mice. Why don't they enjoy escaping from them? Let me tell you about rats. Once in California I had to sleep in a barn with hay-bales all about me. Now three

bales stacked on each other make six feet in height. As I slept comfortably on some hay and on my back, a very large and heavy rat jumped off these bales and lighted on the "mark," or pit of my stomach. Did I like that? I don't say I did, but with my usual habit of looking for the best, it seemed better than if he had jumped on my face and perhaps bitten me. Yet when I relate this tale in a drawing-room, which I delight to do, ladies scream and look on me as a miracle of courage. "What did you do?" they ask, trembling, and I reply with simplicity: "Oh, I believe I swore," and then add that I went out and raked in four dogs to guard me. These dogs chased rats over me all night, and then fought and wrangled over one they had caught, and as soon as that little matter was settled they kept raising alarms of other rats coming. But I slept at intervals and encouraged myself by saying: "I shall enjoy telling this story to people who scream at one mouse." And I did, and do, and shall. This thought made me comparatively happy. But I rarely find English people who scorn to be made unhappy by rats. They wait for rats to be destroyed. But they won't be, so why not enjoy them?

It Might be Worse

Now there's starvation. People make such a fuss about it. Of course I don't mean real starvation. What I mean is going without lunch. Or, perhaps, dinner. I knew a rich publisher who said: "Did you ever really starve?" And when I said, casually, "Oh, yes," he looked at me with pity, horror, and surprise, and said: "Ah, hunger is a dreadful thing. Once I went without my dinner." Now look at that. The poor, miserable fellow got no enjoyment out of a new and thrilling experience as he might have done. If I could but have lectured to him for a few hours I would have got him to see that what he had suffered was an occasion for joy. It should have made him happier for life. Instead of that he told me, with tears in his eyes, how he went down to Dover to meet his wife and her boat was late and he'd spent all he had on him buying a first-class ticket. So when dinner-time came he daren't go to the hotel and it was nine o'clock before his wife turned up. As soon as he laid hold of her he didn't even kiss her but said, wildly, almost as brutally as if he were a foot-pad: "Give me some money." And he took all she had and hustled the poor, mystified woman into a cab and sat and gorged at the hotel till nearly midnight. I have no respect for such a man. For I have been four whole days and seventeen hours without anything to eat. Well, I won't say I was exactly happy about it. That would be an exaggeration. But I didn't weep or howl or go about with my hands pressed on my solar plexus. Not at all. I was in a flood on a dry spot, so I slept all I could, waiting for the water to go down. And then seventeen million million mosquitoes ate me. I'm not going to say I enjoyed what they did. Far from it. But I said it might have been worse, a great deal worse. Indians might have been torturing me, or I might have had to make a speech at a public dinner, or had to listen to several speeches at a public dinner. So my point is that when you are miserable, you ought to be happy because you are not more miserable. A rabid Conservative ought to say, when he sees a Labour man Premier: "How happy I am that it isn't a Communist, or an anarchist!" A Liberal should say when the Conservatives

have a premier, "Well, on thinking it over, it might have been Mussolini or someone like him, and it isn't. What a happy man I am!"

But now people lose no opportunity for being as miserable as they can make themselves by reflecting on every possible disaster that may happen. Men with pounds, whole pounds, go about moaning about the dollar. Rich Frenchmen can't look a franc in the face without tears. Soldiers weep in secret and even openly because there isn't a war ready made. They never think that they are being manufactured all the time and that it is idle to expect a nice new one every day. So it is with the Navy. They are never satisfied with the ships they've got. They want more and more and more. And then others say they shall have less and less and less, and the wonder is that there's not a civil war at once between my Peace Society and the Navy League.

Enjoying Everything

I must tell you about that Peace Society. I really must. I enjoy it; and if a peaceful man can enjoy being not only a member but on the committee, he must indeed be capable of extracting happiness from anything. It is one of the strangest facts about humanity that members of peace societies should be so terribly quarrelsome. A large number of our members have red faces, and, in my opinion, would do better as majors, even as generals. But no sooner does our secretary read the agenda than a row starts. By the end of a meeting no one will speak to anyone else. All we can do is to hiss and foam at the mouth. There it is. We can't be happy and peaceful. The more we adore peace, the less we get; and the more likely we are to go to war. There is no quiet enjoyment to be had where a peace society flourishes. All its members want peace now and fight for it at once. Why not be peaceful while there is peace? Some will say that our members really enjoy themselves when the meeting is at its worst. I own that I do, for I have learned to get what enjoyment there is going. Did I not enjoy it when our most peace-loving member knocked our chairman down? Of course I did. I had learnt in the school of starvation, swamps, and mosquitoes, murderers and the like, to enjoy everything, even when I am knocked down by a fighting lover of peace.

This habit the English have got into of grouching about everything and thinking that they will be happy next week is one that we should as a nation struggle against. So take life for what it is. If the B.B.C. finds a lecturer to show how we can all be happy even so far ahead as next year I shall listen, and he may thank his stars he won't be able to hear me say "Rats!"



"Did I not enjoy it when our most peace-loving member knocked our chairman down?"

OF ALL the far-flung outposts of the British Empire there is none which should be nearer our thoughts at this joyous juncture of the rolling seasons than that charming little chunk of volcanic mud and rock known as Christmas Island, which I must ask the reader not to confuse with the Christmas of Panama. Upon its visiting-cards Christmas Island's address is pithily, though perhaps a little obscurely, given as lat. $1^{\circ} 57' N.$, long. $157^{\circ} 27' W.$ But for those who don't understand algebra it is perhaps as well to add that the island lies in the middle of the Pacific Ocean, somewhat less than half-way between Honolulu and the Tropic of Capricorn, and rather more than half-way between the Tropic of Capricorn and Honolulu. This is a very curious phenomenon when you reflect that, whichever way they are measured, Honolulu and the Tropic of Capricorn are precisely the same distance apart. However—Christmas Island is, of course, coloured red upon the map, partly because it is a British Possession, and partly because it has got turned that colour owing to its proximity to the Equator and its consequent exposure to so much sun.

With the exception of myself (as will transpire later) nobody seems to know very much about Christmas Island, save that it was discovered on Christmas Day, and, by that same token, received its name—much after the fashion of the Isle of Dogs, which was discovered during the first dog-watch on the first of the dog-days by that famous pre-Raphaelite navigator, Sir Dandie Dinmont, who also discovered the island of Terrier del Fuego.

The credit for the discovery of Christmas Island, however, has not yet been allotted. Some geographers incline to the belief that the *cachet* belongs to the redoubtable Captain Cook, who made quite a little hobby of discovering Pacific islands until that unfortunate day when he had the bad luck to discover a cannibal-island whose inhabitants clung tenaciously to the theory that one more Cook improved the broth.

An Unknown Hero

Others, again, attribute the exploit to Vasco da Gama, the adventurous Portuguese navigator who first doubled the Cape, and subsequently negotiated so many other doubles that he invented grand-circle sailing on Safety Thirst principles. But the most popularly accepted theory is that Christmas Island was discovered by one of those inevitable and ubiquitous Scotsmen who are always to be found prowling about in the most unexpected corners of the globe, seeking some uncompetitive spot wherein to open a new branch-bank. As, however, he omitted to sign the hotel register his identity must remain a mystery.

But be these things as they may, Christmas Island undoubtedly "stands to-day where then it stood"—it hasn't moved a yard—four-square to whichever of the winds of Heaven happens to be functioning for the time being.

So much by way of prelude.

It was in the autumn of last year that the B.B.C. approached me with the suggestion that I should undertake a trip to Christmas Island, and secure a gramophone record of the Yuletide festivities held there with the idea of making an Empire Broadcast of it this coming Christmas. Normally this task would have been undertaken by the B.B.C.'s Outside Broad-



cast Staff; but, as all these gentlemen were engaged elsewhere, I (who had been threatening the B.B.C. to write another radio revue) was invited, for some reason I have been unable to fathom, to undertake the job.

On the very threshold of my Odyssey, however, I encountered misfortune. I left the whole of the recording apparatus behind me in the railway cloak-room of my home-town, Thames Ditton—an omission of which I was entirely unaware until I was actually going through the Customs at Christmas Island, when, asked specifically whether I had any brandy, silk underwear, tobacco, saccharine, or gramophones to declare, I suddenly remembered that I had omitted to retrieve the vital impedimenta from the custody of the Southern Railway on my departure.

For this lamentable lapse of memory I found it hard to account, as the cloak-room at Thames Ditton is practically next-door to the refreshment buffet. However, it was no use crying over spilt beans, as you might say, and to make the best of a bad job I took voluminous notes of all that transpired during my stay on the island.

I was most hospitably received on landing by the native chief, who was an Old Etonian (in fact, he was wearing a loin-cloth in the Old Etonian colours), and he accorded me every facility for observing the manner in which his subjects celebrated Christmas. Thanks to his own English education he had succeeded in instilling into their benighted minds much of the Christmas spirit which we strive to cultivate here at home, even to the extent of asking the wife's people to share the Christmas cheer.

Beware of the Cactus

The equatorial climate is naturally all against such seasonable *décor* as snow and robins; but, with the help of whitewash and a troupe of specially trained humming-birds, the natives succeeded in producing a *mise-en-scène* worthy of Mr. C. B. Cochran himself. Holly and mistletoe likewise do not form part of the indigenous flora of the island; but, nevertheless, the inhabitants make effective play with the discarded skins of moulted rattlesnakes and with the various species of cactus with which the interior of the island, to say nothing of the exterior of the islanders, is liberally punctuated.

One might think that osculating beneath a mass of cactus would not be a very romantic substitute for that fine old English custom of kissing under the mistletoe; but despite the earnest endeavours of Chief Nujiwaja Sidney B. Oojabooja, M.A. (Cantab.), to lead them to higher things, the natives stubbornly adhere to the old pagan custom of rubbing noses as a

token of affection. That being so, it seems of scant importance under what sort of vegetable matter they elect to perform this repellent rite. Carolling parties are organised for Christmas Eve, and it says much for the advanced state of musical culture attained by the natives when I add that the efforts of the carollers meet with precisely the same reception there as they do here; to wit, profanity through the letter-box and lumps of coal from the bedroom windows.

The giving and receiving of presents, too, is a recognised Christmas custom of the islanders, though obviously the character of the gifts is different, as the cigarette coupon system has not yet penetrated so far, nor is there a Woolworth's near-

er than San Francisco. Hence that pretty English custom of the husband's presenting his wife with an expensive new dress on Christmas morning cannot be followed on Christmas Island, as the native women never wear anything more than a somewhat exiguous ballet-skirt made of hay. Instead, the Christmas Island husband adds an entirely new and elaborate tattoo-design upon whatever portion of his wife's cuticle has not been already decorated in this manner.

Similarly, the native wife does not present her husband with the usual vivid hand-knitted tie. She gives him a little bundle of porcupine-quills to stick through his nose, and possibly a couple of old bloater-paste tins to insert in the pendant lobes of his enormous ears.

Joyful Dawn

The children, too, clearly cannot hang up their stockings on the bedrail overnight, as stockings and bedrails are both unknown quantities on the island. Failing this, however, they go to sleep on Christmas Eve with their mouths at full-cock, and it's a very, very unlucky child who wakes on Christmas morning to find the cavity unfilled with one or other of the native sweetmeats; e.g., *n'gz*, which is a kind of toffee made of ants' eggs mixed with caoutchouc; or *m'bg*, a sort of liquorice-stick made of bamboo soaked in the sepia of the cuttle-fish and fried in wart-hog's dripping.

Special Christmas fare also appears upon the festive boards (or, rather, filthy mud floors) of even the humblest homes in the island. The familiar turkey-and-sausages is, however, replaced by roast albatross garnished with small fried snakes, while, in lieu of Christmas pudding blazing in brandy, a boiled sea-urchin is served blazing in train-oil.

I had the honour of being invited by the Chief to eat my Christmas dinner beneath his hospitable punkah, and enjoyed a *menu* of the most select dishes the island could provide, including filleted iguana and roast python (which was served on a windlass). The *pièce de résistance*, however, was some very savoury *vols-au-vents*, of which I ate several with great gusto, though I should probably have chewed less and eschewed more had I known at the time of ingurgitation that the staple ingredient of these tasty patties was forequarter of my host's great-aunt Louisa. The Chief's delightful quip to the effect that it was always Aunt Louisa's way to have a finger in every pie did little if anything to relieve the acute dyspepsia with which I was subsequently afflicted; and my Christmas Island adventure ended with my cordially wishing myself a Happy Bismuth.

M^R PICKWICK'S PORTABLE

By JOHN CRAWSHAW

EDITOR'S NOTE.—Our front cover gives an artist's impression of the pleasure which Dickens characters might have gained from broadcasting. In the following chapter a contributor gives another version of the changes which broadcasting and other modern devices might have made at Dingley Dell.

THE happy season of Christmas was here again, and although it was many years since the four Pickwickians had last visited Dingley Dell, they had all accepted Mr. Wardle's warm invitation to return to the spot where they had spent so many carefree hours, to say nothing of a few which were packed with excitement. Mr. Pickwick, who was still a gentleman of leisure, could cheerfully have spent a whole week at Dingley Dell, but the other Pickwickians could leave their businesses for only a brief week-end. The firm of Snodgrass and Isaacstein, song publishers of Charing Cross Road, was dealing with innumerable demands from producers of pantomimes, and Mr. Snodgrass, who was the chief writer of lyrics, could not leave his office for more than three days; Mr. Tracy Tupman found it difficult to tear himself away from the stalls of the Frivolity Theatre, where each night he duly admired the charms of the chorus girls; and Mr. Winkle was so busily engaged in correcting the proofs of his handbooks on "How to Skate," and "Shooting for Amateurs," that a couple of days' holiday was as much as he could manage. But the lure of Dingley Dell drew them all, and they felt a hundred years younger as they stepped out of the village station and found the fat boy waiting outside in Mr. Wardle's car.

The fat boy had not been affected by the passing years, for the craze for slimming had not yet arrived at Dingley Dell. He smiled happily as he slept in the car, and it was fair to assume that he was dreaming of Christmas pudding and mince pies.

The four Pickwickians decided that they would walk to the farm, and they left Mr. Weller to awaken the fat boy and put the luggage into the car.

"Vell," said Sam, as the fat boy opened a sleepy eye, "you ain't gettin' no thinner, is you? Do you have to buy three seats when you take your young 'ooman to the pictures?"

The fat boy shook his head.

"I haven't got a young woman," he replied, sadly.

"Ah," said Sam, "you're lucky. It's always as vell to go slowly, as the traffic cop said to the road hog on the Kingston by-pass. Shall we put these things in the car and go and have a drop of somethin'?"

The fat boy agreed that this was a good idea, and while they were loading the car he looked inquisitively at one of the packages.

"What's that?" he asked.

"Mr. Pickwick's portable," Sam replied. "He always takes it with him."

"That's fine," said the fat boy enthusiastically. "Our wireless has gone wrong, and I couldn't face Christmas without a spot of dance music. It always gives me an appetite."

While Sam and the fat boy were sitting peacefully in the bar of the Blue Lion, Mr. Pickwick and his friends walked on to the farm. Mr. Wardle had come out to meet them, and it was indeed a happy reunion when they were all together again. Old Wardle looked jollier than ever, and with his daughter Emily and Arabella Allen hanging affectionately on to his arms he made a charming picture of a contented old gentleman.

"Hello, Winkie," said Arabella, "have you come down to paint the place red as usual?"

Mr. Winkle modestly insisted that he had no such intention, and although his heart was beating faster at the sight of Arabella, he could not help noticing that she had plucked her eyebrows since he had last seen her. When she removed her glove for an instant he also noticed that her finger-nails had become bright scarlet, and he innocently wondered if it was due to the country air.

On their way to the farm, they came to the stile where once the young ladies had coyly displayed their unexceptionable ankles and Arabella had screamed loudly when Mr. Winkle had offered to help her across. Arabella had changed since then, and as she carelessly scrambled over she allowed everyone to see that her knees were at least as attractive as those which Mr. Tupman so faithfully admired at the Frivolity Theatre.

When they reached the farm the cordiality of their welcome was slightly marred by the abstractedness of old Mrs. Wardle's greeting. She was looking for something which she had lost in the front parlour, and she gave only a perfunctory nod when Wardle brought in his guests.

"Here are Mr. Pickwick and his friends," he said. "You remember them, don't you, Mother?"

"Yes, yes, of course, I remember them," said the old lady. "How do you do, how do you do? Oh, dear, I can't find it anywhere."

"What's the matter?" asked Mr. Pickwick.

"I've lost my library book," said the old lady. "And I don't know how I shall get through Christmas without it."

It was fortunate for everyone that Mr. Tupman was able to discover the missing book, and Mrs. Wardle then greeted the Pickwickians with more enthusiasm. Mr. Tupman was rewarded by a charming smile from Emily, who whispered, "I'll mix you a special cocktail for that, old thing."

Dinner was a joyous and noisy meal, and when they had all eaten and drunk as much as they could Sam brought in Mr. Pickwick's portable, and Mr. Pickwick proudly tuned in to the National programme. It was the end of a talk, and the voice seemed strangely familiar to the listeners.

"Looked all over," it said: "no dog—no mince pies—hours passed—dinner finished—found dog—under table—quite dead—empty plate—mince pies poisoned—dog knew—ate them all—saved family—wonderful dog—noble animal—stout fellow—very."

There was a short pause, and then an announcer's voice said: "You have been listening to a talk by Mr. Alfred Jingle on 'Some Christmases I Have Known.' And now the B.B.C. Theatre Orchestra—"

No one heard what the B.B.C. Theatre Orchestra was going to do, for the mention of Mr. Jingle's name had brought forth such a flood of reminiscences that the sound of the wireless was drowned. While the talk was at its height Mr. Tupman stole over to the portable, and quietly turned the knob until Rome was tuned in. Then he sat down beside it and listened with a beatific smile to the golden voice of the woman announcer. Emily's cocktail and the liberal potations which he had imbibed at dinner had reduced him to a state of mind



Mr. Pickwick . . . still a Gentleman of Leisure

in which life held no deeper joy than to listen to the voice of a lovely woman.

Mr. Tupman's enjoyment was soon disturbed, for Emily and Arabella wished to hear the dance music, and they moved the furniture and arranged the room for an impromptu dance. The dance music opened with one of Mr. Snodgrass's latest songs, "Those Eatanswill Blues," and the young ladies were highly delighted when Mr. Snodgrass consented to croon it for them in a low and pleasing voice.

"And where's your Elsie Carlisle now?" inquired Arabella. "Augustus can croon the whole lot of them right out of the studio!"

Mr. Winkle was a little jealous at hearing Arabella refer to Mr. Snodgrass by his Christian name, and he was also hurt when he was reproved by Emily for treading on her toes. As the author of a popular book on "How to Master the Latest Dances," he felt that no girl should speak to him like that, but he was consoled when Arabella suggested that they should go for a walk in the moonlight. Mr. Snodgrass and Emily went with them, and they were all happy and carefree in the traditional Christmas manner.

All the lights had been turned out when they came back to the house, and it was evident that the rest of the party had gone to bed. They crept quietly upstairs, and when they had kissed the young ladies good night Mr. Winkle and Mr. Snodgrass thought that they would say good night to Mr. Tupman also. He was not in his room, and in some alarm the two Pickwickians went downstairs.

A faint murmur came from the front parlour, and they hurriedly entered the room. There was Mr. Tupman, with his arms around Mr. Pickwick's portable.

"And you never said good night to me," he was saying. "Oh, signorina, signorina, why are you so cruel?"

Mr. Winkle and Mr. Snodgrass exchanged a glance and tiptoed silently away. They knew that nothing could be done when once Mr. Tupman's amorous propensities were aroused. No doubt he would feel better in the morning.

"A surprise item"



MRS. GOLPETTY raised her head and listened to the sounds coming from the ballroom beyond. She looked around her at the lavish decorations,

the sprigs of holly, and the Christmas tree. Her small eyes gleamed.

She turned to the boy beside her. "Don't you go eating too many of those ice-creams, Reginald," she admonished. Master Reginald Golpetty polished off the remains of his third ice and absently reached for a fourth.

"You will come in, won't you, dear?" begged his mother anxiously.

"P'raps," observed the youth non-committally. And with this reply his mother had to be content, and with a sigh which resembled a gale of wind howling through a keyhole, she turned and waddled into the ballroom to attend to her guests. A little baldheaded man watched her entrance with a frightened air.

"I've been talking to Lord and Lady Trugottle, Lizzie," he whispered.

"I wish you would not call me Lizzie," his wife retorted testily. "And what were you talking to Lord and Lady Trugottle about?" she demanded.

"Oh—" Henry waved one hand depreciatingly. "Jes' things, Liz—I mean, Mirabel. We just spoke of—well—you know the sort of thing. Startings—the scrap trade—iron industry—ship building—and what I've been able to build up from such small beginnings."

"You didn't mention that donkey and cart?" snarled Mrs. Golpetty in an undertone which carried only as far as her husband's ear.

Henry Golpetty turned pale.

"I—I only—" he stuttered. "His lordship was so kind—he—he seemed to—to admire—"

"You fool!" raved his wife, interrupting his speech. Taking him by the arm, she hustled him into a small room away from the main hall. "Now," she said, brandishing her fist in the little man's terrified face. "If you ever mention that subject again—I'll—" Rage rendered her dumb.

"Listen," she said, suddenly halting and glaring at Mr. Golpetty. "I had intended making a speech in the supper interval, just a few words in which to wish our guests a Merry Christmas. The engineers have installed a microphone and loudspeaker things. But now I have decided that you shall speak instead."

Henry commenced a protest, but his wife silenced him with a look.

"Listen," she repeated. "There will be no reference to that barrow and moke business. This is what you will say—"

Then followed a subdued murmur of talk, and a listener might have heard such phrases as: "Captains of Industry, Backbone of the Country, Denial and Self-sacrifice, My Life for My Work, Our House has been Thrown Open. . . . Christmas Revels . . ."

Henry Golpetty nodded so often that his glasses fell off.

Master Golpetty stared at the row of empty ice-cream glasses on the table. Then, quite suddenly, he felt an immediate need of fresh air. At the top of the marble steps, however, he paused. Before him stood a ragged apparition in knee-length trousers, no stockings, and a jersey which might have been worn by an eighteenth century Bolton Wanderers player.

By J. D. STRANGE

"What do you want?" he asked.

"I was jes' goin' t' do yer a carol, cock," the urchin informed him, seating himself comfortably astride the balustrade.

Master Reginald looked serious.

"My name's Reginald," he observed. "Not Cock."

The other grinned.

"O 'right, Reg," he agreed. "'N mine's Albert."

Reginald accepted this statement with a graceful inclination of his bullet head.

"An excellent appellation," he said. "But why were you going to sing a carol? It surely wasn't just love of song?"

Albert grinned.

"You ain't 'arf a one," he said, adding admiringly, "I likes yer soot."

Reginald looked down at his velvet creation with surprise.

"I don't," he said. "But the Mater makes me wear it."

"I ain't never 'ad a real soot," mused Albert. "I got a job t'buy grub, let alone soots."

This last was a mere statement of fact, and was not advanced to create pity. Reginald looked his new-found friend over with added interest.

"D'you like ice-cream?" he asked suddenly.

Albert's jaw dropped. He nodded mutely.

Reginald grinned. "Come on in and have some," he invited, and taking the other by the arm, he led him inside the hall.

"Better come this way," he murmured, guiding his companion up a small flight of stairs which led to the gallery above. "I'll bring you some ices. Like a few sandwiches, too?"

Again Albert nodded without speaking.

Reginald cautioned his friend against leaning over the balcony and showing himself to the dancers below. Albert grinned and nodded a ready understanding. Immediately over his head was a little box suspended on wires; Albert hardly saw the box, and neither did Reginald when he returned presently with a large tray loaded with ice-creams and other eatables.

* * * * *

Mrs. Golpetty watched her husband creep away through the doorway leading to the musician's gallery. Then, pulling herself together, she walked out into the ballroom, making a bee-line for the guest of the evening, Lord Trugottle.

"So sorry to desert you just now," the lady panted. "But your lordship will no doubt understand—one has to see to so much—servants are so lax—duties of a hostess—all that sort of thing."

"Quite, quite, Mrs. Golpetty," murmured his lordship politely. "A charming evening—"

"You think so, your lordship?" simpered the lady eagerly. "I am glad. I have just seen Henry, and he tells me that he has been talking with your lordship."

"He has, indeed, Mrs. Golpetty; a most interesting man, your husband, most interesting."

"But a great practical joker," the lady hastened to inform her noble guest. "The things he will say! But there, everybody knows Henry, your lordship. He's quite a character, is Henry—he says it all so seriously."

His lordship adjusted his monocle with a bored air.

"A most interesting man, by jove," he repeated absently.

"I'm glad you think so," murmured Mrs. Golpetty. Henry and I often talk about your lordship when we are together."

"Tut, tut." His lordship smiled fatuously, and brushed aside the compliment with a disparaging gesture. "I trust you give me a good character, Mrs. Golpetty."

"If you could only hear us!" Mrs. Golpetty infused a wealth of meaning into the suggestion. "But I must not embarrass your lordship. Come, I have a surprise for you." She led her guest forward across the crowded floor.

"A surprise?"

"Yes." Mrs. Golpetty waved one hand behind her back, a signal to the electrician who crouched in a curtained alcove behind the stairs. "Look —" She pointed to the centre of the musicians' gallery, and, looking upwards, his lordship saw the diminutive form of his host. Mr. Golpetty stood in the front of the gallery some considerable distance from a small box which hung suspended from the lofty ceiling. And as Lord Trugottle looked upwards, the little man's lips began to move. Over in the curtained alcove the electrician depressed the switch which connected up the microphone to the loudspeakers installed at each corner of the ballroom.

"My Paw was a chimney sweep," a childish voice suddenly informed the throng which had gathered below the microphone. The tone of the voice was pleasantly conversational.

"That's nothing," said another voice boastfully. "My Pater used to drive a donkey and barrow through the streets—although the Mater doesn't like everybody to know that. Have another ice-cream, Albert?"

Mrs. Golpetty's lips moved, but no sound issued from them. She appeared to be in a trance.

"My Pater used to shout, 'Rag 'n Bones' down the streets," the mysterious juvenile voices continued. "That's how he made all his money, Albert."

"Take a lot of Rag 'n Bones t' buy all these bloomin' ices, Reg."

"Pooch—that's nothing!"

"And all them doo-dahs down below. What sh'll I do with this orange peel, Reg?"

"Chuck it over the balcony, Albert."

"Oo, look at ole raspberry nose dahn there, Reg!"

"The cove with the window pane?"

"Yus."

"Oh, that's old Bluebottle."

"Bluebottle?"

"Lord Trugottle—that half-witted old fool Bluebottle, the Mater calls him, Albert."

"Oo, I say, jes' look at 'im now! Why does 'ee make them funny faces, Reg—"

At that point, Mrs. Golpetty recovered from her trance. With a loud shriek, she bolted across the ballroom and hurled herself through the engineer's "tent." Her sixteen stone fell across a mass of delicate apparatus and the microphone amplifier crashed to the floor. At once the mysterious voices ceased.

A large bunch of orange peelings descended on the upturned faces of the amazed guests, and from a point some distance away a thin, reedy voice, now faintly audible, concluded:

" . . . a humble Captain of Industry . . . Stern Self-Denial and Sacrifice . . . to all this. Our House has been Thrown Open . . . join in wishing you all a Very Merry Christmas and a Bright and 'Appy Noo Year!"

Mr. Henry Golpetty bowed stiffly from the waist up and his kindly little face wrinkled into a pleased smile as he turned about uncertainly and made his way downstairs.

"Jes' like a reg'lar B.B.C. announcer," he murmured happily to himself and shuffled off in search of his wife's approbation of this, his entry into the fascinating realms of oratory.

RADIO GAMES FOR CHRISTMAS FESTIVITIES



Blindfold Tuning

THE wealth of seasonable entertainment available in the Christmas programmes will keep most listeners' sets working overtime, no doubt, to meet the demand for broadcast fare alone! In addition, however, to their normal use

for ordinary reception, wireless sets or radiograms can contribute in another way to the jollity of Christmas festivities; they can be made to provide plenty of fun in the form of radio games, tricks, and competitions. Quite a number of these, of course, can be devised, but here are a few suggestions just to start the ball rolling:—

A tune-naming competition is a fascinating game that everyone can join in. A radiogram and one or two records of medleys, musical switches, or other suitable "mixtures" of well-known melodies will provide the necessary material. The game consists, of course, of trying to name the various tunes introduced in the medley.

The players should be provided with sheets of paper bearing columns of numbers, against which they can write the names of any tunes they recognise. The prize, of course, goes to the player who names correctly the greatest number of melodies; but, in order to make the game a trifle more hazardous and curb the exuberance of any hilarious players who put down tunes that are not on the records, a point can be deducted for each wrong guess!

Another competition, which will appeal to dancing enthusiasts or, in fact, anyone who listens regularly to the dance bands on the wireless, can be devised on the following lines: Put on a variety of well-known dance records, playing them with the switch or volume control turned off. While the records are playing, switch on or fade in brief, tantalising snatches of the music. The game consists of trying to recognise the tunes from the few bars thus heard.

As only a few snatches of melody from each record are required, there is no need to play the records right through; in order to speed up the proceedings, each record can be changed after playing the first verse or so.

"Blindfold tuning" is another radio game, of a rather different kind, which is rather good fun. There is no need actually to blindfold the competitors; all that is necessary is to mask the tuning-dial on the set with a piece of paper, so that no competitor can see the dial-readings while tuning-in.

The competitors have to try their hand at tuning-in stations with the set switched off, and then switch on to see what luck has come their way! Points can be scored according to the nationality of the stations received. A scale of points should be drawn up beforehand, this being based on the chances of locating stations of different nationalities. As some countries possess far more transmitters than others, the chances vary greatly; for instance, the odds in favour of tuning-in a French or German station "blindfold" are much greater than those in favour of tuning-in a Portuguese one. Therefore, any competitor who was successful in logging Lisbon would score much higher points than one who tuned in Langenberg.

One warning is necessary. In carrying out blindfold tuning with a set incorporating reaction, the reaction knob should be turned

back to zero, then the competitor should try his luck with the tuning dial, switch on, and carefully increase reaction until signals are heard. Unless this precaution is observed, interference might be caused if the set happened to be of a radiating type.

Guessing languages is a rather fascinating and surprisingly difficult game. A properly calibrated set is desirable; its owner can then tune-in various foreign stations in succession, pausing for a definite time—say, ten seconds—on any transmission of speech. The players have to write down what language they suppose it to be in each case. The operator of the set should, of course, jot down a list of the stations tuned in, so that the competitors' results can be checked at the end of the game to see who has won by making the greatest number of correct guesses. A glance through the programmes beforehand will show the most favourable times for capturing the greatest number of speech broadcasts—talks, news, etc.

A microphone, provided that it is efficient enough to give tolerably good reproduction, will provide plenty of fun. The "mike" should, of course, be connected, *via* a suitable transformer, to the input terminals of an L.F. amplifier (or the pick-up terminals of an ordinary receiving set). If the amplifier is a reasonably powerful one, good loudspeaker signals should be obtained.

The microphone and set can be rigged up in one room, and the loudspeaker joined to the farther end of extension-leads in another room. Various games, competitions, and tricks can be devised which exploit the possibilities of this arrangement. One interesting competition, for instance, is "noise guessing." The assembled company can be divided into two groups, one in the room with the microphone and the other in the room with the loudspeaker.

The performers in the improvised "studio" then use their ingenuity in producing various "sound effects" before the microphone, while the remainder of the party listen to the reproduction from the loudspeaker and try to guess what the noises are intended to represent or how they are produced. A prize can be awarded to the person who guesses correctly the greatest number of noises. A "Zoo broadcast" carried out with the aid of this apparatus is great fun. Any would-be broadcasters who fancy they have an aptitude for animal or bird imitations can try their hand at producing them before the microphone. The listeners in the other room can act as judges, and a prize can be awarded for the effort that is voted the best.



Guessing Languages

Apart from games and competitions, there are various mystifying tricks that can be performed with radio apparatus. Some quite convincing exhibitions of "thought-reading," for instance, can be staged by concealing a microphone (or loudspeaker acting as an improvised microphone) in one room, and providing the "thought-reader" with a pair of headphones in another room. An amplifier interposed between the microphone and headphones will amplify all the sounds in the first room and enable the "thought-reader" to hear all that is going on. Having overheard the conversation, etc., of the

assembled guests in this way, the eavesdropper can return to the room and give quite a startling demonstration of "thought-reading"!

Of course, this trick needs to be rehearsed carefully beforehand, as it may "flop" rather badly if the apparatus is not adjusted sufficiently well to enable the thought-reader to hear plainly all that is being said in the room.

The "magic meter" trick is one that provides plenty of fun. An old voltmeter and a couple of magnets comprise the only apparatus needed. The meter should be a cheap moving-iron instrument that is no longer required for its legitimate purpose (as it will probably give ludicrously erratic voltage readings after it has been used for this trick!). Of the two magnets, one should be considerably more powerful than the other.



Magnetic Personality

The U-shaped magnets from old B.A. loudspeaker units will do quite well.

It is necessary to disguise the meter, making it look as much unlike an ordinary voltmeter as possible. The voltage scale should be removed, and a home-made scale, cut out of thin card or stiff paper, fixed in its place. If you care to take the trouble, the meter can be made to look more impressive by mounting it in a box decorated with an assortment of mysterious knobs, terminals, etc.!

The help of a confederate will enable you to perform this trick more effectively. He should hide the smaller of the two magnets in, say, the breastpocket of his coat, while the stronger magnet should be concealed in your own pocket. You should introduce the mysterious meter by explaining that it is a special invention of your own which has the remarkable property of indicating personal magnetism (or any other appropriate nonsense that you can think of on the spur of the moment!). When anyone with a magnetic personality holds the meter close to them, you can explain, the needle will be deflected across the scale—the stronger the magnetism, the greater the deflection.

To demonstrate this, you should hand the meter to your confederate, who should hold it close to the pocket in which he has previously concealed the magnet. If he holds the instrument in a suitable position within the magnetic field, the needle will swing across the scale. The other guests will want to try it for themselves; but, no matter how they try, they will not succeed in getting the needle to move at all—naturally! When the meter is handed back to you, however, there will be a violent deflection of the needle as soon as you bring it close to the powerful magnet in your pocket.

At this juncture you can introduce a little patter about your magnetic personality, and, by way of illustration, pick up a small pair of scissors or any other light steel object that may be handy, and place it against your coat just over the position of the magnet. The steel, of course, will adhere to your coat and remain hanging vertically as though suspended by some invisible thread.

By this time, however, some bright lad in the assembled company will probably become suspicious, make a dive at your pocket, fish out the magnet, and give the show away.

by W. OLIVER

Hamilton Fyfe writes on *THE GIFT OF TONGUES*

NEXT to getting up in the morning earlier than other people, I don't know any accomplishment that enhances one's self-respect more than a knowledge of foreign languages.

You know how intolerably condescending, how pityingly disdainful, one feels towards the rest of humanity when one has risen a great while before the normal day—perhaps to go for a walk or to do some job in the garden or just to stroll about and enjoy the freshness.

"By far the best part of the day," you declare with emphasis. As your house-companions straggle in to breakfast, you look at them with humorous contempt. They haven't your healthy appetite. No wonder. They were still sluggishly recumbent while you were out in the exhilarating air. All day you carry about with you that uplifting consciousness of not being "as other men are." Regrettably Pharisaical, no doubt; but there it is. We've all felt it (except the incurable lie-a-beds among us); we've all enjoyed the feeling of superiority it gives.

We may laugh at ourselves for this weakness (as others laugh at us), but it is not altogether either deplorable or absurd. There was a good deal of sense in the old Scot's prayer, "God, gie's a guid conceit o' oorsels." There is plenty in life to depress us; to make us doubt our own powers, our own value. Just as well that we should sometimes screw ourselves up a peg or two. Confidence is no less necessary than ability as an ingredient in a successful career.

The Joy of Battle

I doubt if there is any breeder of confidence so certain, and at the same time so simple, as learning a foreign language. To make a start is not easy. You shrink from the very appearance of pages that mean nothing to you. The grammar—how will you master that? Then the pronunciation—can your stubborn tongue ever twist itself to produce those unfamiliar sounds? To climb over these obstacles requires persistence. Once they are conquered, your courage swells with a sense of triumph. Difficulties disappear as soon as they are tackled. And, as you scatter them, you may pardonably say to yourself with Alan Breck in Stevenson's *Kidnapped*—"Am I no' a bonny fighter?"

Any man or woman who can learn a language—learn it so as to read and talk (writing is another matter)—can learn anything. They have proved their possession of a capable brain. Vast numbers of us have capable brains, but never put them to the test. These faint-hearts allow their "capability and godlike reason to rust in them unused." There is no excuse for that to-day. Help is offered from so many sides. How grateful many of us would have been thirty and forty years ago for the wireless lessons that are now given in languages, and the weekly pages devoted to them by WORLD-RADIO.

I listen sometimes to one of these lessons just to mark the immense advance in method since I learned French and German. At a public school, then, the teaching in form was worth very little indeed. My modern language master was exceptional in one way. He could keep us in perfect order. His discipline was Prussian. He abused us like a Potsdam drill-sergeant. "Pig, cat, ass, menagerie," he would shout to the boy who came with his lesson unprepared. When he was really roused, he would swoop suddenly on an offender, seize his

books, foolscap paper, pen, or pencil, and hurl them out of the window. He could teach, though, if boys went to him out of school and he saw that they wanted to learn. He taught me to chatter in French and scramble through almost any book, which was far more useful than grammar and syntax.

German I tried to learn from a private teacher (a German) after I had left school. He was entirely incompetent. He had no ideas beyond those of the repellent "primers" of that time. I found I could do better by myself. The best way to learn a language is, of course, to live among people who speak nothing else. You then learn to talk as a child learns. You imitate what you hear said. Association between words and objects grows in your mind by a natural unforced process.

Sound and Rhythm

The next best method to that is learning by wireless or with the aid of gramophone records. The essential is to get the sounds right—and not the sounds only, but the rhythm, the lilt of the language. Here you will make quicker progress if you have a musical ear—though it does not follow that being fond of music makes the ear quick and sensitive. A friend of mine speaks several languages fluently, but speaks them all as if he were speaking English. Yet he is never happier than when a Beethoven or a Brahms symphony is in a broadcast programme.

It was when I first went to Spain and to Italy that I discovered the advantage of having learned Latin. With even the smattering that a public school gives added to French, one can pick up acquaintance with Italian and Spanish. The same is true of Romanian, a speech nearer Latin than either of the others. Such an acquaintance does not, you can guess, carry one far. Still, even with what I call a waiter's knowledge of languages one can travel more easily, and more cheaply, than those who cannot ask for a room or hot water, who are unable to read a bill of fare, or to enquire their way in the streets, or to tell a car conductor where they want to get off. I never feel at home in a city until I have ridden freely in its street-cars or omnibuses.

In Constantinople I first felt the bewilderment of street names completely unintelligible. I had been in Russia before then, but there some of the letters looked familiar. I thought I knew what they stood for. Turkish looked like the splash a bad pen-nib makes when it is used by an impatient writer. I gave it a miss. But Russian I learned—under stress of circumstances, I admit, rather than from enterprise. I was sent to Russia in the autumn of 1914, and I stayed there two years. At first I lived in the capital (Petrograd then) and did my work with the assistance of the newspapers. I hired an Englishman to translate them to me. He so persistently overlooked, or treated as not worth mention, important pieces of news that I began to be afraid, either that I should, in a frenzy of annoyance, kill him, or that he would kill me for bully-ragging him so often. To avoid either of these unpleasant things happening, I set to work to learn Russian—with the aid of the newspapers; and before I left the country I had read (among other things) the fourteen volumes of Tchekhof's stories and plays (which alone repaid the effort) and could carry on any simple conversation. Indeed, on general topics my

tongue was more ready than those of some Englishmen who had been a long time in Russia. I knew one who could talk fluently about soap (he represented a soap firm), but on every other subject he was dumb!

After that conquest of Russian, which looks so forbidding and is reputed to be so difficult to learn, I should not be afraid of any language—not even Turkish

—if circumstances made me require it. Nor do I believe anyone need shrink from such study, or imagine it beyond their powers. Very few people learn languages other than their own—few learn their own—perfectly. One man I knew in Russia was a British newspaperman, Harold Williams, who was said by eminent Russians to write and speak Russian better than they did. He was a New Zealander with a gift for languages and a knowledge of many. Once, at a public dinner in the capital of Estonia, I heard him make a speech in Estonian, to the delight of his hosts and the amazement of his fellow-Britons.

Foreigners' English

That is a kind of proficiency we need not aspire to. Sufficient for the general run of us if we can ask for what we want and talk enough to form acquaintanceships, and perhaps help people in other lands to avoid grotesque mistakes in our language. Why they don't have their English notices and announcements "vetted" I can never understand. Conceit, I suppose (I said it went with languages!). They think they know everything.

In a Belgian hotel last summer I saw a notice in my room over the basin: "Cock's water: not potent." Now the last two words bear a plain meaning. "Potent" is a mistake for "potable," not an English word, but one commonly used for drinking water in French. The first two words puzzled me until I thought of "turncock." The warning was, I take it, that this water came from the main and had better not be drunk!

It was in an Italian hotel that I saw advertised as an attraction: "Fresh kitchen every time." That was evidently a literal translation of *Fresca cucina a tutte le ore*, meaning that you could have meals cooked for you at any time! More comical, though not so hard to understand, was the announcement on a board outside a monastery in Spain:

"The brothers harbour all sorts of disease and pay no respect to religion."

Surely they could have found someone to suggest a less ambiguous phrasing.

From such errors we can now save ourselves, and others, by a method of learning languages which bring them to our firesides. "French without tears" was the title of a book once in favour. The broadcasting plan is "French (or whatever it may be) without the troubling of stirring from home."

Owing to the Christmas holidays the next issue of WORLD-RADIO will appear on Saturday, December 30, instead of Friday, December 29. Subsequent issues will be on sale each Friday as usual.

The Charioteer of Delphi



WE were four among a large party of tourists bound for Greece. After an unusually rough passage of the Adriatic, owing to a small cyclone blowing down the snow-flanked mountains of Dalmatia and the billowy swell which lasted well into the Gulf of Corinth, we awoke (mere figure of speech for many of us!), as the sun rose between the snows of Parnassus and the angular summit of Mt. Helicon, to the promise of a genial April day. The soft hues of the alp land, the brilliant green of scattered patches of corn fresh with the spring sap, and the mellow dignity of the olive groves in the Itean plain suggested a day of repose, though there would be for many of us the thrill of setting foot on Greek soil for the first time, and the ordeal of that ten-mile drive to Delphi.

About thirty cars of various ages, makes, and horse-power were lined up near the quay of Itea, where green and orange fishing smacks were waiting to put to sea. As soon as these cars were filled, drivers started their engines and took their seats—all but ours. We were in car No. 5, and none was to start until all were ready. Where was our driver? This soon became patent when a gesticulating crowd of officials and natives were seen to be arguing with a tall, muscular Greek whose features were menacing.

Something was wrong: our hero refused to take up his post. For quite five minutes the argument swayed from Scylla to Charybdis until, reluctantly, and with a menace that feared no enemy, Jehu slammed the door and pressed his foot on the starter.

Impatiently he watched cars Nos. 1, 2, 3, and 4 wheel into line, as their sirens scattered the curious crowd from the middle of the road. To release the brake, slip into gear, accelerate, turn into the straight, and blow his horn—these were accomplished in all but one movement, so great was his haste. We were hardly clear of the quay before he had taken the speed to anything over thirty m.p.h.—hooting hysterically all the while. There could be little doubt what the trouble was: Jehu was suffering from an injustice. Wasn't his car the most powerful in the line? Then why should he have been placed fifth instead of first?

Whether or no this road was still suffering from the heavy traffic which used it during the Great War—the road itself had been widened by British troops—it cannot be said that the Greeks take a pride in the maintenance of their roads, for the pot-holes were almost as numerous as the holes in a piece of Gruyère cheese, and the ruts were like any ploughed field. In trying to avoid these, Jehu swerved with violent contempt in every turn of the wheel. Being seated in front, he may not have felt, as we did, that the wheels might leave the back axle at any moment.

In the plain of olive trees the road is broad: we easily overtook two of the first four cars; but we had reached the beginning of the long and narrow climb, with its numerous hairpin bends, before we had closed on the heels of the remaining two usurpers. It seemed madness to attempt

to pass. But Jehu had made up his mind—he would pass those cars even if it cost him his life.

Jumping in his seat like a Jack-in-the-Box, the speed, the bad road, and his excitement aiding, our Harold Lloyd drew as close as he dared to the car in front of him and delivered a charge of warning from his horn. The driver in front refused to give way. His passengers turned round in amazement and prayed that our driver would never make the attempt. But his blood was up. His fist and the poise of his head threatened revenge; and although temporarily thwarted by the arrival of the first hairpin bend, he was not to be stayed. A minute later the driver in front was obliged to give way, and we passed . . . with our left wheels, in sandy soil and grit, six inches from the unprotected edge of a steep decline.

Jehu, with a malicious twinkle in his eye, turned and beamed on his passengers.

There was one more car to pass—and the road would be ours all the way to Delphi. Had he won our approval? Despite the discomfort of dust and our qualms for personal safety, we could not but acclaim the skill of our modern charioteer. If there was no question of enjoying the scenery, the position of first place would at least secure for us the freedom from dust. With a lurch that made us catch our breath, we churned the grit of the road on to the bonnet of the leading car.

Hurrah! Nothing to stop us now! But what was that lying in the middle of the road as we swerved through the streets of Crissa? We thought we were in Greece, not in Africa. Can it really be a camel? Yes, it is. What—for he hoots as impatiently as ever—will Jehu do now? Here lies the vital test of his nature; he may be

prepared to sacrifice human lives: will he show no less mercy for a dumb animal?

Jehu pulled up with a sudden jerk; the engine immediately stopped. But why does not the camel get out of the way? To what can that crowd be listening, as though they were worshipping a wooden idol perched upon a table in front of the house where the camel had stopped?

The sound of music came to the ears of Jehu. His face underwent a momentous change: curiosity mingled with fear; for he was very superstitious. He could never recall having seen such a thing. Cautiously he descended from the car and approached the crowd. He knew it was music of some sort, but how could it come out of a wooden box? A few questions, with bated breath, put to the crowd, and Jehu learned what we had already guessed—that this was the first portable wireless set to reach this part of Greece. The music was being broadcast from an Italian station.

Jehu remained so spellbound that we had to go and fetch him back to the car. He seemed so calm now, we wondered whether he would remember that the race was not yet run. Already other cars were waiting for the camel to be removed. Jehu returned to his senses; shouted threatening orders to whoever may have been responsible for the beast, and was not appeased until the camel limped out of the way. Springing to the wheel, he re-started the engine and away we flew. There was time to be made up. A peep over our shoulders at the blue gulf of Itea, another at the plain of olives, a flash of the deepest scarlet red as a cluster of poppies appealed for our admiration—and our goal was reached. With a smile glowing with pride, but blanched with just a remnant of fear, our velomaniac sprang from his seat and bowed us to the Museum of Delphi.

M. McL.

A WIRELESS ANTHOLOGY

If they only had lived in these days of broadcasting, many famous poets of the past might have tapped the world's radio programmes as a source of inspiration for their poems.

One can imagine Tennyson, for instance, after tuning-in to Prague in the early hours of the morning and hearing the record of a cock-crow which heralds the beginning of the day's broadcasting, producing something like this:—

When the announcer on his bike
Arrives in Prague at break of day,
The cock hath sung before the "mike"
Twice or thrice his roundelay,
Twice or thrice his roundelay . . .

If Shelley had ever picked up Radio-Napoli, part of his Ode to Naples might have been written in this manner:—

Didst thou not start to hear Spain's thrilling signals

From land to land relayed efficiently,
Till silence became music? From the Ægean
To the cold Alps, eternal Italy
Starts to hear thine! The sounds
Which fill the desert streets of Venice are
Of broadcast music; from Genoa, too,
The voices of announcers carry far,
Murmuring in accents musical; while in
Milan,

What time an item ends,
The listeners hear the trilling of a bird—
Or so it seems—the signal and the seal
(Lest listeners think their sets have failed)
Which marks an interval.

Another of Shelley's poems, with a little judicious alteration here and there, could be made to voice the plaint of a short-wave

enthusiast bemoaning the vagaries of an elusive station:—

Rarely, rarely, comest thou,
Station of delight!
Wherefore hast thou left me now,
Many a day and night?
Many a weary night and day
'Tis since thou came in O.K.!

How shall ever one like me
Tune in thee again?
Here I sit, without my tea,
Twirling dials in vain.
Station false! Thou hast forgot
All but those who need thee not.

In Shakespeare's day Philomel was unacquainted with the microphone. But if Shakespeare had lived in the broadcasting era, and his reception of dance music had been interrupted towards midnight for the B.B.C. engineers to stage a relay of the nightingale's song, he might have reached for his fountain-pen and reconstructed his poem about spotted snakes on these lines:—

You spotted snakes with double tongue,
Thorny hedgehogs, disappear;
Newts and blind-worms, do no wrong;
Come not near our engineer.
Philomel, with melody
Sing in our sweet lullaby;
Lulla, lulla, lullaby; lulla, lulla, lullaby!
Never harm,
Nor spell nor charm,
Come, our many listeners, nigh;
So, good night, with lullaby.

—W. O.



"The negroes have maintained their fondness for dressing-up. . . ."

CHRISTMAS IN THE WEST INDIES

by SIR ALGERNON ASPINALL, C.M.G., C.B.E.

Author of "The Pocket Guide to the West Indies",
"West Indian Tales of Old", etc.

WHEN Matthew Gregory Lewis, M.P.—usually known from the title of his most famous book as "Monk" Lewis—landed at Black River in Jamaica at Christmastime in 1815 he witnessed scenes of great excitement and jollification. Passing through the town to the sounds of the drum and "banjee" was a procession of the "John-Canoe," a "Merry-Andrew dressed in a striped doublet, and bearing upon his head a kind of pasteboard house-boat, filled with puppets, representing, some sailors, others soldiers, others again slaves at work on a plantation, etc." Rival parties of Blues and Reds with flags flying contended "for setting forth their processions with the greatest taste and magnificence." Britannia, admirals, and even kings and queens were impersonated, and the slaves were as happy as could be.

The Power of Music

The negroes have maintained their fondness for dressing-up, but they reserve their best efforts for the Carnival—at any rate in those islands where Roman Catholics predominate—though a few masks may be brought out at Christmas and mummers make merry in the streets. Love of music is also characteristic of residents in the West Indian islands and British Guiana, and it is recorded that the brazen notes of the Police Band in Georgetown once quelled a serious riot. The disturbers of the King's Peace followed the band, which was playing a lively air, into the prison yard. The gates were closed behind them and the police were then able to arrest the astonished ring-leaders at their leisure.

As in "Monk" Lewis's day, the favourite musical instruments among those unable to acquire saxophones and similar modernities are still the drum and the banjo or guitar, supplemented by the triangle and the "shak-shak"—the latter a tin containing pebbles which can be very rhythmic when properly handled. It is

in this connexion remarkable that West Indians, with their limited resources, should have given to the world the type of music now known generically as "jazz." Their dance bands are perfection.

It was only towards the end of the shameful era of slavery that the negroes in the West Indies were permitted to receive any religious instruction, though not to attend places of worship, but to-day their descendants flock to the churches and their devotion and fervour would make an English congregation seem cold by comparison. One has indeed heard them reproved from the pulpit for singing too lustily.

Decorated Churches

On Christmas Eve Midnight Mass is celebrated in the Roman Catholic cathedrals and churches, on leaving which many of the worshippers go to dances and festive parties where the time-honoured greetings are exchanged. The churches of all denominations are packed on Christmas Day. The windows, where there are any, and, where there are not, the louvers, are all wide open and it is a novel experience for newcomers to hear the familiar Lessons and Gospel accompanied by the rustling of palm-leaf fans and the shrill cries of such tropical birds as Trinidad's "Qu'est-ce-qu'il dit," which all day long shriek the question that gives the species its name.

The churches are beautifully decorated, not with red flannel and cotton wool to represent snow, as are sometimes seen in village churches in England, but with palm leaves, flaming poinsettias, and other plants and flowers, which in temperate climes are regarded as rare and are confined to the hot-houses of the wealthy. The people walk miles to attend church and you may still meet a few on the country roads carrying their boots which they put on their aching feet when they near their

destination. Bare feet have been seen protruding through the rails of the galleries in St. John's Cathedral in Antigua.

For days, if not weeks, before Christmas the stores—open to the four winds of heaven—in the towns and villages are thronged with shoppers and the black postmen stagger under the weight of their mailbags, heavily laden with greeting cards, which are quite as much in vogue in the West Indies as they are at "Home," as every West Indian calls England, whether he has visited it or not.

Gifts are liberally exchanged and the inmates of the hospitals and other Government institutions are not forgotten. Nor are the children, who look forward eagerly to Christmas Day, though they may have their own ideas about Santa Claus, since West Indian houses have no chimneys down which he could come, and his reindeer and sledge would be altogether out of place in tropical islands. Christmas trees are rare, but the writer recalls one, gaily decorated with candles, glass ornaments, and gifts, in the residence of a greatly respected engineer of German birth in Georgetown, Demerara.

Family Gatherings

As in England, Christmas Day in the West Indies is marked by great gatherings of the clans and this is specially noticeable in the case of the fine old French families of Trinidad. Apart from religious observances, the chief event of the day is dinner, at which the traditional roast turkey and plum pudding are invariably served. The pudding is set aflame with rum, and the only concession to the tropical climate is the provision of iced instead of hot rum punch.

For most people in England—at any rate in the towns—Christmas Day is an indoor festival. In the West Indies it is otherwise, and it has to be admitted with sorrow that, generally speaking, housing conditions are so atrocious that there is little encouragement for the poorer folk to remain at home. Improvement in this respect is, however, being gradually effected. Meanwhile, the people have to derive what amusement they can out of doors, and when any money is about the rum shops do a roaring trade.

In Port of Spain a race meeting is always held between Christmas and New Year's Day. It is usually attended by the Governor and his party and attracts large crowds to the course on the spacious Savannah. So, too, do the cricket matches which are played in every island and in British Guiana with enthusiasm. For the leisured classes there are also picnics (which used to be called "maroons"), lawn tennis, bathing—in limpid water the temperature of which rarely falls below 70 degrees Fahr.—golf and thé—or rather, cocktail—dansants.

Scottish Celebrations

The many Scots resident in the West Indies, like their compatriots all the world over, reserve their merry-making activities for New Year's Eve, which they celebrate in their own characteristic way. Similarly, the Chinese inhabitants foregather on New Year's Day, when they relieve their feelings by letting off squibs and fireworks.

Apart from its religious significance, Christmas is regarded by the professional and labouring classes alike as a happy break from the monotony inseparable from residence in the tropics, where the climate from month to month, from week to week, and, indeed, from day to day varies so little. For the labourers it is a period of pleasurable anticipation, for they know that early in the New Year the smiling fields of golden sugar-cane will be reaped, yielding to them and their families an abundance of nourishment and as much remunerative work as they may desire to undertake.

A BUZI CHRISTMAS

By GWANDA LANGE



The writer, holding a baby leopard

WHAT shall we do this Christmas? That is a question you have all been asking for weeks. But with me it is different, I have not been questioning myself as to how I shall spend my Christmas. The only thing I do know is that I shall not go fishing. Beyond that I have not

even attempted to guess.

You fortunate inhabitants of the homeland can plan your Christmas in detail with every confidence—where you will go, what you will do—you even know what to expect in the way of weather. But to those exiled in the tropics, and more particularly in Portuguese East Africa, Christmas can bring any or everything: a minor revolution, a drought, or a tornado, or a deluge, so that we may wake to find that the river has overflowed its banks and the only possible way to leave the house is by boat. But of one thing we can be certain: something is sure to happen to add a spice of excitement.

Take last Christmas. For more than a month the sun had blazed more fiercely each day, and to walk even a few yards became an agony. Each night seemed hotter and more airless, making sleep impossible, even in a deck-chair, before 4 a.m., when for two hours there was a cool spell. There were occasional violent storms, but they brought no relief, the only difference being that instead of blazing sunshine the atmosphere was that of a Turkish bath.

It was on Christmas Eve, when I was feeling lonely—a woman-exile, tired, and rather nervy—that I remembered an article I had once read. It was an article on fishing, but all I remembered was the part where the writer said: "Fishing is most restful and soothing to the nerves."

That decided me, for I certainly felt in need of being soothed and rested. And here was I with a river at my door-step—the Rio Buzi—a fascinating river, wide, deep, and winding. At some parts its banks are covered by jungle, at others by tall lion grass, or with palms, bananas, small bush and brilliant green creepers that bow down to the water as though admiring their own reflection. And along the river's winding course may be found numerous fern and palm covered aits. Yes, I had a fascinating river to fish in.

Just below my house, and at the bottom of the sloping bank, and firmly settled in the mud, was a flat rock. It was an ideal spot to fish from—in fact, the only one unless I went out on the river in one of the native canoes, an idea that did not appeal to me at all. It was impossible to think of being out in that blazing heat in a canoe. But the rock was delightful. On the bank behind were reeds and bamboo and two great palms to shade me from the sun. I decided that I would spend Christmas morning fishing.

When my native servants heard my intention they begged me not to think of such a thing; they shook their heads and spoke of crocodiles. "Crocodiles are very clever," they said. But, although I had often seen and heard hippos near my house, I had never seen a crocodile in that particular part of the river. I knew that they must be there, for several natives had been caught, but, possibly because I personally had not seen one, I had not been greatly impressed. Hippos didn't alarm me at all. Whenever I

had seen them in the river with their huge heads sticking out of the water and with their ears pricked, the way they snorted and dived had always given me the impression of coy shyness. I have since learned that they can be anything but shy—but that is another story.

One glance at the sky on Christmas morning warned me that we were in for another blazing day, and so, bright and early, I made my way down to the river. I made my "boys" beat about the reeds and palms in case of snakes, but the only creatures we found were a few lizards scurrying here and there. Then I sent my "boys" back to the house and settled myself comfortably on the rock with my bait beside me in an enamel mug. (From that you will see that my fishing was of the small boy variety.)

Nevertheless, I was enjoying myself. It was delightful sitting there shaded from the sun, and with just the faintest breeze stirring the reeds around me. I looked at the sunlit water, an occasional piece of rotten log, with weeds clinging to it, drifting by. I listened to the trilling of the little wild canaries, and at times the cry of wild duck would come to me. I watched the many other birds, which showed not the slightest fear at my presence. There were those cheeky little fellows which I have named the "dentist" birds, because they keep the crocodiles' teeth in order. And this is how they do it. When a crocodile lies sunning himself in the mud he does so with his jaws slightly apart, and these little birds hop in and out picking away the scraps of food that cling round his teeth, and, by doing so, keep them in perfect condition. Perhaps in his craft the crocodile realises the importance of perfect teeth and the visits of the "dentist"; at all events a crocodile has never been known to harm one of these fearless little fellows, the only living creature that dare approach those terrible jaws.

There were dozens of different birds, the females with sober brown feathers, the males perky and gorgeous with heads and wings of velvet black and throats and breasts of flaming orange or scarlet. They swung on the reeds and swooped down after the tiny insects, chirping continuously.

Suddenly, I saw one of the most beautiful sights: a flight of about seventy herons. Unless you have seen them it is difficult to imagine their beauty. The unbelievable whiteness of their plumage against the vivid blue sky, the clear

yellow of their bills and legs! They were flying very low, and I was able to watch each movement of wing. I watched them cross the river till they became lost in the darkness of the palms, and I sighed with perfect content. Fishing was soothing; it was restful. I glanced down at the seven little silver fish I had already caught, and wondered why I had not taken up fishing before. The rippling water attracted me; there was yet another rotten log drifting towards me.

Then I became intent on my line; it was some time since I had had a bite, and I was puzzled, for the river abounds in fish. I waited; nothing happened. Then I became

conscious that the little songsters had deserted me and that a strange stillness seemed to hang over everything. I looked about to see the cause. Nothing! I glanced at the river, and my eyes fell on that piece of rotten log that had been drifting towards me. Now it was perfectly still and close, very close, and, to my horror, I saw nostrils and two bulging eyes! A crocodile—watching me intently!

I stared into those terrible eyes for what really could have been only a moment, but to me it seemed like hours. I flung myself backwards from the rock and tumbled into the reeds. As I rolled over I heard a mighty splash, but I never paused to investigate, I was scrambling up the bank as best I could, my only thought to get as far as possible away from those awful eyes and jaws.

My servants were somewhat startled at my appearance, which was not to be wondered at: I was covered with mud and my face and arms had been badly scratched by the reeds. However, I had now recovered somewhat from the shock, and, accompanied by my "boys," who armed themselves with sticks, I returned to the rock to see what was to be seen. There was nothing. The river, the picture of innocence, rippled on its way. The rock was bare except for a large wet patch now drying in the sun. My bait and the enamel mug, my seven fish all swept away with one sweep of that gigantic tail.

A crocodile's tail is one of his most powerful weapons; a blow from it can break one's legs, to say the least! A favourite trick with them is to sweep their victim into the river, to be devoured at leisure. Had I been a fraction of a second later in flinging myself from the rock he would undoubtedly have swept me in. As it was, all he got was my fish, bait, and the enamel mug, which I sincerely hope gave him indigestion, but I am afraid not, judging by what I have heard is to be found in their bellies!

Not long ago a crocodile was killed here and in its stomach were found nineteen native bracelets, a piece of blue cotton stuff, such as natives wear, and a small bar of soap. Evidently the crocodile had "dined" not long before, and the soap had refused to digest. After that I am afraid an enamel mug would be a delicacy!

So, although I have no idea how I shall spend Christmas, the one thing I am certain of is that I shall not go fishing.



A crocodile basking on the shore of the Buzi River



A Christmas morning photograph taken from a frontier outpost

The "Wardles" and "Cratchits" of India

TAKE all the Christmas parties ever painted by the immortal Dickens, fix them in your memory, then let me take you around Northern India at Christmas time, showing you what Christmas means to the "Cratchits" and "Wardles" in this Province of the five rivers. Not being spirits of Christmas past, present, or to come, we will travel by 'plane to a little railway centre; we land, not on Christmas Day—oh dear no!—but a week before, when the children have returned from school. These are the sons and daughters of good, honest folk, commonly known as the "Domiciled Anglo-Indians." They are the Cratchits of India; people who find it almost too difficult to make ends meet from month to month, but when we pay our visit it is Christmas time, and cost what it may, the hearts of young and old must be gladdened. Great preparations are in full swing; the children must have new clothes; Master Peter Cratchit has grown so much that the best pair of trousers he has brought back from school fit him like a pair of bathing drawers. There is a tremendous amount of work to be done in this short space of time. However, by the morning of the 24th, everything is ready, including the plum pudding.

By three o'clock on the 24th afternoon, Christmas has begun. There is a party at the Railway Institute, and everybody in the station will be there. There will be a tea, and the tables will look simply wonderful, with flowers and crackers, and great plates of stodgy Christmas cake and sweets; there will be games and races for the little ones, while the older folk play tennis and badminton. After the children, and grown-ups, too, have had sufficient exercise to get the stodgy cake well down, the greatest surprise of the evening takes place. This is the Christmas tree: it has been erected in one of the rooms, which has been kept locked until the final moment. In addition to being the most wonderful tree that ever was, it holds a toy for every child in the station. The children stand around the tree, and great excitement prevails. The funny man of the station has wrapped himself in an old red curtain, and with a lot of cotton wool around his face carries out the duties of Father Christmas. By seven o'clock the party is over, as the children must be early to bed and early to rise, to search through stockings and pillow-cases for gifts.

The whole station will be at service on Christmas morning, dressed in the newest of garbs, and the brightest of colours. If there is no church, the service will be held at the Institute, and taken by the senior officer in the station. Then follow visits, where you sample each other's cake, and the mistletoe is in great demand with the older younger folk. Christmas dinner is generally a family affair. Of course, the Man with Marriageable Daughters will take care that the bachelors are not forgotten. Although the joint may be only a very small duck,

and the wine just shandy, the pudding is a real Christmas pudding, with lots of blue flame blazing away around it, the very sight of which gives everyone that real Christmas feeling.

The Christmas Ball at the Institute is really a wonderful affair. During the day, a number of the younger people have been busy decorating the room with bunting, balloons, and lots of date palms. The ladies' cloakroom is also used as a night nursery, where young mothers, with infants much too young to go the whole night without nourishment, may deposit their babies, in charge of the *ayah* (Indian nurse), and come and attend to the little ones' wants between dances. The dancing will be fast and furious. The driver of the midnight mail will come along straight from his engine, in his working clothes; No one objects—why should they?—it is not the clothes that make the man on Christmas night.

Now let us visit the Wardles of India at Christmas time, in a little district station, like the one I am in at present. We are not a very large community, yet Christmas with us is a tremendous affair. Offices are closed from the 24th to the 1st, inclusive, and every hour of this holiday must be filled in with merriment. The programme for the week will be drawn up by a couple of bright sparks. There will be shooting parties, with a "Winkle" or two among the crowd; also picnic parties to fill in the mornings. There will be golf and tennis parties to fill in the evenings, and dances every night. On Christmas Day every Indian subordinate makes it his duty to visit the sahibs and memsahibs. They arrive in bunches, and each individual brings a garland and a Christmas card. The first visitors are the town bands: they arrive immediately after sunrise—it is quite a common thing to have bands coming

in at both gateways at the same time, playing different tunes. These are followed by all the post and telegraph boys, the road sweepers, the club servants, the butcher, the baker, the candlestick-maker, and one finds that the Christmas-box to everyone is quite a big item in the Christmas budget. There will be Church service, which the whole station will attend; the early part of the day

will be taken up by visitors, and in the afternoon there will be a merry tennis tournament, or a treasure hunt, which will mean a six-mile walk around the station, looking for clues. The station will be divided into small parties for Christmas dinner, and finally a gala night at the Club.

In the olden days I would have taken you a long, tedious railway journey to some little district station, where the District Officer and his wife are the only white people in the place, or the man is alone. Nowadays, with the arrival of the motor and better communications, these people spend the holiday in Lahore, which is a very important Christmas centre. Here, people from every corner of Punjab and N.W.F.P. will foregather and spend a real strenuous week, with polo, cricket, racing, and dancing. One will meet old friends, people who have spent a year or two in a district together at some time. Hotel accommodation is stretched to the utmost, every inch of ground being covered with tents.

The final function of the holiday is the New Year's Eve fancy-dress ball—a tremendous affair. The largest hall in Lahore will be packed with the merriest crowd it is possible to imagine; everyone knows everyone, or appears to; parties from out-stations will motor in a hundred miles just for the night. One can hardly call it a dance; it is just a meeting of a crowd of merry-makers, out to bid the Old Year a cheery farewell, and give the New Year a jolly welcome. By noon next day a stream of cars will leave Lahore, packed with luggage and very weary merrymakers, bound for their little district stations, for the holiday is over, and on the morrow the sahib will go back to his files, and the memsahib to her household duties.

Of course, there are unfortunate people who, for many reasons, must spend their Christmas in an isolated district. These people build their Christmas around the Christmas mail from home. Mothers will gloat over little gifts from the children; many a young bride, spending her first Christmas in some Eastern backwater, will read and re-read, with an aching heart, letters from home; bachelors will hand the jolly old Mater's plum-pudding over to the *khansamah* (cook) with strict instructions to pour a lot of brandy around it. But these gifts and letters left the homeland long before Christmas Day, and, although greatly treasured, they still leave something to be desired. The British Broadcasting Corporation's Empire service is filling this gap. It is almost impossible for people at home to realise with what feelings of joy hundreds of these isolated folk heard the glorious, simple message by his Majesty the King on Christmas Day last year.

W. W.



The village band playing on Christmas morning

CHRISTMAS IN MALAYA

It is usual to say that Christmas in a tropical country is unreal. And so it is in one sense. I am writing this article in November; in a suburb of a large Malayan town, a hundred miles from the equator, and I know that there will be no reasonable weather a month from now. On the contrary, my garden on Christmas morning will be as green as it is at midsummer; the blood-red hibiscus flowers will be glowing like great rubies in the intense sunlight; the exquisitely curved and burnished leaves of the coconut palms will be swaying in a light breeze; the house will be quiet and sunny and peaceful, and all the doors and windows will be open to the freshness and beauty of the garden, as they are in an English house in June. That is Malaya on Christmas Day! True, the rain may fall in torrents, for we are well into the north-east monsoon by the end of the year, but even so we shall surely have an hour or so of sunshine to reveal to us the tropical fecundity of the land in which we live.

And so, in that way, Christmas in this country is unreal. As soon as we open our eyes on Christmas morning Nature reminds us that we are exiles, that we are not in our own hardy clime and among our own people. For that reason those who can do so try to make Christmas more homelike by escaping to the Malayan hill stations, where little granite bungalows are perched on the crest of mountain ranges high up in the clouds, where people sit lazily around a log fire at night, where sweet English flowers bloom outside the bedroom window, and where cold air whips up the stagnant blood and the dulled mind and makes the European exile see what a fool he is to spend his life in the steaming plains five thousand feet below.

But hill bungalows are few in this country, and it requires much wire-pulling—an art well understood in a British tropical colony—to get one of them at Christmas. And so most of us remain on the plains, where Christmas is not so unreal after all. Indeed, it is very real in the human sense, which is, after all, the only sense in which Christmas matters. In some magical way the spirit of Christmas makes itself felt in this Asiatic town, where the white population is only two thousand among a hundred thousand brown, black and yellow folk, and where the only others

who can share our feelings at Christmas-tide are the Eurasians, the people of mixed descent who have inherited the religion and traditions of the West. Alas, it will be a sad Christmas for many of them this year, for the slump has hit this country hard, and the Eurasian community for the most part are poor but respectable folk, who have to keep up middle-class appearances and support large families on drastically cut salaries.

There the miracle is. In spite of the fewness of those who know what Christmas means, of the shops which dress their windows for its trade, and of the children who long for it to come, and in spite of the unseasonable appearance of this land of everlasting summer, Christmas is a reality in this distant country. Mysteriously and indefinitely it is so. For two precious days (Boxing Day is also observed out here) life is different. Our small, self-conscious, cliquy and restless British community takes on an unwonted and genuine friendliness. We have our Scrooges no doubt, hopelessly un-Dickensian though our life and society is, but even these liverish folk will not forget the season's greetings when they close their offices on Christmas Eve.

Then on Christmas morning there are visits to the houses of friends, the clinking of glasses in pleasant bungalows, the quiet conversation of exiles released from the workaday tropical world and casting their thoughts (though they may not say so) back to storm-swept islands in the North Sea, where people sit around cosy firesides, and rain and, maybe, snow beat upon the window-panes.

Photographs Instead of Children

Some of us in Malaya may go to church on Christmas morning, but not many, for church-going is not a habit that thrives in a tropical climate. For the most part we spend our morning in quiet, pleasant ways, and, naturally, the happiest homes are those where there are children. But, alas, there are no children over the age of seven or so, and such as there are have no roses in their cheeks. (We are only just beginning to found hill schools in Malaya, where children may stay for another two or three years.)

In most homes of married people at Christmas there are no children, but only photographs of children, and that is so sad as to be beyond writing about.

This is the most tragic aspect of British life in tropical and Eastern countries, and at Christmas it reaches its deepest poignancy. Yet, outwardly, there is only a cheerful and plucky resignation, and even those who feel this separation most are thankful for the other pleasures of Christmas, the break in the dull Malayan routine, the deliberate withdrawal of the British community into itself (the Chinese do the same at their New Year), the sudden and blessed enhancement of English sentiment and atmosphere and tradition, acting as a barrier between ourselves and the alien world about us.

Perhaps that is the real secret of Christmas in the tropics, that we become really English again, as English as we were when we first landed in the country of our exile, as our relatives and friends at home are to this day, and as we, in this artificial and unsatisfying life of ours, can never be again—except at Christmas!

There really isn't very much more to tell you about our Malayan Christmas and the way we spend it. We have a quiet tiffin on Christmas Day, perhaps with a friend or two at our table, and afterwards we surrender to the sleepiness of the tropical afternoon and doze or read until our white-suited Chinese "boy" sets out tea on the verandah. Afterwards, we watch a rugger match, or play golf, or go for a drive, and in the evening the more festively-inclined wind up with a real Christmas dinner—turkey from a Chinese poultry farm, plum-pudding out of a tin, but duly adorned with wisps of alluring blue flame, comic paper hats and all the usual trimmings.

That's the domestic side of our Christmas, and I think the pleasantest side, but if you want "whoopie" we can offer that, too. Only that happens on Christmas Eve, at the hotels and clubs, and again on New Year's Eve, when starchy Englishmen and sturdy Scotsmen throw off their reticence, clasp hands, and sing the new year in. But there are no public revels on Christmas Day. For the children it is what Christmas is everywhere, and for grown-ups it is a quiet, friendly and reminiscent festival, as might be expected in a community whose thoughts at that time are turned towards home. Nevertheless, it is a real Christmas Day, the one day in the tropical year when our hearts are aglow with the warmth of Old England.

G. L. P.

ENGLAND-LONDON-CALLING

We, children of old England, dispersed throughout the earth,
In thought oft journey homeward to the cradle of our birth!
We see the Mother City, so ancient, yet so fair—
And hear amid the solitudes a whispering, "Are you there?"
'Tis England—London—calling! Her voice rings far and wide!
'Tis London—England—calling across the seething tide!

Bow Bells are sweetly chiming, and countless more join in
To fill the skies of London with one melodious din!
On far-off sun-baked veldland, on still more distant plains,
Her children sense their rhythm a-surg-ing through their veins!
'Tis England—London—calling! Her voice rings far and wide!
'Tis London—England—calling across the seething tide!

Would that we could relive them—the dead and vanished years—
To hear the long-stilled voices resounding in our ears!
Oh, for one fleeting moment to glad our longing eyes
With the sight of London's roof-trees beneath fair English skies!
'Tis England—London—calling! Her voice rings far and wide!
'Tis London—England—calling across the seething tide!

Fond recollection takes us back to her crowded ways
Adown the Strand to Ludgate, by Fleet Street's throbbing maze;
Past where the roaring presses proclaim aloud to all
The doings of the Peoples, the crises that befall.
'Tis England—London—calling! Her voice rings far and wide!
'Tis London—England—calling across the seething tide.

Oh, to retread the pavements our father's feet have worn;
To glimpse old London's palaces, the Abbey—Empire's bourne;
Her stately seats of learning—of Science, Medicine, Law;
Her parks and pleasant places the wearied feet to draw!
'Tis England—London—calling! Her voice rings far and wide!
'Tis London—England—calling across the seething tide!

It may be but in dream-scapes that some again may know
The ancient Mother City, the chiming bells of Bow.
An adverse fate may rule it that some may ne'er more see
The sights of England's city so dear to memory—
But they will hear that calling while run the sands of time,
The ageless voice of London, melodious and sublime!

W. P. BURDON, D.S.O.

London's Magic House

By the Sheikh Mirza Abdulla of Persia

UPON reaching our destination in the official residence appointed for us by the English Shah, the Safir Sahib or the Persian Ambassador Extraordinary, as the Franks styled him, we soon busied ourselves, according to our custom, in making our respective rooms fit for the habitation of the Faithful.

The rooms were good rooms, as houses go in this devoutless country; large, high ceilings, windows with views of the gardens, in which unabashedly roamed the unveiled women of Ferangistan. But we found that the carpets had been trodden down under shoes. What a profanity to the piles of good carpets! They never discarded their shoes when entering a room. No dust showed on the surface, it is true; but what of those invisible particles that escape the eye and descend into the meshes of the carpet? Thuswise, it is not in Persia where we respect our carpets.

My first duty was to fumigate the room, so in a china dish I placed live charcoal, and on the glow thereof sprinkled some aromatic gum and seeds, reciting the while the names of five pious saints. The smoke laden with aromatics filled the place, and soon—Allah be praised—the foul room of infidelity, by fumigation was purged of the evil influences that might have been there.

Discarding my robes, next I went into the bathroom, and setting a slab of clay which I had brought from the threshold of the noble shrine of Shiraz, I prepared to take my bath, only to discover that there was no water present—at least, I could not see any earthen vessels, such as I was accustomed to in Persia.

Suddenly I recollected my previous awful experience on the Ferangi boat on which we had embarked, and my method of extracting water from the taps, which very nearly had sucked half of the ocean into the lap of the ship.

Profiting by past experience, I approached the contrivance this time with care; and, filling jug after jug, I poured the water over myself standing in the bath.

"Oh! the son of burnt father!" called the Safir Sahib to me. "What are you doing so long in the bath?"

I preferred not to reply, for, after all, he was my chief; and how could I speak to him in the state of semi-nudity as I was?

The Persian diplomat was now wrath, and said that if I preferred to stay in the bath the whole day I could, but at least should tell his servants where the mystic aromatic gums were, so that his room might also be fumigated in accordance with the proper Persian rites.

Again and again I thought of the impropriety of speaking to a chief when I was not in my fine durbar clothes; for had not the Asylum of the Universe, sitting on his throne in Tehran, decreed that his representative in the land of the Ferangies should be regarded as the "shadow of his feet" itself? But since the Safir was now under the disadvantage of not offering his prayer till his rooms were cleansed, I flung the head of my reflection in the pocket of remorse and replied that the required items of fumigation hid their humble head in the recess of my lowly silken robes.

You could have pushed me down my mount with a toothpick, if I say aught than right of my wonderment and distress when I heard the Frank official approach me and say: "Make haste, Abdullah, make haste! We must be preparing to pay an official visit to the B.B.C. headquarters."

"Visit what? What is B.B.C.?" I asked, with a storm of anxiety raging in my brain.

"Has Allah sapped your heart of even the little wisdom that the Franks are reputed to have?" spoke I in well-chosen words.

Thereupon he reminded me of the official custom of welcome in his country of inviting the foreign dignitaries to a visit to the greatest Magic House of London, where voices, aye! even human voices, are made to swim in the air. About this, further added our English Attaché, he had spoken to my Chief days before our arrival in London, but the Safir's virtuous head, so my unworthy intellect conceived, must have been so full of thoughts about his pet pigeons in Shiraz that he did not remember the engagement.



In a trice he was before the Safir.

Now, Agha Safir was not a man to trifle with. "Do you consider," he addressed the Frank with his usual courtesy, "that we in the land of roses and nightingales are mere savages, that within a few hours of our arrival to a benighted, sunless country we can launch forth to an official visit?"

But the Frank insisted that the function must be attended.

"My barber has not opened his packs, my robes are not pressed, and what about the dye of my beard and locks?" quoth the Safir, with a little heat. And yet the Frank, with his wily mentality, pointed out that the engagement, being of the utmost State importance, should be fulfilled.

After much persuasion, however, our diplomatic Persian Chief agreed to pay the visit that day at noon.

To enlighten those of meagre intelligence, I may add, as I was informed by our Ferangi Attaché on our way to the Magic House—that "B.B.C." is the abbreviation for the British Broadcasting Corporation. The last word I remember, for a Frank servant used it to signify the rotund stomach of my august master.

We were met at the door of the Broadcasting House by an array of high dignitaries to whom the Persian diplomat gave suitable felicitations of the Shah of Shah, our Lord of Persia; and then, with much ceremony, we were conducted through the Magic House by a reverend gentleman.

When in the hall, he reminded us that it was lighted by the very latest method of reflected lights from the ceiling.

"The semicircle is defined by a range of strong piers, with space behind," he spoke, rapidly, "on one side, for a counter. This space where the site, with its odd potato-like outline," he pointed to a corner of the hall, "overlaps the semicircle shows that, in the

interior here, the architect very ably has turned his difficulties to account." He began to explain those difficulties in such technical language, that I, pressing the sides of my head, whispered to him.

If he did not understand my Persian, Allah seemed to have given him, unlike other Franks, an abundance of wisdom to stop talking about things that soared above our heads.

From one floor to another we were transported in lifts, till on one floor, I felt that I was in an enormous steamboat. Studios were in the centre of the building; offices looked on to the streets around.

And these studios were veritable Magic Cells of the West. Furnished in more expensive style than the houses of many of our generals, lights peeped out from every nook and corner; but of windows for ventilation there was none.

What marvels do these Franks make! They supply the fresh air to these shut-out studios by means of a machine in the basement. Air is cooled or brought to a comfortable temperature by means of that engine and pumped up, the fresh air coming into the room from behind a large saucer-like and concealed arrangement in the centre of the ceiling, and the air of the room escapes under a sort of hidden panelling in the side walls.

Another great marvel was a sort of padded room, the walls of which were made of a kind of composition material, and when the Persian diplomat and I stepped into it our voices did not bounce and resound as in an ordinary room, and I felt as if I were in a mud cell, with no echo inside, and all outside sounds deadened so that they could not penetrate the room.

Row upon row of books were arranged around the walls of another room. I wanted to take out one to examine, till I found that it was only a dummy. In one corner, blazed a curious electric lamp in this study. It looked like a bit of an honesty tree. Its petals furnished the room with light.

But when the Safir with all his diplomatic skill and training was taken into what is called an Effect Room, I thought the lid from the pot of his sagacity had slipped—for I knew him never to have laughed so much at what we saw in that veritable cradle of White Magic.

"So this is how you produce thunder in the wireless?" laughed the Safir, when our conductor, moving backward and forward a large copper sheet, which hung from the wall, produced what was an even more fierce peal of distant thunder.

The conductor then stepped in a box full of small pebbles. His tread sounded in our earphones like a marching army. Then he took a piece of wood and tapped it at various parts of a table; and, listening through the wireless, it appeared the truest sound of a horse's hoofs hitting a gravel path; then a stone-paved courtyard, and then thudding on soft turf. He rolled some potatoes over a large drum; and it sounded like the crashing of a giant avalanche in the northern seas.

"Enough of this enchantment," said the Safir, almost bewildered now by the sights which we had seen; and we descended again to the hall of this remarkable den of miracles; and after much ceremony, as we left for our residence, my Chief, the Persian diplomat, was almost asleep by the fatigue of our visit to this House of White Magic. I, too, was thinking whether we could in Persia, introduce this what they call "Wireless"; but then I fortunately recollected what once the Holy priest had said: "Beware, beware; the voice that comes floating in the air without wire can be the voice of none but the unholy one."

"The Chance"

An Exiled Actress Looks Back

By Elizabeth De Pokorny

SAUNTERING down the Hohenzollernstrasse, in Munich, one fine spring morning of this year, I was just thinking what marvellous luck I had had in obtaining work, with the promise of it becoming regular, after having retired from the stage so many years ago, when my hand was seized and kissed by a young Austrian of some seventeen years of age, who had taken a few lessons from me the year before.

He said: "I never heard how your first aerial vocal flight went off—I mean, behind the scenes, as it were; your *voice*, of course, I recognised at once, although no one seems to have announced your name."

My thoughts flew back to some extremely funny happenings on that day, so I said, "Come into tea with us this afternoon, and I will tell you all about it, and make you some English buttered toast, which I remember you like."

"Thank you so much, gnädige Frau, I will."

And at five, to the minute, Alex appeared, handing me, according to Bavarian custom, a bunch of roses.

"I know why you felt obliged to take up your work again," he began, "but what made you think of broadcasting especially? As you were on the stage for so many years, I should have thought you would have returned to that."

"My dear boy! You say that so airily. It is many, many years since I left the stage, and I have grown old. What chance should I have of getting an engagement in a line of business strange to me?—I mean for 'Mothers,' 'Grandes Dames,' and, above all, for 'Comic Old Women' seeing that I had always played 'Lead'—chiefly in classical tragedy?"

"But that's all to the good, isn't it?—for *old* parts; you wouldn't want so much paint for the wrinkles."

"I'm afraid I shouldn't want *any*—" At this point Alex grew very red and confused fearing lest he had hurt my feelings, but as my husband and I both shouted with laughter at his naive remark, he settled down happily to his questioning again.

"Tell me something about your excitement when you gave your performance."

"I did not know that it really was the performance. I had taken it for the dress—no, I mean the *final* rehearsal."

"But we all *heard* you—Father, Mother, I, and the charwoman, who happened to be washing the floor when we were listening-in; 'it all went with a bang!'" (Alex is inordinately proud of his newly-acquired English slang.)

"Luckily for *me*! But unless I had had the habit of putting all I knew into my part at the last rehearsal, instead of 'saving my voice for the show,' it surely *wouldn't* have done so. Either the electrical sign did not work, or else I was so intent on watching the silent help—given me so generously by an assistant manager—that I did not raise my eyes higher than her wonderfully expressive face and hands."

My husband had been apparently wrapped in his own thoughts all this time, and was looking rather bored (no wonder, it was all stale news to him). I asked him where his thoughts had been wandering. He replied "I was thinking what a pity it is that you were not born thirty years later than you were."

"Oh, why? I am content to be old, and I know you think me right as I am."

"I do, indeed. But what I mean is that had the radio been invented when you were a struggling young actress, undergoing all sorts

of hardships and set-backs in your endeavour to obtain a leading part on the West End stage."

"Which I never *did*," I murmured.

"... You would now be in a very different position from what you are."

"Remember," he proceeded, "how you used to waste your talent on going round to institutes and even to lunatic asylums, doing 'One-woman' shows, changing your costumes six and seven times in an evening, in order to stop in London—and to keep the pot boiling."

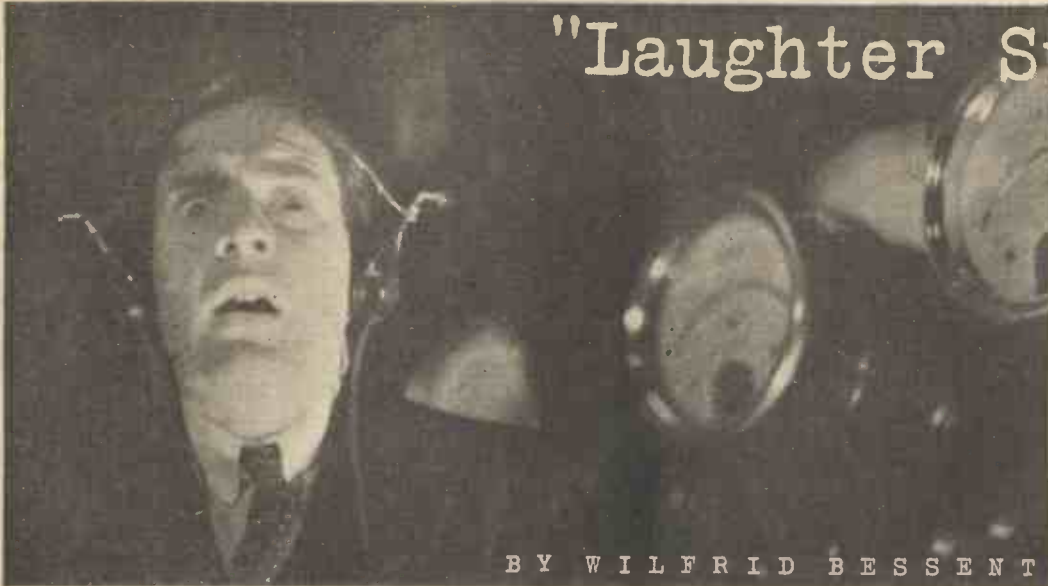
"I remember—we used to call it 'Sticking out for London' in those days, even unto a menu of tea and bread-and-butter all the week, with a kipper on Sundays. But it never came to that, and anyway, I found lunatics a most appreciative audience, and the pay was good. But, of course, it might all be so different to-day. Young artists now have magnificent chances of being heard by managers, which we older ones never had, and I am glad that it is so. A young relative of my own," I explained to our visitor, "who has only been on the stage a year, is now acting at his sixth or seventh West End theatre. His first great chance as a foreign character actor (though he is British) came to him through being heard by a manager, when his voice was broadcast."

"For the young actor or actress of to-day there need not be those grim years of striving during long spells of provincial touring endured hopefully against the great day when London offers them their 'chance.' A relay from a provincial theatre or a broadcasting studio is included in the London programme as readily as an All-Star production in the metropolis, and is judged on its merits. Every stage aspirant has a more equal opportunity of being heard by London. If only I could have had my *Chance to-day!*"

THIS TELEVISION PERIL



DOUGLAS



BY WILFRID BESSENT

THE air in Langford's study was filled with music. From his new receiving set—delivery in time for Christmas had been a condition of its purchase—came the voices of boys, soaring in the lovely melody of a carol. Fraser, Mann, and I—we were Langford's guests that Christmas—lounged before the fire, finding the music an appropriate accompaniment to our after-dinner lassitude. Langford stood by his new toy and evidenced proud possessiveness.

"What do you think of it, Fraser?" he asked, complacently. "How's this for quality of reproduction?"

He looked across at the only member of our party qualified to express an authoritative opinion. Fraser was an engineer attached to the research department of an internationally-known firm of wireless manufacturers.

The expert was pleased to approve: "If all reception were as flawless, there'd be fewer dissatisfied listeners. After all, you know, faults in transmission are admirably rare—broadcasts are more frequently marred at the listener's end of things than at the radiating centre." He paused. "Though there was one occasion in my own experience when a broadcast was ruined at the transmission end in a way Marconi himself couldn't have foreseen. I wonder whether you know that story?"

None of us did. We assured him accordingly, pointing out that the time and place were opportune for him to dispel our ignorance. We refilled pipes; slipped lower in our chairs; were ready to be a receptive audience. Fraser, gazed oddly patterned with flickering firelight, fixed at the coals.

"Strangely enough," he began, "it was at Christmas time that it happened, several years ago. My firm had landed a contract to erect a small transmitter somewhere on the Continent, and they'd sent me out to supervise the work. The exact situation of the station doesn't matter; it was just one of many foreign stations of too low a power to be heard often over here, and, anyway, recent reorganisation has killed it. It will be enough if I tell you that the hill on which we put the transmitter was in an agricultural district. Nice spot; truly rural countryside, and all that, but—once a place of desolation and sudden death. You know what I mean."

We knew. Mann had a hole in his leg as proof of his visit to such a place. All of us had memories.

"When we put up that station, though," Fraser continued, "most of the signs of that period had vanished. We had good weather and got through the job of erection with almost record speed—principally because the men on my staff didn't mind hard work."

I interrupted: "Local labour?"

"Well, yes, Carlton," Fraser replied. "Apart

from the technical staff, all the workmen were local fellows. Temporary, of course. But when construction was over, I kept on one of them as a kind of handyman at the transmitter; he did things the way we liked them done, and was worth his screw. A likeable chap, too," Fraser mused. "Bit apt to become over-hilarious about trifles, perhaps. . . ."

"However. It was a condition of the contract that I should remain on the job during the usual period of test transmissions—yes, Langford?"

"Was it a *complete* station? I mean, had it studios as well as a transmitter?"

"Sorry. I should have explained that though the transmitter was to be used mainly for relay purposes, we had a studio and offices four miles away in the place which gave the station its name. In the control room there, incoming lines from other stations terminated, and from there the transmitter was fed. The studio was used for concerts of local 'talent.' Clear?"

"Quite," nodded his host. "Thanks."

"We had been running satisfactorily for about a fortnight," Fraser resumed. "The apparatus was running O.K., local listeners were quite happy. Then, one night. . . ."

"I was controlling the evening test transmission. (You know what 'controlling' means? Taking the 'stuff' from the programme source—on this occasion, our parent station—passing it through amplifiers and so forth, and feeding the transmitter.) It was a dirty night. Rain and wind were beating against the control-room windows so viciously that, though wearing headphones, I could hardly hear the programme. I was alone; in the control room it was not necessary for two of us to be on duty."

It was Mann's turn to interrupt: "Then, I take it, you had two men on duty at the transmitter?"

"Yes. A couple of engineers, or an engineer and the handyman—did I say that, owing to his acute, if childish, sense of humour, the latter was known as 'Appy 'Arry'? He was always playing inane tricks—sticking flowers in one's hat, and so forth. Anyway, as I was saying, I was alone. It was nearly time to close down; I was listening—as well as the storm would allow—by means of the receiver in the control room, when I heard—"

Fraser stirred, and, a little doubtfully, looked at us.

"It may sound incredible," he said, "but, superimposed on the transmission, I heard a ghastly sound. An orchestra was playing, and suddenly the music was submerged in a burst—a long-drawn, wailing burst—of insane laughter. High, shrill, cackling, that hideous hilarity transcended in beastliness anything I had ever heard. And, then, as if exhausted by its own

hysteria, it faded, died. And the music flowed on. I rang, furiously, the private telephone which connected the control-room and the transmitter. It seemed hours before a calm voice answered. I yelled a query. 'Where've you been? Did you get that?' Browning, the engineer on duty at the transmitter, sounded astonished when he answered: 'Get what? Didn't get anything unusual here. But I've been outside for a few minutes—the tarpaulin covering the acid carboys had come loose, and was making a thunderous noise.' He hadn't heard that demoniacal laughter; neither, though we held a sort of inquisition, had 'Appy 'Arry.'

"But look here," interposed Langford. "Surely it was 'Appy 'Arry's job to readjust that tarpaulin? Why should the engineer. . . .?"

Fraser nodded. "I thought of that. Apparently the labourer was upstairs in the storeroom looking out a component which Browning needed for a minor repair job on which he was working, and, rather than interrupt 'Appy 'Arry's search, Browning himself went outside. Of course, there was no end of a fuss—excited listeners, still more excited broadcasting officials, interested Press people. But we had no solution of the mystery to give them."

Fraser stretched; resettled himself. We seized the opportunity to put away pipes which had gone out, and to move stiffened limbs.

"A week or so later," Fraser continued, "Christmas leave began, and consequently we were under-staffed. On Christmas Eve I had again to take control duty, with Browning and the handyman on watch at the transmitter. And again it was a filthy night—just about as bad as it could be. It was blowing half a hurricane; I could hear a heavy poster in the street slapping away against the boarding from which it had been torn, and what with that and the squalls of rain thrashing the window-panes, listening to the programme was pretty difficult."

"Your new aerials up on that hill must have been in some danger," I put in.

"Naturally," agreed Fraser. "In fact, I felt rather concerned about them, and told Browning to find out how they were standing the strain. 'I'll go out now,' he answered me. 'That confounded tarpaulin has come loose again, and I can see to it at the same time. Can you hear it?' I could, even over the 'phone. The claps it made were like gun-shots. Then—hope all this isn't boring you fellows?"

We impatiently reassured him. Fraser went on:—

"Then, as I turned to my controls, an eerie silence was suddenly evident; no wind, no rain-squalls. Only the sound of music in my ears—nice, Christmassy music. And then—then—"

"Howling, devilish laughter. A beastly, frightening cacophony of bubbling chuckles and tortured, hysterical shrieks. A man-made sound of revolting insanity. It was as though the devil had perpetrated a masterpiece of evil and was pleased at his work. It rang in my ears. I can hear it now."

Fraser's eyes were tight shut.

"I was petrified with fear. What was it? How in Heaven's name was it there? Then, suddenly, it ceased. And, in stark contrast to what had gone before, there was no sound in my 'phones—no transmission—just dead silence. With a shaking hand, I rang the transmitter 'phone. Rang—and rang—and rang. There was no answer. In fumbling haste I tested lines, changed amplifiers, changed batteries. There was no transmission. My exchange telephone rang shrilly. I leapt for it. Perhaps it was Browning. Though how. . . . But it wasn't. An excited voice met my ears: 'I've just been listening to your transmission

WORLD-RADIO Programmes

—did you hear—has it broken down . . . ? A listener; snarling something—I don't know what—I slammed back the receiver. Rang again the transmitter 'phone. Our street-bell began tinkling, the other 'phone shrilled again; the wind . . . the rain . . . But there was no reply from the transmitter."

We dared not interrupt. Fraser was speaking slowly, in a low, even tone which was strangely distinct.

"I came to a decision. My car was outside. I would leave the control-room to itself and race for the transmitter. Something was badly, seriously wrong. Those four miles to the transmitter were forty to me that night. Uphill all the way, against the might of that gale. . . .

"I could see from the road outside the transmitter field that the building was in darkness. I raced up the path which led to the main door—and, with an almighty crash, fell over a prostrate body. I hadn't a torch; in that gale matches were useless. Scrambling to my feet, I left the body where it lay, and ran to the door. It was locked, and everything was deathly still; no light anywhere, no sound of humming generators.

"Two frenzied kicks broke the lock. From the force of the second, I staggered inside; recovered my balance, switched on the light, and found—

"Chaos. Valves had been shattered to fragments and leads torn from their points and condensers damaged, transformers and resistances had been smashed loose—"

"But—but—where was the handyman chap?" The interruption came from Mann.

"Nowhere." Fraser's voice was short. "He'd gone. I shouted for him, of course, but it was wasted breath. However, I'd no time to worry about him, with a human body lying outside. I cleared a space on the floor, and dragged it in. It was Browning, of course. There was an ugly gash in his head, but, to my intense relief, his heart was beating. Somehow I managed to drag him out and into the car. He was unconscious for twenty-four hours after that."

"Fraser!" I pleaded. "Put us out of our misery! How did it all happen? Where was 'Appy 'Arry?"

"It was three days before they found 'Appy 'Arry. They discovered him in a wood ten miles away, a broken, mouthing travesty of a man. When they saw him, he was charging down a slope towards a clump of bushes, holding a length of wood as we used to hold a bayonet—"

He looked at our attentive faces.

"He was mad, of course. With cunning typical of his condition, he had learned how to plug in the microphone which we used at the transmitter for making the station's final 'Good night' call. And when Browning's back was turned, he had done so; his action, which he knew was strictly taboo, presumably appealing to his distorted sense of humour. The second attack he suffered was worse. His brain cracked. Browning, returning from his inspection of the masts, tried to overpower him. 'Appy 'Arry hit him with a spanner."

"But why?" Mann and I spoke together. "What made him do it?"

Fraser stared thoughtfully at the dying fire. "You will remember," he said, slowly, "that on each occasion on which 'Appy 'Arry laughed there was a gale—particularly fierce, naturally, up on that hill. You'll remember, too, that outside the transmitter a tarpaulin had been blown loose, and had flapped with a noise like gun-shots. 'Appy 'Arry, I afterwards discovered, went through the War, and in his last action a shell landed near a platoon of which he was a member. He was the only one left."

Fraser sighed. "His last action was fought on that hill. . . ."

In this issue we are presenting the foreign programmes in an entirely new arrangement—one which we trust readers will find acceptable.

Generally speaking, there are two methods of using the foreign programmes. Many listeners like to make a study of the broadcast fare to be provided for them during the coming week, and to make their plans accordingly—in other words to follow the same procedure with regard to foreign programmes as that which they use with the Home programmes. But there is little doubt that the majority—having laid down for themselves no special course of systematic listening, wish to know at any given time "What is on?" at the various stations. We believe that the arrangement which is now adopted provides for both these classes of readers in a way in which the old arrangement did not.

It will be seen that the fundamental system is the arrangement of programmes in consecutive hours of the day. This is done not merely in the form of the principal items, but of programmes at least as fully itemised as those which we have given in the past. It will be observed that under each hour the stations transmitting are alphabetically arranged and are printed in relatively heavy type. Thus the first class of readers referred to above may, without difficulty, follow the programmes of any individual station to which they may prefer to listen throughout the day, while the second class can see, at a glance, the character of the programmes provided at any particular hour in which they may wish to switch on their sets.

We shall print, each week, a revised table of stations in alphabetical order, which for convenience of reference will be placed immediately next to the programmes. This table will show which stations relay which—information that was previously given at the head of each station's programme.

Another feature which we hope will appeal to listeners is the increased legibility of the type now used for the programmes. It will be recollected that in October of last year *The Times*, after a vast amount of research and experiment, produced a type face which for its legible character is probably superior to any that has ever appeared in a newspaper. It is worth mentioning that in the production of the new type face the recommendations of an oculist were adopted and its legibility, therefore, afforded an absolute guarantee. It is this type face which we are now using in the programmes. Moreover, in doing so, WORLD-RADIO, to the best of our knowledge, is at present the only journal after *The Times* to use this type.

In spite of the extra space required by the new arrangement of programmes, we are continuing to print the full summary of the B.B.C. National and Regional, as well as of the Empire Short-Wave Station, programmes. The list of Principal Events, too, is retained.

Ralph Stranger

In the Technical Section of this issue will be found an announcement of a serial story written by RALPH STRANGER. In addition to being an interesting and exciting narrative, it will embody a competition which should appeal to the ingenuity of many readers.

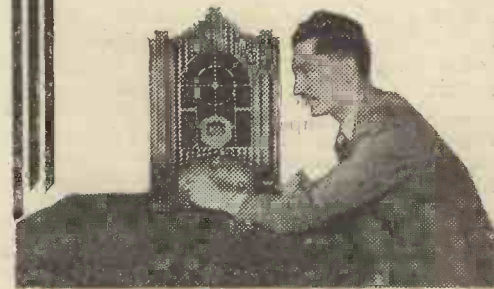
The name of Ralph Stranger is well known as that of the author not only of series of articles which have appeared, from time to time, in *World-Radio*, but of many popular books which have had a wide appeal. We are glad to be able to announce that those readers who have found Ralph Stranger's books of interest and assistance may expect to find in the columns of our Technical Section regular contributions from his pen.

The radio with "name-power" behind it

WURLITZER

Here is Reginald Dixon, the famous Wurlitzer organist listening - in.

He says:
'Wurlitzer Radio is unequalled for tonal beauty.'



WURLITZER LYRIC RADIO LIMITED
33 KING STREET, COVENT GARDEN, LONDON, W.C.2



J. B.
PRIESTLEY
writes:

"In response to your Urgent Appeal for funds, I enclose a cheque for twenty-five pounds. I am certain that when people realise that The Cancer Hospital is in such desperate need of money to carry on its great work both as a FREE Hospital and as a centre of Research into the origins of this terrible disease, they will instantly come to your support and your £40,000 overdraft will vanish like magic. We cannot afford to let you work in the shadow of this enormous financial deficit. Your Hospital, day and night, by every possible means, is fighting Cancer, and it is unthinkable that we should not come to your assistance and GIVE SOMETHING AT ONCE."

The
Cancer
Hospital

(FREE)

FULHAM RD., LONDON, S.W.3

Foreign Broadcasting News

A Pasteur Commemoration

Forthcoming Celebrations in Dole-du-Jura

December 27 is the one hundred and eleventh anniversary of the birth of a Frenchman whose services to humanity are acknowledged not only in his native land, but in countries all over the world. The son of a simple artisan—a tanner—Louis Pasteur was born on that date, in 1822, in Dole-du-Jura, and the people of Dole have honoured his memory by affixing a plaque commemorating his birth to the house in which he was born. The house itself has been preserved as a monument to his memory.

This year's anniversary, which will probably be referred to in some of the French programmes, will be celebrated under the auspices of La Société des Amis de la Maison Natale de Pasteur at Pasteur's birthplace, and will include a peal rung on the bells of the cathedral and an address on the great scientist by the President of the Association. He will, no doubt, refer in his address to this son of simple people, born in a tiny town of the Jura Mountains, who, by hard work, perseverance, and by following a noble ideal, finally succeeded in bringing his researches to a successful conclusion.

In thus paying homage to the memory of one of mankind's most illustrious benefactors, the Association does so not only on behalf of its fellow-countrymen, but of mankind in general.

Compulsory Prevention of Electrical Interference

(From our Paris Correspondent)

When the French Budget was passed on May 31, last, it contained six articles establishing a wireless tax. (A summary of these articles appeared in *WORLD-RADIO* of April 28, 1933.) The last of the articles promised that within six months a decree would be published by the Postmaster General compelling all electrical machinery to be so modified that it did not cause interference with wireless reception. The decree made its appearance on December 1. It will not be put into execution, however, until April 1, 1934, which will allow sufficient time for owners and manufacturers of electrical machinery to take the necessary steps to see that their machinery complies with the new regulations. Fines varying from 16 francs to 50 francs (4s. to 12s. 6d. at present rates of exchange), will be imposed on offenders, but in practice the additional costs incurred make these fines considerably more important than they appear.

Briefly, the decree provides that all electrical apparatus should be provided with whatever modifications are necessary to prevent interference with wireless reception in the neighbourhood. The Minister for Posts, Telegraphs, and Telephones, however, is empowered to make certain exceptions in the following cases:—

(1) where the interference does not exceed a certain degree which will be fixed by a Commission specially appointed to act as technical adviser to the Minister for PTT in the execution of this decree;

(2) where the cost of the additions necessary to prevent interference would be out of proportion with the price of the machinery;

(3) where no method of preventing interference has yet been found for the machinery in question; and

(4) where the machinery belongs to some Public Service and it is considered to be in the general interest of the public not to incur the cost of transforming it.

In all cases of exemption the Minister for PTT may fix the hours during which the

machinery can be used, in order to cause the least possible disturbance to listeners in the neighbourhood.

AUSTRIA

Seasonal Celebrations

(From our Vienna Correspondent)

The outstanding feature of Ravag's Christmas programmes will be the relaying of the midnight Matins, or early Mass, on Christmas Eve from the Cathedral of St. Stephen in Vienna. This service will be preceded, at 11.50 p.m., by trumpets sounded in unison from the spire, and will be taken by stations in America and other parts of the world. The ringing of the Cathedral bells at 12.30 a.m. on Christmas Day will follow. Vienna, like many other European stations, will take the service from Bethlehem, beginning at 9 p.m., Vienna time, and this relay will be preceded by a ten-minute sermon by Cardinal Innitzer, Archbishop of Vienna. When Christmas Eve falls on a Sunday, as it does this year, it means that Golden Sunday (the last Sunday before Christmas, which is always a great shopping day in Austria), the Christmas Tree celebrations and family gatherings—which are always held on Christmas Eve here—and the usual Sunday religious services of all denominations will combine to make a very crowded day. The penultimate Sunday before Christmas is called Silver Sunday, and is also an important shopping day. This year it was necessary also to allow special facilities for shopping on December 10.

GERMANY

(From our acting Berlin Correspondent)

Increase in Licences Continues

The total number of licensed German listeners on December 1 was 4,837,549, an increase of 202,012 over the figure for November 1. The number of free licences issued under the "free licences for unemployed" scheme has further decreased by 4,341 to 499,079.

Oswald Spengler and Broadcasting

I understand from semi-official sources that the proposed talks by Professor Alfred Bäumler on Oswald Spengler's new book, *Jahre der Entscheidung* ("Years of Decision"), which, as reported in the December 8 issue of *WORLD-RADIO*, were to have taken place between January 8 and 13, have been postponed, and the whole matter, as yet, is undecided.

Franz Adam to Direct a Boxing-Day Concert

The first musical director of the Munich broadcasting station, Herr Franz Adam, has just returned from a four weeks' tour of Italy with his "National-Sozialistische Reichs-Symphonie-Orchester" of nearly ninety members. A concert by that orchestra under Herr Adam's direction is to be relayed by all German stations on December 26 at 11 a.m. G.M.T. It will be remembered that a few years after the foundation of the Munich station Herr Adam left that broadcasting company's employ to begin, in co-operation with the well-known Munich film critic, Dr. Klette, a school for broadcasting aspirants. Herr Adam was received by the Italian Crown Prince Umberto after a concert in Naples.

The "Reichsrundfunkkammer"

The organisation of the "Reichsrundfunkkammer," the radio department of the "Reichskulturkammer," is highly interesting, in that it demonstrates how the German Government, through the Minister of Propaganda, can influence all individuals concerned with broadcasting

in Germany. According to the law, persons and firms who were not members of one of the undermentioned organisations by December 15 would not be able to continue their profession or work: (1) the "Verband der Funkindustrie" (the wireless receiving set industry, the wireless valve and transmitter industry, the loudspeaker manufacturers, and manufacturers of components); (2) the "Radiogrosshändlerverband" (wireless wholesale dealers); (3) the "Reichsverband deutscher Funkhändler" (wireless retail dealers); (4) the "Reichsverband des Deutschen Elektro-Installateur-Gewerbes" (electrical engineers, electric power-supply companies—so far as they are concerned with the sale of receiving sets); (5) the "Reichsverband der Handelsvertreter der Radioindustrie" (commercial travellers in the wireless trade); (6) "Reichsverband deutscher Rundfunkteilnehmer" (listeners' associations); (7) the "Deutscher Funktechnischer Verband" (radio amateurs' associations); the "Fachverband der Rundfunkpresse" (the publishers, editors, and staffs of radio papers, and radio critics). The statutes contain a paragraph according to which all members of the association are obliged to adhere to the instructions issued by the President. It will be noted that this scheme does not include the broadcasting companies or artists, but it is understood that they will be added in some form or another at a later date. The Reichsrundfunkkammer recently issued an official note according to which the allotment of patent licences and changes in the amount of discount granted to dealers are subject to the sanction of the "Kammer."

POLAND

(From our Warsaw Correspondent)

New Director of Warsaw Opera House

M. Tadeusz Mazurkiewicz, who was appointed some months ago by Polskie Radio as its Director of Music, was, at the same time, a Director of the Warsaw Opera House. Recently, however, he resigned from his post there. This winter's operatic season, therefore, began under the directorship of M. F. Mossoczy, a famous tenor, artist, and composer. He was nominated by the Association of Opera Artists.

A Children's Party in the Studio

Following the example of broadcasting stations in other countries, the Polish broadcasting organisation, Polskie Radio, for the first time has undertaken to arrange a special Christmas party for poor children in Warsaw. This will take place in the main Warsaw studio on December 23, which day will be celebrated as Christmas Eve in Poland, owing to the fact that December 24, this year, falls on a Sunday and, for reasons of religion, is therefore unsuitable. A broadcast from "under the Christmas Tree," will be included in the programme of the Warsaw station from 7.15 to 7.30 p.m. Poor children from all parts of Warsaw will gather around the Christmas Tree, which will be decorated with a hundred electric "candles," and loaded with toys. It is hoped, of course, that Saint Nicholas (the "Father Christmas" of Polish children) will be present to distribute the toys.

U. S. A.

American Listeners to Hear the King

Listeners in the United States are to have an opportunity of hearing the special programme to be broadcast by the B.B.C. on Christmas Day. Both the National Broadcasting Company and the Columbia Broadcasting System are to relay the programme from 2 p.m. to 3.5 p.m. G.M.T., during which period, of course, his Majesty the King will broadcast his speech from Sandringham. The programme will be taken by both systems from the Empire station at Daventry.

Letters to the Editor

Trans-Atlantic Reception

To the Editor of WORLD-RADIO

SIR,—Readers of WORLD-RADIO may be interested to hear of my experience with Trans-Atlantic reception on Sunday morning, December 3. Between 12.30 and 3.30 a.m. I received the following stations, all of which were definitely identified:—

WAAB, WFBL, WIOD, WKAQ, WNAC, WOAI, WCAU, WPG, WBT, WTAM, WBZ, KDKA, WABC, LR5, WHAS, WFAA, WGY, WJZ, WGN, WEA, WEEL, CKAC (Montreal).

Of the stations definitely identified, the best were WBZ, WJZ, WOAI, WCAU, WBT, WABC, WEA, and CKAC. All of these were received at good loudspeaker strength.

Yours faithfully,
R. B.

Exeter, December 4, 1933.

To the Editor of WORLD-RADIO.

SIR,—I have often wondered why "DX" listeners nearly always shirk the 200-240-metre waveband. I have found that when conditions are good, this band contains more stations than any other. For instance, on Oct. 30 and Nov. 2 I logged the following stations (all were verified by call and various items were noted): WCKY, WKBW, WJSV, WOKO, WFEA, WAAB, WBBC, WFBL, WDRC, WIOD.

Several other U.S.A. stations were heard on the 200-240-metre waveband, but were not identified. A rather unusual thing occurred when I was listening on the 210-metre wavelength. At 3.10 a.m., when the wavelength was first turned in, a Columbia Broadcasting System programme was being broadcast. At 3.15 a.m. when the programme had finished, three different stations (evidently all members of CBS) were heard giving out their station announcements, WOKO first, immediately followed by WFEA, the third station's call was unable to be heard.

All the above reception was on a 3-valve battery set (S.G.—det.—pentode). I find a battery set is much better for Dx-ing than an all-mains set, owing to the absence of background noises in the former.

Yours faithfully,
ROBERT P. MUMFORD.

Dublin, Dec. 7, 1933.

To the Editor of WORLD-RADIO

SIR,—Having read in WORLD-RADIO listeners' experiences of American reception I decided myself to give it a test. I chose the night of Saturday, November 25, from midnight until 4.30 a.m., and, for the benefit of any "doubting Thomases" I have noted some item or other from every single log.

I will begin by giving the stations which I did not log by name; one or two seemed to be relays of certain programmes. Their wavelengths were 212 m., 219 m., 226 m., 234 m., 243 m., 490 m., and 510 m.

The following are completely identified stations:—WJZ; WCAU; WTIC; WPG; WAPI; WTAM; WCBD; WIOD; WJSV; WBZ; CKY; WABC; WRUF; WGY; WHAS; WBAP; WSB; CKAC; WOR; WLW; WEA; KDKA; KMOX; KJR; WOWO; KSL; WOAI; WHAM; CFCN; KFKX; KTHS; CFRB; KPO; WSM; WLS; WGN; KWKH; KFI; WMAQ; WFAA.

All these signals were received on the loudspeaker. Some stations were of good concert strength; the weakest signals were KDKA and KFI. I did not experience much difficulty with "atmospherics" after 1 a.m. I am lucky

enough to have excellent reception facilities, being away from all buildings, etc.

Yours faithfully,

WALTER BARGMAN, Junr.

Leigh, Lancashire, November 28, 1933.

Reception Report Queried

To the Editor of WORLD-RADIO

SIR,—Mr. F. A. Farr in your issue dated to-day politely expressed his doubts of Mr. A. E. Livesey's reception report, in which he announced reception of twenty-six American stations in three and a half hours.

The main reason for doubt appears to be the fact that American stations, instead of giving their call sign continuously, occasionally give a quarter of an hour's programme between calls. I confine my activities as a rule to short-wave work, but in view of the bad conditions prevailing, I have turned my hand to higher wavelengths for "D.X." work. I thought my short-wave experience would stand me in good stead, but was surprised to find this not the case, for, in spite of steadier signals, fading is much deeper and slower. However, on my first night I identified WCAU, KDKA, and WPG, and heard many other obvious Americans at equal strength, but I did not see the fun of sitting up for the call-signs. The next night I had these three "taped," and instead of wasting time listening for calls I already knew, I went ahead and logged calls of six others. In a week I had enough material to draw up a chart showing dial readings of twenty-eight certified North American stations, so that, to distinguish a station now I have but to consult my chart to consider its call confirmed. I admit that some stations share frequencies, but these are generally of low power and don't come under my notice. Could not this very easily have been the case of Mr. Livesey? I hate to think that people doubt one's radio reports because their own results do not coincide. If such doubt is always existing, it becomes impossible to obtain help in one's own reception from other people's logs. Personally, I always accept short-wave logs without question, except for knocking 1 off the stated R. I generally add 1 on myself in my reports. Incidentally, I use only a three-valve circuit myself, but I must admit that my aerial is highly efficient, as it is used on the short-wave receiver as a rule.

Yours faithfully,

Leyton, Dec. 8, 1933. N. H. SEDGWICK.

Gramophone Broadcasts

By "RECORDER"

The broadcast from Daventry on December 2, during the "In Town To-night" feature, of music played by a new instrument called the "Electronde" proved to be most interesting. The broad principles of this instrument are based on the nuisance known to most users of short-wave wireless sets as "body reaction." When employing an unscreened short-wave receiver the very fact of putting one's hand near the controls sets up an oscillation howl in the loudspeaker, and the pitch of this howl changes as one's hand approaches or recedes from the dials. And it is by the mere motion of the hands that the player of the "Electronde" obtains his various notes.

The following Wednesday the West Regional station broadcast a recording by the "Electronde," and once again I had an opportunity of studying its surprising tones. This recorded version was given during the Children's Hour.

While speaking of Children's Hours, it is worth noting that the home stations use many gramophone discs for the children's amusement. So, if you are in any doubt as to what to buy a child for Christmas and you happen to know there is a gramophone in that child's home, you might find guidance by studying the recorded items broadcast in the Children's Hour. Discs

are always a welcome Christmas gift for children and grown-ups alike.

Eastern Music

Carols remind us of the men who came from the East; but lately my receiving set seems to be bent on giving me Eastern music. From several stations I have picked up the wailing monotone so dear to Eastern ears, and most of these tunes have been given with the aid of gramophone records.

On Tuesday last I chanced on Leipzig putting out a recording by a Japanese gentleman of note in the musical world. No information was given as to the identity of the "orchestra," which was a pity, as his efforts with the drum-stick were as praiseworthy as they were generous!

Vienna

Vienna is now a splendid signal and some of its recent-recorded programmes have been well worth hearing. On Sunday the Austrian gave a number of recorded versions of waltz music as played by many famous orchestras, and consisting of the works of such composers as Waldteufel, Robrecht, the Strauss family, and Weber.

Recently I heard a recital of Jack Hylton discs from Vienna, and last Monday I listened to an hour of dance music as recorded by Jack Payne and his orchestra. Before leaving Austria it may interest readers to know that almost every Sunday night, at about 9 o'clock, Vienna gives an excellent disc concert.

Radio-Paris

On December 3 I listened to a programme of recorded Strauss waltzes, "The Blue Danube," "Wine, Woman, and Song," etc., from Radio-Paris, since when I had not been able to hear a sound from the Frenchman. I was extremely puzzled at this until, quite by chance, I heard the Poste Parisien announcer say that Radio-Paris had closed down until December 17. It has, of course (as announced in last week's WORLD-RADIO) temporarily gone "off the air" while an overhaul of equipment is in progress.

It seems a pity that the other French long-waver, Eiffel Tower, is so frequently heterodyned, for its programmes are so often worth tuning in. I tried the Tower last Sunday for a recorded version of *Cavalleria Rusticana*, but quickly abandoned it on account of a shrill whistling accompaniment which made reception impossible.

A few days previously I found Brussels No. 2 free from its particular heterodyne whistle and heard a fine gramophone version of the Aldershot Searchlight Tattoo. On Tuesday Warsaw put on *Madame Butterfly* as recorded by the choir, orchestra, and artists of La Scala, Milan; a broadcast which was not quite as good as it might have been owing to interference from a neighbouring station.

"Scrap Book"

I thought the broadcast given from Daventry last Monday under the heading "Scrap Book for 1913" one of the best programmes for a long time. Some of the imitations were very good, but what interested me most was one or two of the unique recordings used. The excerpt from Mr. Asquith's speech was most interesting, and an opportunity for comparing old records with the latest electrical recordings came in the broadcast of a disc on which two great stars, Melba and Caruso, had recorded a duet. Chaliapin singing an aria from *Boris Goudonov* was equally fine, and the recording of Formby, with his funny little cough which so many thought assumed, brought back memories of old musical-hall days.

As I write these notes the Vienna Philharmonic Orchestra, under the direction of Clemens Krauss, is giving me a glorious interpretation of Haydn's Symphony No. 13 in G, from the Midland Regional. At least one listener is grateful for these afternoon recorded concerts.

Stations in Alphabetical Order

(Broadcasting Stations only above 100 metres)

	kc/s	m.	kW		kc/s	m.	kW
Aalesund (Norway)	671	447.1	0.35	Lodz (Poland) Experimental	1283	235	2
Aberdeen	1400	214.3	1	Luxembourg	252	1191	200
Agen (France)	662	453.1	0.5	Lwów (Poland)	788	381	16
Algiers (North Africa)	825.5	363.3	13	Lyons (La Doua) (France)	644	465.8	15
Almeria (Spain), EAJ18	1193	251.5	1	Lyons (Radio Lyons) (France)	1051	284.6	0.7
Ankara (Turkey)	195	1538	7	Madrid (Union Radio) (Spain), EAJ7	707	424.3	2
Athlone (Ireland)	725	413	60	Madrid (Radio España) (Spain)	707	424.3	—
Augsburg (Germany)	536	560	0.25	Magdeburg (Germany)	1058	283	0.5
Barcelona, Association National. EAJ15	1195	251.1	1	Magyarovar (Hungary)	1430	209.8	1.25
Barcelona, Radio (Spain), EAJ11	861	348.4	5	Malmberget (Sweden)	689	436	0.25
Bari (Italy)	1112	269.8	20	Malmö (Sweden)	1391	230.6	1.25
Basle (Switzerland)	1229	244.1	0.5	Marseilles (France) PTT	950	315	2.5
Belfast (N. Ireland)	1238	242.3	1	Midland Regional (Gt. Britain)	752	398.9	25
Belgrade (Yugoslavia)	698	429.7	2.8	Milan (Italy)	903	332.2	50
Bergen (Norway)	824	364	1	Milan (Vigentino) (Italy)	662	453.1	—
Berlin Relay (Germany)	1058	283	0.5	Minsk (Russia), RV10	271.5	1105	35
Berlin (Germany)	832	360.5	100	Miskolc (Hungary)	1430	209.8	1.25
Berne (Switzerland)	1220	245.9	0.5	Montpellier (France)	1049	286	0.8
Beromünster (Switzerland)	653	459	60	Monte Ceneri (Switzerland)	265	1132	15
Beziers, Radio (France)	1364	219.9	1.5	Moravská-Ostrava (Czechoslovakia)	1137	263.8	15
Bilbao (Spain)	1477	203	0.25	Moscow (Popoff) (Russia)	269	1315	49
Boden (Sweden)	242	1239.5	0.6	Moscow (Russia) RV49	300	1000	100
Bodö (Norway)	662	453.1	0.5	Moscow (Komintern) (Russia)	202.5	1481	500
Bolzano (Italy)	815	368.1	1	Moscow Experimental (Russia)	416.6	720	20
Borås (Sweden)	1450	207	0.15	Moscow-Stalin (Russia)	707	424.3	100
Bordeaux-Lafayette (France) (PTT)	986	304	13	Motala (Sweden)	222.5	1348	30
Bordeaux-Sud-Ouest (France)	1265	237.2	3	Munich (Germany)	716	419	100
Bournemouth	1040	288.5	1	Relayed by Augsburg, Kaiserslautern, and Nürnberg	941	319	1.5
Bratislava (Czechoslovakia)	1073	279.5	14	Naples (Italy)	1420	211.3	1
Bremen (Germany)	1112	269.8	0.25	Newcastle	1205	249	0.8
Breslau (Germany)	923	325	60	Nice (Juan-les-Pins) (France)	1265	237.2	1
Brno (Czechoslovakia)	878	342	35	Nimes (France)	1292	232.2	0.25
Brussels (No. 1) (Belgium)	589	509.2	15	Norrköping (Sweden)	995	301.5	50
Brussels (No. 2) (Belgium)	888	337.8	15	North National (Gt. Britain)	625	480	50
Bucharest (Romania)	760	394.7	12	North Regional (Gt. Britain)	671	447.1	0.08
Budapest (No. 1) (Hungary)	545	550.5	120	Notodden (Norway)	217.5	1380	100
Budapest (No. 2) (Hungary)	355	844.8	3	Novosibirsk (Russia)	1256	239	2
Cádiz (Spain)	896	335	5.5	Nürnberg (Germany)	1122	267.4	6.25
Cartagena (Spain)	1220	245.9	0.4	Nyiregyháza (Hungary)	667	449.8	10
Cassel (Germany)	1157	259.3	0.25	Odessa (Russia), RV13	1265	237.2	0.2
Chateaufort (Belgium)	1391	216	3	Örebro (Sweden)	1460	205.5	0.2
Christiansand (Norway)	1274	235.5	0.5	Ornskoldsvik (Sweden)	277	1083	60
Copenhagen (Denmark)	1067	281	0.75	Oslo (Norway)	402	746.2	0.6
Cork (I.F.S.)	1337	224.4	1	Ostersund (Sweden)	434.7	690	1.2
Cracow (Poland)	959	312.8	1.5	Oulu, Uleaborg (Finland)	1121	267.6	0.7
Danzig (Free City)	671	447.1	0.5	Oviedo (Spain)	556	539.5	3
Darenty National (Gt. Britain)	193	1554.4	30	Paierno (Italy)	696	431	1.5
Deutschlandsender (Germany)	183.5	1635	60	Parade (Portugal)	671	447.1	0.77
Dresden (Germany)	941	319	0.25	Paris (Ecole Supérieure) (France) (PTT)	207.5	1445.7	13
Dublin (Ireland)	1382	217	1.2	Paris (Eiffel Tower) (France)	914	328.2	60
Eskestuna (Sweden)	1220	245.9	0.2	Paris (Radio LL) (France)	818	366.7	1.2
Falun (Sweden)	977	307	0.5	Paris (Radio Paris) (France)	174	1725	75
Fécamp (Radio-Normandie) (France)	1328	225.9	10	Paris (Radio Vitus) (France)	977	307	—
Flensburg (Germany)	1319	227.4	0.5	Pietersaari (Jacobstad) (Finland)	960	312	0.25
Florence (Italy)	598	501.6	20	Plymouth	1373	218.5	0.3
Frankfurt-am-Main (Germany)	1157	259.3	17	Pori (Björneborg) (Finland)	662	453.1	0.5
Fredriksstad (Norway)	815	368.1	0.7	Porsgrund (Norway)	892	334.4	1.9
Freiburg-im-Breisgau (Germany)	527	570	0.25	Poznań (Poland)	667	448.6	120
Freiburg-im-Breisgau (Germany)	1157	259.3	5	Prague (Czechoslovakia)	614	488.6	120
Galicia, Radio (Spain), EAJ4	815	368.1	0.2	Rabat (Morocco)	721.5	415.7	6
Gävle (Sweden)	1470	204	0.2	Rennes (France)	1105	271.5	1.3
Geneva (Switzerland)	400	749.9	1.5	Reykjavik (Iceland)	250	1200	21
Genoa (Italy)	959	312.8	10	Riga (Latvia)	571	525.3	15
Gleiwitz (Germany)	1185	253.1	5	Rjukan (Norway)	671	447.1	0.15
Göteborg (Sweden)	932	322	10	Rome (Italy)	680	441	50
Graz (Austria)	852	352.1	7	Säffle (Sweden)	1220	245.9	0.4
Grenoble (France) (PTT)	526	570.2	2	Salamanca (Spain) EAJ22	662	453.1	1
Halmstad (Sweden)	1391	216	0.2	Salonika (Greece)	1220	245.9	1.5
Hälsingborg (Sweden)	1301	230.6	0.2	Salzburg (Austria)	1373	218.5	0.5
Hamar (Norway)	522	574.7	0.7	San Sebastian (Spain), EAJ8	662	453.1	0.6
Hanburg (Germany)	806	372	1.5	Scottish National	1040	288.5	50
Hanover (Germany)	1319	227.4	0.25	Scottish Regional	797	376.4	50
Heilsberg (Germany)	1085	276.5	60	Seville (Spain), EAJ5	815	368.1	1.5
Helsinki (Finland)	815	368.1	10	Sofia (Rodno-Radio) (Bulgaria)	941	319	1
Hilversum (Holland)	1013	296.1	20	Sottens (Switzerland)	743	403	25
Hörby (Sweden)	1167	257	7	St. Quentin (France)	1714	175	—
Hudiksvall (Sweden)	1327	226	0.15	Stavanger (Norway)	1247	240.6	0.5
Huizen (Holland)	160	1875	7	Stettin (Germany)	1058	283	0.5
Innsbruck (Austria)	1058	283	0.5	Stockholm (Sweden)	689	436	55
Istanbul (Turkey)	250	1200	5	Strasbourg (France)	869	345	11.5
Jönköping (Sweden)	1490	201.3	0.25	Stuttgart (Mühlacker) (Germany)	563	533	100
Kaiserslautern (Germany)	536	560	1.5	Sundsvall (Sweden)	554	542	10
Kalmar (Sweden)	1211	247.7	0.2	Sverdlovsk (Russia) RV5	364	824.1	50
Kalundborg (Denmark)	260	1153.8	30	Tallinn (Estonia)	1004	298.8	11
Karlskrona (Sweden)	1530	196	0.2	Tampere (Finland)	536	560	1
Karlstad (Sweden)	1382	217	0.25	Tartu (Estonia)	515	582.6	0.5
Kasbah (Tunis)	235	1276.3	0.5	Tiflis (Russia)	280	1071.4	10
Katowice (Poland)	734	408	16	Toulouse (France) (PTT)	1176	255.1	0.7
Kaunas (Lithuania)	155	1935	7	Toulouse (Radio du Midi) (France)	779	385	8
Kharkov (Russia) RV20	815	368.1	10	Trier (Germany)	1157	259.3	2
Kiel (Germany)	1292	232.2	0.25	Trieste (Italy)	1211	247.7	10
Kiev (Russia) RV9	290	1034.5	36	Trollhättan (Sweden)	1301	230.6	0.25
Kiruna (Sweden)	1220	245.9	0.25	Tromsø (Norway)	662	453.1	0.1
Klagenfurt (Austria)	662	453.1	0.5	Troandheim (Norway)	605	495.8	1.2
Königsberg (Germany)	1382	217	0.5	Turin (Italy)	1096	273.7	7
Kootwijk (Holland)	160	1875	50	Turku (Abo) (Finland)	1220	245.9	0.6
Kosice (Czechoslovakia)	1022	293	2.5	Uddevala (Sweden)	1310	229	0.05
Kristinehamn (Sweden)	1477	203	0.25	Umea (Sweden)	1301	230.6	0.2
Lahti (Finland)	167	1796	40	Uppsala (Sweden)	662	453.1	0.15
Langenberg (Germany)	635	473	60	Valencia, Radio (Spain)	1121	267.6	1.5
Leipzig (Germany)	770	389.6	120	Varberg (Sweden)	1202	249.6	0.3
Leningrad (Russia)	859.2	349	100	Vienna Experimental (Austria)	240	1250	—
Leningrad (Russia) RW70	351	857	100	Vienna (Bisamberg) (Austria)	540	517.2	100
Liège Experimental (Belgium)	1236	242.7	—	Klagenfurt, Linz and Salzburg	1031	291	13.2
Lille (France) (PTT)	1128.5	265.8	1.3	Rehals Helsinki	212.5	1411	120
Limoges (France)	1022	293	0.7	Warsaw, No. 1 (Poland)	1147	261.6	50
Linz (Austria)	1220	245.9	0.5	West National (Gt. Britain)	968	309.9	50
Lisbon (Portugal)	1063	282.2	2	West Regional (Gt. Britain)	530	566	16
Ljubljana (Yugoslavia)	522	574.7	7	Wilno (Poland)	977	307	0.75
London (Regional)	843	356	50	Zagreb (Yugoslavia)	977	307	0.75
London (National)	1147	261.6	50				

PRINCIPAL EVENTS

a.m. **SERVICES**
 10.30 Leipzig, etc.: Bach.
 p.m.
 3.30 Kalundborg: Christmas.
 6.30 Brussels 2: Carols.
 7.0 Bucharest: Carols.
 8.0 Most Stations: Bethlehem Relay.
 8.15 Leipzig, etc.: Bells.
 8.15 Stockholm: Christmas.
 9.15 Many Stations: Carols of the Nations.
 9.30 Athlone: Nativity Play.
 10.30 Stuttgart, etc.: Brahms.
 10.50 Vienna, 11.0 Brussels 2, Budapest, Leipzig, Prague, Warsaw: Mass.
 11.0 Langenberg, etc.: Christmas.

a.m. **CONCERTS**
 11.15 Warsaw: Philharmonic.
 p.m.
 3.0 Strasbourg: Symphony.
 5.0 Brussels 1: Orchestra.
 6.15 Breslau, etc.: Christmas.
 6.50 Warsaw: Polish Prog.
 7.0 Kalundborg: Christmas.
 7.0 Langenberg, etc.
 8.0 Radio-Paris: Christmas.
 9.10 Brussels 2: Orchestra.

OPERETTAS
 2.30 Radio-Paris: The White Horse Inn.
 8.0 Brussels 1: Countess Maritza, Acts 1, 2.

CHAMBER MUSIC
 6.0 Brussels 1: Violin and Piano.
 7.0 Langenberg, etc.: Classics.
 8.30 Strasbourg.

DANCE MUSIC
 11.0 Brussels 1; 11.25 Poste Parisien; 12.0-2 a.m.) Radio-Paris.

PROGRAMMES: SUNDAY, (Dec. 24)

NATIONAL
 Time Signal, Greenwich, at 10.30, 10.30-10.45 a.m. (Daventry)—Weather Forecast for Farmers and Shipping.
 12.30 p.m. (Daventry)—The Creswell Colliery Band. Wilfrid Pickering (Baritone).
 1.30 (Daventry)—A Violoncello Recital by W. H. Squire.
 2.0 (Daventry)—Gramophone Records. Christopher Stone.
 2.45 (Daventry)—The Gershom Parkington Quintet.
 3.30 (Daventry)—A Festival of Nine Lessons and Carols in King's College Chapel, Cambridge, upon Christmas Eve, 1933.
 Time Signal, Greenwich, at 4.45, 4.45—For the Children.
 5.5—An Organ Recital by G. D. Cunningham.
 5.30—Missionary Talk.
 5.45—The London String Players. Conductor, Herbert Menges: Introduction and Allegro for String Quartet and String Orchestra (Elgar). Clifford Curzon (Piano) and London String Players: Concerto No. 5, in F Minor (Bach). London String Players: Concerto Grosso (Op. 6, No. VIII) in G Minor (Corelli). Clifford Curzon and London String Players: Concerto Grosso for String Orchestra and Piano (Bach).
 7.0—Readings from Classical Literature—XLV.
 7.30—Violin Recital by Adila Fachiri.
 8.0—World Broadcast of "The Bells of Bethlehem." The Story of the First Christmas. Told in relays from London, New York, Winchester Cathedral, and The Church of the Nativity at Bethlehem. Arranged in co-operation with the National Broadcasting Company of America, and broadcast to listeners in this country and throughout the world.
 8.15—A Religious Service. Relayed from Winchester Cathedral.
 9.0 (Daventry)—The Week's Good Cause. St. Bartholomew's Hospital, Rochester.
 9.5—"The News." Time Signal, Greenwich, at 9.15.

9.20—A Carol Service by Members of The Wireless Choir and the Wireless Military Band. Conducted by Stanford Robinson. Relayed from St. Mary's, Whitechapel. Christians, awake (Hymns Ancient and Modern); God rest you merry, gentlemen; All bells in Paradise (Martin Shaw); A Child this day is born (arr. Geoffrey Shaw); Lullay, my liking (Holst); Good Christian men, rejoice (arr. Walford Davies); The First Nowell.
 9.45—The Hastings Municipal Orchestra. Conductor, Julius Harrison: Christmas Overture (Coleridge-Taylor); Largo (Handel). Robert Easton (Bass): I'm a roamer (Son and Stranger) (Mendelssohn). Orchestra: Carnival in Paris (Svendsen); Ave Maria (Schubert); Evening Breeze (Langey). Orchestra, Audience and The Hastings Choral Union (Chorus Master, J. Read Brown): Carols: It came upon the midnight clear; Nowell. The National Anthem.
 10.45—Epilogue.

REGIONAL
 12.30-4.45 p.m. (except Midland)—Daventry National Programme.
 Time Signal, Greenwich, at 4.45.
 4.45 (London, Scottish, West)—Memories. The B.B.C. Orchestra (Section D). Conducted by Joseph Lewis. Ben Davies (Tenor). Orchestra: Overture, Zampa (Hérold). Ben Davies and Orchestra: The Star of Bethlehem (Stephen Adams). Orchestra: Benedictus (Mackenzie). Ben Davies and Orchestra: My pretty Jane (Bishop); Sally in our Alley (Carey). Orchestra: Scherzo (A Midsummer Night's Dream) (Mendelssohn). Ben Davies and Orchestra: Recit., Deeper and deeper still; Aria, Wait her, Angels (Jephtha) (Handel). Orchestra: Minuet (Samson) (Handel). Ben Davies and Orchestra: Be thou faithful (St. Paul) (Mendelssohn). Orchestra: March (Le Prophète) (Meyerbeer).
 4.45 (Midland)—Christmas Music. The Alex Cohen Quartet. Assisted by George Barre (Flute).

4.45 (North)—The Leeds XXV String Orchestra. Conducted by J. Chalmers Park, Junior. Kathleen Friswell (Pianoforte).
 5.45—The Band of His Majesty's Grenadier Guards. Director of Music, Captain G. Miller. Joseph Farrington (Bass). Band: Symphony for Military Band, Old England (Holbrooke). Joseph Farrington: The Christ Child; The Kings (Cornelius); Nazareth (Gounod). Band: Suite, The Miracle (Humperdinck). Joseph Farrington: Come, let's be merry (arr. Lane Wilson); The Beggar's Song (Leveridge, arr. Lane Wilson); The Mahogany Tree (R. H. Walthew). Band: A Children's Overture (Quyder); Sketch, Down South (Middleton).
 6.45-7.45 (except Scottish)—The B.B.C. Theatre Orchestra. Conductor, Stanford Robinson.
 6.45-7.45 (Scottish)—"Round The Country." A Programme from the three Broadcasting Stations of Scotland. Janette Schlanders (Soprano), Frank Philip (Baritone), Richard Garioch (Violin).
 8.0—"The Bells of Bethlehem." (See Daventry National.)
 8.15 (except Scottish)—A Roman Catholic Service from The Servite Church, Fulham Road, London.
 8.15 (Scottish)—A Religious Service from the Studio.
 9.0 (London Regional and National)—The Week's Good Cause. The Children's Aid Society.
 9.0 (North)—An Appeal on behalf of The Manchester Babies Hospital.
 9.0 (Scottish)—An Appeal on behalf of Children's Hospitals in Scotland.
 9.0 (West)—An Appeal on behalf of The Cardigan and District Memorial Hospital.
 9.5-9.15—"The News."
 Time Signal, Greenwich, at 9.15.
 9.20—Bach's Christmas Oratorio. Elsie Suddaby (Soprano). Gladys Ripley (Contralto). Eric Greene (Tenor). William Parsons (Bass). The Bach Cantata Club Choir. The B.B.C. Orchestra (Section C). Conducted by Charles Kennedy-Scott.
 10.45—Epilogue.

EMPIRE PROGRAMME SUMMARY

For wavelengths, see S.W. List.
Transmission 1 (GSF, GSD)
 G.M.T.
 8.0 a.m.—Big Ben. Newsletter.
 8.15—A Short Service.
 8.30—"God and the World Through Christian Eyes."
 9.0—An Organ Recital by Guy Weitz.
 9.30-10.0—Christmas Carols.
Transmission 2 (GSG, GSE)
 12.30 p.m.—Big Ben. A Brass Band Concert. Wilfred Pickering (Baritone). 1.30—W. H. Squire (Cello), 1.45—Close Down.
Transmission 3 (2-4 p.m. GSB, GSB; 4-6 p.m. GSB, GSA)
 2.0—Big Ben. Newsletter.
 2.15—Records. Christopher Stone.
 2.45—Gershom Parkington Quintet.
 3.30—Carol Service from King's College Chapel, Cambridge (see Daventry).
 4.45—"Memories." B.B.C. Orchestra conducted by Joseph Lewis. Ben Davies (Tenor) (see London Regional).
 5.45—Newsletter (second reading).
 6.0—Close Down.
Transmission 4 (6.15-9 p.m. GSD, GSB; 9-10.40 p.m. GSB, GSA)
 6.15 p.m.—Big Ben. Newsletter.
 6.30—Grenadier Guards Band.
 6.45—The B.B.C. Theatre Orchestra.
 7.30—See Daventry.
 8.0—"The Bells of Bethlehem."
 8.15—Service relayed from Winchester Cathedral (see Daventry).
 9.0—Newsletter. 9.15—Interlude.
 9.20—A Carol Service.
 9.20—The Hastings Municipal Orchestra. Robert Easton (Bass).
 10.30—Epilogue. 10.40—Close Down.
Transmission 5 (GSC, GSA)
 11.0 p.m.—Big Ben. "The Bells of Bethlehem."
 11.10—A Short Carol Service.
 11.40—Christopher Stone.
 12.25 a.m.—A Song Recital by Florence Hinton (Contralto) and Ronald Peacock (Tenor).
 12.55—Newsletter. 1.10—Close Down.
 * Electrical Recording.
 † Gramophone Records.

During the greater part of Christmas week, programmes of most stations are exceptionally full in the earlier hours of each day. In consequence, the evening programmes in some cases have had to be considerably curtailed.

Berlin, 8.0—See Deutschlandsender, 7.55 a.m.
 Breslau, 8.0—Chimes. 8.5—Roman Catholic Service.
 Bordeaux-Lafayette, 8.0—See 7.45.
 Bratislava, 8.0—Roman Catholic Service. 8.20—Talk: Bethlehem.
 Bucharest, 8.0—Service.
 Budapest, 8.30—News.
 Frankfurt, 8.0—See Stuttgart. 8.30—See Stuttgart.
 Hamburg, 8.0—Records. 9.0—Christmas Music and Recitations.
 Heilsberg, 8.0—Evangelical Service.
 Hilversum, 8.10—Football Notes. 8.12—Horticultural Talk. 8.40—Organ Recital.
 Huizen, 8.10—Service.
 Langenberg, 8.0—See Stuttgart. 8.30—See Stuttgart.
 Leipzig, 8.0—See 7.30.
 Ljubljana, 8.0—Religious Talk. 8.30—Sacred Music.
 Madrid (Union Radio), 8.0—Radio Journal.
 Moravská-Ostrava, 8.0—Religious Address.
 Moscow (Komintern), 8.0—Orchestral and Choral Concert. 8.55—Time.
 Munich, 8.15—String Quintet in C (Schubert).
 Paris (Radio-Paris), 8.0—News. 8.30—Gym.
 Prague, 8.0—Talk. 8.15—Pianoforte Solo: Winter Night Songs, Op. 30, No. 3 (Novak). 8.20—Literary Talk. 8.40—Records.
 Radio-Normandie, 8.0—Concert. 8.15—Review.
 Sottens (Radio-Suisse Romande), 8.55—Chimes.
 Stuttgart, 8.0—Sacred Music. 8.30—Children's Service.
 Trieste, 8.55—Mass from San Giusto Cathedral.
 Turin, 8.40—Giomale Radio.
 Vienna, 8.0—See 7.55 a.m. 8.20—Gym. 8.40—Weekly Review.
 Warsaw, 8.5—Gym. 8.20—Records. 8.35—Radio Journal. 8.40—Records. 8.50—For Housewives. 8.54—Announcements.
9 a.m.
 Barcelona, 9.0—Announcements.
 Bari, 9.30—Agriculture Talk. 9.45—Religious Address.
 Berlin, 9.5—Weather.
 Beromünster, 9.0—Roman Catholic Service. 9.45—Concert of Salvation Army Music.
 Breslau, 9.0—Reading. 9.25—Harmonium Recital. 9.50—See Leipzig.
 Bucharest, 9.30—Religious Talk. 9.45—Religious Music.
 Budapest, 9.0—Roman Catholic Service. Deutschlandsender, 9.5—Weather.
 Frankfurt, 9.0—See Stuttgart. 8.30 a.m. 9.15—A Christmas Story. 9.35—Records of German Singers.
 Hamburg, 9.0—Christmas Music and Recitations.
 Heilsberg, 9.0—See 8.0 a.m. 9.55—Weather.
 Hilversum, 9.0—Records. 9.20—Organ Recital.
 Huizen, 9.0—See 8.10 a.m. 9.10—Records.
 Kalundborg, 9.0—Service.
 Langenberg, 9.0—See Stuttgart. 8.30 a.m. 9.15—See Frankfurt. 9.45—Records. Allegro (Bach). Adagio from the Trio in B Flat for Clarinet, Cello and Piano, Op. 11 (Beethoven). Two Songs (Schubert): (a) Der Jüngling an der Quelle, (b) Am See. Largo from a Symphony in G (Haydn). Two Songs (Brahms): (a) Sonntag, (b) Meine Liebe ist grün. Italian Serenade for String Quartet (Wolf).
 Leipzig, 9.30—The Eternal Empire of the Germans... 9.50—Reading.
 Ljubljana, 9.0—Talk. 9.30—Orchestral Concert with Songs.
 Moscow (Komintern), 9.0—News. 9.15—Literary Programme for Collective Farms Workers.
 Munich, 9.0—Evangelical Service. 9.15—A Christmas Legend.
 Oslo, 9.15—News. 9.20—Chimes and Service, relayed from the Cathedral, Stavanger.
 Prague, 9.0—Reading. 9.30—Records. 9.45—Harp Solos.
 Rome, 9.0—News. 9.30—Agriculture Notes. 9.45—Bible Reading.
 Sottens, 9.0—Protestant Service, relayed from Saint-Gervais.
 Strasbourg, 9.45—Protestant Service Relay.
 Stuttgart, 9.0—See 8.30 a.m. 9.15—See Frankfurt. 9.35—Records.
 Trieste, 9.0—See 8.55 a.m.
 Turin, 9.40—Agriculture Talk.
 Vienna, 9.0—Organ and Soprano Song Recital by Franz Schütz and Louise Helletsgruber. 9.30—Reading (Ruth Schumann). 9.50—Pianoforte Recital by Emmy Zopf.
 Warsaw, 9.0—Service and Sacred Music, relayed from Lwów.
10 a.m.
 Berlin, 10.0—Reading from "A Christmas Carol" (Dickens).
 Beromünster, 10.0—See 9.45 a.m. 10.30—Reading from the Works of Swiss Authors.

NOTE: The Hours of Transmission are Reduced to Greenwich Mean Time

5 a.m.
 Berlin, 5.15—Gym. 5.35—See Hamburg.
 Breslau, 5.35—See Hamburg.
 Deutschlandsender, 5.15—Gym. 5.30—To-day's Motto. 5.35—See Hamburg.
 Frankfurt, 5.35—See Hamburg.
 Hamburg, 5.35—Concert from Hamburg Harbour.
 Heilsberg, 5.35—See Hamburg.
 Langenberg, 5.35—See Hamburg.
 Leipzig, 5.35—See Hamburg.
 Moscow (Komintern), 5.15—Records.
 Munich, 5.35—See Hamburg.
 Prague, 5.45—Gym., followed by Musical Programme.
 Stuttgart, 5.35—See Hamburg.

6 a.m.
 Berlin, 6.0—See 5.35 a.m.
 Breslau, 6.0—See 5.35 a.m.
 Brno, 6.30—Organ Recital from Huss House.
 Frankfurt, 6.0—See Hamburg. 5.35.
 Hamburg, 6.0—See 5.35.
 Heilsberg, 6.0—See Hamburg. 5.35.
 Langenberg, 6.0—See Hamburg. 5.35.
 Leipzig, 6.0—See Hamburg. 5.35 a.m.
 Moscow (Komintern), 6.0—Programme Announcements. 6.15—Small Station Orchestra.
 Stuttgart, 6.0—See Hamburg. 5.35.

7 a.m.
 Barcelona, 7.15—Radio Journal and Gramophone Music.
 Berlin, 7.15—To-day's Motto. 7.20—Talk: Between Town and Country. 7.25—Records. Carol, In dulci jubilo (arr. Thiel). La Serenata (Braga). Dance from "Peterchens Mondfahrt" (Schmalstich). Waltz, Morgenblätter (Joh. Strauss). Nussknacker-Parade (Oscheit). Puppe und Hampelmann (Siede). Petersburger-Schlit-

tenfahrt (Eilenberg). 7.55—See Deutschlandsender.
 Bordeaux-Lafayette, 7.45—News and Organ Recital, relayed from Paris (Ecole Supérieure).
 Bratislava, 7.0—Catholic Service.
 Breslau, 7.15—The Motto of the Week. 7.25—Records.
 Deutschlandsender, 7.0—Agricultural Programme. 7.55—Chimes and Divine Service.
 Frankfurt, 7.15—Time and News. 7.20—Tides Report and Announcements. 7.25—Gym. 7.45—Gramophone Music.
 Hamburg, 7.0—See 5.35. 7.30—Gym. 7.45—Talk on the North German Theatres.
 Kalundborg, 7.0—Gym.
 Langenberg, 7.0—See Hamburg. 5.35.
 Leipzig, 7.15—Talk: Peasant Nativity Plays. 7.30—Protestant Service.
 Ljubljana, 7.15—News. 7.30—Gym.
 Moscow (Komintern), 7.0—See 6.15 a.m. 7.15—For Children. 7.45—Christmas in Franconia—A Mystery Play.
 Paris (Radio-Paris), 7.45—Records.
 Radio-Normandie, 7.15—Concert. 7.30—News.
 Stuttgart, 7.15—See Frankfurt. 7.20—Weather. 7.25—Gym.
 Vienna, 7.0—Announcements. 7.5—Records. Four Pieces (Grieg): (a) Morning, (b) The Death of Ase, (c) Anitra's Dance, (d) In the Hall of the Mountain King. Alt-Wien (Schubert-Friedman). Caprice viennois (Kreisler). Waltz, Die Schönbrunner (Lanner). Melody (Denza). Potpourri, So schön, wie's einmal war (Dauber). Fantasia, Fortissimo (Kálmán). Waltz, The Blue Danube (Joh. Strauss-Schulz-Eyler).
 Warsaw, 7.0—Time Signal and Christmas Carol.
8 a.m.
 Barcelona, 8.0—Chimes, Physical Culture, Records. 8.20—Radio Journal, Records.

SUNDAY
December 24



The Bells, Bethlehem

E.N.A.

10 a.m. (contd.)

(arr. Veber). Les enfants (Mascagni). Au revoir (Nelson). Rome, 10.0—See Turin. Sottens, 10.0—Records. Stockholm, 10.0—Service. Strasbourg, 10.0—See 9.45 a.m. Stuttgart, 10.0—See 9.35 a.m. 10.30—See Leipzig. Trieste, 10.0—Religious Address. 10.20—Agriculture Talk. Turin, 10.0—Mass from the Church of the Annunciation, Florence. Vienna, 10.0—See 9.50. 10.20—Religious Programme. Warsaw, 10.0—See 9.0. 10.57—Time Signal and Fanfare from St. Mary's Church, Cracow.

11 a.m.

Algiers, 11.30—Sacred Music. Barcelona, 11.0—Chimes; Weather. Berlin, 11.0—The Small Station Orchestra, conducted by Steiner. Liebeslieder-Walzer (Joh. Strauss). Still wie die Nacht (Böhm). Intermezzo. "Cavalleria rusticana" (Mascagni). Ballegüster (Meyer-Helmund). Selection. "Martha" (Flotow). Song without Words (Tchaikovsky). Waltz, Barcarolle (Waldteufel). Selection. "Naïla" (Delibes). Selection. "Der Bettelstudent" (Millöcker). Puppenmenzett (Blon). Humoristischer Aufzug (Juon). Simple aveu (Thomé). Aus dem Hochwald (Kaulich). Waltz: An der Donau, wenn der Wein blüht (Grothe-Melichar). The Clock is playing (Blaauw). Minuet, Marquis et Marquise (Godard). Unter dem Lindenbaum (Felix). Englein in der Weihnachtsnacht (Rassel). Beromünster, 11.0—Records. 11.30—Time and News. 11.40—The Beromünster Orchestra. Bordeaux-Lafayette, 11.0—Concert relayed from Paris (Ecole Supérieure). Breslau, 11.0—See Munich. Brussels (No. 1), 11.0—Gramophone Concert of Popular Music. Brussels (No. 2), 11.0—Concert by the Small Station Orchestra, conducted by Leemans. Festival Overture, (Lortzing). Rustic Suite (Amadei). Dance (Debussy). Selection from "The Queen of Spades" (Tchaikovsky). Aria from Carnival de Venise (Benedict), on Gramophone Records. Scenes from an Imaginary Ballet (Coleridge-Taylor). Selection from "Zigeunerprimas" (Kallman). Bucharest, 11.0—Records. Budapest, 11.0—See 10.15 a.m. 11.30—Concert by the Opera House Orchestra, conducted by Ernst

Dohnányi. Soloist: Edmund Kilenyi (Pianoforte). Christmas Concerto (Corelli). Pianoforte Concerto in C Minor (Beethoven). Symphony in B Flat (Schumann). Deutschlandsender, 11.0—See Munich. Frankfurt, 11.0—The Wiesbaden Madrigal Circle. Soloist: Pauli Haarer (Songs). Christmas Carols with Lute accompaniment. Old Christmas Music for Voices and Instruments. Hamburg, 11.0—See Berlin. Heilsberg, 11.0—See Berlin. Hilversum, 11.0—See 10.10 a.m. 11.40—Talk. Huizen, 11.0—See 10.10 a.m. 11.25—Records. 11.40—The Orchestra, conducted by van 't Woud. Selection from "Sigurd Jorsalfar" (Grieg). Overture, "Rund um die Liebe" (O. Strauss). Selection from "The Bartered Bride" (Smetana). Waltzes, Op. 54, Nos. 1 and 4 (Dvořák). Moment musical (Schubert). Two Slav Dances (Dvořák). Kalundborg, 11.0—Time and Chimes. 11.5—Louis Preil's Instrumental Ensemble. March, Semper fidelis (Sousa). Boston Waltz. "Schön ist die Welt" (Lehár). Three Shades of Blue (Grofé): (a) Indigo, (b) Alice Blue, (c) Heliotrope. The Musical Box and Pianola (Antiga). Torna a Sorriento (de Curtis). Intermezzo, The Cuckoo Clock (Winkler). Slav Rhapsody No. 2 (Friedmann). Intermezzo, Sag mir, wer du bist (Grothe). Her First Dance (Heykens). Über die Heide-kam ein Wind (Lüling). Notre doux rêve (Ackermanns). Russian Rhapsody (Nussbaum). Langenberg, 11.0—See Frankfurt. Leipzig, 11.0—See Munich. Ljubljana, 11.0—Weather, News. Moscow (Komintern), 11.0—See 10.15. Munich, 11.0—Orchestral Concert. Overture, Lucio Silla (Mozart). Tone Poem, Weihnachten (Worch). Serenade (Strauss). Miniature Suite (Eric Coates). Waltz, Yellow Roses (Suppé). Hungarian Melodies (Leopold). Suite, Les Millions d'Arlequin (Drigo). Der lustige Postillon (Pesse). Palermo, 11.45—Giornale Radio. Paris (Poste-Parisien), 11.0—Records. 11.30—Popular Concert. Prague, 11.0—Chimes and News. 11.15—Orchestral Concert conducted by Jan Pesta. Concert Overture (Pesta). Ballet Music from "The Two Widows" (Smetana). Ave Maria (Bach-Gounod). Czech Dance (Balling). Suite (Koegel). Reykjavik, 11.40—News. Rome, 11.30—Records. 11.45—See Turin.

Sottens, 11.30—News and Weather. 11.40—Records. Stockholm, 11.45—Weather. Strasbourg, 11.0—Gramophone Concert. Christmas Carols. Trio from the Christmas Oratorio (Saint-Saëns). Tollite Hostias (Saint-Saëns). Ave Maria de Lourdes. Parc Domine (Fouchet). 11.30 a.m.—Roman Catholic Service in German. Stuttgart, 11.0—See Frankfurt. Toulouse, 11.0—Dance Music. 11.30—Military Music. 11.45—Light Music. Turin, 11.0—Bible Reading. 11.30—Records. 11.45—Orchestral Concert, conducted by Titro Petralia. Vienna, 11.0—Concert by the "Wiener Symphoniker," conducted by Max Schönherr. Soloists: Lenz and Scheimbauer (Duets). Warsaw, 11.5—Announcements. 11.10—Weather. 11.15—Concert by the Philharmonic Orchestra, conducted by Dolzycki. Mme. Szieminska. Part I. Strauss Music, Overture, "Die Fledermaus." Tales from the Vienna Woods. Perpetuum mobile Songs from "Die Fledermaus" and "The Gypsy Baron." Waltz, Frühlingsstimmen. Part II. Liszt Music. Rhapsody No. 2. Symphonic Poem, Les Préludes. During the interval—Talk.

12 noon

Algiers, 12.0—See 11.30 a.m. 12.30—Station Orchestra. Overture, La dame blanche (Boieldieu). Waltz (Wohanka). Selection from "The Barber of Seville" (Rossini). Berlin, 12.0—See 11.0 a.m. Beromünster, 12.0—See 11.40 a.m. 12.30—Agriculture Talk. Bratislava, 1.0—Tides Report. Brussels, 12.0—See Munich, 11.0 a.m. 12.30—See Deutschlandsender. Brussels No. 1, 12.0—Concert conducted by Fellemann, relayed from the Grand Hotel, Antwerp. Brussels No. 2, 12.0—Gramophone Concert. Alleluia from "The Messiah" (Handel). Adoration (Filippucci). Andante religioso (Thomé). Solemn Melody (Walford-Davies). Nuit étoilée (Witkowski). Engelenwacht (van Rennes). 12.25—Organ Recital by Joos, relayed from the Carmelite Church. 12.45 p.m.—Records. Christmas Eve (Rimsky-Korsakov). Stille Nacht, heilige Nacht (Lochmann). Scène religieuse (Massenet). Bucharest, 12.0—Radio Journal. 12.15—Records. Budapest, 12.0—See 11.30 a.m. Deutschlandsender, 12.0—See Munich, 11.0. 12.20—Music for Winds. Frankfurt, 12.0—See Stuttgart. 12.15—Opera Music on Records. Selection from "Othello," "La Traviata," "The Force of Destiny," and "Aida" (Verdi). Hamburg, 12.0—See Berlin, 11.0 a.m. Heilsberg, 12.0—See Berlin, 11 a.m. Hilversum, 12.0—See 11.40 a.m. 12.10—Kovacs Lajos and his Orchestra. Huizen, 12.0—See 11.40 a.m. 12.25—Records. 12.40—Talk on Japan. Juan-les-Pins (Nice, Cannes), 12.0—Roman Catholic Service. 12.30—Amusement-Guide and Variety. Kalundborg, 12.0—See 11.5 a.m. Langenberg, 12.0—See Stuttgart. 12.15—The Kammer-Quintet. Marien-Gavotte (Donath). Ave Maria (Bach-Gounod). Songs (Schubert, arr. Artok): (a) Am Meer, (b) Ständchen, (c) Frühlingsglaube. Minuet (Brase). Serenade from the String Quartet, Op. 3, No. 5 (Haydn). Serenade (Gounod). Leipzig, 12.0—See Munich, 11.0 a.m. 12.30 p.m.—Old and New Christmas Carols. Part I—Old Carols. Das Reis aus der Wurzel Jesse (arr. Praetorius). Kindelwiegen (arr. Ortraven). Wiegenlied in der Weihnacht (arr. Willner). Maria auf dem Berge (arr. Woysch). Part II—New Carols. Christfest. Ein Himmelstrahl. Weihnacht. Ich weiss ein lieblich Engelspiel. Moscow (Komintern), 12.0—See 10.15 a.m. Munich, 12.0—See 11.0. 12.30—See Deutschlandsender. Palermo, 12.0—Light Music. Lupita (Treppiedi). Intermezzo (Balducci). Selection, La Bohème (Puccini). Le campanone di S. Benedetto (Limentani). Torch Dance of the Brides of Kashmir (Rubinstein). Selection, "I monelli fiorentini" (Ranzato). Waltz, Stretti, stretti (Fiaccone). Variety (Vigevani). In the interval, Time, News, and Weather. Paris (Eiffel Tower), 12.30—Dance Music by the Mendinger Band. Paris (Poste Parisien), 12.0—See 11.30 a.m. 12.15—Extracts from

Sound Films—"Les bleus du ciel" (Veber-Van Parys), "The Gold Diggers" (Warren and Dubin), "L'heure du frotteur" (Villard), "Dernière nuit" (Hély), "L'enfant du miracle," "FPI" (Reisch and Gray). 12.45—Sponsored Programme. 12.50—Half an Hour of Fantasy by Paul Weill. Paris (Radio-Paris), 12.0—Religious Address. 12.20—Sacred Music 12.30—Bilboquet. 12.45—Records. Prague, 12.0—Christmas Carols. 12.30—Talk on Agriculture. Radio-Normandie, 12.0—Concert. 12.30—News. 12.45—Concert. Reykjavik, 12.0—Service. Rome, 12.0—See Turin. Strasbourg, 12.0 noon—Gramophone Concert. Overture, "Mirella" (Gounod). The Temple of the Bells (Yoshitomo). In a Chinese Temple Garden (Ketelbey). Monastery Garden (Lefèvre). The Bells of St. Malo (Rimmer). Selection from The Redemption (Franck). Nocturnes, Op. 27 and 62 (Chopin). Credo du Paysan (Goublier). Les Sapins (Dupont). Adagio and Siciliano from the Sonata in C Minor (Bach). 12.45—News. Stuttgart, 12.0—Topical Talk. 12.15—With the Microphone at the Canary Show. 12.30—New Records. Toulouse, 12 noon—Orchestral Music. 12.15—Operetta Music. 12.30—Roman Catholic Service. 12.45—Concert by a Viennese Orchestra. Turin, 12.0—Time and News. 12.45—Records. Vienna, 12.0—See 11.0 a.m. Warsaw, 12.0—See 11.15 a.m.

1 p.m.

Algiers, 1.0—News. 1.5—Concert (contd.). Noel (Holmis). Légende du point d'argentain (Fourdrain). Les Fantoccini (Lecocq). Athlone, 1.0—Variety Programme. Barcelona, 1.0—Gramophone Music. 1.30—Theatre Notes and Gramophone Music (contd.). Berlin, 1.0—Records for Children. 1.45—Records. Selection, "Die Puppenfee" (Bayer). Baritone Solo, Die heiligen drei Könige (Wolf). Andante religioso for 'Cello (Goltermann). Reigen seliger Geister (Gluck). Two Pieces (Grieg): (a) Anita's Dance, (b) In the Hall of the Mountain King. Christmas Legend (Haas). Selection, "Schlagobers" (R. Strauss). Beromünster, 1.0—The Basle Zither Quartet. Breslau, 1.0—Reading and Songs. 1.25—News. 1.35—Discussion—A New Generation of German Women. 1.55—Songs by Children. Vom Himmel hoch. Ein Weihnachtsspiel. Heiligste Nacht. Lasst uns das Kindlein wiegen. Maria Wiegenlied. O Jesulein zart. Still, stille, still. Auf dem Berge. Tochter Zion (Handel). Brussels No. 1, 1.0—Le Journal Parlé. 1.0—See 12 noon. 1.30—"Supporters"—Sketch (Lauville). 1.40—See 12 noon. Brussels No. 2, 1.0—Le Journal Parlé. 1.0—Records. Angel's Serenade (Bragal). Rondo from Petit agneau bélant (Dalcroze). 1.15—A Christmas story. 1.30—See 12.25 p.m. Budapest, 1.0—Records. Deutschlandsender, 1.0—The German Poet and the Child—Radio Sequence with Children's Choir. 1.30—"Turm-Musik" (Windberger) by the Station Wind Band. Frankfurt, 1.0—Christmas Fairy Tales. 1.30—For Children. Hamburg, 1.0—"Cinderella"—Pantomime (Görner). Heilsberg, 1.0—See Hamburg. 1.40 Hilversum, 1.0—See 12.10 p.m. 1.40—Relay of the V.A.R.A. Christmas Programme. Huizen, 1.0—The Orchestra. Unter dem Doppel-Adler (J. F. Wagner). Valse triste (Sibelius). Selection from "Ritter Paszmann" (Strauss). Overture, "Poet and Peasant" (Suppé). 1.40—Records. 1.50—Talk: The Restoration of a Benedictine Abbey. Juan-les-Pins (Nice, Cannes), 1.0—News. 1.15—"Visite du Colocquinte"—Sketch (Bigot). Kalundborg, 1.30—The Radio Orchestra, conducted by Launy Gröndahl. Soloist: Eliza Herlov (Piano). Overture, Et Eventyr i Rosenborg Have" (C. E. F. Weyse). Selection, "Youth and Madness" (Dupuy). Prelude, "Sysoverdag" (J. P. E. Hartmann). Bergenstana (Halvorsen). Homage March, "Sigurd Jorsalfar" (Grieg). Pianoforte Solos: (a) Viennese Dances Nos. 1, 4 and 5 (Gartner-Friedman), (b) Alt-Wien (Schubert-Friedman). Overture, "Trillingbrodene fra Damaskus" (Kuhlau). Fantasia, Drommehille (Lumbye). Dance, "Maskarade" (Nielsen). Two Swedish Folk Melodies (arr. Svend

sen). Swedish Rhapsody, Midsommarvaka (Alfven). Langenberg, 1.0—See Frankfurt. Leipzig, 1.0—See 12.30. 1.25—Christmas Reading. 1.55—Carols, sung by Children. Moscow (Komintern), 1.45—Announcements. Munich, 1.0—Time, Weather, Announcements. 1.10—Agricultural Talk. 1.30—Christmas Music on Records. Paris (Eiffel Tower), 1.0—News. 1.15—Dance Music (contd.). Paris (Poste Parisien), 1.0—See 12.50 p.m. 1.25—Recitations by André Gaudelette. 1.30—Records. Paris (Radio-Paris), 1.0—Concert. Radetzky March. Hungarian Rhapsody (Liszt). Ninon, quand tu me souris (Jurmann). Seguedillas (Albeniz). Song from "Deux sous des fleurs" (Benatzky). Tango, Jalousie (Gade). Berceuse (Gretcheninov). Czardas (Grossmann). 'Cello: Spanish Dance (Granados). Overture, "Titus" (Mozart). Chanson intime (de la Preste). Violin Solo: Tambourin chinois (Kreisler). Waltz from "Victoria and her Hussar" (Abraham). Overture, "William Tell" (Rossini). Melody (Wood). Pianoforte: Jardins sous la pluie (Debussy). May (Hahn). Waltz Potpourri (Winter). Prague, 1.0—Announcements. Reykjavik, 1.0—Programme to be announced. Rome, 1.0—See Turin 12.45. Stockholm, 1.0—Christmas Programme by Calle Möller. 1.50—Talk: Christmas in Rome. Strasbourg, 1.0—Time Signal. 1.1—Gramophone Concert. March from "Tannhäuser" (Wagner). Prelude to Act III of "Lohengrin" (Wagner). Una furtiva lagrima from "L'elisir d'amor" (Donizetti). Aria from "The Magic Flute" (Mozart). Waltz, Wine, Woman and Song (Joh. Strauss). Tango (Albeniz). Neapolitan Nights (Zamecnik). Midnight Waltz (Amadio). Two Old French Songs. Marche Bourguignonne (Delbecq). Stuttgart, 1.0—See Frankfurt. Toulouse, 1.0—Market Prices and Time. 1.5—Music from Sound Films. 1.30—Orchestral Music. 1.45—Protestant Service. Turin, 1.0—See 12.45 p.m. Vienna, 1.50—Time and Announcements. Warsaw, 1.0—Dramatic Programme. 1.30—Popular Music (on Gramophone Records). During the interval: News.

2 p.m.

Athlone, 2.0—Variety Programme. Barcelona, 2.0—Sextet Concert. Berlin, 2.0—See 1.45. 2.30—Poems: 2.45—A Christmas Meditation. Bordeaux-Lafayette, 2.0—Programme relayed from Paris, or Relay of a Local Festival. Breslau, 2.0—See 1.55 p.m.—2.30—Christmas in Silesia (Erich Hoinkis). Budapest, 2.0—Agriculture Programme. 2.50—Songs for Children. Deutschlandsender, 2.0—A German Christmas—Programme for Young People. 2.30—The Caecilia A-Capella Choir. Frankfurt, 2.0—Concert by Children. 2.30—See Langenberg. Hamburg, 2.0—Christmas Concert. Two Christmas Carols (Richard Trunk): (a) Maria, (b) Idyll. Pastoral for Violin and Organ (Schindler). Song: Christmas (Siegfried Wagner). Two Soprano Songs (Jos. Haas): (a) Christmas Legend, (b) The Three Wise Kings. Choral Variations on "Es ist ein' Ros' entsprungen" (Distler). 2.40—Reading (Walther Förster). Heilsberg, 2.0—Reading. 2.15—For Young People. 2.45—Christmas Lyrics by the German Masters. Hilversum, 2.0—See 1.40 p.m. 2.40—Records. 2.55—V.A.R.A. Programme. Huizen, 2.0—See 1.50 p.m. 2.10—Sacred Music, Christmas Carols and Records. Juan-les-Pins (Nice, Cannes), 2.0—Protestant Service. Kalundborg, 2.0—See 1.30. Langenberg, 2.0—See Frankfurt. 2.30—Songs and Pianoforte Recital, Christmas Fantasia (Unger). Süßes Kind in armer Krippe (Haas). Talk. Songs: (a) Knecht Rupprecht (Schumann), (b) Weihnachtslied (Haas). Talk. Pianoforte Solo: Procession of the Gnomes (Grieg). Christmas Legend (Haas). Talk. Four Songs (Tchaikovsky). Christkindleins Wiegenlied (Weismann). Talk. Der Stockenpferdreier (Haas). Talk. Weihnachtsabend. Leipzig, 2.0—See 1.55. 2.10—"Das Spiel von den heiligen drei Königen"—(Felix Timpermanns).

SUNDAY
December 24

2 p.m. (contd.)

Madrid (EAJ7), 2.0—Chimes, Time, Theatre Notes and Popular Music.
Moscow (Komintern), 2.15—For Children. 2.55—Time.
Munich, 2.0—See 1.30 p.m. 2.30—“Ihr Kindelein, kommet—A Nativity Play (Emma Hennies and Lydia Neisser). Music by Fuchs.
Paris (Radio-Paris), 2.0—See 1.0. 2.30—“White Horse Inn”—Operetta (Stolz-Benatzky), relayed from the Mogador Theatre.
Pittsburgh, 2.0—Children's Hour, from New York.
Prague, 2.30—For Children.
Radio-Normandie, 2.0—Dance Music.
Rome, 2.45—For Children, Weather, Sports.
Sottens, 2.0—The Radio-Suisse Romande Orchestra, conducted by Eichenard. Suite in D (Bach). Les petits riens (Mozart). Pièce brève sur des vieux Noël's (César Franck). Potpourri of Christmas Carols.
Stockholm, 2.15—Recital of Swedish Christmas Carols by Nils Svanfeldt. 2.55—For Children.
Strasbourg, 2.0—Agriculture Talk in German.
Stuttgart, 2.0—See Frankfurt. 2.30—See Langenberg.
Toulouse, 2.0—Operetta Music. 2.15—Agriculture Notes. 2.30—Light Music. 2.45—Chansonnettes.
Turin, 2.30—Records and Sports Notes. 2.45—Choral Concert.
Vienna, 2.0—Kay and Gerda—Children's Play (Hulda Mical). After the Programme, Distribution of Christmas Prizes.
Warsaw, 2.0—Talk: Village Festivals. 2.20—Concert by the Station Orchestra, conducted by Mmc. Adamska-Grossman. Waltz, Rose et Marguerite (Waldteufel). Canto per te (Raza). Serenata capricciosa (Ranzato). Selection from “The Gypsy Baron” (Joh. Strauss). Berceuse (Jarnefelt). Valse espagnole (Mascheroni).

3 p.m.

Athlone, 3.0—Variety Programme.
Barcelona, 3.0—Programme for Hospitals with Records.
Berlin, 3.0—See Hamburg.
Beromünster, 3.0—For Children.
Bordeaux-Lafayette, 3.0—Concert relayed from Paris.
Breslau, 3.0—The Station Orchestra, conducted by Ewald Rischka. Overture, “Martha” (Flow). Christmas Suite (Schumann-Rischka). Selection, “Undine” (Lortzing). Postludium (Rischka). Overture, “The Princess in the Golden Slippers” (Rust). Moment musical (Schubert). Almbumtall (Wagner). Cradle Song (Jarnefelt). Fröhliche Weihnachten (Koedel).
Bucharest, 3.0—Rural Programme.
Budapest, 3.0—See 2.50 p.m. 3.30—For Schools.
Deutschlandsender, from Oberufer. 3.0—“The Birth of Christ”—Play relayed.
Frankfurt, 3.0—See Langenberg. 2.30. 3.30—“Christkinds Erdenreise,” a children's opera, from Langenberg.
Hamburg, 3.0—Concert. Overture—“The Magic Flute” (Mozart). The “Toy Symphony” (Haydn). Mädlings Tänze (Beethoven). St. Francois d'Assise (Liszt). Selection, “Das Christlein” (Pitzner). Two Pieces for Strings (Titmann): (a) Hirtenmusik zu Weihnacht, (b) Gavotte. Selection from “Bübbens Weihnachtstraum” (Humperdinck). Tone Poem, Christmas (Königsberger).
Heilsberg, 3.0—See Hamburg.
Hilversum, 3.0—See 2.55 p.m.
Huizen, 3.0—See 2.10 p.m. 3.10—Vocal and Instrumental Music. 3.30—Records. 3.40—For Women. 3.55—Vocal and Instrumental Music.
Kalundborg, 3.0—See 1.30. 3.30—Christmas Service from Copenhagen Cathedral.
Langenberg, 3.0—See 2.30. 3.30—“Christkinds Erdenreise”—Children's Opera in Four Scenes (Gustav Kneip).
Leipzig, 3.0—See Breslau.
Ljubljana, 3.30—Songs by Octet.
Madrid (EAJ7)—3.0—See 2.0.
Munich, 3.0—See Breslau. 3.45—News.
Moscow (Komintern), 3.15—Talk. 3.30—Talk: The Communist Party.
Oslo, 3.0—For Children.
Paris (Radio Paris), 3.0. See 2.30.
Pittsburgh, Sketches, from New York. 3.30—Samovar Serenade, from New York.
Prague, 3.0—Sacred Christmas Music. 3.15—Records. 3.30—Reading. 3.45—Records.
Rome, 3.0—Concert for Mothers' and Children's Day.
Sottens, 3.0—Records. 3.30—The Radio Suisse Romande Orchestra (contd.). Music by Josef and Johann Strauss and Oscar Straus.

Stockholm, 3.0—A Nativity Play with Music (Hermann).
Strasbourg, 3.0—Symphony Concert relayed from the Conservatoire, Paris.
Stuttgart, 3.0—See Langenberg. 2.30.
Toulouse, 3.0—Symphony No. 3—The Eroica (Beethoven), by the Augmented Symphony Orchestra.
Turin, 3.0—See 2.45 p.m. 3.30—Records and Sports Notes.
Vienna, 3.30—Recital of Advent Hymns and Christmas Carols by the Schola Gregoriana conducted by Franz Kosch, with Introductory Talk.
Warsaw, 3.0—For Children. 3.30—Records of Jan Kiepura. 3.45—Reading.

4 p.m.

Berlin, 4.0—See Hamburg. 3.0 p.m. 4.25—Christmas Music. “Fürchtet euch nicht”—for Soprano, two Violins, Cello and Double Bass (Bernhard). “Das neugebor'ne Kindelein”—Cantata for Choir, String Quartet and General Bass (Buxtehude). 4.50—Reading.
Beromünster, 4.0—The Beromünster Orchestra, 4.40—Two Plays (Cécile Ines Loos): (a) Der Stern und das Kind, (b) Der Einklang ins Leben.
Bratislava, 4.0—Service.
Breslau, 4.0—See 3.0 p.m. 4.45—See Leipzig.
Brno, 4.0—German Transmission. Songs and Organ Music.
Bucharest, 4.0—Variety Music by the Marco Orchestra.
Budapest, 4.0—Christmas in an Orphanage—Radio Report. 4.30—Sports Notes. 4.40—Orchestral Concert, conducted by Emil Abranyi.
Deutschlandsender, 4.0—Vespers from a Church in Niederschönhausen.
Frankfurt, 4.0—See Langenberg. 3.30.
Hamburg, 4.0—See 3.0 p.m. 4.25—Christmas Vespers from the University Church, Kiel.
Heilsberg, 4.0—Vespers relayed from Hallstrom. 4.40—Reading.
Hilversum, 4.0—See 2.55 p.m. 4.10—The Station Orchestra, conducted by de Groot. Norwegian Dance (Grieg). Schottische (Wood). Ca c'est Paris (Padilla). Lied und Tanz aus Tirol (Fetral). Neapolitan Serenade (Micheli). Malagueña (Moszkowsky). Russian Dance (Bortkiewicz). Polish Mazurka (Glinka). Bohemian Polka (Hilmar). Czardas (Michiels). Viennese Waltz (Benatzky). Dutch National Dance (Siep). 4.55—For Children.
Huizen, 4.0—See 3.55 p.m. 4.10—For Invalids. 4.40—Service, relayed from the Westerkerk, Deventer.
Kalundborg, 4.0—See 3.30. 4.30—Recitative and Largo from “Xerxes” (Handel). Alma redemptoris (Phillips-Terry). Die Himmel rühmen die Ehre Gottes (Beethoven). Arioso and Hallelujah from “The Messiah” (Handel) (Records).
Langenberg, 4.0—See 3.30 p.m. 4.45—“Der Weihnachtsbettel”—A Sequence of Poems (Waldeck).
Leipzig, 4.0—See Breslau. 4.0. 4.45—News.
Ljubljana, 4.0—See 3.30 p.m. 4.30—Records.
Moscow (Komintern)—4.0—See 3.30 p.m. 4.30—Red Army Programme.
Munich, 4.0—See Breslau. 3.0. 4.45—See Leipzig.
Oslo, 4.0—Organ Recital, relayed from Sandefjord. 4.30—Reading of Christmas Stories.
Paris (Radio-Paris), 4.0—See 2.30 p.m.
Pittsburgh, 4.0—First U.P. Church.
Prague, 4.0—German Transmission: Review of the Music Broadcasts and Recital of German Carols.
Rome, 4.0—Concert of Chamber Music.
Stockholm, 4.5—Service from Uppsala Cathedral.
Strasbourg, 4.0—See 3.0 p.m.
Stuttgart, 4.0—See Langenberg. 3.30.
Toulouse, 4.0—Military Music. 4.15—Accordion Music. 4.30—Russian Songs. 4.45—Music by an Argentine Band.
Turin, 4.0—Concert for Mothers' and Children's Day. In the intervals: Sports Reports.
Vienna, 4.0—Concert.
Warsaw, 4.0—Talk: The Birth of a New World. 4.15—Christmas Carols, relayed from Cracow.

5 p.m.

Barcelona, 5.30—Agriculture Talk.
Berlin, 5.0—Choral Concert.
Beromünster, 5.0—See 4.40 p.m. 5.40—The Beromünster Orchestra.
Breslau, 5.0—“A Christmas Carol” (Charles Dickens), arranged as Radio Play with Incidental Music. 5.30—Chimes.
Brussels (No. 1), 5.0—Concert by the Station Symphony Orchestra, conducted by Meulmans. Rapsodie languedocienne (Delcroix). Le lac d'amour (La Gye). Scherzo Valse

(Guillaume). Les danseuses de Kelouan (Daneau). Souvenirs (Jehin). Waltz, Amoroso (Jehin). Three Divertissements (Kalkman). Old Flemish Songs (Greef). 5.30 (approx.)—Football Results.
Brussels (No. 2), 5.0—Concert by the Station Orchestra, conducted by Walpot. The War March of the Priests, from “Athalie” (Mendelssohn). Intermzzo, Aux étoiles (Duparc). La veillée de l'ange gardien (Pierné). Angelus (Masse-net). Campanella (Handel). Overture, “Hansel and Gretel” (Humperdinck). 5.45—For Children.
Bucharest, 5.0—Radio Journal.
Budapest, 5.0—See 4.40 p.m. 5.30—Talk with Records.
Deutschlandsender, 5.0—Christmas Programme. The Station Choir and Orchestra, and the Kasleckscher Wind Ensemble. Chimes. Address by the Director of the Station. Three Carols for Choir. Reading. Wind Ensemble: (a) Extract from “Judas Maccabeus” (Handel), (b) Faith, Hope and Charity (Beethoven), (c) Hallelujah Chorus from “The Messiah” (Handel). Three Carols for Choir. Dance of the Sylphs (Berlioz). Extracts from “La Vita Nuova” (Wolf-Ferrari). Selection from “Der Evangelmann” (Kienzl).

Frankfurt, 5.0—See Langenberg. 5.15—Christmas Carols by a Blind Choir. 5.45—Organ Recital from the Ibenstadt Monastery.
Hamburg, 5.0—See 4.25 p.m. 5.25—Choral and Organ Music.
Heilsberg, 5.0—Christmas Cantata (Armin Knab), followed by Christmas Carols.
Hilversum, 5.0—See 4.55 p.m. 5.25—Light Music. 5.50—The Adventures of Wakker and Tropicuit.
Huizen, 5.0—See 4.40 p.m.
Kalundborg, 5.0—New Christmas Carols. 5.20—Reading. 5.50—Weather.
Langenberg, 5.0—Die deutsche Glocke am Rhein. 5.15—See Frankfurt.
Leipzig, 5.0—Talk: The Origin of the Carol, “Stille Nacht, heilige Nacht.” 5.45—Records of the Leipzig Trumpet Ensemble. Lobe den Herrn. Von Himmel hoch, da komm ich her. O du fröhliche o du selige. Trio, Weihnachtsen. Es ist ein Ros' entsprungen. Ehre sei Gott in der Höhe. Stille Nacht, heilige Nacht.
Ljubljana, 5.0—Chimes. 5.15—For Children. 5.40—Christmas Concert.
Moscow (Komintern), 5.0—See 4.30 p.m. 5.30—For Collective Farm Workers.
Munich, 5.0—“Songs of the Alps”—for Choir and Orchestra. 5.20—“The Star in the East”—Three Scenes (Lipp).
Oslo, 5.0—Christmas Programme. The Station Orchestra, a Choir, and Solveig Borthen (Contralto). Orator and Orchestra: A Christmas Prologue (Rolf Hjorth Schøyen), with Music by Per Reidarson. Christmas Motet for Contralto, Choir and Organ (Alnaes). Pianoforte Quintet, Largo (Handel). Ave verum (Mozart). Contralto Solo: Christmas Carol. Christmas Scene (Humperdinck). Choir and Orchestra, Christmas Eve (Per Reidarson). Solveig's Song (Grieg). Christmas Carol. Paris (Eiffel Tower), 5.45—Le Journal Parlé.

Pittsburgh, 5.15—Baby Rose Marie, from New York. 5.30—Radio City Concert, from New York.
Rome, 5.30—Weather.
Sottens, 5.0—Records. 5.30—Christmas Readings.
Stockholm, 5.0—See 4.5 p.m. 5.15—Records.
Strasbourg, 5.0—Christmas Carols on Gramophone Records.
Stuttgart, 5.0—See Langenberg. 5.15—See Frankfurt.
Toulouse, 5.0—Dance Music. 5.45—Operetta Music.
Turin, 5.0—See 4.0 p.m.
Vienna, 5.0—Talk. 5.30—Recital by the Stiegler Quartet.
Warsaw, 5.0—Programme relayed from Lwów. 5.40—Song Recital by Mmc. Szleminska.

6 p.m.

Barcelona, 6.0—Concert by the Radio Orchestra. 6.30—Part Relay of an Opera from the Gran Teatro del Liceo.
Berlin, 6.15—See Breslau.
Beromünster, 6.0—Time and Weather. 6.5—Records. 6.30—Talk on Christmas Eve.
Bordeaux-Lafayette, 6.15—Radio Journal, relayed from Paris (Ecole Supérieure).
Breslau, 6.0—Talk: The Germanic Yule Festival. 6.15—“North-

South-East-West”—Radio Reports from a Mountain Church in Silesia, the Halligkirche in Hamburg, a Forester's House near Frankfurt, and the Zugspitze near Munich.
Brussels (No. 1), 6.0—Violin and Piano-forte Sonatas by Lykoudi and Mme. Lydou-di-Passet. Fugue (Tartini-Kreisler). Sonata (Crickboom). 6.40—Gramophone Concert of Popular Music.
Brussels (No. 2), 6.0—See 5.45. 6.30—Carol Concert.
Bucharest, 6.0—Educational Talk. 6.20—Records. 6.45—Talk.
Budapest, 6.0—Chimes.
Frankfurt, 6.0—See 5.45. 6.15—See Breslau.
Hamburg, 6.5—Weather. 6.15—See Breslau.
Heilsberg, 6.0—News. 6.15—See Breslau.
Hilversum, 6.10—Orchestra. 6.40—For Children.
Huizen, 6.0—See 4.40 p.m. 6.10—Christmas Carols by Mlle. Annie Geest (Soprano) and Rie Schaffma (Contralto).
Kalundborg, 6.0—News. 6.15—Time Signal. 6.30—Christmas Greetings. Christmas Carols, Address and Chimes.
Langenberg, 6.0—See Frankfurt 5.45. 6.15—See Breslau.
Leipzig, 6.0—See 5.45. 6.15—See Breslau.
Ljubljana, 6.0—See 5.40.
Moscow (Komintern), 6.0—See 5.30. 6.30—Talk on Aviation and Announcements.
Munich, 6.0—See 5.20 p.m. 6.15—See Breslau.
Oslo, 6.0—See 5.0 p.m. 6.30—A Christmas Eve Visit with the Microphone to a Police Station, Railway Stations, and a Fire Station.
Paris (Eiffel Tower), 6.0—Talk.
Pittsburgh, 6.30—Old Songs of the Church. 6.45—Sunday Favourites.
Prague, 6.30—Christmas Programme.
Rome, 6.30—News.
Sottens, 6.0—Roman Catholic Address. 6.30—Radio Chronicle.
Stockholm, 6.15—Weather, News. 6.25—Christmas Dances.
Strasbourg, 6.0—Medical Talk. 6.15—Sports Talk. 6.30—Orchestral Concert.
Stuttgart, 6.0—See Frankfurt. 5.45. 6.15—See Breslau.
Toulouse, 6.0—News. 6.15—Opera Music. 6.30—Light Music. 6.45—Orchestral Music.
Turin, 6.0—Time, Announcements. 6.15—Records. 6.45—Announcements and Records.
Vienna, 6.0—Time and Announcements. 6.10—Puer natus est (Springer) by an Orchestra. 6.5—News. 6.30—The Week's Events. 6.45—Art Notes. 6.50—Polish Music by the Station Symphony Orchestra, conducted by Oziminski. Mme. Adamska (Cello).

7 p.m.

Algiers, 7.0—Wind Instruments. 7.30—Dance Music. 7.55—News.
Barcelona, 7.0—See 6.30.
Berlin, 7.0—The Berlin Station Orchestra, conducted by Helmar Kähler. Heilige Nacht—for String Orchestra and Organ (Mayerhoff). Andante from the Symphonie concertante in E flat for Violin and Viola (Mozart). Ellenreigen (Klose). Adagio for Cello and Orchestra (Bargiel). Two Pieces (Grieg): (a) The Shepherd Boy, (b) Procession of the Gnomes. “Ave im Kloster”—for String Orchestra and Harp (Kienzl). Festival Overture, Friedensfeier (Reinecke).
Beromünster, 7.10 Christmas Music on Records.
Bordeaux-Lafayette, 7.45—Sports Talk.
Breslau, 7.0—Christmas Carols. 7.25—See Munich.
Brussels (No. 1), 7.0—See 6.40 p.m. 7.15—Religious Address. 7.30—Journal Parlé.
Brussels (No. 2), 7.12—News. 7.15—Religious Address. 7.30—Le Journal Parlé. 7.55—Music Review, followed by Van Jezus en St. Janneken (De Vocht), on Gramophone Records.
Bucharest, 7.0—Christmas Carols.
Frankfurt, 7.0—See Langenberg.
Hamburg, 7.0—Christmas Programme.
Heilsberg, 7.0—Christmas in Music and Literature.
Hilversum, 7.0—See 6.40 p.m. 7.40—Time and News. 7.45—Talk for the following Transmission.
Huizen, 7.0—See 6.10 p.m. 7.10—Records. 7.25—Football Results. 7.30—Talk. 7.55—News.
Kalundborg, 7.2—Christmas Concert. Franz Klæbel (Organ), Fini Henriques (Violin), Frantz Klæbel (Organ) and Volmer Holbøll (Songs). Prelude (Joh. Walther). Adagio and Allegro from the Sonata in E for

Violin and Organ (Handel). Christmas Carols. Andante religioso for Violin and Organ (Fini Henriques). Reading of Christmas Poems. Christmas Cantata (Paul Schierbeck), conducted by the Composer.
Langenberg, 7.0—The Classics. The Station Chamber Quintet and Soloists.
Leipzig, 7.0—Organ Recital. 7.25—See Munich.
Ljubljana, 7.0—Talk on Christmas. 7.30—Concert.
Madrid (EAJ7), 7.0—Chimes and Announcements. 7.5 (approx.)—Christmas Carols of the Nations, followed by Dance Music.
Moscow (Komintern), 7.0—Vocal Quartet and Wind Instrument Orchestra.
Munich, 7.0—See Breslau. 7.25—The Hundred and Twelfth Psalm—for Soprano, Mixed Choir and Orchestra (Handel).
Oslo, 7.0—Time.
Palermo, 7.0—News and Giornale Radio. 7.20—Records. In the interval, Time and Announcements. 7.45—Sacred Music. In the interval, Talk and Announcements.
Paris (Eiffel Tower), 7.0—Journal Parlé. 7.15—Weather. 7.25—News. 7.30—Records. Part I: Christmas Music. Part 2: Variety Music.
Paris (Poste-Parisien), 7.0—Journal Parlé. 7.5—Sports Notes. 7.15—“Le Voyage du Père Noël”—Radio Sketch for Children (Raymond Cogniat).
Paris (Radio-Paris), 7.0—Jazz Music by “The Cadets,” conducted by Nys.
Pittsburgh, 7.0—Bar-X Ranch, from New York. 7.30—Grenadier Guards Band, from New York.
Prague, 7.15—Carillon Recital.
Radio-Normandie, 7.30—Opera and Operetta Music.
Rome, 7.0—Time—Announcements; Records. 7.5—Soprano and Baritone Song Recital. 7.30—Sports Notes. 7.40—Christmas Concert. Pastorale di Natale (Jachino). Luda per la natività del Signore (Respighi). Natale in Campania—from the Suite, Eliana (Alfano). Talk: Christmas. Leggenda di Natale (Marinuzzi). Selection, The Birth of the Redeemer (Perosi). Inno dei beati—for Soprano, Chorus and Orchestra (Perosi). Suite, Christmas Eve (Rimsky-Korsakov).
Schenectady, 7.0—Gene Arnold and the Commodores, from New York. 7.30—Looking over the Week, by John B. Kennedy, from New York. 7.45—Gems of Melody, from New York.
Sottens, 7.0—Christmas Legends. 7.20—Christmas Concert by the Radio-Suisse Romande Orchestra, conducted by Ansermet.
Stockholm, 7.0—See 6.25 p.m. 7.30—Christmas Music.
Strasbourg, 7.0—See 6.30. 7.30—Time Signal. 7.31—News. 7.45—Records.
Stuttgart, 7.0—See Langenberg.
Toulouse, 7.0—Orchestral Music. 7.15—News. 7.30—Ballet Music from “Sylvia” (Delibes). 7.45—Opera Music.
Turin, 7.0—See 6.45 p.m. 7.40—“The Christmas Carol”—Musical Play (Nelly Nelson).
Vienna, 7.0—See 6.10. 7.20—Recitation. 7.50—Address by the Archbishop of Vienna, Dr. Theodor Innitzer.
Warsaw, 7.0—see 6.50. 7.50—Radio Journal.

8 p.m.

Algiers, 8.0—Time Signal. 8.2—Sports Review. 8.15—Station Orchestra. 8.45—News and Records.
Athlone, 8.0—Relay of Chimes from the Church of the Nativity, Bethlehem. 8.15—Christmas Carols by St. Francis Xavier's Choir, Dublin. 8.45—The Station Orchestra.
Barcelona, 8.0—See 6.30 Programme.
Berlin, 8.0—Christmas Address by Herr Hitler's Deputy, Rudolf Hess. 8.15—The Birth of Jesus and the Angels' Message to the Shepherds, from “The Christmas Mystery” (Wolfmum), by the Station Choir, the Station Orchestra, and Soloists.
Beromünster, 8.0—Relay of the B.B.C. World Broadcast of the Bells of Bethlehem. 8.15—Christmas Festival.
Bordeaux-Lafayette, 8.0—Talk for Ex-Servicemen. 8.15—Lottery Results. 8.30—Records.
Bratislava, 8.15—Christmas [Poems and Carols].
Breslau, 8.0—See Berlin. 8.15—See Leipzig.
Brno, 8.40—“The Christmas Guest”—a Tale.
Brussels (No. 1), 8.0—Acts I and II of “Countess Maritza”—Operetta in

8 p.m. (contd.)

Three Acts (Kalman). In the first interval, "Le coup de Cyrano"—Radio Sketch (Tristan Bernard), in the second interval, Le Journal Parlé.
 Brussels (No. 2), 8.0—"Men of Good Will"—a Radio Play. 8.50—Stoet (De Vocht). 8.55—Talk.
 Bucharest, 8.45—Radio Journal.
 Budapest, 8.0—Relay of the B.B.C. World Broadcast of the Bells of Bethlehem.
 Deutschlandsender, 8.0—Christmas Address by Hitler's Deputy, Rudolf Hess. 8.15—See Leipzig.
 Frankfurt, 8.0—See Berlin. 8.15—See Leipzig.
 Hamburg, 8.0—See Berlin. 8.15—A German Christmas on the High Seas—Short Wave Transmission from the Liner "Milwaukee" in the Bay of Biscay.
 Heilsberg, 8.0—See Berlin. 8.15—See Leipzig.
 Hilversum, 8.0—Relay of the B.B.C. World Broadcast of the Bells of Bethlehem. 8.15—A Nativity Play with Music.
 Huizen, 8.0—Relay of the B.B.C. Broadcast from Bethlehem. 8.15—Christmas Concert.
 Juan-les-Pins (Nice, Cannes), 8.0—Amusement Guide and Sports Notes.
 Kalundborg, 8.0—Relay of the B.B.C. Broadcast from Bethlehem. 8.15—Christmas Concert.
 Langenberg, 8.0—See Berlin. 8.15—See Leipzig.
 Leipzig, 8.0—See Berlin. 8.15—Thirty German Cathedrals ring in Christmas.
 Ljubljana, 8.0—Chimes relayed from Bethlehem. 8.15—Christmas Carols.
 Madrid (EAJ7), 8.0—See 7.5.
 Moscow (Komintern), 8.0—Talk in German: Christmas Eve. 8.55—Chimes.
 Munich, 8.0—See Berlin. 8.15—See Leipzig.
 Oslo, 8.0—Relay of the B.B.C. World Broadcast of the Bells of Bethlehem.
 Paris (Eiffel Tower), 8.0—See 7.30.
 Paris (Poste Parisien), 8.20—See 7.15. Carols. 8.30—Recitations.
 Paris (Radio-Paris), 8.0—Christmas Dramatic and Musical Programme.
 Pittsburgh, 8.0—International Tit-Bits from New York. 8.30—Variety from New York.
 Prague, 8.0—Relay from Bethlehem.

8.15—See Bratislava. 8.40—See Brno.
 Rome, 8.0—See 7.40 p.m.
 Schenectady, 8.0—Wayne King's Orchestra, from New York. 8.30—Music from New York.
 Sottens, 8.0—Relay of the B.B.C. World Broadcast of the Bells of Bethlehem. 8.20—Christmas Concert.
 Stockholm, 8.0—Relay of the B.B.C. World Broadcast of the Bells of Bethlehem. 8.15—Christmas Music. 8.45—Weather. 8.50—Records.
 Strasbourg, 8.0—News in German. 8.30—Chamber Music.
 Stuttgart, 8.0—See Berlin. 8.15—See Leipzig.
 Toulouse, 8.0—Organ Solos. 8.30—Sacred Music. 8.45—Viennese Orchestra.
 Turin, 8.0—Christmas Concert.
 Vienna, 8.0—Christmas in Bethlehem—Programme relayed from Bethlehem. 8.15—Records.
 Warsaw, 8.0—Topical Talk. 8.15—Concert

9 p.m.

Algiers, 9.5—Concert. 9.35—News. 9.40—Duets. 9.55—News.
 Athlone, 9.15—Tenor Solos by Hubert Valentine. 9.30—"And the Light Shined in Darkness"—Nativity Play (Gabriel Fallon), with incidental music by Dr. Vincent O'Brien.
 Barcelona, 9.0—Records.
 Berlin, 9.0—Carols (Records). 9.45—"Christmas Eve in the City Streets"—by the "Freundschaft" Vocal Quartet.
 Beromünster, 9.0—See 8.15 p.m.
 Bordeaux-Lafayette, 9.0—"The Cricket on the Hearth"—a Comedy (Ludovic de Francessini), after Charles Dickens, with incidental music by Massenet. News.
 Breslau, 9.15—See Munich.
 Brussels (No. 1), 9.0—See 8.0 p.m.
 Brussels (No. 2), 9.0—See 8.55 p.m.
 9.10—The Station Symphony Orchestra, 9.50—Evening Prayer.
 Deutschlandsender, 9.15—See Leipzig. 9.45—Weather.
 Frankfurt, 9.0—News. 9.15—See Stuttgart. 9.30—Alpine Carols.
 Hamburg, 9.0—Variety.
 Heilsberg, 9.15—See Leipzig. 9.45—Organ Recital.
 Hilversum, 9.0—See 8.15 p.m. 9.30—Bach Pianoforte Recital. 9.50—The Wireless Orchestra.
 Huizen, 9.0—See 8.15 p.m.

SUNDAY
December 24

Juan-les-Pins (Nice, Cannes), 9.0—News. 9.15—Concert.
 Langenberg, 9.15—See Leipzig. 9.30—See Frankfurt.
 Leipzig, 9.15—"Die Weihnachtsbotschaft"—Christmas Cantata. 9.45—Records of Organ Music.
 Ljubljana, 9.0—Recitation. 9.30—Guitar solos.
 Madrid (EAJ7), 9.0—Relay of the B.B.C. Transmission from Bethlehem.
 Moscow (Komintern)—9.0—See 8.55 p.m. 9.5—Talk in English: "The Smiths visit their Parents in Moscow."
 Munich, 9.15—See Leipzig. 9.30—Favourite Christmas Carols of Seventeen Countries.
 Paris (Poste Parisien), 9.0—See 8.30 p.m. 9.20—Christmas Stories (Maurice Bouchor), with music by the Station Orchestra and Choirs.
 Paris (Radio-Paris), 9.0—See 8.0 p.m.
 Pittsburgh, 9.0—Railroad Adventures, from New York. 9.15—Egizi's Salon Orchestra. 9.30—Vesper Services.
 Prague, 9.5—Recitations. 9.20—Christmas Mass.
 Radio-Normandie, 9.0—Variety Music.
 Rome, 9.0—See 7.40 p.m. 9.15—News, Weather.
 Sottens, 9.0—See 8.20 p.m. 9.25—Christmas Tales. 9.50—Christmas Goodwill Programme for all European Countries (on Records).
 Strasbourg, 9.0—See 8.30 p.m.
 Stuttgart, 9.0—See 8.15 p.m. 9.15—Jungesellenweihnacht—Radio Scene (Paul Enderling). 9.30—See Frankfurt.
 Toulouse, 9.0—Concert Version of "Un soir de reveillon—Operetta (Moretti). 9.40—Christmas Music. 9.45—Operetta Music.
 Turin, 9.0—See 8.0 p.m. 9.30 (approx.)—"The Birth of Jesus" (Vitali) for Soloists, Choir and Orchestra.
 Vienna, 9.0—News. 9.15—The Station Orchestra.
 Warsaw, 9.0—Humorous Programme from Lwow.
 10 p.m.
 Athlone, 10.10—Sports Talk. 10.20—Christmas Songs by P. J. Duffy. 10.35—Records Christmas Music.

Barcelona, 10.45—Chess Lesson.
 Berlin, 10.0—See 9.45 p.m.
 Bordeaux-Lafayette, 10.0—See 9.0 p.m.
 Breslau, 10.5—See Munich.
 Brussels (No. 1), 10.0—See 8.0 p.m. 10.10—Roman Catholic Service.
 Brussels (No. 2), 10.0—Journal Parlé. 10.10—Records.
 Deutschlandsender, 10.0—Music.
 Frankfurt, 10.0—See 9.30 p.m. 10.15—See Stuttgart.
 Hamburg, 10.0—Concert.
 Heilsberg, 10.0—See Hamburg.
 Hilversum, 10.0—See 9.30 p.m. 10.40—News. 10.45—Records of Christmas Carols of all Countries.
 Huizen, 10.0—See 8.15 p.m.—10.10—News. 10.15—Records. 10.20—Carols of all Nations.
 Juan-les-Pins (Nice, Cannes), 10.0—Request Concert. 10.30—Variety.
 Langenberg, 10.0—See Frankfurt 9.30. 10.15—See Stuttgart.
 Leipzig, 10.5—See Munich.
 Ljubljana, 10.0—Records.
 Madrid (EAO), 10.30—See Madrid (EAJ7).
 Moscow (Komintern), 10.0—See 9.5 p.m. 10.5—Talk in Swedish: Clubs instead of Churches.
 Munich, 10.5—Heilige Nacht—a Christmas Legend (Ludwig Thoma).
 Paris (Poste Parisien), 10.0—Christmas Carols. 10.35—Concert of Christmas Music.
 Pittsburgh, 10.30—Grand Hotel, from New York.
 Prague, 10.0—See 9.20 p.m. 10.15—Organ Recital by Alois Michl, 10.56—Christmas Chimes.
 Radio-Normandie, 10.0—See 9.0 p.m.
 Sottens, 10.30—Story of the Birth of Christ. 10.45—Midnight Mass.
 Strasbourg, 10.0—See 8.30 p.m. 10.45—Christmas Eve Service.
 Stuttgart, 10.0—See 9.15 p.m. 10.15—The New Radio Set—a Sketch (Curt Elwenspöck). 10.30—Records of Brahm's Christmas Music.
 Toulouse, 10.0—Hunting Horn Music. 10.15—News. 10.30—Concert.
 Turin, 10.0—Giornale Radio. 10.5—Christmas Carols.
 Vienna, 10.0—See 9.15 p.m. 10.50—Midnight Mass.
 Warsaw, 10.0—News. 10.5—Records.

11 p.m.

Athlone, 11.0—Time and News.
 Berlin, 11.0—See Leipzig.

Beromünster, 11.0—Midnight Mass.
 Breslau, 11.0—See Leipzig.
 Brno, 11.0—See Prague.
 Brussels (No. 1), 11.0—Dance Music. from the Century Hotel, Antwerp.
 Brussels (No. 2), 11.0—Christmas Service relay.
 Budapest, 11.0—Midnight Mass.
 Deutschlandsender, 11.0—See Leipzig.
 Frankfurt, 11.0 p.m.—See Langenberg.
 Hamburg, 11.0—See Leipzig.
 Heilsberg, 11.0—See Leipzig.
 Hilversum, 11.0—See 10.45 p.m. 11.10—Christmas Programme.
 Huizen, 11.0—See 10.20 p.m.
 Juan-les-Pins (Nice, Cannes), 11.0—See 10.30 p.m.
 Langenberg, 11.0—Christmas Mass. Leipzig, 11.0—Mass.
 Ljubljana, 11.0—Service.
 Munich, 11.0—See Leipzig.
 Poste Parisien, 11.15—Records. 11.25—Dance Music on Records.
 Pittsburgh, 11.0—Symphony Programme, from New York.
 Prague, 11.0—Gregorian Mass.
 Radio-Normandie, 11.30—Mass in D (Beethoven).
 Rome, 11.0—Midnight Mass.
 Sottens, 11.0—See 10.45 p.m.
 Stuttgart, 11.0—See Langenberg.
 Strasbourg, 11.0—See 10.45 p.m. 11.45—Chimes, Te Deum and Midnight Mass from Cathedral.
 Toulouse, 11.0—Music from Sound Films. 11.15—Orchestral Music. 11.30—Chansonnets. 11.45—Spanish Dance Music.
 Turin, 11.0—Midnight Mass.
 Vienna, 11.0—See 10.50 p.m.
 Warsaw, 11.0—Midnight Mass.

12 midnight

Brussels (No. 1), 12.0—See 11.0 p.m.
 Brussels (No. 2), 12.0—The Story of Christmas from the Bible, followed by Chimes. 12.7 a.m. (Monday)—Dance Music from Antwerp.
 Deutschlandsender, 12.20 a.m. (Monday)—Reading.
 Juan-les-Pins (Nice, Cannes), 12.0—See 10.30 p.m.
 Madrid (EAO), 12.0—Variety.
 Paris (Radio-Paris), 12.0—Dance Music, till 2 a.m.
 Radio-Normandie, 12.0—Carols. 12.5 a.m. (Monday)—See 11.30 p.m. 12.30—Variety Music.
 Toulouse, 12.0—News. 12.5 a.m. (Monday)—Choral Concert: Sacred Songs. 12.30—Concert.

PRINCIPAL EVENTS

p.m. SERVICES

6.0 Warsaw, etc.: "Peace on Earth."

CONCERTS

2.0 Kalundborg: Orchestra.
 5.0 Brussels 1: Orchestra.
 7.0 Beromünster: Carols.
 7.10 Frankfurt, etc.: Symphonic.
 8.0 Brussels 1: Light Music.
 9.0 Brussels 1: Orchestra.
 9.5 Stockholm: Swedish programme.
 10.25 Leipzig: Orchestra.

OPERAS, OPERETTAS

6.30 Deutschland: Arabella.
 6.30 Prague: Der Freischütz.
 7.0 Leipzig: Christelfinz.
 7.0 Vienna: Der lustige Krieg.
 7.30 Budapest: Gipsy Princess.
 8.0 Radio Paris: The Little Duke.

RECITALS

3.25 Hilversum: Children's choir.
 5.20 Kalundborg: Organ.
 8.15 Warsaw: Pianoforte.
 10.40 Huizen: Carols.

DANCE MUSIC

9.10 Warsaw; 9.30 Hamburg, Heilsberg; 10.0 Deutschlandsender.

MISCELLANEOUS

7.0 Kalundborg: Aladdin.
 8.0 Eiffel Tower: Mystery Play.
 8.10 Poste Parisien: Revue.

NATIONAL

10.0 a.m. (Davenport)—A Religious Service relayed from Christ Church, Oxford. Address by the Very Reverend H. J. White, D.D., Dean of Christ Church. (Time Signal, Greenwich, at 11.30.)
 11.30—11.45 (Davenport)—Weather Forecast for Farmers and Shipping.
 12 noon (Davenport)—Fred Hartley and his Novelty Quintet, with Cavan O'Connor.
 1.0 p.m. (Davenport)—The Scottish Studio Orchestra, directed by Guy Daines. Ethel M. McLean (Mezzo-Soprano).
 2.0—"Absent Friends"—A Programme of Christmas Greetings broadcast throughout the Empire. Christmas in the British Isles: London... Birmingham... Bredon... York... Devon... Wales... Lancashire... Belfast... Rugby... A Lighthouse off the Northumbrian Coast... Scotland. Narrator, Howard Marshall. Greetings Round the Empire: London... Dublin... Bermuda... Ottawa... Wellington... Sydney... Bombay... Cape Town... London... Sandringham—His Majesty the King. The programme starts at 2.0 this afternoon and the relay from Sandringham will be at approximately 2.58.
 3.0 (Davenport)—Callender's Band. Conductor, Tom Morgan. Victor Harding (Bass-Baritone).
 4.15 (Davenport)—A Recital of Gramophone Records. Variety.
 5.15 (Davenport)—The Children's Hour. "A Room at the Inn." A Christmas Masque by Eleanor and Herbert Farjeon with music by Harry Farjeon.
 6.0—Time Signal, Greenwich, Sports Bulletin.
 6.15 (Davenport)—The Walford Hyden Magyar Orchestra. Old Fashioned Dances.
 7.15 (Davenport)—Divertissement. Dorothy Summers, Comedienne. The Mystery of the Christmas Bells, by J. C. Cannell. Nonsense with Hugh E. Wright. Christmas Day with Famous Film Stars—

MONDAY (December 25)

REGIONAL

10.0—11.45 a.m. (except Scottish)—Davenport National Programme.
 11.0 (Scottish)—A Religious Service, relayed from Paisley Abbey. (Time Signal, Greenwich, at 11.30.)
 12 noon—Davenport National Programme.
 1.0 p.m.—The Scottish Studio Orchestra, directed by Guy Daines. Ethel M. McLean (Mezzo-Soprano). Orchestra: A Children's Overture (Quilter). Ethel M. McLean: Have you seen but a white lillie grow? (arr. Dolmetsch); I will make you brooches (Coningsby

Clarke); Virxin's Slumber Song (Reger); Crabbed Age and Youth (Parry). Orchestra: Pizzicato Polka (Strauss); Marche Militaire (Saint-Saëns). Ethel M. McLean: The Birth of Morn (Leoni); The Joys of Love (Martini, arr. Marchant); The Man in the Moon, Strophon and Amaryllis (Eric Coates). Orchestra: Ballet Music, William Tell (Rossini); Pastoral Symphony, The Messiah (Handel).
 2.0—"Absent Friends." A programme of Christmas greetings broadcast throughout the Empire, concluding with a broadcast from Sandringham by H.M. The King.
 3.0—7.45—See National.
 7.45—The Wireless Military Band. Conductor, B. Walton O'Donnell. Norman Allin (Bass). Band: Fantasy on Seventeenth Century Music (Miller). Norman Allin: Asleep in the Deep (Petrie); The Midshipmite (Stephen Adams); Down in the Vale (Moir). Band: Drink to me only with thine eyes (arr. Quilter); Serenata (Moszkowski); Shepherds Hey (Grainger). Norman Allin: Rocked in the Cradle of the Deep (Knight); The Deathless Army (Trotère). Band: Suite de Ballet, Casse-Noisette (The Nutcracker) (Tchaikovsky).
 9.0—A Pianoforte Recital by Solomon. 9.25—"Heigh Ho the Holly." Leaves from a Winter Album collected by M. H. Allen and C. Denis Freeman. Music arranged by Leslie Woodgate. Cast: Ion Swinley, Roy Graham, Edward Cooper, Bertha Eves, Norman Shelley, Margaret Coleman, Joyce Murchie, Mary Hamlin, Queenie Leonard, Charles Hawtrey, Grenville Eves, Clifton Gibbs and Lydia Sherwood.
 9.50 (Midland)—A Christmas Message to Midland Hospital Patients.
 10.25—Weather Forecast. (If there is any News, it will be broadcast at 10.25.) (Time Signal, Greenwich, at 10.30.)
 10.30—12 midnight (Midland till 11.0)—Dance Music. The B.B.C. Dance Orchestra, directed by Henry Hall.

EMPIRE PROGRAMME SUMMARY

For wavelengths; see S.W. List

Transmission 1 (GSF, GSD)

G.M.T.
 8.0 a.m.—Empire News.
 8.5—The Kentucky Minstrels.*
 9.5—Old English Programme.
 9.40—A Gramophone Interlude.
 9.45—The Bells of Bethlehem.*
 10.0—A Christmas Service for all the Empire, from Christ Church, Oxford. 11.30—Close Down.

Transmission 2 (GSG, GSE)

12 noon—Big Ben. Fred Hartley and his Novelty Quintet.
 1.0 p.m.—The Scottish Studio Orchestra. Ethel McLean (Mezzo-Soprano). 1.45—Close Down.

Transmission 3 (2-3 p.m. GSG, GSE; 3-4 p.m. GSE, GSB; 4-6 p.m. GSB, GSA)

2.0 p.m.—Big Ben. Christmas Day Programme. (See Davenport.)
 3.5—Callender's Band. Conductor, Tom Morgan. Victor Harding (Bass-Baritone).
 4.15—Empire News.
 4.20—Variety.
 5.15—"A Room at the Inn." A Masque of Christmas.
 5.45—The Bells of Bethlehem.*
 6.0—Close Down.

Transmission 4 (6.15-9 p.m. GSD, GSB; 9-10.45 p.m. GSB, GSA)

6.15 p.m.—Big Ben. Empire News.
 6.20—The Walford Hyden Magyar Orchestra.
 7.15—Divertissement.
 7.45—Choral Interlude.†
 8.0—Christmas Day Programme.*
 9.5—Chopin Recital. Solomon (Pfte.).
 9.20—The Mikado—Act II (Gilbert and Sullivan).
 10.30—Reading. 10.35—Dance Music. 10.45—Close Down.

Transmission 5 (GSC, GSA)

11.0 p.m.—Big Ben. A Short Christmas Service from the Studio.
 11.30—Christmas Day Programme.*
 12.35 a.m.—Old English Programme.*
 1.5—Empire News. 1.10—Close Down.

* Electrical Recording.
 † Gramophone Records.

NOTE: The Hours of Transmission are Reduced to Greenwich Mean Time

5 a.m.

Berlin, 5.15—Gymnastics. 5.35—See Hamburg.
 Breslau, 5.35—See Hamburg.
 Brno, 5.35—See Prague.
 Deutschlandsender, 5.15—Gym. 5.30—Today's Motto. 5.35—See Hamburg.
 Frankfurt, 5.35—See Langenberg.
 Hamburg, 5.35—Harbour Concert from Bremen.
 Heilsberg, 5.35—See Hamburg.
 Langenberg, 5.0—Service.
 Leipzig, 5.35—See Hamburg.
 Moravská-Ostrava, 5.45—See Prague.
 Moscow (Komintern), 5.15—Records.
 Munich, 5.35—See Hamburg. 7.30—Nativity Play from the Basilica of Niederalteich.
 Prague, 5.35—Gym, followed by Musical Programme.
 Stuttgart, 5.0—See Langenberg.

6 a.m.

Berlin, 6.0—See 5.35 a.m.
 Breslau, 6.0—See 5.35 a.m.
 Deutschlandsender, 6.0—See Hamburg, 5.35.
 Frankfurt, 6.0—See Hamburg, 5.35.
 Hamburg, 6.0—See 5.35 a.m.
 Heilsberg, 6.0—See Hamburg, 5.35.
 Langenberg, 6.0—Sacred Concert.
 Leipzig, 6.0—See Hamburg, 5.35 a.m.
 Moscow, 6.0—Programme Announcements. 6.15—Station Orchestra.
 Prague, 6.30—Concert by the Karlsbad Municipal Orchestra, relayed from Karlsbad.
 Stockholm, 6.15—Christmas Carols by a Trombone Quartet. 6.30—Service.
 Stuttgart, 6.0—See Hamburg, 5.35.

7 a.m.

Berlin, 7.15—To-day's Motto. 7.20—Records.
 Bordeaux-Lafayette, 7.45—News from Paris (Ecole Supérieure).
 Breslau, 7.15—Records.
 Budapest, 7.45—News.
 Deutschlandsender, 7.15—Programme for Women. 7.45—Dialogue.
 Frankfurt, 7.15—Time Signal. 7.20—Time and Weather. 7.45—See Stuttgart.
 Hamburg, 7.15—Time, News. 7.30—Gym. 7.45—Wind Instrument Church Music.
 Huizen, 7.10—Religious Programme.
 Kalundborg, 7.25—Sacred Music.
 Langenberg, 7.0—See 6.0 a.m. 7.15—See Frankfurt. 7.20—Weather. 7.45—See Stuttgart.
 Leipzig, 7.0—See Hamburg, 5.35 a.m.
 Ljubljana, 7.15—News. 7.30—Organ Recital.
 Lyons (La Doua), 7.45—News and Weather. 8.45—Programme relayed from Paris (Ecole Supérieure).
 Moscow, 7.0—See 6.15 a.m. 7.15—Musical Programme for Children.
 Prague, 7.0—See 6.30 a.m. 7.30—Organ Recital by Wiedermann.
 Radio-Normandie, 7.15—Concert. 7.30—News.
 Radio-Paris, 7.45—Records.
 Stockholm, 7.0—See 6.30 a.m.
 Stuttgart, 7.0—See Hamburg, 5.35 a.m. 7.15—Weather. 7.45—Protestant Service.
 Vienna, 7.30—Organ Recital.

8 a.m.

Berlin, 8.0—See Deutschlandsender. 8.30—Records of Sacred Music.
 Bratislava, 8.0—Roman Catholic Service relayed from the Cathedral.
 Breslau, 8.0—Chimes. 8.5—Protestant Service.
 Brno, 8.0—Programme to be announced.
 Budapest, 8.0—Protestant Service.
 Deutschlandsender, 8.0—Service. 8.30—Talk.
 Frankfurt, 8.0—See Stuttgart, 7.45 a.m. 8.30—Sacred Music.
 Hamburg, 8.0—Orchestral Music from Kiel. 8.55—Service from the Gnadenkirche.
 Heilsberg, 8.0—Protestant Service.
 Hilversum, 8.40—Records.
 Huizen, 8.0—See 7.10 a.m. 8.10—Religious Programme.
 Kalundborg, 8.20—Christmas Music by a Brass Band.
 Langenberg, 8.0—See Stuttgart, 7.45 a.m. 8.30—See Frankfurt.
 Leipzig, 8.0—See Breslau.
 Ljubljana, 8.0—Religious Talk. 8.30—Records.
 Moravská-Ostrava, 8.15—See Prague.
 Moscow, 8.0—Concert. 8.55—Time.
 Munich, 8.5—Christmas Cantata, Text by Matthias Claudius, Music by Hans Roscher. 8.40—"Flowers in Winter"—a Radio Sequence.
 Oslo, 8.45—Christmas Carols, relayed from Trondheim.

Poste Parisien, 8.0—Programme to be announced.
 Prague, 8.15—Reading. 8.35—Talk with Recitations.
 Radio-Normandie, 8.0—Concert. 8.15—Review.
 Radio-Paris, 8.0—News, Weather. 8.30—Gym.
 Sottens, 8.40—Chimes. 8.45—Protestant Service, relayed from La Chapelle des Terreaux.
 Stuttgart, 8.0—See 7.45 a.m. 8.30—See Frankfurt.
 Trieste, 8.55—Mass from the Cathedral of San Giusto.
 Vienna, 8.0—Records.
 Warsaw, 8.50—Announcements.

9 a.m.

Bari, 9.45—Religious Address
 Berlin, 9.5—Weather.
 Beromünster, 9.0—Protestant Service.
 Breslau, 9.0—Reading (Rainer Maria Rilke). 9.25—Organ Music from Karlsruhe. 9.50—See Leipzig.
 Budapest, 9.0—Roman Catholic Service.
 Frankfurt, 9.0—See Langenberg. 9.45—Choral Concert.
 Hamburg, 9.0—See 8.55 a.m.
 Hilversum, 9.0—See 8.40 a.m. 9.40—Service.
 Huizen, 9.0—See 8.10 a.m. 9.10—Records. 9.30—Service, relayed from the Nieuwe Westerkerk, Rotterdam.
 Kalundborg, 9.0—Service.
 Langenberg, 9.0—Roman Catholic Service.
 Leipzig, 9.50—Christmas Letters of Hebbel, Goethe and Rilke.
 Ljubljana, 9.0—Service.
 Moscow (Komintern), 9.0—News. 9.15—"The Factory"—Play (Lemonnier, arr. Varmouje), with Music by Kriukov.
 Munich, 9.0—Roman Catholic Service. 9.45—Chimes. 9.50—Reading.
 Oslo, 9.0—See 8.45 a.m. 9.20—Chimes and Service, relayed from Nidaros Cathedral, Trondheim.
 Palermo, 9.25—Bible Reading. 9.40—Sacred Music.
 Prague, 9.0—Sacred Music.
 Rome, 9.30—News. 9.45—Bible Reading.
 Strasbourg, 9.30—Protestant Service from St. Stephen's Church, Mulhouse.
 Stuttgart, 9.0—See Langenberg.
 Vienna, 9.0—Talk. 9.20—Choral Concert, conducted by Leopold Emmer. 9.50—Reading.
 Warsaw, 9.0—Service from Lwów.

10 a.m.

Berlin, 10.0—Reading (Timmermans). 10.30—See Leipzig.
 Beromünster, 10.15—Records. 10.40—Christmas Play in Dialect.
 Bordeaux-Lafayette, 10.30—See Strasbourg.
 Bratislava, 10.0—Nedbal Commemoration Concert by the Station Orchestra conducted by Dyk, with a Talk by Koricansky. Scherzo Caprice, Op. 5, Selection from "Andersen." Suite from "Peasant Jack." Krakówiak.
 Brussels (No. 1)—10.0—The Small Station Orchestra conducted by Leemans. 10.30—Christmas Goodwill Programme—Concert of Carols from Germany, Austria, Belgium, Denmark, France, Italy, the Netherlands, Poland, Switzerland, Czechoslovakia, and Yugoslavia.
 Brussels (No. 2), 10.0—Gramophone Records. The Archangel Gabriel announces the Birth of Christ to the Shepherds (Porten). Prayer (Hasselmann). Finale from Symphony No. 2 (Widor). Two Chorals (Bach-Schönberg). Nuit de Noël (Noiret). Pax vobiscum (Johnson). Nocturne from the Quartet in D minor (Borodin). Suite from "Aleina" (Handel). Andante religioso (Lang).
 Budapest, 10.30—Protestant Service.
 Deutschlandsender, 10.0—Talk on German Art. 10.15—Weather. 10.30—See Leipzig.
 Frankfurt, 10.0—See 9.45. 10.30—See Leipzig.
 Hamburg, 10.0—See 8.55 a.m.
 Huizen, 10.15—Reading. 10.30—Christmas Carols. Pastoral (Bach). Freut Euch, Ihr lieben Christen—for Four-Part Choir (Schröter). In dulci júbilo (Hensel). Gespräch der Hirten zu Bethlehem, for Four-Part Choir (Praetorius). Two Songs with Harpsichord (Bach): (a) O Jesulein süß, (b) Ich steh an deiner Krippe hier. Vom Himmel hoch, Ihr Engel kommt—for Four-Part Choir (Othe-graven) Es ist ein Ros' entsprungen (arr. Walter Hensel). Kindelein zart von guter Art—for Four-Part Choir (Wüllner). Pastorale (Bach).
 Heilsberg, 10.0—Weather. 10.5—Talk: The Racing Year of 1933. 10.30—See Leipzig.

**MONDAY
December 25**

Hilversum, 10.0—See 9.40 a.m. 10.55—Records.
 Huizen, 10.0—See 9.30.
 Kalundborg, 10.30—Weather. 10.40—News.
 Langenberg, 10.0—See Stuttgart. 10.30—See Leipzig.
 Leipzig, 10.15—Talk on the following transmission. 10.30—"Sehet, welche Liebe hat uns der Vater erzeigt"—Cantata (Bach) by the Municipal and Gewandhaus Orchestras, the Choir of St. Thomas and Soloists.
 Ljubljana, 10.0—The Station Orchestra.
 Munich, 10.15—See Leipzig.
 Palermo, 10.0—See 9.40.
 Paris (Poste Parisien), 10.0—News. 10.15—Records of Christmas Carols. Symphonic Piece, Christmas (Koenigsberger). Noël des gueux (Vargnes). 10.30—Records. Plaisirs d'Hiver. Please. Nous sommes deux copains. Say it isn't true. Ça fait peur aux oiseaux. Le roi fait battre le tambour. Ma cousinette. Dessous le laurier blanc.
 Prague, 10.0—See Bratislava.
 Sottens, 10.0—Records.
 Stockholm, 10.0—Service.
 Strasbourg, 10.0—See 9.30. 10.30—Gramophone Concert. Organ Concerto in A (Rossi). Peer Gynt Suite (Grieg). Arab Dance (Grieg). Bagatelle in C (Beethoven). Ecosaisse (Beethoven).
 Stuttgart, 10.0—The Stuttgart Motet Choir. Motet for Six Voices: Machet die Tore weit (Hammer-schmidt). Choral for Four Voices: Allein Gott in der Höh sei Ehr (Hassler). Nun komm der Heiden Heiland—for Four Voices (Hassler). Christum wir sollen loben schon—for Four Voices (Hassler). Es ist ein Ros' entsprungen—for Four Voices (Praetorius). Vom Himmel hoch da komm ich her (Arrangements by Praetorius, Gumpelzhaimer, Eccard and Bach). Resonet in laudibus—for Four Voices (Hassler). Nun schein du Glanz der Herrlichkeit—for Five Voices (Lechner). 10.30—See Leipzig.
 Turin, 10.0—Mass from the Church of the Annunciation, Florence.
 Vatican City, 10.0—10.15—Religious Information in Italian.
 Vienna, 10.10—Light Music by the "Wiener Symphoniker" conducted by Max Schönherr.
 Warsaw, 10.57—Time Signal and Fanfare from St. Mary's Church, Cracow.

11 a.m.

Barcelona, 11.0—Chimes and Weather.
 Bari, 11.30—Quintet Concert. In the interval, Time and News.
 Berlin, 11.0—See Hamburg.
 Beromünster, 11.0—Records. 11.29—Time and News. 11.40—The Beromünster Orchestra.
 Bordeaux-Lafayette, 11.0—See Strasbourg.
 Breslau, 10.30 a.m. 11.0—See Munich.
 Brussels, No. 1, 11.0—See 10.30.
 Brussels, No. 2, 11.0—The Small Station Orchestra, conducted by Leemans.
 Bucharest, 11.0—Records.
 Budapest, 11.0—See 10.30 a.m. 11.45—Concert by the Opera House Orchestra conducted by Fridl. Overture, King Stephen (Beethoven). Symphony in C (Dittersdorf). Moment musical (Schubert-Dohnányi). Turkish March (Mozart). In the interval, Radio Notes.
 Deutschlandsender, 11.0—See Hamburg. 11.55—Time.
 Frankfurt, 11.0—The Station Orchestra conducted by Hans Rosbad. Josef Veischer (Violin). Karl Vöhse (Cello). Hermann Tötcher (Oboe) and Gustav Jung (Bassoon).
 Hamburg, 11.0—The Small Station Orchestra conducted by Adolf Secker. In the interval, News, Weather.
 Heilsberg, 11.0—The Königsberg Opera House Orchestra conducted by Wolfgang Brückner.
 Hilversum, 11.0—See 10.55. 11.40—The Rotterdam Philharmonic Orchestra conducted by Flipse and the Apollo Male Voice Choir. Concerto grosso, for Christmas (Corelli). Symphony No. 4 (Mendelssohn). Records. Aan den vrede (Brouwen). Bei uns z'haus (Joh. Strauss). Roses from the South (Joh. Strauss). Records' The Nutcracker Suite (Tchaikovsky).
 Huizen, 11.0—See 9.30—11.10—Recital of Christmas Carols by Ina Mulder-Belsler, with Flute Obligato by Wittpen.
 Kalundborg, 11.0—Time and Chimes from the Town Hall. 11.5 (approx.)

—Mogens Hansen's Instrumental Ensemble and Inger Stockmar Hermann (Songs).
 Langenberg, 11.0—See Frankfurt.
 Leipzig, 11.0—See Munich.
 Ljubljana, 11.0—Weather, News.
 Madrid (EAJ7), 11.45—Announcements.
 Munich, 11.0—Concert. Overture, Dies ist der Tag des Herrn (Lachner). Liebesmahl der Apostel (Wagner). Selection from "Hansel and Gretel" (Humperdinck). Two Old German Peasant Dances (Merklng). Pot-pourri, Wir marschieren (Weitschach).
 Palermo, 11.45—Giornale Radio.
 Paris (Poste-Parisien), 11.0—Records. 11.30—Extracts from "Un mois de vacances" (Mireille-Nohain), on Records. 11.45—Records. Extracts from "Marius" (Pagnol). Extracts from "Vignes du Seigneur" (de Fiers and de Croisset).
 Prague, 11.0—Chimes and News.
 Radio-Normandie, 11.0—Dance Music.
 Reykjavik, 11.40—News.
 Rome, 11.0—High Mass. 11.30—Records of Opera Music. 11.30—News, Weather.
 Sottens, 11.40—Records.
 Stockholm, 11.0—See 10.0 a.m. 11.45—Weather and Ice Report.
 Strasbourg, 11.0—See 10.30 a.m. 11.30—Roman Catholic Service. 12.0—Records.
 Stuttgart, 11.0—See Frankfurt.
 Toulouse, 11.0—Dance Music. 11.30—The Petit Ensemble. Berceuse de Jocelyn (Godard). The Angels' Serenade (Braga). L'ideale (Toñi). Melody (Rubinstein). 11.45—Opera Arias. Arias from "Cavallaria rusticana" (Mascagni). "Rigoletto" (Verdi). "Lakmé" (Delibes), and "Penelope" (Faure).
 Turin, 11.30—Records. 11.45—Trio Concert.
 Warsaw, 11.5—Announcements.

12 noon

Algiers, 12.30—Records of Light Music.
 Barcelona, 12.0—Programme for Women. 12.45—Gramophone Music.
 Bari, 12.0—See 11.30 a.m.
 Berlin, 12.0—See Hamburg, 11.0 a.m.
 Beromünster, 12.0—See 11.40 a.m. 12.30—Reading of Christmas Stories.
 Bordeaux-Lafayette, 12.0—See Strasbourg. 12.45—Time and Quintet Concert. In the interval, News.
 Bratislava, 12.30—Agriculture Talk.
 Breslau, 12.0—The Station Orchestra, conducted by Topitz.
 Brno, 12.30—Agriculture Talk.
 Brussels (No. 1), 12.0—Christmas Music (on Records). 12.25—Old Songs (on Records). Le cornemuseux. Qu'il est doux d'aimer. En revenant des noces. Corsican Lullaby. Les époux de Berry. Corsican Song, O Cinciarella.
 Brussels (No. 2), 12.0—The Small Station Orchestra, conducted by Leemans.
 Bucharest, 12.0—Radio Journal. 12.15—Records.
 Budapest, 12.0—See 11.45.
 Deutschlandsender, 12.0—See Breslau.
 Frankfurt, 12.0—Records of Modern Music. Symphonic Poem, Don Juan (Strauss). Two Songs (Strauss). Pianoforte Concerto in E Flat (Liszt). The Pathetic Symphony (Tchaikovsky).
 Hamburg, 12.0—See 11.0 a.m.
 Heilsberg, 12.0—See 11.0 a.m.
 Hilversum, 12.0—See 11.40 a.m.
 Huizen, 12.0—See 11.0 a.m. 12.10—Records. 12.40—Organ Recital by Zwart. Suite de Noël (Zwart). Pastorela (Nieland). March on a Theme from Handel's "Messiah" (Guilmant). Pastorella (Elert). Suite de Noël (Zwart).
 Juan-les-Pins (Nice, Cannes), 12.30—Announcements.
 Langenberg, 12.0—See Stuttgart.
 Leipzig, 12.0—See Breslau.
 Madrid (EAJ7), 12.0—Chimes. Exchange and Announcements. 12.15—Time.
 Munich, 12.0—See Breslau.
 Palermo, 12.0—Records. In the interval, Time, News.
 Paris (Eiffel Tower), 12.30—Concert relayed from Paris (Ecole Supérieure).
 Paris (Post Parisien), 12.10.—The Station Orchestra. 12.30—Sponsored Programme. 12.40—Records.
 Paris (Radio-Paris), 12.0—Records. Part 1: Christmas Carols. Part 2: For Children.
 Pittsburg, 12.0—Musical Clock.
 Prague, 12.0—See 11.45 a.m. 12.7.0—See Bratislava.
 Radio-Normandie, 12.0—Chimes and Carols from Rouen Cathedral. 12.30—News. 12.45—Christmas Music.
 Reykjavik, 12.0—Service.
 Stockholm, 12.0—See 10.0 a.m.

Strasbourg, 12.0—Records. 12.45—News.
 Stuttgart, 12.0—First Act of "La Bohème"—Opera (Puccini) on Records. 12.30—Es war einmal ein Musikus—Talk and Records.
 Toulouse, 12.0—Orchestral Music. Slav Dances Nos. 6 and 8 (Dvořák). Selection, "Die schöne Galatea" (Suppé). 12.15—Songs. 12.30—Roman Catholic Service. 12.45—Light Music by a Viennese Orchestra.
 Turin, 12.0—Time, Announcements. 12.15—See 11.45 a.m. 12.45—Records.
 Vienna, 12.10—The Week's Review. 12.30—Orchestral Concert of Contemporary Swiss Music, conducted by Kurt Rothenbühler. Soloists: Viktor Brégy (Tenor) and Felix Löffel (Bass).

1 p.m.

Algiers, 1.0—Amusement Guide and News. 1.5—Records of Light Music.
 Barcelona, 1.0—Gramophone Music. 1.30—Theatre Notes and Gramophone Music (cont'd.).
 Bari, 1.0—See 11.30.
 Berlin, 1.0—Records of Schubert Songs. 1.20—"The German Christmas Tree"—Radio Sequence (Otto Brücs).
 Beromünster, 1.0—The Anton Smetak Zither Trio.
 Bordeaux-Lafayette, 1.0—See 12.45. 1.50—Exchange.
 Bratislava, 1.0—Tides Report.
 Breslau, 1.20—See Berlin.
 Brussels (No. 1), 1.0—Le Journal Parlé. 1.10—Song Recital by Marie-Roze. Pastoral (Purcell). Bergerette (Purcell). Fifteenth Century Song, L'amour de Moy. Aria (Gluck). 1.25—Records.
 Brussels (No. 2), 1.0—Le Journal Parlé. 1.10—Records. Tocatta in D minor (Bach). Scottish Symphony (Mendelssohn). Three Extracts from "Messiah" (Handel).
 Budapest, 1.0—Records.
 Deutschlandsender, 1.0—"In the Children's World"—Radio Sequence, with Records. 1.50—Reading.
 Frankfurt, 1.20—See Berlin.
 Hamburg, 1.0—Poetry Reading. 1.20—See Berlin.
 Heilsberg, 1.0—For Children. 1.20—See Berlin.
 Hilversum, 1.0—See 11.40. 1.40—Time. 1.41—Sacred Concert by Piet van Egmund (Organ). To van der Sluys (Soprano) and Annie Woud (Contralto).
 Huizen, 1.0—See 12.40. 1.40—Carillon Concert, relayed from the Palais Royal, Amsterdam.
 Juan-les-Pins (Nice, Cannes), 1.0—News. 1.15—Concert.
 Kalundborg, 1.0—Reading. 1.30—Records. Christmas (Rogueure and Adam). Romance in F for Violin and Orchestra (Beethoven). Aria, "La Traviata" (Verdi). Sci mir' gegrüsst (Schubert). Sonetta del Petrarca (Liszt). Der Doppelgänger (Schubert).
 Langenberg, 1.0—See Stuttgart, 12.30. 1.20—See Berlin.
 Leipzig, 1.0—Reading. 1.20—See Berlin.
 Moscow (Komintern), 1.45—Announcements.
 Munich, 1.0—Time, Weather, Announcements. 1.20—See Berlin.
 Paris (Eiffel Tower), 1.0—See 12.30.
 Paris (Poste Parisien), 1.0—See 12.40.
 Paris (Radio-Paris), 1.0—See 12.0.
 Pittsburg, 1.0—Morning Devotions, from New York. 1.15—Don Hill Trio, from New York. 1.30—L'W White, Organist, from New York.
 Reykjavik, 1.0—Programme to be announced.
 Rome, 1.0—Time and Announcements.
 Stockholm, 1.0—Christmas Carols with Commentary.
 Strasbourg, 1.1—Records.
 Stuttgart, 1.0—See 12.30. 1.20—See Berlin.
 Toulouse, 1.0—Announcements and Time. 1.5—Music from Sound Films. 1.15—Hawaiian Guitar Music. 1.30—Opera Arias. Arias from "Le Comte Obligado" (Moretti). "Veronique" (Messenger). "La Poupée" (Audran) and "Rip Van Winkle" (Planquette). 1.45—Protestant Service.
 Turin—1.15—Trio Concert.
 Vienna, 1.0—See 12.45.

2 p.m.

Barcelona, 2.0—Sextet Concert. 3.0—Programme for Hospitals, with Records.
 Berlin, 2.5—Records of Verdi Music. 2.30—Radio Report.
 Bordeaux-Lafayette, 2.0—Records.
 Breslau, 2.0, A Christmas Legend. 2.15—Listen, Everybody. 2.25—For Children.

MONDAY
December 25

2 p.m. (contd.)

Budapest, 2.0—For Children.
Deutschlandsender, 2.0—See 1.50.
2.10—The Station Orchestra, conducted by Sonntag. Overture, "The Princess in the Golden Slippers" (Rust). Suite, from "The Sleeping Beauty" (Tchaikovsky). Maria Wiegienlied (Reyer). Serenade for Violin (Kreischauer). Selection from "The Christmas Fairy" (Pfitzer). Tanzweise No. 2 (Meyer-Helmund). Serenade from "Don Juans letztes Abenteuer" (Graener). Second Little Suite (de Micheli). Concert Waltz (Glan). Overture, "Nakiris Hochzeit" (Lincke).
Frankfurt, 2.0—See Stuttgart.
Hamburg, 2.0—"Maria durch die Heide geht"—A North German Nativity Play (Wilhelm Winkel).
Heilsberg, 2.0—Talk on the Singer, Thomas Koschat, with Records. 2.35—Reading.
Hilversum, 2.0—See 1.41. 2.25—Reading. 2.55—Violin Sonatas by Andries Roodenburg. Sonata in G (Beethoven). Sonata in A minor (Schumann).
Huizen, 2.0—See 1.40. 2.40—An Instrumental Ensemble and Maartje Ofers (Mezzo-Soprano). Christmas Symphony (Schiasi). Psalm 18 (Schütz). Three English Carols: (a) God rest you merry, Gentlemen, (b) The Lord at first did Adam make, (c) The Babe in Bethlehem's Manger laid. From far away we come to you (arr. Vaughan Williams). Behold a Simple Tender Babe (Ireland). In Numbers, and but these few (Gibbs). Christmas Concerto (Manfredini). Two Carols (Cornelius): (a) Die Hirten, (b) Die Könige. Two Dutch Carols: (a) Nu sijt welcomme, Jesu lieven Heer, (b) Hoe leit dit kindeken. Sinfonia da camera (Richter).
Juan-les-Pins, (Nice, Cannes) 2.0—See 1.15.
Kalundborg, 2.0—The Station Chamber Orchestra, conducted by Fritz Mahler. Concerto grosso in G minor, No. 6, for Two Violins, 'Cello, Strings and Harpsichord (Handel). Christmas Pastoral for Strings and Harpsichord. (Valentini) "Florilegium" Suite No. 1, (Muffat). Suite in B minor for Flute, Strings and Harpsichord (Bach). Christmas Concerto for Two Violins, Cello, Strings and Harpsichord (Manfredini). In the interval: Choral Music, conducted by Julius Foss.
Langenberg, 2.0—See Stuttgart.
Leipzig, 2.0—A Folk Song Trio (Albert Kranz): Part I—Love and Parting in Folk Song. Gigue on Wenn alle Brünlein fließen. Song: Die Laub auf einer Linden. All' mein Gedanken, die ich hab' Es floeg ein kleines Waldvöglein. Morgen muss ich fort von hier. Jetzt gang i ans Brünne. Part 2—The Homeland in Folk Song. Variation on "Das Wandern ist des Müllers Lust." Im schönsten Wiesengrunde. Im Walde möcht' ich leben. Auf, auf, ihr Wandersleut'. Der Mai ist gekommen. Wohlauf, ihr Wandersleut'. Wie ist doch die Erde so schön. Wer die Blumen all erdacht. 2.25—Christmas in the Great War. 2.45—A Christmas Tale.
Madrid (EAJ7), 2.0—Chimes, Time, Weather and Announcements. 2.15 (approx.)—Concert.
Moscow (Komintern), 2.15—For Children. 2.55—Time.
Munich, 2.0—Christmas Concerto for Strings (Corelli). 2.30—For Children.
Paris (Radio-Paris), 2.0—Concert.
Pittsburgh, 2.0—Breakfast Club, from New York. 2.45—Minute Manners.
Stockholm, 2.0—For Children.
Stuttgart, 2.0—For Children.
Toulouse, 2.0—Opera Music. 2.30—Songs. 2.45—Orchestral Music.
Vienna, 2.0—Time and Announcements. 2.5—Book Review. 2.30—Brass Band Concert.
Warsaw, 2.0—Orchestral Concert, from Lwów.

3 p.m.

Barcelona, 3.15—Television Transmission.
Berlin, 3.0—See Heilsberg.
Beromünster, 3.0—A Christmas Concert. 3.50—Christmas Poems for Children.
Breslau, 3.0—See Munich.
Budapest, 3.0—Orchestral Concert.
Deutschlandsender, 3.0—See 2.10 p.m.
Frankfurt, 3.0—See Stuttgart.
Hamburg, 3.0—See Heilsberg.
Heilsberg, 3.0—The Small Station Orchestra, conducted by Eugen Wilcken. Kinderlieder Marsch (Lindemann). Christmas Potpourri (Hartmann). Dance from "Peterchens Mondfahrt" (Schmalstich). Baby's Spielzeug (Noack). Volkslieder-Walzer (Egg). Frühlings-

botschaft (Fucik). Czardas No. 8 (Michiels). Idylle passionelle (Razigade). Potpourri, Fortissimo (Feigl). Overture, "Im Reiche des Indra" (Lincke). In the Interval, Radio Report.
Hilversum, 3.0—See 2.55 p.m. 3.25—Christmas Carols by the Station Children's Choir, relayed from the Concertgebouw, Amsterdam. 3.55—Records.
Huizen, 4.0—See 2.40 p.m. 4.25—The Apeldoorn Male Voice Choir. Prayer (Handel). Stille Nacht (arr. Smeden). Des Heeren huis (Wettig-Weissenborn). Psalm 42 (Bonzet). Records. Populus Sion (Olman). Melody (Weissenborn). Die Nacht (Schubert). Psalm 146.
Langenberg, 3.0—See Stuttgart.
Leipzig, 3.0—See Munich.
Ljubljana, 3.0—Concert of Christmas Carols. 3.30—The Pathetic Symphony (Tchaikovsky) on Records.
Moravská-Ostrava, 3.0—Station Orchestra, conducted by Plichta. Soloists: Vera Repkova (Pianoforte) and Cerny (Violin). Overture, Op. 62 (Dvorak). Selection from "The Bartered Bride" (Smetana). Appassionata from Op. 17 (Suk). Slovak Song for Violin and Pianoforte (Kubac). Waltz from "Princess Hyacinth" (Nedbal). A Christmas Tale. Suite, Jeux d'enfants (Bizet). Scherzo-Waltz, Op. 40 (Moszkowski). Spanish Caprice, Op. 37 (Moszkowski). Pianoforte Solo: Scherzo, Op. 16 No. 2 (d'Albert). Melody (Godard). Polka from "Schwanda the Piper" (Weinberger).
Moscow (Komintern), 3.0—News. 3.15—Music. 3.30—Political Talk.
Munich, 3.0—Concert. Sacred Music (Tunder-Buxtehude). Choral Prelude: Vom Himmel hoch, da komm ich her (Bach). Two Chorals from the Christmas Oratorio (Bach). Variations on a Silesian Carol (Kusche). Christmas Music. Church Sonata for Violin and Organ (Haas). Four Songs for Organ and Soprano (Schadewitz). Four Old Christmas Carols (Beer-Waldbrunn). Christmas Carols (Cornelius).
Pittsburgh, 3.0—Programme to be announced. 3.15—Clara, Lu 'n' Em, from New York. 3.30—To-day's Children, from New York. 3.45—Irma Glen, Organist, from New York.
Prague, 3.0—See Moravská-Ostrava.
Radio-Normandie, 3.30—Dance Music and Variety Items.
Sottens, 3.0—See Beromünster.
Stockholm, 3.0—Military Band Concert, conducted by Ivar Widner. Extracts from "Il Trovatore" (Verdi). Schubert Fantasia (Ur-bach). Christmas Medley (Peterson-Berger). Potpourri, Sangarinnen (Widner). March from Gustaf Vasas sage (Hallen).
Strasbourg, 3.0—Records.
Stuttgart, 3.0—Concert. 3.45—The Station Orchestra, conducted by Ferdinand Drost. Karl Hagen (Tenor). Concerto for Orchestra (Stamitz). Four Songs (Bach): (a) Dir, Jehova, will ich singen, (b) Brunnquell aller Güter, (c) O Jesulein süß, (d) Nimm mich dir zu eigen hin. Overture, Il Seraglio (Mozart). Turkish March (Mozart). Three Songs (Schubert): (a) Jüngling, (b) Ave Maria, (c) Des Fischers Liebesglück. Overture, Rosamunde (Schubert).
Toulouse, 3.0—Concert of Christmas Music. Il est né, le divin enfant (Alix). La Vierge à la crèche (Lemaire). Nuit de Noël (Noirot). Bonhomme de Noël (Izoidr). Les sapsins (Adam). Noël (Adam). Trois anges sont venus ce soir (Holmes). Noël (Gérard). March from "L'Arlesienne" (Bizet). 3.30—Orchestral Music. Dance from "Salome" (Strauss). Selection from "Vardar" (Vladigerov). Liebeslied (Strauss).
Trieste, 3.45—Ballila Programme.
Turin, 3.45—Announcements.
Vienna, 3.0—See 2.30 p.m.
Warsaw—3.0—For Children. 3.30—Records. 3.45—Reading.

4 p.m.

Berlin, 4.0—See Heilsberg, 3.0 p.m.
Beromünster, 4.0—"Glory to God in the Highest"—a Biblical Sequence for Children, with Music by Pestalozzi.
Breslau, 4.0—See Munich, 3.0 p.m.
Bucharest, 4.0—Light Music by the Sibiceano Orchestra.
Budapest, 4.0—Talk: Christmas Customs at Home and Abroad. 4.30—Sports Notes. 4.40—Christmas Concert by the Choir of St. Stephen's Church and the Municipal Orchestra, conducted by Eugen Kereszty and Josef Zsaskovsky, relayed from the Academy of Music.
Deutschlandsender, 4.0—Relay from St. Mary's Church. Prelude in E flat for Organ (Bach). Three Pieces

for Choir, Op. 58 (Wetz): (a) Und das Wort ward Fleisch, (b) Also hat Gott die Welt geliebet, (c) Singet frisch und wohlgermut, Soprano Solos with Organ Accompaniment (a) Wiegienlied der Maria (Görner), (b) Die Hirten (Cornelius), (c) Von Himmel in die tiefsten Klüfte (Berger), (d) Maria Wiegienlied (Reger). Three Pieces for Choir Op. 34 (Preuss): (a) Advent, (b) Zu Bethlehem geboren, (c) Heil'ge Weihnacht. Pastorale for Organ, Op. 59 (Reger). Christmas Carols for Mixed Choir: (a) In dulci jubilo (arr. Thiel), (b) O freudenreicher Tag, (c) Es ist ein Ros entsprungen (arr. Praetorius), (d) Maria auf dem Berge (Woyrsch), (e) Vom Himmel hoch, da komm ich her, (f) O Jesulein zart. Organ Music.
Frankfurt, 3.45—See Stuttgart.
Hamburg, 4.0—See Heilsberg, 3.0 p.m. —4.20—Christmas Oratorio, Op. 23 (Kurt von Wolfurt).
Heilsberg, 4.0—See 3.0 p.m.
Hilversum, 4.0—See 3.55 p.m. 4.25—Records of Christmas Music. 4.40—The Orchestra, conducted by H. de Groot.
Huizen, 4.25—The Apeldoorn Male Voice Choir.
Kalundborg, 4.0—Service.
Langenberg, 4.0—See Stuttgart, 3.45.
Leipzig, 4.0—See Munich, 3.0 p.m.
Ljubljana, 4.0—See 3.30 p.m. 4.15—Dusts to the Guitar.
Moscow (Komintern), 4.0—See 3.30, 4.30—Red Army Programme.
Oslo, 4.0—Chamber Music by Fanny Elstad (Contralto), Oscar Harlem (Harp.) and Hugo Kramm (Viola). 4.50—Chimes.
Palermo, 4.30—Records.
Paris (Radio-Paris), 4.0—For Children.
Pittsburgh, 4.0—Four Southern Singers, from New York. 4.15—Sammy Fuller. 4.30—Rhythm Ramblers, from New York. 4.45—Ella Graubart.
Prague, 4.30—Talk. 4.45—Records, Reading and News.
Rome, 4.0—Concert.
Stockholm, 4.0—Weather. 4.5—Records.
Strasbourg, 4.0—Orchestral Concert.
Stuttgart, 4.0—See 3.45 p.m.
Toulouse, 4.0—Opera Arias. 4.15—Operetta Music. 4.30—Music from Sound-Films. 4.45—Military Music. Turin, 4.10—Orchestral Concert. 4.55—Weather.
Vienna, 4.0—Talk with Record Illustrations: Christmas among the Spanish Herdsman. 4.30—The Mairecker Quartet.
Warsaw, 4.0—Orchestral Concert.

5 p.m.

Berlin, 5.0—"Heilige Nacht und die Tiere"—Nativity Play (Richard Billinger), Music by Hans Kammerer. 5.30—Topical Talk.
Beromünster, 5.0—Roman Catholic Service. 5.30—Records.
Breslau, 5.0—"Das Gleichnis vom deutschen Opfer"—Christmas Play (Steguweit). 5.35—The Station Quartet.
Brno, 5.0—German Transmission, Selection from "Hänsel and Gretel"—Opera (Humperdinck).
Brussels (No. 1), 5.0—The Station Symphony Orchestra. 5.30—For Children.
Brussels (No. 2), 5.0—Concert by the Radio Orchestra, conducted by André. 5.45—For Children.
Bucharest, 5.0—Radio Journal. 5.15—See 4.0.
Budapest, 5.0—See 4.40 p.m. 5.40—Talk with Records.
Deutschlandsender, 5.0—Variety.
Frankfurt, 5.0—Reading (Gottfried Keller). 5.40—Reading.
Hamburg, 5.0—See 4.20 p.m. 5.50—Weather.
Heilsberg, 5.0 (from Danzig)—Talk: Hans Sachs in Danzig. 5.25—Christmas Carols.
Hilversum, 5.0—See 4.40 p.m. 5.25—Recitations. 5.40—The Orchestra (cont'd.). Soloist: Jong (Organ). Organ Concerto (Corelli). Andante from the Symphony in B minor (Bach). Christmas Fantasy (Grit).
Huizen, 5.0—See 4.25 p.m. 5.10—Organ Recital by Wijers. 5.40—Service, relayed from the Groot Kerk, Apeldoorn.
Kalundborg, 5.20—Chimes and Organ Recital, relayed from the Frederiksberg Castle Church. 5.50—Weather.
Langenberg, 5.0—See Frankfurt.
Leipzig, 5.0—Talk: Nordic and Germanic Sun Worship. 5.25—Christmas Carols to the Lute, and Readings.
Moscow (Komintern), 5.0—See 4.30. 5.30—For Collective Farm Workers.
Munich, 5.0—See Breslau. 5.35—

Pianoforte Sonata in G Minor (Schumann).
Oslo, 5.0—Service—relayed from St. Saviour's Church.
Palermo, 5.0—For Children.
Paris (Eiffel Tower), 5.45—Le Journal Paris.
Paris (Radio-Paris), 5.0—Christmas Stories. 5.30—"The Cadets," conducted by Nys.
Pittsburgh, 5.0—Gene Arnold, from New York. 5.15—Four Aces. 5.30—Programme to be announced. 5.45—Ernie Holst's Orchestra.
Sottens, 5.0—Concert from Fribourg. 5.35—Violin Recital by Cleis.
Stockholm, 5.0—Evensong.
Strasbourg, 5.0—See 4.0 p.m.
Stuttgart, 5.0—See Frankfurt.
Toulouse, 5.0—The Dansant. 5.45—Music by an Argentine Band.
Turin, 5.0—Announcements.
Vienna, 5.0—See 4.30. 5.30—Reading.
Warsaw, 5.0—Dramatic Programme. 5.40—Talk. 5.45—Announcements.

6 p.m.

Algiers, 6.0—Oriental Music.
Barcelona, 6.0—Orchestral Concert.
Berlin, 6.0—"Lichtnacht der Wende"—Play about the Winter Solstice, with Songs (Peter Hagen). Music by Herbert Windt.
Beromünster, 6.0—Time and Sports Results. 6.10—Talk on the Christmas Song, Stille Nacht. 6.30—Records.
Bordeaux-Lafayette, 6.15—Radio Journal.
Breslau, 6.0—See Berlin.
Brussels (No. 1), 6.5—Literary Review. 6.15—Two Movements in Symphonic Form (Merrick). 6.30—Concert by the Guller Concert Society relayed from the Servies Church.
Brussels (No. 2), 6.0—See 5.45. 6.30—Concert by the Small Station Orchestra, conducted by Leemans.
Bucharest, 6.0—Education Talk. 6.20—Records. 6.45—Talk.
Budapest, 6.10—The Karl Bura Cigány Band.
Deutschlandsender, 6.0—See 5.0 p.m. 6.15—Talk on the following transmission. 6.30—"Arabella"—Opera (Richard Strauss).
Frankfurt, 6.0—See Berlin.
Hamburg, 6.0—See Berlin.
Heilsberg, 6.0—See Berlin.
Hilversum, 6.0—See 5.40 p.m. 6.10—Talk. 6.30—Records. 6.40—Song Recital by a Vocal Ensemble.
Huizen, 6.0—See 5.40 p.m.
Kalundborg, 6.0—News. 6.15—Time. 6.30—Christmas Carols, Greetings and Chimes.
Langenberg, 6.0—See Berlin.
Leipzig, 6.0—See Berlin.
Moscow (Komintern), 6.0—See 5.30—6.30—Programme in connection with the Seventeenth Congress of the Communist Party.
Munich, 6.0—See Berlin.
Oslo, 6.0—See 5.0 p.m. 6.15—News. 6.30—Talk: Christmas Customs in the Country.
Paris (Poste Parisien), 6.45—Exchange. 6.50—Records. Noël (Daquin). Secour Monique (Couperin).
Paris (Radio-Paris), 6.0—See 5.30.
Pittsburgh, 6.0—Farm and Home Hour, from New York. 6.30—Ernie Holst's Orchestra.
Prague, 6.0—News. 6.5—Readings. 6.25—Introductory Talk to the following Transmission. 6.30—"Der Freischütz"—Opera in Three Acts (Weber), relayed from the State Opera House. In an interval: Talk.
Radio Normandie, 6.0—Light Music. 6.30—Classical Music.
Rome, 6.30—Records.
Sottens, 6.0—See 5.35 p.m. 6.5—Christmas Carols by a Mixed Choir, conducted by Theurillat. 6.25—Christmas Poems. 6.40—Song Recital by Marcel Crot (Baritone).
Stockholm, 6.0—See 5 p.m. 6.15—Weather and News. 6.25—Talk. 6.45—Cantata to the Memory of Arthur Hazelius (Rangstrom). The Girl from the Marsh—Play (Herbert Grevenius) after the Novel by Selma Lagerlöf.
Strasbourg, 6.0—Fortnightly Literary Review. 6.15—Talk in German: Christmas Customs in Alsace-Lorraine. 6.30—Gramophone Music. 6.45—Christmas Service relayed from the Cathedral. Chimes, Organ Music, Old Christmas Carols and Address: How Christmas came to Mankind.
Stuttgart, 6.0—See Berlin.
Toulouse, 6.0—News. 6.15—Opera Music. 6.30—Music by a Viennese Orchestra.
Turin, 6.0—Time, News in Foreign Languages. 6.30—Records. 6.50—Announcements.
Vienna, 6.0—Song Recital by Elisabeth Schumann. 6.50—Time and Announcements.
Warsaw, 6.0—"Peace and Goodwill"—Christmas Greetings from the Capitals of Europe.

7 p.m.

Algiers, 7.0—Exchange. 7.10—Shipping. 7.15—Weather. 7.20—Agriculture Talk. 7.35—Dance Music. 7.55—News.
Athlone, 7.30—Artane Brass and Reed Band.
Barcelona, 7.0—Songs and Duets from Musical Comedies (on Records).
Berlin, 7.5—See Hamburg.
Beromünster, 7.0—Christmas Carols.
Bordeaux-Lafayette, 7.30—News and Market Prices. 7.35—Talk: Bordeaux a Century ago. 7.50—Charades.
Breslau, 7.0—See Leipzig.
Brussels No. 1, 7.0—See 6.30. 7.15—Review of the Week. 7.30—Theatre and Film Review.
Brussels No. 2, 7.0—See 6.30. 7.12—News. 7.15—Christmas Stories. 7.30—Reading.
Bucharest, 7.0—"La Grande Veillée"—Opera in two acts (Brediceano), Between the Acts: Reading. After the Opera: Radio Journal.
Budapest, 7.0—Humorous Programme. 7.30—"The Gipsy Princess"—Operetta in Three Acts (Kálmán).
Deutschlandsender, 7.0—See 6.30 p.m.
Frankfurt, 7.0—Sports Notes. 7.10—Station Orchestra, conducted by Hans Rosbald. Symphony Concert.
Hamburg, 7.5—Opera and Operetta Concert, conducted by Richter. Carl Günther (Songs).
Heilsberg, 7.5—See Hamburg.
Hilversum, 7.0—Song and Flute Recital. 7.10—Song Recital by a Vocal Ensemble. 7.25—News. 7.40—The Orchestra and Soloists.
Huizen, 7.0—See 5.40 p.m. 7.10—The Löffler Quartet. 7.55—The Small Station Orchestra, conducted by den Hurk. Jo Vincent (Soprano), Suzie Luger (Contralto), van Tulder (Tenor), and Willem Ravelli (Bass). In the interval, Recitations.
Kalundborg, 7.0—Time. 7.2—"Aladdin"—Play in Five Acts (Adam Oehlenschläger), arranged for Radio, with Music by Carl Nielsen.
Langenberg, 7.0—Sports Notes. 7.10—See Frankfurt.
Leipzig, 7.0—"Christelflein"—Opera in Two Acts (Pfitzer).
Ljubljana, 7.0—Violin Solos. 7.30—Vocal Concert.
Mádrid (EAJ7), 7.0—Chimes, Exchange, Announcements, and Dance Music.
Moscow (Komintern), 7.0—Concert.
Munich, 7.0—See Leipzig.
Oslo, 7.0—Time. 7.1—"Earth"—a Play in Three Acts (Carl Schönherr). After the Play, Talk.
Palermo, 7.0—Announcements. 7.20—Records. In the interval: Time and Announcements. 7.45—Chamber Music, Mannino (Pianoforte). After the Concert, Records.
Paris (Eiffel Tower), 7.0—Topical. 7.15—Weather. 7.25—News. 7.30—Conte de Noël—Play (Maurice Bouchor).
Paris (Poste Parisien), 7.0—A Short Film. 7.15—Le Journal Paris. 7.30—Roman Catholic Review.
Paris (Radio-Paris), 7.30—Variety.
Pittsburgh, 7.0—Musical Originalities from New York. 7.30—Programme to be announced.
Prague, 7.0—See 6.30 p.m.
Radio Normandie, 7.0—See 6.30 p.m. 7.15—Announcements. 7.30—Request Records.
Rome, 7.0—Time, News, Records. 7.5—Song Recital. 7.40—Light Music. In the interval: Talk.
Sottens, 7.0—Recitations. 7.10—"The Flight into Egypt"—Poem (Fleischer), with Music by Stierlin-Vallon. 7.30—Concert by the Small Radio Lausanne Orchestra, conducted by Moser. Soloist: Flora Gabella (Songs).
Stockholm, 7.0—See 6.45 p.m.
Strasbourg, 7.0—See 6.45. 7.30—Time and News. 7.45—Gramophone Music.
Stuttgart, 7.0—Sports Notes. 7.10—See Frankfurt.
Toulouse, 7.0—Chansonnettes. 7.15—News. 7.30—Divertissement on Russian Songs (Rabaud), by the Station Orchestra. 7.45—Operetta Music.
Turin, 7.0—Records. 7.30—Announcements. 7.40—Fable in Three Acts—The Princess and the Pea (Tumiat). Vatican City, 7.0—7.15—Religious Information in Italian.
Vienna, 7.0—"Der Lustige Krieg"—Operetta (Joh. Strauss).
Warsaw, 7.0—Carols from Lwów.

8 p.m.

Algiers, 8.0—Time Signal. 8.2—Lottery Notes. 8.10—Station Orchestra.
Athlone, 8.15—Christmas Stories and Verses by P. J. O'Connor Duffy. 8.50—Yuletide Instrumental Quartet.
Barcelona, 8.0—Dance Music relayed from Hollywood Bar.]

MONDAY
December 25

8 p.m. (contd.)

Berlin, 8.0—See 7.5 p.m.
Beromünster, 8.0—News. 8.10—The Beromünster Orchestra.
Bordeaux-Lafayette, 8.0—Medical Talk. 8.30—Trio Concert of Classical and Modern Music with Songs. After the Concert: Amusement Guide and Time.
Breslau, 8.0—See Leipzig. 7.0 p.m. 8.30—Relay of a Nativity Play from a Silesian Church.
Brussels No. 1, 8.0—Concert by the Radio Orchestra, conducted by André. 8.45—Talk.
Brussels No. 2, 8.0—Concert by the Station Symphony Orchestra, conducted by Kumps. 8.45—Records.
Budapest, 8.0—See 7.30 p.m.
Deutschlandsender, 8.0—See 6.30 p.m. 8.35—Variety.
Frankfurt, 8.0—See 7.10 p.m.
Hamburg, 8.0—See 7.5 p.m.
Heilsberg, 8.0—See Hamburg. 7.5 p.m.
Hilversum, 8.0—See 7.40 p.m. 8.25—"Her worde licht"—Radio Play (Beversluus), with Organ Music by Jong and Records. 8.55—The Station Orchestra.
Huizen, 8.0—See 7.55 p.m.
Juan-les-Pins (Nice, Cannes), 8.0—Exchange and News. 8.10—Sports Talk. 8.20—Concert.
Langenberg, 8.0—See Frankfurt. 7.10.
Leipzig, 8.0—See 7.0 p.m. 8.30—See Breslau.
Ljubljana, 8.0—See 7.30. 8.15—The Station Orchestra.
Madrid (EAF7), 8.0—See 7.0 p.m. 8.15—Radio Journal.
Moscow (Komintern), 8.0—Talk in German: Clubs instead of Churches. 8.55—Chimes from the Red Square.
Munich, 8.0—See Leipzig. 7.0. 8.30—See Breslau.
Oslo, 8.0—See 7.1 p.m.
Palermo, 8.0—See 7.45 p.m.
Paris (Eiffel Tower), 8.0—Le Miracle de Théophile—Thirteenth Century Mystery Play (adapted by Gustave Cohen).
Paris (Poste Parisien), 8.10—A Revue by Max Régner and his Company. 8.55—Concert.
Paris (Radio-Paris), 8.0—"Le Petit Duc"—Opérette (Lecocq). In the intervals: News.
Pittsburgh, 8.0—Radio Guild, from New York.
Prague, 8.0—See 6.30 p.m.

Radio Normandie, 8.0—Records. 8.30—Extracts from "The Damnation of Faust" (Berlioz).
Rome, 8.0—See 7.40. 8.45—Concert. Sottens, 8.0—See 7.30 p.m. 8.30—A Christmas Mystery.
Stockholm, 8.0—See 6.25 p.m.
Strasbourg, 8.0—Lottery Results. 8.15—Records. 8.30—Alsatian Programme of Literature and Music.
Stuttgart, 8.0—See Frankfurt. 7.10.
Toulouse, 8.30—Chamber Music. 8.45—Tango Songs.
Turin, 8.0—See 7.40 p.m. 8.30—One Act Comedy.
Vienna, 8.0—See 7.0 p.m.
Warsaw, 8.0—Reading. 8.15—Piano-forte Recital.

9 p.m.

Algiers, 9.0—See 8.55. 9.25—News. 9.30—Dance Songs. 9.40—Monologues. 9.50—Mandoline Music. 9.55—News.
Athlone, 9.0—See 8.50. 9.20—Relay of Christmas Greetings to America. 9.35—"Home Ties"—A Christmas Play (W. Huntly Adams).
Barcelona, 9.0—Chimes and Weather. 9.5—Announcements. 9.15 (approx.)—An Opera relayed from the Gran Teatro del Liceo.
Berlin, 9.0—News. 9.30—See Hamburg.
Beromünster, 9.0—See 8.10. 9.15—Sports Report.
Bordeaux-Lafayette, 9.0—See 8.30.
Breslau, 9.0—See 8.30. 9.30—News. 9.50—Local News.
Brno, 9.0—Christmas Programme in Esperanto.
Brussels (No. 1), 9.0—The Station Symphony Orchestra, conducted by Kumps. Marguerite Thys (Songs). 9.55—Christus Vincit (Liszt).
Brussels (No. 2), 9.0—Concert by the Radio Orchestra, conducted by André.
Budapest, 9.0—See 7.30. 9.45—News.
Deutschlandsender, 9.0—See 8.35. 9.30—News. 9.45—Weather.
Frankfurt, 9.0—Time and News. 9.20—See Stuttgart. 9.30—Weather. 9.45—See Stuttgart.
Hamburg, 9.0—News. 9.30—Dance Music.
Heilsberg, 9.0—News. 9.30—See Hamburg.
Hilversum, 9.0—See 8.55. 9.40—Recitations. 9.55—Variety Concert.
Huizen, 9.0—See 7.55.

Juan-les-Pins (Nice, Cannes), 9.0—News and Weather. 9.15—Act I of "On y va ou on n'y va pas" (Canevary).
Langenberg, 9.0—See Frankfurt. 9.20—See Stuttgart. 9.30—News. 9.45—See Stuttgart.
Leipzig, 9.0—See Breslau. 8.30. 9.45—News.
Ljubljana, 9.0—See 8.15. 9.15—Dance Music.
Moscow (Komintern), 9.0—See 8.55. 9.5—Talk in English: Winter Sports in the U.S.S.R.
Munich, 9.0—See Breslau. 8.30. 9.45—See Leipzig.
Palermo, 9.0—See 7.45.
Paris (Poste Parisien), 9.0—See 8.55. 9.45—Act I of "Vive Paris"—Revue relayed from the Casino.
Paris (Radio-Paris), 9.0—See 8.0.
Pittsburgh, 9.0—Betty and Bob, from New York. 9.15—Egizi's Salon Orchestra. 9.30—Programme to be announced. 9.45—Words and Music, from New York.
Prague, 9.0—See 6.30. 9.20—News. 9.40—Records.
Rome, 9.0—See 8.45.
Sottens, 9.0—News and Weather.
Stockholm, 9.0—Weather. 9.5—Programme for Swedes Abroad (contd.). The Radio Orchestra, conducted by Nils Grevillius. Festspl (Alfven). Symphonic Poem, Hemifran (Lindberg). Aria from "Pastoralsvit" (Atterberg). Three Pieces for Strings (Kallstenius). Fritjof och Ingeborg (Broman).
Strasbourg, 9.0—See 8.30.
Stuttgart, 9.0—See Frankfurt. 9.20—Things you should know. 9.30—Local News. 9.45—Sketch with Vocal and Instrumental Concert.
Toulouse, 9.0—Hunting Horn Solos. 9.20—"Faust"—Opera in Five Acts (Gounod).
Turin, 9.0—Records. 9.30—Dance Music.
Vienna, 9.0—See 7.0. 9.15—News and Weather. 9.30—Records.
Warsaw, 9.0—Sports Notes. 9.10—Dance Music on Records.

10 p.m.

Athlone, 10.5—The Noel Quartet. 10.15—Yuletide Instrumental Quar-

ter. 10.30—Ceilidhe Numbers by the Noel Quartet with S. Mac Aonghusa and P. O'Higgins (Pipes and Fiddle).
Barcelona, 10.0—See 9.15.
Berlin, 10.0—See Hamburg. 9.30.
Breslau, 10.5—See Leipzig.
Brussels (No. 1), 10.0—Le Journal Parlé. 10.10—Concert by Paul Moreau and his Orchestra, relayed from the Scala Tavern, Antwerp.
Brussels (No. 2), 10.0—Le Journal Parlé. 10.10—See Brussels No. 1.
Budapest, 10.0 (approx.)—The Georg Guttenberg Cigány Band and Paul Kalmar (Songs), relayed from the Café Ostend.
Deutschlandsender, 10.0—Dance Music.
Frankfurt, 10.0—See Stuttgart.
Hilversum, 10.0—See 9.55 p.m. 10.40—Records.
Huizen, 10.0—See 7.55 p.m. 10.25—News. 10.40—Carols.
Juan-les-Pins (Nice, Cannes), 10.30—Popular Music.
Langenberg, 10.0—See Stuttgart. 9.45.
Leipzig, 10.0—See 9.45. 10.25—Sports Notes; Weather. 10.25—The Station Orchestra, conducted by Theodor Blumer. Overture, "König Drosselbart" (Hanel). Suite, Pictures from the South (Nicodé). Waltz, Loreley-Rhein-klänge (Joh. Strauss). Selection from "Der Wildschütz" (Lortzing). Pianoforte Solos (Grieg): (a) An den Frühling, (b) Erotica. Overture, "Der dumme August" (Gfaller). Joh. Strauss Waltz Potpourri (E. Strauss). Selection from "Das Fürstenkind" (Lehar). March, Perpetuum mobile (Bton).
Ljubljana, 10.0—See 9.15.
Madrid (EAQ), 10.30—Light Music. 10.45—Radio Chronicle.
Moscow (Komintern), 10.0—See 9.5. 10.5—Talk in Hungarian: The Foreign Policy of the Soviet Union.
Munich, 10.5—Weather; Sports Notes. 10.25—See Leipzig.
Palermo, 10.0—Giornale Radio.
Paris (Poste Parisien), 10.30—News.
Pittsburgh, 10.0—Uncle Tom and Betty. 10.15—KDKA Kiddies' Klub. 10.30—The Singing Lady, from New York. 10.45—Orphan Annie, from New York.
Radio Normandie, 10.0—Variety Programme.

Rome, 10.0—Giornale Radio.
Stuttgart, 10.0—See 9.45. 10.45—"The Ghost in the Music Shop"—Sketch (Carl Struve).
Toulouse, 10.15—News. 10.30—See 9.20.
Turin, 10.0—Giornale Radio.
Warsaw, 10.0—News. 10.5—Dance Records (contd.).

11 p.m.

Barcelona, 11.0—News.
Breslau, 11.0—See Leipzig. 10.25.
Berlin, 11.0—See 9.30.
Deutschlandsender, 11.0—See 10.0.
Frankfurt, 11.0—See Stuttgart.
Hilversum, 11.0—See 10.40.
Huizen, 11.0—Records.
Juan-les-Pins (Nice, Cannes), 11.0—Concert. Jerusalem (Gounod). Les Pins (Dupont). Noël des enfants qui n'ont plus de maison (Debussy). Kol Nidrei (Bruch). Ständchen (Schubert). La petite église (Delmet). Charité (Fauré). Chanson des printemps (Privas). Chant de la Creuse et Noël angevin (César Franck). Berceuse de Jocelyn (Godard). Clair de lune (Massenet). Menuet chrétien (Adam).
Langenberg, 11.0—See Stuttgart.
Madrid (EAQ), 11.0—Programme for Catalonians Abroad.
Munich, 11.0—See Leipzig. 10.25.
Pittsburgh, 11.0—Pat Haley. 11.15—Sports Notes and Programme Preview. 11.30—Egizi's Salon Orchestra. 11.45—Lowell Thomas, from New York.
Radio Normandie, 11.0—See 10.0.
Stuttgart, 11.0—See 10.45. 11.30—Serenade.

12 midnight

Breslau, 12 midnight—See Leipzig. 10.25 p.m. 12.18 a.m. (Tuesday)—Relay from St. Nicholas Church in Brieg.
Frankfurt, 12.0—See Stuttgart. 11.30.
Langenberg, 12.0—See Stuttgart. 11.30.
Madrid (EAQ), 12.0—Popular Programme.
Radio Normandie, 12.0—News in English. 12.15 a.m.—Records.
Stuttgart, 12.0—See 11.30 p.m.
Toulouse, 12.25 a.m.—News.
Radio Normandie, 1.0—News in French. 1.15 a.m.—Dance Music.

PRINCIPAL EVENTS

p.m. CONCERTS
2.10 Hilversum: Concertgebouw.
6.0 Vienna, Beromünster, Budapest: Lehár.
6.40 Hilversum: Strauss.
7.5 Prague, Brussels 1: Dvořák, Slav Dances.
7.55 Hilversum: Orchestra.
8.10 Poste Parisien: Orchestra.
8.20 Breslau, etc.: Light Music.
8.30 Eiffel Tower, etc., Hungarian.
9.15 Brussels 2: Popular.
10.5 Leipzig: Variety.

OPERA, OPRETTA
7.0 Warsaw: Ball at the Savoy.
CHAMBER MUSIC
5.30 Stockholm: Cello, Pianoforte.
6.30 Kalundborg: Mozart.

RECITALS
4.15 Warsaw: Carols.
7.0 Bucharest: Pianoforte, Song (7.45).
7.10 Hilversum: Chopin.
8.15 Huizen: Song.

PLAY AND TALKS
6.50 Munich, etc.: Eckart Commemoration.
8.0 Radio-Paris: Merry Wives of Windsor.
10.0 Budapest: Hungarian Christmas (English Talk).

DANCE MUSIC
8.10 Kalundborg; 9.0, Brussels 1, Stockholm; 10.0, Langenberg, etc.; 10.5, Warsaw.

MISCELLANEOUS
7.45 Athlone: Pantomime.

TUESDAY (December 26)

NATIONAL

10.15 a.m. (Daventry)—The Daily Service. (Time Signal at 10.30).
10.30—10.45 (Daventry)—Weather Forecast.
11.0—11.20—"Travellers' Tales"—Mr Richard Hughes: "The Psychology of Travellers' Tales."
12 noon—Cinema Organ (Sydney Gustard).
12.30 p.m.—The Commodore Grand Orchestra, directed by Joseph Muscant. (Time Signal at 1.0).
1.30—A Recital of Gramophone Records. Miscellaneous Programme.
2.0—The Midland Studio Orchestra.
3.0—The Gershom Parking Quintet.
4.0—A Recital of Gramophone Records. Dance Music.
4.30—A Light Classical Concert. The New English String Quartet. Veronica Mansfield (Mezzo-Soprano).
5.15 (Daventry)—The Children's Hour. Variety by Bertha Waddell and The Glasgow Children's Theatre Company.
5.15 (except Daventry)—The B.B.C. Dance Orchestra, directed by Henry Hall.
6.0—"The First News."
6.25—Interlude.
6.30—The Foundations of Music. Haydn's Pianoforte Sonatas, played by Mrs. Norman O'Neill: Sonata in E Flat, No. 1; Sonata in G, No. 16.
6.50—Talk.
7.20—The Wireless Military Band. Conductor, B. Walton. O'Donnell. Scottish Patrol. The Gathering of the Clans (A. Williams); Fantasy from the Ballet, Victoria and Merrie England (Sullivan); Four Dances, The Rebel Maid (Montague Phillips); Bourrée and Gigue (Much Ado About Nothing) (Edward German).
8.0—A Recital. Maggie Teyte (Soprano). Rudolph Dolmetsch (Harpichord). Maggie Teyte: Porgi amor (Mighty Love) (Figaro) (Mozart); La violetta (The Violet) (Scarlatti); Caro mio ben (Giordano); Der Nussbaum (The Nut Tree) (Schumann); Claire de Lune (Moonlight) (Fauré). (The last song accompanied by harpsichord.) Rudolph

Dolmetsch: Italian Concerto (Bach)
—Allegro, Andante, Presto; Passacaille in G Minor (Handel). Maggie Teyte: The Brown Bird (Old English) (arr. Liza Lehmann); La lune blanche luit dans les bois (The silvery moon shines in the wood) (Fauré); Allerseelen (All Souls' Day) (Strauss); Songs my mother taught me (Dvorak); Love's Festival (Weingartner). Rudolph Dolmetsch: His Toy, his Dream, his Rest (Farnaby); Two Sonatas, in A Minor and in D (Scarlatti).
9.0—"The Second News." (Time Signal, Greenwich.)
9.20—The B.B.C. Dance Orchestra, directed by Henry Hall.
10.30—12 midnight—Dance Music. Lew Stone and his Band, relayed from the Café Anglais.
11.0—11.30 (London)—Television Transmission (Baird Process).

REGIONAL

10.15 a.m. (except Midland)—The Daily Service. (Time Signal, 10.30).
10.30—10.45 (except Midland)—Daventry National Programme.
11.0—11.20 (except Midland)—Daventry National Programme.
12 noon—The Scottish Studio Orchestra, directed by Guy Daines. David Thomas (Baritone). Dorothy Chalmers (Violin). (Time Signal, 1.0 p.m.)
1.15 p.m.—An Organ Recital by William H. Whitehall.
2.0—3.0—Ernest Parsons and his Orchestra, relayed from The Winter Gardens, Droitwich Spa.
3.0—5.15 (except Midland)—Daventry National Programme.
4.0 (North)—Evensong, relayed from York Minster.
4.45 (North)—Gramophone Records. Italian Operatic Overtures.
5.15—"The Children's Hour."
6.0—"The First News." (Time Signal.)
6.30—"Blue Bonnets over the Border." A Scottish Variety Programme. Taking part: Wullie Lindsay and Dan Donald. Kathleen Garscadden (Soprano). Robert Watson (Baritone). Pipe-Major Robert Reid. Mr. Daniel McSpurge on the

Festive Season in Scotland. Programme supported by Chalmers' Wood and his Strathspey and Reel Orchestra.
7.15 (London)—Eugene Pini and his Tango Orchestra.
7.15 (Midland)—The Studio Orchestra, Directed by Frank Cantell.
7.15 (North)—Jannock—The Northern Cookery Motto. Mrs. Sydney Frankenburg.
7.15 (Scottish)—A Recital of Music by Brahms. Amy Samuel (Soprano). Mollie Davie (Pianoforte).
7.15 (West)—The County Borough of Swansea Police Band (By kind permission of the Chief Constable, Mr. F. J. May). Conducted by William Guinbley, R.M.S.F.
7.35 (North)—The Curtain Rises. A Recital of Gramophone Records, featuring Musical Comedy.
7.45 (Scottish)—"Fun and Amusement." Mr. E. Rosslyn Mitchell: "The Pantomime."
8.0—"Grand Christmas Pantomime! "Sindbad." Arranged for broadcasting by Harry S. Pepper and the Producer, Gordon McConnell. Kenneth Ellis. Wynne Ajello. Bertha Willmott. Betty Huntley Wright. Horace Percival. J. Hubert Leslie. Carleton Hobbs. Aimée Bebb. Denis O'Neil. Artie Ash. The Revue Chorus and the B.B.C. Theatre Orchestra, conducted by Stanford Robinson.
9.15 (London and North)—The Augmented Northern Studio Orchestra (Leader, John Bridge), conducted by T. H. Morrison.
9.15 (Midland and West)—Jan Berncska and his Orchestra. Mavis Bennett (Soprano).
9.15 (Scottish)—Interlude.
9.30 (Scottish)—From our 1933 Programmes. The Scottish Studio Orchestra, directed by Guy Daines. 10.15—"The Second News." (Time Signal.)
10.30—12 midnight (except West)—Dance Music. Lew Stone and his Band, (Time Signal, Greenwich, at 11.30). (At 10.45 there will be a fifteen minutes' item for Scottish Listeners.)
11.0—11.30 (Midland)—Television (Sound).

EMPIRE PROGRAMME SUMMARY

For wavelengths, see S.W. List

Transmission 1 (GSF, GSD) G.M.T.

8.0 a.m.—Big Ben.
Empire News.
8.15—Christmas Day Programme.*
9.15—Dance Music.†
10.0—Close Down.

Transmission 2 (GSG, GSE)

12 noon—Big Ben. Sydney Gustard (Cinema Organ).
12.30 p.m.—The Commodore Grand Orchestra.
1.30—Pantomime Programme.†
1.45—Close Down.

Transmission 3 (2-4 p.m. GSB; 4-6 p.m. GSB, GSA)

2.0 p.m.—Big Ben.
Empire News.
2.15—E. Parsons and his Orchestra.
3.0—The Torquay Municipal Orchestra.
4.0—Variety Programme.
4.30—A Light Classical Concert.
5.0—Empire News (second reading).
5.15—The B.B.C. Dance Orchestra.
6.0—Close Down.

Transmission 4 (6.15-9 p.m. GSD, GSB; 9-10.45 p.m. GSB, GSA)

6.15 p.m.—Big Ben.
Empire News.
6.30—"Blue Bonnets over the Border." A Scottish Variety Programme.
7.15—Eugene Pini and his Tango Orchestra.
8.0—"Sindbad." The Children's Pantomime.
9.15—Gramophone "Inn" Interlude.
9.20—The B.B.C. Dance Orchestra.
10.30—Empire News.
10.45—Close Down.

Transmission 5 (GSC, GSA)

11.0 p.m.—Big Ben.
Dance Music.
11.45—The Kentucky Minstrels.*
12.45 a.m.—Empire News.
1.0—Close Down.

* Electrical Recording.
† Gramophone Records.

NOTE: The Hours of Transmission are Reduced to Greenwich Mean Time

5 a.m.

Berlin, 5.15—Gym. 5.35—See Heilsberg.
Beromünster, 5.50—Gym.
Breslau, 5.35—See Heilsberg.
Brno, 5.45—See Prague.
Deutschlandsender, 5.15—See Berlin. 5.30—To-day's Motto. 5.35—See Heilsberg.
Frankfurt, 5.35—See Heilsberg.
Hamburg, 5.35—See Heilsberg.
Heilsberg, 5.35—Orchestral Concert from Danzig.
Langenberg, 5.35—Selection from The Missa Solennis (Bozzi) on Records.
Leipzig, 5.35—See Heilsberg.
Moravská-Ostrava, 5.45—See Prague.
Moscow (Komintern), 5.15—Records.
Munich, 5.35—See Heilsberg.
Prague, 5.45—Chimes, Gym, and Music.
Stuttgart, 5.35—See Heilsberg.

6 a.m.

Berlin, 6.0—See Heilsberg 5.35 a.m.
Breslau, 6.0—See Heilsberg 5.35 a.m.
Brno, 6.30—See Prague.
Deutschlandsender, 6.0—See Heilsberg 5.35 a.m.
Heilsberg, 6.0—See 5.35 a.m.
Langenberg, 6.0—Records.
Leipzig, 6.0—See Heilsberg 5.35 a.m.
Ljubljana, 6.45—Agriculture Talk.
Moravská-Ostrava, 6.0—See Prague.
Moscow (Komintern) 6.0—Programme Announcements. 6.15—The Small Station Orchestra.
Munich, 6.0 a.m.—See Heilsberg 5.35 a.m.
Paris (Radio-Paris), 6.45—Gym.
Prague, 6.0—See 5.45. 6.30—Concert by the Municipal Orchestra.
Rome, 6.45—Gym.
Sottens, 6.0—Gym.
Stockholm, 6.20—Gym. 6.45—Service.
Stuttgart, 6.0—See Heilsberg 5.35 a.m.
Turin, 6.45—Gym.

7 a.m.

Berlin, 7.15—To-day's Motto. 7.20—Records. Heinrich Schlusnus (Bartone): Die Ehre Gottes in der Natur (Bethoven). The State Opera House Orchestra, conducted by Clemens Schmalstich: Ein Albumblatt (Wagner). Franz Volker (Tenor): Winterlied (Koss). Willy Walder (Accordion): Schlittenfahrt. Dietrich's Schrammel Quartet: March, Alt Wien (Dietrich). The Berlin Pianoforte Trio: Waltz, Tales from the Vienna Woods (Joh. Strauss-Gebhardt). Renate Müller (Soprano): An der Donau, wenn der Wein blüht (Grotte-Melchior). Georg Freundorfer (Zither): Waltz, An der schönen grünen Isar (Freundorfer-Decksen). 7.55—Chimes and Sacred Music from the Potsdam Garrison Church, Chimes from Berlin Cathedral.
Barcelona, 7.15—Radio Journal and Gramophone Records.
Bordeaux-Lafayette, 7.45—News from Paris (Ecole Supérieure).
Bratislava, 7.0—Roman Catholic Service. 7.0—Military Band Concert.
Brno, 7.0—See Prague 6.30. 7.30—Organ Recital.
Deutschlandsender, 7.0—For Women. 7.30—Records.
Frankfurt, 7.15—Time and Weather. 7.25—Gym.
Hamburg, 7.15—News. 7.30—Gym. 7.45—Records.
Heilsberg, 7.0—See 5.35 a.m.
Hilversum, 7.40—Time Signal. 7.41—Sacred Music on Records.
Kalundborg, 7.0—Gym. For Women. 7.15—Gym.
Langenberg, 7.0—See 6.0 a.m. 7.15—See Frankfurt. 7.20—Weather. 7.25—See Frankfurt.
Leipzig, 7.30—Roman Catholic Service from Halle.
Ljubljana, 7.0—See 6.45 a.m. 7.30—Gym.
Lyons (La Doua), 7.45—News and Weather.
Moscow (Komintern), 7.0—See 6.15 a.m. 7.30—For Children.
Munich, 7.15—Records.
Paris (Poste-Parisien), 7.10—Fanfare and Records. Petit Quinquin (Desrousseaux). Marche des fleurs (Renard). Ce n'est pas juste (Van Parys). Un sourire et ça suffit (Borel-Clerc). The Skaters' Waltz (Waldeufel). Les yeux noirs. Speak to me of Love (Lenoir). Two Pieces from "Katinka (Friml)." Song and Czardas. Three Pieces (Scotti): (a) Au pays du soleil, (b) La partie de pêche, (c) A petits pas. Air from "Les brigands" (Offenbach). Air from "Made moiselle Nitouche" (Hervé). 7.30—News, Humorous Items and Gastronomic Talk.

Paris (Radio-Paris), 7.30—Weather, Gym. 7.45—Records.
Prague, 7.0—See 6.30. 7.30—See Brno.
Radio Normandie, 7.15—Concert. 7.30—News.
Riga, 7.30—Records of Brahms Music.
Rome, 7.0—Time, News.
Stuttgart, 7.15—See Frankfurt.
Turin, 7.0—Time; Announcements.

8 a.m.

Berlin, 8.0—See 7.55 a.m.
Barcelona, 8.0—Chimes, Physical Culture and Gramophone Music. 8.20—Radio Journal and Gramophone Music.
Belgrade, 8.55—Announcements.
Bratislava, 8.0—Talk with Record Illustrations: Christmas in Song.
Breslau, 8.0—Christmas Tales. 8.30—Christmas Carols (Friedrich Wirth) by the Station Orchestra and Soloists.
Brno, 8.0—Living Words. 8.15—Violin Sonata (Franck).
Budapest, 8.45—News.
Deutschlandsender, 8.0—Reading. 8.15—Songs by Günter Stenzel and Anton Topitz. Serenade for Flute, Violin and Viola, Op. 25 (Beethoven).



At the Pantomime (Athlone, 7.45 p.m.)

hoven). Songs by Anton Maria Topitz.
Frankfurt, 8.0—Organ Recital by Metzén. 8.30—See Langenberg.
Hamburg, 8.0—See 7.45. 8.55—Service from Lübeck Cathedral.
Heilsberg, 8.0—Service relayed from Danzig.
Hilversum, 8.0—See 7.41 a.m. 8.10—Records. 8.40—Service. 8.55—Records.
Huizen, 8.10—Service.
Langenberg, 8.0—See Frankfurt. 8.30—Medical Talk.
Leipzig, 8.0—See 7.30 a.m.
Ljubljana, 8.0—Records. 8.30—Service.
Madrid (Union Radio), 8.0—Radio Journal.
Moravská-Ostrava, 8.0—See Brno. 8.40—See Prague.
Moscow (Komintern), 8.0—Pianoforte, Baritone and Soprano Recital. 8.55—Time.
Munich, 8.10—Organ Recital.
Paris (Radio-Paris), 8.0—News.
Prague, 8.15—Pianoforte Recital. 8.40—Recitations.
Radio Normandie, 8.0—Concert. 8.15—Review.
Stuttgart, 8.0—See Frankfurt. 8.30—See Langenberg.
Toulouse, 8.0—Dance Music. 8.30—News. 8.35—Orchestral Music. Selection, "Alessandro Stradella" (Flotow). Pavane pour une infante défunte (Ravel). 8.45—Opérette Music. Rondo and Couplet from "Le petit duc" (Lecocq). Duet from "Véronique" (Messager).
Vienna, 8.0—Pontifical High Mass, relayed from St. Stephens's Church.
Warsaw, 8.0—Time Signal and Christmas Carol. 8.5—Gym. 8.20—Records. 8.35—Radio Journal. 8.40—Records. 8.50—For the Housewife. 8.54—Announcements.

9 a.m.

Barcelona, 9.0—Announcements.
Belgrade, 9.0—Service.
Berlin, 9.5—Weather.
Breslau, 9.10—Talk: Christmas in the Colonies. 9.30—The Station

TUESDAY
December 26

Orchestra and Soloists. Selection, "Der Rosenkavalier" (R. Strauss). Songs for Tenor Waltz Scene. Eva (Lehár). Overture, "The Nuremberg Doll" (Adam). Rusticana (Cortopassi). Songs for Soprano. Introduction and Chorus, "Das Pensionat" (Suppé).
Brno, 9.0—See Prague. 9.30—See Prague.
Budapest, 9.0—Roman Catholic Service.
Deutschlandsender, 9.5—See Berlin.
Frankfurt, 9.0—See Stuttgart. 9.45—Choral Concert.
Heilsberg, 9.55—Weather.
Huizen, 9.10—Records. 9.25—High Mass relayed from the St. Ritakerk, Amsterdam.
Kalundborg, 9.0—Service.
Kaunas, 9.0—Talk: Wilno. 9.15—Service.
Langenberg, 9.0—See Stuttgart.
Ljubljana, 9.0—Talk. 9.30—Orchestral Concert with Songs.
Moscow (Komintern), 9.0—News. 9.15—Concert.
Munich, 9.0—Protestant Service. 9.45—Chimes. 9.50—Reading.

10.35—Recitations relayed from Danzig.
Huizen, 10.0—See 9.25 a.m. 10.55—Records.
Kalundborg, 10.30—Weather. 10.40—News.
Langenberg, 10.0—Wagner Records.
Leipzig, 10.10—Quintet Op. 163 (Schubert) by the Dresden String Quartet.
Ljubljana, 10.0—See 9.30 a.m. 10.15—Concert of Yugoslav Music.
Moscow (Komintern), 10.0—See 9.15 a.m.
Munich, 10.10—"Christmas in Old Munich": Radio Picture.
Oslo, 10.0—See 9.50 a.m. 10.15—Service.
Prague, 10.0—See Brno.
Radio Normandie, 10.30—Variety Music.
Stockholm, 10.0—Service.
Strasbourg, 10.30—Orchestral Concert relayed from Toulouse (PTT).
Stuttgart, 10.0—Records. Overture, "The Magic Flute" (Mozart). Aria from "The Magic Flute" (Mozart). Aria from "Il re pastore" (Mozart). Overture, "Il Seraglio" (Mozart). Song from "Der Evangelimann" (Kienzl). Prelude to Act III, "Lohengrin" (Wagner).

Seasons" (Tchaikovsky). March (Kral).
Langenberg, 11.0—See Munich.
Leipzig, 11.0—See Munich.
Ljubljana, 11.0—Weather, News, Records.
Madrid (EAJ7), 11.45—Announcements.
Moravská-Ostrava, 11.0—See Prague. 11.15—The Station Orchestra, conducted by Plichta.
Munich, 11.0—Orchestra conducted by Franz Adam.
Oslo, 11.0—See 10.15 a.m. 11.10—Exchange. 11.55—Time.
Palermo, 11.45, Giornale Radio.
Prague, 11.0—Chimes and News. 11.15—See Moravská-Ostrava.
Radio Normandie, 11.0—See 10.30 a.m. Reykjavik, 11.40—Weather.
Riga, 11.0—Weather. 11.5—Talk: Latvians Abroad. 11.35—Records. Song of Winter (Koss). The Skaters (Waldeufel). Winterstürme (Fucik). Skaters' Dance (Jouve). Petersburger Schlittenfahrt (Eilenberg). Melody (Mayer).
Rome, 11.30—Records.
Sottens, 11.28—Time Signal. 11.30—News, Weather. 11.40—Records.
Stockholm, 11.0—See 10.0 a.m. 11.45—Weather and Ice Report.
Strasbourg, 11.0—See 10.30 a.m.
Stuttgart, 11.0—See Munich.
Turin, 11.30—Records. 11.45—Giornale Radio.
Warsaw, 11.5—Announcements. 11.10—Weather. 11.15—Concert by the Philharmonic Orchestra, conducted by Oziminski. Soloist: Marie Mokrzycka (Songs). Overture, "La Savoyarde" (Moniuszko). Polish Fantasia, Noël (Szawłowski). Cracovienne from the Polish Symphony (Dobrzynski). Four Polish Songs. Selection from "The Haunted Castle" (Moniuszko). Three Songs. Serenade (Pergolesi-Nowowiejski). Slav Dance in G minor (Dvorak).
Zagreb, 11.0—Records: Christmas Carols.

12 noon

Algiers, 12.30—Station Orchestra.
Barcelona, 12.0—Programme for Women. 12.45—Gramophone Music.
Belgrade, 12.0—See 11.35. 12.30—News; Time.
Berlin, 12.5—The Small Station Orchestra conducted by Steiner. Overture, "Der Wildschütz (Lortzing). Solveig's Song (Grieg). Elsentanz (Heykens). Folk Song, Spinn, spinn, Waltz (Waldeufel). Selection, "La Traviata" (Verdi). The Tyrol in Song and Dance (Fetras).
Beromünster, 12.25—Time and Weather.
Bordeaux-Lafayette, 12.0—Concert relayed from Paris (Ecole Supérieure). 12.30—Time and Dance Music. In the interval, News.
Breslau—12.0—Military Band Concert.
Brno, 12.0—See Moravská-Ostrava 11.15 a.m. 12.30—Agricultural Talk.
Brussels (No. 1), 12.0—Programme by Mickey's Club Jazz Attraction.
Brussels (No. 2), 12.0—Concert by the Small Station Orchestra, conducted by Leemans. Paso doble, Pan y Toros (Dessart). Waltz, Die Kosenden (Lanner). Intermezzo, Burlesca (Culotta). Records: (a) Pimpinella (Tchaikovsky), (b) Vieni sul mar. Selection from "The Christmas Fairy" (Pfitzner). Selection from "Hansel and Gretel" (Humperdinck). Records: (a) Cara Piccini (Lama), (b) Reginella (Lama).
Serenade d'Arlequin (Van Dam). Foxtro, Wer einmal nur geküsst ein Midinetchen (Mann and Weiss).
Bucharest, 12.0—Radio Journal. 12.15—Records.
Budapest, 12.0—See 11.30. 12.45—Military Band Concert, conducted by Fricays.
Deutschlandsender, 12.0—See Stuttgart.
Frankfurt, 12.0—Records.
Hamburg, 12.0—See Stuttgart.
Heilsberg, 12.5—Orchestral Concert conducted by Georg Willner. Overture, "The Princess in the Golden Slippers" (Rust). Selection from "Der Zigeunerprimas" (Kalmán). Mazurka from the Ballet Suite, "Coppelia" (Delibes). The Sanctuary of the Heart (Ketelbey). Potpourri (Weninger). Flower Waltz from the Nut-Cracker Suite (Tchaikovsky). March (Schmidt-Hagen).
Huizen, 12.0—See 11.55. 12.25—The Orchestra conducted by Gerritsen. Concerto grosso No. 8 (Corelli). Er weidet seine Herde (Handel). Carol (Liadow). Maria Wiegienled (Reger). Pastorale (Bizet). Juan-les-Pins (Nice, Canales), 12.30—Announcements.
Kalundborg, 12.30—Extracts from "Aida"—Opera (Verdi) on Records.
Langenberg, 12.0—See Stuttgart.
Leipzig, 12.0—See Munich.

Oslo, 9.15—Weather. 9.20—Records. 9.50—Chimes and Service for Children.
Pittsburgh, 9.0—Choral Concert of Russian Music.
Prague, 9.30—Literary Programme.
Riga, 9.0—Service.
Stuttgart, 9.0—The Würtemberg Symphony Orchestra, conducted by Ferdinand Drost. Reichardt ("Cello), Hubl and Oswald (Violins), Seyfert (Cembalo). Christmas Symphony (Schiaisi). "Cello Concerto with String and Cembalo Accompaniment (Handel). Concerto for two Violins (Stamitz).
Vienna, 9.0—See 8.0 a.m. 9.30—Literary Talk. 9.50—Cello Recital by Friedrich Buxbaum.
Warsaw, 9.5—Service from the Cathedral, Poznań. After the Service, Sacred Music on Gramophone Records.
Zagreb, 9.0—Mass from St. Mark's Church.

10 a.m.

Belgrade, 10.0—The Radio Orchestra. 10.20—Tides Report, The Radio Orchestra. 10.59—Time, Chimes.
Berlin, 10.0—For Children.
Bordeaux-Lafayette, 10.30—Instrumental Concert relayed from Toulouse (PTT).
Breslau, 10.0—See 9.30 a.m.
Brno, 10.0—Children's Concert. Overture, "To the Story of the Lovely Melusina" (Mendelssohn). Children's Songs (Blech). The Children's Corner (Debussy). Cradle Songs (Kapál). Marionettes (Klicka).
Budapest, 10.15—Service from the Greek Church.
Deutschlandsender, 10.0—Weather. 10.15—"Between Time and Eternity"—Radio Sequence from the Works of Dietrich Eckart, on the Tenth Anniversary of his Death.
Frankfurt, 10.30—Talk: Christmas in the Mountains.
Hamburg, 10.0—See 8.55 a.m. 10.40—Recitations with Pianoforte Accompaniment.
Heilsberg, 10.0—Christmas Carols.

Turin, 10.15—Records. Slav March (Tchaikovsky). Danze ed arie antiche (Respighi). Concerto grosso in G minor (Molinari). Aria from "Lakmé" (Delibes). Air from "The Pearl Fishers" (Bizet). Extract from "Andrea Chenier" (Giordano).
Vatican City, 10.0—10.15—Religious Information in English.
Vienna, 10.30—Talk. 11.0—Light Music by the "Wiener Symphoniker," conducted by Max Schönherr.
Warsaw, 10.57—Time Signal and Fanfare from St. Mary's Church, Cracow.

11 a.m.

Barcelona, 11.0—Chimes, Weather.
Belgrade 11.5—The Radio Orchestra. 11.35—Exchange; Records.
Berlin, 11.0—See Munich.
Beromünster, 11.0—Concert.
Bordeaux-Lafayette, 11.0—See 10.30.
Breslau, 11.0—See Munich.
Brno, 11.0—See Prague. 11.5—See Prague. 11.15—See Moravská-Ostrava.
Bucharest, 11.0—Records.
Budapest—11.30—Guitar, Viola da gamba and Viola d'amore Solos.
Deutschlandsender, 11.0—See Munich. 11.55—Time.
Frankfurt, 11.0—See Munich.
Hamburg, 11.0—See Munich.
Heilsberg, 11.0—See Munich.
Hilversum, 11.40—Time. 11.41—Light Music and Records.
Huizen, 11.0—See 9.25 a.m. 11.40—Police Notes. 11.55—Carillon Recital by Van Balkom, relayed from St. John's Church, Bois-le-Duc.
Kalundborg, 11.0—Time and Chimes from the Town Hall. 11.5—Carl Rydahl's Instrumental Ensemble. Overture, "Maritana" (Wallace). Waltz, Soirée d'été (Waldeufel). Selection, "Lilac Time" (Schubert-Berté). Moment musical (Schubert). Norwegian Dance in G (Grieg). La lettre de Manon (Gillet). Gipsy Tango (Lacôme). Barcarolle, Le beau rêve (Flégier). Serenade (Kubin). October from "The

TUESDAY December 26

12 noon (contd.)

Lyons (La Doua), 12.0—See Strasbourg. 12.45—Records. Selection from "Der Opernball" (Heuberger). Selection from the opera "Frasquita" (Lehár). Madrid (EAJ7), 12.0—Chimes, Radio Journal and Announcements. 12.15 p.m.—Time. Moravská-Ostrava, 12.0—See 11.15. 12.30—See Prague. Munich, 12.0—Sonatas by Winkler (Violin) and Staab (Pianoforte). 12.45—Time, Weather, Announcements. Oslo, 12.0—Records. In the intervals, Weather, Agricultural Report, and Exchange. Palermo, 12.0—Light Music. Festival March (Alfano). Tango (Rosa Cio). Selection, "Andrea Chenier" (Giordano). Intermezzo, Largo (Muller). Melody (Wachsmann). Potpourri, Ufaton Bomben (Berchert). Hesitation Waltz, Sull'Isarco (Mascagni). Clodomiro (Prato). In the interval, Time and News. Paris, Eiffel Tower, 12.30 p.m.—Concert relayed from Paris (Ecole Supérieure). Poste-Parisien, 12.0—Exchange. 12.5 Operetta Music on Records. 12.20—Sponsored Programme. 12.30—Records. Paris (Radio-Paris), 12.0—Records. Forests, Meadows and Villages. La diligence dans la forêt. The Mill in the Black Forest (Eilenberg). Sous bois (Staub). La forêt qui chante (Charly). La voix des chênes (Goublier). Aria "L'attaque du moulin" (Bruneau). Das la forêt près du lac. The Nightingale's Song (Zeller). La chanson des peupliers (Beria). Sous la feuillée (Thomé). Forest Murmurs from "Sigfried" (Wagner). La chanson des blés d'or (Beria). Papillon (Zubalov). La petite église (Delmet). La laitière et le pot au lait (La Fontaine). Song (Persiani-Jourdan). Aria, "Mirella" (Gounod). Les boucufs (Dupont). Les cigales (Chabrier). Semaillés (Goublier). La procession (Frank). Les pommiers (Fremine). Three Songs from the Cycle, Die schöne Mullerin (Schubert). La petite maison. Les vieilles de chez nous (Levadé). Dors, mon garç (Botrel). Tout le pays l'a su (Borel-Clerc). Le p'tits quinquin (Desrousseaux). Pittsburgh, 12.0—Musical Clock. Prague, 12.30—Agriculture Programme. Reykjavik, 12.0—Divine Service. Riga, 12.0—For Children. Radio Normandie, 12.0—Military Concert. Au bord du Tage (Courtade). March (Helmer). Schottische (Brun). March, The Cadets (Souza). Brillants chasseurs (Courtade). Les braves de Lorette (Boher). Parisettes (Prodhomme). Flag March (Selenick). 12.30—News. 12.45—Concert. La Chasse (Kreisler). Les anges du village (Fragerolle). Les pêches de jeunesse de Papa (Ambreville). Je suis à vous (Aris). Les cigalettes (Filippucci). La vie de château (Christiné). Selection, "Marinarelle" (Fucik). Olive et le Parisien (Valette). Le tambourin chinois (Kreisler). Chantez chantez Grand mère (Lelièvre). C'est un bonheur (Vergucht). Dago (Aris). En gaieté (Filippucci). The Democratic Marriage (Heintz). Dur de la feuille et Sourdine (Marsauche). Rome, 12.0—See Turin. 12.30—News, and Exchange. Sottens, 12.0—Financial News. 12.10 p.m.—Records. Strasbourg, 12.0—Orchestral Concert conducted by de Villers. Spanish Dance and Italian Dance from "Le Tribut de Zamora" (Gounod). Overture, Zanetta (Auber). Selection from "La Légende du Point d'Argent" (Fouadain). Japanese Variations (Vidal). 12.45—News. Stuttgart, 12.0—The Station Orchestra conducted by Gustav Görlisch. Overture, "Si j'étais Roi" (Adam). Extract, "Der Evangelmann" (Kienzl). Einzug des Schneekönigs (Noack). Mazurka (Müllböcker). Polka (Bayer). Waltz (Keler-Bela). Galop (Eilenberg). Toulouse, 12.0—Opera Arias. "William Tell" (Rossini). "The Damnation of Faust" (Berlioz), and "The Tales of Hoffmann" (Offenbach). 12.15—Orchestral Music. Selection, The Desert Song (Romberg). O Frühling, wie bist du so schön (Lincke). In a Bird Shop (Lake). Ländler. 12.30—News. 12.45—Request Music. Turin, 12.0—Time and Announcements. 12.5 p.m.—Trio Concert. Warsaw, 12.0—See 11.15.

1 p.m.

Algiers, 1.0—News. 1.5—Station Orchestra (contd.). Barcelona, 1.0—Gramophone Records

of Light Music, 1.30—Theatre Notes and Gramophone Music (contd.). Berlin, 1.0—See Leipzig. Bordeaux-Lafayette, 1.0—See 12 noon. 1.50—Exchange. Bratislava, 1.5—Tides Report. Breslau, 1.0—See Leipzig. Brussels (No. 1), 1.0—Le Journal Parlé. 1.10—Programme by Mickey's Club Jazz Attraction (contd.). Brussels (No. 2), 1.0—Le Journal Parlé. 1.10—Records. Selection from "Countess Mariza" (Kallman). Mattinata (Leoncavallo). Pour un baiser (Tosti). La capinera (Benedict). Waltz, Parla (Arditti). Selection from "Wonder Bar" (Katscher). Il tango delle capinera (Bixio). Song: A. B. C. (Cosentino). Selection from "Folly to be wise" (Hupfeld). Deutschlandsender, 1.0—Talk. 1.20—A Children's Choir. Frankfurt, 1.0—See Leipzig. Hamburg, 1.0—See Leipzig. Heilsberg, 1.0—See Leipzig. Hilversum, 1.40—Christmas Story. Huizen, 1.0—See 12.25 p.m. 1.10—Records. 1.40—Carillon Recital (contd.). Overture, "Der Freischütz" (Weber). Selection from "The Mastersingers" (Wagner). Lortzing Potpourri (Urbach). Juan-les-Pins (Nice, Cannes). 1.0—News. 1.15—Concert. Kalundborg, 1.0—See 12.30 p.m. 1.30—Programme for Children. Langenberg, 1.0—See Leipzig. Leipzig, 1.0—Talk: Dietrich Eckart, a Nazi Poet. Lyons (La Doua), 1.0—The Station Orchestra. Selection from "Lakmé" (Delibes). Melody (Rostand). Charmaine (Polak). La longue route (Parès). Tes yeux, ta voix (Moreau). I kiss your little hand, Madame (Erwin). The Fountain of Arethusa (Szymanowski). Slavonic Dance (Dvořák-Kreisler). Melody (Zayas). Selection from "Les Mousquetaires au Couvent" (Varney). Selection from "Ciboulette" (Hahn). Tes yeux (Poggioli). Melody (De Sylva; Brown, Henderson). In the interval, News and Exchange. Moscow (Komintern), 1.45—Announcements. Munich, 1.0—See Leipzig. Paris (Eiffel Tower), 1.0—Market Prices. 1.15—News. 1.30—Agricultural Notes. 1.45—Report of the Labour Bureau. Paris (Poste Parisien), 1.5—Exchange. 1.15—Records. 1.30—Records. Paris (Radio-Paris), 1.0—See 12 noon. Pittsburgh, 1.0—Morning Devotions, from New York. 1.15—Don Hall Trio, from New York. 1.30—Organ Recital, from New York. Radio Normandie, 1.0 p.m.—See 12.45. Riga, 1.0 p.m.—Saxophone Music. 1.30—Talk: Christmas Traditions in Old Latvian Folk Songs. Stockholm, 1.0 p.m.—Light Music by the Herman Martensson Ensemble. Norwegian Dance No. 2 (Grieg). Overture, Heimkehr aus der Fremde (Mendelssohn). Hungarian Dance No. 6 (Brahms). Extracts from "The Sleeping Beauty" (Tchaikovsky). Selection from "The Pearl Fishers" (Bizet). Mazurka (Beucucci). Waltz, Loin du bal (Gillet). Intermezzo (Kalrman). Two Pieces (arr. Ringval). Overture, "Quo Vadis" (Scassola). Selection from "The Mastersingers" (Wagner). Suite, Bal à la cour (Thomé). Nocturne from "Cocorico" (Ganne). Prelude and Dance from "Das Pensionat" (Suppé). Bohemian March (Filippucci). Strasbourg, 1.0—Time and Concert. Stuttgart, 1.0 p.m.—See Leipzig. Toulouse, 1.0—Announcements and Time. 1.5—Military Music. 1.15—Music from Sound-Films. 1.30—Operetta Music. Vilia's Song from "The Merry Widow" (Lehar). Selection, "Die geschiedene Frau" (Fall). 1.45—Songs. Turin, 1.0 p.m.—See 12.5. Vienna, 1.30—Time and Announcements. 1.35—Records: "Don Pasquale"—Opera (Donizetti).

2 p.m.

Barcelona, 2.0—Catalan Notes and Sextet Concert. Berlin, 2.0—Christkindla in Schlesien—a Nativity Play (Otto Eggers-Rotter). Beromünster, 2.30 (from Zürich)—The Small Beromünster Orchestra conducted by Scherbaum. 2.59—Time from Neuchâtel Observatory. Bordeaux-Lafayette, 2.0—Chamber Music and Variety Music. 2.30—For Children. Budapest, 2.0—For Girls. 2.30—Records. Deutschlandsender, 2.0—The Steinbock Orchestra.

Frankfurt, 2.0—See Langenberg. Hamburg, 2.0—Pianoforte Recital. Fantasia in C Minor (Mozart). Intermezzo No. 2, Op. 119 (Brahms). Ballad in B Minor (Liszt). 2.30—Humorous Tales. Heilsberg, 2.0—Records. 2.20—For Children. Hilversum, 2.0—See 1.40 p.m. 2.10—The Concertgebouw Orchestra, conducted by Albert van Raalte. Klagen (Flute) and Blanchard (Oboe). Symphony in E Flat for Strings, Flutes and Horns (Stamitz). Tocatta Aria, Minuet and Gigue (Scarlati). Symphony in G, No. 27 (Mozart). Records. Three Traditional Scottish Tunes (Gerrard Williams). Concerto fugato for Flute, Oboe and Strings (Gustav Holst). Miniature Suite (Arthur Bliss). Huizen, 2.0—See 1.40 p.m. 2.20—Christmas Programme by the "Scola Cantorum" Choir, conducted by Hubert Cuypers. Recitations. Juan-les-Pins (Nice, Cannes). 2.0—See 1.15 p.m. Kalundborg, 2.0—Talk for Housewives. 2.10—Accordion Music. March (Oscheit). Mazurka (Deiro). Serenade. "Les Millions d'Arlequin" (Drigo). Tango (Anderson). Polka (Johanson). Waltz (Cederqvist-Schmidt). Piece (Normann Andersen). 2.40—Reading (A. J. Cronin). Langenberg, 2.0—For Children. Leipzig, 2.0—Announcements. 2.2—Talk: "The Original Meaning of Christmas." Lyons (La Doua), 2.0—See 1.0 p.m. Madrid (EAJ7), 2.0—Chimes, Time, Weather and Theatre Notes. 2.15 (approx.)—Concert. Overture, "Così fan tutte" (Mozart). Selection from "Coppelia" (Delibes). Tango (Vaccarezza and Hoyos). Allegro (Fiocco). Waltz (Kountz and Shilkert). Selection from "Rigoletto" (Verdi). Foxtrot (Marion and Whiting). In a Monastery Garden (Keteberg). Adios, valle del Palmir. "O Star of Eve" from "Tannhäuser" (Wagner). Duet, La picarona. La procesion del Rocio (Turina). March (Borodin). In the interval: Exchange. Moscow (Komintern), 2.0—See 1.45 p.m. 2.15—Mozart Concert for Children. 2.55—Time. Munich, 2.0—New Records. Extracts from the Oboe Quartet (Mozart). Ballet Music, "Sylvia" (Delibes). Selection, "Ariadne auf Naxos" (R. Strauss). Aria, "Lohengrin" (Wagner). Ständchen (Schubert). Waltz, "The Merry Widow" (Lehar). Marching Song (Werner). 2.40—Talk on Wilhelm Dörpfel. Paris (Eiffel Tower), 2.0—Exchange. 2.15—Economic Notes. 2.30—Exchange and Colonial Report. 2.45—Amusement Guide. Paris (Poste Parisien), 2.0—Exchange. Paris (Radio-Paris), 2.5—News. Pittsburgh, 2.0—Breakfast Club, from New York. 2.30—Style and Shopping Service. 2.45—News, Work-a-day Thoughts. Riga, 2.10—Records of Kreisler, Rachmaninov, Wilhelm Backhaus, Moritz Rosenthal, Fritz Heitmann, Jascha Heifitz, Arthur Meals and Amadio. Sottens, 2.58—Time Signal. Stockholm, 2.0—Reading. 2.30—Provincial Programme. Stuttgart, 2.0—See Langenberg. Toulouse, 2.0—News. Vienna, 2.0—See 1.35 p.m. Warsaw, 2.0—For Housewives. 2.20—Jazz Music.

3 p.m.

Barcelona, 3.0—Programme for Hospitals, with Gramophone Records. Belgrade, 3.0—The Radio Orchestra. Berlin, 3.0—The Station Orchestra. Beromünster, 3.0—See Sottens. Bratislava, 3.0—The Station Orchestra conducted by Dyk. Breslau, 3.0—See Munich. Brno, 3.0—See Bratislava. Budapest, 3.30—Talk: Edmonde de Amicis. Deutschlandsender, 3.0—See Langenberg. Frankfurt, 3.0—See Langenberg. Hamburg, 3.0—See Langenberg. Heilsberg, 3.0—See Langenberg. Hilversum, 3.0—See 2.10. 3.40—Records. Huizen, 3.0—See 2.20 p.m. Kalundborg, 3.0—Orchestral Music from the Wivex Restaurant. Kaunas, 3.0—Ceremony in Memory of the Fallen, from the War Museum. 3.5—Concert by a Mandoline and Guitar Orchestra. 3.35—Archaeological Talk. 3.55—Records. Langenberg, 3.0—Concert. Part I—Chamber Music by Schneiderhan

(Violin), Grape and Wielsch (Pianoforte), Glahe and Hartung (Oboe), and Hirnet (Horn). Part II—Lortzing Opera Music by the Station Choir and Orchestra conducted by Kühn and Breuer. Soloists: Kläre Hansen-von der Leithen (Soprano). Leipzig, 3.0—See Munich. Ljubljana, 3.0—Dramatic Programme. 3.30—Operetta on Records. Madrid (EAJ7), 3.0—See 2.15. 3.40—Radio Journal and Film Review. 3.50—News. Moravská-Ostrava, 3.0—See Bratislava. Moscow (Komintern), 3.0—News. 3.15—Music. 3.30—Talks. Munich, 3.0—The Franken Orchestra conducted by Böhm. Oslo, 3.0—The Radio Ensemble conducted by Gustavsen. 3.30—Talk relayed from Bergen: Christmas on the Frozen Seas. Paris (Eiffel Tower), 3.0—Announcements. 3.15—Exchange. 3.30—Exchange and News. 3.45—African Report. Paris (Poste Parisien), 3.15—Exchange. 3.45—Exchange. Paris (Radio-Paris), 3.45—Exchange. Pittsburgh, 3.0—Edward MacHugh, from New York. 3.15—Clara, Lu, 'n' Em, from New York. 3.30—To-day's Children, from New York. 3.45—Singing Strings, from New York. Prague, 3.0—See Bratislava. Radio-Normandie, 3.30—Variety Music and Dance Music. 6.0—Popular Songs. Riga, 3.0—See 2.10 p.m. 3.20—Reading. 3.50—Dance Music. Rome, 3.30—For Children. 3.55—Giornale Radio, Exchange. Sottens, 3.0—Concert by the Radio Lausanne Orchestra, conducted by Moser. Famous Marches and Waltzes, Operetta Music, Country Melodies, and Dance Music. Stockholm, 3.0—For Children. Stuttgart, 3.0—See Langenberg. Turin, 3.35—Giornale Radio. 3.45—For Children. Vienna, 3.0—See 1.35. 3.50—Talk: Austrian Peasant Art at Christmas. Warsaw, 3.0—Programme for Children. 3.30—Violin Recital by Kreisler, on Records. 3.45—Reading. Zagreb, 3.40—News; Announcements.

4 p.m.

Belgrade, 4.0—Song Recital by Mme. Ljubica Milivojevic. 4.30—Dance Music. Berlin, 4.0—See 3.0 p.m. Beromünster, 4.0—See Sottens 3.0. Bordeaux-Lafayette, 4.30—Chamber Music relayed from Lyons (La Doua). Bratislava, 4.0—See 3.0. 4.30—Concert relayed from the Institute for the Blind. Breslau, 4.0—See Munich 3.0 p.m. 4.40—See Munich. Brno, 4.0—See Bratislava 3.0. 4.30—Carol Singers—Scene (Kroupa). 4.50—Records. Bucharest, 4.0—Variety Music by the Motoi Orchestra. Deutschlandsender, 4.0—Robinson must not die—Play (Friedrich Forster). Frankfurt, 4.0—See Langenberg 3.0. Hamburg, 4.0—See Langenberg 3.0. 4.45—"A Happy Father"—Comedy (Görner). Heilsberg, 4.0—See Deutschlandsender. Hilversum, 4.0—See 3.40. 4.10—Children's Choir. 4.40—Programme for Children. Huizen, 4.0—See 2.20 p.m. 4.10—Records. 4.40—Light Music conducted by Lustenhouwer. Kalundborg, 4.0—Service. Kaunas, 4.0—Talk. 4.20—Song Recital by Butenas. 4.40—Talk. Langenberg, 4.0—See 3.0. Leipzig, 4.0—See Munich 3.0 p.m. Ljubljana, 4.0—See 3.0. Lyons (La Doua), 4.30—Recital by The Station Trio. Moravská-Ostrava, 4.0—See Bratislava 3.0. 4.30—See Prague. Moscow (Komintern), 4.0—See 3.30. 4.30—Red Army Programme. Munich, 4.0—See 3.0 p.m. 4.40—Song Recital by Max Hartmann (Baritone). Oslo, 4.0—The Radio Ensemble. 4.30—A Play for Children. Palermo, 4.30—Programme for Women. Paris (Eiffel Tower), 4.0—Tourist Notes. 4.15—Exchange and Market Prices. Paris (Poste Parisien), 4.50—Exchange. Pittsburgh, 4.0—Four Southern Singers, from New York. 4.15—Sammy Fuller. 4.30—Shut-in-Hour, from New York. Prague, 4.30—Theatre Reminiscences by Bohuslav—the Blind Actor. 4.45—Records.

Reykjavik, 4.0—Variety Programme. Riga, 4.0—See 3.50 p.m. 4.40—Agriculture Talk. Rome, 4.30—Cello Recital by Gaspar Cassado. Sottens, 4.0—See 3.0. Stockholm, 4.5—Records. Strasbourg, 4.45—Talk in French on Dijon. Stuttgart, 4.0—See Langenberg 3.0 p.m. Toulouse, 4.15—News. Turin, 4.10—Chamber Music. 4.55—Weather. Vienna, 4.15—The Tautenhay Quartet. Warsaw, 4.0—Talk: Winter Hunting. 4.15—Recital of Christmas Carols by the Station Orchestra and a Choir. Soloists: Azarewicz (Soprano), Korolkiewicz (Baritone), Pasierb and Langer (Harmonium). Zagreb, 4.0—The Radio Orchestra.

5 p.m.

Belgrade, 5.0—See 4.30. 5.55—Time Programme Announcements. Berlin, 5.0—"A Family Christmas"—Puppet Play with Music (Heynck). 5.40—Sports Notes. Beromünster, 5.0—Records. 5.30—Talk: The Breeding of Fur-bearing Animals. 5.55—Time, Weather, and Notes on the Broadcasts for Schools. Bordeaux-Lafayette, 5.0—See 4.30. Bratislava, 5.0—See 4.30. Breslau, 5.0—Talk: A Naturalist's Christmas Walk. 5.20—Fiddle Solos and Songs with Introductory Talk. Brno, 5.0—German Transmission: Christmas Story (Schnitzler) and Christmas Shopping—Play. Brussels (No. 1), 5.0—Extracts from "Les Cloches de Corneville"—Operetta (Planquette) on Records. Brussels (No. 2), 5.0—Concert by the Station Orchestra, conducted by Walpot. 5.45—For Children. Bucharest, 5.0—Radio Journal. 5.15—See 4.0. Budapest, 5.20—Sports Notes. 5.30—Talk. Deutschlandsender, 5.0—For Children. Frankfurt, 5.0—See Langenberg. Hamburg, 5.0—See 4.45. 5.35—Sports Notes, Weather. Heilsberg, 5.0—Variety Programme. Hilversum, 5.0—See 4.40. 5.40—The Wireless Orchestra, conducted by Nico Treep. Huizen, 5.0—See 4.40 p.m. 5.25—Records. 5.55—Light Music. Kalundborg, 5.20—Talk. 5.50—Weather. Kaunas, 5.0—Records. 5.20—The Letter Box. 5.40—Talk. Langenberg, 5.0—Humorous Programme. Leipzig, 5.0—Extracts from "Das Apostelspiel" (Max Mell). Lyons (La Doua), 5.0—See 4.30. 5.45—Dance Music by the Station Orchestra. Moscow (Komintern), 5.30—For Collective Farm Workers. Munich, 5.0—For Children. 5.20—German Folk Songs. 5.45—Weather, Sports Notes. Oslo, 5.0—See 4.30. 5.15—Sacred Songs by Cally Monrad. 5.40—Interviews with Representatives of Iceland, the Faroe Isles, Greenland and the Shetland Isles, relayed from Bergen. Paris (Eiffel Tower), 5.45—Le Journal Parlé. Palermo, 5.10—Baillia Programme. Pittsburgh, 5.30—News, Market Reports. 5.45—Ernie Holst's Orchestra. Prague, 5.0—German Transmission: Sanctissimum—Allegory (Kienzl). After the Programme, News. Riga, 5.10—Latvian Songs. 5.30—Talk on Hungary. Rome, 5.0—Wheat Markets. 5.10—News. 5.45—Shipping and Sports Notes. 5.50—Morse Lesson, News. Sottens, 5.0—Talk for Housewives. 5.30—Talk: The Breton Poet Brizeux. Stockholm, 5.0—Talk: Peter Forsskal, relayed from Uppsala. 5.30—Pianoforte and Cello Duets by Anita Harrison (Pianoforte), Witkovsky (Pianoforte), and Gustav Gröndahl (Cello). Strasbourg, 5.0—Orchestral Concert conducted by Roskam. Stuttgart, 5.0—See Langenberg. Turin, 5.0—Announcements. Vienna, 5.0—See 4.15 p.m. 5.20—Talk: Christmas in Provence. 5.50—Time and Announcements. Warsaw, 5.0—Dramatic Programme. 5.40—Song Recital by Janowski.

6 p.m.

Athlone, 6.0—For Children. 6.45—News Bulletin. Barcelona, 6.0—Trio Concert. Belgrade, 6.0—Records. 6.15—Violin Concerto, Op. 46 (Rubinstein) by Karl Holub.

TUESDAY
December 26

6 p.m. (contd.)

Berlin, 6.0—See Munich. 6.30—See Munich. 6.50—See Munich.
Beromünster, 6.0—See Vienna.
Bordeaux-Lafayette, 6.15—Radio Journal.
Breslau, 6.0—See Munich. 6.30—See Munich. 6.50—See Munich.
Brussels (No. 1), 6.0—Talk: Christmas. 6.15—Concert by the Small Station Orchestra conducted by Lemans.
Brussels (No. 2), 6.0—Educational Talk. 6.20—Talk. 6.30—Talk.
Bucharest, 6.45—Records.
Budapest, 6.0—Christmas Festival in Hungary—Relay from Szany.
Deutschlandsender, 6.0—Humorous Musical Programme.
Frankfurt, 6.0—See Munich. 6.30—See Munich. 6.50—See Munich.
Hamburg, 6.0—See Munich. 6.30—See Munich. 6.50—See Munich.
Heilsberg, 6.0—See Munich. 6.30—See Munich. 6.50—See Munich.
Hilversum, 6.0—See 5.40. 6.40—Strauss Concert by the Wireless Orchestra, conducted by Albert van Raalte.
Huizen, 6.0—See 5.55 p.m. 6.40—Police Messages. 6.55—Medical Talk.
Kalundborg, 6.0—News. 6.15—Time. 6.30—Quintet in A for Clarinet, Two Violins, Viola, and Cello (Mozart).
Kaunas, 6.10—Talk. 6.30—"Grazia"—Opera (Karnavicius) from the Opera House. In the intervals, Announcements and Sports Report.
Langenberg, 6.0—See Munich. 6.30—See Munich. 6.50—See Munich.
Leipzig, 6.0—See Munich. 6.30—See Munich. 6.50—See Munich.
Lyons (La Doua), 6.0—See 5.45. 6.15—Radio Journal.
Moscow (Komitern), 6.0—See 5.30. 6.30—Talk: The New Soviet Engine.
Munich, 6.0—"The Home of Dietrich Eckart"—Radio Picture. 6.30—Extracts from "The Jupiter" Symphony (Mozart), by the Station Orchestra. 6.50—"Menschen um Dietrich Eckart"—Radio Sequence.
Oslo, 6.5—News. 6.30—Reading.
Paris (Poste-Parisien), 6.45—Exchange. 6.50—Talk on the Music Hall.
Paris (Radio-Paris), 6.20—News, Talk and Exchange. 6.40—Records.
Pittsburgh, 6.0—Farm and Home Hour, from New York. 6.30—Ernie Holst's Orchestra.
Prague, 6.0—News. 6.5—Midnight Mass at Krecovice—Scene from the Life of Josef Suk. The Station Orchestra and the Society for Sacred Music, conducted by Nemeč. Soloist: Loskot.
Riga, 6.0—Weather. 6.5—Hungarian Concert.
Rome, 6.0—News in Foreign Languages. 6.30—Records. 6.50—Giornale Radio and Sports.
Sottens, 6.0—See Vienna.
Stockholm, 6.0—See 5.30 p.m. 6.30—H.R.H. Prince X—Comedy (Rybrant) with Music by Karl Wehle and Georg Enders. 6.15—Weather and News.
Strasbourg, 6.0—History Talk in French. 6.15—Orchestral Concert, conducted by de Villers.
Stuttgart, 6.0—See Munich. 6.30—See Munich. 6.50—See Munich.
Toulouse, 6.0—News. 6.15—Argentine Band. 6.30—Talk. 6.45—Operetta Music: Selection from Eva (Lepère). Selection from The Dollar Princess (Fall). Viennese Operetta Pot-pourri (Robrecht).
Turin, 6.0—Time and News in Foreign Languages. 6.30—Records. 6.50—Announcements.
Vienna, 6.0—Lehár Radio Potpourri, conducted by the composer.
Warsaw, 6.0—Announcements. 6.5—Miscellaneous Items. 6.30—Records. 6.40—Talk on Art. 6.45—Topical Talk.
Zagreb, 6.15—Announcements. 6.45—Talk on Economics.

7 p.m.

Algiers, 7.0—Exchange. 7.10—Shipping Notes. 7.15—Weather. 7.20—Airs from "Boris Godunov" (Mussorgsky), on Records. 7.55—News.
Athlone, 7.0—Talk by C. M. NiDhubhghaill. 7.15—Music by the Station Orchestra. 7.30—Soprano Solos by Kathleen McCully. 7.45—Annual Pantomime with Orchestral Music.
Barcelona, 7.0—Request Gramophone Records. 7.30—Exchange and Talk in Catalan.
Belgrade, 7.5—See Prague.
Berlin, 7.0—See Munich. 6.50 p.m. 7.25—See Munich.
Beromünster, 7.0—See Vienna 6.0 p.m. 7.30—Programme to be announced.
Bordeaux-Lafayette, 7.35—News. 7.40—Talk for Women. 7.55—Lottery Results.
Breslau, 7.0—See Munich. 6.50 p.m. 7.25—See Munich.

Brussels (No. 1), 7.5—See Prague.
Brussels (No. 2), 7.0—Song Recital by Armand Crabbé. 7.15—Variety Items. 7.30—Talk for Women.
Bucharest, 7.0—Pianoforte Recital of Romanian Music by Madeleine Cocoraso. 7.30—Talk. 7.45—Comanian Song Recital by Georges Folesco (Bass).
Budapest, 7.0—See 6.0 p.m. Vienna.
Deutschlandsender, 7.0—Christmas Programme by Herbert Ernst Groh, Paul Hörbiger, and the Station Orchestra.
Frankfurt, 7.0—See Munich. 6.50 p.m. 7.25—See Munich.
Hamburg, 7.0—See Munich. 6.50 p.m. 7.25—See Munich.
Heilsberg, 7.0—See Munich. 6.50 p.m. 7.25—See Munich.
Hilversum, 7.0—See 6.40. 7.10—Chopin Pianoforte Recital by Imre Ungar. 7.40—Time and News. 7.55—The Wireless Orchestra, conducted by Albert van Raalte.
Huizen, 7.0—See 6.55 p.m. 7.15—Records. 7.40—The Orchestra conducted by Gerritsen. Soloist: Mme. Jo Vincent (Soprano).
Kalundborg, 7.0—Time. 7.2—Song Recital by Christian Gottschalk. 7.30—A Comedy in One Act (Jens Locher). 7.45—Songs from "The People of Copenhagen"—Sound Film (Carl Viggo Meincke).
Langenberg, 7.0—See 6.50 p.m. Munich. 7.25—See Munich.
Leipzig, 7.0—See 6.50 p.m. Munich. Ljubljana, 7.5—See Prague.
Lyons (La Doua), 7.30—Records. 7.40—Radio Gazette for Lyons and the South East.
Madrid (EAJ7), 7.0—Chimes, Exchange, Topical Talk, Announcements, and Dance Music. 7.15—Talk and Dance Music.
Moravská-Ostrava, 7.5—See Prague.
Moscow (Komitern), 7.0—Lermontov in Music—Concert with Literary Interludes.
Munich, 7.0—See 6.50 p.m. 7.25—Dietrich Eckart Memorial Programme by the Station Orchestra, the Station Choir and Soloists.
Oslo, 7.0—Concert by the Philharmonic Orchestra, conducted by Fjelstad, and the Church Choir, conducted by Sandvold, relayed from St. Saviour's Church.
Palermo, 7.0—Announcements. 7.20—Records. In the interval, Time and News. 7.45—"Othello"—Opera in Four Acts (Verdi), on Records. In the intervals, Talk and Announcements.
Paris (Eiffel Tower), 7.15—Weather. 7.25—News. 7.30—Records. 7.45—Talk on the History of Art.
Paris (Poste Parisien), 7.0—Symphonic Suite of Waltzes (Melichar), on Records. 7.7—Cinema Review. 7.15—Journal parlé. 7.30—Records.
Paris (Radio-Paris), 7.0—Theatre Review. 7.20—Records. 7.45—News.
Pittsburgh, 7.0—Four Aces. 7.15—Musical Originalities, from New York. 7.30—KDKA Home Forum.
Prague, 7.0—See 6.5. 7.5—Slav Dances, Op. 46 and Op. 72 (Dvořák), by the Czech Philharmonic Orchestra, conducted by Stupka, relayed from the Smetana Hall. In the interval—Talk on Astronomy.
Radio-Normandie, 7.15—News. 7.30—Request Programme.
Reykjavik, 7.45—For Children.
Riga, 7.0—See 6.5 p.m.
Rome, 7.0—Time, Announcements, and Records. 7.10 (approx.)—Song Recital by Nadia Krusceva (Soprano).
Sottens, 7.30—"A Waltz Dream"—Operetta in Three Acts (O. Strauss), relayed from the Théâtre Bel-Air. In the interval: News and Weather. and Answers to Correspondence.
Schenectady, 7.30—Revolving Stage, from New York.
Stockholm, 7.0 p.m.—See 6.30 p.m.
Strasbourg, 7.0—See 6.15 p.m. 7.30—Time. 7.32—News. 7.45—Records.
Stuttgart, 7.0—See Munich. 6.50 p.m. 7.25—See Munich.
Toulouse, 7.0—Russian Songs. 7.15—News. 7.30—Violin Recital. 7.45—Chansonnettes.
Turin, 7.0—Records. 7.30—Announcements. In the intervals, Talk, Literary Notes and Giornale Radio.
Vatican City, 7.0—7.15 p.m.—Religious Information in Italian.
Vienna, 7.0—See 6.0 p.m. 7.30—"Winterlegende"—Dream Play in three Acts (Paul Busson).
Warsaw, 7.0—"Ball at the Savoy"—Operetta (Abraham). In the intervals, Radio Journal and Sports Notes.
Zagreb, 7.5—See Prague.

8 p.m.

Algiers, 8.0—Time and Lottery Results. 8.10—Sonata for Violin and Pianoforte (Viardot). 8.49—Sym-

phonic Poem, La Mer (Debussy) on Records.
Athlone, 8.45—Tenor Solos by N. O'C. Redmond.
Barcelona, 8.0—Records Programme. 8.30—Catalan Educational History and Geography Lessons, followed by News.
Belgrade, 8.0—See Prague 7.5.
Berlin, 8.0—See Munich 7.25. 8.20—Small Station Orchestra conducted by Willy Steiner.
Beromünster, 8.0—Weather and News. 8.10—Traffic Report. 8.20—Overture, "Oberon" (Weber) by the Beromünster Orchestra, conducted by Gilbert. 8.30—Violin Recital, by Dora Niggli. 8.55—The Beromünster Orchestra.
Bordeaux-Lafayette, 8.0—See 7.55. 8.5—Talk relayed from Paris (Ecole Supérieure). 8.15—News, Market Prices and Weather. 8.30—See Paris (Eiffel Tower). After the Programme, Amusement Guide and Time.
Breslau, 8.0—See Munich 7.25. 8.20—The Station Orchestra conducted by Topitz.
Brussels (No. 1), 8.0—Talk for Women and Art Notes. 8.10—Concert from Prague. 8.45—Records.
Brussels (No. 2), 8.0—Accordion Recital by Vervest and Kemna. 8.15—"Menske"—a Monologue in Seven Scenes (Ys Vissel).
Bucharest, 8.15—Dance Records. 8.45—Radio Journal.
Budapest, 8.0—See Vienna 7.30 p.m. 8.30—News. 8.50—The Hetenyi-Buday-Sebő Trio from the Café Simphon.
Deutschlandsender, 8.0—See 7.0.
Frankfurt, 8.0—See Munich 7.25. 8.20—See Breslau.
Hamburg, 8.0—See Munich 7.25. 8.20—Orchestra conducted by von Sosen.
Heilsberg, 8.0—See Munich 7.25 p.m. 8.20—Orchestral Concert conducted by Brückner. In the interval—News and Sports Notes.
Hilversum, 8.40—Guessing Competition.
Huizen, 8.0—See 7.40. 8.10—News. 8.15—Song Recital by Mme. Jo Vincent (Soprano). 8.25—Records. 8.30—Soprano Song Recital (contd.). 8.40—The Orchestra.
Juan-les-Pins (Nice, Cannes), 8.0—News and Exchange. 8.10—Agricultural Talk. 8.20—English Lesson. 8.35—Concert.
Kalundborg, 8.10—Dance Music. 8.45—News.
Langenberg, 8.0—See Munich 7.25 p.m. 8.20—See Breslau.
Leipzig, 8.0—See Munich 7.25 p.m. 8.20—See Breslau.
Ljubljana, 8.0—See Prague 7.5 p.m. 8.45—Weather, News.
Lyons (La Doua), 8.0—See 7.40. 8.30—See Paris (Eiffel Tower).
Madrid (EAJ7), 8.15—Radio Journal.
Moscow (Komitern), 8.0—Talk in German: The Foreign Policy of the Soviet Union. 8.55—Chimes from Red Square.
Munich, 8.0—See 7.25. 8.20—See Breslau.
Oslo, 8.0—See 7.0. 8.40—News. 9.0—Topical Talk.
Paris (Eiffel Tower), 8.0—Science Talk. 8.15—Political Talk. 8.30—Hungarian Concert. The Orchestra and the Choir conducted by Dorati. Luceionio (Tenor), Mme. Barre (Pianoforte). Hymn to the Sun (Koranyi) for Orchestra, Choir and Tenor, from Hungarian Sketches" (Bela-Bartok). Variations on a Children's Song (Dohnanyi) for Pianoforte and Orchestra. Tenor Solo: Psalmus hungaricus (Kodaly). Hungarian Suite (Weinez). Mephisto-Walzer (Liszt).
Paris (Poste Parisien), 8.10—The Station Symphony Orchestra conducted by Mathieu. Overture, Fingal's Cave (Mendelssohn). Noël Berichion (Rousseau). Ballet Music from "Manon" (Massenet). Les chansons des trains et des gares (Fraggi). Madrigal in Four Parts (Riet). L'arlequinade (Huttel). Suite algérienne (Saint-Saëns).
Paris (Radio-Paris), 8.0—"The Merry Wives of Windsor"—Comedy (Shakespeare) arranged for Radio by Jean Variot. In the intervals—News.
Pittsburgh, 8.0—Rochester Orchestra, from New York.
Radio-Normandie, 8.15—Talk. 8.30—Concert. Selection, "The Thieving Magpie" (Rossini). Miserere from "Il Trovatore" (Verdi). Bonsoir, Madame la Base (Marinier). Rose noussé (Losc). Ton doux regard, from "Lakmé" (Delibes). The Black Forest Chiming Clock Melody (Eilenberg). Serenata (Toselli).

Reykjavik, 8.0—See 7.45. 8.10—Weather. 8.20—Music; Announcements. 8.35—Cello Recital by Arnason.
Riga, 8.0—Weather. 8.5—Dance Records.
Rome, 8.10—"Love is Blind"—Comedy in One Act (Forzano). 8.40 (approx.)—Concert. Cello Solos: (a) Adagio (Zilino), (b) Bourrée avertgnate (Canteloube), (c) Nocturne in E flat (Chopin-Silva), (d) Etude No. 2, Op. 10 (Chopin-Silva). Italian Songs: Records: (a) Selection from "Les Troyens" (Berlioz), (b) Finlandia (Sibelius), (c) Slav Dance from "Le roi malgré lui" (Chabrier), (d) Intermezzo from "The Jewels of the Madonna" (Wolf-Ferrari).
Schenectady, 8.0—Health Hunters. 8.15—Soloist, from New York.
Stockholm, 8.0 p.m.—See 6.30. 8.45—Weather and News.
Strasbourg, 8.0—Lottery Results. 8.15—Records. 8.30—See Paris (Eiffel Tower).
Stuttgart, 8.0—See 7.25 Munich. 8.20—See Breslau.
Toulouse, 8.0—Light Music. 8.30—Military Music. 8.45—Orchestral Music.
Turin, 8.0—The Masks (Mascagni), conducted by the Composer from the Carlo Felice.
Vienna, 8.0—See 7.30.
Warsaw, 8.0—See 7.0.
Zagreb, 8.45—Dance Music.

9 p.m.

Algiers, 9.0—Oriental Music. 9.30—News. 9.35—See 9.0 p.m. 9.55—News.
Athlone, 9.0—Violin Solos by Oakley. 9.15—Bass-Baritone Solos by M. O'C Maguire. 9.30—Musical Programme.
Barcelona, 9.0—Chimes and Weather. 9.5—Announcements, Messages to Seamen, Exchange, and Market Prices. 9.10—Concert by the Radio Orchestra.
Belgrade, 9.0—Time, News, Records. 9.45—Cigány Music.
Berlin, 9.0—News. 9.30—See Hamburg.
Beromünster, 9.0—See 8.55 p.m. 9.15 (from Berne)—Talk in English.
Bordeaux-Lafayette, 9.0—See Paris (Eiffel Tower) 8.30.
Breslau, 9.30—See Leipzig. 9.50—Time, News, Weather.
Brno, 9.15—The Station Orchestra, conducted by Bakala.
Brussels (No. 1), 9.0—Dance Music, relayed from the Saint Sauveur Dance Hall.
Brussels (No. 2), 9.15—Concert by the Station Orchestra, conducted by Walpot. 9.30—Accordion Recital. 9.45—Orchestral Concert (continued).
Bucharest, 9.0—Light Music from the San Remo Restaurant.
Budapest, 9.0—See 8.50 p.m.
Deutschlandsender, 9.0—News. 9.35—Radio Report of an Ice Hockey Match. 9.45—Weather.
Frankfurt, 9.0—News. 9.20—See Stuttgart. 9.30—News. 9.45—See Langenberg.
Hamburg, 9.0—News. 9.30—Orchestra (continued).
Heilsberg, 9.0—See 8.20 p.m.
Hilversum, 9.0—See 8.40 p.m. 9.10—Syncopated Music by the Comedian Harmonists. 9.40—Records.
Huizen, 9.0—See 8.40 p.m. 9.25—A Christmas Play (Röttger).
Juan-les-Pins (Nice, Cannes), 9.0—News and Weather. 9.15—Concert.
Kalundborg, 9.0—Dance Music.
Langenberg, 9.0—See Frankfurt. 9.20—See Stuttgart. 9.30—Announcements. 9.45—Records.
Leipzig, 9.30—Time and News. 9.50—Weather and Sports Notes.
Ljubljana, 9.0—See 8.45. 9.5—Records. 9.30—English Records.
Lyons (La Doua), 9.0—See Paris (Eiffel Tower) 8.30 p.m.
Madrid (EAJ7), 9.15—English Lesson. 9.30—Chimes, Time, and Radio Journal. 9.45 (approx.)—A Musical Comedy.
Moscow (Komitern), 9.0—See 8.55 p.m. 9.5—Talk in French: The Care of Public Health in the Soviet Union.
Munich, 9.0—See Breslau 8.20 p.m. 9.30—See Leipzig. 9.50—Weather, News, Exchange.
Oslo, 9.15—Variety Programme from Bergen.
Paris (Poste Parisien), 9.0—See 8.10.
Paris (Radio-Paris), 9.0—See 8.0.
Pittsburgh, 9.0—Betty and Bob from New York. 9.15—Congress of Clubs. 9.30—News, Market Reports. 9.45—Brown Palace Orchestra, from New York.
Prague, 9.0—Time and News. 9.15—See Brno.
Radio Normandie, 9.0—Concert.
Reykjavik, 9.0—Chimes, News. 9.30—Reading.

Riga, 9.0—Dance Music.
Rome, 9.0—See 8.40 p.m.
Stockholm, 9.0—Dance Music.
Strasbourg, 9.0—See Paris (Eiffel Tower) 8.30.
Stuttgart, 9.0—See Frankfurt. 9.20—Things you must know. 9.30—News. 9.45—See Langenberg.
Toulouse, 9.0—Concert Version of "White Horse Inn"—Operetta (Stolz-Benatzky). 9.45 (approx.)—A Viennese Orchestra.
Turin, 9.0—See 8.0 p.m.
Vienna, 9.0—See 7.0 p.m. 9.50—News and Weather.
Warsaw, 9.0—See 7.0 p.m.
Zagreb, 9.0—News. 9.15—Dance Music.

10 p.m.

Athlone, 10.0—See 9.30. 10.30—Time and News. 10.40—Irish Music.
Barcelona, 10.0—Symphony Music (on Records).
Berlin, 10.0—See Hamburg 9.30.
Bordeaux-Lafayette, 10.0—See Paris (Eiffel Tower) 8.30.
Breslau, 10.5—See Leipzig.
Brussels (No. 1), 10.0—Le Journal Parlé.
Brussels (No. 2), 10.0—Le Journal Parlé.
Budapest, 10.0—Talk in English with Records: Christmas Customs. 10.30—The Imre Magyar Cigány Band from Hotel Hungaria.
Deutschlandsender, 10.0—Light Music and Dance Music from the Excelsior Hotel.
Frankfurt, 10.0—See Langenberg.
Heilsberg, 10.0—See 8.20. 10.20—Dance Music Records.
Hilversum, 10.40—News. 10.55—Kovacs Lajos' Orchestra.
Huizen, 10.40—News. 10.15—The Orchestra. 10.40—Records.
Kalundborg, 10.15—The Valencia Orchestra, conducted by Kai Julian.
Langenberg, 10.0—Dance Music.
Leipzig, 10.5—Variety.
Ljubljana, 10.0—See 9.30.
Madrid (EAQ), 10.30—Popular Concert. 10.45—Radio Chronicle.
Madrid (EAJ7), 10.0—See 9.45.
Moscow (Komitern), 10.0—Talk in Dutch: The Foreign Policy of the Soviet Union.
Munich, 10.5—See Leipzig.
Oslo, 10.0—Dance Music on Records.
Palermo, 10.0—Giornale Radio.
Paris (Poste Parisien), 10.30—News. Paris (Radio-Paris), 10.0—See 8.0.
Pittsburgh, 10.15—K.D.K.A. Kiddies' Klub. 10.30—Singing Lady, from New York. 10.45—Orphan Annie, from New York.
Radio-Normandie, 10.0—Dance Music.
Reykjavik, 10.0—Concert.
Rome, 10.0—Giornale Radio.
Strasbourg, 10.0—See Paris (Eiffel Tower) 8.30.
Stuttgart, 10.0—See Langenberg.
Toulouse, 10.0—Music from Sound Films. 10.15—News. 10.30—Orchestra. 10.45—Songs.
Turin, 10.0—See 8.0.
Vienna, 10.0—Records.
Warsaw, 10.0—Weather. 10.5—Dance Music.
Zagreb, 10.0—See 9.15.

11 p.m.

Barcelona, 11.0—News and Dance Music relayed from the Casa Libre.
Breslau, 11.0—See Leipzig 10.5.
Budapest, 11.0—See 10.30 p.m.
Deutschlandsender, 11.0—See 10.0.
Frankfurt, 11.0—See Langenberg 10.0.
Huizen, 11.0—Records.
Kalundborg, 11.0—Time, Chimes. 11.5 (approx.)—Orchestral Music.
Langenberg, 11.0—See 10.0.
Leipzig, 11.0—See 10.5.
Madrid (EAQ), 11.0—Popular Concert. 11.45—Light Music.
Madrid (EAJ7), 11.0—See 9.45 p.m. 11.45—Radio Journal.
Munich, 11.0—See Leipzig 10.5.
Pittsburgh, 11.0—News, Pat Haley. 11.15—Sports, Programme Preview. 11.30—Euzil's Salon Orchestra. 11.45—Lowell Thomas.
Radio Normandie, 11.0—See 10.0.
Reykjavik, 11.0—See 10.0.
Toulouse, 11.15—Dance Music.
Budapest, 11.0—See 10.30.

12 midnight

Breslau, 12.0—See Leipzig 10.5.
Frankfurt, 12.0—See Langenberg 10.0.
Kalundborg, 12.0—Orchestra.
Langenberg, 12.0—See 10.0.
Pittsburgh, 12.0—See 10.5.
Madrid (EAQ), 12.0—Variety.
Madrid (EAJ7), 12.0—Chimes.
Radio-Normandie, 12.0—News in English. 12.15 a.m. Records.
Reykjavik, 12.0—Dance Music.
Toulouse, 12.0—News. 12.5 a.m.—Au Caveau de minuit—Fantasy.
Radio-Normandie, 1.0 (Wed.)—News in French. 1.15—Dance Music.

PRINCIPAL EVENTS

- p.m. CONCERTS
2.30 Kalundborg : Orchestra.
5.30 Brussels 2 : Orchestra.
7.0 Bucharest : Orchestra.
8.0 Brussels 1 : Popular.
8.0 Brussels 2 : From Eupen.
8.15 Eiffel Tower : Popular.
8.25 Sottens : The Gardener's Dog.
8.45 Radio Paris : Symphony.
9.0 Kalundborg : Viennese.
10.0 Budapest : Orchestra.
10.0 Stuttgart, etc. : Humorous.
11.0 Stuttgart, etc. : Serenade.

OPERAS

- 7.0 Stockholm : Carmen.
8.0 Rome : I quattro Rusteghi —Opera (Wolf-Ferrari).

CHAMBER MUSIC

- 4.10 Warsaw : Wind Instruments.
5.10 Brussels 1 : Cello, Piano-forte.
6.30 Budapest : Beethoven.
7.45 Prague : Haydn.

PLAYS AND TALK

- 8.0 Poste Parisien : Le Misanthrope.
8.30 Strasbourg : Two Plays.
9.15 Athlone : Pasteur Anniversary.

DANCE MUSIC

- 5.0 Brussels 2 ; 9.30, Warsaw ; 10.0, Kalundborg, Oslo ; 10.40, Hilversum.

MISCELLANEOUS

- 7.10 Langenberg, etc. : Variety.

WEDNESDAY (December 27)

NATIONAL

- 10.15 a.m.—The Daily Service. (Time Signal, Greenwich, at 10.30.)
10.30—10.45—Weather Forecast for Farmers and Shipping.
12 noon—Quentin Maclean at the Organ of The Trocadero Cinema. (Time Signal, Greenwich, at 1.0.)
12.45 p.m.—The Western Studio Orchestra. Elsie Davies (Soprano).
2.0—The Trocadero Cinema Orchestra, directed by Alfred van Dam.
3.0 (Davernt)—A Pianoforte Interlude by Ivy Parkin.
3.15 (Davernt)—The Bournemouth Municipal Orchestra. Conductors, Sir Dan Godfrey and W. H. Reed. Melsa (Violin). Orchestra : Overture, Leonora, No. 3 (Beethoven) ; Tone Poem, Shock-headed Peter (W. H. Reed). Melsa and Orchestra : Concerto (Mendelssohn). Orchestra : Symphony No. 4 (Glazunov). (Time Signal, Greenwich, at 4.45.)
4.45 (Davernt)—A Recital of Gramophone Records. Variety.
5.15 (Davernt)—The Children's Hour. "Mistletoe and Mincepies." A Programme arranged by Frederick Grisewood, with the Wireless Male Voice Chorus and The Stanton Handbell Ringers.
5.15 (London)—The B.B.C. Dance Orchestra, directed by Henry Hall.
6.0—"The First News." (Time Signal, Greenwich.) Weather Forecast. First General News Bulletin and Bulletin for Farmers.
6.25—Interlude.
6.30—"The Foundations of Music. Haydn's Pianoforte Sonatas, played by Mrs. Norman O'Neill.
6.50—Talk.
7.5—7.25—For Farmers Only.
7.30—Students' Songs. Stuart Robertson (Baritone). The Wireless Male Voice Chorus, conducted by Leslie Woodgate.
8.0—"Blank Hotel." "People don't come, people go..." Book by Stuart Ready. Produced by Charles Brewer. The Cast includes : The Three Janes, Tommy Handley, Claude Hulbert and Enid Trevor. Horace Kenney. Leonard Henry.

- The Orchestra, directed by S. Kneale Kelley.
9.0—"The Second News" (Time Signal, Greenwich.) Weather Forecast, Second General News Bulletin.
9.20—The Rt. Hon. Sir H. Kingsley Wood, M.P. : "Post Office Plans for 1934."
9.35—Chamber Music. The Brosa String Quartet. Mark Raphael (Baritone). Quartet in C (The Emperor) (Haydn) ; Quartet in F (The Nigger) (Dvorak).
10.50—"The Shepherd's Song," by Edmund Bolton (Sixteenth century), read by Felix Aylmer.
10.55—12 midnight (Davernt)—Dance Music. Roy Fox and his Band, relayed from The Kit-Cat Restaurant.
11.0—11.30 (London)—Television (Baird Process). Television Pantomime "Cinderella." Produced by Eustace Robb.

REGIONAL

- 10.15 a.m.—The Daily Service. (Time Signal, Greenwich, at 10.30.)
10.30—10.45—Davernt National Programme.
12 noon—The Northern Studio Orchestra, directed by John Bridge. Evelyn Sands (Clarinet).
1.0 p.m.—A Recital of Gramophone Records. Vocal and Instrumental Concert.
1.30—An Organ Recital by Maurice Vinden.
2.0—The Midland Studio Orchestra, directed by Frank Cantell.
3.0 (except Midland)—Davernt National Programme.
5.15—The Children's Hour.
6.0—"The First News." (Time Signal, Greenwich.) Weather Forecast, First General News Bulletin and Bulletin for Farmers.
6.25—Interlude.
6.30 (London and West)—Percy Bush and his Orchestra.
6.30 (Midland)—"The Life behind the Music"—III. Princess Nathalie Troubetskoy.
6.30 (North)—Organ (E. O'Henry).
6.30 (Scottish)—From our 1933 Pro-

- grammes. The Studio Orchestra, directed by Guy Daines.
6.50 (Midland)—Organ (F. Newman).
7.0 (North)—Hal Swain and his Dance Band.
7.15 (London and Midland)—The Leslie Bridgewater Quintet.
7.15 (Scottish)—The Scottish Wireless Singers. Conductor, Ian Whyte. Marie Thomson (Soprano).
7.15 (West)—A Christmas Pantomime. Relayed from The Theatre Royal, Toytown. An unpardonable intrusion in the evening's programme by The Children's Hour. "The Babes in the Wood."
8.0 (Scottish and London)—The Choral and Orchestral Union of Glasgow. The Scottish Orchestra. Conductor, John Barbirolli. Popular Holiday Programme. Slav Dance No. 8 in G Minor (Dvofak) ; Pavane (Faure) ; Minuet in A (Boccherini) ; Hornpipe (Purcell) ; Danse Macabre (Saint-Saens) ; Ballet Music, Prometheus (Beethoven).
8.0 (Midland)—"Death at the Opera." Play by J. C. Cannell.
8.0 (North)—The Studio Orchestra. Annie Pimblott (Contralto).
8.0 (West)—The Studio Orchestra. Bransby Williams (relayed from the Pavilion, Bath, at 8.20).
9.0 (except Scottish)—The B.B.C. Orchestra (Section D). Conducted by Warwick Braithwaite. Florence Austral (Soprano). Orchestra : Overture, Semiramide (Rossini) ; Adagio (Cassation No. 1 in G) (K63) (Mozart). Florence Austral and Orchestra : Recit. and Aria, Thou monstrous fiend (Fidelio) (Beethoven). Orchestra : Symphonic Poem, Death and Transfiguration (Strauss). Florence Austral and Orchestra : Prelude and Liebestod (Tristan and Isolde) (Wagner).
9.0 (Scottish)—A Reading from a Christmas Carol (Dickens).
9.10 (Scottish)—The Glasgow Choral and Orchestral Union's Concert (contd.).
10.15—"The Second News." (Time Signal, Greenwich.)
10.30—12 midnight—Dance Music. Roy Fox and his Band.

EMPIRE PROGRAMME SUMMARY

For wavelengths, see S.W. List

- Transmission 1 (GSF, GSD) G.M.T.
8.0 a.m.—Big Ben. Empire News.
8.15—Medvedeff's Balalaika Orchestra.
8.45—An Instrumental Programme.
9.15—The Northern Studio Orchestra.
10.0—Close Down.
Transmission 2 (GSG, GSE)
12 noon—Big Ben. Quentin Maclean (Cinema Organ).
12.45 p.m.—The Western Studio Orchestra. Elsie Davies (Soprano).
1.45—Close Down.
Transmission 3 (2—4 p.m. GSB, GSB ; 4—6 p.m. GSB, GSA)
2.0 p.m.—Big Ben. Empire News.
2.15—"Anywhere for a News Story."
—XIII. Mr. J. L. Hodson :
2.35—Colin Wark presents Troise, and his Mandoliers* with Don Carlos (Tenor).
3.5—Ivy Parkin (Pianoforte).
3.15—The Bournemouth Municipal Orchestra. Melsa (Violin).
4.45—Enrico Caruso (Tenor) and Luisa Tetrazzini (Soprano).
5.0—Empire News (second reading).
5.15—"A Christmas Party."
5.45—Dance Music. 6.0—Close Down.
Transmission 4 (6.15—9 p.m. GSD, GSB ; 9—10.45 p.m. GSB, GSA)
6.15 p.m.—Big Ben. Empire News.
6.30—Percy Bush and his Orchestra.
7.15—The Leslie Bridgewater Harp Quintet.
7.30—Students' Songs.
8.0—Variety.
9.0—The B.B.C. Orchestra (Section D), conducted by Warwick Braithwaite. Florence Austral (Soprano).
10.15—Empire News.
10.30—Roy Fox and his Band.
10.45—Close Down.
Transmission 5 (GSC, GSA)
11.0 p.m.—Big Ben. Variety.
11.30—Hansel and Gretel (Humperdinck).
12.15 a.m.—Medvedeff's Balalaika Orchestra.
12.45—Empire News. 1.0—Close Down.
* Electrical Recording.
† Gramophone Records.

NOTE: The Hours of Transmission are Reduced to Greenwich Mean Time

5 a.m.

- Berlin, 5.15—Gym. 5.30—To-day's Motto ; Weather. 5.35—Orchestral Concert, conducted by Steiner. In an interval, News.
Beromunster, 5.50—Gym.
Breslau, 5.30—See Munich.
Budapest, 5.45—Gym. and Records.
Deutschlandsender, 5.0—Weather. 5.5—News. 5.15—See Berlin. 5.30—Weather, To-day's Motto. 5.35—See Berlin. In an interval, News.
Frankfurt, 5.5—See Langenberg. 5.30—See Stuttgart. 5.45—See Langenberg.
Hamburg, 5.0—Time, Announcements. 5.15—Gym. 5.30—Time, Weather. 5.35—See Berlin.
Heilsberg, 5.15—Gym. 5.35—See Berlin.
Langenberg, 5.0—Record. To-day's Motto. 5.5—Records. 5.30—See Stuttgart. 5.45—Gym.
Leipzig, 5.30—See Munich.
Moscow (Komintern), 5.15—Records.
Munich, 5.30—Gym. 5.45—To-day's Motto and Records.
Prague, 5.15—Gym, followed by Musical Programme and News.
Stuttgart, 5.0—See Langenberg. 5.30—Gym. 5.45—See Langenberg.

6 a.m.

- Berlin, 6.0—See 5.35 a.m.
Breslau, 6.15—See Leipzig. 6.25—Concert.
Budapest, 6.0—See 5.45 a.m.
Deutschlandsender, 6.0—See Berlin.
Frankfurt, 6.0—Time and Announcements. 6.15—See Langenberg.
Hamburg, 6.0—Time and News. 6.10—To-day's Motto. 6.20—Concert from Berlin.
Heilsberg, 6.0—See Berlin.
Kalundborg, 6.0—Gym. for Women. 6.15—Gym.
Langenberg, 6.0—See Frankfurt. 6.10—Weather. 6.15—Records.
Leipzig, 6.0—See Munich 5.30 a.m. 6.15—News. 6.25—See Breslau.
Moscow (Komintern), 6.0—Programme Announcements. 6.15—A Wind Instrument Orchestra.
Munich, 6.0—See 5.45 a.m. 6.15—Time and News. 6.25—See Breslau.
Paris (Radio-Paris), 6.45—Gym.
Prague, 6.0—See 5.15 a.m.
Rome, 6.45—Gym.

- Sottens (Radio-Suisse Romande), 6.0—Gym.
Stockholm, 6.20—Gym. 6.45—Morning Service.
Stuttgart, 6.0—See Frankfurt. 6.10—Weather. 6.15—See Langenberg.
Turin, 6.45—Gym.
Warsaw, 6.0—Time Signal and Christmas Carol. 6.5—Gym. 6.20—Records. 6.35—Radio Journal. 6.40—Records. 6.52—For Housewives. 6.55—Announcements.

7 a.m.

- Barcelona, 7.15—Radio Journal and Records.
Berlin, 7.15—Gym. 7.30—Physical Culture.
Breslau, 7.0—See 6.25 a.m.
Bordeaux-Lafayette, 7.45—News, relayed from Paris (Ecole Supérieure).
Deutschlandsender, 7.45—For Women.
Frankfurt, 7.0—See Langenberg. 6.15 a.m. 7.15—Announcements. 7.25—See Langenberg.
Hamburg, 7.0—Weather ; Talk for the Housewife. 7.15—Technical Wireless Notes. 7.25—Ice Report.
Heilsberg, 7.0—Morning Prayer. 7.30—Gym.
Hilversum, 7.40—Records.
Huizen, 7.40—Bible Reading and Prayer. 7.55—Records.
Kalundborg, 7.30—Service from the Cathedral.
Langenberg, 7.0—See 6.15 a.m. 7.15—Announcements. 7.25—Gym. 7.40—Talk for Women.
Leipzig, 7.0—See Breslau 6.25 a.m.
Lyons (La Doua), 7.45—News and Weather.
Moscow, 7.0—See 6.15 a.m. 7.15—For Children.
Munich, 7.0—See Breslau, 6.25.
Paris (Poste Parisien), 7.10—Chimes and Records. March of the Smiths. A Fete in a Harem (Prichystal). Selection from "Rose-Marie" (Friml). Melody (Bixio). Le Temps des Cerises (Renard). Au clair de lune (Lullii). La Cocarde de Mimi Pinson (Goublier). Melody (Sarony). Tout pour Emilie (Conrad). Selection from "Les Noces de Jeannette" (Massé). Viens, douce Amanda (Gundlach). In the interval at 7.30—News.
Paris (Radio-Paris), 7.30—Weather, Gym. 7.45—Records.
Radio-Normandie, 7.15—Concert. 7.30—News.

- Rome, 7.0—Time and Announcements.
Stuttgart, 7.0—See Langenberg. 6.15.
7.15—See Frankfurt. 7.25—See Langenberg. 7.50—Post Office Concert.
Turin, 7.0—Time ; Announcements.

8 a.m.

- Barcelona, 8.0—Chimes, Physical Culture and Gramophone Music. 8.20—Radio Journal and Gramophone Music.
Berlin, 8.30—"The Little Match Girl"—Play after Andersen (Margarete von Olfers).
Breslau, 8.0—Gym. 8.20—Announcements.
Deutschlandsender, 8.0—Records. 8.40—Gym.
Hilversum, 8.0—See 7.40 a.m.
Huizen, 8.0—See 7.55 a.m.
Leipzig, 8.0—See Breslau. 8.40—Market Prices. 8.45—Announcements.
Madrid (EAJ), 8.0—Radio Journal.
Moscow (Komintern), 8.0—Glinka Concert. 8.55—Time.
Munich, 8.0—See Breslau.
Paris (Poste Parisien), 8.0—Sponsored Concert. 8.20—News. 8.45—For the Housewife.
Paris (Radio-Paris), 8.0—News.
Prague, 8.50—Weather and News.
Radio-Normandie, 8.0—Concert. 8.15—Review.
Stuttgart, 8.40—Talk : The Education of Children.
Toulouse, 8.0—Dance Music. 8.30—News. 8.35—Military Music. 8.45—Arias from Operas. "La Juive" (Halévy). "The Queen of Sheba" (Gounod). "Le Pardon de Ploermel" (Meyerbeer).
Vienna, 8.20—Market Prices. 8.30—Weather.

9 a.m.

- Barcelona, 9.0—Announcements.
Berlin, 9.0—News. 9.10—Retail Prices. 9.30—Records ; Announcements.
Budapest, 9.0—Talk with Records.
Deutschlandsender, 9.0—News. 9.10—Soprano and Baritone Recital by Eva Duffing and Werner Gisevius.
Frankfurt, 9.0—News. 9.45—Hints for the Housewife.
Hamburg, 9.0—Records. 9.50—News.
Heilsberg, 9.40—News. 9.55—Weather.

- Hilversum, 9.40—Divine Service. 9.55—Recitations.
Huizen, 9.0—See 7.55 a.m.
Langenberg, 9.0—See Frankfurt. 9.5—Announcements. 9.10—Topical Talk.
Leipzig, 9.45—Post Office Programme with Records.
Moravská-Ostrava, 9.10—Concert by the State Police Band.
Moscow (Komintern), 9.0—News. 9.15—Chopin Recital.
Munich, 9.15—Italian Lesson. 9.55—Market Prices.
Prague, 9.0—See 8.50 a.m. 9.10—See Moravská-Ostrava.
Stuttgart, 9.0—See Frankfurt. 9.10—Reading. 9.40—Ficker Song Recital by Eva Fein (Contralto). Die kleine Mutter. Maria mit dem Kinde.
Vienna, 9.50—Tides Report.

10 a.m.

- Berlin, 10.25—Exchange. 10.30—The Small Station Orchestra, conducted by Steiner. Waltz, The Blue Danube (Joh. Strauss). Minuet (Boccherini). La lettre de Manon (Gillet). Waltz from "Faust" (Gounod). Overture, "The Force of Destiny" (Verdi). Solveig's Song (Grieg). Leggenda d'amore (Bece). Waltz from "The Count of Luxembourg" (Lehar). Folk Song, Wenn ich ein Voglein wär. Viennese Song Potpourri: So schön, wie's einmal war (Dauber). In the interval, Weather.
Bordeaux-Lafayette, 10.30—See Lyons (La Doua).
Bratislava, 10.0—Tides Report. 10.5—Records.
Breslau, 10.20—Agriculture Talk. 10.40—Announcements. 10.50—See Leipzig.
Budapest, 10.10—Tides Report.
Deutschlandsender, 10.0—Talk. 10.15—Weather. 10.30—Talk : Old Wedding Customs. 10.50—Topical Talk.
Frankfurt, 10.0—Concert. 10.40—Announcements.
Hamburg, 10.0—Schumann Records. Scherzo from the Second Symphony, Op. 61. Three Pieces from Kinderszenen, Op. 15 : (a) Glückes genug, (b) Wichtige Begebenheit, (c) Träumerei. Mondnacht. Finale from the Pianoforte Trio in D minor, Op. 63. Wohlauf noch getrucken. 10.30—See Berlin.

- Heilsberg, 10.0—Ice Report. 10.5—Talk : Christmas in the Country. 10.30—See Berlin.
Hilversum, 10.0—See 9.55. 10.10—Concert conducted by Wins. 10.40—Recitations. 10.55—Concert (continued).
Huizen, 10.10—Religious Programme. 10.40—Recital by the van der Horst Trio and Mme. C. van Ravenzwaay-Möllenkamp. Overture, "Il re pastore" (Mozart). Selection, "I Puritani" (Bellini). Two Songs (Beethoven) on Records. Two Songs (Weber), on Records. Spring Song (Mendelssohn). Trio (Haydn).
Kalundborg, 10.0—Weather and Angling Notes. 10.15—Talk for Schools.
Langenberg, 10.10—Records. 10.25—Sponsored Programme with Records. 10.55—Weather.
Leipzig, 10.40—Time: Tides Report. 10.50—News.
Lyons (La Doua), 10.30—Concert. March (Ganne). The Passing of Salomé (Joyce). Selection from "Mirella" (Gounod). Délassément (Belchen). Selection from "Lakmé" (Delibes). Rêve (d'Am-brosio). Suite, The Children's Corner (Debussy). Selection from "Les Fantoccini" (Lecoca). Waltz (Strauss).
Moravská-Ostrava, 10.0—Records.
Moscow (Komintern), 10.0—See 9.15.
Munich, 10.30—Programme arranged by the Post Office with Records.
Oslo, 10.15—Service.
Prague, 10.0—Records. 10.55—Agriculture Talk.
Strasbourg, 10.30—See Lyons (La Doua).
Stuttgart, 10.0—Records. 10.25—Post Office Concert. 10.55—Weather.
Turin, 10.15—Trio Concert.
Vatican City, 10.0—10.15—Religious Information in Spanish.
Vienna, 10.30—The Wiener Symphoniker, conducted by Josef Hell-zer. March, Till Eulenspiegel. (Rupprecht). Overture, "Reiche Mädchen" (Joh. Strauss). Selection from "Der Göttergatte" (Lehar). 10.55—Weather.
Warsaw, 10.40—Polish Press Review. 10.50—Talk. 10.57—Time Signal and Fanfare from St. Mary's Church, Cracow.

11 a.m.

- Barcelona, 11.0—Chimes from the Cathedral, and Weather.

WEDNESDAY
December 27

11 a.m. (contd.)

Bari, 11.30—Quintet Concert.
Berlin 11.0—See 10.30 a.m.
Beromünster, 11.0—Records. 11.29—
Time from Neuchâtel Observatory
and News. 11.40—Records.
Bordeaux-Lafayette, 11.0—See Lyons
(La Doua) 10.30.
Bratislava, 11.0—Agriculture Report.
11.35—The Station Orchestra.
March from "A Midsummer Night's
Dream" (Mendelssohn). Inter-
national Suite (Moszkowsky). Wed-
ding Scenes (Smetana). Intermezzo
(Kocian). Waltz (Figu-Bystry).
Polka (Kovafovic). Slav Dances
Nos. 5 and 6 (Dvořák).
Brno, 11.0—Market Prices. 11.10—
See Prague. 11.35—See Bratislava.
Bucharest, 11.0—Records.
Budapest, 11.0—Chimes from the
University Church. 11.5—The
Stefan Bertha Orchestra.
Deutschlandsender, 11.0—Weather.
11.5—Records. Deutscher Föhn
(Hanfstaengl). Overture, "The
Gipsy Baron" (Joh. Strauss). Overtu-
re, "Der Waldmeister" (Strauss).
Polka, "Bitte schön" (Strauss). Ball-
geflüster (Meyer-Helmund). Elegy
(Massenet). Waltz, Amoureux
(Berger). Waltz, Vibraphon (Lohr).
Overture to the Carnival Suite
(Schmalstich). Fröhliches Wandern
(Weitschach). Two Airs from
"The Gipsy Baron" (Joh. Strauss).
Deutschmeister - Marsch (Jurek).
After the Programme, Weather.
11.55—Time.
Frankfurt, 11.0—See Langenberg.
Hamburg, 11.5—Report for the House-
wife. 11.10—Time, News. 11.20—
See Berlin 10.30.
Heilsberg, 11.0—See Berlin 10.30.
Hilversum, 11.0—See 10.55 a.m. 11.40
—The Small Orchestra, conducted
by H. de Groot. Russian March
(Strauss). Overture, "Girofé-
Girofla" (Lecocq). Valse des
brunettes (Ganne). Der letzte
Pferdebahn (Raasch). Tanzen
nicht' ich (Kalmann). Records.
Overture, "Im Reich des Indra"
(Lincke). Feuilles éparées (d'Ambro-
sio). Piece (Ibañez). Katharina
(Michiels). Records. Cracovienne
(Leopold). Ein Tag im Wienerwald
(Kreuzberger). Mendelssohn Pot-
pourri.
Huizen, 11.0—See 10.40 a.m. 11.40—
Police Notes. 11.55—Records.
Kalundborg, 11.0—Town Hall Chimes.
11.2—String Ensemble from the
Wivex Restaurant.
Langenberg, 11.0—Richard Strauss
Concert (on Records). Military
March. Two Songs: (a) Heimliche
Aufzuehung. (b) Zueignung. Ex-
tract from "Der Bürger als Edel-
mann". Two Songs: (a) Cicilie,
(b) Ständchen. Extract from
"Schlagobers". Two Songs: (a)
Geduld, (b) Morgen. Extract from
"Der Bürger als Edelmann." Ex-
tract from "Arabella."
Leipzig, 11.0—Orchestra conducted by
Blumer. Charlotte Sommer (Sopra-
no), Mathilde Stern (Soprano),
Irmgard Fritzsche (Contralto) and
Käthe Herr (Contralto). Overture,
"Alessandro Stradella" (Flotow).
Extract from "Dornröschen"
(Kienzl). Quem pastores laudaver
(Blumer). Da ist die schöne Nacht
(Blumer). Helfafest from "Die
Königskinder" (Humperdinck).
Three Songs from "Weihnachten
bei den Spielzeugmachern" (Blu-
mer). Potpourri, Auf Wiederhören
(Wenger). Gallop, Tik-Tak (Joh.
Strauss). Polka-Mazurka, Ein Herz,
ein Sinn (Joh. Strauss). March,
Junges Blut, frischer Mut (Yardner).
Ljubljana, 11.15—Records. 11.45—
News.
Lyons (La Doua), 11.0—See 10.30 a.m.
Madrid, 11.45—Announcements.
Moravská-Ostrava, 11.0—Agriculture
Talk.
Munich, 11.0—See Leipzig.
Oslo, 11.0—See 10.15 a.m. 11.10—
Exchange. 11.55—Time.
Prague, 11.0—Talk. 11.10—Records.
11.20—Weather and News. 11.35—
See Bratislava.
Radio-Normandie, 11.0—Variety Pro-
gramme.
Reykjavik, 11.0—Weather.
Rome 11.30—Records.
Sottens, 11.28—Time Signal. 11.30—
News, Weather. 11.40—Records.
Stockholm, 11.30—Weather. 11.45—
Exchange. 11.55—Time.
Strasbourg, 11.0—See Lyons-la-
Doua 10.30 a.m.
Stuttgart, 11.0—See Langenberg.
Turin, 11.30—Records. 11.40—
Giornale Radio.
Vienna, 11.0—The "Wiener Sym-
phoniker." Hungarian Dances
(Brahms). Romance (Reinhold).
Marienwälder (Bayer). Dance of
the Gnomes, Polka and Burlesque
(Meyer-Helmund). Song (Nedbal).
Spanish Waltz (Hellmesberger). In-

termezzo from "Perle von Iberien"
(Hellmesberger). Two Pieces (We-
taschek). Selection from "Aus
der Zeit der jungen Liebe" (Kom-
zak). Gallop (Jos. Strauss).
Warsaw, 11.5—Records. 11.30—
Radio Journal. 11.35—Weather.
11.38—Johann Strauss Waltzes on
Records.
Zagreb, 11.20—Cookery Recipes. 11.30
—Records.

12 noon

Algiers, 12.30—Records.
Barcelona, 12.0—Programme for
Women. 12.45—Gramophone
Music.
Berlin, 12.0—Records. Waltz from
"The Count of Luxembourg"
(Lehar). Was ich längst erträumte,
from "Der Göttergatte" (Lehar).
Air from "Wild Violets" (Stolz).
Hab' ein blaues Himmelbett, from
"Frasquita" (Lehar). Air from
"The Land of Smiles" (Lehar).
Frei und jung dabei, from "Schön
ist die Welt" (Lehar). 12.20—
See Hamburg.
Beromünster, 12.0—See 11.40 a.m.
12.25—Time, Weather, Exchange.
Bordeaux-Lafayette, 12.45—Time and
Quintet Concert. In the interval,
News.
Bratislava, 12.0—See 11.35 a.m.
12.45—News in Slovak, German
and Hungarian.
Breslau, 12.15—See Leipzig.
Brussels No. 1, 12.0—Concert by
the Paul Moreau Orchestra, relayed
from the Scala Tavern.
Brussels No. 2, 12.0—Concert by
the Station Orchestra, conducted
by André. Soloists: Marguerite
Thijs (Songs). Gason (Flute) and
Béthune (Violin). Li-o-ting (Staub).
Moment musical (Schubert). The
Niggers' Feast (Robert). Flute
Concertino (Chaminade). Songs.
Albanian Suite (Kostal). Waltz,
Il bacio (Arditi). Violin Solo:
Imitation des petits tambours
(Poliakin). Humoresque (Demare).
The Nursery (Inghelbrecht). Rumba,
Flor de Cuba (Grégor). Paso doble,
Viva España (Frank Speyer).
Bucharest, 12.0—Radio Journal. 12.15—
Records.
Budapest, 12.0—See 11.5 a.m. 12.30—
A Police Band.
Deutschlandsender, 12.45—News.
Frankfurt, 12.0—See Langenberg 11.0
a.m. 12.15—Time and News. 12.35
—Station Orchestra conducted by
Reinhold Merten. Overture, "Gas-
parone" (Millocker). Waltz (Joh.
Strauss). Polka-Mazurka from "Der
Bettelstudent" (Millocker). Waltz
(Lehar). Maxim March (Lehar).
Overture, "Ihre Exzellenz" (Heu-
berger). Annen-Polka (Joh. Strauss).
Waltz (Joh. Strauss). Lucifer-Polka
(Joh. Strauss). Janitscharen-Marsch
(Reiterer).
Hamburg, 12.0—Exchange. 12.10—
Weather. 12.20—Musical Pro-
gramme.
Heilsberg, 12.5—Records. Extract
from "Das Nachtlager in Granada"
(Kreutzer). Schäfers Sonntaglied,
An jenem Tag from "Hans Heiling"
(Marschner). Trennung (Marschner).
War March of the Priests from
"Athalie" (Mendelssohn). Ave
Maria (Mendelssohn). Spinnerlied
(Mendelssohn). Meeresstille und
glückliche Fahrt (Mendelssohn). In
the intervals, News.
Hilversum, 12 noon.—See 11.40.
Huizen, 12.10—Concert. Trio Sonata
in D Minor (Buxtehude). Christmas
Carols on Records. Movement
from Trio No. 6 (Beethoven).
Songs. Movement from the Trio
in G (Mozart).
Juan-les-Pins (Nice), 12.30—Announce-
ments.
Langenberg, 12.0—See 11.0 a.m.
12.15—See Frankfurt. 12.25—News.
12.35—See Frankfurt.
Leipzig, 12.0—See 11.0 a.m. 12.15—
News. 12.25—Records. Heiterkeit
und Fröhlichkeit, from "Der
Wildschütz" (Lortzing). Aria from
"Don Giovanni" (Mozart). Duet
from "The Merry Wives of
Windsor" (Nicolai). Aria from
"The Gipsy Baron" (Joh. Strauss).
Schwamm drüber from "Der
Bettelstudent" (Millocker). Tyrolse
Song. Begegnung dir die Liebe.
Wine, Woman and Song (Joh.
Strauss). The Blue Danube (Joh.
Strauss).
Ljubljana, 12.0—Weather. Records.
Lyons (La Doua), 12.30—Records.
Madrid (E.A.J.7), 12.0—Chimes and
Radio Journal. 12.15—Time.
Munich, 12.0—See Leipzig 11.0 a.m.
12.15—See Leipzig. 12.25—Records.
Aria from "Orpheus" (Gluck). Der
Erlkönig (Schubert-Goethe). Hoch-
zeitslied (Loewe). In the Hall of
the Mountain King from "Peer
Gynt" (Grieg). Night on the Bare
Mountain (Mussorgsky). L'apprenti
sorcier (Dukas).
Oslo, 12.0—Records. In the intervals—
Weather, Agricultural Report and
Exchange.
Eiffel Tower, 12.30—Concert relayed
from Paris (Ecole Supérieure).
Poste Parisien, 12.0—Financial Notes.
12.5—Concert by the Station Or-
chestra. Overture, "Mignon"
(Thomas). Waltz No. 4 (Dvořák).
Entr'acte from "Les Erynnies"
(Massenet). Sarabande (Debussy).
Selection from "Coppélia"
(Delibes). Aragonese (Granados).
Ronde des Lutins (Nerini). Selection
from "Boris Godunov" (Mussorg-
sky). Suite No. 2 (Guiraud).
Paris (Radio-Paris), 12.0—Education
Talk. 12.15—Chopin Records.
Mazurka No. 4. Nocturne in F
Sharp. Prelude Scherzo in B Flat
Minor. 12.30—Organ Recital
from the Gaumont-Palace. The
Blue Danube (Strauss). Ballet
Music "Faust" (Gounod). I cover
the Waterfront (Green).
Pittsburg, 12.0—Musical Clock.
Prague, 12.35—Talk on Commerce.
12.45—Records. 12.55—Exchange
and Weather.
Radio Normandie, 12.0—Accordion
Solos. 12.30—News. 12.45—
Opera and Operetta Music.
Rome, 12.0—Orchestra. Foxtrot
(Weiss). Canzone a Rumba
(Rampoldi). Festa di maggio
(Culotta). Slow Foxtrot (Kruger).
Selection from Bacco in Toscana
(Broggi). Qui si paga per cantanti
(Cergoli). Foxtrot, Hawaiian
Moonlight (Barziza). One-Step
(Cortopassi). 12.30—Exchange.
Sottens, 12.0—Financial News. 12.10—
Records.
Strasbourg, 12.45—News. 12.0—
Gramophone Concert.
Stuttgart, 12.0—See Langenberg
11.0 a.m. 12.15—See Frankfurt.
12.25—News. 12.35—See Frank-
furt.
Toulouse, 12.0—Opera and Operetta
Music. Selection, "Iphigenia in
Aulis" (Gluck). Prelude, "Pelléas
et Mélisande" (Debussy). Overtu-
re, "Philemon et Baucis" (Gou-
nod). Songs from "Véronique"
(Messager). Aria, "La vie
Parisienne" (Offenbach). Aria,
"Les Saltimbanques" (Ganne).
12.30—News and Exchange. 12.45—
Request Programme. Tyrolienne,
"White Horse Inn" (Benatzky).
Duet, "Il Trovatore" (Verdi).
Emilienne (Oberfeld). Overture,
"Les Saltimbanques" (Ganne).
Turin, 12.0—Time; Announcements
and Opera Records. Selection from
"Aroldo" (Verdi). Selection from
"La Bohème" (Puccini). Aria
from "Attila" (Verdi). Inter-
mezzo from "L'Amico Fritz"
(Mascagni). Intermezzo from
"Edgar" (Puccini). Aria from
"Samson and Delilah" (Saint-
Saens). Prelude to "Parsifal"
(Wagner). In the interval, Exchange.
Vienna, 12.0—Time, Weather, An-
nouncements. 12.10—Records.
Paderewsky: Nocturne (Chopin).
Völker: Heimweh (Wolf). Leo
Slezak: Prize Song from "The
Mastersingers" (Wagner). Heinrich
Schlusnus: Es muss ein Wunder-
bares sein (Liszt). Leo Schütz-
endorf: Aria from "Czar and Car-
penter" (Zimmermann). Maria
Cebotari: Aria from "La Bohème"
(Puccini). Vasa Pridoda: Serenade
(Toselli). Miguel Fleta: Rudolf's
Aria from "La Bohème" (Puccini).
Lotte Lehmann: Song from "The
Merry Wives of Windsor" (Nicolai).
Kreisler: Humoresque (Dvorak).
Zagreb, 12.0—Announcements. 12.10
—Russian Songs on Records.
12.40—News.

1 p.m.

Algiers, 1.0—News. 1.5—See 12.30
p.m.
Athlone, 1.30—Time, News, and Re-
cords.
Barcelona, 1.0—Gramophone Re-
cords. 1.30—Theatre Notes and
Records (contd.).
Berlin, 1.15—News. 1.35—Extracts
from "Manon Lescaut"—Opera
(Puccini), on Records.
Bordeaux-Lafayette, 1.0—See 12.45
p.m. 1.50—Exchange.
Breslau, 1.0—See Leipzig. 1.15—
Time, Weather. 1.20—Post Office
Programme with Records. 1.50—
Announcements.
Brno, 1.0—Market Prices.
Brussels No. 1, 1.0—Le Journal Parlé.
1.10—Concert by the Radio Orches-
tra. Soloist: Marguerite Thy-
s (Songs). One-Step (Grothe). Dances
from "The Rebel Maid" (Montague
Phillips). Russian Melodies (Higgs).

Songs. March, Les petits soldats de
plomb (Piérid). Intermezzo from
"Charles Stratton" (Dejoncker).
Habaneira (Grillaert and Van
Herck). Valse musette, C'est mon
p'tit (Mercier). Persian Caravan
(Benson). Bavarian Dances (Pacher-
negg).
Brussels No. 2, 1.0—Le Journal
Parlé. 1.10—Orchestral Concert
relayed from Antwerp.
Deutschlandsender, 1.0—Records.
Kokotterle (Mahr). Dein gedenk ich,
Margarethe (Meyer - Helmund).
Drei Wünsche (Fußer). Liebste
glaub an mich (Lehar). Ukranian
Sketches (Sibirski). Waltz, Mia
bella (Sommerfeld). Gib's im
Radio Tanzmusik (Kollo). Tanzende
Teepuppe (Schmidt-Hagen). Hoppla,
Hoppla (Freundorfer). Zehn Meilen
vor der Stadt (Schachel). Glück-
liche Reise (Kunneke). Kleinbahn-
fahrt (Rathke). 1.45—Reading of
Two Fairy Stories.
Frankfurt, 1.0—See 12.35 p.m. 1.30—
See Stuttgart.
Hamburg, 1.0—See 12.20 p.m. 1.15—
News. 1.35—Records. Heiterkeit
und Fröhlichkeit, from "Der Wild-
schütz" (Lortzing). Arabesque on
The Blue Danube (Joh. Strauss).
The Zephyr (Hubay). Glücklich
am Morgen, glücklich am Abend
from "Liselott" (Künneke). Komm
in die Gondel from "Eine Nacht in
Venedig" (Joh. Strauss). March,
Glückliche Reise (Künneke).
Heilsberg, 1.0—See 12.5. 1.30—
Programme arranged by the Post
Office with Records.
Hilversum, 1.0—See 11.40 a.m.
1.55—Records.
Huizen, 1.10—Records. 1.40—Cello
Recital by Miles. Straatman. Sonate
(Corelli). Sarabande (Handel).
Bourrée (Handel). Air (Bach).
Sonata in G Minor (Marcello), on
Gramophone Records. Preghiera
(Schubert). Variations on a Theme
of Mozart (Beethoven). Adagio
(Mendelssohn). Forest Calm
(Dvořák). Ballad (Arensky).
Juan-les-Pins (Nice, Cannes), 1.0—
News. 1.15—Concert.
Langenberg, 1.0—See Frankfurt 12.35.
1.30—See Stuttgart.
Leipzig, 1.0—News. 1.20—Talk:
Scandinavian Legends. 1.30—"Die
Reise ins Schlaraffenland"—Radio
Play for Young People (Eich).
Lyons (La Doua), 1.0—Concert.
Dites-moi si vous avez un Coeur
(Maquis). Les petits pavés (Delmet
Vaucaire). Si Maria voulait (Malfait
Bouquet). Melody (Bach). Two
Pieces (Maquis). Extracts from
"Mam'zelle Nitouche" (Herve).
Extracts from "La fille de Madame
Angot" (Lecocq). Un baiser,
Madame (Malloire-Learsi). Mari-
vaudage (Lion). Si tu veux (Pothier
and Hugon). In the interval, News.
Munich, 1.0—See Leipzig. 1.10—
News. 1.20—Programme arranged
by the Post Office with Records.
1.50—Concert for Children.
Moscow (Komintern), 1.45—Announce-
ments.
Paris (Eiffel Tower), 1.0—Market
Prices. 1.15—News. 1.30—Agricultural
Talk. 1.45—Report of the
Labour Bureau.
Paris (Poste Parisien), 1.5—Exchange.
1.15—See 12.0 noon. 1.25—Finan-
cial News. 1.30—See 12.0 noon.
Paris (Radio-Paris), 1.0—Exchange,
News. 1.5—Records. Les deux
Amis (Mauguin). Voici mon coeur
(Cremieux-Varenne). L'Amour de
ma vie (Bosc-Marinier). La Fonta-
ine de Araouët (Omer Letorey).
Je suis à la mode (Avignon). Si
j'aimais (Erwin). Eternel Prin-
temps (Popy). Les Fantoques
(Raiter). Tue m'as juré (Lenoir).
L'oiseau et la fontaine (Silesu).
Selection, "Les Saltimbanques"
(Ganne). Place Blanche (Méle).
Song (Heymann-Falk). Linyera
(Dios-Filiberto). Fête du Hameau
(Gillet). In the interval, Exchange.
Pittsburg, 1.0—Morning Devotions,
from New York. 1.15—Don Hall
Trio, from New York. 1.30—Lew
White, Organist, from New York.
Reykjavik, 1.15—Variety Programme.
Rome, 1.0—News and Orchestra
(contd.).
Strasbourg, 1.0—Time and News.
1.5—Orchestral Concert conducted
by Roskam. March from "Katinka"
(Lajtai). Waltz, Hironelles de
Vienna (Uvergolts). Hungarian
Comedy Overture (Kéler-Béla).
Piece for String Quartet (Wormser).
It's time to sing sweet Adeline again.
Roll up the Carpet. Selection from
"Le postillon de Longjumeau"
(Adam). Tango, Shadow Waltz.
En se jouant (Gabriel Marie). Why
can't this Night go on for ever?
March.
Stuttgart, 1.30—For Young People.
Toulouse, 1.0—Amusement Guide and

Market Prices. 1.5—Bai Musette.
1.80—Viennese Orchestra. 1.45—
Songs from Sound Films.
Turin, 1.15—Giornale Radio.

2 p.m.
Athlone, 2.0—Records.
Barcelona, 2.0—Sextet Concert and
Humorous Dialogue.
Berlin, 2.0—Exchange. 2.20—Piano-
forte Concerto No. 2 in A (Liszt).
2.45—Report from a Women's
Gymnasium.
Beromünster, 2.30—Records. 2.59—
Time from Neuchâtel Observatory.
Bordeaux-Lafayette, 2.0—Records.
2.20—Talk: The Edda.
Breslau, 2.30—For Children.
Brno, 2.40—Talk for Children.
Budapest, 2.0—See 12.30 p.m. 2.30—
Educational Programme.
Deutschlandsender, 2.0—Paul Alverdes
reads. 2.30—Weather, Exchange.
2.45—Reading.
Frankfurt, 2.0—See 1.30 p.m. 2.30—
Weather. 2.40—Time and Market
Prices.
Hamburg, 2.0—Exchange. 2.40—
Announcements. 2.50—Ice Report.
Heilsberg, 2.0—Agricultural Prices,
Exchange. 2.20—Hints for the
Housewife. 2.30—Christmas Fairy
Stories for Children.
Hilversum, 2.0—Records. 2.40—
For Children.
Huizen, 2.0—See 1.40 p.m. 2.40—
Religious Reading.
Juan-les-Pins (Nice, Cannes), 2.0—
See 1.15 p.m.
Kalundborg, 2.0—Records. Song,
"Ein Lied geht um die Welt"
(May). Song (Winther). Song,
"The Flower of Hawaii" (Abra-
ham). I hear you calling me (Har-
ford and Marshall). Waltz,
Llewellyn (Wiedofel). My Gipsy
Rhapsody (Lawrence). Selection
from "Chu Chin Chow." Won't
you stay to tea? (Gordon and
Revel). Waltz, Am Wörther See
(Koschat). 2.30—Station Orches-
tra, conducted by Laury Gröndahl.
Prelude to "Faust" (Gounod).
Waltz, Reminiscences of Copen-
hagen (Gungl). Dutch Rhapsody,
Piet Hein (van Anrooy). Selection,
Samson and Delilah (Saint-Saens).
Gigue, Sarabande and Bourrée
from the Old-Time Suite (Halv-
sen). Talk for Women. Parade
March (Lacôme). Three Pieces
from the Suite Koldinghus (Louis
Glass). Waltz (Coates). Cherry
Ripe (Scott). Selection from
"Hansel and Gretel" (Humper-
dinck). March from "Die keusche
Barbara" (Nedbal).
Langenberg, 2.0—See Stuttgart 1.30.
2.30—Market Prices. 2.50—Political
Announcements.
Leipzig, 2.0—Talk: German Family
Names. 2.25—The Capitals of
Europe—Book Review. 2.40—
Market Prices.
Lyons (La Doua), 2.0—See 1.0 p.m.
Madrid (E.A.J.7), 2.0—Chimes, Time,
Weather, and Theatre Notes. 2.15
(approx.)—Concert. Two-Step (del
Campo). Romance (Asenio del
Alamo and Luna). Serenade No. 2
(Toselli). Foxtrot (Yellen and
Dance (Strauss). Selection from
"Manon Lescaut" (Puccini). Se-
lection from "La Revoltosa"
(Chapi). Minuet (Sor). Song
(Mojica and Troy San). Overture,
"Mignon" (Thomas). In the
interval, Exchange.
Moscow (Komintern) — 2.0—See
1.45 p.m. 2.15—For Children.
2.55—Time.
Munich, 2.0—See 1.40 p.m. 2.30—
Military Report. 2.50—Weather.
Paris (Eiffel Tower), 2.0—Exchange
and Science Notes. 2.15—Economic
Notes. 2.30—Commercial Prices
and Colonial Report. 2.45—Amuse-
ment Guide.
Paris (Poste-Parisien) 2.0—Exchange.
Pittsburg, 2.0—Breakfast Club, from
New York. 2.30—Style and Shop-
ping Service. 2.45—News and
Minute Manners.
Prague, 2.30—Records. 2.40—Talk
for Students. 2.50—Weather and
Exchange.
Reykjavik, 2.0—See 1.15 p.m.
Sottens, 2.58—Time Signal from
Neuchâtel Observatory.
Stuttgart, 2.0—Sss 1.30. 2.30—Piano-
forte Recital by Kurt Albrecht.
Die Teilskapelle (Liszt). Hirtens-
gang (Liszt). Romance in B
(Schumann). Variations and Fugue
in F (Albrecht).
Toulouse, 2.0—News and Exchange.
Vienna, 2.0—Time and Announce-
ments. 2.15 — Talk for Young
Stamp-Collectors. 2.30—Talk. 2.55
—Song and Piano-forte Recital by
Christi Kern (Soprano), Franz
Frankl (Baritone), and Marie
Daxenbichler (Piano-forte).
Warsaw, 2.25—News. 2.30—Econo-
mic Notes. 2.40—Records. 2.50—
Soprano Recital from Wilno

WEDNESDAY
December 27

3 p.m.

Barcelona, 3.0—Programme for Hospitals with Gramophone Records.
Bari, 3.30—Songs for Children.
Berlin, 3.0—See Heilsberg.
Beromünster, 3.0—The Beromünster Orchestra. 3.40—Records.
Bordeaux-Lafayette, 3.0—Concert, relayed from Paris (Ecole Supérieure).
Breslau, 3.0—See Leipzig.
Budapest, 3.0—Sports Talk.
Deutschlandsender, 3.0—See Leipzig.
Frankfurt, 3.0—See Langenberg.
Hamburg, 3.0—See Heilsberg.
Heilsberg, 3.0—The Small Station Orchestra, conducted by Wilcken.
Hilversum, 3.0—See 2.40 p.m.
Huizen, 3.10—Records. 3.40—Organ Recital.
Kalundborg, 3.0—See 2.30 p.m.
Langenberg, 3.0—Concert of Chamber Music by Erdmuthe Fiebiger (Contralto), Robert Grote (Viola da Gamba and Cello), and Willi Jansen (Harmonium). 3.45—"From an Old Song Book"—Concert by Erdmuthe Fiebiger (Contralto), Willy Schneider (Bass), Heinz Hoersch (Tenor), and Willi Jansen (Bandonion).
Leipzig, 3.0—The Dresden Philharmonic Orchestra, conducted by Hilmar Weber. Else Liebe-Zipfel (Pianoforte).
Lyons (La Doua), 3.0—Concert, relayed from Paris (Ecole Supérieure).
Madrid (E.A.17), 3.0—See 2.15 p.m. 3.40—Radio Journal. 3.50—Announcements.
Moravská-Ostrava, 3.0—The Station Orchestra, conducted by Plichta. 3.50—See Prague.
Munich, 3.0—See Leipzig.
Moscow (Komintern), 3.0—News. 3.15—Talk. 3.30—Talk: The Proletariat Revolution.
Paris (Eiffel Tower), 3.0—Talk on Hygiene and Announcements. 3.15—Exchange. 3.30—Exchange and Market Prices. 3.45—Report.
Paris (Poste Parisien), 3.15—Exchange.
Paris (Radio-Paris), 3.45—Exchange.
Pittsburgh, 3.0—Programme to be announced. 3.15—Clara, Lu 'n' Em, from New York. 3.30—To-day's Children, from New York. 3.45—Singing Strings, from New York.
Prague, 3.0—See Moravská-Ostrava. 3.50—For Children.
Radio-Normandie, 3.30—Variety Music.
Rome, 3.30—For Children. 3.55—News.
Sottens, 3.0—See Beromünster.
Stuttgart, 3.0—See Langenberg.
Turin, 3.45—For Children.
Vienna, 3.0—See 2.55 p.m. 3.35—For Children.
Warsaw, 3.10—For Children, relayed from Lwów. 3.40—Answers to Wireless Correspondence. 3.55—Records.
Zagreb, 3.40—News.

4 p.m.

Barcelona, 4.0—See 3.0 p.m. 4.15—Television Transmission.
Berlin, 4.0—"In the Home"—a Merry Programme. 4.30—Variations on a Theme of Haydn, Op. 56b for Two Pianofortes (Brahms), by Kurt Rasch and Wolfgang Wilcke.
Beromünster, 4.0—Recital of Swiss Songs. 4.30—Chamber Music.
Bratislava, 4.35—For Children. 4.50—Records. 4.55—Hungarian Programme. Christmas Carols and Cello and Pianoforte Duets.
Breslau, 4.0—See Leipzig. 3.0 p.m. 4.30—See Leipzig.
Brno, 4.0—See Prague. 3.50 p.m. 4.35—Records. 4.45—Talk. 4.55—Records.
Bucharest, 4.0—Romanian Music, by the Fancia Luca Orchestra.
Budapest, 4.0—Talk: The Heroism of the Slovak Regiments in the Great War. 4.30—Records.
Deutschlandsender, 4.0—Talk: Old Christmas Customs and their History. 4.20—Walter Niemann in a Programme of his own Music.
Frankfurt, 4.0—See Langenberg 3.0 p.m.
Hamburg, 4.0—See Berlin.
Heilsberg, 4.0—See Berlin.
Hilversum, 4.40—Records.
Huizen, 4.0—See 3.40 p.m. 4.40—For Children.
Kalundborg, 4.0—See 2.30 p.m. 4.30—Exchange. 4.45—Agricultural Talk.
Langenberg, 4.0—See 3.45 p.m. 4.15—Dance Music (on Records).
Leipzig, 4.0—See 3.0 p.m. 4.50—Song Recital, by Anton Maria Topiz.
Moscow (Komintern), 4.0—See 3.30 p.m. 4.30—Red Army Programme.
Munich, 4.0—See Leipzig. 3.0 p.m. 4.50—See Leipzig.
Oslo, 4.0—Orchestral Concert, relayed from the Lyche Restaurant.
Paris (Eiffel Tower), 4.0—Tourist Report. 4.15—Exchange and Market Prices.

Paris (Poste Parisien), 4.45—Exchange. 4.50—Exchange.
Pittsburgh, 4.0—Four Southern Singers from New York. 4.15—Sammy Fuller. 4.30—U.S. Army Band, from New York.
Prague, 4.0—See 3.50 p.m. 4.35—Records. 4.45—Talk. 4.55—Records.
Reykjavik, 4.0—Weather.
Rome, 4.10—Orchestral Concert. 4.45—Weather.
Stockholm, 4.0—Weather. 4.5—Provincial Programme.
Strasbourg, 4.45—Electrical Talk in German.
Stuttgart, 4.0—See Langenberg 3.45 p.m.
Toulouse, 4.30—News and Exchange.
Turin, 4.0—See 3.45. 4.10—Song Recital. 4.55—Weather.
Vienna, 4.0—Talk: Successes and Failures. 4.20—Talk: Joseph Rinaldini—Contemporary Austrian Composer.
Warsaw, 4.10—Chamber Music for Wind Instruments. 4.50—Notes.
Zagreb, 4.0—Records.

5 p.m.

Berlin, 5.5—Records. 5.30—The Funkstunde informs its Listeners. 5.35—Review of the Week.



The Grotto of the Nativity, Bethlehem

Beromünster, 5.0—For Children. 5.30—Financial Talk.
Bratislava, 5.0—See 4.55 p.m. 5.55—For Housewives.
Breslau, 5.10—Agricultural Prices; Review of the Upper Silesian "Heimatkalender." 5.25—Programme to be announced. 5.45—Announcements.
Brno, 5.0—See 4.55 p.m. 5.5—Review of Periodicals. 5.15—Talk for Workers. 5.25—German Transmission: News, Agricultural Report and Talk for Workers.
Brussels No. 1, 5.0—Leonora Overture No. 1 (Beethoven) on Records. 5.10—Cello and Pianoforte Duets by Rodolphe Sciron and Marcel Gazelle.
Brussels No. 2, 5.0—Thé dansant, relayed from the St. Sauveur Palais de danse, Brussels. 5.30—Concert by the Station Symphony Orchestra, conducted by Meulemans. Soloist: Gabrielle Tambuyser (Pianoforte.) In the interval, Talk.
Bucharest, 5.0—Radio Journal. 5.15—See 4.0 p.m.
Budapest, 5.0—Italian Lesson. 5.30—Tarogato Recital by Stefan Lugossy.
Deutschlandsender, 5.0—Poems. 5.5—"Streichholzpeterehens Himmelfahrt"—A Musical Radio Play (Marie Basler). 5.50—Announcements.
Frankfurt, 5.0—See Langenberg. 5.35—Topical Talk. 5.50—News.
Hamburg, 5.0—Folk Song Recital in Dialect with Commentary. 5.40—Exchange. 5.50—Weather.
Heilsberg, 5.0—Book Review. 5.15—Agricultural Prices; Ice Report. 5.25—Medical Talk. 5.50—Weather.
Hilversum, 5.0—See 4.40 p.m. 5.10—Organ Recital by Jong. 5.40—Concert, conducted by Van de Horst.
Huizen, 5.0—See 4.40 p.m. 5.40—Talk.
Kalundborg, 5.15—Talk: Pioneers of Electricity. 5.45—Weather. 5.54—Report of the Danish Radio Club.
Langenberg, 5.0—German for the Germans. 5.20—Talk on Race.

5.35—Reading (Boehme). 5.45—Announcements.
Leipzig, 5.0, See 4.50. 5.10—Book Review. 5.30—Talk: The Modern Home. 5.45—Announcements.
Ljubljana, 5.0—Chamber Music. 5.30—The Station Orchestra.
Moravská-Ostrava, 5.0—Talk on the Actor, Emanuel Bozdech. 5.15—See Prague. 5.35—The Village Band of Radvanice.
Moscow (Komintern), 5.0—See 4.30 p.m. 5.30—For Collective Farm Workers.
Munich, 5.0—See Leipzig. 4.50 p.m. 5.10—Travelogue with Records: In Lapland. 5.30—Records. 5.45—Time, News.
Oslo, 5.0—Reading. 5.30—For Girls.
Paris (Eiffel Tower), 5.45—Le Journal Parlé.
Pittsburgh, 5.0—Eva Taylor, Crooner, from New York. 5.15—Four Aces. 5.30—News, and Market Reports. 5.45—Ernie Holst's Orchestra.
Prague, 5.5—Agricultural Talk. 5.15—Talk for Workers. 5.25—News in German. 5.30—German Transmission: Programme for Workers.

Rome, 5.0—Wheat Markets. 5.10—News. 5.20—Report of the International Institute of Agriculture (in Italian and English). 5.55—Shipping and Sports Notes.
Sottens, 5.0—For Children.
Stockholm, 5.0—Records.
Strasbourg, 5.0—Orchestral Concert, conducted by Roskam.
Stuttgart, 5.0—See Langenberg. 5.20—See Langenberg. 5.35—Time; Announcements. 5.45—Talk: Richard Wagner in France.
Turin, 5.0—Announcements.
Vienna, 5.0—See 4.20 p.m. 5.10—Medical Talk. 5.35—Talk for Workers.
Warsaw, 5.0—Talk for the Anniversary of the Polish Revolution. 5.20—Concert by the Adamska-Grossmann Orchestra.
Zagreb, 5.0—For Children. 5.50—Talk.

6 p.m.

Athlone, 6.0—For Children. 6.45—News.
Barcelona, 6.0—Trio Concert.
Berlin, 6.0—See Stuttgart.
Beromünster, 6.0—Time, Weather, Market Prices. 6.20—Talk in English: The Traditions of English Law and Order. 6.50—The Beromünster Orchestra.
Bordeaux-Lafayette, 6.15—Radio Journal.
Bratislava, 6.25—Xylophone Solos.
Breslau, 6.0—See Stuttgart.
Brno, 6.0—See Prague. 6.25—Czech Song Recital by Bozena Stoeckrova. 6.50—See Prague.
Brussels No. 1, 6.0—Talk on Embryology. 6.15—Records. Allegro molto from Sonata No. 6 (Mendelssohn). Minuet (Mozart). Toccata (Boëllmann). Arabesque (Debussy). 6.30—Variety Items.
Brussels No. 2, 6.0—See 5.30 p.m.
Bucharest, 6.0—Education Talk. 6.20—Records. 6.45—Talk.
Budapest, 6.0—For Workers. 6.30—String Quartet in F, Op. 59, No. 1 (Beethoven) by the Waldbauer Kerpely String Quartet.

Deutschlandsender, 6.0—See Stuttgart.
Frankfurt, 6.0—See Stuttgart.
Hamburg, 6.0—See Stuttgart.
Heilsberg, 6.0—See Stuttgart.
Hilversum, 6.0—See 5.40 p.m. 6.25—Organ Recital. 6.40—Records of Sacred Music, with Commentary.
Huizen, 6.10—Programme to be announced. 6.40—Police Notes. 6.55—Religious News.
Kalundborg, 6.0—News. 6.15—Time. 6.30—Talk: Denmark as seen by Foreigners.
Langenberg, 6.0—See Stuttgart.
Leipzig, 6.0—See Stuttgart.
Ljubljana, 6.0—Talk. 6.30—Literary Talk.
Lyons (La Doua), 6.30—Radio Journal.
Moscow (Komintern), 6.30—Medical Talk and Announcements.
Munich, 6.0—See Stuttgart.
Oslo, 6.0—Announcements. 6.30—Agricultural Talk.
Paris (Poste Parisien), 6.45—Market Prices. 6.52—Talk on Social Insurance.
Paris (Radio-Paris), 6.20—Weather, Talk: Prohibition and French Wines, Exchange. 6.45—Book Review.
Pittsburgh, 6.0—Farm and Home Hour from New York. 6.30—Ernie Holst's Orchestra.
Prague, 6.0—Time, News and Weather. 6.10—Advanced French Lesson.

6.25—Mandoline Band Concert. 6.50—Talk: Pasteur.
Radio-Normandie, 6.0—Orchestral Music.
Rome, 6.0—News in Foreign Languages. 6.30—Medical Talk. 6.50—News.
Sottens, 6.0—Talk: Primitive Man. 6.30—Radio Chronicle and Announcements. 6.59—Weather.
Stockholm, 6.0—A Dialogue—The Doctor and the Patient. 6.15—Weather and News. 6.30—Talk.
Strasbourg, 6.0—Chamber Music relayed from Lille.
Stuttgart, 6.0—Transmission for all German Stations: "The Moon is Up," Variety Programme.
Toulouse, 6.0—News. 6.15—Operetta Music. 6.30—Songs. 6.50—Allegro and Andante (Bach).
Turin, 6.30—Records. 6.50—Announcements.
Vienna, 6.0—Military Band Concert. In the interval, Time, Weather, Announcements.
Warsaw, 6.0—Announcements. 6.25—Reading. 6.40—Sports Notes. 6.47—Radio Journal.
Zagreb, 6.15—Talk for Sokols. 6.20—Announcements. 6.50—Talk on the 7.0 p.m. Transmission.

7 p.m.

Algiers, 7.0—Exchange. 7.10—Shipping Notes. 7.15—Weather. 7.40—Art Notes. 7.55—News.
Athlone, 7.0—Talk in Gaelic, by Micheal Maolainn. 7.15—German Lesson by Wenckstern. 7.30—Time. 7.31—Music by the Station Orchestra. 7.45—Pantomime by Brennan and Company, with Orchestral Music.
Barcelona, 7.0—Request Gramophone Records. 7.30—Exchange and Gramophone Records (cont.).
Bari, 7.0—News in Albanian.
Berlin, 7.0—Announcement. 7.5—The Station Orchestra, conducted by Frickhofer. Soloist: Wikarski and Trapp (Piano).
Beromünster, 7.0—See 6.50 p.m. 7.30—Talk on Hygiene.

Bordeaux-Lafayette, 7.35—News and Market Prices. 7.40—Talk on the Cinema. 7.55—Lottery Results.
Bratislava, 7.0—See 6.25. 7.5—The Station Orchestra. Soloists: Rudolf Polak (Violin) and Jan Polak (Violin).
Breslau, 7.0—See Leipzig. 7.10—"Twenty Degrees below Zero"—Variety Programme.
Brno, 7.5—"Puppets and Men"—Programme of Literature and Music.
Brussels No. 1, 7.0—Request. 7.30—Medical Talk.
Brussels No. 2, 7.15—Talk on Economics. 7.30—Gardening Talk. 8.0—Concert by the Eupen Male Voice Quartet, with Nysen (Violin).
Bucharest, 7.0—The Station Orchestra. 7.40—Reading.
Budapest, 7.0—See 6.30 p.m. 7.40—Two One-Act Plays.
Deutschlandsender, 7.0—To-day's Motto. 7.10—Dance Music by Oskar Joost's Band with Gustav Jacobi and others.
Frankfurt, 7.0—Topical Talk. 7.10—See Deutschlandsender.
Hamburg, 7.5—See Berlin.
Heilsberg, 7.0—News. 7.5—See Berlin.
Hilversum, 7.0—See 6.40 p.m. 7.40—News and S O S Messages. 7.55—The Orchestra, conducted by H. de Groot.
Huizen, 7.0—See 6.55 p.m. 7.30—Talk. 7.40—The Small N.C.R.V. Orchestra, conducted by Piet van der Hurk. Ronald Parker (Organ).
Kalundborg, 7.0—Vocal Quartet. 7.20—Evocation rythmique for Oboe and Pianoforte (Moreau). 7.45—Talk: Questions of the Time.
Langenberg, 7.0—See Frankfurt. 7.10—"All's well that ends well"—Variety Programme.
Leipzig, 7.0—To-day's News. 7.10—See Breslau.
Ljubljana, 7.0—"The Barber of Seville"—Opera in Two Acts (Rossini). In the interval—Weather and News.
Lyons (La Doua), 7.30—Records. 7.40—Radio Gazette for Lyons and the South-East.
Madrid (E.A.17), 7.0—Chimes, Exchange; Announcements, Dance Music and Talk.
Moscow (Komintern), 7.0—Guy de Maupassant Programme. Readings followed by Play—Steinberg after Maupassant.
Munich, 7.0—See Leipzig. 7.10—See Breslau.
Oslo, 7.0—Orchestral Concert, conducted by Kramm.
Paris (Eiffel Tower), 7.0—Journal Parlé. 7.15—Weather. 7.25—Political Talk. 7.45—For Children.
Paris (Poste Parisien), 7.0—Records of Pola Negri. 7.7—Talk on Chess. 7.15—Le Journal Parlé. 7.30—Records. 7.38—Talk on Aviation. 7.45—Records.
Paris (Radio-Paris), 7.0—Medical Talk. 7.20—Records. 7.45—News.
Pittsburgh, 7.0—Musical Originalities, from New York. 7.30—KDKA Home Forum.
Prague, 7.5—Saxophone Recital by Riba. 7.30—Dramatic Programme. 7.45 p.m.—The Lark Quartet in D, Op. 64, No. 8 (Haydn), played by the Ondrick Quartet.
Radio-Normandie, 7.15—News. 7.30—Request Programme.
Rome, 7.0—Time, News, Talk. 7.10—Vocal Duets. 7.30—Government Announcements.
Schenectady, 7.30—Two Seats in the Balcony, from New York.
Sottens, 7.0—Concert by the Radio-Suisse Romande Orchestra, conducted by Ernest Ansermet.
Stockholm, 7.0—"Carmen"—Opera in Four Acts (Bizet), from the Royal Theatre.
Strasbourg, 7.0—Talk: Strikes in the Public Services. 7.15—Talk in German: The Skilled Trades. 7.30—Time and News. 7.45—Records.
Stuttgart, 7.0—See Deutschlandsender.
Toulouse, 7.15—News and Exchange. 7.30—Suite, Mascarade (Lacôme). 7.45—Opera Music.
Turin, 7.0—Talk. 7.30—Announcements.
Vatican City, 7.0—Religious Information in Italian.
Vienna, 7.0—See 6.0 p.m. 7.20—Topical Talk. 7.35—"The Wiener Symphoniker," conducted by Josef Krups. Soloist: Wladimir Kaczmar (Bass).
Warsaw, 7.0—Concert by the Station Orchestra, conducted by Nawrot.
Zagreb, 7.0—See Ljubljana. In the intervals, News.

8 p.m.

Algiers, 8.0—Time and Lottery Results. 8.10—Station Orchestra, conducted by Henry Defosse. 8.40—News and Selection from "The Valkyrie" (Wagner) on

WEDNESDAY December 27

8 p.m. (contd.)

Records. 8.55—See 8.10 p.m.—Chant élegiaque. Athlone, 8.45—Station Ladies' Choir. Barcelona, 8.0—Gramophone Music. 8.30—Catalan Educational Programme and News. Berlin, 8.5—"Love is the greatest folly"—Comedy (Ernst). Beromünster, 8.0—Weather and News. 8.10—Orchestral Concert, relayed from the Grand Café Esplanade. Bordeaux-Lafayette, 8.5—Talk from Paris (Ecole Supérieure). 8.20—Agricultural Talk. 8.35—News, Market Prices, and Weather. 8.40—Records. Bratislava, 8.10—A One-Act Play (Kozik). Breslau, 8.0—See 7.10 p.m. Brussels (No. 1), 8.0—Concert by the Radio Orchestra, conducted by André. 8.45—Talk on the Belgian Writer, Leon Souguenet. Brussels, (No. 2), 8.45—From Eupen. Bucharest, 8.0—The Station Orchestra: 8.45—Radio Journal. Budapest, 8.10—See 7.40 p.m. 8.40—News. Deutschlandsender, 8.0—See 7.10 p.m. Frankfurt, 8.0—See Deutschlandsender 7.10 p.m. Hamburg, 8.5—"De Hochtied in de Pickbalje"—Comedy in Dialect (Scharrelmann). Heilsberg, 8.5—See Berlin. Hilversum, 8.0—See 7.55 p.m. 8.40—Song Recital by To van der Sluys. Huizen, 8.0—See 7.40 p.m. 8.40—Popular Talk. Juan-Les-Pins, 8.0—News and Exchange. 8.10—Talk. 8.20—Concert. Kalundborg, 8.0—See 7.45 p.m. 8.15—Sonata for Pianoforte (Bela-Bartok). 8.30—Records of Sound Film Music. 8.45—News. Leipzig, 8.0—See Breslau 7.10 p.m. Ljubljana, 8.0—See 7.0 p.m. Lyons (La Doua), 8.0—See 7.40 p.m. 8.30—Orchestral Concert. After the Concert, News. Madrid (EAJ7), 8.0—See 7.0 p.m. 8.15—Radio Journal. Moscow (Komintern), 8.0—Talk in Czech: Woman in the U.S.S.R. 8.55—Chimes from the Red Square. Munich, 8.0—See Breslau. 7.10. Oslo, 8.0—See 7.0 p.m. 8.10—Review of Politics. 8.40—News. Paris (Eiffel Tower), 8.0—See 7.45

8.15 p.m.—The Station Symphony Orchestra, conducted by Flament. Paris (Poste Parisien), 8.2—"Le Misanthrope"—Play (Molière). In the interval at 8.20—Financial Notes. Paris (Radio-Paris), 8.0—Elocution Lesson. 8.30—News, Fashion Review. 8.45—Symphony Concert. In the interval: News. Pittsburgh, 8.0—Words and Music, from New York. 8.15—Happy Days in Dixie, from New York. 8.45—Human Values. Prague, 8.0—See 7.45 p.m. 8.10—The Station Orchestra, conducted by Otakar Parik. Radio-Normandie, 8.0—Concert. 8.30—Records. Reykjavik, 8.0—Light Music. 8.10—Weather. 8.35—Reading. Rome, 8.0—Opera Relay. Talk in the interval. Schenectady, 8.0—Golden Treasury, from New York. Sottens, 8.0—See 7.0 p.m. 8.10—Interlude by Edouard Combe. 8.25—"Le Chien du jardinier"—Comic Opera in One Act (Grisar). Stockholm, 8.0—See 7.0 p.m. 8.45—Weather and News. Strasbourg, 8.0—News in German. 8.30—"Les nouveaux chevaliers"—Comedy in One Act (Follereau), and "Le nid déserté"—Play in Three Scenes (Valdélièvre). In the interval, News. Stuttgart, 8.0—See Deutschlandsender, 7.10 p.m. Toulouse, 8.0—Viennese Orchestra. 8.30—Popular Songs. 8.45—Argentine Orchestra. Turin, 8.15—Comedy in One Act (Lopez). Vienna, 8.0—See 7.35 p.m. Warsaw, 8.0—Reading. 8.15—Song Recital by Eve Bandrowska-Turska. Zagreb, 8.0—See Ljubljana, 7.0 p.m.

9 p.m.

Algiers, 9.0—See 8.55. 9.40—News. 9.45—Recitations (Victor Hugo). 9.55—News. Athlone, 9.15—Louis Pasteur Memorial Programme. 9.30—Musical Programme. Barcelona, 9.0—Chimes from the Cathedral and Weather. 9.5—Announcements, Exchange and Market Prices. 9.10—Concert by the Radio Orchestra. Berlin, 9.0—News. 9.30—Dance Music

relayed from the Wilhelmshalle in the Zoo. Beromünster, 9.0—See 8.10 p.m. Bordeaux-Lafayette, 9.10—Concert. After the Concert, Amusement Guide and Time. Breslau, 9.0—See Leipzig. 9.20—Announcements. 9.35—The Silesian Philharmonic Orchestra, conducted by Wolfgang Fricke. Brussels (No. 1), Concert. Brussels (No. 2), 9.0—Choral Concert. Budapest, 9.0—The Simi Kurini Cigany Band from the Kovacevics Restaurant. Deutschlandsender, 9.0—News. 9.30—Technical Wireless Talk. 9.45—Weather. Frankfurt, 9.0—Time and News. 9.20—See Stuttgart. 9.30—News. 9.45—See Stuttgart. Hamburg, 9.0—News. 9.30—See Berlin. Heilsberg, 9.0—News. 9.30—See Berlin. Hilversum, 9.0—Orchestral Concert. Huizen, 9.0—See 8.40 p.m. 9.10—Concert. 9.40—News. 9.45—Concert (cont'd.). Juan-Les-Pins (Nice, Cannes), 9.0—News and Weather. 9.15—Concert. Kalundborg, 9.0—Viennese Music, conducted by Fritz Mahler. Langenberg, 9.0—See Frankfurt. 9.20—News. 9.45—See Stuttgart. Leipzig, 9.0—News. 9.35—See Breslau. Ljubljana, 9.0—See 7.0. Lyons (La Doua), 9.0—See 8.30. Madrid (EAJ7), 9.30—Chimes, Time and Radio Journal. 9.45 (approx.)—Concert by the Madrid Philharmonic Orchestra, conducted by Pérez Casas. Moscow (Komintern), 9.0—See 8.55. 9.5—Talk in English: Metal Deposits in the U.S.S.R. Munich, 9.0—See Leipzig. 9.20—News. 9.35—See Breslau. 9.0—Topical Talk. Oslo, 9.15—Concert relayed from Trondheim. Paris (Poste-Parisien), 9.0—See 8.2. Paris (Radio-Paris), 9.0—See 8.45. Pittsburgh, 9.0—Betty and Bob, from New York. 9.15—Utility Hall. 9.30—Frances Ingram. 9.45—News and Market Report.

Prague, 9.0—Time, News. 9.15—News in French. Radio Normandie, 9.0—Concert. Reykjavik, 9.0—Chimes; News. 9.30—Reading. Rome, 9.0—See 8.0 p.m. Stockholm, 9.0—See 7.0 p.m. Strasbourg, 9.0—See 8.30. Stuttgart, 9.0—See Frankfurt. 9.20—Talk: What everyone should know. 9.30—News. 9.45—Records. Toulouse, 9.0—Music Hall. 9.30—Opera Music. Vienna, 9.0—See 7.35 p.m. 9.5—News and Weather. 9.20—Programme to be announced. Warsaw, 9.0—Talk in Esperanto: Helping the Blind in Poland. 9.30—Dance Music. Zagreb, 9.0—See Ljubljana, 7.0 p.m.

10 p.m.

Algiers, 10.0—Dance Music relayed from the Casino. Athlone, 10.30—Time and News. 10.40—Irish Music. Barcelona, 10.0—Concert by a Mandoline Orchestra, conducted by Felix de Santos Sebastian. Berlin, 10.0—See 9.30 p.m. Bordeaux-Lafayette, 10.0—See 9.10 p.m. Breslau, 10.0—See 9.35 p.m. Brussels (No. 1), 10.0—Le Journal Parlé. Brussels (No. 2), 10.0—Le Journal Parlé. Budapest, 10.0—Concert by the Opera House Orchestra, conducted by Otto Berg. Deutschlandsender, 10.0—Dance Music relayed from the Eden Hotel. Frankfurt, 10.0—See Stuttgart, 9.45. Heilsberg, 10.0—See Berlin, 9.30 p.m. Hilversum, 10.0—Orchestral Concert. 10.40—Dance Records. Huizen, 10.0—See 9.45 p.m. 10.25—Records. Juan-Les-Pins, 10.0—See 9.15 p.m. Kalundborg, 10.0—Dance Music. Langenberg, 10.0—See Stuttgart. Leipzig, 10.0—See Breslau, 9.35 a.m. Lyons (La Doua), 10.0—See 8.30. Madrid (EAJ7), 10.30—Popular Concert. 10.45—Radio Chronicle. Madrid (EAJ7), 10.0—See 9.45. Moscow (Komintern), 10.5—Talk in German: The Bolsheviks and the Terror. Munich, 10.0—See Breslau, 9.35 p.m. Oslo, 10.0—Dance Music on Records.

Paris (Poste Parisien), 10.0—Orchestral Music from the Champs Elysées Restaurant. Pittsburgh, 10.0—Programme to be announced. 10.15—KDKA Kiddies' Klub. 10.30—The Singing Lady, from New York. 10.45—Little Orphan Annie, from New York. Radio Normandie, 10.0—Variety Music. Reykjavik, 10.0—Violin Solo by Gudmundsson, followed by Records of "Der Rosenkavalier" (Rich. Strauss). Rome, 10.0—See 8.0 p.m. Strasbourg, 10.0—See 8.30 p.m. 10.30—Orchestral Concert, conducted by Jemine, relayed from the Grand Kléber Tavern. Stuttgart, 10.0—Orchestral Concert of Humorous Music. Toulouse, 10.0—Military Music. 10.15—News. 10.30—Songs from Sound-Films. 10.45—Popular Music. Turin, 10.0—Giornale Radio. Warsaw, 10.0—News. 10.5—Dance Music.

11 p.m.

Barcelona, 11.0—News. 11.10 (approx.)—Dance Music relayed from the Casa Llibre. Breslau, 11.0—See 9.35 p.m. Deutschlandsender, 11.0—See 10.0 p.m. Frankfurt, 11.0—See Stuttgart. Langenberg, 11.0—See Stuttgart. Madrid (EAJ7), 11.0—Popular Concert. 11.45—Light Music. Madrid (EAJ7)—11.0—See 9.45 p.m. 11.45—Radio Journal. Pittsburgh, 11.0—News, Pat Haley. 11.15—Sports Notes and Programme Preview. 11.30—Egizi's Salon Orchestra. 11.45—Lowell Thomas, from New York. Stuttgart, 11.0—Serenade. Toulouse, 11.0—Request Music. 11.15—Dance Music.

12 midnight

Langenberg, 12.0—See Stuttgart, 11.0. Madrid (EAJ7), 12.0—Popular Programme. Madrid (EAJ7), 12.0—Chimes. Radio Normandie, 12.0—News in English. 12.15 a.m. (Thursday)—Records. 1.0—News in French. 1.15—Dance Music. Stuttgart, 12.0—See 11.0 p.m. Toulouse, 12.0—News. 12.5 (Monday)—Operetta Songs. 12.15—Balalaika Music.

PRINCIPAL EVENTS

p.m. CONCERTS 5.0 Brussels, 1: Orchestra. 6.0 Berlin, German Stations: Mozart 7.0 Stockholm: Popular. 7.0 Warsaw: Light music. 7.5 Prague: Choir. 7.10 Hilversum: Bach. 7.40 Rome: Symphony 8.0 Brussels 1: Orchestra. 8.15 Prague: Band. 8.55 Hilversum: Orchestra. 9.30 Kalundborg: Mandolines. 9.40 Huizen: Choir 9.50 Leipzig: Orchestra. 10.0 Langenberg, etc.: Popular. OPERAS, OPERETTAS 5.55 Vienna: Don Carlos 6.30 Budapest: Tales of Hoffmann. 7.30 Munich, Leipzig: The Merry Widow. 7.40 Turin: I granatieri (Valente). 8.0 Brussels 2: The Magic Flute. CHAMBER MUSIC 5.10 Huizen: Quartets. 8.0 Radio-Paris: Chamber Music and Poems. 8.30 Strasbourg: Violin, Pfte. RECITALS 9.0 Stockholm: Swedish prg. 9.15 Oslo Choir, Organ PLAY AND TALK 6.15 Brussels 1: Marionettes. 7.0 Kalundborg: Fairy Tale. DANCE MUSIC 5.0 Brussels 2; 9.0, Warsaw; 10.0, Kalundborg, Langenberg, etc.; 10.50, Hilversum.

THURSDAY (December 28)

NATIONAL 10.15 a.m. (Daventry)—The Daily Service. Time Signal, Greenwich, at 10.30. 10.30—10.45 (Daventry)—Weather Forecast for Farmers and Shipping. 11.0—11.20 (Daventry)—"Events at Home and Abroad." 12 noon—The Rutland Square and New Victoria Orchestra, directed by Norman Austin. 1.0 p.m.—A Recital of New Gramophone Records; by Christopher Stone. 2.0—The Northern Studio Orchestra, directed by John Bridge. Norman Andrew (Pianoforte). 3.0—Evensong from Westminster Abbey. 3.50—A Ballad Concert. Eileen Picher (Contralto). Dorothea Aspinall (Pianoforte). 4.15—The Scottish Studio Orchestra, directed by Guy Daines. Crue Davidson (Contralto). Time Signal, Greenwich at 4.45. 5.15 (Daventry)—The Children's Hour. "The Toytown Christmas Party," a play by S. G. Hulme Beaman. With incidental music played by The Gershom Parkington Quintet. 5.15 (except Daventry)—Jack Jackson and his Band. 6.0—"The First News." Time Signal, Greenwich. Weather Forecast, First General News Bulletin and Bulletin for Farmers. 6.25—Interlude. 6.30—The Foundations of Music. Haydn's Pianoforte Sonatas, played by Mrs. Norman O'Neill. 6.50—7.20—Talk. 7.30—The B.B.C. Orchestra (Section C), conducted by Joseph Lewis. Thorpe Bates (Baritone). Successes of 1933. Orchestra: Overture, The Windjammer (John Ansell). Thorpe Bates and Orchestra: A Song of Soldiers (Hely-Hutchinson). Orchestra: Tonic Poem, Mannin Veen (Dear Isle of Man) (Haydn Wood). Thorpe Bates and Orchestra: Limehouse (Walford Hyden); I bless the dawn (Haydn Wood); Old

Father Thames (Betsy O'Hogan). Orchestra: Suite, London Every Day (Eric Coates). Thorpe Bates; The Demon King (Wolsey Charles); Ten ships went a-sailing (George Barker). Orchestra: Suite, Offenbachiana (Finck). 8.30—A Recital of Special Gramophone Records by Christopher Stone. Old Time Dances. 9.0—"The Second News." Time Signal, Greenwich. Weather Forecast, Second General News Bulletin. 9.20—A Talk on Talks by the Director of Talks. 9.35—A Recital. Vitya Vronsky and Victor Babin (Two Pianofortes). Lionel Tertis (Viola). 10.30—A Short Mid-Week Service conducted by The Reverend W. H. Elliott, relayed from St. Michael's, Chester Square. 10.45—12 midnight (Daventry)—Dance Music. The Casani Club Orchestra, directed by Charles Kunz. REGIONAL 10.15 a.m.—The Daily Service. Time Signal, Greenwich, at 10.30. 10.30—11.20 (except Midland)—Daventry National. 12 noon—Organ (S. Gustard). 12.45 p.m.—The Midland Studio Orchestra. Directed by Frank Cantell. Joseph Yates (Baritone). 2.0—3.0—The Coventry Hippodrome Orchestra, conducted by Charles Shadwell. 3.0 (except Scottish)—Gramophone Records. 3.0 (Scottish)—Gramophone Records. 3.25 (Scottish)—Mid-Week Service. 3.50 (except Midland)—Daventry. 5.15—The Children's Hour. 6.0—"The First News" and Bulletin for Farmers. Time Signal, Greenwich. 6.30 (West and London)—The Western Studio Orchestra. Megan Thomas (Soprano). Orchestra: Four Cornish Dances (Collins). Megan Thomas: The Lilacs, The Harvest of Sorrow, How fair this spot, Spring Waters (Rachmaninov). Orchestra: A Somerset Rhapsody (Holst); A

Lament (Celtic Suite) (Foulds). Megan Thomas: A Lullaby, Lane of Thrushes (Harty). Gentle youth, ah, tell me why (Arne); Ye gloomy thoughts (Dibdin, arr. Reynolds). Orchestra: Barnstaple: Fairings, Cockington: Harvesters' Dance (A Devon Suite) (Evelyn Sharpe). 6.30 (Midland)—The Studio Orchestra. 6.30 (North)—Jack Martin and his Hotel Orchestra from The Hotel Majestic, St. Annes-on-Sea. 6.30 (Scottish)—From our 1933 Programmes. The Studio Orchestra. 7.15 (Midland) Midland Composers—XXI. Francis Edward Bache. Eveline Stevenson (Soprano). Frank Cantell (Violin). Leonard Dennis (Violoncello). George Mantle-Childe (Pianoforte). George Mantle-Childe: Barcarole; Bon Matin (Bluetie); L'irresistible (Galop de Bravura). Eveline Stevenson: Farewell; So, where you will; Ah! did they but know; Springtide Faith. Frank Cantell, Leonard Dennis and George Mantle-Childe: Pianoforte Trio in D minor, Op. 25. 7.30 (London, North, Scottish)—The Wireless Singers, conducted by Leslie Woodgate. Part Songs. 7.30 (West)—Orig' Hapus. Rhoddir rhaglen heno, o gyfres yr 'Orig Hapus,' gan Barti Meibion Treforus, o dan arweinid, Ivor Sims. 8.0 (except West)—"The Streets of London." A Drama of Low and High Life in the Middle Eighties. 8.0 (West)—"Sweet Chariot." A Devonshire Ghost Story by Molly O'Fogerty Chapman. 8.15 (West)—The Studio Orchestra. 8.45 (West)—"Cofio Miri'r Fyddin." 9.30 (North, London, West)—A Relay from The Argyll Theatre, Birkenhead. 9.30 (Midland)—Jack Hill (Piano) Phyllis Aslton (Cameos). 9.30 (Scottish)—The Coltness Band. 9.55 (Midland)—"Five Million Books a Year." Mr. Percy Marshall. 10.15—"The Second News." Time Signal, Greenwich. 10.30-12 (Midland). 11.0—Casani Club Orchestra, (Time Greenwich 11.30).

EMPIRE PROGRAMME SUMMARY For wavelengths, see S.W. List Transmission 1 (GSF, GSD) G.M.T. 8.0 a.m.—Big Ben. Empire News. 8.15—An Orchestral Concert.† 9.15—Arthur Rubinstein (Pfte.). 9.30—"The Monkey's Paw." A Story in Three Scenes by W. W. Jacobs. 10.0—Close Down. Transmission 2 (GSG, GSE) 12 noon—Big Ben. The Rutland Square and New Victoria Orchestra. 1.0 p.m.—Christopher Stone. 1.45—Close Down. Transmission 3 (2-4 p.m. GSE, GSB; 4-6 p.m. GSB, GSA) 2.0 p.m.—Big Ben. Empire News. 2.15—The Wireless Singers, conducted by Leslie Woodgate. 2.45—The Coventry Hippodrome Orchestra. 3.0—Evensong, from Westminster Abbey. 3.45—The Kentucky Minstrels.* 4.45—Maurice Vinden (Organ). 5.15—Empire News (second reading). 5.30—Jack Jackson and his Band. 6.0—Close Down. Transmission 4 (6.15-9 p.m. GSD, GSB; 9-10.15 p.m. GSB, GSA) 6.15 p.m.—Big Ben. Empire News. 6.30—The Western Studio Orchestra. Megan Thomas (Soprano). 7.30—The Wireless Singers. 8.0—The B.B.C. Dance Orchestra. 8.30—Christopher Stone. 9.0—"The Monkey's Paw." 9.30—Interlude. 9.35—A Recital, by Vitya Vronsky and Victor Babin (Two Pianofortes). Lionel Tertis (Viola). 10.30—Empire News. 10.45—Close Down. Transmission 5 (GSC, GSA) 11.0 p.m.—Big Ben. The New English String Quartet. Sarah Fischer (Soprano). 12 midnight—Colin Wark presents Troise and his Mandoliers* with Don Carlos (Tenor). 12.30 a.m.—Arthur Rubinstein (Pfte.).† 12.45—Empire News. 1.0—Close Down. *† Electrical Recording. † Gramophone Records.

NOTE: The Hours of Transmission are Reduced to Greenwich Mean Time

5 a.m.

Berlin, 5.15—Gym. 5.30—To-day's Motto; Weather. 5.35—Concert. In the interval—News.
 Beromünster, 5.50—Gym.
 Breslau, 5.30—See Munich.
 Deutschlandsender, 5.0—Weather. 5.5—News. 5.15—See Berlin. 5.30—Weather; To-day's Motto. 5.35—See Berlin. In an interval—News.
 Frankfurt, 5.5—See Langenberg. 5.30—See Stuttgart. 5.45—See Langenberg.
 Hamburg, 5.0—Time; Announcements. 5.15—Gym. 5.30—Time; Weather. 5.35—See Berlin.
 Heilsberg, 5.15—Gym. 5.35—See Berlin. In an interval—News.
 Langenberg, 5.0—Record; To-day's Motto. 5.5—Records. 5.30—See Stuttgart. 5.45—Gym.
 Leipzig, 5.30—See Munich.
 Moscow (Komintern), 5.15—Records. Munich, 5.30—Gym. 5.45—Address and Records.
 Prague, 5.15—Gym. Music and News. Stuttgart, 5.5—See Langenberg. 5.30—Gym. 5.45—See Langenberg.

6 a.m.

Berlin, 6.0—See 5.35 a.m.
 Breslau, 6.15—See Leipzig. 6.25—See Munich.
 Frankfurt, 6.0—Time and News. 6.15—See Langenberg.
 Hamburg, 6.0—Time; News. 6.10—To-day's Motto.
 Hilversum, 6.20—Concert from Berlin.
 Heilsberg, 6.30—Concert from Berlin.
 Kalundborg, 6.0—Gym. for Women. 6.15—Gym.
 Langenberg, 6.0—See Frankfurt. 6.10—Weather. 6.15—Records.
 Leipzig, 6.0—See 5.45—Munich. 6.15—News and Time. 6.25—See Munich.
 Moravská-Ostrava, 6.0—See 5.15—Prague.
 Moscow (Komintern), 6.0—Programme Announcements. 6.15—The Small Station Orchestra.
 Munich, 6.0—See 5.45 a.m. 6.15—See Leipzig. 6.25—Concert.
 Paris (Radio-Paris), 6.45—Gym.
 Prague, 6.0—See 5.15 a.m.
 Rome, 6.45—Gym.
 Sottens, 6.0—Gym.
 Stockholm, 6.20—Gym. 6.45—Service.
 Stuttgart, 6.0—See Frankfurt. 6.10—Weather. 6.15—See Langenberg.
 Turin, 6.45—Gym.
 Warsaw, 6.0—Time Signal and Christmas Carol. 6.5—Gym. 6.20—Records. 6.35—Radio Journal. 6.40—Records. 6.52—For Housewives. 6.55—Announcements.

7 a.m.

Barcelona, 7.15—Radio Journal and Gramophone Music.
 Berlin, 7.15—Gym.
 Bordeaux-Lafayette, 7.45—News relayed from Paris (Ecole Supérieure).
 Breslau, 7.0—See Munich. 6.25.
 Deutschlandsender, 7.45—For Women.
 Frankfurt, 7.0—See Langenberg. 6.15.
 7.15—Announcements. 7.25—See Langenberg.
 Hamburg, 7.0—Announcements. 7.15—Talk: The Development of Broadcasting. 7.25—Ice Report.
 Heilsberg, 7.0—Morning Prayers. 7.30—Gym for Women.
 Hilversum, 7.40—Time Signal. 7.41—Records.
 Huizen, 7.40—Records.
 Langenberg, 7.15—Announcements. 7.25—Gym. 7.40—Talk for Women.
 Leipzig, 7.0—See Munich. 6.25.
 Lyons (La Doua), 7.45—Press Review; Weather.
 Moscow, 7.0—See 6.15 a.m. 7.30—For Children.
 Munich, 7.0—See 6.25 a.m.
 Paris (Poste Parisien), 7.10—Chimes and Records. In the Express (Nascimento). Waltz, Missouri (Logan). Stephanie Gavotte (Czibulka). Mountaineers' Chorus (Blanc). Airs from "Mon Amant" (Alix). Selection from "The Circus Princess" (Kalman). On m'suit (Pearly-Chagnon). Julie (Padilla). Selection from "Coup de Roulis" (Messenger). Sous les Noisetiers (Van Herck). Scherzo (Aviatable). One Step (Langlois). In the interval—News.
 Paris (Radio-Paris), 7.30—Weather, Gym.
 Pittsburgh, 7.45—Records.
 Radio Normandie, 7.15—Concert. 7.30—News.
 Rome, 7.0—Time and Announcements.
 Stockholm, 7.0—See 6.45 a.m.
 Stuttgart, 7.0—See Langenberg. 6.15.

7.25—See Langenberg. 7.50—Post Office Concert. 7.15—See Frankfurt.
 Turin, 7.0—Time; Announcements.

8 a.m.

Barcelona, 8.0—Chimes, Physical Culture and Records. 8.20—Radio Journal and Gramophone Music.
 Berlin, 8.45—For Children.
 Breslau, 8.0—See Munich. 8.20—Time; News.
 Brno, 8.50—See Prague.
 Deutschlandsender, 8.0—Reading. 8.40—Reading (Grube).
 Heilsberg, 8.5—Talk: Thirty Years with a German Family.
 Hilversum, 8.0—See 7.41.
 Leipzig, 8.0—See Munich. 8.40—Market Prices. 8.45—Announcements.
 Madrid (Union Radio), 8.0—Radio Journal.
 Moscow, 8.0—Haydn, Beethoven and Schubert Concert. 8.55—Time.
 Munich, 8.0—For Housewives.
 Paris (Poste Parisien), 8.0—See 7.10 a.m. 8.20—News. 8.45—For the Housewife.
 Paris (Radio-Paris), 8.0—Weather and News.
 Prague, 8.50—Weather. 8.55—News. Radio Normandie, 8.0—Concert. 8.15—Review.
 Stuttgart, 8.0—See Langenberg. 6.15.
 Toulouse, 8.0—Dance Refrains. 8.35—Orchestral Music. 8.45—Popular Melodies.
 Vienna, 8.20—Market Prices. 8.30—Weather.

9 a.m.

Barcelona, 9.0—Announcements.
 Berlin, 9.0—News. 9.10—Retail Prices. 9.30—Records; Announcements.
 Deutschlandsender, 9.0—News. 9.10—Records.
 Frankfurt, 9.0—News. 9.45—Hints for the Housewife.
 Hamburg, 9.0—Records. 9.50—News. 10.0—Records. Steiger - Marsch (Faust). Potpourri, Mit Laute und Fidel (Lautenschläger). Polka-Mazurka Potpourri (Kermbach). Feldberggrütscher, Potpourri, Vom Jäger und vom Wald. March, Der Uebermut (Freundorfer).
 Heilsberg, 9.40—News.
 Hilversum, 9.0—See 7.41 a.m. 9.40—Time. 9.41—Divine. 9.55—Sacred Music on Records.
 Huizen, 9.40—Records. 9.55—Religious Programme.
 Langenberg, 9.0—See Frankfurt. 9.5—Announcements. 9.10—Topical Talk.
 Leipzig, 9.45—Post Office Programme with Records.
 Moravská-Ostrava, 9.0—See Prague. 8.55.
 Moscow (Komintern), 9.0—News. 9.15—Concert.
 Munich, 9.15—Shorthand Dictation. 9.55—Announcements.
 Prague, 9.0—See 8.55. 9.10—Records.
 Stuttgart, 9.0—See Frankfurt. 9.10—Violin and Pianoforte Recital of Transylvanian Music, by Kurt Krause and Traute Zarges.
 Vienna, 9.50—Tides' Report.

10 a.m.

Berlin, 10.25—Exchange. 10.30—See Heilsberg. In an interval: Weather.
 Bordeaux-Lafayette, 10.30—Concert relayed from Lille (PTT).
 Bratislava, 10.0—Tides Report.
 Breslau, 10.40—Time; Announcements.
 Brno, 10.0—See Moravská-Ostrava. 10.55—See Prague.
 Deutschlandsender, 10.0—Talk: Wilhelm Doerpfeld. 10.15—Weather. 10.30—Records. Auf leichten Füßchen (Pörschmann). Dizzy Fingers (Confrey). My Regiment (Blankenburg). Nussknacker-Parade (Oscheit). Grossmutter erzählt (Ritter). Glow-worm Idyll (Lincke). In the Temple of the Bells (Yoshitomo). March, Drunter und drüber (Freundorfer).
 Frankfurt, 10.0—Concert. 10.40—Announcements.
 Hamburg, 10.30—See Heilsberg.
 Heilsberg, 10.0—Ice Report. 10.30—The Small Station Orchestra, conducted by Eugen Wilcken. Selection from "Manon Lescaut" (Puccini). Overture, "Casanova" (Lincke). Selection from "The Dubarry" (Millocker-Mackeben). Extract from "Cagliostro in Wien" (Joh. Strauss). Selection from "Boccaccio" (Suppé).
 Hilversum, 10.0—See 9.55. 10.10—Soprano Recital by Marie Snijders. Care luci (Leo). Aria from "Figaro" (Mozart). Song (Haydn). Two Songs (Schumann): (a) Schneeglöckchen, (b) O Ihr Herren. Two Songs (Schubert): (a) Das

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Geheimnis, (b) Lachen und weinen. Two Songs (Brahms): (a) Der Jäger, (b) Meine Liebe ist grün. 10.40—For Women.
 Huizen, 10.0—See 9.55. 10.25—Records. 10.40—Records.
 Kalundborg, 10.0—Weather. 10.10—Market Prices. 10.15—For Schools.
 Langenberg, 10.10—Records. 10.25—Sponsored Programme with Records. 10.55—Weather.
 Leipzig, 10.0—See 9.45. 10.40—News.
 Lyons (La Doua), 10.30—See Lille (PTT).
 Moravská-Ostrava, 10.0—Records. 10.5—Military Band Concert conducted by Krepela. 10.55—See Prague.
 Moscow (Komintern), 10.0—See 9.15.
 Munich, 10.30—Post Office Programme: Records.
 Oslo, 10.15—Service.
 Prague, 10.0—Moravská-Ostrava. 10.55—Agriculture Talk.
 Radio Normandie, 10.30—Orchestral Music.
 Strasbourg, 10.30—Orchestral Concert conducted by de Villers. Two pieces from "Manfred" (Schumann). Suite in D minor (Erb). Rhapsody No. 12 (Liszt). Humoresque (Reger). Danses d'Estrelle (Casadesu). Selection from "Ariadne auf Naxos" (R. Strauss). Jota Aragonesa (Saint-Saëns).
 Stuttgart, 10.0—Records. 10.25—Post Office Concert. 10.55—Weather.
 Turin, 10.15—Records. Selection from "Casanova" (Strauss-Graham). Selection from "La donna perduta" (Pietri). Italian Aria. Strauss Operetta Potpourri. Selection from "The Desert Song" (Romberg). Fantasia on Celebrated Themes (Geiger). Overture (Suppé). Selection from "Orpheus in the Underworld" (Offenbach).
 Vatican City, 10.0—10.15—Religious Information in French.
 Vienna, 10.30—Records of Alpine Music. 10.55—Weather.
 Warsaw, 10.40—Press Review 10.57—Time and Fanfare from St. Mary's Church, Cracow.

11 a.m.

Barcelona, 11.0—Chimes and Weather. Bari, 11.30—Quintet Concert.
 Berlin, 11.0—See Heilsberg. 10.30 a.m. Beromünster, 11.0 (from Zurich)—Light Orchestral Music.
 Bratislava, 11.0—Agricultural Talk. 11.35—The Station Orchestra, conducted by Folprecht.
 Breslau, 11.0—The Silesian Philharmonic Orchestra, conducted by Hoffmann. Overture, "Der Walfenschmied" (Lortzing). Selection, "Cavalleria rusticana" (Mascagni). Gruss an Wien (Baumann). Czardas, "Der Geist des Wojewoden" (Grossmann). Selection, "Der Opernball" (Heuberger). Gallop, Bahn frei (E. Strauss).
 Brno, 11.0—Agriculture Talk. 11.10—See Prague. 11.35—See Bratislava.
 Bucharest, 11.0—Exchange and Records.
 Budapest, 11.5—The Bela Endre Vocal Quartet.
 Deutschlandsender, 11.0—Weather. 11.2—Records. The Twelve Robbers (Jaroff). Folk Song, On the Road to St. Petersburg. Barynja auf dem Flusse Kasanke. Two Old Wedding Songs (Gretchaninov). Am Brunnen vor dem Tore (Schubert). Muss i denn (Silcher). Der Gondelfahrer (Schubert). Folk Song, Ach, wie ist's möglich dann Hin über d' Alm. Bavarian Ländler. Tölzer Schützenmarsch. Von meinen Bergen muss ich scheiden. Am Wörther See (Koschat). After the Programme: Weather. 11.55—Time.
 Frankfurt, 11.0—Orchestral Concert, conducted by Alfred Priedhöhl. March (Rosey). Overture, "The Bohemian Girl" (Balle). An der schönen grünen Narenta (Komzák). Blumengeflüster (Eilenberg). Two Symphonic Dances (Schmelzing). Die Nachtpatrouille (Urbach). Waltz (Ziehrer). March Potpourri, "Alle mit uns" (Robrecht).
 Hamburg, 11.5—Report for the Housewife. 11.10—Time, Announcements. 11.20—See 10.30 a.m. Heilsberg.
 Heilsberg, 10.30—See 10.30 a.m. 11.10—Hilversum, 11.0—See 10.40 a.m. 11.10—Records. 11.40—Time. 11.41—The Rentmeister Orchestra. In the intervals, Records.
 Huizen, 11.0—See 10.40 a.m. 11.10—Religious Address. 11.40—Police Notes. 11.55—Concert by the K.R.O. Orchestra, conducted by van 't Woud. Marche tartare (Ganne). Overture to a Revue (Lincke). Toujours ou jamais (Waldeufel). Potpourri, From A

to Z (Geiger). Overture, "Banditenstreich" (Suppé). Records. Le régiment du Sambre et Meuse (Turlet). Potpourri, Musikalische Telegramme (Urbach). Weaner Mehlspeise (Dufort). Selection from "The Land of Smiles" (Lehár). Victoria March (v. Blon).
 Kalundborg, 11.0—Time Signal and Chimes from the Town Hall. 11.2—The Leonard Gyldmark String Ensemble, relayed from the Bellevue Strandhotel.
 Langenberg, 11.0—See Frankfurt.
 Leipzig, 11.0—See Breslau.
 Ljubljana, 11.15—Records. 11.45—News.
 Madrid (EAJ7), 11.45—Announcements.
 Moravská-Ostrava, 11.0—See Brno. 11.10—See Prague. 11.35—See Bratislava.
 Munich, 11.0—See Breslau.
 Oslo, 11.0—See 10.15 a.m. 11.10—Exchange. 11.55—Time.
 Palermo, 11.45—Giornale Radio.
 Prague, 11.0—Time and Agricultural Talk. 11.10—Records. 11.20—Weather. 11.25—News. 11.35—See Bratislava.
 Reykjavik, 11.0—Weather.
 Radio-Normandie, 11.30—Records.
 Rome, 11.30—Records.
 Sottens, 11.28—Time Signal. 11.30—News. Weather. 11.40—Fridolin et son Copain.
 Stockholm, 11.30—Weather. 11.45—Exchange. 11.55—Time.
 Strasbourg, 11.0—See 10.30 a.m.
 Stuttgart, 11.0—See Frankfurt.
 Turin, 11.0—See 10.15 a.m. 11.30—Records. 11.45—Giornale Radio.
 Vienna, 11.0—The "Wiener Symphoniker", conducted by Josef Hölzer. Overture, "Der Bettelstudent" (Millocker). Extracts from "Der Evangelimann" (Kienzl). Waltz, Neues Leben (Komzák). Albumblatt (Krenser). Intermezzo, "The Arabian Nights" (Joh. Strauss). Violin Solo, Serenade (Toselli). Potpourri, Reisebilder (Noack).
 Warsaw, 11.5—Records. 11.30—Radio Journal. 11.35—Weather. 11.38—Symphony No. 2 in D (Brahms), on Gramophone Records.
 Zagreb, 11.20—Cookery Recipes. 11.30—Records: Extracts from Wagner's Operas.

12 noon

Algiers, 12.30—Records.
 Barcelona, 12.0—Programme for Women. 12.45—Gramophone Music.
 Berlin, 12.0—Records. Waltz in E minor (Chopin). Tango (Albeniz). Songs without Words (Dubez). The Butterfly (Harty). Waltz in A flat (Chopin). 12.20—See Hamburg.
 Beromünster, 12.0—See 11.0 a.m. 12.20—Time, Weather and Exchange. 12.25—For Housewives.
 Bordeaux-Lafayette, 12.45—Time and Quintet Concert. In the interval, News.
 Bratislava, 12.0—See 11.35 a.m. 12.45—News in Slovak, German and Hungarian.
 Breslau, 12.0—See 11.0. 12.15—See Leipzig.
 Brno, 12.0—See 11.35 a.m. Bratislava. 12.35—See Prague.
 Brussels (No. 1), 12.0—Concert by the Small Station Orchestra, conducted by Pierre Leemann. The March of the Highlanders (Lewinnok). Waltz (Zeller). Romance à Manon (Demare). Selections from "Un bon garçon" (Yvain). Piccolo Solo, L'écho des bois (Damaré). Violin Solo, Selection from "Nina Rosa" (Romberg). Waltz, Pardon, Madam! (Abraham). Fiddle (Stauch). Les filles de Panama (Grothe).
 Brussels (No. 2), 12.0—Gramophone Concert. March, The Great Little Army (Alford). Slow Fox-trot (Walberg-Henry). Oboe Solo, Simple avec (Thomé). Selection from "Ball at the Savoy" (Abraham). Waltz Song, Morgenblätter (Joh. Strauss-Winter). Fox-trot, Let's Make Up (Little). Selection from "Patience" (Sullivan). Melody (de Souza). Selection from "Princess Ida" (Sullivan). Fox-trot, Lou'iana Lullaby (Newman). Oboe Solo, Le Cygne (Saint Saëns). Fox-trot, Free as the Air (de Kers) March (Emerson).
 Bucharest, 12.0—Radio Journal. 12.15—Records.
 Budapest, 12.0—See 11.5 a.m. 12.30—Band of Unemployed Musicians.
 Deutschlandsender, 12.45—News.
 Frankfurt, 12.0—See 11.0 a.m. 12.15—Time and News. 12.35—See Langenberg.
 Hamburg, 12.10—Weather. 12.20—Musical Programme.
 Heilsberg, 12.5—Records. Allegro (Dittersdorf). Minuet (Dittersdorf). Andante from the Quartet in D (Mozart). Scherzo from the Quartet

in A minor (Schumann). Air on the G String (Bach). String Quartet Op. 51 (Dvořák). Adagio from the String Quartet in B flat, No. 49 (Haydn). Andante con moto Op. 67, from the Fifth Symphony in C minor (Beethoven). Fourth Movement from the Fourth Symphony in E minor, Op. 98 (Brahms). Liebeswalzer from the Ballet Suite, Op. 130, No. 5 (Reger). In the intervals, News.
 Hilversum, 12.0—See 11.41 a.m.
 Huizen, 12.0—See 11.55 a.m.
 Juan-les-Pins (Nice, Cannes), 12.30—Announcements.
 Kalundborg, 12.0—See 11.2 a.m.
 Langenberg, 12.0—See Frankfurt. 11.0. 12.25—News. 12.35—Records Overture, "Flotte Bursche" (Suppé). Waltz Potpourri (Edward). Liebesständchen (Waldau). Overture, "Gipsy Love" (Lehár). Love's Dream after the Ball (Czibulka). Selection from "Liselotte" (Künneke). Melody (Tosti). Es gibt nur eine Liebe (Künneke). Serenade, No. 1 (Drda). Für dich allein (Geehl). Waltz, Sorgenfrei (Uschmann). Gallop, Rasch wie der Blitz (Millocker).
 Leipzig, 12.0—See Breslau. 11.0. 12.15—News. 12.25—Records. March, Fehrbelliner Reitermarsch. Badenweiler Marsch (Fürst). Deutscher Föhn (Hanfstaengl). Das dritte Reich (Hellmann). Parade March (Hellmann). Admiral-Marsch (Friedemann). Deutschland zur See (Sylvan). Overture, "Light Cavalry" (Suppé). Hoch Heidecksburg (Herzer). Feuert los (Holzmann).
 Lyons (La Doua), 12.0—Relay from Paris (Ecole Supérieure). 12.30—Concert of Light Music.
 Ljubljana, 12.0—Weather, News.
 Madrid (EAJ7), 12.0—Chimes, Radio Journal. 12.15—Time.
 Moravská-Ostrava, 12.0—See Bratislava. 11.35.
 Munich, 12.15—See Leipzig. 12.25—Records. Prelude to "Tristan and Isolde" (Wagner). In der Konditorkeuche from "Schlagobers". (R. Strauss). Aria from "William Tell" (Rossini). Overture, "The Queen's Kerchief" (Strauss). Folk Melody (arr. Gründgers). Song (Green). In der Laubenkolonie (Wolter). Geburtstagsständchen (Alex).
 Oslo, 12.0—Records. In the intervals, Weather, Agricultural Report and Exchange.
 Palermo, 12.0—Light Music. "One-Step, Povero Jolli (Lanzetta). Intermezzo, "Gocce di rugiada" (Giachino). Selection, "Iris" (Mascagni). Slow Fox-trot (Hollender). Characteristic Piece, Bebe danza (Manno). Selection, "The Blue Mazurka" (Lehár). Waltz, Se più non m'ami (Pignacca). One-Step In the interval, Time and News.
 Paris (Eiffel Tower), 12.30—Concert relayed from Paris (Ecole Supérieure).
 Paris, Poste Parisien, 12.0—Exchange. 12.5—Records. Spinning Song (Mendelssohn). The Musical Snuff-Box (Liadov). Chant sans paroles (Tchaikovsky). Spanish Dance (Granados). Serenade (Leoncavallo). 12.30—Concert.
 Paris (Radio-Paris), 12.0—Protestant Address. 12.30—Records. Magda Tagliafiero: (a) First Movement, Concerto in D (Mozart), (b) Prelude (Debussy), (c) Sarabande (Debussy). Charles Panzera: (a) Three Arias, "The Damnation of Faust" (Berlioz), (b) Extase (Duparc), (c) Lament (Duparc), (d) Kaddish (Ravel). Bronislaw Huberman: (a) La capricieuse (Elgar), (b) Waltz in A (Brahms), (c) Rondo à la Clochette (Paganini). Elisabeth Schumann: (a) Es ist vollbracht (Bach), (b) Two Arias, "Figaro" (Mozart). Arsene Lupin (Lattes). Cocou (Jonasson). Should I (Nacio-Brown). Adieu Paris (Souders). Songs, "La Vagabonde" (Borel-Clerc). Overnight (Alter-Herb-Connelly).
 Pittsburgh, 12.0—Musical Clock.
 Prague, 12.0—See Bratislava. 11.35. 12.35—Labour Market Report. 12.45—Records. 12.55—Exchange and Weather.
 Radio-Normandie, 12.0—Records. 12.30—News. 12.45—Programme for Children.
 Rome, 12.5—See Turin. 12.10—See Turin in the interval, Exchange.
 Sottens, 12.0—Financial News. 12.10—Records.
 Strasbourg, 12.0—Records. Leonora Overture No. 3 (Beethoven). Drinking Song from "Othello" (Verdi). Te Deum from "Tosca" (Puccini). Légende naïve (Jongen). Romance (Wieniawsky). The Flower Song from "Carmen" (Bizet). Selection "Romeo and Juliet" (Gounod

THURSDAY
December 28

12 noon (contd.)

Selection, "La Sonnambula" (Bellini). Selection, "Lucia di Lammermoor" (Donizetti). 12.45—News.
 Stuttgart, 12.0—See Frankfurt 11 a.m. 12.25—News. 12.35—See Langenberg.
 Toulouse, 12.0—Orchestral Music. The Flight of the Bumble Bee (Rimsky-Korsakov). Japanese Lantern Dance (Yoshimoto). Harlequin Doll (Darcy). 12.15—Opera Music. Arias from "Carmen" (Bizet), "The Pearl Fishers" (Bizet), "La Basoche" (Messager) and "Tosca" (Puccini). 12.30—News and Exchange. 12.45—Request Gramophone Music.
 Turin, 12.0—Time; Announcements. 12.5—Humorous Programme. 12.10—Orchestral Concert. In the interval, Records; Exchange.
 Vienna, 12.0—Time, Weather, and Announcements. 12.10—"The Wiener Symphoniker" (contd.). Extracts from "Das Pensionat" (Suppé). Spiel mir ein Lied auf der Geige (Jurmank). Waltz from "Der Obersteiger" (Zeller). Nockturne and Legend (Römisch). Stiefelchens Parade (Landl). Potpourri, Tempo, Tempo (Dostal).
 Zagreb, 12.0—Announcements. 12.10—Records. 12.40—News.

1 p.m.

Algiers, 1.0—News. 1.5—See 12.30 p.m.
 Athlone, 1.30—Time, News, and Records.
 Barcelona, 1.0—Gramophone Concert. 1.30—Theatre Notes and Gramophone Concert (contd.).
 Berlin, 1.0—See Hamburg 12.20 p.m. 1.15—News. 1.35—Records: Extracts from "Martha"—Opera (Flotow).
 Bordeaux-Lafayette, 1.0—See 12.45 p.m. 1.50—Exchange.
 Bratislava, 1.0—Market Prices.
 Breslau, 1.0—See Leipzig. 1.15—Time, Weather. 1.20—Post Office Programme with Records. 1.50—Agriculture Prices; Exchange.
 Brussels (No. 1), 1.0—Le Journal Parle. 1.10—The Station Orchestra.
 Brussels (No. 2), 1.0—Le Journal Parle. 1.10—The Small Station Orchestra, conducted by Leemann. March, Morgenrot (Jessel). Waltz, Lachender Mai (Komzak). Melody, Notre amour (Bohlmann). Selection from "La Navarraise" (Massenet). Pianoforte Solo, Three Waltzes (Van Hoof). In a Chinese Temple Garden (Ketelbey). Mélodie enchanteresse (Ackermans). Suite, Dances of the Nations (Manfred).
 Budapest, 1.0—See 12.30 p.m.
 Deutschlandsender, 1.0—Records. Festival Overture (Lassen). Extract, "Der Wildschütz" (Lortzing). Puccini Potpourri. Auf dem Wasser zu singen (Schubert-Liszt). Die Forelle (Schubert-Liszt). Extract from "The Geisha" (Jones). Folk Song, Mein Mädle hat einen Rosenmund. Frühling am Rhein (Röser). Moonlight on the Alster (Fetras). Lorelei-Rheinklänge (Strauss). Torgauer-Marsch (Frederick the Great). 1.45—Programme for Children.
 Frankfurt, 1.0—See Langenberg. 12.35 p.m. 1.40—For Children.
 Hamburg, 1.15—News. 1.35—Wagner Records. Overture, "Tannhäuser." Extract, "Parsifal."
 Heilsberg, 1.0—See 12.5 p.m.
 Hilversum, 1.0—See 11.41 a.m.
 Huizen, 1.0—See 11.55 a.m. 1.40—Handicrafts Lesson.
 Juan-les-Pins (Nice, Cannes), 1.0—News. 1.15—Concert.
 Langenberg, 1.0—See 12.35 p.m.
 Leipzig, 1.0—News. 1.20—Film Review. 1.30—Talk for Young People: A Visit to Northern Siberia.
 Lyons (La Doua), 1.0—For Women. 1.30—Concert. News in the interval.
 Moscow (Komiintern), 1.45—Announcements.
 Munich, 1.0—See Leipzig. 1.10—Announcements. 1.30—Concert. Three Soprano Solos (Prince Ludwig Ferdinand): (a) Der Mond ist aufgegangen, (b) Wie wunderschön, (c) Kennst du dies Lied. Three Contralto Solos (von Filitz): (a) Die Sittsame, (b) Lotos und Mädchen auf dem Teich, (c) Bruderliebe. Aus frühen Kindheitstagen—Suite for Violin and Piano, Op. 32 (Seyboth). Three Soprano Solos (v. Hornstein): (a) Lassst, o lassst mich, (b) Sein Schritt, (c) In freudigen Gefängen.
 Paris (Eiffel Tower), 1.0—Market Prices. 1.15—News. 1.30—Agricultural Notes. 1.45—Report of the Labour Bureau.
 Paris (Poste Parisien), 1.5—Exchange. 1.10—Sponsored Music. 1.25—Exchange. 1.35—Gramophone Records.
 Paris (Radio-Paris), 1.0—See 12.30 p.m.

Pittsburgh, 1.0—Morning Devotions from New York. 1.15—Don Hall Trio, from New York. 1.30—Lew White, Organist, from New York.
 Reykjavik, 1.15—Variety Programme.
 Rome, 1.0—See Turin 12.5 p.m.
 Strasbourg, 1.0—Exchange. 1.5—Records.
 Stuttgart, 1.0—See Langenberg, 12.35 p.m. 1.30—For Children.
 Toulouse, 1.0—Announcements. 1.5—Cabaret Programme. 1.15—Chansonnettes. 1.30—Operetta Music. 1.45—Military Music.

2 p.m.

Athlone, 2.0—Records.
 Barcelona, 2.0—Announcements, Film Review and Sextet Concert.
 Berlin, 2.0—Exchange. 2.20—Records: Potpourri, Servus Wien (Dostal). 2.30—A Discussion: The Film Industry in Germany and America. 2.40—Educational Report.
 Beromünster, 2.30 (from Bern)—Records. 2.59—Time Signal from Neuchâtel Observatory.
 Bordeaux-Lafayette, 2.0—Records.
 Breslau, 2.20—Talk: Ski-ing Equipment. 2.30—Programme for Children.
 Brno, 2.30—See Prague, 2.40—Talk for Women. 2.50—See Prague.
 Deutschlandsender, 2.10—Talk with Records: Old Music. 2.30—Weather; Exchange. 2.45—Reading.
 Frankfurt, 2.0—See 1.40 p.m. 2.30—Weather. 2.40—Time and Market Prices.
 Hamburg, 2.0—Exchange. 2.40—Announcements. 2.50—Ice Report.
 Heilsberg, 2.0—Agricultural Prices and Exchange. 2.15—Book Review. 2.30—Königsberg Hitler Jugend read from their Magazines.
 Hilversum, 2.10—Records. 2.40—Violin and Pianoforte Recital by van den Wijngaart and Jan Wagenaar.
 Huizen, 2.40—For Women.
 Juan-les-Pins (Nice, Cannes), 2.0—See 1.15 p.m.
 Kalundborg, 2.30—Carl Rydahl's String Ensemble. Comedy Overture (Kéler-Béla). Waltz (Gungl). Selection "Lucia di Lammermoor" (Donizetti). Serenade (Moszkowsky) Ballet Music (Rydahl). Mazurka (Ganne). Pianoforte Solos: (a) Ballad Op. 24 (Grieg), (b) Caprice in E (Sinding), (c) Rustle of Spring (Sinding). Apollo March (Lincke). Serenade (Rachmaninov). Melody (Gabriel-Marie). Selection "The Merry Widow" (Lehar). Waltz (Gyldmark-Thingsted). Crépuscule (Schroder). MacMahon March.
 Langenberg, 2.0—Reading. 2.15—Sonata in D minor for Cello and Pianoforte (Defesch) by Paul Schmidt and Walter Wielsch. 2.30—Market Prices. 2.50—Political Announcements.
 Leipzig, 2.0—Sonata in E minor, Op. 131d, for Viola (Reger), played by Ernst Hoensch. 2.45—Market Prices.
 Madrid (EAJT), 2.0—Chimes, Time, Weather and Theatre Notes. 2.15 (approx.)—Concert of Popular Music. In the interval, Exchange.
 Moscow (Komiintern), 2.0—See 1.45. 2.15—Talk for Children on Collective Farms. 2.55—Time.
 Munich, 2.5—Reading. 2.30—For Women. 2.50—Announcements.
 Paris (Eiffel Tower) 2.0—Exchange and Literary Report. 2.15—Economic Notes. 2.30—Commercial Prices. 2.45—Amusement Guide, Talk and Aviation Notes.
 Paris (Poste Parisien) 2.0—Exchange.
 Pittsburgh, 2.0—Breakfast Club, from New York. 2.30—Style and Shopping Service. 2.45—News, Work-a-day Thoughts.
 Prague, 2.30—Records. 2.40—Talk: Christmas in Carpathian Russia. 2.50—Weather.
 Reykjavik, 2.0—See 1.15.
 Sottens, 2.58—Time Signal.
 Strasbourg, 2.0—For Children.
 Stuttgart, 2.0—See 1.30 p.m. 2.30—Soprano Recital by Martha Neubeck. Three Songs (Weber): (a) Ich sah ein Röslein, (b) Die gefangenen Sänger, (c) Mein Schatzel. Three Songs (Franz): (a) Liebchen ist da, (b) Gute Nacht, (c) Fur Musik. Three Songs (Bleyle): (a) Sei gegrüsst, (b) Vergissmännchen, (c) Warum so traurig.
 Toulouse, 2.0—News and Exchange.
 Vienna, 2.0—Time, Weather and Market Prices. 2.15—For Housewives. 2.25—For Children. 2.50—Records of Operetta. Overtures from "Im Reiche des Indra" (Lincke), "Flotte Bursche" (Suppé). "The Gipsy Baron" (Joh. Strauss). "Banditenstreiche" (Suppé), and "La Belle Hélène" (Offenbach).
 Warsaw, 2.25—News. 2.30—Talk on Economics. 2.40—Concert by Goraynski and his Band from the Cyganeria Theatre. Soloist: Marie Didur Zaluska (Songs). Foxtrot.

3 p.m.

Barcelona, 3.0—Programme for Hospitals with Gramophone Records.
 Bari, 3.30—Programme for Women.
 Berlin, 3.0—See Heilsberg.
 Beromünster, 3.0—See Sottens.
 Bordeaux-Lafayette, 4.0—For Children.
 Breslau, 3.0—Orchestra, conducted by Rischka. Hans Rothense (Bartone). Overture, "The Merry Wives of Windsor" (Nicolai). The Butterfly Chase (Kéler-Béla). Wohin mit der Feud' (Silcher). Folk Song, Swabian Ländler. Folk Melody, Hans und Liesel. Noch sind die Tage der Rosen (Baumgartner). Im Märchenwald (Ganglbauer). Quadrille, Waldmanns-Jubel (Hermann). Ballet Overture (Lincke). Pizzicato-Ständchen (Krome). Folk Melodies: (a) Die Lore am Tore, (b) Der Tod von Basel, (c) Der Schlossgesell. Vom Rhein der Wein (Brandt). Erinnerungen an Franz Abt (Mannfeld). Spanish March, Cadiz (Valverde).
 Brno, 3.0—The Station Orchestra, 3.50—For Children.
 Bucharest, 3.15—For Children.
 Budapest, 3.0—Talk. 3.15—For Children.
 Deutschlandsender, 3.0—See Stuttgart.
 Frankfurt, 3.0—See Stuttgart.
 Hamburg, 3.0—See Heilsberg.
 Heilsberg, 3.0—The Small Station Orchestra, conducted by Wilcken. Overture, "Jeanne d'Arc" (Verdi). Violin Solos (Schubert-Wilhelmy): (a) Ave Maria, (b) Am Meer. Suite der Freude (Scheinpluff). Waltz from "Der Rosenkavalier" (R. Strauss). Overture, "Lestocq" (Auber). Caprice Taormina (Rossini-Respighi).
 Hilversum, 3.40—Talk for Hospitals.
 Huizen, 3.0—See 2.40 p.m. 3.40—Religious Programme.
 Kalundborg, 3.0—See 2.30 p.m.
 Langenberg, 3.0—See Stuttgart.
 Leipzig, 3.0—See Breslau.
 Lyons (La Doua), 3.30—Programme for Hospitals. 3.45—Concert.
 Madrid (EAJT), 3.0—See 2.15 p.m. 3.40—Radio Journal. 3.50—News.
 Moscow (Komiintern), 3.0—News. 3.15 Music. 3.30—Talk.
 Munich, 3.0—See Breslau.
 Paris (Eiffel Tower), 3.0—See Strasbourg. In the interval at 3.30—Exchange.
 Paris (Poste-Parisien), 3.15—Exchange. 3.45—Exchange.
 Paris (Radio-Paris), 3.45—Exchange.
 Pittsburgh, 3.0—Edward MacHugh, from New York. 3.15—Clara, Lu 'n' Em, from New York. 3.30—To-day's Children, from New York. 3.45—Magic Moments, from New York.
 Prague, 3.0—See Brno.
 Radio-Normandie, 3.30—Variety Programme.
 Rome, 3.30—Children's Radio Review. 3.50—Exchange.
 Sottens, 3.0—The Radio-Suisse Romande Orchestra. 3.50—Records.
 Strasbourg, 3.0—Orchestral Concert.
 Stuttgart 3.0—The Station Orchestra.
 Trieste, 3.45—Balilla Programme.
 Turin, 3.35—Giornale Radio. 3.45—Announcements.
 Vienna, 3.0—See 2.50 p.m. 3.35—Talk: Ski-ing Outfits. 3.50—Talk.
 Warsaw, 3.0—See 2.40 p.m. 3.40—Talk: Good Humour means Good Health. 3.55—Records.
 Zagreb, 3.40—News.

4 p.m.

Barcelona, 4.0—Educational Programme.
 Berlin, 4.10—See Heilsberg.
 Beromünster, 4.0—See Sottens. 3.0 p.m.
 Bratislava, 4.15—Talk: Boy Scouts. 4.25—Records. 4.50—Talk.
 Breslau, 4.0—See 3.0 p.m. 4.30—Talk: Handicrafts. 4.50—Kinderszenen, Op. 15, for Piano (Schumann), by Charlotte Weinhold.
 Brno, 4.0—See 3.50 p.m. 4.25—Records. 4.35—See Prague. 4.50—Records.
 Bucharest, 4.0—Light Music by the Dinico Orchestra.
 Budapest, 4.0—Agricultural Talk. 4.30—Pianoforte Recital by Sari Viro.
 Deutschlandsender, 4.0—Radio Report on Records. 4.20—Handel Concert.
 Frankfurt, 4.0—See Stuttgart, 3.0 p.m.
 Hamburg, 4.0—See Heilsberg, 3.0 p.m.
 Heilsberg, 4.0—See 3.0 p.m. 4.10—Military Programme.

Hilversum, 4.0—See 3.40. 4.10—Talk on Music, with Gramophone Illustrations.
 Huizen, 4.0—See 3.40 p.m. 4.40—Handwork Lesson.
 Kalundborg, 4.0—See 2.30 p.m. 4.30—Exchange.
 Langenberg, 4.0—See Stuttgart 3.0 p.m.
 Leipzig, 4.0—See Breslau 3.0 p.m.
 Lyons (La Doua), 4.30—For Children.
 Moscow, (Komiintern), 4.0—See 3.30 p.m. 4.30—Red Army Programme.
 Munich, 4.0—See Breslau 3.0 p.m. 4.30—See Breslau. 4.50—See Breslau.
 Oslo, 4.0 p.m.—Records.
 Palermo, 4.30—Records.
 Paris (Eiffel Tower), 4.0—See Strasbourg 3.0 p.m. 4.15—Exchange and Market Prices.
 Paris (Poste Parisien), 4.50—Exchange.
 Pittsburgh, 4.0—Four Southern Singers, from New York. 4.15—Sammy Fuller. 4.30—Rhythm Ramblers, from New York.
 Prague, 4.0—See Brno 3.50 p.m. 4.15—Talk for Workers. 4.25—Records. 4.35—Elementary French Lesson. 4.50—Records.
 Reykjavik, 4.0—Weather.
 Radio Normandie, 4.0—See 3.30 p.m.
 Rome, 4.0—Concert. 4.55—Weather.
 Sottens, 4.0—See 3.0 p.m.
 Stockholm, 4.0 p.m.—Weather. 4.5—Divine Service relayed from Malmo, 4.30—For Children. 4.45—Records.
 Strasbourg, 4.0—See 3.0. 4.15—Programme for Children relayed from Bordeaux-Lafayette.
 Stuttgart, 4.0—See 3.0 p.m.
 Toulouse, 4.15—News and Exchange.
 Turin, 4.10—Dance Music. 4.55—Announcements.
 Vienna, See 3.50 p.m. 4.15—Song Recital. 4.55—Talk for Workers.
 Warsaw, 4.5—Talk on Latvian Music. 4.20—Pianoforte Recital by Paul Schuberts. 4.50—Talk.
 Zagreb, 4.0—The Radio Orchestra.

5 p.m.

Berlin, 5.0—Book Review. 5.30—Programme Announcements. 5.35—Legal Review for 1933.
 Beromünster, 5.0 (from Basle)—Records. 5.30 (from Basle).—A Dialect Play (Frieda Bruner).
 Bratislava, 5.5—Records. 5.10—Programme to be announced. 5.55—Hints for Housewives.
 Breslau, 5.0—See 4.50 p.m. 5.10—Agricultural Prices; Reading. 5.30—Programme to be announced. 5.50—Announcements.
 Brno, 5.0—Theatre and Film Review. 5.15—See Prague. 5.25—German Transmission: News and "A Reciter's Dilemma"—Play (Lorenz).
 Brussels (No. 1), 5.0—Concert by the Station Orchestra, 5.30—Musical Programme.
 Brussels (No. 2), 5.0—Dance Music.

Bucharest, 5.0—Radio Journal. 5.15—See 4.0.
 Budapest, 5.0—English Lesson. 5.30—Concert.
 Deutschlandsender, 5.0—Poems. 5.5—Talk. 5.30—Report on Records: A Visit to a Sugar Refinery. 5.50—Announcements.
 Frankfurt, 5.0—See Stuttgart. 5.20—See Stuttgart. 5.35—Talk on Chess 5.50—News.
 Hamburg, 5.0—Records: Wireless Review. 5.25—Talk: German War Heroes of the Sea. 5.45—Exchange. 5.50—Weather.
 Heilsberg, 5.0—Technical Talk. 5.15—Agricultural Prices; Ice Report. 5.25—Agricultural Talk. 5.50—Weather.
 Hilversum, 5.0—See 4.10. 5.10—Light Music by Kovacs Lajos and his Orchestra.
 Huizen, 5.0—See 4.40 p.m. 5.10—Quartets.
 Kalundborg, 5.0—Chimes. 5.2—Discussion. 5.45—Weather.
 Langenberg, 5.0—See Stuttgart. 5.35—Medical Talk. 5.45—Announcements.
 Leipzig, 5.0—See Breslau 4.50. 5.10—Review of the Past Year. 5.35—Topical Talk. 5.45—Market Prices.
 Ljubljana, 5.0—For Women. 5.30—The Letter-Box.
 Lyons (La Doua), 5.0—See 4.30. 5.30—Concert.
 Moravská-Ostrava, 5.5—Talk: Doctors. 5.15—See Prague. 5.30—German Transmission: Stories for Young People and Talk: The History of Art.
 Moscow (Komiintern), 5.0—See 4.30. 5.30—for Collective Farm Workers.
 Munich, 5.0—See Breslau 4.50. 5.10—Agriculture Talk. 5.30—Records. 5.45—Time; Announcements.
 Oslo, 5.0—Talk: Christmas in Music. 5.30—Divine Service relayed from Stavanger.
 Palermo, 5.0—For Children.
 Paris (Eiffel Tower), 5.45—Le Journal Parle.
 Pittsburgh, 5.0—Gene Arnold, from New York. 5.15—Four Aces. 5.30—News and Market Reports. 5.45—Ernie Holst's Orchestra.
 Prague, 5.0—See 4.50 p.m. 5.5—Talk for Beekeepers. 5.15—Talk for Workers. 5.25—News in German. 5.30—German Transmission: Talk on Winter Sports and Agricultural Talk.
 Rome, 5.0—Wheat Markets. 5.10—News. 5.20—Talk.
 Sottens, 5.0—Talk: Italian-Swiss Literature. 5.30—Talk. 5.55—Tourist Talk.
 Stockholm, 5.0—See 4.45 p.m. 5.45—Talk on Agriculture.
 Strasbourg, 5.0—See 4.15.
 Stuttgart, 5.0—Spanish Lesson. 5.20—Talk on Winter. 5.35—Time and News. 5.45—Talk.



Romanian Carol Singers E.N.A.

5 p.m. (contd.)

Vienna, 5.20—A Marionette Play. 5.45—Theatre Review. 5.55—"Don Carlos"—Opera (Verdi), relayed from the State Opera House. In the interval: Time, Weather, Announcements and News.
Warsaw, 5.0—Talk: Modern Poland. 5.20—"The Chimes"—Play (after Charles Dickens).

6 p.m.

Algiers, 6.30—For Children.
Athlone, 6.0—For Children. 6.45—News.
Barcelona, 6.0—Trio Concert. In the interval: Talk.
Berlin, 6.0—Mozart Concert.
Beromünster, 6.0—Time, Weather and Road Report. 6.5—Modern Hungarian Violin Music. 6.40—Talk: The Aviary of the Basle Zoological Gardens.
Bordeaux-Lafayette, 6.15—Radio Journal, relayed from Paris (Ecole Supérieure).
Bratislava, 6.15—Talk.
Breslau, 6.0—See Berlin.
Brno, 6.0—See Prague. 6.15—Talk. 6.30—Concert.
Brussels (No. 1), 6.0—Talk: Co-operation. 6.15—A Marionette Play.
Brussels (No. 2), 6.0—Violin Concerto (Brahms), on Gramophone Records. 6.30—Talk: Mozart's Opera "The Magic Flute."
Bucharest, 6.0—Educational Talk. 6.20—Talk. 6.40—Opera (on Records). After the First Act: Talk. At the end: Radio Journal.
Budapest, 6.0—Talk. 6.30—"The Tales of Hoffmann"—Opéra-Comique in Four Acts (Offenbach), followed by the Mandits Orchestra and Julius Szanthe (Songs).
Deutschlandsender, 6.0—See Berlin.
Frankfurt, 6.0—See Berlin.
Hamburg, 6.0—See Berlin.
Heilsberg, 6.0—See Berlin.
Hilversum, 6.0—See 5.10 p.m. 6.10—Sports Talk. 6.40 till Close Down—A.V.R.O. Jubilee Programme. 6.40—Radio Play for Children.
Huizen, 6.0—See 5.10 p.m. 6.10—Talk. 6.25—Records. 6.40—Police Notes. 6.55—Religious Report.
Kalundborg, 6.0—News. 6.15—Time. 6.30—Talk: Cheap Schoolbooks.
Langenberg, 6.0—See Berlin.
Leipzig, 6.0—See Berlin.
Ljubljana, 6.0—Serbocroat Lesson. 6.30—Request Records.
Lyons (La Doua), 6.15—Radio Journal. Moravská-Ostrava, 6.0—See Prague. 6.15—See Bratislava. 6.30—See Prague.
Moscow (Komintern), 6.30—Talk: The Red Ray.
Munich, 6.0—See Berlin.
Oslo, 6.0—Announcements. 6.30—Violin and Accordion Recital of Old Norwegian Dances.
Paris (Eiffel Tower), 6.0—See 5.45 p.m. Paris (Poste Parisien), 6.45—Market Prices. 6.52—Agricultural Talk.
Paris (Radio-Paris), 6.20—Weather, Agricultural Talk, Exchange. 6.45—Film Review.
Pittsburgh, 6.0—Farm and Home Hour, from New York. 6.30—Ernie Holst's Orchestra.
Prague, 6.0—Time, News and Weather. 6.10—An Appeal for the Red Cross Society of Czechoslovakia. 6.15—See Bratislava. 6.30—Concert. 6.45—Recital of English Songs by Margaret Melan.
Radio-Normandie, 6.0—Records.
Rome, 6.0—News in Foreign Languages. 6.30—Mezzo-Soprano Songs. 6.50—News.
Sottens, 6.5—Theatre Review. 6.30—Talk: Poultry Farming. 6.59—Weather.
Stockholm, 6.0—See 5.45 p.m. 6.15—Weather and News. 6.30—Talk.
Strasbourg, 6.0—Talk in German: Austrian Civilisation. 6.15—For Women. 6.30—Records.
Stuttgart, 6.0—See Berlin.
Toulouse, 6.0—News. 6.15—Orchestral Music. 6.30—Programme for Children.
Turin, 6.0—Time, News in Foreign Languages. 6.30—Records. 6.50—News: Records.
Vienna, 6.0—See 5.55 p.m.
Warsaw, 6.0—Announcements. 6.5—Miscellaneous Notes. 6.25—Topical Talk. 6.40—Sports Notes. 6.47—Radio Journal.
Zagreb, 6.10—Announcements. 6.40—Talk on Economics.

7 p.m.

Algiers, 7.0—Exchange. 7.10—Shipping Notes. 7.15—Weather. 7.20—Songs from Sound Films. 7.40—For Women. 7.55—News.
Athlone, 7.0—French Lesson by

Mmes. Guidicelli and Redmond. 7.15—Recital of Poetry by Cathleen Murphy. 7.30—Time. 7.50—Bass Solos by H. McCormack.
Barcelona, 7.0—Request Gramophone Records. 7.30—Exchange and Gramophone Records (contd.).
Bari, 7.0—News in Albanian.
Berlin, 7.0—Announcements. 7.5—Dance Evening. The Station Orchestra, conducted by Vack, the Station Choir, conducted by Weigel, Arno Berger's Dance Band, and Soloists. In an interval, News.
Beromünster, 7.10—The Beromünster Orchestra.
Bordeaux-Lafayette, 7.30—News. 7.40—Talk arranged by the International Labour Bureau. 7.55—Lottery Results and Charades.
Breslau, 7.0—See Leipzig. 7.10—See Munich. 7.30—See Munich.
Brno, 7.0—Talk. 7.5—See Prague.
Brussels (No. 1), 7.0—See 6.15 p.m. 7.15—Talk for Workers. 7.30—Le Journal Parlé.
Brussels (No. 2), 7.0—The Jupiter Symphony (Mozart) on Gramophone Records. 7.30—Le Journal Parlé.
Bucharest, 7.0—See 6.40 p.m.
Budapest, 7.0—See 6.30 p.m.
Deutschlandsender, 7.0—To-day's Motto. 7.5—Reading. 7.25—"Love Scenes and Love Duets on Records."
Frankfurt, 7.0—Topical Talk. 7.10—See Langenberg. 7.45—See Langenberg.
Heilsberg, 7.0—News. 7.5—See Berlin. In the intervals, News and Talk on Gramophone Records: What People are saying in America.
Hamburg, 7.5—See Berlin.
Hilversum, 7.0—See 6.40. 7.10—Bach Concert. 7.40—Time and News. 7.45—Records. 7.55—Concert.
Huizen, 7.10—Political Review. 7.40—Choral Concert of Sacred Music. 7.55—Address.
Kalundborg, 7.0—Time Signal. 7.1—"Der var ewgang" (Once upon a Time)—Drama in Five Acts (Drachmann), with Incidental Music by Lange-Müller. 7.30—Service from the Cathedral.
Langenberg, 7.0—See Frankfurt. 7.10—"Das Tränenkrüglein" (Georg Schumann). 7.45—Topical Programme.
Leipzig, 7.0—To-day's News. 7.10—See Munich.
Ljubljana, 7.0—Romanian Programme.
Lyons (La Doua), 7.30—Records. 7.40—Radio Gazette for Lyons and the South-East.
Madrid (EAJ7), 7.0—Chimes, Exchange, Announcements and Programme for Children.
Moravská-Ostrava, 7.0—See Brno. 7.5—See Prague.
Moscow (Komintern), 7.0—Russian Folk Tales—Musical and Literary Programme.
Munich, 7.0—See Leipzig. 7.10—Austria. 7.30—"The Merry Widow"—Operetta in Two Acts (Lehar).
Oslo, 7.0—Time. 7.1—Agricultural Programme. 7.30—Orchestral Concert.
Palermo, 7.0—Announcements. 7.20—Records. In the interval, Time and News. 7.45—Symphony Concert, conducted by La Rosa Parodi. In the interval, Talk. After the Concert, Records.
Paris (Eiffel Tower), 7.0—Talk. 7.15—Weather. 7.25—News. 7.30—Records.
Paris (Poste Parisien), 7.0—Records. 7.7—Talk. 7.15—Journal Parlé.
Paris (Radio-Paris), 7.0—Book Review. 7.20—Records. 7.45—News.
Pittsburgh, 7.0—Musical Originalities, from New York. 7.30—KDKA Home Forum. 7.45—Pioneers, KDKA.
Prague, 7.0—See Brno. 7.5—Choir.
Radio-Normandie, 7.15—News. 7.30—Request Programme, News.
Rome, 7.0—Time, Announcements, Records. 7.30—Government Report. 7.40—Symphony Concert, conducted by Rito Selvaggi. Talk in the interval.
Sottens, 7.0—"La Flute de Pan" (Jean Cras) for Tenor, Flute, Violin, Viola and Cello. 7.20—"La comédie de celui qui épousa une femme muette" Play in three Acts.—(Anatole France)
Stockholm, 7.0—The Radio Orchestra.
Strasbourg, 7.0—See 6.30. 7.30—Time and News. 7.45—Records.
Stuttgart, 7.0—See Frankfurt. 7.10—See Langenberg.
Toulouse, 7.0—Music by a Viennese Orchestra. 7.15—News, Exchange and Announcements. 7.30—Pianoforte Recital. 7.45—Sound-Film Music.
Turin, 7.0—See 6.50 p.m. 7.30—Announcements. 7.40—Igranatieri Opera (Valente).
Vatican City, 7.0—7.15—Religious Information in Italian.
Vienna, 7.0—See 5.55 p.m.

THURSDAY
December 28

Warsaw, 7.0—Concert by the Station Orchestra.
Zagreb, 7.0—Romanian Programme.

8 p.m.

Algiers, 8.0—Time and Lottery Results. 8.10—Talk: Strange Facts and Pastimes. 8.25—News. 8.30—"Le Misanthrope et l'Auvergnat"—Comedy in One Act (Labiche).
Athlone, 8.0—"Green Leaves"—Sketch—(Bernard Duffy), by the Emer Comedy Company. 8.30—Piano Solos, by Mai Johnson. 8.45—Soprano Solos by Eileen Driscoll.
Barcelona, 8.0—Gramophone Music. 8.14—Talk in Catalan. 8.30—Catalan Educational Programme and News.
Berlin, 8.0—See 7.5 p.m.
Beromünster, 8.0—Weather and News. 8.10—Programme of Viennese Music and Old Folk Songs.
Bordeaux-Lafayette, 8.5—Talk, relayed from Paris. 8.15—Talk on Wine. 8.30—News, Market Prices, and Weather. 8.35—A Comedy.
Breslau, 8.0—See Munich 7.30 p.m.
Brno, 8.0—See Prague.
Brussels (No. 1), 8.0—Orchestra. 8.15—Cabaret Programme. 8.45—Political Talk.
Brussels (No. 2), 8.0—Act One of "The Magic Flute"—Opera (Mozart).
Bucharest, 8.0—See 6.40 p.m.
Budapest, 8.0—See 6.30 p.m.
Deutschlandsender, 8.0—See 7.25 p.m.
Frankfurt, 8.0—See Langenberg 7.45. 8.35—See Langenberg.
Hamburg, 8.0—See Berlin 7.5 p.m.
Heilsberg, 8.0—See Berlin 7.5.
Hilversum, 8.0—See 7.55 p.m.—8.40—Imitations by the Dutch Illustrator. Koos Koen. 8.55—The Station Orchestra, conducted by Nico Treep.
Huizen, 8.0—See 7.55 p.m. 8.25—Choral Concert. 8.40—News. 8.55—Religious Address.
Juan-les-Pins (Nice), 8.0—News and Exchange. 8.10—Fashion Review. 8.20—Talk on Superstitions. 8.35—Concert.
Kalundborg, 8.0—See 7.1.
Langenberg, 8.0—See 7.45 p.m. 8.35—Concert of Military Music.
Leipzig, 8.0—See Munich 7.30 p.m.
Ljubljana, 8.0—See 7.0 p.m.
Lyons (La Doua), 8.30—Concert from La Salle Mollière. News after the Concert.
Madrid (EAJ7), 8.0—See 7.0 p.m. 8.15—Radio Journal.
Moscow (Komintern), 8.0—Review of the Week in German. 8.55—Chimes from Red Square.
Munich, 8.0—See 7.30 p.m.
Oslo, 8.0—See 7.30 p.m. 8.40—News.
Paris (Eiffel Tower), 8.0—Political Talk. 8.15—Records.
Paris (Poste Parisien), 8.10—Review of the Week. 8.17—Concert. In the interval at 8.20—Financial Notes. 8.55—Gramophone Concert.
Paris (Radio Paris), 8.0—Chamber Music and Poems.
Pittsburgh, 8.0—State Federation of Pennsylvania Women. 8.15—Rochester Orchestra, from New York.
Prague, 8.0—Time and Meteorological Talk. 8.15—Military Band Concert.
Radio Normandie, 8.15—"Simplice" in his Repertoire. 8.30—Concert.
Reykjavik, 8.0—Musical Programme. 8.10—Weather. 8.20—Music and Announcements. 8.35—Programme to be announced.
Rome, 8.0—See 7.40 p.m.
Sottens, 8.0—Concert by the Landwehr. 8.20—Review of the Week by Tuy Blag. 8.30—Concert (continued). 8.50—News, Weather.
Stockholm, 8.0—See 7.0 p.m. 8.30—Weather Report. 8.45—Weather and News.
Strasbourg, 8.0—Talk in German. 8.30—Pte. and Violin Chamber Music. In the interval: News.
Stuttgart, 8.0—See Langenberg 7.10.
Toulouse, 8.0—Orchestral Pieces. Overture, "Die Federmaus" (Joh. Strauss). Marche joyeuse (Chabrier). Overture, "Sicilian Vespers" (Verdi). 8.15—Operetta Music. 8.45—Organ Solos.
Turin, 8.0—See 7.40 p.m.
Vienna, 8.0—See 5.55 p.m.
Warsaw, 8.0—The Letter Box. 8.15—Concert.

9 p.m.

Algiers, 9.0—See 8.30. 9.5—Request Records. In a Persian Market (Ketelby). Hymn to the Sun (Rimsky-Korsakov). Hungarian Rhapsody No. 2 (Liszt). 9.30—News. 9.35—See 9.5 p.m. Waltz

(Waldteufel). Dans ma peniche (Borel-Clerc). Garde moi ton amour (Erwin). Colinette Brunette (Wekerlin). Piece (Lehar). Delphine (Moretti). 9.55—News. 9.0—Talk on National Health Insurance.
Athlone, 9.15—Concert by the Station Orchestra. 9.30—Musical Programme.
Barcelona, 9.0—Chimes and Weather. 9.5—Announcements, Exchange and Market Prices. 9.10—Humorous Review of the Week in Verse. 9.15—Concert by the Radio Orchestra, followed by Part Relay of an Opera from the Gran Teatro del Liceo.
Berlin, 9.0—See 7.5 p.m.
Beromünster, 9.0—See 8.10 p.m.
Bordeaux-Lafayette, 9.0—See 8.35 p.m.
Bratislava, 9.15—Introductory Talk to the following Transmission. 9.25—Smetana Pianoforte Recital by Makudzinski. Fantasia on Czech Folk Songs. Study in C. On the Sea-Shore.
Breslau, 9.20—See Leipzig. 9.30—Talk by Kurt Sell: What People are saying in America (on Records). 9.45—Time, News.
Brussels (No. 1), 9.0—The Station Orchestra (contd.) Extracts from "Herodiade" (Massenet). Ballet Music from "Samson and Delilah" (Saint-Saëns). Prelude to "Le Deluge" (Saint-Saëns). Selection from "The Sleeping Beauty" (Tchaikovsky). Indian March (Sellenick).
Brussels (No. 2), 9.0—See 8.0 p.m. 9.12—Reading from "Three Men in a Boat" (J. K. Jerome), followed by Sonata in A (Mozart) on Gramophone Records. 9.32—Act Two of "The Magic Flute" (Mozart).
Deutschlandsender, 9.0—News. 9.25—A Discussion: Swimming for Women. 9.45—Weather.
Frankfurt, 9.0—Time and News. 9.20—See Stuttgart. 9.30—Talk. 9.45—News.
Hamburg, 9.0—News. 9.25—See Deutschlandsender. 9.45—See Berlin 7.5.
Heilsberg, 9.0—See Berlin, 7.5.
Hilversum, 9.0—See 8.55 p.m. 9.30—Dialogue. 9.35—Fragments from a Revue, by Lou Bandy's Ensemble.
Huizen, 9.0—See 8.55 p.m. 9.40—Concert by a Male Voice Choir with Gramophone Interludes.
Juan-les-Pins (Nice, Cannes), 9.0—News and Weather. 9.15—Literary and Musical Programme.
Kalundborg, 9.0—See 7.1. 9.15—News. 9.30—Mandoline Concert.
Langenberg, 9.0—See Frankfurt. 9.20—See Stuttgart. 9.25—See Deutschlandsender. 9.45—Announcements.
Leipzig, 9.0—News. 9.20—News and Weather. 9.30—Talk by Kurt G. Sell: What People are saying in America, relayed from America. 9.50—The Erme Orchestra.
Ljubljana, 9.0—Weather, News, Dance Music.
Lyons (La Doua), 9.0—See 8.30 p.m.
Madrid (EAJ7), 9.15—English Lesson. 9.30—Exchange, Time and Radio Journal. 9.45 (approx.)—Two Plays: (a) Los Desahuciados (Leopoldo Lopez de Saa), (b) Hora de Mieda (Georges Barbarin). [In the interval—Song and Pianoforte Recital. Copla de Antaño (Torroba) Elegy (Massenet), Melody (Tosti), Cavatine from "Der Freischütz" (Weber). Piece (Gretchaninov). Jota (Fallá).
Moscow (Komintern)—9.0—See 8.55 p.m. 9.5—Review of the Week in French.
Munich, 9.0—See 7.30 p.m. 9.30—Talk by Kurt G. Sell: What People are saying in America, relayed from America. 9.45—Announcements.
Oslo, 9.0—Topical Talk. 9.15—Choral Concert relayed from Christiansand.
Paris (Poste Parisien), 9.30—Fashion Review. 9.45—See 8.55.
Paris (Radio Paris), 9.0—See 8.0 p.m.
Pittsburgh, 9.0—Betty and Bob, from New York. 9.15—Programme to be announced. 9.30—Business News and Market Reports. 9.45—Billy Leach.
Prague, 9.0—Time, News and Sports Notes. 9.15—See Bratislava.
Reykjavik, 9.0—Chimes and News. 9.30—Reading.
Sottens, 9.0—Tourist Talks. 9.15—Answers to Correspondence.
Stockholm, 9.0—Sjögren-Stenhammar Recital. Marianne Möner (Songs) Torval Hagelin (Pianoforte) and the Stockholm Quartet. Four Songs from Holger Drachmann's Tannhäuser Quartet. String Quartet in C, Op. 2 (Stenhammar). Three Songs from Holger Drachmann's Tannhäuser, Op. 3 (Sjögren).
Strasbourg, 9.0—See 8.30 p.m.
Stuttgart, 9.0—See Frankfurt. 9.20—News. 9.30—Talk.

Toulouse, 9.0—Concert Version of "Samson and Delilah"—Opera (Saint-Saëns). 9.45—Concert.
Turin, 9.0—See 7.40 p.m.
Vienna, 9.0—See 5.55 p.m. 9.30—Snow Report. 9.40—The "Wiener Symphoniker," conducted by Josef Holzer. Announcements after the Concert.
Warsaw, 9.0—Dance Music.
Zagreb, 9.0—News. 9.15—Dance Music.

10 p.m.

Algiers, 10.0—Oriental Music.
Athlone, 10.0—See 9.30. 10.30—Time and News. 10.40—Irish Music.
Berlin, 10.0—See 7.5 p.m.
Bratislava, 10.0—See 9.25 p.m.
Breslau, 10.0—See Leipzig 9.50 p.m.
Brussels (No. 1), 10.0—Le Journal Parlé.
Brussels (No. 2), 10.0—See 9.32 p.m. 10.35—Le Journal Parlé. 10.45—Act Three of "The Magic Flute" (Mozart).
Budapest, 10.0—See 6.30 p.m.
Deutschlandsender, 10.0—See Langenberg.
Frankfurt, 10.0—See Langenberg.
Hilversum, 10.0—See 9.35 p.m. 10.10—Light Music by Kovacs Lajos and his Orchestra. 10.40—News. 10.50—Dance Music.
Huizen, 10.0—See 9.40 p.m. 10.40—Records.
Juan-les-Pins (Nice, Cannes), 10.0—See 9.15 p.m.
Kalundborg, 10.0—Dance Music.
Langenberg, 10.0—Dance Music.
Leipzig, 10.0—See 9.50 p.m.
Madrid (EAQ), 10.30—See Madrid (EAJ7). 9.45 p.m. After the relay, Radio Chronicle.
Madrid (EAJ7), 10.0—See 9.45.
Moscow (Komintern), 10.0—See 9.5. 10.5—Talk in Spanish: The New Soviet Village.
Munich, 10.0—See Leipzig. 9.50 p.m.
Palermo, 10.0—Giornale Radio.
Paris (Poste Parisien), 10.10—News.
Pittsburgh, 10.0—Uncle Tom and Betty. 10.15—KDKA Kiddies. Klub. 10.30—The Singing Lady, from New York. 10.45—Little Orphan Annie, from New York.
Prague, 10.0—See Bratislava. 9.25 p.m. Radio-Normandie, 10.0—Dance Music.
Reykjavik, 10.0—The Radio Trio, followed by Arias (on Records) and Dance Music.
Rome, 10.0—Giornale Radio
Strasbourg, 10.0—See 8.30 p.m.
Stuttgart, 10.0—See Langenberg.
Toulouse, 10.15—North-African News and Announcements. 10.30—Light Orchestral Pieces.
Turin, 10.0—See 7.40 p.m.
Vienna, 10.0—See 9.40 p.m.
Warsaw, 10.0—News. 10.5—Dance Music (contd.).

11 p.m.

Barcelona, 11.0—News.
Brussels (No. 2), 11.0—See 10.45 p.m.
Deutschlandsender, 11.0—See Langenberg.
Frankfurt, 11.0—See Langenberg.
Hilversum, 11.0—See 10.50.
Huizen, 11.0—See 10.40.
Kalundborg, 11.0—Time: Chimes 11.2—Dance Music (contd.).
Langenberg, 11.0—Debussy and Ravel Concert (on Records). Two Nocturnes (Debussy): (a) Nuages, (b) Fêtes. Prélude à l'après-midi d'un faune (Debussy). Sarabande (Debussy-Ravel). Dance (Debussy-Ravel). Introduction and Allegro for Harp, String Quartet, and Wood-Wind Instruments (Ravel). La Valse (Ravel).
Leipzig, 11.0—See 9.50.
Madrid (EAJ7), 11.0—See 9.45 p.m. 11.45—Radio Journal.
Munich, 11.0—See Leipzig 9.50 p.m.
Pittsburgh, 11.0—News; Pat Haley. 11.15—Sports Notes and Programme Preview. 11.30—Egizi's Salon Orchestra. 11.45—Lowell Thomas, from New York.
Radio-Normandie, 11.0 a.m.—See 10.0 p.m.
Stuttgart, 11.0—See Langenberg.
Toulouse, 11.0—Orchestral Music. 11.15—Dance Music.

12 midnight

Madrid (EAQ), 12.0—Variety Programme.
Madrid (EAJ7), 12.0—Chimes.
Radio-Normandie, 12.0—News in English. 12.15—Light Music.
Toulouse, 12.0—News and Announcements. 12.5 (Friday)—Opera Music. 12.15—Military Music.
Madrid (EAJ7), 1.0—Dance Music.
Radio Normandie, 1.0 (Fri.)—News. 1.15—Dance Music.

FRIDAY (December 29)

PRINCIPAL EVENTS

- CONCERTS**
- 5.0 Brussels 1: Light Music.
 7.0 Bucharest: Symphony.
 7.0 Deutschlandsender: Military Band.
 7.15 Warsaw: Symphony.
 7.30 Leipzig: Romantic music.
 7.30 Prague: Symphony.
 7.40 Milan (Vigentino), Turin, etc.: Choir.
 8.0 Brussels 1: Orchestra.
 8.5 Heilsberg, etc.: Schubert C Major.
 8.15 Huizen: Orchestra.
 9.15 Kalundborg: French.
 9.35 Breslau, Deutschlandsender: Light Music.
 9.35 Budapest: Cigany Band.
OPERA, OPERETTAS
 7.10 Frankfurt, etc.: "Black Domino."
 8.0 Poste Parisien: Operetta.
 8.45 Radio-Paris: "La Traviata."
RECITALS
 12.35 Huizen: Organ.
 4.30 Deutschlandsender: Pianoforte (Beethoven, Schumann).
 6.45 Brussels 1: Pianoforte.
 7.30 Oslo: Carols of Many Lands.
 7.30 Stockholm: Song, Harp-Stockhorn.
 8.25 Turin: Violin Recital.
PLAYS AND TALKS
 6.0 Breslau, German Stations: The People at Work.
 8.30 Brussels 2: Flags on the Matterhorn.
 8.30 Strasbourg: Fairy Tales.
DANCE MUSIC
 9.0 Brussels 1; 9.30, Vienna, 10.0, Kalundborg, Langenberg, etc.

NATIONAL

- 10.15 a.m. (Davenport)—The Daily Service.
 10.30—10.45—Weather Forecast for Farmers and Shipping. (Time Signal, 10.30.)
 12 noon—An Organ Recital by Alan Stephenson.
 12.30 p.m.—The B.B.C. Dance Orchestra, directed by Henry Hall. (Time Signal, 1.0.)
 1.15—The Northern Studio Orchestra, directed by John Bridge.
 2.0—Violet Nicholls (Soprano), Cuthbert Smith (Baritone), May Jardine (Pianoforte).
 3.0—The John MacArthur Quintet. Betty Watson (Soprano).
 4.0—The Midland Studio Orchestra.
 4.30 (Davenport)—The Hotel Metropole Orchestra, under the direction of Emilio Colombo. (Time Signal, 4.45.)
 5.15 (Davenport)—Children's Hour. Jean Sterling Mackinlay in a programme of Carols. 5.35—"Here and There," a Summary of the Week's News, by Commander Stephen King-Hall.
 5.15 (except Davenport)—The B.B.C. Dance Orchestra.
 6.0—"The First News" and Farmers' Bulletin. (Time Signal.)
 6.25—Weekly Bulletin of Special Notices.
 6.30—The Foundations of Music. Haydn's Pianoforte Sonatas, played by Mrs. Norman O'Neill. Sonata in C, No. 23 (English): 1. Allegro; 2. Adagio; 3. Allegro molto; Sonata in D, No. 7: 1. Allegro con brio; 2. Largo; 3. Finale: Presto.
 6.50—Keyboard Talk. Series 1. "Manners and Customs in Music." Sir Walford Davies.
 7.10—7.25—"The Garden." Mr. Richard Sudell: "New Varieties for 1934."
 7.30—"The Streets of London." A Drama of Low and High Life in the Middle 'Eighties. Arranged for Broadcasting in Eight Scenes.
 9.0—"The Second News." (Time Signal.)
 9.20—Interlude of Gramophone Records.
 9.30—"The Modern Columbus"—XII. Mr. S. P. B. Mais. Relayed

from America. (In co-operation with the National Broadcasting Company of America.) Mr. Mais has arrived back in New York, from where he will give his last broadcast in this series 10-night.
 9.50—The Leslie Bridgewater Quintet. Gwen Knight (Soprano). Quintet: Two Pieces from Othello (Wedding Scene) (Coleridge-Taylor); Decameron Nights (Finck). Gwen Knight and Quintet: Neglected Moon, Arrogant Poppies (Armstrong Gibbs); How fair and how pleasant art thou, When shall I marry me? (Alfred Reynolds). Quintet: Interlude and March, Delilah (Bridgewater); Shakespeare Songs (arr. Bridgewater). Gwen Knight: Searching for lambs (arr. Eugene Goossens); I have a flaunting air (O'Neill); Slumber Song (Quilter). Quintet: Solveig's Song, Death of Aase, Anitra's Dance (Grieg); Prelude and Call, Mary Rose (O'Neill).
 10.50—"The Old Cloak"—Anonymous (sixteenth century), read by Felix Aylmer.
 10.55—12.0 (Davenport)—Dance Music Harry Roy and his Band, relayed from The May Fair Hotel. (Time Signal, 11.30.)
 11.0—11.30 (London) — Television Transmission (Baird Process).

REGIONAL

- 10.15—11.0 a.m. (except Midland)—Davenport National Programme. (Time Signal, 10.30.)
 12 noon—The Bradford New Victoria Cinema Orchestra.
 1.0 p.m.—A Recital of Gramophone Records. An Operatic Programme.
 2.0—Eugene Pini and his Tango Orchestra.
 3.0—5.15 (except Midland)—See Davenport National.
 5.15—The Children's Hour.
 6.0—"The First News" and Farmers' Bulletin.
 6.25—Interlude.
 6.30 (except Midland and Scottish)—Sydney Baynes and his Orchestra.
 6.30 (Midland)—Mr. Richard Clements: "What's in the Wind?"

- 6.30 (Scottish)—"What the Juvenile Organisations are doing."
 6.40 (Scottish)—Gardening Talk.
 6.45 (Midland)—Haydn Heard and his Band. Relayed from The West End Cinema, Birmingham.
 6.55 (Scottish)—An Organ Recital, by Purcell J. Mansfield, relayed from St. Mary's Cathedral, Edinburgh.
 7.30 (except North)—A Recital. Jan van der Gucht (Tenor). Joyce Kadish (Pianoforte).
 7.30 (North)—"The Home of the Magic Flute." A programme of records of music in the air at Salzburg, the birthplace of Mozart.
 7.55—Act I of Mozart's Opera "The Magic Flute." Relayed from Sadler's Wells.
 9.0 (London and West)—The B.B.C. Orchestra, Section C, conducted by Aylmer Buesst. Betty Bannerman (Contralto). Orchestra: Symphony No. 26, in D minor (Christmas Symphony) (Haydn). Betty Bannerman and Orchestra: Recit., Malheureux, qu'ai je fait? Aria, J'ai perdu mon Euridice (Orphée et Euridice) (Gluck). Orchestra: Siegfried Idyll (Wagner); Ballet, El Amor Brujo (Love, the Magician) (Fallá). (Contralto Solo, Betty Bannerman.)
 9.0 (Midland)—Midland Composers—XXII. Vaughan Williams. The City of Birmingham Orchestra, conducted by Leslie Howard. The Midland Studio Chorus. Roy Henderson (Baritone). Alfred Cae (Violin).
 9.0 (North)—The Horwich R.M.I. Band, conducted by W. Wood. Jack Lane (Entertainer).
 9.0 (Scottish)—An Interlude of Gramophone Records.
 9.15 (Scottish)—An Excerpt from the Forty-sixth "Royal" Pantomime "Babes in the Wood." Relayed from The Theatre Royal, Glasgow. With Interludes of Dance Music.
 10.15—"The Second News." (Time Signal.)
 10.30—12.0—Dance Music. Harry Roy and his Band, relayed from The May Fair Hotel. (Time Signal, 11.30.)
 11.0—11.30 (Midland)—Television (Sound).

EMPIRE PROGRAMME SUMMARY

- For wavelengths, see S.W. List
- Transmission 1 (GSF, GSD) G.M.T.**
 8.0 a.m.—Big Ben. Empire News and Fruit Market Notes (Supplied by the Intelligence Branch of the Imperial Economic Committee).
 8.15—Pagliacci—Act I (Leoncavallo). † 9.10—Talk.
 9.30—Colin Wark presents Trois and his Mandoliers* with Don Carlos (Tenor). 10.0—Close.
- Transmission 2 (GSG, GSE)**
 12 noon—Big Ben. Davenport.
 12.30 p.m.—Davenport. 1.15—Davenport 1.45—Close Down.
- Transmission 3 (2—4 p.m. GSE, GSB; 4—6 p.m. GSB, GSA)**
 2.0 p.m.—Big Ben. Empire News. 2.15—Light Classical Concert.
 3.0—See Davenport.
 4.0—"The Monkey's Paw."
 4.30—The Hotel Metropole Orchestra.
 5.0—Empire News (second reading).
 5.15—The B.B.C. Dance Orchestra. 6.0—Close Down.
- Transmission 4 (6.15—9 p.m. GSD GSB; 9—10.45 p.m. GSB, GSA)**
 6.15 p.m.—Big Ben. Empire News, etc., see Transmission 1, 8.0.
 6.30—Sydney Baynes and his Orchestra.
 6.50—Talk: "Manners and Customs in Music." Sir Walford Davies.
 7.10—Sydney Baynes (continued).
 7.30—A Recital by Jan van der Gucht (Tenor) and Joyce Kadish (Pfte.). 7.55—See Regional.
 9.0—See Regional.
 9.50—See National.
 10.30—Empire News. 10.45—Close Down.
- Transmission 5 (GSC, GSA)**
 11.0 p.m.—Big Ben. "Music and the Ordinary Listener."* Sir Walford Davies. 11.20—The Leslie Bridgewater Quintet. 12 midnight—A Band Concert. †
 12.45 a.m.—Empire News.
 1.0—Close Down.
- * Electrical Recording.
 † Gramophone Records.

NOTE: The Hours of Transmission are Reduced to Greenwich Mean Time

- 5 a.m.**
- Berlin, 5.15—Gym. 5.30—Motto and Weather. 5.35—See Hamburg.
 Beromünster (Schweizerischer Landsender), 5.50—(from Basle)—Gym.
 Breslau, 5.30—See Munich. 5.45—See Munich.
 Deutschlandsender, 5.0—Weather. 5.5—News. 5.15—See Berlin. 5.30—See Hamburg.
 Frankfurt, 5.5—See Langenberg. 5.30—See Stuttgart. 5.45—See Langenberg.
 Hamburg, 5.0—Time and Announcements. 5.15—Gym. 5.30—Time and Weather. 5.35—The Small Station Orchestra, conducted by Fritz Gartz.
 Heilsberg, 5.15—Gym. 5.35—See Hamburg.
 Langenberg, 5.0—Record: To-day's Motto. 5.5—Records. 5.30—See Stuttgart. 5.45—Gym.
 Leipzig, 5.30—See Munich.
 Moscow (Komintern), 5.15—Records.
 Munich, 5.30—Gym. 5.45—Records and Morning Motto.
 Prague, 5.15—Gym; Music and News. Sottens 6.0—Gym.
 Stuttgart, 5.5—See Langenberg. 5.30—Gym. 5.45—See Langenberg.

- 6 a.m.**
- Breslau, 6.15—See Leipzig.
 Deutschlandsender, 6.0—See Hamburg.
 Frankfurt, 6.0—Time and Announcements. 6.15—See Langenberg.
 Hamburg, 6.0—Time and News. 6.10—Morning Motto. 6.20—Concert (contd.).
 Heilsberg, 6.0—See Hamburg.
 Kalundborg, 6.0—Gym. for Women. 6.15—Gym.
 Langenberg, 6.0—See Frankfurt. 6.10—Weather. 6.15—Records of Popular Music.
 Leipzig, 6.15—News, Time and Concert for Children.
 Milan, 6.45—Gym.
 Milan (Vigentino), 6.45 (Naples)—Gym.
 Moscow, 6.0—Programme Announcements. 6.15—The Small Station Orchestra.
 Munich, 6.15—See Leipzig.
 Paris (Radio-Paris), 6.45—Gym.

- Prague, 6.15—See 5.15.
 Stockholm, 6.20—Gym. 6.45—Service.
 Stuttgart, 6.0—See Frankfurt. 6.10—Weather. 6.15—See Langenberg. Turin, 6.45—Gym.
 Warsaw, 6.0—Time Signal and Christmas Carol. 6.5—Gym. 6.20—Records. 6.35—Radio Journal. 6.40—Records. 6.52—For Housewives. 6.55—Announcements.

- 7 a.m.**
- Barcelona, 7.15—Radio Journal and Gramophone Music.
 Berlin, 7.15—Gym. 7.30—Records and News.
 Bordeaux-Lafayette, 7.45—News relayed from Paris (Ecole Supérieure).
 Breslau, 7.0—See Leipzig 6.15 a.m.
 Deutschlandsender, 7.45—Gym. for Women.
 Frankfurt, 7.15—Announcements. 7.25—See Langenberg. 7.40—See Langenberg.
 Hamburg, 7.0—Weather and Talk for Housewives. 7.25—Ice Report.
 Heilsberg, 7.0—Religious Service. 7.30—Gym. for Women.
 Hilversum, 7.40—Records.
 Huizen, 7.40—Records.
 Kalundborg, 7.30—Service.
 Langenberg, 7.15—Tide Report. 7.25—Gym. for Women. 7.40—For Women.
 Leipzig, 7.0—See 6.15 a.m.
 Lyons (La Doua), 7.45—News and Weather, relayed from Paris.
 Milan, 7.0—Records. Serenades Nos. 1 and 2 (Herbert). Danza esotica (Mascagni). Viennese Fantasia (Stolz). Toréador et Andalouse (Rubinstein). Meditation from "Thais" (Massenet). Tango Potpourri (Borchert).
 Milan (Vigentino), 7.0 (Naples)—Time and News.
 Moscow (Komintern), 7.0—See 6.15 a.m. 7.15—For Children.
 Munich, 7.0—See Leipzig 6.15 a.m.
 Paris (Poste Parisien), 7.10—Chimes and Records. Cadets' March (Souza). Waltz from "Sylvia" (Delibes). Waltz from "Coppélia" (Delibes). Waltz (May). Que pensez-vous des femmes (Alix). Avec plaisir (Sylva). La vie de Château (Bonnaud). Selection from "Le Roi d'Yvetot" An Old Violin (Fisher). You loving me (Brandt-Stanley). Serenade (Heykens). Waltz (Strauss). Selec-

- tion from "A Night in Venice" (Strauss). Selection from "Viktorina and her Hussar" (Abraham). In the interval at 7.30—News.
 Paris (Radio-Paris), 7.30—Weather, Gym. 7.45—Records.
 Radio Normandie, 7.15—Concert. 7.30—News.
 Stockholm, 7.0—See 6.45 a.m.
 Stuttgart, 7.0—See Langenberg. 6.15 a.m. 7.15—See Frankfurt. 7.25—See Langenberg. 7.50—Post Office Concert.
 Turin, 7.0—Time; Announcements.

- 8 a.m.**
- Barcelona, 8.0—Chimes, Physical Culture and Gramophone Music. 8.20—Radio Journal and Gramophone Music.
 Breslau, 8.0—Gym. for Women. 8.20—Time, News. 8.0—Cookery Talk. 8.20—For Mothers. 8.40—Review of New Diaries and Year Books.
 Hilversum, 8.0—See 7.40 a.m. 8.40—Exchange. 8.45—Announcements.
 Madrid (E.A.J.), 8.0—Radio Journal.
 Moscow, 8.0—Concert of Music by Tchaikovsky, Rimsky-Korsakov and Rubinstein. 8.55—Time.
 Munich, 8.0—See Breslau.
 Paris (Poste Parisien), 8.0—Sponsored Concert. 8.20—News. 8.45—For Housewives.
 Paris (Radio-Paris), 8.0 a.m.—Weather and News.
 Prague, 8.50—Weather. 8.55—News.
 Radio-Normandie, 8.0—Concert. 8.15—Review.
 Stuttgart, 8.0—See 7.50 a.m.
 Toulouse, 8.0—Dance Refrains. 8.30—News. 8.35—Opera Music. Selection from "I Pagliacci" (Leoncavallo). "Cavalleria rusticana" (Mascagni) and "Carmen" (Bizet). 8.45—Sound Film Music.
 Vienna, 8.20—Market Prices. 8.30—Weather.

- 9 a.m.**
- Barcelona, 9.0 a.m.—Announcements.
 Berlin, 9.0—News. 9.10—Economic Report.
 Deutschlandsender, 9.0—News. 9.10—Song, Violin and Pianoforte Recital by Nora v. Rautenberg-Garczynska, Lothar von Ritterhoff and Kurt Borack.
 Frankfurt, 9.0—News. 9.50—News. Heilsberg, 9.40—News.
 Hilversum, 9.0—See 7.40 a.m. 9.40—Religious Programme. 9.55—Recitations.
 Huizen, 9.40—Records.
 Langenberg, 9.0—See Frankfurt. 9.10—Radio Report on the New Railway. 9.35—Topical Talk.
 Leipzig, 9.45—Post Office Programme with Records.
 Moscow, 9.0—News. 9.15—Request Choral Concert.
 Munich, 9.15—English Lesson. 9.55—News.
 Oslo, 9.0—Market Prices.
 Prague, 9.0—See 8.55 a.m. 9.10—Orchestral Concert. March (Kaiser). Song (Kubin). Selection from "Die Puppente" (Bayer). Foxtrot (Jezek). Intermzzo, Dance of the Butterflies (Leopold). Poika (Grossmann). Foxtrot (Silver). Melody (King). March (Fucik).
 Stuttgart, 9.0—See Frankfurt. 9.10—Organ Recital of Schumann Music by Wilhelm Locks, relayed from the Ufa Palace. 9.30—Records.
 Vienna, 9.50—Tides Report.

- 10 a.m.**
- Berlin, 10.25—Exchange. 10.30—See Hamburg. In the interval, Weather.
 Bordeaux-Lafayette, 10.30—Orchestral Concert. In the interval, Records.
 Bratislava, 10.0—Tides Report. 10.5—Records.
 Breslau, 10.40—Time, Weather. Brno, 10.0—Records. 10.55—See Prague.
 Deutschlandsender, 10.0—See 9.10 a.m. 10.15—Weather. 10.30—Records. Military March (Schubert). Overture, "Poet and Peasant" (Suppé). Scherzo from "A Midsummer night's Dream" (Mendelssohn). Overture, "Der Opernball" (Heuberger).
 Frankfurt, 10.0—Concert. 10.40—Announcements.
 Hamburg, 10.0—Records. Overtures to "Il Seraglio" (Mozart), "The Barber of Seville" (Rossini), "The Hermit's Bell" (Maillart), "Light Cavalry" (Suppé). 10.30—Concert, conducted by Fredo Niemann. Florentine March (Fucik). Overture, "Semiramis" (Rossini). Waltz (Meisel). Russian Intermzzo (Franke). Introduction to Act III and Bridal Chorus, "Lohengrin" (Wagner). Selection from "Preciosa" (Weber). Boccaccio Quadrille (Strauss). Germania March (Keil). Mazurka, La Czarine (Ganne). Mussinan March (Carl). In the intervals, Notes for Women, Time and News.
 Heilsberg, 10.0—Ice Report. 10.30—See Hamburg.
 Hilversum, 10.0—See 9.55 a.m. 10.10—Records. 10.40—Gastronomic Talk.
 Huizen, 10.0—See 9.40 a.m.
 Kalundborg, 10.0—Weather. 10.10—Market Prices. 10.15—For Schools.
 Langenberg, 10.10—Records. 10.25—Sponsored Programme with Records. 10.55—Weather.
 Leipzig, 10.40—News.
 Lyons (La Doua), 10.30—See Bordeaux-Lafayette.
 Moravská-Ostrava, 10.0—Records.
 Munich, 10.30—Post Office Programme with Records. 10.50—See Leipzig.
 Oslo, 10.15—Service. 10.55—Agricultural Talk.
 Strasbourg, 10.30—See Bordeaux-Lafayette.
 Stuttgart, 10.0—See 9.30 a.m. 10.25—Post Office Concert. 10.55—Weather.
 Turin, 10.15—Orchestral Concert.
 Vatican City, 10.0—Religious Information in German.
 Vienna, 10.30—Concert by the "Wiener Symphoniker," conducted by Josef Holzer. Overture, "Die Banditenstreife" (Suppé). Kobold Walzer (Bayer). Selection from "Ein Liebesnacht" (Haupt). 10.55—Weather.
 Warsaw, 10.40—Polish Press Review. 10.50—Talk. 10.57—Time Signal and Fanfare from St. Mary's Church, Cracow.

- 11 a.m.**
- Barcelona, 11.0—Chimes and Weather.
 Bari, 11.30—Quintet Concert.
 Beromünster, 11.0 (from Basle)—Records. 11.29—Time Signal from Neuchâtel Observatory. Weather and News. 11.40 Records (contd.).
 Bordeaux-Lafayette, 11.0—See 10.30 a.m.
 Bratislava, 11.0—Agricultural Talk.
 Breslau, 11.0—See Munich.
 Brno, 11.0—Agricultural Report. 11.20—See Prague. 11.35—The Station Orchestra, conducted by Bakala.

FRIDAY
December 29

11 a.m. (contd.)

Bucharest, 11.0—Exchange and Records.
 Budapest, 11.5—Concert.
 Deutschlandsender, 11.0—Weather.
 11.5—Records (contd.). March, Treu deutsch. Waltz (Delibes). Dances from "Aida" (Verdi). Finlandia (Sibelius). Sailors' Chorus from "The Flying Dutchman" (Wagner). Prelude (Rachmaninov). La capriciosa (Ries). Hungarian Rhapsody No. 1 (Liszt). Hungarian Dance (Brahms). Hoch-und Deutschmeister-Marsch. After the Concert. Weather. 11.55—Time.
 Frankfurt, 11.0—See Langenberg.
 Hamburg, 11.0—See 10.0 a.m.
 Heilsberg, 11.0—See 10.0 a.m. Hamburg.
 Hilversum, 11.0—See 10.40 a.m. 11.10—Organ Recital by Jong. 11.40—Kovacs Lajos and his Orchestra, with Gramophone Interludes.
 Huizen, 11.0—For Hospitals. 11.40—Police Notes. 11.55—Concert by the K.R.O. Sextet. Carmento-March (Grit). Lenz (Hildach). Waltz, "Der Rosenkavalier" (R. Strauss). Potpourri, Das Beste vom Besten (Dostal).
 Kalundborg, 11.0—Time and Chimes. 11.5—The Harald Andersen String Ensemble, from the Hotel d'Angleterre.
 Langenberg, 11.0—Records. Ballet Music from "Undine" (Lortzing). Serenade (Drigo). Petite suite d'orchestre (Bizet). Ballet Music from "Sylvia" (Delibes). Serenade (Tosti). Oriental Suite (Popy). Ballet égyptien (Luigin). Serenade (Toselli). Ballet Suite (Popy).
 Leipzig, 11.0—See Munich.
 Ljubljana, 11.15—Records. 11.45—News.
 Madrid (EAJ7), 11.0 (approx.)—Relay from the Ayuntamiento.
 Milan, 11.30—Records. 11.45—Giornale Radio.
 Milan (Vigentino), 11.30—Records.
 Moravská-Ostrava, 11.0—Agricultural Talk. 11.35—See Brno.
 Munich, 11.0—Concert conducted by Erich Kloss. Prelude to "The Land of Smiles" (Lehar). Adagio from the Violin Concerto (Bruch). Selection, "Czar and Carpenter" (Lortzing). Italian Nocturne (Godard). Serenade (Galkine). Selection, "The Bird-Fancier" (Zeller). Tanz der Schmetterlinge (Kockert). Der kleine Soldat (Bayer).
 Oslo, 11.0—See 10.15. 11.10—Exchange 11.55—Time.
 Palermo, 11.45—Giornale Radio.
 Prague, 11.0—See Bratislava. 11.20—Weather. 11.25—News. 11.35—See Brno.
 Radio-Normandie, 11.0—Variety Programme.
 Sottens, 11.28—Time Signal. 11.30—News. 11.40—Records.
 Stockholm, 11.30—Weather. 11.45—Exchange. 11.55—Time Signal.
 Strasbourg, 11.0—See Langenberg.
 Stuttgart, 11.0—See Langenberg.
 Turin, 11.30—Records. 11.45—Giornale Radio.
 Vienna, 11.0—Concert. Österreich über alles (Hummer). Overture, "The Princess in the Golden Slippers" (Rust). Waltz, España (Waldeufel). Serenade (Herbert). Traume, mein Liebling, traume (Guttman). Klänge aus der Raimundzeit (Joh. Strauss). Waltz, Unsere Wiener Herzen (Ertl). Potpourri, Haloh, Hier die Meister der Wiener Operette (Geiger).
 Warsaw, 11.5—Orchestral Concert from Lwów. 11.30—Radio Journal. 11.35—Weather. 11.38—Orchestral Concert (contd.).
 Zagreb, 11.20—Cookery Recipes. 11.30—Records.

12 noon

Algiers, 12.30—Records. Angelita (Garcia). Romanian Song. Hungarian Romance and Czardas. Aubade printanière (Lacombe). Potpourri (Moretti). O sole mio (Di Capua).
 Barcelona, 12.0—Programme for Women. 12.45—Gramophone Music.
 Berlin, 12.0—Künneke Music on Records. Selection from "Liselott." Song from "The Cousin from Nowhere." Selection from "Der Tenor der Herzogin." 12.20—See Hamburg.
 Beromünster, 12.0—See 11.40 a.m. 12.25 (from Baste)—Time, Weather and Exchange.
 Bordeaux-Lafayette, 12.0—Concert relayed from Paris (Ecole Supérieure). 12.45—Time and Records. In the interval, News.
 Bratislava, 12.45—News in Slovak, German and Hungarian.
 Breslau, 12.0—See Munich 11.0 a.m. 12.15—See Leipzig.
 Brno, 12.0—See 11.35 a.m. 12.35—See Prague.

Brussels (No. 1), 12.0—Concert by the Small Station Orchestra, conducted by Leemans. Overture, "Alfonso and Estrella" (Schubert). Danses alsaciennes (Lévaillé). Selection from "Manon Lescaut" (Puccini). Piano Solo, Tarantella (Chopin). Extracts from the Ballet Music for "Patrie" (Paladilhe). Selection from "Madame Turlupin" (Guiraud). Serenade (Jacobs). Waltz, Loin de toi (Hollaender). March, The Invincible Eagle (Souza).
 Brussels (No. 2), 12.0—Giordano Concert on Gramophone Records. Acts One and Two of "Fedora." Cena della Pasqua from "Siberia."
 Bucharest, 12.0—Radio Journal. 12.15—Records.
 Budapest, 12.0—See 11.5 a.m. 12.30—The Bercei Rác Cigány Band.
 Deutschlandsender, 12.45—News.
 Frankfurt, 12.15 p.m.—Time and News. 12.25 p.m.—News. 12.35—See Stuttgart.
 Hamburg, 12.0—Exchange. 12.10—Weather. 12.20—Light Music.
 Heilsberg, 12.5—Records. Part I Famous Singers Lucrezia Bori: (a) Clavelitos (Valverde), (b) Malagena (Pagans). La Casazza: Aria from "La Favorita" (Donizetti). Hilde Crevenna: (a) Desde-



The Matterhorn (Brussels No. 2, 8.30)

mona's Prayer from "Othello" (Verdi), (b) Weidenbaum. Galluccio: Cantata (Scarlatti). Part II, Caruso Records. Hantise d'amour (Szulc). Ingemisco Requiem (Verdi). Garibaldi Hymn (Mercantini). Cujus animam (Rossini). Two Pieces (Caruso): (a) Old Times, (b) Serenata. Part III, Spanish Music. Festival at Seville (Albeniz). Overture, "The Secret Marriage" (Cimarosa). Air from "La Vida breve" (Falla). In the intervals: News.
 Hilversum, 12.0—See 11.40 a.m.
 Huizen, 12.0—See 11.55 a.m. 12.25 p.m.—Organ Recital. Selection from "Die Fledermaus" (Joh. Strauss). Glockentanz (Yoshitomo). Chopiniana (Finck). Selection from "Frasquita" (Lehár). Extase (Ganne). 12.55—Sextet Concert (continued). Swedish Songs and Dances (Pagel). Waltz, Morgenblätter (Joh. Strauss), Das Blumenmädchen von Neapel (Fresco).
 Juan-les-Pins, 12.30—Announcements.
 Kalundborg, 12.0—See 11.5.
 Langenberg, 12.0—See 11.0 a.m. 12.15 p.m.—See Frankfurt. 12.25—News. 12.35—See Stuttgart.
 Leipzig, 12.15 p.m.—News, Time. 12.25—Records. Two Movements from the Concerto grosso in D (Handel). Sonata in F (Lœffelt). Der Hirt auf dem Felsen (Schubert). Adagio from the Violin Concerto in E (Bach). Movement from the Concerto in B minor (Vivaldi).
 Ljubljana, 12.0—Weather, Records.
 Lyons (La Doua), 12.0—Instrumental Concert. Concerto for Strings (Dallabacò). Melody (Mozart). Gavotte (Gluck). The Cuckoo (Daquin). Gavotte, Pavane, Chaconne and Passépied (Mesquita). Ecossaises (Beethoven). Andantino (Martini). Melody Suite from Concerto No. 2 (St. Georges). After the Concert, News.
 Madrid (EAJ7), 12.0—See 11.0 a.m. Milan, 12.0—Time and News. 12.5 p.m.—Trio Concert. In the interval: Records and Exchange.

Paris (Poste Parisien), 12.0—Exchange. 12.5—Records. 12.30—Records.
 Paris (Radio-Paris), 12.0—Jewish Talk. 12.30 p.m.—Records. Aria, "Sigurd" (Reyer). Cavatina, "The Prophet" (Meyerbeer). Two Arias, "Tosca" (Puccini). Introduction to Act I, "Fervaal" (d'Indy). Aria, "Fidelio" (Beethoven). Overture, "Oberon" (Weber). Death of Isolde from "Tristan and Isolde" (Wagner). In the Steppes of Central Asia (Borodin). La procession nocturne (Rabaud). L'apprenti sorcier (Dukas). Scheherazade (Rimsky-Korsakov). In the Interval: Exchange, News, Weather.
 Pittsburgh, 12.0—Musical Clock.
 Prague, 12.0—See 11.15 a.m. Brno. 12.35 p.m.—Talk for Workers. 12.45—Records. 12.55—Exchange and Weather.
 Radio Normandie, 12.0—Records. 12.30 p.m.—News. 12.45—Popular Songs.
 Sottens, 12.0—Exchange. 12.10—Records.
 Strasbourg, 12.0—Records. March from "Carmen" (Bizet). La Paloma (Yradier). Excuse me Lady (Leslie). Honey (Simons). Rustle of Spring (Sinding). Mattinata (Leoncavallo). Melody (Zeller). Tre (Mascheroni). Melody (Baer). Once in your Life (Jurmann). Adieu (Schmitt). Marche des Chasseurs (Lubner). 12.45—News.
 Stuttgart, 12.0—See 11.0 a.m. Langenberg. 12.15 p.m.—See Frankfurt. 12.25—News. 2.35—The Mario Isegljo Orchestra, from the Hindenburgbau. March, iMein Regiment (Blankenburg). Wal tz, Frühlingsstimmen (Joh. Strauss). Overture, "Mignon" (Thomas). Selection from "Die Fledermaus" (Joh. Strauss). Violin Solo: Ave Maria (Schubert-Wilhelmy). Serenade (Heykens). Goldilocks (Powell). Selection from "Cavalleria Rusticana" (Mascagni). Japanese Carnival (de Basque).
 Toulouse, 12.0—Airs from Operettas. 12.15—Popular Melodies. 12.30—News and Exchange. 12.45—Request Gramophone Music.
 Turin, 12.0—Time, Announcements. 12.5—Programme to be announced.

In the interval: Records and Exchange.
 Vienna, 12.0—Time, News. 12.10 p.m.—Records. Karol Szreter: Hungarian Rhapsody No. 12 (Liszt). Josef Manowarda: Gebet and Gesang Weylas: Gebet and Szigetel and Bela Bartok: Hungarian Folk Songs (Bela Bartok). Berta Kiurina: Two Arias from "Turandot" (Puccini). Alfred Grünfeld: Nocturne in A flat, Op. 32 (Chopin). Pablo Casals: Berceuse de Jocelyn (Godard). Enrico Caruso: Aria from "Martha" (Flotow). Heinrich Schlusnus: Caro mio ben (Giordano).
 Zagreb, 12.0—Announcements. 12.10 p.m.—Dance Music on Records. 12.40—News.

1 p.m.

Algiers, 1.0—News. 1.5—Records. Chiquita (Wayne). Selection from "Lilac Time" (Schubert-Berte). L'amour de Lawotta. Old Popular Hungarian Melodies. Potpourri (Yvain).
 Athlone, 1.30—Times, News, and Records.
 Barcelona, 1.0—Gramophone Concert.

2 p.m.

Athlone, 2.0—Records.
 Barcelona, 2.0—Sextet Concert. In the interval, Talk.
 Berlin, 2.0—Exchange. 2.20—For Young People.
 Beromünster, 2.30—Records. 2.59—Time Signal from Neuchâtel Observatory.
 Bordeaux-Lafayette, 2.0—Chamber Music and Variety Music.
 Breslau, 2.20—Book Criticism: Helmuth Brückner (Jakubasch). 2.30—For Young People.
 Brno, 2.40—Talk.
 Budapest, 2.30—For Children.
 Deutschlandsender, 2.0—For Girls. 2.30—Weather: Exchange. 2.45—Reading of a Scandinavian Christmas Story.
 Frankfurt, 2.30—Weather. 2.40—Time and Economic Notes.
 Hamburg, 2.0—Exchange; News.
 Heilsberg, 2.0—Exchange. 2.15—For Children. 2.35—For Women.
 Hilversum, 2.0—See 1.55 p.m. 2.10—Reading. 2.40—Records.
 Huizen, 2.0—See 1.55 p.m. 2.40—Violin Recital by Els Berentzen. Romance (Wilhelm). Andante (Tchaikovsky). Hungarian Poem (Hubay). Canzonetta (Godard). Records. Rondino (Kreisler). La cinquantaine (Gabriel Marie). German Dance (Mozart). Aubade (d'Ambrosio).
 Juan-les-Pins (Nice, Cannes), 2.0—See 1.15 p.m.
 Kalundborg, 2.0—Danish Music by The Radio Orchestra, conducted by Emil Reesen. Overture, Vifandaka" (Toft). Suite on Danish Folk Tunes. Suite from "Gurre" (Horneman). Polonaise and Waltz from "Et Folkesagn" (Gade). 2.50—Reading. 3.10 (approx.)—Concert (contd.). Oriental March, "Aladdin" (Agnersnap). Suite of Scandinavian Folk Music. Suite, In the Alhambra (Lange-Müller). Danish Rhapsody, Himmerland (Reesen).
 Langenberg, 2.0—Talk: The Position of Domestic Servants. 2.20—Records. 2.30—Exchange. 2.50—Political Announcements.
 Leipzig, 2.0—Mezzo-Soprano Recital by Gertrude Hepp. Three Songs (Werner Schubert): (a) Stilleinsamkeit, (b) Advent, (c) Abend am Meer. Jahreswende (Hohn). Weihnacht (Lauterlein). Zweier Seelen Lied (Müller). An die

Tore hinaus. Heideröstein (Werner). Am Brunnen vor dem Tore (Schubert). Vom Bauer und den Tauben (Taubert). Ewig liebe Heimat (Brau).
 Heilsberg, 1.0—See 12.5 p.m. 1.30—Post Office Programme with Records.
 Hilversum, 1.0—See 11.40 a.m. 1.55 p.m.—Records.
 Huizen, 1.0 p.m.—See 12.55 p.m. 1.25—Organ Recital. Prelude to "Le Déluge" (Saint Saëns). Serenata della Laguna (Bacchi). Waltz, Oh Frühling wie bist du so schön (Lincke). Marigold (Mayerl). Butterflies in the Rain (Reaves). Phantom Melody (Kobley). Contes d'Avril (Widor). 1.55—Records.
 Juan-les-Pins (Nice, Cannes), 1.0—News. 1.15—Variety Programme.
 Langenberg, 1.0—See Stuttgart. 12.35. Leipzig, 1.0—News. 1.20—Art Review. 1.30—Ernst Wichert reads from his Book, "Der Fremde." 1.40—For Young People.
 Lyons (La Doua), 1.0—Records.
 Milan (Vigentino), 1.0—Time and Announcements.
 Moscow (Komintern), 1.45—Announcements.
 Munich, 1.0—See Leipzig. 1.10—News. 1.20—Post Office Programme, with Records. 1.50—For Women.
 Paris (Eiffel Tower), 1.0—Market Prices. 1.15—News. 1.30—Agricultural Talk. 1.45—Labour Report.
 Poste-Parisien, 1.5—Exchange. 1.15—Exchange and Records. Valse caprice (Rubinstein). Mazurka (Godard). Waltz from "Les Deux Pigeons" (Messenger). Par Monts et par Vaux (Gillet). 1.25—Exchange. 1.30—Records.
 Paris (Radio-Paris), 1.0—See 12.30.
 Pittsburgh, 1.0—Morning Devotions from New York. 1.15 p.m. Don Hall Trio, from New York. 1.30—Lew White, Organist from New York.
 Reykjavik, 1.15 p.m.—Variety Programme.
 Strasbourg, 1.0 p.m.—Time, Exchange. 1.5 Records.
 Stuttgart, 1.0 p.m.—See 12.35 p.m.
 Toulouse, 1.0—Announcements. 1.5—Opera Music. Dance of the Sylphs, "The Damnation of Faust" (Berlioz). March, "Oberon" (Weber). Selection, "Il Trovatore" (Verdi). 1.15—Sound-Film Music. 1.30—Light Orchestral Music. Vienna, 1.0 p.m.—See 12.10.

1.30—Theatre Notes and Gramophone Concert (contd.).
 Berlin, 1.15—News. 1.35—Records. Caprice italien (Tchaikovsky). Spanish Caprice (Rimsky-Korsakov).
 Bordeaux-Lafayette, 1.0—See 12.45 p.m. 1.50—Exchange.
 Breslau, 1.0—See Leipzig 12.15 p.m. 1.15—Time; Weather. 1.20—Post Office Programme with Records. 1.50—Announcements.
 Brno, 1.0—Market Prices.
 Brussels (No. 1), 1.0—Le Journal Parlé. 1.10—Concert of Waltzes by the Station Orchestra. Le pas des fleurs (Delibes). Waltz Intermezzo from "The Sorceress" (Arditi). The Black Rose (Aubry). Rosemousse (Bosc). Valse bleue (Margis). Magic Roses (Van Oost). Waltz, Pomone (Waldeufel). No. no, Lulu (Valny). Melody (Vollstedt). In the Interval, Cabaret Programme.
 Brussels (No. 2), 1.0—Le Journal Parlé. 1.10—Concert by the Small Station Orchestra, conducted by Leemans. Two-Step, El Caballero (Rossi). Pester Walzer (Lanner). Les Trésors de Colombine (Drigo). Selection from "Frederica" (Lehár). Violin Solo: Short Story (Gershwin-Dushkin). Dance (Dvofak). Ballet Music, A Cyprus (De Taeye). Songs from "Midnight Tango" (Komjati).
 Budapest, 1.0—See 12.30 p.m.
 Deutschlandsender, 1.0—Records. Overture, Il Scraglio (Mozart). Aria from "Mignon" (Thomas). Overture, "The Secret Marriage" (Cimarosa). Air from "Hans Heiling" (Marschner). Overture, "Fra Diavolo" (Auber). Aria from "Lakmé" (Delibes). Airs from (a) "Im Reiche des Indra" (Lincke), (b) "Eine Nacht in Venedig" (Joh. Strauss), Selection from "Der Bettelstudent" (Millocker). Air from "Eine Nacht in Venedig" (Joh. Strauss).
 Frankfurt, 1.40 p.m.—For Women.
 Hamburg, 1.0—See 12.20. 1.15—News. 1.35—Songs on Records. Frisch gesungen (Silcher). Es wollt' ein Magdlein früh aufstehn. Das Wandern ist des Müllers Lust (Zonner). Es ritzen drei Ritter zum

FRIDAY
December 29

2 p.m. (contd.)

Kraft (Müller). Four Songs from Lieder aus meinem Garten (Kormann). 2.30—For Women. 2.45—Exchange.
Madrid (EAJ7), 2.0—Chimes, Time, Weather and Theatre Notes. 2.15 (approx.)—Concert of Popular Music. In the interval: Exchange.
Moravská-Ostrava, 2.40—Talk: Schools in Czechoslovakia.
Moscow (Komintern), 2.15—For Children. 2.55—Time.
Munich, 2.30—Talk: Work in the Saar District. 2.50—Weather; Agricultural Notes.
Paris (Eiffel Tower), 2.0—Exchange and Scientific Review. 2.15—Economic Notes. 2.30—Market Prices. 2.45—Poetry.
Paris (Poste Parisien), 2.0—Exchange.
Paris (Radio Paris), 2.5—Announcements.
Pittsburgh, 2.0—Breakfast Club, from New York. 2.30—Style and Shopping Service. 2.45—News and Minute Manners.
Prague, 2.30—Records. 2.40—Talk on Prague. 2.50—Weather and Exchange.
Reykjavik, 2.0—See 1.15 p.m.
Sottens, 2.28—Time Signal.
Toulouse, 2.0—News and Exchange.
Vienna, 2.0—Time, News, Exchange. 2.15—Gym. 2.25—For Children. 2.50—Pianoforte Concerto in A Minor (Grieg), by Ignaz Friedmann (on Records).
Warsaw, 2.25—News. 3.10—Pianoforte Recital by Vera Bezobrazova. Variations in G (Mozart). Two Pieces (Schubert-Liszt): (a) Du bist die Ruh', (b) Auf dem See. Polonaise in E (Liszt).

3 p.m.

Barcelona, 3.0—Programme for Hospitals, with Records.
Berlin, 3.0—See Heilsberg.
Beromünster, 3.0—Concert by the Beromünster Orchestra. 3.35—The Stocker Sepps Village Orchestra.
Bratislava, 3.55—Sports Notes.
Breslau, 3.0—See Munich.
Brno, 3.0—See Moravská-Ostrava. 3.55—Talk on Winter Sports.
Budapest, 3.0—The Red Cross Movement.
Deutschlandsender, 3.0—See Munich.
Frankfurt, 3.0—See Langenberg. 3.45—See Langenberg.
Hamburg, 3.0—See Heilsberg.
Heilsberg, 3.0—The Small Station Orchestra, conducted by Eugen Wilken. Overture, "Raymond" (Thomas). Selection from "The Queen of Spades" (Tchaikovsky). Overture, "Der Bettelstudent" (Millocker). Rhapsody in A Minor (Dvorak).
Hilversum, 3.0—See 2.40 p.m. 3.40—Records.
Huizen, 3.0—See 2.40. 3.25—Records. 3.55—Records.
Langenberg, 3.0—The Station Chamber Choir and Soloists. Violin and Bandonion: March. Women's Choir: Winterlied. Soprano and Pianoforte: Mutterwahnung. Violin, Bandonion and Male Voice Choir: Gesundheit, Herr Nachbar. Bandonion and Violin: Rheinländer. Soprano and Pianoforte: Spatz und Katze. Choir: Winterabend. Soprano and Pianoforte: Das Schneeglöckchen. Es ging ei Mädchen. Bandonion and Violin: Waltz and Kirmeslied. Male Voice Choir: Lützows wilde Jagd. Soprano, Violin and Pianoforte: Am See. Bandonion and Violin: Polka. Soprano and Pianoforte: Gute Nacht. Male Voice Choir: Zum Tagesbefehl. 3.45—The Fröhliche Fünf. Waltz from "Das Fürstentum" (Lehár). Gavotte, Rendez-vous (Aletier). Extase (Ganne). Zigeunerlied (Böldi). Violin Solo: Souvenir (Drda). Fascinata (Murzilli).
Leipzig, 3.0—See Munich.
Madrid (EAJ7), 3.0—See 2.15 p.m. 3.50—Radio Journal.
Milan, 3.35—Giornale Radio. 3.45—For Children.
Milan (Vigentino), 3.0—"Austeig und Fall der Stadt Mahagonny" and "Der Jasage"—Two Operas (Kurt Weill), relayed from the St. Cecilia Academy.
Moravská-Ostrava, 3.0—The Station Orchestra, conducted by Piltcha. Overture, "The Kiss" (Smetana). Suite (Brusselmanns). Czech Humoresque (Roob). Slovak Potpourri (Piskacek). Serenade (Leoncavallo). Polka (Kricka).
Moscow (Komintern), 3.0—News. 3.15—Music. 3.30—Agricultural Talk.
Munich, 3.0—Concert, conducted by Erich Kloss. Selection from "The Maid of Artois" (Balfe). Minuet and Scherzo (Brahms). Selection from "Lohengrin" (Wagner). Carnival Miniatures (Kaskel). Cello

Solo: Ständchen (Sitt). Minuet (Bolzoni). Kreisler Potpourri (Reznicek). Violin and Orchestra: Rondo (Mozart). Venetian Serenade, Auf der Lagune (Fucik).
Oslo, 3.30—Concert, relayed from the Britannia Hotel, Trondheim.
Paris (Eiffel Tower), 3.0—News. 3.15—Exchange. 3.30—Exchange. 3.45—Report.
Paris (Poste Parisien), 3.15—Exchange. 3.45—Exchange.
Paris (Radio-Paris), 3.45—Exchange.
Pittsburgh, 3.0—Programme to be announced. 3.15—Clara, Lu'n' Em, from New York. 3.30—To-day's Children, from New York. 3.45—Sammy Fuller.
Prague, 3.0—See Moravská-Ostrava. 3.55—Reading.
Radio-Normandie, 3.30—Dance Music and Variety Items.
Sottens, 3.0—See Beromünster.
Stuttgart, 3.0—See Langenberg.
Trieste, 3.45—Balilla Programme.
Turin, 3.45—For Children. 3.55—Giornale Radio.
Vienna, 3.0—See 2.50 p.m. 3.25—For Women. 3.50—Talk.
Warsaw, 3.40—Book Review. 3.55—Records.
Zagreb, 3.40—News.

4 p.m.

Berlin, 4.0—See Hamburg.
Beromünster, 4.0—See 3.35 p.m. 4.10—The Small Beromünster Orchestra, conducted by Scherbaum.
Breslau, 4.0—See 3.0 p.m.
Bucharest, 4.0—The Station Orchestra. Overture, "William Tell" (Rossini). Rocco Suite for String Orchestra (Masson). Waltz (Waldfteufel). Selection from "Tosca" (Puccini). Romance (Nottara).
Budapest, 4.0—Talk. 4.30—The Mandits Orchestra.
Deutschlandsender, 4.0—"Christmas." 4.30—Pianoforte Recital by Luize Gmeiner. The Waldstein Sonata (Beethoven). Kinderszenen (Schumann).
Frankfurt, 4.0—See Langenberg 3.45.
Hamburg, 4.0—The Station Male Voice Quartet, Women's Choir and Soloists.
Heilsberg, 4.0—See Hamburg.
Hilversum, 4.0—See 3.40 p.m.
Huizen, 4.0—See 3.55 p.m. 4.10—Violin Sonata, Op. 35 (Pierlé). 4.40—Gardening Talk.
Kalundborg, 4.0—For Children. 4.30—Market Prices.
Langenberg, 4.0—See 3.45 p.m. 4.25—Pianoforte Trio in B Flat, Op. 29 (Schubert) by Walter Schneiderhan (Violin). August Schreiber (Cello) and Egbert Grape (Pianoforte).
Leipzig, 4.30—Talk. 4.50—Baritone Recital by Max Hartmann. Heliopolis (Schubert). Abendlied (Schumann). Wenn ich mit Menschen und mit Engelszungen redete. Wächterlied auf der Wartburg (H. Wolf). Der Weckruf (Pfitzner).
Lyons (La Doua), 4.30—Chamber Music.
Milan, 4.0—Talk for Women. 4.10—Records. Overture, "The Secret Marriage" (Cimarosa). Di là dal mare (Lattuada). Giovannotta dalle calzette nera (Lattuada). Tristezza (Tosti). Gondola nera (Rotoli). Ninna Nanna (Cortesi-Guarino). Gullaresca (Brancolini-Guarino). Aria from "Mephistopheles" (Boito). Aria from "La Bohème" (Puccini). Selection from "Semiramide" (Rossini). 4.55—Weather.
Milan (Vigentino), 4.0—See 3.0 p.m.
Moscow (Komintern), 4.0—See 3.30 p.m. 4.30—Red Army Programme.
Munich 4.0—See 3.0 p.m. 4.30—Talk. 4.50—Dance Suite on Folk Themes, for Eight Wind Instruments (Rudolf Herbst).
Oslo, 4.30—Theatre Talk.
Palermo, 4.30—Records.
Paris (Eiffel Tower) 4.0—Tourist Report. 4.15—Exchange.
Paris (Poste Parisien), 4.50—Exchange.
Pittsburgh, 4.0—Music Appreciation Hour.
Prague, 4.0—See 3.55 p.m. 4.5—Concert by the Andricek Quartet with Povolay (Clarinet). Clarinet Quintet (Ridky). String Quartet in C, Op. 39 (Boccherini).
Radio Normandie, 4.0—See 3.30 p.m.
Reykjavik, 4.0—Weather.
Stockholm, 4.0—Weather. 4.5—For Children. 4.25—Concert relayed from Malmö. Erklungen zum Tanze die Geigen (Jessel). Selection from "Rose Marie" (Friml-Stohtart). Irish Folk Melody (Grainger). Dance (Anderberg). Foxtrot, Young and Healthy (Warren).
Strasbourg, 4.45—Literary Talk: Ver-laine in Prison.
Stuttgart, 4.0—See Langenberg 3.45.
Toulouse, 4.15—News and Exchange.
Turin, 4.10—Chamber Music. 4.55—Weather.
Vienna, 4.0—See 3.50 p.m. 4.15—

Soprano and Baritone Recital by Clarisse Stuckart and Paul Lorenzi. 4.55—Tourist Talk.
Warsaw, 4.0—See 3.55 p.m. 4.10—Soprano and Tenor Recital by Dobrowolska-Pawlowska and Umberto Macnez. Tenor Solos: (a) Il mio ben (Pasciello), (b) Interno all idol mio (Cesti), (c) Caro mio ben (Giordano). Soprano Solos: (a) Chanson Maszynski, (b) Rikikitavi (Halpern), (c) Fil d'argent (Herman), (d) Amour et coeur (Niewiadomsky). Tenor Solos: (a) The Spinner (Respighi), (b) The Wheel (Billi), (c) Perché (Pennino), (d) Torna a Sorriento (de Curtis). Soprano Solos: (a) Autumn Song (Sinding), (b) Serenade - (Myrberg). Desdemona's Aria from "Othello" (Rossini). 4.50—Agricultural Notes.
Zagreb, 4.0—Russian Choir and Balalaika Orchestra.

5 p.m.

Berlin, 5.0—Discussion on Reznicek's Opera, "Donna Diana." Erich Kleiber, Julius Kapp, and the Composer's Daughter at the Microphone. 5.30—The Funkstunde informs its Listeners. 5.35—An Evening in the Mountains.
Beromünster, 5.0—For Children. 5.30—Talk: Los Angeles.
Bordeaux-Lafayette, 5.0—Literary Talk.
Bratislava, 5.5—Pianoforte Recital by Földesy-Hermanova. Sonata in D (Antonio Soler). Sonata in C Minor (Cantales). Two Spanish Dances (Granados). Prelude in B Minor (Szymanowski). Melody (Rachmaninov). Minuet in G (Suk). Tango (Haba). 5.40—Telegraphy Lesson. 5.55—Hints for Housewives.
Breslau, 5.10—Agricultural Prices and Talk. 5.30—Political Talk. 5.45—Announcements.
Brno, 5.5—Talk on Art. 5.15—Talk for Workers. 5.25—German Transmission: News, Sports Notes, Talk: Birds in Winter, and Theatre Notes.
Brussels No. 1, 5.0—Concert by the Radio Orchestra conducted by Andre. March, Le salut du marin (Harras). A Journey in the Tyrol (Eilenberg). Prière à l'avant matin (De Ceunick). Tango (Fischer). Waltz (Rust). Humorous Scenes (Leonard). En Sourdine (Crabbe). The Clock and the Porcelain Figures (Ketelbey). Marche funèbre d'un Hannebon (Dubois). Music from "Cydalise et le Chèvre-pied" (Pierne). Escapes (Ibert). Hungarian Dances (Brahms).
Brussels No. 2, 5.0—Tchaikovsky Concert by the Symphony Orchestra conducted by Arthur Meulemans. Overture, 1812. Allegro con gracia from the Pathetic Symphony. Italian Caprice. Suite from the Nutcracker Ballet.
Bucharest, 5.0—Radio Journal. 5.15—Orchestral Concert (contd.). Intermezzo No. 1 from "The Jewels of the Madonna" (Wolf-Ferrari). Idyll (Stefanescu). Molly on the Shore (Grainger). Selection from "The Gipsy Baron" (Strauss).
Budapest, 5.0—See 4.30 p.m. 5.10—Shortland. 5.40—Concert.
Deutschlandsender, 5.0—Poems. 5.5—Radio Report from the Exhibition of the East German Provinces. 5.20—A Winter's Journey. 5.45—Weather; News.
Frankfurt, 5.0—See Langenberg. 5.20—See Langenberg. 5.35—Talk: Industrial Revival in Hesse. 5.50—News.
Hamburg, 5.0—Talk: Reasons for the Decline of Races. 5.30—Records. Fantasia on the Song, Die Warnung (Lohr). Pour un baiser (Tosti). Waltz, Weaner Madln (Ziehrer). 5.40—Exchange, Weather.
Heilsberg, 5.0—Book Review. 5.15—Agricultural Prices and Ice Report. 5.25—Agricultural Talk. 5.50—Weather.
Hilversum, 5.10—Orchestra conducted by Hugo de Groot. Groot [Rotterdam (Schootemeyer). Overture, "Der Wildschütz" (Lortzing). Eine Sängersahrt nach Wien (Silving). March, Washington Post (Sousa). 5.45—Organ Solos by Johan Jongh. Song (Tosti). Where is my Baby (Grotte). Operetta Potpourri (Kollo).
Huizen, 5.10—Radio Report from Hospital in Arnhem.
Kalundborg, 5.0—Time and Chimes from the Town Hall. 5.5—Song Recital by Hallander Hellemann, with Commentary. 5.45—Weather. 5.54—Announcements.

Langenberg, 5.0—English Conversation Lesson. 5.20—Talk on Genealogy. 5.35—Talk: Germanic Beliefs and Customs at Christmas Time. 5.45—Announcements.
Leipzig, 5.0—See 4.50 p.m. 5.10—Talk: The Querfurt Museum. 5.30—Reading. 5.45—Exchange; Weather; Time.
Ljubljana, 5.0—Gym. 5.30—Talk. Lijona (La Doua), 5.0—See 4.30 p.m. 5.45—Dance Music.
Milan, 5.0—Exchange; Announcements.
Milan (Vigentino), 5.0—Market Prices. 5.10—Announcements. 5.20—Agricultural Report in Spanish, German, and French. 5.30—Religious Address. 5.55—Shipping and Sports Notes.
Moravská-Ostrava, 5.5—Tourist Report.
Moscow (Komintern), 5.0—See 4.30 p.m. 5.30—For Collective Farm Workers.
Munich, 5.10—A Journey through Angola (Dr. Paul Rohrbach). 5.30—Records. Der Tambour (Wolf). O wüsst ich doch den Weg zurück (Brahms). Vaterland (Wohlgemuth). Heimweh (Wolf). 5.45—Time; Announcements.
Oslo, 5.0—A Comedy.
Paris (Eiffel Tower), 5.45—Journal Parlé.
Pittsburgh, 5.0—Rosalie Wolfe, Soprano, from New York. 5.15—Four Aces. 5.30—News and Market Reports. 5.45—Ernie Holst's Orchestra.
Prague, 5.5—Agricultural Talk. 5.15—Talk for Workers. 5.25—News in German. 5.30—German Transmission: Talk: The Economic Crisis of 1933.
Sottens, 5.0—For Women. 5.30—Esperanto Lesson. 5.40—English Lesson.
Stockholm, 5.0—Reading. 5.30—Accordion Music relayed from Göteborg.
Strasbourg, 5.0—Orchestral Concert conducted by Røskam. Selection from "The Count of Luxembourg" (Lehár). Waltz, Eternelle ivresse (Ganne). Pianoforte Solo. Overture, "L'Ambassadrice" (Auber). La Fête du hameau (Gillet). Babilage (Gillet). Slav Rhapsody No. 2 (Friedemann). Selection from "Der Lustige Krieg" (Joh. Strauss).
Stuttgart, 5.0—See Langenberg. 5.35—Time; News. 5.45—Talk on Motoring.
Turin, 5.0—Announcements.
Vienna, 5.0—See 4.55 p.m. 5.10—Talk: The Joys of Winter at Galtür. 5.25—Sports Notes. 5.35—Talk.
Warsaw, 5.0—Talk: Solon, the Athenian Law-Giver. 5.20—Records.

6 p.m.

Athlone, 6.0—For Children. 6.45—News.
Barcelona, 6.0—Trio Concert. Turkish March from "The Ruins of Athens" (Beethoven). Jeux (Demaret). Prelude Op. 28, No. 17 (Chopin). Selection from "Philemon et Baucis" (Gounod). Dance (Michel). Canzonetta (Hammer). Selection from "Carmen" (Bizet).
Berlin, 6.0—See Breslau.
Beromünster, 6.0—Time, Weather and Announcements. 6.20—Popular Programme. I
Bordeaux-Lafayette, 6.15—Radio Journal, relayed from Paris (Ecole Supérieure).
Bratislava, 6.10—Educational Talk. 6.25—Recital of Modern Slovak Songs.
Breslau, 6.0—"The People at Work"—Radio Report from the Mines and Factories of Silesia.
Brno, 6.25—See Bratislava.
Brussels (No. 1), 6.0—Legal Talk. 6.15—Records. 6.30—Variety Programme. 6.45—Piano Recital by Marguerite Melin. Gavotte and Variations (Rameau). Romance sans paroles (Marg. Melin). Impromptu in F minor (Fauré). Jeux d'eau (Ravel). Impromptu (Marg. Melin).
Brussels (No. 2), 6.0—Gramophone Concert. Selection from "Follow a Star" (Yellen). Polka, The Canary and the Frog. Selection from "Rigoletto" (Verdi). Hofballtänze (Lanner). Quadrille from "Orpheus in the Underworld" (Offenbach). 6.30—Concert by the Small Station Orchestra, conducted by Leemans. Overture (Brusselmanns). Symphonic Sketch, Aurora (Leemans). Flute Solo, Danse lente (Jongen). Suite, Le Triomphe d'Aphrodite (Jongen). Pianoforte Solo, Scherzo (De Boeck). Scènes brabantones (Sarly).
Bucharest, 6.0—Educational Talk. 6.20—Records. 6.45—Talk.
Budapest, 6.10—Political Review. 6.25—Records.

Deutschlandsender, 6.0—See Breslau.
Frankfurt, 6.0—See Breslau.
Hamburg, 6.0—See Breslau.
Hilversum, 6.0—See Breslau.
Hilversum, 6.0—Records. 6.10—The Orchestra. Selection from "Der Bettelstudent" (Millocker). My Old Kentucky Home (Busch). The Old Folks at Home (Busch). Selection from "A Waltz Dream" (O. Straus). 6.40—Temperance Talk.
Huizen, 6.10—Sonata (Franck). 6.40—Police Notes. 6.55—Records.
Kalundborg, 6.0—News. 6.15—Time. 6.30—Talk: 1933 Trade.
Langenberg, 6.0—See Breslau.
Leipzig, 6.0—See Breslau.
Ljubljana, 6.0—Talk for Sokols. 6.30—Tourist Talk.
Lyons (La Doua), 6.15—Radio Journal.
Milan, 6.0—Time, News in Foreign Languages. 6.30—Records. 6.50—Announcements.
Milan (Vigentino), 6.0—News in Foreign Languages. 6.30—Records. 6.50—Giornale Radio.
Moravská-Ostrava, 6.25—See Bratislava.
Moscow (Komintern), 6.0—See 5.30. 6.30—Talk.
Munich, 6.0—See Breslau.
Oslo, 6.0—Announcements. 6.30—"Cello Recital by Hermann Sandby. Andante from the 'Cello Concerto (Sandby). Sonata in A (Boccherini). Hungarian Rhapsody (Popper).
Paris (Eiffel Tower), 6.0—See 5.45 p.m.
Paris (Poste Parisien), 6.45—Market Prices. 6.52—Talk.
Paris (Radio-Paris), 6.20—Weather, Agricultural Talk, Exchange. 6.45—Social Assurance Report.
Pittsburgh, 6.0—Farm and Home Hour, from New York. 6.30—Ernie Holst's Orchestra.
Prague, 6.0—Time, News and Weather. 6.10—English Conversation Lesson. 6.25—See Bratislava. 6.50—Talk on Economics.
Radio Normandie, 6.0—Light Music.
Sottens, 6.5—Bridge Lesson. 6.20—Chess Lesson. 6.35—Records. 6.59—Weather.
Stockholm, 6.0—See 5.0 p.m. 6.15—News and Weather. 6.30—Song Recital.
Strasbourg, 6.0—Trio Music from Lille.
Stuttgart, 6.0—See Breslau.
Toulouse, 6.0—News. 6.15—Hunting Horn Music. 6.30—Tourist Talk. 6.45—Till Eulenspiegel's Merry Pranks (Strauss).
Turin, 6.0—Time, News in Foreign Languages. 6.30—Records. 6.50—Announcements.
Vienna, 6.0—Topical Talk. 6.15—Time, News. 6.25—Talk. 6.55—Dance Music.
Warsaw—6.0—Announcements. 6.20—Suggestions for Holidays. 6.25—Topical Talk. 6.40—Sports Notes. 6.47—Radio Journal.
Zagreb, 6.0—Talk for Sokols. 6.15—Sports Notes. 6.30—Announcements.

7 p.m.

Algiers, 7.0—Exchange. 7.10—Shipping Notes. 7.15—Weather. 7.20—Dance Music. 7.55—News.
Athlone, 7.0—Gardening Talk. 7.15—Literary and Dramatic Talk. 7.30—Time. 7.31—Concert by the Station Orchestra.
Barcelona, 7.0—Request Gramophone Records. 7.30—Exchange and Gramophone Records (continued).
Bari, 7.0—News in Albanian.
Berlin, 7.5—See Heilsberg.
Beromünster, 7.0—See 6.20 p.m. 7.30—The Beromünster Orchestra.
Bordeaux-Lafayette, 7.35—News. 7.40—Records. 7.55—Lottery Results.
Breslau, 7.0—See Leipzig. 7.10—See Leipzig.
Brno, 7.5—The Musical Instruments Rebel! Radio Play.
Brussels (No. 1), 7.15—Talk on Aviation. 7.30—Legal and Literary Notes.
Brussels (No. 2), 7.0—See 6.30 p.m. 7.30—Wireless Notes.
Bucharest, 7.0—Symphony Concert, Philharmonic Orchestra, conducted by the Alessandresco, from the Athenaeum. 7.50—Reading.
Budapest, 7.0—See 6.25 p.m. 7.10—Dialogue. 7.50—Operetta Concert by the Concert Orchestra, conducted by Polgar. Soloists: Ibolya Darvas and Nikolaus Szecő (Songs).
Deutschlandsender, 7.0—To-day's Motto. 7.1—Military Band Concert, conducted by Ahlers. Part I, Observier-Marsch (Teike). Modern Comedy Overture (Theil). Three Songs (Lassen): (a) Ich wandle unter Blumen, (b) Ich hatte einst ein schönes Vaterland, (c) Mit deinen blauen Augen. Suite from "Sylvia" (Delibes). Waltz, An der Elbe (Joh. Strauss). Part II, Military

FRIDAY
December 29

7 p.m. (contd.)

Marches. In the interval, Topical Talk.
Frankfurt, 7.0—Topical Talk. 7.10—“Le domino noir”—Opera (Auber), arranged for Radio, by Hans Rosboud.
Hamburg, 7.5—See Heilsberg.
Heilsberg, 7.0—News. 7.5—“Twenty Five Years of Popular Melodies”—Radio Sequence (Martin Borrman), with Music by the Station Orchestra.
Hilversum, 7.0—The Orchestra 7.40—String Quartet in A minor, Op. 41, No. 1 (Schumann), by the Haydn Quartet.
Huizen, 7.5—Talk. 7.25—Records.
Kalundborg, 7.0—Chimes. 7.2—Household Talk. 7.15—Suite, Aus Holbergs Zeit (Grieg). 7.45—Reading.
Langenberg, 7.0—See Frankfurt.
Leipzig, 7.0—News. 7.10—Humorous Programme. 7.30—The Leipzig Symphony Orchestra, conducted by Weisbach. Anton Roden (Pianoforte). Romantic Overture, Op. 16 (Thuille). Pianoforte Concerto in A minor, Op. 54 (Schumann). Symphony, No. 6 (Ambrosius).
Lyons (La Doua), 7.30—Records. 7.40—Radio Gazette for Lyons and the South East.
Madrid (EAJ7), 7.0—Chimes, Exchange, Announcements, and Programme for Women.
Milan, 7.0—Records. 7.30—Announcements. 7.40—Variety Programme. In the intervals, Talk and Book Review.
Milan (Vigentino), 7.0—Time, Announcements and Records. 7.5—Records. 7.30—Review. 7.40—Choral Concert. In the intervals, Humorous Talk.
Moscow (Komintern), 7.0—Talks: (a) The Second Five Year Plan, (b) Heroic Symphony (Tais).
Munich, 7.0—See Leipzig. 7.10—See Leipzig.
Oslo, 7.0—Time and Review of the Year. 7.30—Christmas Carols of many lands.
Paris (Eiffel Tower), 7.0—Journal Parlé. 7.15—Weather. 7.25—News. 7.30—Liszt Pianoforte Recital by Marie-Antoinette Pradier.
Paris (Poste Parisien), 7.0—Records. 7.7—Music Talk. 7.15—Journal Parlé. 7.30—Song and Pianoforte.

Paris (Radio Paris), 7.0—Talk: The Post-War Novel. 7.20—Records.
Prague, 7.0—See 6.50 p.m. 7.5—Drinking Songs. 7.30—The Czech Philharmonic Orchestra, conducted by Jirak. Pastoral Symphony No. 6, Op. 68 (Beethoven).
Radio Normandie, 7.15—News. 7.30—Variety Programme and Talk.
Sottens, 7.0—Pianoforte Recital. 7.30—Dramatic Programme.
Stockholm, 7.0—Talk. 7.30—Lisa Tunell (Songs) and Margit Alenius-Theorell (Harpischord).
Strasbourg, 7.0—Talk in German. 7.15—Recitations. 7.30—Time and News. 7.45—Records.
Stuttgart, 7.0—See Frankfurt.
Toulouse, 7.0—Medical Talk. 7.15—News, Exchange. 7.30—Argentine Orchestra. 7.45—Operetta Music.
Turin, 7.0—Records. 7.30—Announcements. 7.40—See Milan (Vigentino).
Vatican City, 7.0—Religious Information in Italian.
Vienna, 7.0—See 6.55 p.m.
Warsaw, 7.0—Talk on Music. 7.15—Symphony Concert.

8 p.m.

Algiers, 8.0—Lottery Results. 8.10—Records. 8.50—News.
Athlone, 8.0—Songs. 8.15—Play. 8.45—Station Orchestra.
Berlin, 8.5—See Heilsberg.
Beromünster, 8.0—News. 8.10—The Gold Digger—Play (Rossi).
Bordeaux-Lafayette, 8.0—Spanish Lesson. 8.15—News. 8.30—Concert.
Breslau, 8.0—See Leipzig 7.10 p.m.
Brno, 8.0—Musical Programme.
Brussels (No. 1), 8.0—Station Orchestra, conducted by Meulemans. Mlle. Mairac (Songs). 8.45—Talk.
Brussels (No. 2), 8.0—Radio Orchestra. 8.30—“Kampf ums Matterhorn”—Radio Play.
Bucharest, 8.0—See 7.50 p.m. 8.5—Concert (contid.). 8.45—News.
Budapest, 8.0—See 7.50 p.m.
Deutschlandsender, 8.0—See 7.1 p.m.
Frankfurt, 8.0—See 7.10 p.m. 8.40—Agriculture.
Hamburg, 8.0—See Heilsberg 7.5 p.m.
Heilsberg, 8.5—Symphony in C (Schubert).
Hilversum, 8.0—See 7.40 p.m. 8.10—Radio Play with Music.
Huizen, 8.0—See 7.25 p.m. 8.10—News. 8.15—The K.R.O. Orchestra. Hermann Schey (Baritone).

Juan-les-Pins (Nice), 8.0—News. 8.15—Esperanto. 8.30—Concert.
Kalundborg, 8.0—Talk. 8.45—Harpischord Solos.
Langenberg, 8.0—See Frankfurt, 7.10 Leipzig, 8.0—See 7.30 p.m.
Lyons (La Doua), 8.0—See 7.40 p.m. 8.30—“La fleur d'Oranger.” News.
Madrid (EAJ7), 8.0—See 7.0 p.m. 8.15—Radio Journal.
Milan, 8.0—See 7.40 p.m.
Milan (Vigentino), 8.0—See 7.40 p.m. 8.30 (approx.)—Concert. In the interval, Talk.
Moscow (Komintern), 8.0—Review in Czech. 8.55—Chimes.
Munich, 8.0—See Leipzig 7.10 p.m.
Oslo, 8.0—See 7.30 p.m. 8.10—Reading. 8.30—News.
Paris (Eiffel Tower), 8.0—Political Talk. 8.15—Station Orchestra.
Paris (Poste Parisien), 8.2—“Arthur”—Operetta (Christine). 8.20—Finance Notes.
Paris (Radio-Paris), 8.30—News. Weather. 8.45—“La Traviata”—Opera (Verdi) News.
Prague, 8.0—See 7.5 p.m.
Radio Normandie, 8.30—Concert.
Sottens, 8.0—Cabaret Concert.
Stockholm, 8.0—Literary Review. 8.30—Violin Recital by Per Carlsén.
Strasbourg, 8.0—News in German. 8.30—“Les Contes de Perrault” (Fourdrain).
Stuttgart, 8.0—See Frankfurt, 7.10 p.m.
Toulouse, 8.0—The Viennese Orchestra. 8.30—Sound-Film Music. 8.45—Instrumental Music.
Turin, 8.25—Violin Recital by Arrigo Serrato.
Vienna, 8.30—The Vienna Chamber Orchestra. Siegfried Seidner (Oboe).

9 p.m.

Algiers, 9.5—Extracts from “White Horse Inn” 9.30—News. 9.35—Dance Refrains. 9.55—News.
Athlone, 9.0—Baritone Solos. 9.15—Pianoforte Solos. 9.30—Music.
Berlin, 9.0—News. 9.30—See Heilsberg.
Beromünster, 9.0—See 8.10 p.m.
Bordeaux-Lafayette, 9.0—See 8.30 p.m.
Breslau, 9.35—Orchestra. 9.20—News.
Brussels (No. 1), 9.0—Jazz Music.
Brussels (No. 2), 9.0—See 8.30 p.m. 9.30—The Symphony Orchestra.

10 p.m.

Athlone, 10.0—See 9.30. 10.30—Time and News. 10.40—Gaelic Songs. 10.50—Accordion Solos.
Barcelona, 10.15—Reading. 10.30—Song Recital.
Berlin, 10.0—See Heilsberg, 9.30.
Bordeaux-Lafayette, 10.0—See 8.30.

Budapest, 9.0—See 7.50 p.m. 9.15—News. 9.35—Cigány Band.
Deutschlandsender, 9.0—News. 9.25—Talk. 9.45—Weather.
Frankfurt, 9.0—Time and News. 9.20—See Stuttgart. 9.30—News. 9.45—See Langenberg.
Hainburg, 9.0—News. 9.30—See Heilsberg.
Heilsberg, 9.0—News. 9.30—The Municipal Theatre Orchestra.
Hilversum, 9.0—See 8.10 p.m. 9.25—Quartet (Debussy). 9.55—News.
Huizen, 9.5—Records. 9.25—Wolf Recital by Schey (Baritone).
Juan-les-Pins, 9.0—News and Weather. 9.15—Concert.
Kalundborg, 9.0—News. 9.15—French Music by the Radio Orchestra.
Langenberg, 9.0—See Frankfurt. 9.20—See Stuttgart. 9.30—News. 9.40—The Coming Week's Events. 9.45—Records.
Leipzig, 9.0—News and Time. 9.20—News. 9.35—See Breslau.
Lyons (La Doua), 9.0—See 8.30.
Madrid (EAJ7), 9.30—Time and Radio Journal. 9.45 (approx.)—Violin and Song Recital.
Milan, 9.0—See 7.40 p.m.
Moscow (Komintern), 9.0—See 8.55 p.m. 9.5—Review of the week in English.
Munich, 9.0—See Leipzig. 9.20—News. 9.35—See Breslau.
Oslo, 9.0—Topical Talk. 9.15—Concerto grosso (Corelli).
Paris (Eiffel Tower), 9.0—See 8.15.
Paris (Poste-Parisien), 9.0—See 8.20.
Paris (Radio-Paris), 9.0—See 8.45.
Prague, 9.0—Time, News.
Sottens, 9.0—News. 9.10—Dance Music.
Stockholm, 9.0—Records.
Strasbourg, 9.0—See 8.30 p.m.
Stuttgart, 9.0—See Frankfurt. 9.20—Talk. 9.30—News. 9.45—See Langenberg.
Toulouse, 9.0—Opera Music.
Vienna, 9.0—See 8.30 p.m. 9.30—The “Wiener Symphoniker,” Dances. After the Concert, News.
Warsaw, 9.40—Cigány Music.

11 p.m.

Barcelona, 11.0—News. 11.10 (approx.)—Dance Music.
Frankfurt, 11.0—Talk.
Hilversum, 11.0—Records.
Huizen, 11.0—See 10.15 p.m.
Juan-les-Pins, (Nice), 11.0—Concert.
Kalundborg, 11.0—Time and Chimes.
Langenberg, 11.0—See Frankfurt.
Madrid (EAJ7), 11.0—See 9.45. 11.45—Radio Journal.
Madrid (EAQ), 11.0—Programme for the Philippines.
Radio Normandie, 11.0—See 10.30.
Stuttgart, 11.0—See Frankfurt.
Toulouse, 11.0—Orchestra. 11.15—Dance Music.

12 midnight

Langenberg, 12.20 (for Zeesen)—The Feast of Fools.
Madrid (EAJ7), 12.0—Chimes.
Madrid (EAQ), 12.0—Popular.
Radio Normandie, 12.0—News in English. 12.15 a.m. Records.
Toulouse, 12.0—News. 12.5 a.m.—Cabaret.
Radio Normandie, 1.0 (Sat.)—News. 1.15—Dance Music.

PRINCIPAL EVENTS

a.m. CONCERTS

9.30 Radio Paris: Conservatoire.
p.m.
5.0 Brussels 2: Orchestra.
5.0 Strasbourg: Symphony.
7.0 Stockholm: Dances.
7.5 Vienna: Verdi Prog.
7.20 Bucharest: Orchestra.
7.55 Hilversum: “1815.”
8.0 Brussels 2: Orchestra.
8.20 Warsaw: Polish Prog.
9.15 Kalundborg: Orchestra.
9.35 Munich, Leipzig.
9.45 Budapest: Orchestra.
10.0 Frankfurt, etc.

OPERAS, OPERETTAS

6.50 Beromünster: Operetta.
8.0 Brussels 1: Land of Smiles.
8.0 Rome: Andrea Chénier (Giordano), Opera relayed from the Teatro Reale.
8.30 Strasbourg: Faust (Gounod). (Gram.)

RECITALS

6.0 Deutschlandsender, etc.: Pianoforte.
6.30 Brussels 1: Harpischord.
7.20 Sottens: Pianoforte.

DANCE MUSIC

5.0, Brussels 1; 9.0, Stockholm, Warsaw; 9.45 Poste Parisien; 10.0, Kalundborg; 10.30, Strasbourg.

MISCELLANEOUS

7.10 Stuttgart, etc.: Humorous.
8.0 Radio Paris: Chansonniers.
8.20 Athlone: Pantomime.

SATURDAY (December 30)

NATIONAL

10.15 a.m. (Daventry)—The Daily Service.
Time Signal, Greenwich, at 10.30.
10.30 (Daventry)—Weather Forecast for Farmers and Shipping.
12 noon (Daventry)—The Western Studio Orchestra.
12.45 p.m. (Daventry)—Gramophone Records. Dance Music.
1.15 (Daventry)—The Commodore Grand Orchestra.
2.15 (Daventry)—Gramophone Records. An Orchestral Concert.
3.0—Interlude.
3.10—Wales versus Australia. A Running Commentary on the second half of the International Rugby League Match, relayed from the Empire Stadium, Wembley (By courtesy of the Rugby Football League). Copyright.
4.0 (Daventry)—The Midland Studio Orchestra. Eric Cross (Tenor).
4.30 (Daventry)—“First Time Here.” A tea-time entertainment by artists new to the microphone.
5.15 (Daventry)—The Children's Hour. Mabel Constanduros and Michael Hogan in “The Buggins' New Year's Eve Party.”
5.15 (except Daventry)—The B.B.C. Dance Orchestra, directed by Henry Hall.
6.0—The First News and Farmers' Bulletin. Time Signal, Greenwich.
6.25—Interlude.
6.30 (Daventry)—Sports Talk. Mr. A. A. Humbles: “A Year on Two Wheels.”
6.45 (Daventry)—Welsh Interlude. Professor E. Ernest Hughes: “1933—A Retrospect.”
6.45 (London)—A Violin Recital by Frederick Grinke.
7.5—7.25—“Anywhere for a News Story”—XIV. Mr. Ralph D. Blumenfeld: “Journalism in my Time.”
7.30 (Daventry)—In Town To-night. A topical supplement to the week's programmes.
8.0 (Daventry)—Music-hall. Mrs. Jack Hylton and her Boys. Dale and O'Malley. Tessie O'Shea. Julian

Rose. Norman Long. The Eight Step Sisters. Hetty King, the Famous Male Impersonator. The B.B.C. Theatre Orchestra.
9.0—The Second News. Time Signal, Greenwich.
9.30—Sports Bulletin.
9.35—The Wireless Military Band. Conductor, B. Walton O'Donnell. Frank Titterton (Tenor). Band: Overture, Paragraph III (Supplé). Frank Titterton and Band: Aria, Sound an alarm (Judas Maccabaeus) (Handel, arr. Gerrard Williams). Band: Selection, H.M.S. Pianofore (Sullivan). Frank Titterton: Come into the garden, Maud (Balfe, arr. Fagg). The Jolly Young Waterman (Dibdin); The Bay of Biscay (Davy). Band: Gavotte (Mignon) (Ambrose Thomas); Chant sans paroles (Tchaikovsky); Hornpipe (English Scenes) (Bantock, arr. Gerrard Williams).
10.30—“The Bells,” by Edgar Allan Poe, read by Felix Aylmer.
10.35—12 midnight (Daventry)—Dance Music. Ambrose and his Embassy Club Orchestra.

REGIONAL

10.15 a.m. (except Midland)—The Daily Service.
Time Signal, Greenwich, at 10.30.
10.30 a.m.—3.0 p.m. (except Midland)—Daventry National Programme.
3.0 (except Midland)—Organ (H. Ramsay).
3.30 (except Midland)—The Midland Studio Orchestra, directed by Frank Cantell. Eric Cross (Tenor).
3.30 (Midland)—Dance Music. Billy Merrin and his Commanders.
4.30 (except Midland)—Daventry National.
4.30 (Midland)—A Recital of Gramophone Records. “Looking Back.”
5.15—The Children's Hour.
6.0—The First News (and Sports Bulletin). Time Signal, Greenwich.
6.30 (North and London)—Organ (R. Dixon).
6.30 (Midland)—Ernest Parsons and his Orchestra.

6.30 (Scottish)—An Eye-Witness Account by Captain Robert Scott, of The Scottish League Match, Rangers v. Hibernians.
6.30 (West)—A Recital of Gramophone Records.
6.40—7.0 (Scottish)—North Regional.
6.45 (West)—Egwyl Gymraeg; Yr Athro E. Ernest Hughes: “Trem yn ôl ar 1933.”
7.0 (London)—Reginald King and his Orchestra. Gladys Palmer (Contralto).
7.0 (North)—“A Hundred Years Ago.” December, 1833—December 1933. Some aspects of the local situation on the eve of the new year to-day, and a century ago. Compared in the form of a dialogue by Bernard Ellinger.
7.5 (Scottish and West)—A Scottish Concert. Archibald Grant (Gaelic Tenor). Frank Gordon (Bass-Baritone). Catherine Fletcher (Recitations). Pipe-Major Robert Reid. The Reel Players, conducted by Ian Whyte.
7.30 (Midland)—Organ Recital by G. D. Cunningham.
7.30 (North)—The Studio Orchestra. Percy Richardson (Pfte).
8.0 (London, Midland, West)—The B.B.C. Orchestra (Section C), conducted by Leslie Woodgate.
8.0 (Scottish)—Mr. George Blake: “The Year in Scotland.”
8.30 (Scottish)—From our 1933 Programmes. The Studio Orchestra, directed by Guy Daines.
9.0 (London and North)—Chamber Music. The Griller String Quartet. Ludomir Rozycki (Pianoforte). Tatiana Makushina (Soprano).
9.0 (Midland)—Midland Theatre Pantomime Music.
9.15 (West and Scottish)—“On the Spot,” or “Double-Crossing the Border.” A Sensational, Seasonable Serial Story for Inter-Regional readers.
10.15—The Second News. Time Signal, Greenwich.
10.30—12 midnight (Midland till 11.0)—Ambrose and his Embassy Club Orchestra.

EMPIRE PROGRAMME SUMMARY

For wavelengths, see S.W. List
Transmission 1 (GSF, GSD) G.M.T.
8.0 a.m.—Big Ben. Empire News and Announcements.
8.20—Music from Films and Revues.†
9.0—“Music and the Ordinary Listener.”* Sir Walford Davies.
9.20—Dance Music.†
10.0—Close Down.
Transmission 2 (GSG, GSE)
12 noon—Big Ben. Daventry.
12.45 p.m.—Dance Music.†
1.15—Daventry. 1.45—Close Down.
Transmission 3 (2-4 p.m. GSA GSB; 4-6 p.m. GSB, GSA)
2.0 p.m.—Big Ben. Empire News and Announcements.
2.20—Old English Programme.
3.0—Harold Ramsay (Cinema Organ).
3.10—Wales v. Australia.
3.30—Midland Regional.
4.30—“First Time Here.”
5.15—Empire News and Announcements (second reading).
5.35—The B.B.C. Dance Orchestra.
6.0—Close Down.
Transmission 4 (6.15-9 p.m. GSD GSB; 9-10.45 p.m. GSB, GSA)
6.15 p.m.—Big Ben. Empire News and Announcements.
6.35—Reginald Dixon (Cinema Organ).
7.0—Interlude.
7.5—“Anywhere for a News Story”—XIV. Mr. Ralph D. Blumenfeld.
7.30—“In Town To-night.”
8.0—Music Hall. 9.0—Wales v. Australia. 9.20—Dance Music.†
9.35—The Griller String Quartet. Ludomir Rozycki (Pianoforte). Tatiana Makushina (Soprano).
10.25—Empire News and Announcements. 10.45—Close Down.
Transmission 5 (GSC, GSA)
11.0 p.m.—Big Ben. Dance Music.
11.10—Wales v. Australia.
11.45—Reginald Dixon (Cinema Organ).
12.20 a.m.—“Anywhere for a News Story”—XIV.* Mr. Ralph D. Blumenfeld: “Journalism in my Time.”
12.40—Empire News and Announcements. 1.0—Close Down.
* Electrical Recording.
† Gramophone Records.

SATURDAY
December 30

NOTE: The Hours of Transmission are Reduced to Greenwich Mean Time

5 a.m.

Berlin, 5.15—Gym. 5.30—Motto; Weather. 5.35—See Heilsberg. In the interval, News.
Beromünster, 5.50—Gym.
Breslau, 5.30—See Munich.
Deutschlandsender, 5.0—Weather. 5.5—News. 5.15—See Berlin. 5.30—Weather and To-day's Motto. 5.35—See Heilsberg. In the interval, News.
Frankfurt, 5.5—See Langenberg. 5.30—See Stuttgart. 5.45—See Langenberg.
Hamburg, 5.0—Time; Announcements. 5.15—Gym. 5.30—Time; Weather. 5.35—See Heilsberg.
Heilsberg, 5.15—Gym. 5.35—The Small Station Orchestra, conducted by Eugen Wilcken. In the interval, News.
Langenberg, 5.0—Record and To-day's Motto. 5.5—Records. 5.30—See Stuttgart. 5.45—Gym.
Leipzig, 5.30—See Munich.
Moravská-Ostrava, 5.15—See Prague.
Moscow (Komintern), 5.15—Records.
Munich, 5.30—Gym. 5.45—Address and Records.
Prague, 5.15—Gym. Music and News.
Stuttgart, 5.5—See Langenberg. 5.30—Gym. 5.45—See Langenberg.

6 a.m.

Berlin, 6.0—See Heilsberg. 5.35.
Breslau, 6.15—See Leipzig. 6.25—The Station Orchestra.
Frankfurt, 6.0—Time and Announcements. 6.10—Weather. 6.15—See Langenberg.
Hamburg, 6.0—Time; News; Morning Motto. 6.20—See Heilsberg. 5.35.
Heilsberg, 6.0—See 5.35.
Kalundborg, 6.0—Gym.
Langenberg, 6.0—See Frankfurt. 6.10—Weather. 6.15—Records.
Leipzig, 6.0—See Munich. 5.45. 6.15—News and Time. 6.25—See Breslau.
Moravská-Ostrava, 6.0—See Prague. 5.15.
Moscow, 6.0—Programme Announcements. 6.15—The Small Station Orchestra.
Munich, 6.0—See 5.45. 6.15—See Leipzig. 6.25—See Breslau.
Paris (Radio Paris), 6.45—Gym.
Prague, 6.0—See 5.15.
Rome, 6.45—Gym.
Sottens (Radio-Suisse Romande), 6.0—Gym.
Stockholm, 6.20—Gym.
Stuttgart, 6.0—See Frankfurt. 6.10—Weather. 6.15—See Langenberg.
Warsaw, 6.0—Time and Sacred Music. 6.5—Gym. 6.20—Records. 6.35—Radio Journal. 6.40—Records. 6.52—For Housewives. 6.55—Announcements.

7 a.m.

Barcelona, 7.15—Radio Journal and Gramophone Records.
Berlin, 7.15—Gym.
Bordeaux-Lafayette, 7.45—News relayed from Paris (Ecole Supérieure).
Breslau, 7.0—See 6.25.
Deutschlandsender, 7.45—Gym. for Women.
Frankfurt, 7.15—Announcements. 7.25—See Langenberg. 7.40—See Langenberg.
Hamburg, 7.0—Weather; For Housewives. 7.15—Wireless Notes. 7.25—Ice Report.
Heilsberg, 7.0—Morning Prayers. 7.30—Gym for Women.
Hilversum, 7.40—Records.
Huizen, 7.40—Records.
Kalundborg, 7.30—Service.
Langenberg, 7.0—See 6.15. 7.15—Tide Report. 7.25—Gym for Women. 7.40—For Women.
Leipzig, 7.0—See Breslau. 6.25.
Moscow, 7.0—See 6.15. 7.15—Concert for Children.
Munich, 7.0—See Breslau. 6.25.
Paris (Poste Parisien), 7.10—Fanfare and Records. Clémentine (Max Francy). Alte Kamaraden (Teike). Ballet Music from "La Source" (Delibes). Tarantella (Wittmann). Titine at School (Herbert). Nichette on the Telephone (Herbert). Melody (Willemetz). Réveille-vous (Lorenzo). Melody (Leslie). Song from the film "Chérie" (Coslow). Si je n'avais pas fait cela. Selection from "Marisha" (Cazes). In the intervals: Press Review, Humorous Items and Gastronomic Talk.
Paris (Radio Paris), 7.30—Weather, Gym. 7.45—Records.
Radio Normandie, 7.15—Concert. 7.30—News.
Pome, 7.0—Time and Announcements.
Stockholm, 7.0—See 6.20.
Strasbourg, 7.0—Concert for Listeners

in North America. The Station Orchestra conducted by de Villers. March, Stars and Stripes (Souza). Salut d'amour (Elgar). Air (Lully). Aria from "Figaro" (Mozart). Overture, "William Tell" (Rossini). Duet from la petite mariée (Lecocq). Prelude and Entracte from "Cavalleria Rusticana" (Mascagni). Duet from "La Fille de Madame Angot" (Lecocq). Prelude to "Le Déluge" (Saint-Saëns). Aria from "Rose-Marie" (Friml). Scènes alsaciennes (Massenet). Air from "The Merry Widow" (Lehár). March, Le Père la Victoire (Ganne).
Stuttgart, 7.0—See Langenberg. 6.15. 7.15—See Frankfurt. 7.25—See Langenberg. 7.50—Post-Office Concert.

8 a.m.

Barcelona, 8.0—Chimes, Physical Culture and Gramophone Music. 8.20—Radio Journal, and Gramophone Music.
Breslau, 8.0—For Women. 8.2—Time, News.
Hamburg, 9.0—Records. 9.50—News.
Heilsberg, 8.0—Records.
Huizen, 8.0—See 7.40 a.m.

Munich, 9.40—Agricultural Notes. 9.50—Market Prices.
Oslo, 9.0—Market Prices.
Paris (Radio-Paris), 9.30—Conservatoire Concert Society Orchestra, from the Conservatoire.
Prague, 9.0—See 8.55 a.m. 9.10—See Moravská-Ostrava.
Stuttgart, 9.0—See Frankfurt. 9.10—Records.
Vienna, 9.50—Tide Report and Weather. 10.30—Swiss Music (on Records).

10 a.m.

Berlin, 10.0—Exchange. 10.30—See Heilsberg. In the interval, Weather.
Bordeaux-Lafayette, 10.30—Concert relayed from Paris.
Bratislava, *10.0—Tides Report.
Breslau, 10.40—Time, Announcements. Brno, 10.0—Records. 10.5—Orchestral Concert.
Brussels (No. 2), 10.0—Journal Parlé. 10.10—Concert by Paul Moreau and his Orchestra relayed from the Scala Taverne, Antwerp.

Prague, 10.0—See Brno. 10.55—Agricultural Talk.
Strasbourg, 10.30—Concert relayed from Marseilles.
Stuttgart, 10.0—See 9.10 a.m. 10.25—Post Office Concert. 10.55—Weather.
Vatican City, 10.0—10.15—Religious Information in Various Languages.
Vienna, 10.55—Weather.
Warsaw, 10.40—Press Review. 10.50—Talk on Arts. 10.55—Time and Fanfare from St. Mary's Church, Cracow.

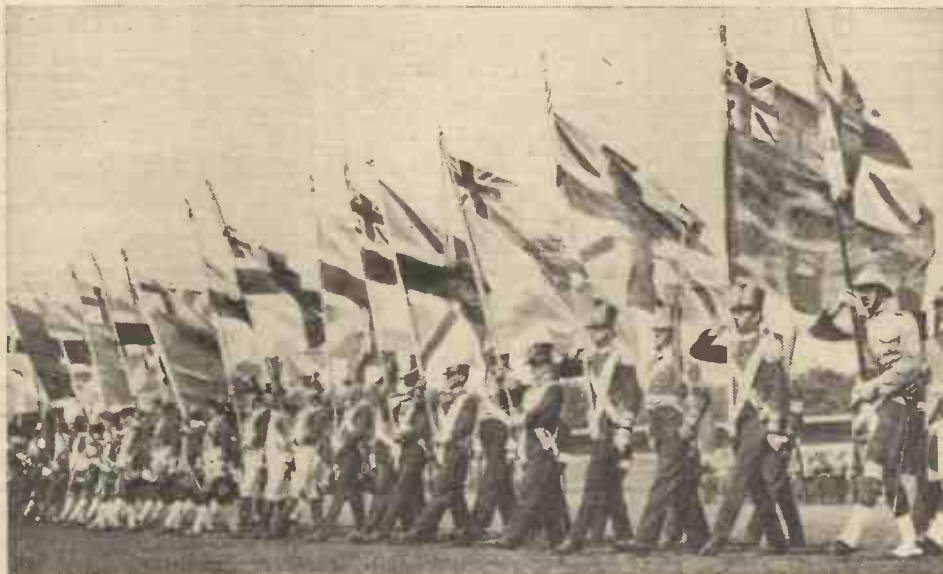
11 a.m.

Barcelona, 11.0—Chimes and Weather.
Bari, 11.30—Quintet Concert. Selection from "I promessi Sposi" (Ponchielli). Torna amor (Grothe). Selection from "Paganini" (Lehar). Serenata delle rose (Martinengo). Moscovia (D'Acchiardi).
Berlin, 11.0—See Heilsberg. 10.30.
Beromünster, 11.0—Records. 11.29—Time Signal from Neuchâtel Observatory, Weather, News. 11.40—Records.
Bordeaux-Lafayette, 11.0—See 10.30.
Bratislava, 11.35—The Station Orchestra, conducted by Dyk. March

Kalundborg, 11.0—Time and Chimes. 11.5—Concert from the Ritz Restaurant.
Langenberg, 11.0—The Fröhliche Violine. Waltz, Red Roses (Lehár). Violin Solo: Serenade (Beyer). Un das blaue Band (Krome). Saxophone Solo (Kreisel). Was dein roter Mund im Frühling sagt (Böhmet). Accordion Suite No. 2 (Meyer). Intermezzo, Der verliebte Hampelmann (Möhr). Czardas No. 8 (Michiels).
Leipzig, 11.0—The Station Orchestra conducted by Blumer. Walter Wilhelm (Violin). Overture, "Abencéragas" (Cherubini). Violin Concerto in A (Mozart). Turkish March from "The Ruins of Athens" (Beethoven). Rheinische Nachtmusik, Op. 35 (Niemann). Waltz, Hesperus-Bahnen (Jos. Strauss). Selection from "The Jewels of the Madonna" (Wolf-Ferrari).
Ljubljana, 11.15—Records. 11.45—News.
Moscow (Komintern), 11.0—See 10.15.
Munich, 11.0—See Leipzig.
Oslo, 11.0—See 10.15. 11.10—Exchange. 11.55—Time.
Palermo, 11.45—Giornale Radio.
Prague, 11.0—Time and Agricultural Talk. 11.10—Records. 11.20—Weather. 11.25—News. 11.35—See Bratislava.
Radio Normandie, 11.0—Variety Music.
Reykjavik, *11.0—Weather.
Rome, 11.30—Records.
Sottens, 11.28—Time Signal. 11.30—News. 11.40—Records.
Stockholm, 11.30—Weather. 11.45—Exchange. 11.55—Time.
Strasbourg, 11.0—See 10.30.
Stuttgart, 11.0—See Langenberg.
Vienna, 11.0—Concert by the "Wiener Symphoniker" conducted by Josef Holzer. Cadet March (Souza). Hella Ouverture (Pauspert). Arlequin (Dopper). Violin Solo, Wieg-enlied (Schubert). Waltz, Donauer-perlen (Vollstedt). Zepperl-Polka (Joh. Strauss). Prelude to "Eva" (Lehár). Fürs Herz und Gemüt (Komzak).
Warsaw, 11.5—Records. 11.30—Radio Journal. 11.35—Weather. 11.38—Records.
Zagreb, 11.20—Cookery Recipes. 11.30—Records.

12 noon

Algiers, 12.30—Station Orchestra. Selection from "The Thieving Magpie" (Rossini). Le torador (Adam). L'espèce (Waldteufel).
Barcelona, 12.0—Programme for Women. 12.45—Gramophone Music.
Berlin, *12.0—Music from Sound Films on Records. Song, "Das lustige Kleeblatt" (Werner-Köllner). Waltz from "Kleines Mädel—groses Glück" (Böhmet-Stemmel). Waltz Song from "Fräulein Hoffmanns Erzählungen" (Leux-Hannes). Tango from "Du bist wie eine Märchenprinzessin" (Mohr-Walter). Air from "Es gibt nur eine Liebe" (Künneke-Cremer). Two Step from "Stern von Valencia" (Stauch). 12.20—See Hamburg.
Beromünster, 12.0—See 11.40. 12.15—Song Recital. 12.25 (from Berne)—Time, Weather, Exchange. 12.30—Talk: The Week in the Federal Assembly. 12.40—Request Records. 12.50—Science Talk.
Bordeaux-Lafayette, 12.45—Time and Quintet Concert. In the interval—News.
Bratislava, *12.0—See 11.35. 12.45—News in Slovak, German, and Hungarian.
Breslau, 12.15—See Leipzig.
Brussels (No. 1), 12.0—Gramophone Concert. Selection from The Gold Diggers of 1933. Les échos d'Alsace (Rucqoy). Waltz Potpourri (Romberg). Addio a Napoli (Cottra). Selection from "Princess Charming" (Sirmay). Italian Fantasia (Delmas). Selection from "Sunny" (Kern). Künstlerleben (Joh. Strauss). Selection from "Eldorado" (Ruthland-Clapham).
Brussels (No. 2), 12.0—Orchestral Concert, conducted by Felleman, relayed from the Grand Hôtel, Antwerp.
Bucharest, 12.0—Radio Journal. 12.15—Records.
Budapest, 12.0—See 11.5. 12.30—The Concert Orchestra, conducted by Fridl.
Frankfurt, 12.15—Time and News. 12.25—News. 12.35—See Langenberg.
Hamburg, 12.0—Exchange. 12.10—Weather. 12.20—Light Music.
Heilsberg, 12.5—Time and News.
Hilversum, 12.0—See 11.40.
Huizen, 12.0—See 11.40.
Juan-les-Pins, (Nice). 12.30—Announcements.
Langenberg, 12.0—See 11.0. 12.15—



The Aldershot Tattoo (Brussels No. 1, 6.15 p.m.)

Leipzig, 8.0—For Housewives. 8.40—Exchange and Announcements.
Madrid (Union Radio), 8.0—Radio Journal. 11.45—Announcements.
Moravská-Ostrava, 8.50—See Prague.
Moscow, 8.0—Request Concert. 8.55—Time.
Munich, 8.0—See Breslau.
Paris (Poste Parisien), 8.0—See 7.10.
Paris (Radio-Paris), 8.0—Weather, News.
Prague, 8.50—Weather. 8.55—News. Radio-Normandie, 8.0—Concert. 8.15—Review.
Stuttgart, 8.0—See Langenberg. 7.40.
Toulouse, 8.0—Records. 8.30—News. 8.35—Light Music. 8.45—Orchestral Music. Metropolitaniana (Brinkmann). Selection, "Der Bettelstudent" (Millocker).
Vienna, 8.20—Market Prices. 8.30—Weather.

9 a.m.

Barcelona, 9.0—Announcements.
Berlin, 9.0—News. 9.10—Economic Report. 9.30—Records and News.
Breslau, 9.40—For Children.
Deutschlandsender, 9.0—News. 9.10—Records. 9.50—For Children.
Frankfurt, 9.0—News. 9.45—Post Office Talk.
Heilsberg, 9.40—News.
Hilversum, 9.0—Records. 9.40—Religious Programme. 9.55—Concert by the Small Station Orchestra, conducted by de Groot, v. Cappellen (Recitations) and Records.
Huizen, 9.0—See 7.40 a.m. 9.40—Religious Programme.
Langenberg, 9.0—See Frankfurt. 9.5—Tide Report. 9.10—For Children. 9.30—Talk: The Labour Problem in the West.
Leipzig, 9.45—Post Office Programme with Records.
Moravská-Ostrava, 9.0—See Prague. 9.10—Village Band of Kuncicky.
Moscow, 9.0—News. 9.15—New Year Literary Programme.

Deutschlandsender, 10.15—Weather 10.30—For Housewives.
Frankfurt, 10.0—Concert. 10.40—Announcements.
Hamburg, 10.0—Sound Film Music on Records. Tango and Waltz Song from "Das Lied vom Glück" (Engel-Berger). Foxtrot from "Keine Angst vor Liebe" (Grothe-Dehmel). Foxtrot from "Die schönen Tage von Aranjuez" (Bergmann-Buder). Slow Waltz from "Ist mein Mann nicht fabelhaft" (Knobel-Kiesow). Song, "Es gibt nur eine Liebe" (Künneke-Kremsler). Waltz from "Kleines Mädel—groses Glück" (Böhmet-Stemmel). Marching Song from "Das lustige Kleeblatt" (Werner-Köllner). 10.30—See Heilsberg.
Heilsberg, 10.0—Ice Report. 10.5—Agricultural Talk. 10.30—Concert by the Small Station Orchestra, conducted by Eugen Wilcken. Overture, "Romeo und Juliet" (Bellini). Marien-Walzer (Lanner). Selection from "La rondine" (Puccini). Gavotte rococo (Schmalstich). Fascination (Marchetti). Selection from "Der Tenor der Herzogin" (Künneke). Czardas No. 9 (Michiels). Fascination (Marchetti). Lehár Potpourri (Geiger). In the interval, Weather.*
Hilversum, 10.0—See 9.55 a.m.
Kalundborg, 10.0—Weather. 10.10—Fishing Notes. 10.15—For Schools.
Langenberg, 10.0—Records. 10.25—Sponsored Programme with Records. 10.55—Weather.
Leipzig, 10.0—See 9.45 a.m. 10.40—News.
Lyons (La Doua), 10.30—Concert relayed from Marseilles.
Moscow (Komintern), 10.0—See 9.15 a.m. 10.15—"Roussalka" Opera (Dargomizsky).
Munich, 10.0—Talk: What a Young Peasant thinks about the Laws of Inheritance. 10.15—Time, Announcements. 10.30—Programme arranged by the Post Office, with Records. 10.50—See Leipzig.
Oslo, 10.15—Divine Service.

(Rehór). Waltz (Strauss). Selection from "The Count of Luxembourg" (Lehar). Potpourri of Slovak Songs (Piskáček). Polka (Mach). Polka (Matys).
Breslau, 11.0—See Leipzig.
Bucharest, 11.0—Exchange and Records.
Budapest, 11.5—Concert.
Deutschlandsender, 11.0—Weather. 11.5—Records. Fantasia, Hungarian Melodies (Krüger). La craquette (Clérico). Ich hab' amal a Räuscherl g'habt (Kapeller). In a Monastery Garden (Ketelbey). In a Persian Market (Ketelbey). Anita (Meisel). Es gibt nur eine Liebe (Künneke). La cinquantaine (Gabriel-Marie). Wiegenlied (Schubert). Hab' ich nur deine Liebe (Suppé). Ubers Meer (Krome). Le coucou (Daquin). Melody (Sullivan). Dance of the Raindrops (Evans). 11.55—Time.
Frankfurt, 11.0—See Langenberg.
Hamburg, 11.5—Hints for Housewives; Time; Announcements. 11.20—See Heilsberg. 10.30.
Hilversum, 11.0—See 9.55. 11.40—Concert conducted by Wins. Bolek (Leopold). Seid umschlungen, Millionen (Strauss). Piece (Tosti). Russian Dance (Tchaikovsky). O Fräulein Grethe (Llossas). Warum (Linden). Debreczin (Meisel). Records. El Chiguro (Lucchesi). Tango (Briones). Ideale (Tosti). Scherzo (de Micheli). Les Roses rouges (Delacassé). Adoration (Bianco). Servus, Wien (Dostal). Records. Strauss Potpourri (Weber). Spanish Dance (Sarassate). Halloh, kleines Fräulein (Valerio). Ich sing Dir mein Lied (Lehár). Rio Rita (Santugini).
Huizen, 11.40—Police Notes. 11.55—Sextet Concert. Au revoir (Schootemeyer). Birthday Serenade (Lincke). Dream on the Ocean (Gungl). Potpourri (Renaud-Lustenhouwer). Nocturne (Field). Records. Alumbblätter (Grieg). Waltz from Eva (Lehár). (Aus Mozarts Reich (Urbach). Laune und Charme (Fresco). Finale.

SATURDAY December 30

12 noon (contd.)

See Frankfurt. 12.25—News. 12.35—Records. Leipzig, 12.0—See 11.0. 12.15 (from Dresden)—The Viennese Donaukinder Schrammel Trio. March, Wiener Kinder (Demuth). Waltz, Lustig Wien (Meisel). Tango, Vergissmichicht (Zander). Song, Die Welt kann ja so schön sein (Götz). German Tango, Edith (Krüger). Viennese Song, Wo trinkt man am liebsten den Wein (Dietrich). March, Lustig und fidel (Dietrich). Ljubljana, 12.0—Weather; Records. Lyons (La Doua), 12.0—Programme from Paris (Ecole Supérieure). 12.30—Records. Selection from "The Gipsy Princess" (Kálmán). Je suis coiffeur (Vimont-Dax). Melody. Potpourri of Popular Russian Songs. Polovtsian Dances (Borodin). Madrid (EAJ7), 12.0—Chimes and Radio Journal. 12.15—Time. Moravská-Ostrava, 12.0—See Bratislava. 12.35—See Prague. Munich, 12.0—See Leipzig 11.0. 12.15—See Leipzig. 12.25—Records. Finlandia (Sibelius). Elegy (Sinding-Linck). Rustle of Spring (Sinding). Schlaf, du teuerster Knabe mein (Grieg). Song, Mir träumte einst (Grieg). Symphonic Dances No. 3 (Grieg). Oslo, 12.0—Records. Palermo, 12.0—Concert. March (Leopold). Intermezzo, Alba d'amore (Figarola). Selection, "The Dubarry" (Müllacker-Mackeben). Foxtrot (Hamud). Intermezzo, Notturmo siciliano (Diogid). Selection, "L'Amico Fritz" (Mascagni). Tango, Allor saremo felici (Cantoni). One-Step, Foscarella (Rödi). In the interval—Time and News. Paris (Eiffel Tower), 12.30—Concert from Paris (Ecole Supérieure). Paris (Poste Parisien), 12.0—News. 12.5—Gramophone Records of Songs by Micheletti. Fantasia aux divins mensonges (Delibes). C'est le dieu de la jeunesse (Delibes). Cavatina from "Faust" (Gounod). Aubade from "Le roi d'Ys" (Lalo). Aria from "Tosca" (Puccini). 12.20—Sponsored Programme. 12.30—Humorous Programme by Léon Raiter. Paris (Radio-Paris), 12.0—Records. Travajda (Messier). Mais quand le coeur dit oui (Sylviano). Argentina (Yatove). Bourrée. On the Volga (arr. Scriabin). Melody (Borel-Clerc). Valse chaloupée (Dubourg). La forêt qui chante (Charlys). Leila (Dauber). L'homme rouge (Borel-Clerc). On pardonne tout (Gael). Mismax (Knight). Si vous l'avez compris (Denza). On the Banks of the Missouri (Christiné). Selection from "White Horse Inn" (Benatzky). Ay! Ay! Ay! (Frei). Dandy (Irusia). Dans une petite confiserie (Raymond). Melody (Nacio-Herb-Brown). Air (Haymann). Je vous aime (Sundy and Bouquet). You are my Heart's Delight (Lehar). Si j'aimais (Erwin-Pujol). Chahita (Schertzing). Sous les ponts (Scotto-Salabert). Pompei (Learts). A coup de Garette (Lenoir). Waltz (Loyraux). Place blanche (Mele-Graven). Lullaby of the Leaves (Young). Mairinies maures (Jamin). Mutchico (Rodde-Galifer). Les Majas (Sentis). In the interval—Exchange, News, Weather. Pittsburgh, 12.0—Musical Clock. Prague, 12.0—See Bratislava. 12.35—Labour Market Report. 12.45—Records. 12.55—Exchange and Weather. Radio Normandie, 12.0—Records. 12.30—News. 12.45—Radio Concert. Rome, 12.0—Orchestra. Foxtrot (Curti). Reminiscences (Angelo). Foxtrot (Mancini). Indian Dance (Donati). Selection "Madame Butterfly" (Puccini). Tango (Joh. Strauss-Benatzky). The Coolies of Sumatra (Jessel). Foxtrot (Wachsmann). Sottens, 12.0—Exchange. 12.10—Records. Strasbourg, 12.0—Records. 12.45—News and Time. Stuttgart, 12.0—See Langenberg 11.0. 12.15—See Frankfurt. 12.25—News. 12.35—See Langenberg. Toulouse, 12.0—Viennese Orchestra. 12.15—Sound-Film Music. 12.30—News; Exchange. Vienna, 12.0—Time and News. 12.10—Concert (contd.). March, Auf treue Kameradschaft (Blankenberg). Tarantella (Grünfeld). Faun und Elfenreigen (Kark). Serenade-Pizzicato (Ganne). Du darfst es nicht glauben (Cieczynski). Intermezzo, Appalachie (Wichtl). Gavotte, Ella (Hummer). Waltz, Potpourri from "Her first Ball" (Eysler).

Zagreb, 12.0—Announcements. 12.10—Opera Music on Records. 12.40—News.

1 p.m.

Algiers, 1.0—News. 1.5—Concert (contd.). Bohemos (Chauvét). Berceuse (Defosse). Le récit de Djalmer (Février). Phrynette (Filippucci). Athlone, 1.30—Time, News, and Records. Barcelona, 1.0—Gramophone Records. 1.30—Theatre Notes and Gramophone Records. Berlin, 1.0—See Hamburg 12.0. 1.15—News. 1.35—Records. Melody (Green). Saxophonitis (Wata). Tango (Lesso-Valerio). Whispering (Schönberger-Engel). Vier kleine Wörter. Du mein Liebling (Stoathart). Foxtrot (Gay). Beromünster, 1.15—Singing Lesson for Schools. 1.45—Educational Notes. Bordeaux-Lafayette, 1.0—See 12.45. 1.50—Exchange. Bratislava, 1.0—Shipping Notes. Breslau, 1.15—Time; Weather. 1.20—Post Office Programme with Records. 1.50—Agricultural Prices. Brno, 1.0—Market Prices. Brussels No. 1, 1.0—Le Journal Parlé. 1.10—Popular Music relayed from the Grand Hotel, Antwerp. Brussels No. 2, 1.0—Le Journal Parlé. 1.10—Extracts from "Lucia di Lammermoor" (Donizetti), on Gramophone Records. Deutschlandsender, 1.0—Opera Records. Overture, "Euryanthe" (Weber). Hymn, "Alessandro Stradella" (Flotow). Overture, "The Force of Destiny" (Verdi). Flower Aria from "Carmen" (Bizet). Siegfried Idyll (Wagner). Aria, "Don Giovanni" (Mozart). Overture, "Benvenuto Cellini" (Berlioz). Duet, "Undine" (Lortzing). Ballet Music, The Bartered Bride (Smetana). Aria, "Tiefand" (d'Albert). Frankfurt, 1.0—See Langenberg 12.35. 1.30—See Langenberg. Hamburg, 1.15—News. 1.35—Records of Heinrich Schlusnus. Aria, "Sicilian Vespers" (Verdi). Duet, "The Force of Destiny" (Verdi). Serenade from "Don Giovanni" (Mozart). Dem Unendlichen (Schubert). Es muss ein Wunderbares sein (Liszt). Morgen (R. Strauss). Mahnung (Hermann). Heilsberg, 1.0—News. 1.5—Records. Czardas from "Der Geist des Wojewoden" (Grossmann). Three Songs (Brahms): (a) O wüsst ich doch den Weg zurück, (b) Sonntag, (c) Meine Liebe ist grün. Caucasian March (Ippolitov-Ivanov). Chorus from "The Mastersingers" (Wagner). Selection from "Coppélia" (Delibes). Song from "Eine Nacht in Venedig" (Joh. Strauss). Song, All mein Glück bist du allein. Neapolitan Nights (Zamecnik). Midnight Waltz (Zamecnik). None but the Weary Heart (Tchajkovsky). Waltz, Carmen Sylva (Ivanovic). Selection from "The Cunning Peasant" (Fall). Des Jahres letzte Stunde (Schulz). In the interval, News. 1.0—See 12.5. 1.30—Post Office Programme with Records. Hilversum, 1.0—See 11.40. 1.55—Records. Huizen, 1.40—Young People. Juan-les-Pins (Nice), 1.15—Variety Programme. Kalundborg, 1.30—Records. Humoresque (Dvorak). Vem! Fidoka, samba carnavalesco (de Gerhuera). Pettin' in the Park (Dubin and Warren). Ständchen (Schubert). Wir sind ja heut' so glücklich (Abraham). Flapperette (Greer). Selection, "Blackbirds" (McHugh and Fields). Melody (Derksen). Langenberg, 1.0—See 12.35. 1.30—For Young People. Leipzig, 1.0—News. 1.20—Review of Periodicals. 1.40—For Children. Lyons (La Doua), 1.0—Concert. Selection from "La Basoche" (Messager). A la Foire (Bach-Laverne). Selection from "Le Roi d'Ys" (Lalo). Extract from "La Mascotte" (Audran). Melody (Strauss). Selection from "The Geisha" (Jones). Selection from "The Czarevitch" (Lehar). Melody (Mucke). Piece for Two Violins (Honegger). Solveig's Song (Grieg). The Wedding of the Rose (Franck). In the intervals, News. Moscow (Komintern), 1.45—Announcements. 1.50—See Leipzig. 1.10—News. 1.25—Talk: The Palatinate. 1.35—Records. Concerto for Organ and Orchestra. Kuckuck und Nachtigall (Handel). Folk Song and Es waren zwei Königskinder (Lehmann). Waltz, Mein Lebenslauf ist Lieb' und Lust (Strauss). In einem kühlen Grunde. Waldfrieden (Favila). Waltz, Es gibt nur eine Melodie (Engel-Berger). Alt-Badischer Signalmarsch.

2 p.m.

Athlone, 2.0—Records. Barcelona, 2.0—Catalan Report and Film Notes. 2.15 (approx.)—Concert by the Station Sextet. Berlin, 2.0—Exchange. 2.20—Variety Programme. Beromünster, 2.59—Time Signal from Neuchâtel Observatory. Breslau, 2.15—Film Review. 2.30—Topical Talk. 2.40—Announcements. Brno, 2.30—Records. 2.40—Tales of Our Grandmamas. Bordeaux-Lafayette, 2.0—Records. Deutschlandsender, 2.0—Handwork. 2.30—Weather; Exchange. 2.45—Week's Review. Frankfurt, 2.0—See Langenberg 1.30 p.m. 2.15—See Stuttgart. 2.30—Weather. 2.40—Time and Exchange. Hamburg, 2.0—Exchange; Announcements. 2.50—Ice Report. Heilsberg, 2.0—Exchange. 2.30—Musical Exercises. Hilversum, 2.0—See 1.55 p.m. 2.40—Talk. Huizen, 2.0—See 1.40 p.m. 2.10—Children. Juan-les-Pins (Nice), 2.0—See 1.15 p.m. Kalundborg, 2.0—Mogens Hansen's Instrumental Ensemble. Turkish March (Mozart). Waltz, Je t'aime (Waldeufel). Selection, "Il Trovatore" (Verdi). Valse caprice (Rubinstein). Pizzicato and Intermezzo (Pierrot). Waltz, "Zigeuner primas" (Kalmán). Songs. Selection, "Tosca" (Puccini). Waltz, Novellette, "Op. 15 (Glazunov). Serenade (Lange-Müller). Potpourri (Kern). Langenberg, 2.15—See Stuttgart. 2.30—Exchange. 2.45—Talk. Leipzig, 2.15—Review. 2.30—Agricultural Notes. 2.40—Exchange. Madrid (EAJ7), 2.0—Chimes, Time, Weather and Theatre Notes. 2.15 (approx.)—Concert. Two-Step (Demon). Jota from "La Gran Via" (Chueca and Valverde). Selection from "Coppélia" (Delibes). Piece (Ponce). Foxtrot (Caldwell and Tierney). Selection from "Robert le Diable" (Meyerbeer). Minuet (Paderewsky). Jota (Soutullo). Elegy (Massenet). Prelude to "Lohengrin" (Wagner). Portuguese Songs (de Veiga). Song (Lanzea). Danza ritual del fuego (Fallá). In the interval: Exchange. Moravská-Ostrava, 2.30—See Prague. Moscow (Komintern), 2.0—See 1.45 p.m. 2.15—For Children. 2.55—Time. Munich, 2.0—Reading (Engelschalk). 2.20—Mezzo-Soprano Recital by Johanna Beck. Four Songs (Rupprecht): (a) Elegy, (b) Liebestied, (c) Verheissung, (d) Herbstnacht. Four Songs (Englert): (a) Rosen und Lilien, (b) Liebestühling, (c) Lenznacht, (d) Ein Wunder ist an mir geschehen. [2.40—Announcements; Labour Market Report. Paris (Eiffel Tower), 2.0—Exchange and Talk. 2.15—Economic Notes. 2.30—Market Prices and News. 2.45—Amusement Guide and Talk for Women. Paris (Poste Parisien), 2.0—News. Pittsburgh, 2.0—Breakfast Club, from New York. 2.30—Style and Shopping Service. 2.45—News, and Work-a-day Thoughts. Prague, 2.30—For Young People. 2.50—Weather. 2.55—Records. Reykjavik, 2.0—See 1.15 p.m. Sottens, 2.28—Time Signal. Strasbourg, 2.0—Legal Talk in German. 2.15—Records. Stuttgart, 2.15—Morse Lesson. 2.30—The Echo Zither Society. Carmen

Silva (Kollmanek). Intermezzo (Creveti). Volkslieder-Ranken (Wormsbacher). Julfeier (Kollmanek). Harlequin (Oscheit). Capriccio (Spiegelberg). Sérénade pathétique (Wormsbacher). Nocturne in F (Spiegelberg). Toulouse, 2.0—Exchange. Vienna, 2.0—Time, Exchange, Snow Report. 2.10—Italian Lesson. 2.35—Play for Children. Warsaw, 2.25—News. 2.30—Talk on Economics. 2.40—Records. 2.55—Aviation Report and Anti-Gas Drill.

3 p.m.

Barcelona, 3.0—Programme for Hospitals with Gramophone Records. 3.30—Musical and Literary Programme. Bari, 3.30—Songs for Children. Berlin, 3.0—See Heilsberg. Beromünster, 3.0—The Women's Accordion Band. 3.45—Programme relayed from Lugano. Bordeaux-Lafayette, 3.0—Concert relayed from Paris (Ecole Supérieure). Breslau, 3.0—See Leipzig. Bucharest, 3.15—Educational Programme. Budapest, 3.0—For Children. Deutschlandsender, 3.0—See Leipzig. Frankfurt, 3.0—See Langenberg. 3.45—See Langenberg. Hamburg, 3.0—See Heilsberg. Heilsberg, 3.0—The Small Station Orchestra, conducted by Eugen Wilcken. Selection from "Le cheval de bronze" (Auber). Two Songs (Grieg): (a) Ich liebe Dich, (b) Erotik Suite (Mouton). Ballet des parfums (Popy). Overture, "Si j'étais roi" (Adam). Hilversum, 3.0—Concert, conducted by Horst. Mexico (Alex). Goldkäfertens Brautwerbung (Armandola). What's next (Fingk). Learn to Croon (Johnston). 3.25—Film Review. 3.40—Concert (contd.). Gosh darn (Coates-Heemstra). Parting Kisses (Spitalny-Zamecnik). Merry-go-round (Jones). Serenade (Drdla-Forest). Barcarole (Offenbach-Hyde). Put a Little Springtime (Flanagan-Hayfish). Harlequin (Erwin). Huizen, 3.0—Orchestral Concert. 3.25—Film Talk. 3.40—Interval. 3.55—Concert. Kalundborg, 3.0—See 2.0. Langenberg, 3.0—The Station Orchestra, conducted by Kühn. Soloist: Paul Schmidt (Cello). 'Cello Concerto (Klughardt). Symphonic Dances (Grieg). 3.45—Chamber Music by Marga Bauml (Guitar), Alfred Sauerette (Flute), Robert Grote (Viola da Gamba) and Hans Haass (Harpisichord). Lute and Harpsichord: Sonata (Diabelli). Flute and Harpsichord: Sonata (Frederick the Great). Viola da Gamba and Harpsichord: (a) Chaconne (Couperin), (b) Gavotte (Caix d'Hevelois). Leipzig, 3.0—The Leipzig Symphony Orchestra, conducted by Hilmir Weber. Adine Günther-Kothé (Soprano). Erich Born (Baritone) and Fritz Schadel (Clarinet). Overture in D (Boccherini). Aria from "The Seasons" (Haydn). Ballet Suite (Rameau). Song from "The Golden Cross" (Brüll). Aria from "Das Nachtlager von Granada" (Kreutzer). Overture, "Der Haide-schacht" (Holstein). Clarinet Solo: In Norden, im Süden (Bergson). Valse caprice, Soirées de Vienne (Schubert). Aria from "Il re pastore" (Mozart). Overture, "Undine" (Lortzing). Overture, "Mignon" (Thomas). Lyons (La Doua), 3.0—Dance Music. Madrid (EAJ7), 3.0—See 2.15. 3.40—Radio Journal and Film Review. 3.50—News. Moravská-Ostrava, 3.0—See Prague. Moscow (Komintern), 3.0—News. 3.15—Talk. 3.30—Educational Talk. Munich, 3.0—See Leipzig. Oslo, 3.45—Orchestral Concert. March (Fucik). Christmas Suite (Holländer). March of the Tin Soldiers (Jessel). Berceuse (Fielstad). The Mill in the Black Forest (Eilenberg). Petite Suite (Bizet). Gnomenfest (Noack). The Gingerbread Waltz (Humperdinck). The Elves' Ball (Teilman). Piece (Kochmann). Paris (Eiffel Tower), 3.0—Announcements. 3.15—Market Prices. 3.30—Exchange. 3.45—Tourist Talk in Esperanto. Paris (Poste-Parisien), 3.15—News. 3.45—News. Paris (Radio-Paris), 3.0—For Children. 3.45—Exchange. Pittsburgh, 3.0—Edward MacHugh, from New York. 3.15—KDKA Home Forum. 3.30—Singing Strings, from New York. 3.45—Organ Melodies, from New York. Prague, 3.0—Dance Music by Dvorsky and his Melody Boys. 3.50—Medical Talk.

Radio-Normandie, 3.30—Orchestral Music. Rome, 3.30—For Children. 3.55—News. Stockholm, 3.0—Orchestral Concert. Soloist: Nea Hedburg-Granat (Songs). March (Henneberg). Flickan kom ifran sin älsklings möte (Sibelius). Krolls Balklänge (Lumbye). Songs (Grieg): (a) Gamle Mor, (b) Stambogsrin, (c) Med en Vandilje. Selection from "Hansel and Gretel" (Humperdinck). Songs (Liljefors): (a) Jungfru Maria, (b) När det lider mot jul. Romance (Björkander). Eroticon No. 1 (Siögren). Tango from "Ball at the Savoy" (Abraham). Sottens, 3.0—The Radio Lausanne Orchestra. 3.45—Concert from Lugano. Strasbourg, 3.0—Talk: French Songs. Stuttgart, 3.0—See Langenberg. Trieste, 3.45—Balilla Programme. Vienna, 3.0—See 2.35. 3.25—Choral Programme. Warsaw, 3.0—Programme for Invalids relayed from Lwów. 3.40—French Lesson. 3.55—Soloist Concert. Mme. Trampczyńska (Contralto) and Ozimiński (Violin). Part I: Violin Solo, Gipsy Suite (Wormser), Part II: Contralto Songs (Brahms), relayed from Poznan. Part III: Violin Solos: (a) Prelude and Allegro (Pugnani-Kreisler), (b) Berceuse (Andrzejowski), (c) Ballad (Hubay), (d) Czardas (Hubay). Zagreb, 3.40—News.

4 p.m.

Berlin, 4.0—"Der olle Papa Wrangel"—Radio Sequence (Hans Schwarz van Berg and Lusa Schultze-Kunstmann). 4.30—Pianoforte Recital by Herbert Pollack. St. François d'Assise (Liszt), Nocturne No. 3 (Liszt). Three Pieces (Paganini-Liszt): (a) Etude in A Minor, (b) Etude in E flat, (c) Etude in G sharp minor. Beromünster, 4.0—See 3.45 p.m. Bordeaux-Lafayette, 4.0—See 3.0 p.m. Bratislava, 4.15—Marionette Play. Breslau, 4.0—See Leipzig 3.0 p.m. 4.30 p.m. See Leipzig. Brno, 4.15—Talk for Teachers. 4.30—Records. 4.50—Records. Brussels (No. 1), 4.45—Talk by the Belgian Delegate to the Disarmament Conference. Bucharest, 4.0—Relay of Music from the Bonbonniere Lafayette. Budapest, 4.0—Talk. 4.20—Records. Deutschlandsender, 4.0—Sports Review. 4.20—The Herbert Fröhlich Orchestra. Waltz from Der Rosenkavalier (R. Strauss). An den Frühling (Grieg). Praeludium (Jännefeld). Liebesträume (Liszt). Minuet (Bolzon). Schumann Potpourri (Schreiner). Serenata (Panizzi). Rustle of Spring (Sinding). Frankfurt, 4.0—See Langenberg. Hamburg, 4.0—See Deutschlandsender. Heilsberg, 4.0—See Deutschlandsender. Hilversum, 4.0—See 3.40 p.m. 4.10—For Children. Huizen, 4.10—For Children. 4.40—Records. 4.55—News in Esperanto. Kalundborg, 4.0—Reading. 4.30—Exchange. Langenberg, 4.0—See 3.45 p.m. 4.15—Dance Music on Records. Leipzig, 4.0—See 3.0 p.m. 4.30—Talk: The Religious Struggle. 4.50—Guitar and Pianoforte Recital by Walter Götz and Friedbert Sammler. Adagio and Allegretto from the Serenade, Op. 76 (Calli). Rondo Op. 68 (Diabelli). Moderato and Allegretto, Op. 21 (Carulli). Lyons (La Doua), 4.0—See 3.0 p.m. Moravská-Ostrava, 4.0—See Prague. 4.25—Reading. 4.35—See Prague. Moscow (Komintern), 4.0—See 3.30 p.m. 4.30—Red Army Programme. Munich, 4.0—See Leipzig. Oslo, 4.0—See 3.45 p.m. 4.45—For Children. Palermo, 4.30—Records. Paris (Eiffel Tower), 4.0—Tourist Talk and News. 4.15—Exchange. Pittsburgh, 4.0—Four Southern Singers, from New York. 4.15—KDKA Kiddies' Klub. 4.45—Spanish Idylls, from New York. Prague, 4.0—See 3.50 p.m. 4.15—Talk for Workers. 4.25—Records. 4.35—Czech Lesson for Germans. 4.50—Records. Reykjavik, 4.0—Weather. Rome, 4.10—Orchestral Concert. Foxtrot (d'Acciardi) Waltz, Quando sei vicino a me (Mancini). Slav Dance No. 7 (Dvořák). Foxtrot (Doelle). Santo poesia (Cortopassi). Foxtrot, Paradise (d'Anzi). Furlana (Culotta). Foxtrot (Siciliani). 4.55—Weather. Stockholm, 4.5 (from Göteborg)—For Young People. 4.35—Records. Strasbourg, 4.0—Records. Milongas (Williams). Romance (Rubinstein). Serenata (Strelezki). Etude de Concert (Touretzki). Prayer (Hasselmanns). Pastorale (Scarlati), L'Égyptienne (Rameau). Cadanza

SATURDAY
December 30

4 p.m. (contd.)

(Tartini). Melody (Weber). Simple Aveu (Thomé). Nocturne from "Cocorico" (Ganne). Asturias (Albeniz). Etude (Schubert). Moment musical (Scriabine). Military March (Schubert).
Stuttgart, 4.0—See 3 p.m. Langenberg. Toulouse, 4.15—News, Exchange. Vienna, 4.0—Talk: Geometry. 4.25—Records.
Warsaw, 4.50—Agricultural Report. Zagreb, 4.0—Trio Concert.

5 p.m.

Barcelona, 5.30—For Children. Berlin, 5.0—Review of the Year. Beromünster, 5.0—Records. 5.30—Political Talk. 5.50—Time, Weather, Announcements.
Bordeaux-Lafayette, 5.0—Pardeloup Symphony Concert relayed from Paris.
Bratislava, 5.0—See 4.15. 5.15—Hints for Housewives. 5.30—Records. 5.45—Topical Talk. 5.55—Hints for Housewives.
Breslau, 5.10—Chimes. 5.15—Programme to be announced. 5.50—Announcements.
Brno, 5.0—Literary Talk. 5.25—German Transmission: News and Viola d'amor and Pianoforte Recital. Concerto (Kontzwindt). Le Cygne (Saint-Saens). Autumn Night (Wafelghem). Gavotte (Kint).
Brussels (No. 1), 5.0—Dance Music relayed from the Plaza.
Brussels (No. 2), 5.0—Concert by the Symphony Orchestra conducted by Jean Kumps. Symphony, No. 2 (de Maleingrauf). Three Pieces for Clarinet (Stravinsky). Three Pieces for Orchestra (Soudant). Overture, "Don Giovanni" (Mozart).
Bucharest, 5.0—Radio Journal. 5.15—See 4.0 p.m.
Budapest, 5.0—Letter Box. 5.40—The Emil Ross Orchestra from the Café New York.
Deutschlandsender, 5.0—Poems. 5.5—Humorous Talk on New Year Resolutions. 5.20—Talk. 5.45—Weather; News.
Frankfurt, 5.0—Talk: Frontier Problems. 5.20—Week's Review. 5.35—A Flying Visit. 5.50—News.
Hamburg, 5.0—Review of Year-Books and Almanacs. 5.25—Military Programme. 5.40—Religious Address. 5.50—Weather.
Heilsberg, 5.0—Traffic Report. 5.5—Programme Announcements for the Coming Week. 5.15—Agricultural Prices. 5.25—East Prussian Press Review. 5.50—Weather.
Hilversum, 5.0—See 4.10 p.m. 5.10—Organ Recital. 5.40—Talk on Literature.
Huizen, 5.10—Orchestral Music. Kalundborg, 5.0—Time and Chimes. 5.2—Part-Relay of a Meeting from the Odd Fellows' Hall. 5.15—Talk. 5.45—Weather. 5.54—Announcements.
Langenberg, 5.0—See Frankfurt. 5.35—Fiddle Solos. 5.45—Announcements.
Leipzig, 5.0—See 4.50 p.m. 5.10—A Modern Dictionary. 5.25—Pianoforte Duet Recital of Johann Strauss Waltzes by Blumer and Müller. Waltz from "Die Fledermaus." The Blue Danube. Man lebt nur einmal. 5.45—Exchange, Weather and Time.
Ljubljana, 5.0—Records and Road Report. 5.30—Talk.
Lyons (La Doua), 5.0—Concert. After the Concert, Radio Journal.
Moravská-Ostrava, 5.5—Topical Talk. 5.25—Records.
Moscow (Komintern), 5.0—See 4.30. 5.30—For Collective Farmworkers. Munich, 5.0—See 4.50 p.m. Leipzig. 5.10—For Young People. 5.50—Wireless Notes.
Oslo, 5.15—Norwegian Music. 5.45—Talk on Economics.
Palermo, 5.0—For Children. Paris (Eiffel Tower), 5.45—Journal Parlé.
Pittsburgh, 5.0—Piano Classique. 5.15—Four Aces. 5.30—News. 5.35—Farm and Home Hour, from New York.
Prague, 5.5—Agricultural Talk. 5.15—Talk for Workers. 5.25—News in German. 5.30—German Transmission: For Young People.
Rome, 5.0—Wheat Markets. 5.10—News. 5.45—Shipping and Sports Notes. 5.50—Morse Lesson.
Sottens, 5.0—For Children. 5.40—Talk on Films.
Stockholm, 5.0—See 4.35 p.m. 5.25—Quartet Concert.
Strasbourg, 5.0—Symphony Concert by the Pardeloup Concert Society relayed from the Théâtre des Champs Elysées, Paris.
Stuttgart, 5.0—See Frankfurt. 5.20—See Frankfurt. 5.35—Talk: The Origin of German Caves. 5.50—Time; Weather.
Vienna, 5.0—See 4.25 p.m. 5.30—Topical Talk.

Warsaw, 5.0—Talk from Cracow. 5.20—Choral Concert. Zagreb, 5.0—See 4.0 p.m.

6 p.m.

Athlone, 6.0—Gramophone Records. 6.45—News.
Berlin, 6.0—See Deutschlandsender.
Beromünster, 6.0—Chimes from the Zürich Churches. 6.15—Records. 6.20—Talk: Women's Head-dress in Old Switzerland. 6.50—"Der unsterbliche Lump"—Operetta in Three Acts (Eysler). In the interval, Weather and News.
Bordeaux-Lafayette, 6.0—See 5.0 p.m. Breslau, 6.0—See Deutschlandsender. Brno, 6.25—Brass Band Concert.
Brussels No. 1, 6.0—Talk on Liège. 6.15—The Aldershot Searchlight Tattoo (on Records). 6.30—Harpichord Recital by Rachel Thuauve. Toccata in G (Scarlatti). La Poulx (Rameau). Le coucou (Daquin). Twelve Pieces (Couperin). Fugue in A minor (Bach).
Brussels No. 2, 6.0—Andante and Finale from Trio No. 2 (Mendelssohn), on Records. 6.15—Reading. 6.30—Records. Overture, "Czar and Carpenter" (Lortzing). The Volga Boatmen (arr. Chaliapin). Selection from "Hans the Flute Player" (Ganne). Room for the Factotum, from "The Barber of Seville" (Rossini). Der Anamitische Zauberer (Siede). Piece (Geisser). C'est l'amour, from "Les Saltimbanques" (Ganne). Les deux virtuoses (de Nattes). To-day I Feel so Happy, from "Sunshine Susie" (Abraham). Intermezzo, The Acrobat (Dobrevich). Sketch. Dance of the Reriches (Bendix). Piece (Wolf). Rêve de la bergère (Labitzky). Die Spinnerin (Mendelssohn). Overture, "Le Caïd" (Thomas).
Bucharest, 6.0—Educational Talk. 6.20—Records. 6.45—Talk.
Budapest, 6.0—See 5.40. 6.30—Reading.
Deutschlandsender, 6.0—Transmission for all German Stations. Pianoforte Recital by Frederic Lamond and Walter Gieseking. Lamond: Grand Fantasia in C (Schumann). Gieseking: Sonata, Op. 101 (Beethoven). Intermezzo in A, Op. 118, No. 2 (Brahms). Romance in F, Op. 118, No. 5 (Brahms). Gieseking: Intermezzo in C, Op. 119, No. 3 (Brahms).
Frankfurt, 6.0—See Deutschlandsender.
Hamburg, 6.0—See Deutschlandsender. Heilsberg, 6.0—See Deutschlandsender.
Hilversum, 6.0—Records. 6.25—Talk. 6.40—Records. 6.55—Frisian Dramatic Programme.
Huizen, 6.0—Press Review. 6.25—Music. 6.40—Police Notes. 6.55—Talk.
Kalundborg, 6.0—News. 6.15—Time. 6.30—Talk.
Langenberg, 6.0—See Deutschlandsender.
Leipzig, 6.0—See Deutschlandsender. Ljubljana, 6.0—Talk on Philosophy. 6.30—Foreign Affairs.
Madrid (EAQ), 6.0—Programme for Listeners in the Canary Islands, Guinea, and Europe. 6.0—Popular Music.
Moscow (Komintern), 6.0—See 5.30 p.m. 6.30—Technical Talk and Announcements.
Munich, 6.0—See Deutschlandsender. Oslo, 6.0—Announcements. 6.30—Quartet in F, Op. 41 (Schumann), relayed from Trondheim.
Paris (Eiffel Tower), 6.0—See 5.45 p.m. Paris (Poste Parisien), 6.45—Exchange. 6.52—Theatre Review.
Paris (Radio-Paris), 6.20—Weather, Agricultural Talk, Market Prices. 6.45—Records. Le rêve passe (Helmer-Krier). Stephanie Gavotte (Czibulka). Glow Worm Idyll (Lincke). Scherzo-Waltz (Chabrier). Asiatic Rose (Paddy).
Pittsburgh, 6.30—Ernie Holst's Orchestra.
Prague, 6.0—Time, News, and Weather. 6.10—Talk on the Czech Language. 6.25—See Brno.
Radio Normandie, 6.0—Variety Music. Rome, 6.0—News in Foreign Languages. 6.30—Soprano Song Recital. O notte scura (Laudisa). Aria, from "Linda di Chamounix" (Donizetti). Shadow Dance Song from "Dinorah" (Meyerbeer). 6.50—News.
Sottens, 6.5—Talk. 6.30—Wireless Notes. 6.59—Weather.
Stockholm, 6.0—See 5.25 p.m. 6.15—News. 6.30—Talk.
Stuttgart, 6.0—See (Deutschlandsender).
Toulouse, 6.0—News. 6.15—Military Music. 6.30—Chansonnettes. 6.45—Mazepa, Symphonic Poem (Liszt).
Vienna, 6.0—Concert by the "Wiener Symphoniker," conducted by Josef Holzer. Overture, "Cagliostro in

Wien" (Joh. Strauss). Scenes from "Die Puffenfee" (Bayer). Träumerei (Schumann). Waltz, Traum der Liebe (Fahrbach). Cavatina for Violin and Harp (Mostler). Characteristic March Intermezzo (Schiefer). Selection from "The Gipsy Princess" (Kálmán). 6.50—Time, Weather.

Warsaw, 6.0—Announcements. 6.5—Miscellaneous Items. 6.25—Christmas Poetry. 6.40—Sports Notes. 6.47—Radio Journal.
Zagreb, 6.10—Talk. 6.25—Sports Talk. 6.45—Announcements.

7 p.m.

Algiers, 7.0—Dance Music. 7.10—Shipping Notes. 7.15—Weather. 7.20—Songs from Operettas. Les dragons de Villars (Maillart). Les saltimbanques (Ganne). Véronique (Messager). Les cent vierges (Lecocq). Le jour et la nuit (Lecocq). 7.40—Sports Notes. 7.55—News.
Athlone, 7.0—Poetry Recital by Lyle Donaghy. 7.15—Gaelic Talk. 7.30—Time. 7.31—The Kilmore Choir.
Barcelona, 7.0—Request Records. 7.30—Exchange and Records (contd.). Bari, 7.0—News in Albanian.
Berlin, 7.5—See Hamburg.
Beromünster, 7.0—See 6.50 p.m.
Bordeaux-Lafayette, 7.0—Radio Journal. 7.55—Sports Talk.
Breslau, 7.0—See Leipzig. 7.10—See Stuttgart.
Brno, 7.10—Schubert Violin Recital by Josef Peska. Duet for Violin and Pianoforte, Op. 162. Rondo brillant, Op. 70.
Brussels No. 1, 7.0—Gramophone Music. Kitten on the Keys (Confrey). Little Teddy Bear (Bratton). Waltz, L'espace (Waldteufel). Da ich ein Kind war (Gretschler). Musical Saw Solo: You are my Heart's Delight (Lehár). Selection from "Perlemutter" (O. Straus). Was war' mein Lied (Goetze). Waltz, A toi (Waldteufel). 7.30—Science Talk.
Brussels No. 2, 7.0—See 6.30 p.m. 7.30—Agricultural Talk.
Bucharest, 7.0—Song Recital. 7.20—The Station Orchestra.
Budapest, 7.0—"Haydn"—Radio Play (Bares).
Deutschlandsender, 7.0—To-day's Motto. 7.2 (approx.). "Der Schlagbaum" (The Barrier)—Radio Play (Bruno Wellenkamp), with Incidental Music by Victor Corzilius.
Frankfurt, 7.0—Topical Talk. 7.10—See Stuttgart.
Hamburg, 7.5—"Carl Hagenbeck"—Radio Picture from Historical Documents (arr. Ludwig Zukowsky), with Music by the Orchestra.
Heilsberg, 7.0—News. 7.10—Programme for Soldiers.
Hilversum, 7.0—See 6.55 p.m. 7.25—Records. 7.40—SOS Messages and News. 7.55—"The Year 1815"—Programme by the Station Orchestra and Soloists.
Huizen, 7.0—See 6.55 p.m. 7.15—Records.
Kalundborg, 7.0—Time. 7.1—Operetta Music by the Radio Orchestra, conducted by Grøndahl. Overture, "La mascotte" (Audran). Selection, "Les brigands" (Offenbach). Couplet and Waltz, from "La belle Hélène" (Offenbach). Overture, "Les cloches de Corneville" (Planquette). Selection from "La fille de Madame Angot" (Lecocq). March, "Der arme Jonathan" (Millocker). 7.50—Songs and Recitations.
Langenberg, 7.0—See Frankfurt. 7.10—See Stuttgart.
Leipzig, 7.0—News. 7.10—See Stuttgart.
Lyons (La Doua), 7.30—Radio Gazette. 7.50—Reviews.
Madrid (EAQ), 7.15—Talk. 7.30—Light Music.
Madrid (EAJ7), 7.0—Chimes, Exchange, Topical Talk, Talk and Dance Music.
Moscow (Komintern), 7.0—Concert. Munich, 7.0—See Leipzig. 7.10—See Stuttgart.
Oslo, 7.0—Time. 7.1—Talk. 7.30—"A Christmas Ball."
Paris (Eiffel Tower)—7.0—See 5.45 p.m. 7.25—News. 7.30—Round the Ether in Eighty Minutes.
Paris (Poste Parisien), 7.0—Records. 7.5—Talk: The Event of the Week. 7.15—Le Journal Parlé. 7.30—Variety.
Paris (Radio-Paris), 7.0—Dialogue. 7.20—Records. 7.45—News.
Prague, 7.0—A Review of the old Year. 7.10—Jiri Voldan Programme. 7.30—"Mr. Pickwick"—a Play in Three Acts (Frantisek Langer). Radio Normandie, 7.0—See 6.0 p.m. 7.15—News. 7.30—Request Programme and News.
Rome, 7.0—Announcements. Records. Sottens, 7.0—Talk: Kirghizia. 7.20—

Pianoforte Recital by Sorel Nitzberg. 7.40—Interlude by George Verdene. 7.55—Variety Programme.
Stockholm, 7.0—Old Dance Music, and Folk Songs.
Strasbourg, 7.0—French Lesson. 7.15—Agricultural Talk. 7.30—Time and News. 7.45—Records.
Stuttgart, 7.0—See Frankfurt. 7.10—The Wicked Spirit, Lumpazi Vagabundus—Radio Pictures with Music, after Johann Nestroy, arranged for Radio by Fritz Ganss.
Toulouse, 7.0—Operetta Music. 7.15—News, Exchange. 7.30—Bal Musette.
Vatican City, 7.0—Religious Information in Italian.
Vienna, 7.0—The Watchword. 7.5—Verdi Concert by the "Wiener Symphoniker," conducted by Kabasta. Soloists: Rose Merker (Soprano) and Koloman v. Pataky (Tenor).
Warsaw, 7.0—Concert by the Station Orchestra, conducted by Nawrot. Soloist: Jeanne Brochwicz (Songs).

8 p.m.

Algiers, 8.0—Time and Lottery Results. 8.10—Station Orchestra. 8.35—News and Records. 8.50—Concert (contd.).
Athlone, 8.0—Station Orchestra. 8.20—Pantomime presented by John MacDonagh.
Berlin, 8.0—See Hamburg.
Beromünster, 8.0—See 6.50.
Bordeaux-Lafayette, 8.0—News. 8.5—English. 8.20—News. 8.30—Records.
Breslau, 8.0—See 7.10 p.m. Stuttgart.
Brussels, No. 1, 8.0—"The Land of Smiles"—Operetta (Lehár), relayed from Liège.
Brussels, No. 2, 8.0—Concert by the Symphony Orchestra, conducted by Jean Kumps.
Bucharest, 8.0—Answers to Correspondents. 8.15—Concert. 8.45—Radio Journal.
Budapest, 8.0—See 7.0 p.m. 8.30—News. 8.50—The Bela Rucz Cigany Band from the Café Baross.
Deutschlandsender, 8.0—See 7.10 p.m. Stuttgart.
Frankfurt, 8.0—See 7.10 p.m. Stuttgart.
Hamburg, 8.0—Musical Curiosities. The Station Choir and String Quartet. Songs.
Heilsberg, 8.10—See Hamburg.
Hilversum, 8.0—See 7.55 p.m.
Huizen, 8.0—See 7.15 p.m. 8.5—News. 8.10—Records. 8.15—Part Relay of a Revue from the Grand Theatre, Amsterdam.
Juan-les-Pins (Nice) 8.0—News. 8.15—Film Review. 8.30—Concert.
Kalundborg, 8.0—See 7.50 p.m. 8.40—Violin Solos by Christiansen.
Langenberg, 8.0—See 7.10 p.m. Stuttgart.
Lyons (La Doua), 8.0—See 7.50. 8.30—Operetta Programme from Paris (Ecole Supérieure). News.
Madrid (EAJ7), 8.0—See 7.0. 8.15—Radio Journal.
Moscow (Komintern), 8.0—Talk in German: 8.55—Chimes.
Munich, 8.0—See 7.10 p.m. Stuttgart.
Oslo, 8.0—See 7.30 p.m.
Paris (Eiffel Tower), 8.0—See 7.30. Paris (Poste Parisien), 8.10—Musical Programme. 8.20—News. 8.55—Dance Music.
Paris (Radio-Paris), 8.0—Soirée de Chansonniers. Mlle. Denise Cam, Paul Weil, Géo Gharley and Raymond Souplexin. News and Weather in the Interval.
Prague, 8.0—See 7.30 p.m.
Radio-Normandie, 8.0—See 7.30 p.m. 8.45—Concert.
Rome, 8.0—André Chénier—Opera (Giordano).
Sottens, 8.0—See 7.55 p.m.
Stockholm, 8.0—See 7.0 p.m. 8.45—Weather and News.
Strasbourg, 8.0—Press Review in German. 8.30—"Faust" (Gounod)—Records.
Stuttgart, 8.0—See 7.10 p.m.
Vienna, 8.0—See 7.5 p.m. 8.45—News.
Warsaw, 8.0—Answers to Technical Correspondence. 8.20—Zaremsky Programme by Turczyński. Polish Suite, Op. 16. Four Etudes: (a) in G, Op. 3, (b) in F Minor, Op. 7, (c) in G Minor, Op. 7, (d) in G, Op. 7.

9 p.m.

Algiers, 9.0—See 8.50 p.m. 9.25—News. 9.30—Accordion Music. 9.55—News.
Athlone, 9.0—See 8.20. 9.20—Violin Solos. 9.30—Music.
Berlin, 9.0—News. 9.30—See Hamburg.
Beromünster, 9.0—See 6.50. 9.10—Dance Music.
Bordeaux-Lafayette, 9.0—A Comedy. Breslau, 9.0—See Leipzig. 9.20—Time; News. 9.35—See Munich.
Bucharest, 9.0—Romanian Music.
Budapest, 9.0—See 8.50 p.m. 9.45—Orchestra.

Deutschlandsender 9.0—News. 9.30—Talk. 9.45—Weather. 9.20—See Frankfurt. 9.30—News. 9.45—Concert from Freiburg.
Hamburg, 9.0—Time and News. 9.30—Dance Music.
Heilsberg, 9.0—News. 9.30—See Hamburg.
Hilversum, 9.0—See 7.55 p.m. 9.10—Talk. 9.25—See 7.55 p.m.
Huizen, 9.0—See 8.5 p.m. 9.5—Records. 9.40—Sketch.
Juan-les-Pins (Nice), 9.0—News. 9.15—Concert.
Kalundborg, 9.0—News. 9.15—The Radio Orchestra.
Langenberg, 9.0—See Frankfurt. 9.20—See Stuttgart. 9.30—News. 9.45—See Stuttgart.
Leipzig, 9.0—News. 9.20—Weather. 9.35—See Munich.
Lyons (La Doua), 9.0—See 8.30.
Madrid (EAJ7), 9.15—English Lesson. 9.30—RadioJournal. 9.45—An Opera.
Moravská-Ostrava, 9.0—See Prague. 9.15—Variety Programme.
Munich, 9.0—See Leipzig. 9.20—Announcements. 9.35—Serenade.
Oslo, 9.0—See 7.30 p.m.
Paris (Poste Parisien), 9.0—See 8.55. 9.45—Dance Music.
Paris (Radio Paris), 9.0—See 8.0.
Prague, 9.0—Time, News and Sports Notes. 9.15—See Moravská-Ostrava.
Rome, 9.5—See 8.0 p.m.
Sottens, 9.0—News. 9.10—Dances.
Stockholm, 9.0—Dances.
Strasbourg, 9.0—See 8.30.
Stuttgart, 9.0—See Frankfurt. 9.20—Talk. 9.30—News. 9.45—Records.
Toulouse, 9.0—Concert Version of "The Dubarry" (Millocker).
Vienna, 9.0—To be announced.
Warsaw, 9.0—Dance Music.

10 p.m.

Athlone, 10.30—News. 10.40—Baritone Solos. 10.50—Traditional Music.
Berlin, 10.0—See 9.30 p.m. Hamburg.
Bordeaux-Lafayette, 10.0—See 9.0.
Breslau, 10.0—See 9.35 p.m. Munich.
Budapest, 10.0—See 9.45 p.m. Deutschlandsender, See 9.35 p.m. Munich.
Frankfurt, 10.0—See 9.45 p.m.
Hamburg, 10.0—See 9.30 p.m.
Heilsberg, 10.0—See 9.30 p.m. Hamburg.
Hilversum, 10.0—See 7.55 p.m. 10.40—Records.
Huizen, 10.0—See 9.40 p.m. 10.25—News. 10.30—Light Music.
Juan-les-Pins (Nice), 10.0—See 9.15 p.m.
Kalundborg, 10.0—Dance Music.
Langenberg, 10.0—See Stuttgart.
Leipzig, 10.0—See 9.35 p.m.
Moravská-Ostrava, 10.0—See 9.15 p.m. Munich. 10.0—See 9.35 p.m.
Oslo, 10.0—See 7.30 p.m.
Prague, 10.0—See 9.15 p.m. Moravská-Ostrava.
Radio-Normandie, 10.0—Concert. Reykjavik, 10.0—Trio; Records.
Rome, 10.0—See 8.0 p.m.
Sottens, 10.0—See 9.10 p.m.
Strasbourg, 10.0—See 8.30 p.m. 10.30—Dance Music from the Savoy.
Stuttgart, 10.0—Concert.
Toulouse, 10.0—Light Music. 10.15—News. 10.30—Argentine Orchestra. 10.45—Operetta Music.
Warsaw, 10.0—Weather. 10.5—Programme from Wilno.

11 p.m.

Berlin, 11.0—See 9.30 p.m. Hamburg.
Breslau, 11.0—See 9.35 p.m. Munich.
Deutschlandsender, 11.0—See 9.35 p.m. Munich.
Frankfurt, 11.0—See 9.45 p.m.
Hamburg, 11.0—See 9.30 p.m.
Hilversum, 11.0—Records.
Huizen, 11.0—See 10.30 p.m.
Kalundborg, 11.0—Time and Chimes. 11.2—Dance Music. See Stuttgart.
Leipzig, 11.0—See 9.35 p.m. Munich.
Madrid (EAQ), 11.0—Musical Comedy. 11.45—Light Music.
Madrid (EAJ7), 11.0—See 9.45. 11.45—Radio Journal.
Munich, 11.0—See 9.35 p.m.
Oslo, 11.0—See 7.30 p.m.
Paris (Poste Parisien), 11.0—News.
Radio-Normandie, 11.0—Variety.
Strasbourg, 11.0—See 10.30 p.m.
Stuttgart, 11.0—Serenade.

12 midnight

Langenberg, 12.0—See 11 p.m. Stuttgart.
Leipzig, 12.0—See 9.35 p.m. Munich. 12.35—Overtures. 1.0 a.m. (Sun.)—See 12.35 a.m.
Madrid (EAQ), 12.0—Popular.
Madrid (EAJ7), 12.0—Chimes.
Radio-Normandie, 12.0—News in English. 12.15—Orchestra. 1.0 a.m. (Sun.)—News. 1.15—Dance Music.
Stuttgart, 12 midnight. See 11 p.m.
Toulouse, 12.0—News. 12.15—Dance Music.

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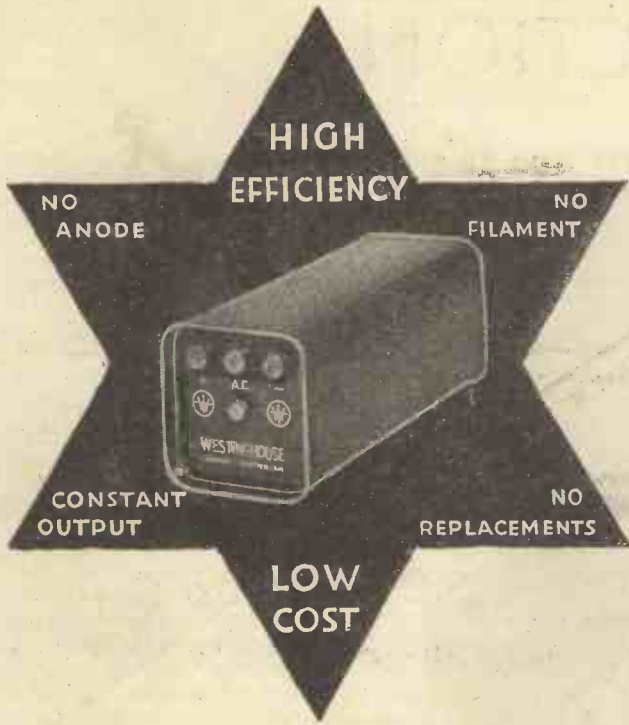
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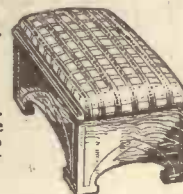


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TECHNICAL SECTION

Christmas Radio Recollections

By Capt. H. J. ROUND

DECEMBER brings back to me, very strongly, memories of some of my early radio experiences in America. My first winter—in 1901 or 1902, I am not quite sure of the year—I spent on Long Island at Babylon, which was one of the first radio shore stations built on the American coast to work with the ships coming into New York. I landed there in summer time and the American winter came as a shock to me, just as it must have done to the Pilgrim Fathers who landed on Cape Cod a little earlier.

We lived in a bungalow built of wood, all houses at that time being wooden, with only stoves to heat them (when you got tired of the scenery you shifted your house bodily to another site), and we more or less "did" for ourselves, with the help of occasional daily labour. Near the bungalow was the hut where we kept the spark coils and coherers and, towering over everything, was the 250 ft. mast used to hold up our aerial. I clearly remember the difficulties of keeping warm, especially at night; the difficulties of keeping anthracite stoves alight, and particularly the difficulties of relighting them if one did let them go out! I also remember the electric foot-warmers we extemporised to keep our feet warm in bed, the frozen bottles of beer in the cupboard one morning after a particularly cold night, and that terrible early morning walk to the post office, about a mile away, to get the mail, with the temperature twenty below zero! Our young English blood stood us in very good stead in those days, the natives seemed to suffer more than we did, but it was certainly bad enough for us.

An all-night watch in the wireless cabin for the ships which came so seldom, relieved only by chats over the telegraph lines to New York or another coast radio station with sometimes a telegraphic game of chess, was no pleasant job.

And then came the terror of the silver thaws. These silver thaws seldom come to England. In a dust-free atmosphere rain can lose its latent heat without solidifying, but contact with anything instantly starts crystallisation. One could

that winter with an aerial only half the height of that with which we started.

After the first mast smash, notwithstanding the cold, we succeeded in erecting the structure again. I spent several days aloft, two hundred feet above the ground, swinging about in the icy wind in a bosun's chair guiding mast caps into position and driving in the fixing pins, and at every spare moment looking down at the thin halyard (it looked like a piece of cotton from aloft), wondering when and where it would break. When the job was done, a definitely nervous state reigned in our little hut during silver thaws. We all knew that the mast would probably fall on us at any moment. In fact, it did, but fortunately nothing hit anybody and we gave the problem up for that winter!

After this experience of U.S. winter, I was transplanted, the next year, to Canada where, after a delightful summer in the Gulf of St. Lawrence on a small steamer placed at our disposal for tests by the Canadian Government, I was unceremoniously put ashore at Cape Race, where the constructional men had just put up the first station, and I was left almost alone to test and get the station working.

And then came the winter with snow in true blizzard form. I got away before the worst of it, trudging on foot through feet of snow for twenty miles, my luggage on a sledge drawn by horses.

On my way back to New York, I visited for the first time Glace Bay, the great trans-Atlantic

remembers his endless tramps round and round our vast estate from bungalow to transmitter, then to machine room and workshops, and finally over to our receiving hut situated in "no man's land," well away from civilisation.

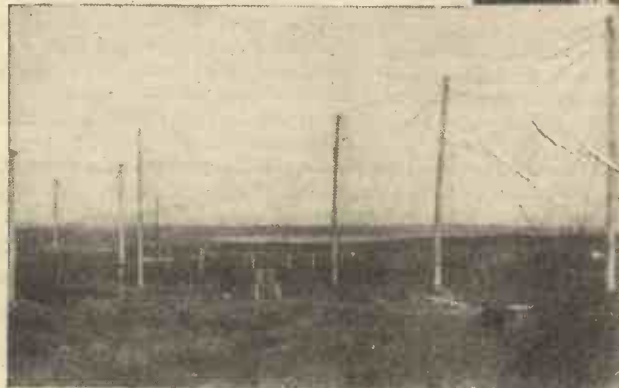
One way in which Marconi used to measure our experimental labours was by careful observation of the change in things since he last visited us, perhaps two hours before. He hated sameness, and I can tell you he hated things boxed up. In more recent years I have seen him turn pale before a simple three-valve set in a cabinet; and with regard to those receiving sets which bear his name, I am doubtful whether he approves of the cabinets, however artistic they are.

Those winters were the same old tale of snow and ice and silver thaw, but much more so. Instead of a little hut and one mast as at Babylon, we had umpteen masts, simply dozens of buildings, and an aerial vaster than anything necessary now (except at Rugby). But we had methods of dealing with winter which were unknown in the Long Island days. Our great aerial was split up into a number of sections and at a moment's notice the sections could be isolated and all the power of the station (400 kilowatts) turned on to one section at a time. If this was done quickly enough, the ice fell off the wire, but one had to be very quick to switch over in time. A pilot loop ran up to the top of a nearby mast and a man was continuously engaged during



Something Like Winter!

(Centre) Ice on engine house at Glace Bay station, owing to steam condensation. (Left and Right) Glace Bay aeriels, before and after a silver thaw



actually see this process taking place when drops of the chilled rain fell on one's glove, the crystals growing in the drop until the whole was solid.

We English engineers had built our masts according to the English formula, without any regard to extra weight added by this silver thaw, which formed on masts, stays, and aeriels to a great thickness, and the result was catastrophic. Twice our mast system collapsed, and we ended

mystery station where my friend Mr. R. N. Vyvyan, who did not know me then, received me and looked after me well—but showed me only the aerial, and that at a great distance. Glace Bay (on another and larger site), was to become very familiar to me later—in the years from 1910 to 1913. Two winters I spent there, and all memories of Long Island hardships vanished by the side of these. Perhaps I exaggerate when I call them hardships—one was young and it was all in the day's work.

Marconi was usually there with us, keeping everybody up to scratch. I wonder if he still

a silver thaw period, hauling this round and round, thereby keeping a careful watch on the ice formation up aloft.

Notwithstanding all these precautions, the aerial came down several times with consequent interruption, for many days, of our trans-Atlantic service. Some photographs of these grand smashes are published here for the first time.

The country round Glace Bay is very wild, rather like a British moorland, and in winter, with snow two feet deep, the only method of getting around was with snow shoes. (We never tried skis.) There were forests, some still growing, but most of them were burnt, leaving only stumps of trees of weird shapes on every side. Each night, after dinner, I would have to go out to our receiving house, about a mile from the bungalow, through one of these burnt forests, on a none-too-well defined path. On a dark night, this double trip through that mass of distorted shapes, just dimly visible in the starlight, made me speed up my footsteps to a pace which no umpire would have allowed as being fair "heel and toe."

Of course, everybody knows now how to do it much better than we did then. One can "work" across the Atlantic from one's own bedroom with an indoor aerial. Life is getting altogether too easy!



TRACING FAULTS

IN WIRELESS RECEIVERS

Part I: The Method of Approach

By J. H. A. WHITEHOUSE

ONE might almost say that there is a sporting element in the detection of defects which develop in wireless receivers; careful stalking and the systematic working out of a plan of campaign are essential if success is to be achieved. The fascination of the sport is enhanced by the fact that at least eight out of every ten faults which develop in radio receivers are not faults which require a highly academic training for their detection.

Importance of Systematic Working

It is impossible to over-stress the importance of systematic work in tracing faults whether the point of view is that of the private user or the professional service engineer: haphazard methods are an appalling waste of time. A systematic method, too, has the additional advantage that it avoids damage which may otherwise be done in attempting the cure, and ensures that if anything has been altered in the process of diagnosis it will be carefully restored to its original condition before the examination is carried a step farther. Nothing is more painful than to see the inexperienced person looking vainly for a defect which he has himself created in his first rather hazy endeavours to find the original fault. This sort of thing can multiply, and usually ends in the exasperated operator tearing out handfuls of wire and wondering where to look next. The whole point of the systematic method is that one does know where to look next.

One further point about the importance of system in working on defective receivers—it is the only sure way of gaining accurate and sound experience. The experienced service engineer may to the outsider appear to have a perfectly uncanny knack of dropping on to a source of trouble; actually his mind has been working more rapidly than that of the inexperienced person, but he has probably carried out exactly the same train of thought as that of the less experienced operator. There is no royal road to servicing any more than there is to any other commonsense, careful, and skilled proposition.

Expensive Apparatus Not Necessary

It is fortunate, as we said above, that practically all the common defects in radio receivers are of an elementary nature, and they do not require expensive laboratory apparatus to detect them. At least half of them can be detected by a battery and a pair of headphones, and a very large proportion of the other half can be traced with any reliable electrical meter which is capable of giving reasonably accurate resistance measurements.

One of the things that must be realised in the tracing of faults in practice is that the point of view required is not quite the same as that of the theoretical student, but it is not antagonistic. Problems are dealt with in the same way but from another angle, and perhaps there is no better example of this than Ohm's Law which

is the end-all and be-all of radio fault-finding as of other branches of electrical engineering. Knowing how a thing works isn't necessarily knowing why it doesn't work, and a dead radio set doesn't tell you as much as a sick dog.

To return to Ohm's Law. This is almost invariably stressed in theoretical text books as $I = \frac{E}{R}$ —or current is the voltage of the circuit

divided by the resistance—with reference to the fact that the expression can be inverted; but it is the inverted form of Ohm's Law which is more important to the tracer of faults. The student tends to think of Ohm's Law as an expression with regard to the control of currents; the experienced service engineer thinks of it in almost every case as a control of voltage. In fault tracing it will be found that for every time you want to think of the expression "current is voltage divided by resistance" you should be thinking that "voltage drop is current multiplied by resistance"—a difference in point of view. The service engineer knows that any component

instructor, assumes an efficient aerial and earth, which is the last thing that should be assumed when looking for faults. The designer and instructor assume components which are in working condition, wiring which is sound, and insulation which is all that it should be. Every one of these things is "suspect" by the experienced fault finder.

Again, in the consideration of the theory of radio receivers, such things as the emission of valves, high-tension and low-tension circuits, are all taken for granted, but to the service engineer they are quite as important as any other part of a circuit, and, indeed, he is very much more concerned with them and their peculiarities as commodities than exactly why they work.

Division of Circuits

Every instrument, no matter what it is, is sharply divided into certain sections, which can either be dealt with by specific methods of testing or by a direct and logical sequence of tracing from one end of the set to the other.

A valve set is, for instance, divided into at least two sections—the section which supplies the necessary forces for the instrument to work, and the section which deals with the signal; and the service engineer thinks not so much of H.F. or L.F. quantities as a definitely detectable commodity (the signal) which can be traced from point to point. If it does not arrive at a given point, then he knows that he must go back from that point to the point where he last heard it, and investigate there.

We shall be dealing with the many methods of detecting certain conditions without apparatus which theoretically should be employed; for instance, the measurement of high-frequency current involves apparatus which the ordinary owner of a receiver does not possess; yet the correctness of the circuit involving those quantities can be as carefully and accurately checked, from a practical fault-tracing angle, as if he had a laboratory full of apparatus.

Perhaps if one takes a general rule one might say that the motto of the would-be fault finder should be the motto of the traveller who crosses a railway line—"Stop," "Look," "Listen"—and, in addition, should include a sort of French justice, which suspects everything from the farthest insulator on the aerial to the most respectable looking earth contact on the most adequate scullery tap—until it is proved O.K.

We must take nothing for granted—not even the commonsense of the owner. Only the other day a service engineer was sent for by the owner of an instrument, the instruction book of which said that at least two good-quality insulators should be used at each end of the aerial; they were used, but the aerial wire was fixed from one gutter to another with the insulators hanging like a couple of coconuts at each end!

(To be continued)



Maintenance work on one of the dramatic control panels at Broadcasting House. Systematic working is essential for tracing faults in apparatus of this nature

in any wireless set may have resistance. In fact, the would-be finder of faults, and, indeed, many students of theory, would do well if they would consider a valve as nothing more or less than a variable resistance having rather peculiar features—features which appear indeed to flout Ohm's Law.

It is not intended, however, to go into radio theory very much in these articles, because apart from anything else, the theory of radio has been and is being dealt with in other articles in this journal. It is well, however, to point out that the point of view required for tracing faults is sometimes far different from that of the purely theoretical operator.

Suspect Everything

Just one more example of this. In the theoretical consideration of radio instruments—anyhow as far as domestic radio instruments are concerned—the designer, or the theoretical

Dust-Core Tuning Coils

By N. W. McLACHLAN, D.Sc., M.I.E.E.

THE use of iron for increasing the inductance of a coil of wire dates back many years. The inductance is defined to be the total number of line-turns, or the flux interlinkage when unit current flows in the coil. The influence of the iron is to increase the magnetic flux associated with the coil many times. When the current alternates, the behaviour of the iron is more complicated than that with a steady direct current. Fig. 1 (a) represents a circular iron rod 2 cm. in diameter situated axially within a solenoidal coil. If an alternating current of 50 c/s passes through the coil, the magnetic field within it varies cyclically. The varying field induces currents in the iron rod, which acts like the secondary winding of a transformer. These currents create their own magnetic fields which tend to neutralise that due to the current in the coil, thereby lowering the inductance. Such currents follow circular paths in the iron core as shown in Fig. 1 (b).

Losses in Iron Cores

When a current of root-mean-square value I flows in a closed circuit of resistance R , the power dissipated as heat is I^2R . Thus, in our particular case there is a definite power loss due to the eddy currents in the core material, which is known as eddy-current loss. There is another loss due to the inability of the iron to follow or keep in step with the magnetic changes caused by the alternating current. This disability of the iron is known as hysteresis (from the Greek "to lag behind"), and the loss due to hysteresis is associated with this term.

The power associated with hysteresis and eddy currents is absorbed from the main supply circuit, and represents a definite loss. It is equivalent to an increase in the effective resistance of the coil. With a core of large diameter, the resistance of the coil due to eddy currents is large. As the core diameter is decreased the eddy-current loss becomes smaller, as also does the effective resistance and the inductance. To maintain the latter it is necessary to have a large number of core wires of small diameter, say, 0.5 mm. Under this condition the iron loss at 50 c/s is mainly due to hysteresis, since the eddy currents are so small. If the frequency were raised to 1,000 c/s, the loss would be largely due to eddy currents. It would be many times that at 50 c/s. Also due to the screening effect of these currents the centre of the core wires would not be fully magnetised. Thus the effective area of the wires is reduced, which entails a fall in inductance.

On the whole, therefore, the result of raising the frequency from 50 to 1,000 c/s is to reduce the inductance and to increase the resistance. To restore these quantities to values comparable with those at 50 c/s it is necessary to use core wires of smaller diameter. As the frequency

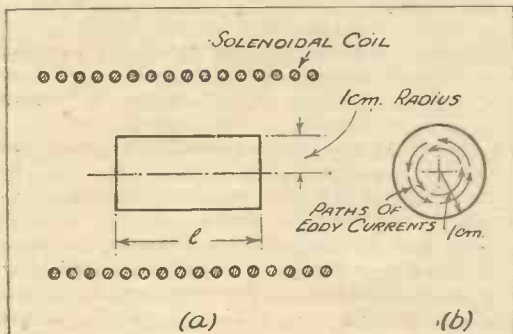


Fig. 1—Illustrating the eddy currents produced in an iron rod placed inside a solenoid

is increased the wire diameter must be decreased to preserve a satisfactory ratio of inductance to resistance. A point is reached, however, beyond which it is not possible to produce wire of a sufficiently small diameter commercially. Consequently for radio frequencies, of the order of a million cycles per second, other means must be adopted to obtain a ferromagnetic core of suitable construction.

Before passing on to discuss the special cores used in broadcasting circuits, it is of interest to mention the use of thin iron strip for constructing high-frequency alternators. In 1914, prior to the introduction of the thermionic valve, long distance (trans-oceanic) radio telegraphy and radio telephony were conducted on very long waves varying from 15,000 to 10,000 metres—i.e., 20,000 to 30,000 c/s; the necessary power, up to 150 kilowatts, was generated by high-frequency alternators. Alternators were built of ferromagnetic material, the eddy current losses therein being unduly large and causing excessive heating and wastage unless the material was sufficiently thin. To construct these alternators it was necessary to use iron strip 0.0015 inch (0.038 mm.) thick insulated on each side with black enamel giving an overall thickness of 0.002 inch. This material was wound on a hollow circular metal core to form a large laminated ring. The ring was slotted radially

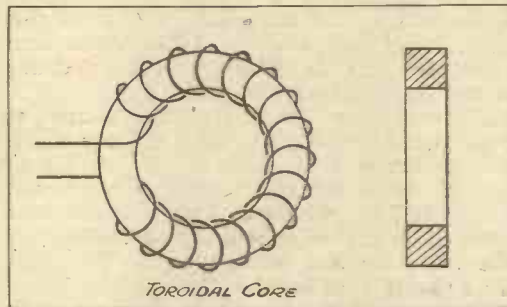


Fig. 2—A toroidal core of square cross-section?

to take the wires of the armature coils. Material of this nature is satisfactory for constructing intermediate-frequency superheterodyne transformers. An effective permeability μ_e of 250 can be obtained at 40,000 c/s. At 100,000 c/s the value is considerably less than 250.

It is indicated above that it is not possible to produce extremely thin iron in the form of wires or laminae commercially. To surmount this difficulty, iron is reduced to a fine powder, mixed with powdered insulating material and subjected to a very high mechanical pressure. As an alternative it can be held in suspension in an insulator like paraffin wax which is easily melted at low temperatures. The first cores of iron powder and shellac, or bakelite, were subjected to considerable pressure, thereby being formed into a solid mass. They were used about 15 years ago in telephone circuits. It is well known that the capacity of a long telephone line is sufficient to remove the upper register and render speech unintelligible. Inductance is required to offset the effect of capacity. Inductances connected in telephone lines for this purpose are technically known as loading coils. In these coils two things are essential, (a) the losses must be small, (b) the voltage-current characteristic must be linear, i.e., when a sine wave voltage is applied, the current must also be sinusoidal, and vice versa. Since the normal telephone range is from 250 to 2,500 c/s, relatively large iron-dust

particles can be used without the eddy current loss being unduly high.

Suppose we consider a ring of this compressed dust material whose cross-section is square as shown in Fig. 2. Owing to the tiny air-gaps which separate contiguous particles, the effective permeability is reduced far below that for a solid iron core. The value of μ_e depends upon the relative size of the non-magnetic gaps and the iron particles. The smaller the proportion of insulation in a given length of core the greater is the effective permea-

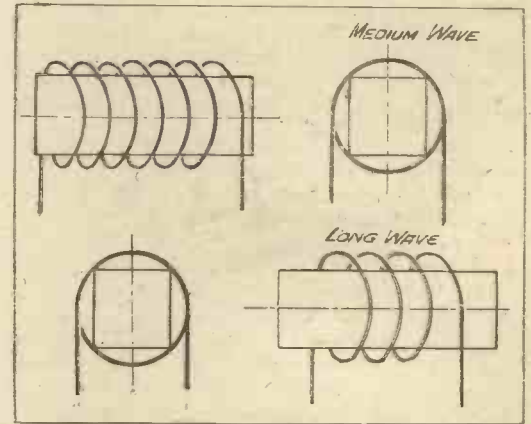


Fig. 3—In practice the medium and long-wave coils are usually placed at right angles

bility. For frequencies from 250 to 2,500 c/s the iron particles can be fairly large, but at radio frequencies in the broadcasting range they must be extremely small to avoid excessive loss due to eddy currents. The net result is an effective permeability of the order 12. This value is maintained almost constant over the frequency range 50 c/s to one million c/s.

Effective Permeability

In measuring permeability it is preferable to make tests on a toroid or circular ring whose cross-section is either circular, square, or rectangular. It is then possible to make accurate calculation of the magnetising force due to the current in the winding. In the case of a solenoidal coil having a straight bar core of iron dust, accurate calculation is almost impossible, since the core is open at both ends and the leakage is difficult to assess. The air-gap between the ends is very large and causes a fall in the effective permeability, since air is only one-twelfth as permeable as the material of which the core consists. Experiment shows that, for coils wound over about three-quarters the length of a straight bar core about one inch long, the inductance increases 3.5 times on insertion of the core. Thus the effective permeability under this condition is 3.5, whilst for a closed core it is 12.

In the construction of commercial dust-core coils for use at radio frequencies in the broadcasting band, either closed or open cores can be used. The amount of magnetic leakage in the former case is quite small, although it is preferable to screen the coil, thereby avoiding electrostatic coupling with neighbouring components in a radio receiver. With an open core there is a definite leakage or stray magnetic field, although it is much smaller than that of the conventional air-core coil. Consequently coils with straight bar cores must be screened. The usual commercial practice is to arrange the medium and long-wave coils as shown in Fig. 3, the axes of the two cores being at right angles. The assembly is mounted with the wave-changing switch-gear below, and the whole is covered with a thin aluminium screen. The screen reduces the inductance slightly, unless it is exceptionally large and therefore bulky, whilst there is a little additional loss.

(To be continued)

Atmospheric Disturbances—Mad and Nomad

By R. A. WATSON WATT

A CHRISTMAS in high latitudes is undoubtedly the seasonable one; the substitution of low latitudes for high, and sand for snow in the stage directions, did not, however, spoil my most entertaining Wireless Christmas.

It is just ten years since the Admiralty detailed a cruiser to chase the specially noxious atmospherics of the tropics, and invited me to co-operate with Messrs. Horton and Drabble of H.M. Signal School in catching some thousands of representative specimens. Before we could get to grips with the quarry, my few and simple



"... folded my tent, like the Arabs, and silently stole it away"

meteorological notions were shattered. The Bay of Biscay was like the Serpentine in its least tempestuous mood; the Mediterranean gave up its own rôle of a summer sea, adopted that of the Bay at its worst, and induced relaxation oscillations of alarming amplitude. The Indian Ocean did not "set an' smile"; its colour scheme was cold and grey instead of "bloomin' blue."

At last, having puzzled and slightly disgusted our naval hosts by asking them to take us half-way across the Bay of Bengal and to turn back after reaching no map-square in particular, we were well set for a return home for Christmas. But at Port Said I disembarked with a ton or two of apparatus and proceeded to Cairo, where I was to collect more specimen atmospherics. The General Officer Commanding British Troops in Egypt had authorised his units of the Royal Corps of Signals to help me, and they had found a suitable site for my operations, and had set up for me masts, aerials, two tents, "E.P.I.P." and a bell-tent.

The site was on the edge of the desert at Abbassia, just within shouting distance of the British Army Wireless Station there. The E.P.I.P. tents sheltered my apparatus, the bell-tent two Arab "ghaffirs" for its protection, while I lived at Heliopolis, with a convenient electric tram to take me from this centre of civilisation—complete with open-air cinema—to the fringe of the desert, with the pink Mokattam Hills some miles away.

Preliminary Observations

It was then that my pre-Christmas troubles gathered about me. After I had got my gear set up, and darkening arrangements made to let me use my cathode-ray oscillograph in a tent, I was disconcerted to find a permanent 50-cycles-per-second pattern on my screen. I found a three-thousand-volt three-phase overhead line running along the fringe of civilisation, and about a volt of the supply was leaking into my big aerial. I sought out the manager of the supply company, and in a sort of I.C.W. French—he was, I think, Belgian—suggested that he had a leakage on his distribution system.

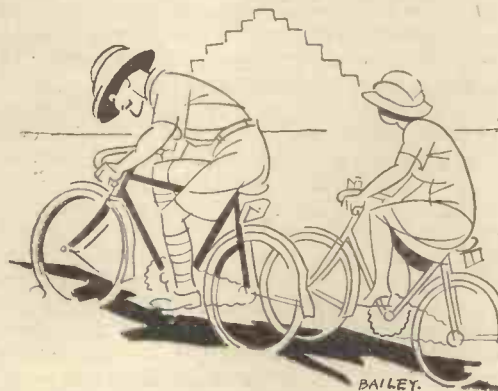
He courteously agreed that it was probable, but said that there were two reasons for his remaining calm about it. The first was that the desert sand was a beautiful insulator—when a main phase-wire broke it merely made for its live end an *ad hoc* spherical insulator of fused silica—the second was that such leakage as was permitted by condition one was, so far as he was aware, passing through the consumer's meter. He detailed his "contre-maitre"—I hadn't learned at school the word for a foreman—to co-operate with me in looking for the leak, but while we were engaged in this subsidiary research, other things happened.

Bedouin Intervention

I arrived one morning to find that I still had two tents E.P.I.P., but no bell-tent. The two ghaffirs explained in a flood of Arabic that as they sat contemplating the purple gloom of midnight, listening to the song of the cicada, singing, perhaps, one of their own slow, sad songs, a horde of Bedouins, mounted on superb Arab steeds and armed to the teeth, swooped down out of the night and the desert, held the muzzles of their inlaid flintlocks to the temples of my trembling ghaffirs, struck the bell-tent with speed and *sang-froid*, and rode off with it. into the hills—folded my tent, like the Arabs, and silently stole it away, in fact. The Camel Corps turned out, and after—was it four days and four nights riding, presumably without a drink?—found half a tent-pole in a dried-up water-course. A beautiful story, and my part of it, at any rate, is true. I have never been quite sure that the ghaffirs were not distantly related to Scheherazade.

Anyway, after that they seemed doomed to pass their remaining thousand and one nights on the desert sand, with no tent over their heads. About two nights of peace intervened, when again the vulture of Fate swooped down from the cloudless eastern sky on the heads of the unworthy and luckless ones. This time their shouts were heard at the wireless station, and the guard turned out in the pale dawn. One ghaffir had, quite convincingly, been hit over the head with a stick, the other, still more convincingly, showed teethmarks in a damaged ear. The assailant proved to be a criminal lunatic who had escaped from the asylum close at hand. He was last seen descending a manhole leading into a sewer of the main drainage system of Cairo—which, as a British officer wisely remarked, proved conclusively that he was a lunatic. One ghaffir went to hospital; the other, sharing my views about desert life, deserted.

Arabs, mad and nomad; leaking volts and escaping dolts; hunting disturbances disturbed disturbance-hunting. But at this moment the



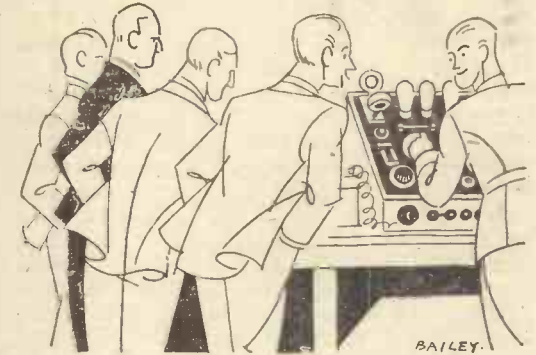
"... marvelling at the works of man"

good geni emerged, not from a bottle, but from the Ministry of Public Works. Dr. Knox-Shaw, then Director of Helwan Observatory, rashly invited me to lunch. Next day he found me, with my tons of apparatus, on his doorstep. It was a very exceptional doorstep, the highest domestic doorstep in Egypt, about 350 feet up in an embrasure of the Mokattam Hills, with what appeared to be most of Egypt falling away from it, plane after plane, to the horizon.

One braced oneself against the unfailling strong wind and looked over a quarry where Arabs and donkeys grouped themselves on a pink sandstone platform in the most theatrical tableaux, over "the cultivation," over the Nile, with its islands and an occasional sail, over to the pyramids. Not merely to The Pyramids, these outbuildings of Mena House Hotel, but to nineteen pyramids—unless it happened to be a bad day, when they were seventeen. In the middle of the picture the oldest stone building in the world, the Step Pyramid of Sakkara; away to the right the trippers' pyramids, Cheops and Khafre and Men-kau-Ra; nineteen miles away, to the left, those that disappeared when the seeing was bad, the pyramids of Lisht, nearly in the Fayum.

Settling Down to Work

We moved in just in time to settle down before Christmas, one of the Christmases. The oscillograph and its related gear were installed (as the picture enlarged from one of Dr. Knox-Shaw's photographs shows) in a fine stone hut on a spur of the hill, with a deep gorge on each side. My aerials spanned each gorge, a magnificent exposure, though it precluded the direction-finding that I had hoped to do. Volts, a



"... the finest display of British restraint"

little variable, but strictly confined to the wiring system, were laid on from the municipal supply; the telephone was connected, and time, prime quality sidereal time straight from the Observatory, was laid on. The Hotel Antonio, down below in the town of Helwan, was very comfortable, with Mahmud, the head waiter, who never got his six languages mixed, and the most amazingly cheerful assortment of invalids—all six languages required—taking the sulphur baths.

Here were peace and the atmosphere for research. One walked to and fro for morning work, but there was still the problem of evening observations. These, like the others, had to be strictly synchronous with the identical observations in progress at Aldershot, despite two hours difference in the clock. To avoid the loss of the evening meal—and such a loss—I was provided with an Army bicycle of a deplorable robustness; my wife, who helped in the observations, hired a civilian mount from the local bicycle shop. It was brought round, more or less to time-table, by a small black boy in a long white gown; the tyres usually wanted blowing up, and this was done by the head "housemaid," a youth of six feet or so, who had great trouble in keeping his yards of snowy petticoat out of harm's way during the task.

Then it was to be explained that the lamp showed *mafish* oil, and, with quite remarkable frequency, *mafish* wick. All this rectified, we pedalled up the stiff hillside to work. Coming down was more exciting, for the brakes were as reliable as the tyres and the lamp, but there was a solid wall at the worst bend, which saved us from being precipitated into the valley below. When it happened that we rode up or down by day we would look at the Step Pyramid, and then at the bicycles, and marvel at the works of man.

The First Christmas

The first of the Christmases, then, we were ready to celebrate with pagan enthusiasm. Breakfast we ate on the open terrace of the hotel, with the bougainvillea trailing its purple curtain over the terrace wall. Lunch required the more serious atmosphere of the dining-room, but in the afternoon we could sit in the garden listening to the most seriously ill, and most cheerful, of our invalids suggesting, with French elegance, to an audience of a German *fraülein*, an Italian, a Greek or two—and two Scots—the desirability of future human beings being issued complete with spare parts, *pièces de rechange*. "Mish-mish," the big hotel dog, who got this name from an unusual taste for apricots, lay at his feet, and barked mildly at the camels which brought fuel to the back door.

I think it was some time in Christmas week that two distinguished officers of the British Post Office, both concerned with wireless, came to see us for a week-end. We were to go to Sakkara on the Sunday. We woke up to see the wretched donkeys—one appropriately and, so far as I know, permanently called "Telephone"—covering for shelter against a wall, while rivulets of rain ran down over the elaborately clipped patterns on their flanks. Even their blue bead necklaces failed to look gay. We sat disconsolately indoors most of the day, but decided on a walk, rain or no rain, in the late afternoon. We trudged down to the cultivation, one of our visitors looking down at the road and remarking mildly, "They told me the Nile had no tributaries."

The next evening we were joined by yet another wireless man, from the Army this time, and went up to the Observatory to try for "Big Ben." Our host had a magnificent 1923 model wireless set, bristling with valves and knobs, all exposed on an acre of sloping panel, and the finest display of British restraint I have ever seen was that of four wireless experts keeping their itching fingers off the knobs—in their trouser pockets, in fact, just to make sure—while a fifth wireless expert triumphantly coaxed Big Ben into audibility. It was a great moment.

New Year—and Another Christmas

New Year's Day came and was appropriately celebrated. Then came Christmas, the second Christmas. Our Greek Orthodox friends had shared the civil aspects of our Christmas festival: we could not well hold aloof from theirs. Especially as this second Christmas dinner was at least as good as the first. So on January 7, 1924, we spent another Merry Christmas. There was equally good reason for a feast on January 14, so we fêted the Orthodox "Happy New Year."

In the intervals we worked. It was fun collecting atmospherics, but presents nothing much to write about now. Nothing, that is, till the exciting day when the wind, already mentioned, freshened into a gale, brought down my centre mast, and draped my aerial wire over the 230-volt overhead line (which it carried away) at one end, over the Observatory telephone line and over the telegraph line which took the time-signal from the Observatory to Port Said, at the other. The whole tangle of masts and stays and wires was sizzling with volts, the sole

fuse had, with Oriental thoroughness, been put in on the "earth" side of the circuit, the aerial burned bright green holes in the earth-mats where they met. The pinky-white of the Mokattam stone kept these gay splashes of green for a long time after we had put in a few domestic chairs as insulators, re-erected the mast, pulled up the aerials, and declared "All clear," with the loss of one time-signal to the Canal zone.

I was a little startled by the wireless engineer to the Sudan Government, who, had he spoken the cinema language of ten years later, would have said, "You ain't seen nothin' yet." What he did say was to the effect that I hadn't caught any really good atmospherics, that the best brands were indigenous to the Sudan, and that



Hunting Atmospherics — The author and his receiving apparatus established in the stone hut near Helwan Observatory

I had better have a look. How I went to have a look is more nearly an Easter story than a Christmas one, but there is still a frolic flavour about it.

Care (?) of Accumulators

On the thoroughly unofficial advice of a Government servant, I left the acid in my 2,000 volts of H.T. accumulators for their rail-steamer-rail trip of another thousand miles up the Nile. Their cases were gigantic, comparable, at least, with a boudoir grand piano. Ornamented with an arabesque of injunctions, "This side up." "Do not touch till I come" and so on, they seemed safe.

When, therefore, I saw a black giant at Wadi Halfa hoist one, wrong side up, on his massive back, and pictured the acid trickling down the massive back, I forgot the warnings about sudden death from sunstroke, and, bareheaded, beat the desert 220-yard record to persuade him to set it down till a more literate colleague deciphered the Arabic legends. It was presumably this first display of indifference to tropic heat that led the chef on the train to serve us, as accompaniment to our first introduction to temperatures over 100 deg. F., with a tactfully home-land meal, roast beef, Yorkshire pudding, roast potatoes, and plum pudding. And so, gastronomically speaking, we had three Christmases that year!

"Wireless World" Diary

We have received a copy of the *Wireless World Diary* for 1934, which is a compilation of extraordinary usefulness to the wireless man. The technical information contained in it is both varied and useful. Wireless symbols, technical circuit diagrams, data on coil winding, useful formulæ, and other information of equal value is given, in addition to the list of frequencies in accordance with the Lucerne Plan which is to come into operation on January 15 next.

Space and Matter

By "NEUTRON"

Rubber Plating

INTERESTING developments are taking place in the electro-deposition of rubber on metal. The natural serum of the rubber plant, known as latex, is actually a solution of rubber in water, and the particles of rubber are apparently electrically charged. It is, therefore, possible to coat a metal object with rubber by making it the anode of an electrolytic cell which contains latex. The deposit contains 40 per cent. of water and is therefore a conductor, but when the original water has been driven off, rubber cannot be dissolved in water without altering its physical characteristics. Copper and brass are affected by latex, and so far stainless steel has been found to be the best metal for use in the apparatus required for developing the uses of latex. This disadvantage would appear to be a serious one as regards the use of rubber-plated metals for electrical work, and it will be interesting to see what use is made in such work of the new process of depositing rubber on metals. I understand that experiments are also in progress for making insulating board from latex.

Half-Wave Aerials in Germany

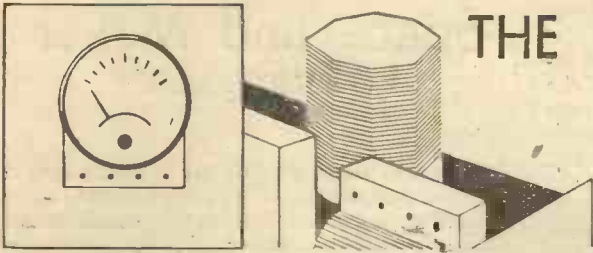
Considerable use is being made in Germany of vertical aerials the height of which is equal to half the wavelength being used by the broadcasting transmitter. Aerials of this nature tend to concentrate the radiated energy along the ground, with the result that fading produced by reflection from the upper layers of the atmosphere does not take place within distances from the transmitter which are 20 or 30 per cent. greater than those obtained normally. In some cases the aerial is fed at the base, and in other cases it is fed at the middle. Ordinary open feeder lines have been discarded in favour of high-frequency cables or lines with screens of copper tubing.

Animals and Their Voices

A German professor has been carrying out some experiments to see if animals can identify their own voices and those of other animals when reproduced from gramophone records. He found that a fox terrier acted in the way terriers usually do at the sound of a mewling cat, and that another cat responded equally naturally on hearing the record. The barking of a watch-dog caused the dog whose voice had been recorded, to bark in reply, but in a different tone. As a result of these and similar experiments the professor is of the opinion that animals can recognise their own voices as belonging to animals of the same kind, but not as being their own. Anyone who has heard the reproduction of his own voice, even by high-quality apparatus, will agree that it sounds quite different from one's own idea of what it should sound like. This is presumably due to the fact that one's own voice is normally heard very largely through the bones of the head, and the directional effects that accompany the sound as heard by another person are absent.

Nose-Closing Rays

A considerable amount of discussion has been taking place recently in electrical circles on the "nose opening" and "nose closing" properties of rays from electric fires and gas fires. The latest evidence is that "nose closing" is probably caused by any rapid warming of the skin and does not depend on any particular type of radiation. Personally, I am more interested in "nose opening" at the moment; I have had quite enough "nose closing" during the last few days as the result of a cold.



THE ESSENTIALS OF WIRELESS COMPONENTS

Part 20: Gramophone Pick-Ups

By M. G. SCROGGIE, B.Sc., A.M.I.E.E.

ONLY one of the several general types of gramophone pick-up has achieved popular success—the moving-iron magnetic type. The corresponding loudspeaker has almost completely been displaced by the moving-coil type; but moving-coil pick-ups have never been very popular, nor have electrostatic, or microphonic designs, although they have occasionally been used.

Requirements of a Pick-Up

The mechanical motion imparted to the needle by the groove on the record is communicated to a small iron armature placed in the magnetic field of a permanent magnet; and the variations in magnetic flux thus produced in the armature are used to generate an electromotive force in a coil surrounding it; so much is common to all the varieties of magnetic pick-up that are used. The differences between individual makes are mainly in details of magnetic circuit, and in mechanical arrangement and proportioning of the parts. The principal objects of these are (1) correct frequency response, (2) freedom from harmonic distortion, (3) freedom from record wear, (4) mechanical silence, (5) sufficient output, and (6) ease of needle changing.

Taking these in that order (which is of descending importance), it will be noticed that

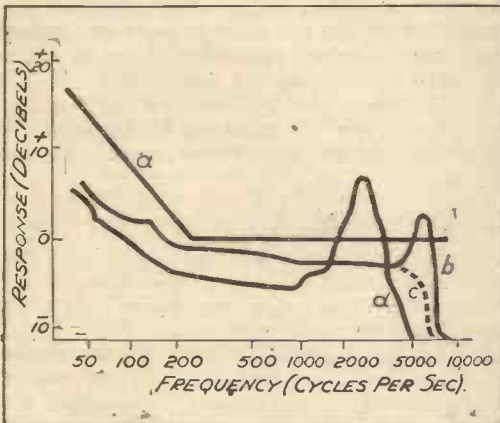


Fig. 45—Frequency curves of pick-ups (see text)

the first is *correct* frequency-response and not *level* response. The pick-up is expected to make good, as far as possible, the shortcomings of present-day gramophone records; which are deficient in bass owing to the wide track that would be necessary for full-strength recording of very low frequencies. Above about 250 cycles per second a level frequency characteristic is sought, and, up to a fairly high frequency, is not very difficult to obtain. But the upper end of the scale is practically always terminated by a peak immediately followed by the cut-off. The moving parts—needle and armature—form a mechanical system that inevitably has a natural resonance at some frequency, causing a very much exaggerated response at that point.

There are two ways of dealing with this; either the resonance may be damped out by applying absorbent friction—as in a motor-car shock absorber—or it may be shifted to some frequency that does not matter. The first method carries the disadvantage that sufficient damping to quench the resonance makes the needle so stiff that it wears the record horribly. Some very obnoxious examples of this were

common a few years ago. To put the resonant frequency below the useful band (which may be regarded as 50–5,000 cycles per second as a minimum for reasonably good reproduction) would be ineffective, as parts of the system would resonate on their own at higher frequencies; so in practice an attempt is made to raise the principal resonance as high in frequency as possible.

A mechanical system is “tuned” to a higher frequency by increasing the stiffness or reducing the inertia. The first is objectionable, as already stated; so it is mainly a matter of reducing the weight of the moving parts, and their distance from the axis of motion. This is carried to its logical conclusion in the needle-armature type, in which the needle itself is used to carry the varying magnetic flux. As a needle is not ideal magnetically, the output is rather limited as compared with some other types. The main resonance, however, is as high as 5,000–6,000 cycles per second. One advantage of having the peak so high up the scale is that the whole movement can be very light and undamped (to the minimisation of record wear) because if necessary the corresponding electrical peak can be removed by a simple filter.

There are still examples of badly-designed pick-ups, with a resonance at 2,000 or 3,000 c/s; any attempt to filter this out would upset the frequency response rather badly, and, moreover, the frequencies above the resonance are very imperfectly represented in any case.

The mechanical resonance leads not only to electrical distortion but to excessive needle-scratch due to a sort of “shock excitation” of the moving parts. This is therefore another reason for putting the resonance so high that the electrical response at that point can be cut right out without serious loss of quality.

Frequency Characteristic

Fig. 45 shows a selection of pick-up frequency curves, good and bad. (a) is the ideal for existing records, (b) is a good practical response *au naturel*, (c) the same after connecting a filter across it consisting of a coil and condenser (Fig. 46), and (d) is a typical bad characteristic.

Most pick-ups show some attempt, by accident or design, at a rising bass. Generally

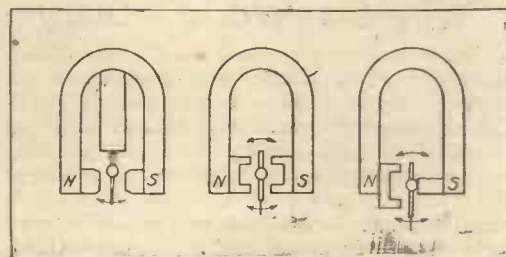


Fig. 47—Various methods of arranging the magnetic circuit

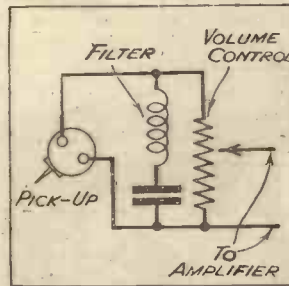


Fig. 46—Showing connexions of filter to correct frequency characteristic of pick-up

the rise is inadequate to compensate for the recording; but even a partial compensation would be praiseworthy were it not that there are good grounds for suspecting much of the effect to be either fictitious or undesirable. To understand this one may glance at Fig. 47, showing several variations of magnetic circuit. In each of these the armature must be held in the central position by some sort of restraining force—rubber for example. Otherwise it would be attracted right over until it struck the pole pieces, where it would stay. The attractive force of a magnet increases very rapidly as a piece of iron approaches; consequently, if the armature has been moved, say, one third of the distance by a certain outwardly-applied force (the record groove *via* the needle) the next third of the distance requires much less force, unless the restraining force is unusually cleverly contrived to compensate for this tendency. Therefore the low-frequency impulses, which are of large amplitude, tend to be reproduced at considerably more than even their proportionate amplitude.

More than that, a single “waggle” of the needle tends to cause the peak to be drawn out excessively in relation to the rest of the waveform; in other words, there is distortion, of the type which introduces alien harmonic frequencies. Still more; any legitimate higher frequencies which are being reproduced simultaneously are being exaggerated at the peak positions because of the greater sensitiveness in that position; they are modulated at the frequency of the low note.

All this sounds very unpleasant, but it is probable that in most cases neither the severe distortion, which would be bad, nor the bass uplift, which would be good, actually exists very noticeably under working conditions. The curves are usually taken by means of standard-frequency records having an amplitude of track much greater than normal. At the same time, one may be justified in giving preference to a magnetic system, such as that in Fig. 48, which tends to keep the armature central, instead of the reverse.

Another, and perhaps safer, method of obtaining a rising bass is tone-arm resonance. If this takes place at the lowest frequency it produces a rising characteristic down to that point.

It will have been seen that in dealing with distortion we have also touched on record wear. One can get a fair idea of how bad a pick-up is by noting the stiffness when the needle is waggled to and fro with the fingers. This does not quite account for everything, because it is impracticable to make this test by hand at all frequencies up to 5,000 waggles per second. An arrangement that is quite “free” when moved slowly may not be so at some frequency around a natural resonance.

Any serious wrong-doing in the last respect is likely to show up unpleasantly in the next—noisiness. A certain amount of sound reproduction, or “chatter,” is invariably noticed when a pick-up is in action and the loudspeaker inoperative. In some models the efforts of the

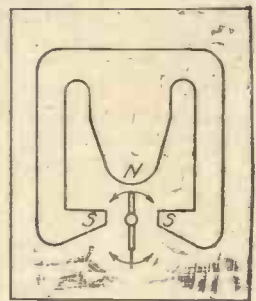


Fig. 48—A magnetic system which tends to keep the armature central

loudspeaker at the higher frequencies are actually eclipsed by the pick-up. If the pick-up is well-designed as regards its more important characteristics, it is likely to be inherently quiet, but the residue of sound can be materially reduced by floating the movement on rubber, or felt, inside the outer case. Another cause of noise, the cure of which is obvious, is looseness of the tone-arm joints.

Before leaving record wear, however, it is important to remember that the "tracking" must be good; by inclining the head of the pick-up at a certain angle, and locating the pivot of the tone-arm to suit, the difference between a tangent to the record groove at the needle point and the line of motion of the needle can be kept within a degree or two of 90 degrees throughout the playing.

Most receivers, when used as gramophone amplifiers, can be fully driven by a pick-up giving an output of the order of 1 volt. Modern magnet steels make it possible to exceed this output considerably, but it is better to take advantage of this to widen the gap in which the armature moves, thus minimising the possibility of harmonic distortion.

Ease of needle changing is a mechanical refinement on which it is unnecessary to dwell; some models dispense entirely with a clamping screw. When a screw is used it is best arranged so that its motion, when a record is being played, is one of rotation about its axis, in order to make the inertia as low as possible.

Another refinement is a "hum-bucking" coil, in series with the working coil and located so that any hum voltage picked up from the electric motor cancels out. The head-case and tone-arm are, of course, usually employed as an electrostatic screen and earthed.

Sometimes a volume control is incorporated with the tone-arm. But most people prefer to have it on the outside of the cabinet where it can be adjusted without raising the lid of the gramophone. The correct resistance for the volume control depends on the impedance of the pick-up; too low a value cuts down the high-note reproduction excessively, but a moderate reduction is often rather a good thing. As low as 10,000 ohms for some pick-ups, or as high as 250,000 for others, is correct; so it is important either to have the maker's recommendation or to experiment to get the right value. In the same way the correct filter components (Fig. 46) vary greatly.

(To be concluded)

A D.C. Mains Hint

When constructing a D.C. mains set, the negative main should not be directly earthed through the set, but should be earthed through a fixed condenser of large capacity. If a condenser is not included, the mains will be short-circuited if the set is connected the wrong way round, or, with an earthed positive, the right way round.

There is another point to be remembered in connexion with the earthing of the mains supply. In some distribution systems the negative is earthed only at the generating station; if, therefore, a short to earth occurs on any section of the mains the current has the choice of the route through the ground to the generating station, which may be of high resistance, and that through any unauthorised earthing point back to the negative of another section of the distribution system; which path may have a much lower resistance. Therefore quite large surges may be caused which will blow the house negative fuses, or possibly cause considerable damage if the earth connexion at the generating station is disconnected for any reason. This does not apply to the earths for the frames of electrical apparatus, which should always be separately earthed.

A. W. B.

A Christmas Topic

By "DECIBEL"

(With apologies to Lewis Carroll)

"COME on," said the Gryphon to Alice, who by this time was getting used to being ordered about.

They had not gone far when they came to a cave in which lived the Wireless Fan. They found him sitting on an old packing-case marked "Glass With Care." As they approached they heard him sobbing and muttering to himself.

Alice pitied him deeply. "What is his sorrow?" she asked the Gryphon, and the Gryphon answered, very nearly in the same words as before, "It's all his fancy, that: he hasn't got no sorrow, you know. Come on."

So they went up to the Wireless Fan, who looked at them with large eyes full of tears, but said nothing.

"This here young lady," said the Gryphon, "she wants for to know your history, she do."

"I'll tell it her," said the Wireless Fan in a deep, hollow tone; "sit down, both of you, and don't speak a word till I've finished." "Once," said the Wireless Fan at last with a

Alice began to feel that all this was getting beyond her, so she turned to the Wireless Fan and asked, "What else did you make?"

"Well, there was the Reflects Three," the Wireless Fan replied, counting off the sets on his fingers, "and the Popular Number Nine, the Clickety-Click, Kelly's Eye, and Top of the House, and—"

"What on earth were those?" exclaimed Alice. "He is thinking of old times," said the Gryphon. "He thinks there is nothing to-day as good as there was then."

"That's quite true," said the Wireless Fan. "There is nothing new to make. I made it all years ago. Something that looks new is mutton dressed up as lamb." He suddenly looked at his watch. "It's time for the football results," he exclaimed, and picked up a pair of headphones. He listened for a little while and then shouted out at the top of his voice, "Chelsea have won!"

"Hurrah!" shouted the Gryphon, and picked up a valve and threw it up to the roof of the cave, which it hit with a loud report.

"I thought you said he didn't make wireless sets to use," said Alice to the Gryphon, when the excitement had subsided.

"Of course not," replied the Gryphon, "except to listen to the sports news. He used to make sets for the fun of making them."

"Well why doesn't he make some more?" asked Alice. "He has plenty of parts lying about."

"You are a simpleton," replied the Gryphon. "Hasn't he just told you that there is nothing else left to make?"

"Well, why can't he make some of the old ones again?" said Alice. She remained silent for a few moments and then suddenly exclaimed, "I know what he can do. He has enough parts to make quite a lot of sets. He can give them away to poor people who haven't any money to buy either parts or sets."

"Not likely," replied the Gryphon. "It would break his heart to part with all his old junk, the miserable old skinflint."

"What's that?" shouted the Wireless Fan. "I'll give you old skinflint." And he picked up a soldering iron and brandished it at the Gryphon.

"Wait a minute," said Alice, "I've got a better idea still." She put her hand on the Wireless Fan's arm. "Don't you think it would be rather nice if you made all these old parts of yours into wireless sets of your own design? You have had such a lot of experience that you must know exactly how to make them up into simple sets which anyone can use."

"That's not a bad idea," admitted the Wireless Fan.

Alice clapped her hands. "And when you have made them," she exclaimed, "I will get you a red hood and cloak, which I will trim with cotton wool, and you can play the part of Santa Claus and take the sets round to some poor people. You have a lovely long white beard, and you look the very image of Santa Claus."

The Wireless Fan was very proud of his beard, and Alice's suggestion was more than he could resist.

"Splendid!" he exclaimed, and shoved the soldering iron in the fire and began to take down the gear from the shelves.

"Splendid," repeated the Gryphon, as it threw another valve at the roof.



"The Wireless Fan looked at them with large eyes full of tears"

deep sigh, "I used to make wireless sets."

"We've got a wireless set," said Alice.

"Is it a crystal set?" asked the Wireless Fan a little anxiously.

"Certainly not," said Alice indignantly.

"Ah, then yours isn't a really good set," said the Wireless Fan in a tone of great relief. "Now mine has two crystals and two pairs of headphones."

"But ours is a superhet. and has something called Class B, and a loudspeaker," replied Alice.

"Pooh," said the Wireless Fan, "I built a set like that years ago."

"Well, why haven't you got it now?" asked Alice.

"He probably has," interrupted the Gryphon. "Look at those shelves."

Alice looked round the cave and saw that the sides were covered with shelves on which were wireless sets and parts of wireless sets stacked right up to the roof.

"Why doesn't he use it then?" inquired Alice.

"Use it," exclaimed the Gryphon, lifting up both its paws in surprise. "He doesn't make sets to use. In fact he never makes any sets at all now."

Winter in the Arctic



An Account of the British Radio Expedition to Tromsø

By R. NAISMITH, A.M.I.E.E. and W. C. BROWN

IN two recent articles* in WORLD-RADIO Professor Appleton has given an account of the scientific side of the work carried out by the British party at Tromsø in connexion with the International Polar Year, 1932-3. The personnel of the British expedition if not exactly "International" in character was certainly representative of the British "Commonwealth of Nations," for the party consisted of a Yorkshireman, an Australian, a New Zealander and, of course, the inevitable Scotsman. Before going to the British station at Tromsø in Norway, we had a very hazy idea of what amenities or hardships one might expect to encounter in the Northland. In this country we are inclined to think of climate to some extent in terms of latitude, and to one of us, who had experienced during several successive winters at least 20 degrees of frost in latitude 46 degrees N., it seemed difficult to realise that there could be anywhere in latitude 70 degrees N. anything except snow and ice.

There are many possible ways of travelling to Tromsø, but on our first journey we chose the sea route from Newcastle to Bergen and thence up the coast. On the way one passes many interesting natural phenomena, including the famous Svartisen glacier. One of the chief surprises after crossing the Arctic Circle in summer is the increased amount of green one sees. This is, of course, due to the action of the continuous sunlight. This is certainly the most pleasant route for a party, and, since it involves only one change at Bergen, it is also best from the point of view of our apparatus which weighs about ten tons.

On arrival at Tromsø we had no difficulty in getting the cases containing the receiving part of our apparatus conveyed to the observatory, where the Norwegian Committee of Cosmic Physics had placed laboratory and living accommodation at our disposal. The cases containing our transmitting apparatus had, however, to be taken about twenty miles farther to the Hydro-Electric Station at Simavik, on the island of Ringvassoy, from which Tromsø receives its supply of electricity.

We had to wait in Tromsø for three days until the weekly boat called to take these cases to Simavik. During these three days we engaged in a united effort to unpack and erect the receiving apparatus at Tromsø, after which we left for Simavik, twenty-one miles by sea from Tromsø.

Installation Work

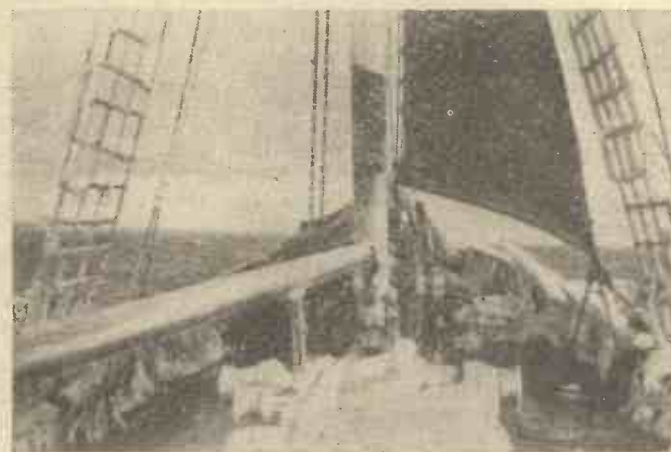
The following day we unpacked the cases and found suitable positions for our two masts. The weight of the masts—each consisting of two stripped larch trees end to end, bound together with iron clamps—and the maze of overhead high tension wires, made the task of raising the masts a

difficult one. In addition, there was insufficient depth of soil to permit the more usual form of anchorage. After debating the relative merits of cement and boulders as means of fixation, we decided on the latter; for although it meant much more hard work, it would be quicker than sending to Tromsø for cement and then waiting for it to set. Any size or number of boulders were available, so we strapped stay wire round and buried them.

Even with the assistance of the entire male population of Simavik—which numbered three—we were unable to tackle this work ourselves. A telephone call to Tromsø brought the other two members of our party over to help. The day after their arrival we all engaged in the pick and shovel work of burying boulders, and, later, of hoisting with block and tackle the trees which did duty for masts. We are quite sure that Professor Appleton's colleagues in England would not have recognised him that day in the guise of a true British workman, wielding a pick and shovel and hauling on the end of a rope.

Simavik

In addition to the boats already mentioned as plying between Tromsø and Simavik, there was a smaller boat which was appropriately called "The Milk Boat," but was used only as a last resort, especially during the winter. Apart from being a bad sea-boat the accommodation on board was very restricted. There was only one cabin, about 8 ft. by 14 ft. and into this space



1.—"The Milk Boat"

thirty or more people crowded, including a good many Lapps, complete with bundles of reindeer skins and, more often than not, uncured skins. There was a small coal-stove in the middle of the cabin which produced an aroma,

from damp clothes and reindeer skins, which can best be left to the imagination. The photograph (1) shows the forepart of this boat in winter, and explains why it was impossible to stay on deck. The intense cold, which during the winter reached minus 18 degrees Centigrade, caused the spray to freeze as it came on deck.

After the erection of the masts and the transmitter, the party returned to Tromsø, leaving one member to operate the transmitter. The feeling of loneliness as the party sailed away, and the prospect of twelve months' stay on the island, were only counteracted by occasional visits to Tromsø and by the extremely hospitable nature of the Norwegians, who did all in their power to offset it. With the aid of a dictionary and a few pencil sketches it was possible to understand each other sufficiently until some acquaintance with the language enabled a more fluent conversation to be achieved.

There are only four buildings in Simavik, the Hydro-Electric Power Station, two houses belonging to the engineers (we had the top floor of one for our apparatus and sleeping quarters) and a fisherman's cottage. The houses and the Hydro-Electric Station are all built on a small plateau about 20 ft. above sea level. The ground at the back rises very steeply to about 2,000 ft., and is sparsely wooded with mountain ash and stunted silver birch. The lake which supplies the Power Station is situated at about 1,600 ft., the water being piped down through 3 ft. iron pipes enclosed in wood casing and heavily insulated to prevent freezing. When the water is not actually passing through the turbines, it is by-passed so that continual circulation is maintained to avoid freezing.

The lake above Simavik, like the numerous other small lakes on Ringvassoy, teems with trout and, during the summer, affords quite good sport. In February, when we were having more daylight, we fished for trout. The procedure was to hack about 20 holes through the ice, and set a line in each. It was not a sitting-down and waiting job after this; one had to do the rounds to prevent the holes freezing up again.

Tromsø

The Norwegians are primarily a seafaring nation, and, particularly in the north where the country is only a comparatively narrow strip of land running along the west coast of Scandinavia, their livelihood depends upon the sea. Tromsø, which is the largest town within the Arctic Circle, is therefore a very important commercial and administrative centre, as well as a convenient and pleasant rendezvous for the

tourist in the summer. It is also rapidly becoming one of the most important centres for geophysical and other kinds of research.

The photograph at the head of this article shows the town and the island on which it stands, in relation to the surrounding country. It also shows the relative position of the emitter at Simavik and the path of the direct signal between emitter and receiver. This photograph, which was taken from a height of over 2,000 feet on a hill opposite the town, was taken at the end of the winter and before the snow had begun to disappear. It shows how the island is sheltered by a number of other islands from the cold Arctic winds and storms.

As a consequence of this and the action of the Gulf Stream the vegetation, especially during the period of the "midnight sun," is almost phenomenal in growth. One evening some



2.—The Midnight Sun as seen from Simavik

friends planted a rose tree which was then only a bare stalk with just a sign of a leaf bud showing. About twenty-four hours later when we looked at it again there was a complete leaf stem with its five small leaves perfectly formed. The converse effect is noted at the end of the summer for after one cold night most leaves are withered, and if the cold spell lasts for only a few days the trees are soon quite bare.

In the vast stretch of Arctic Ocean which extends from North Norway to Greenland there is one small volcanic island called Jan Mayen situated almost equidistant from both countries. On this island there is now a meteorological station and a magnetic observatory. The island itself is simply black lava on which not even a blade of grass will grow. Here, the Austrian Polar Year expedition was located, while to the north of Tromsø—on another little island, Bear Island—the Polish expedition had their station.

In Tromsø we had the opportunity of meeting both these expeditions and discussing, quite informally, the results and experiences which the International Polar Year had brought us.

Sidelights on Broadcasting

In Tromsø we could hardly be classed as exiles in the sense of these other expeditions but, nevertheless, it was quite a treat to tune in one or other of the B.B.C. stations and hear the programmes from home. We should also record that we were enabled to make use of the B.B.C. transmissions in our scientific work. We were able to check our clocks from the Greenwich time-signal, and thereby ensured greater accuracy in recording our times of observation than would otherwise have been possible. At one period our supply of dry batteries was inadequate to our needs, with the result that our standard of frequency was not dependable. We then relied on the nominal frequency of the different B.B.C. stations and interpolated to get the values which could not be obtained directly.

Our two broadcast receivers were in great demand. The results were so good that we had many requests to sell our apparatus, and felt convinced that there was room for some commercial enterprise by British manufacturers. Before our visit it appears there was not a single British set in Tromsø.

These broadcast receivers were sometimes used to give us an indication of the presence of magnetic disturbances. It invariably happened that when such disturbances began long-distance broadcast reception became impossible. On several occasions this information was utilised to study the disappearing echoes which characterised periods of magnetic disturbance.

Norwegian broadcasting presents many difficulties, particularly on account of the mountainous nature of the country and the long distance between towns. There is not the variety of topical events suitable for broadcasting that there is in this country. During our stay we witnessed one "outside broadcast." It was during the celebration of Independence Day. The speaker whose address was to be broadcast had just mounted a platform in the open air, on which the microphone had been conveniently arranged, when one of the supports gave way and the platform collapsed. The speaker was then hoisted on to a small, one-storey building nearby and the broadcast engineer, who was quite equal to the occasion, fixed the microphone on a long bamboo fishing-fod, and was thus enabled to suspend it at approximately the correct distance from the speaker.

During the winter, reception from England and the Continent was excellent, especially from November 21, when the sun disappeared completely, until the end of January. We had no total darkness throughout the twenty-four hours, but had a period of semitwilight from noon until 1 p.m., when it was just possible to read newspaper print out-of-doors.

We had the first auroral display in October. What a wonderful sight it was, especially to us, seeing it for the first time! It is very difficult to describe, but one can liken it to huge pale green curtains hanging in folds from the sky, the pale green shading off to an even paler green towards the fringes, which were rainbow-hued, and the whole moving very rapidly, as if blown about by the wind. The evening display usually began at 7 p.m. and lasted for about three hours. The next display began about 4 a.m. and lasted about the same time.

There was not much snow until the middle of December; although the streams and lakes were frozen over quite early in November. Before the dark period had set in we were able to get some recreation in the form of skating, and, at the same time, to collect a few bruises. When the snow came all skating ceased, and, in fact, it was difficult to find any means of exercise. The only method of getting about was on ski.

One of the most fascinating sights is that of the little children, barely three years old, sliding and making small jumps like experts on ski, while the older boys, of from seven to ten, make the hilly streets appear dangerous, though the number of accidents is very small. The messenger boys have a chair mounted on iron runners, which extend some six feet behind. They place their goods on the chair, and, by

standing on the runners, are able to steer or brake with equal ease.

Christmas in the Arctic

Before November was out, all thoughts, as in England, were turned towards Christmas. One of the inhabitants arrived back from Tromsø one day with half an ox and a whole pig which, he said, were for Christmas. The hostess, hearing that we Britishers like Christmas puddings, was very anxious to make one, and asked for details. After a search, a newspaper containing recipes for Christmas puddings, mince-pies, etc., was found. Unfortunately, the names of all the ingredients had to be translated into Norwegian and the pounds and ounces to grammes. This was all right until it came to the suet. In the dictionary, under suet, it said "see tallow." It was difficult to explain what part of an animal suet came from, and pencil sketches of a piece of suet proved futile. The arrival of Christmas puddings from England solved the difficulty which, through bad translation, might have brought the British Polar Year expedition to a premature end.

The custom of giving presents is the same as in England, but the festivities last much longer, and from Christmas Eve until three days into the New Year there is one round of festivity. They have no special Christmas dinner, but during the whole week the table is packed with good things, and the Norwegian slogan during this time is "Bare spise"—just eat. The Norwegian housewives certainly have the art of appealing to the inner man.

After spending Christmas Day in many places, including New Zealand, Fiji, Singapore, and on the High Seas, one does not expect to spend Christmas within the Arctic Circle.



3.—Norwegian children on ski. The youngest is three years old

This Christmas spent in the Northland was the happiest of all. The quite extraordinary hospitality shown to us by the Norwegians, and the intense exhilaration of ski-ing in the clear air of an Arctic winter, are two of the many happy memories we carry away with us from our stay during the "Second International Polar Year" at the British station at Tromsø.

Finding American Stations

STATIONS both in the United States and in South America are surprisingly easy to pick up on favourable nights with even a small set, provided that it is reasonably efficient and is used in conjunction with a good aerial and earth. On the other hand, it is impossible to hear them, so that they are worth hearing, on nights when conditions are unfavourable.

Is there any way of ascertaining before one's normal bedtime whether it is or is not a good night? Here is a method that I have used successfully for many years now. I have certain "reference" stations which are tried half an hour or so before the normal time for going to bed. These are weak and rather distant European transmissions occupying key positions on the medium waveband. If they are coming in well with little or no atmospheric interference and without undue fading, the odds are that the night is favourable for trans-Atlantic reception. Here are some useful reference stations. On 230.6 m. Malmö, though sharing a wavelength with several low-powered relays, comes through well on really good nights. Aberdeen, on 214.3 m., is a good reference station for dwellers in the South; Cork and Newcastle are alternatives. Nürnberg on 239 m. is useful and, higher up the waveband, Rennes, Radio Lyons, and Marseilles PTT may be used.

STATION	METRES	EXPECTED SETTINGS
WIOD	230.6	14
WKAQ	241.8	15+
WCAU	256.3	17
WHAM	260.7	19
WPG	272.6	22
WTIC	282.8	25
WBZ	302.8	31
KDKA	305.9	32
WENR	344.6	44
WABC	348.6	45
WGY	379.5	54-

Suggested list to facilitate searching

Mere haphazard searching may produce a few trans-Atlantic stations; many more will be heard and identification will be much easier if searching is methodical. At the time of writing the most profitable part of the medium waveband is the portion which lies between 230.6 and 379.5 m. This contains such good old standbys as WIOD (230.6 m.), WAKQ (241.8 m.), WCAU (256.3 m.), WHAM (260.7 m.), WPG (272.6 m.), WTIC (282.8 m.), WBZ (302.8 m.), KDKA (305.9 m.), WENR (344.6 m.), WABC (348.6 m.) and WGY (379.5 m.).

Before beginning to search make out a card like that illustrated in the accompanying drawing. Pencil in the expected dial settings, which you can obtain from those that you require for European stations. As soon as you have tuned in and identified an American station, ink in the figures. WIOD may be expected almost exactly on Malmö's settings, WKAQ at settings intermediate between those of Nürnberg and Belfast, WCAU rather above Toulouse PTT and a little below Hörby.

American stations begin to come in shortly after midnight when conditions are favourable, but early rising, at the present time, may prove quite as profitable as sitting up late.

R. W. H.

Radio Island: a Prize Competition

By RALPH STRANGER

NEXT week's WORLD-RADIO will contain the first instalment of a new serial by the author of *The Mystery of Electricity*, *The Elements of Wireless*, etc. This serial will be of a novel character, and each instalment, after the first two, will be based on suggestions sent in by readers. Prizes will be awarded for the best suggestions each week.

The story deals with a party of scientists who are isolated on a desert island, thousands of miles away from anywhere. They are anxious to get into touch with the outside world by means of wireless, but no technical stores of any description are available. All their apparatus has to be made from raw materials that are to be found on the island. These modern Robinson Crusoes will have to make their own wire, condensers, valves, accumulators, etc., etc., by most primitive means.

Readers are invited to place themselves in the position of these unfortunate scientists and to see how they can solve each problem in turn.

The first two instalments, published on December 29 and January 5, will be of an introductory character. After these two introductory instalments, each instalment will involve a definite problem, and a prize of two guineas will be awarded for the best solution of each problem, and the prize-winning solution will be embodied in the story.

Each problem will be announced three weeks before the date of publication of the instalment embodying the best solution, and readers' solutions should reach the Editor of WORLD-RADIO, Broadcasting House, London,

W.1, two weeks before the publication date. The prize-winners will be announced each week from January 12 onwards. In the case of a tie the prize will be shared equally by successful entrants. There are no entrance fees. Each solution must be accompanied by the reader's name and address, and must be written on one side of the paper only. Solutions submitted should be simply and concisely expressed and *must not exceed 500 words in length.*

The First Problem

This is the first problem to be solved. How did the scientists succeed in making copper wire by most primitive means from copper ore found on the island? The solution of this problem will involve the question of extracting the metal, refining it, turning it into lumps of metal and then into wire of various diameters (for aerial, tuning coils, etc.). *Solutions of this problem must reach the Editor not later than December 29.* On that date also the next problem will be announced.

The payment of the prize of two guineas will cover all publishing rights for the prize-winning solution, but in the event of the serial being published in book form on its completion, the names of all the prize-winners will be published in the book as those of contributors of the various solutions involved.

* * *

The first instalment of "RADIO ISLAND" will appear in next week's WORLD-RADIO.

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. 1015. *Can reaction be used with a diode detector?*

When a three-electrode valve is used as a diode detector the anode is sometimes connected to the grid, but in other cases it is left disconnected. From the point of view of rectification there is little difference between the results in the two cases. If, however, the anode is connected up to the H.T. in the usual way, with a reaction coil and condenser, the amplified H.F. oscillations present in this circuit can be fed back to the grid circuit in the same way as when ordinary gridleak or anode rectification is employed. No connexion is made, of course, between the anode circuit of the detector valve and the grid circuit of the first L.F. valve, as the rectified signals are fed to this valve direct from the grid of the diode detector valve.

* * *

W.R. 1016. *At what distance should I be able to pick up broadcasting stations on a 3-valve receiver?*

It is impossible to say definitely at what distance broadcasting stations will be picked up as the range varies considerably, depending on such things as the power of the transmitter, its aerial arrangements, atmospheric conditions, and local conditions at the receiver. Many stations several hundred miles away should be received after dark, and in fact it may be possible to receive American stations at the present time, as atmospheric conditions are

now particularly suitable for long-distance reception on medium waves. During the daytime the range is considerably less; but in England it should be possible to receive several Continental stations as well as several British stations, on long and medium waves.

* * *

W.R. 1017. *Is it an advantage to connect, say, a 2 microfarad condenser across my L.T. battery terminals and also across the H.T. terminals?*

There is no advantage in connecting a condenser across the L.T. terminals, but occasionally a condenser across the H.T. terminals will prevent "motor-boating"—or a high-pitched whistle produced by self-oscillation of the low-frequency circuits of the receiver. This condenser will only be effective if the H.T. battery has a high resistance, for example, through being run down, as the effectiveness of the condenser depends on its ability to provide an easier alternative path for the L.F. currents which would otherwise pass through the battery. If the battery has a high resistance the voltages set up across it by the L.F. currents flowing through the output valve will be fed back to other valves, and may cause oscillation to occur at audio-frequencies. This effect will not be so great if the battery is in good condition and has a low resistance; and in order for a condenser to have any appreciable effect it would have to have a very large capacity to provide an easier path for the L.F. currents than that through the battery. This is the reason why a condenser across the L.T. battery is no advantage, as an L.T. battery has a very low resistance.

ELECTRICAL INTERFERENCE

The sixth article in this series is unavoidably held over until next week.

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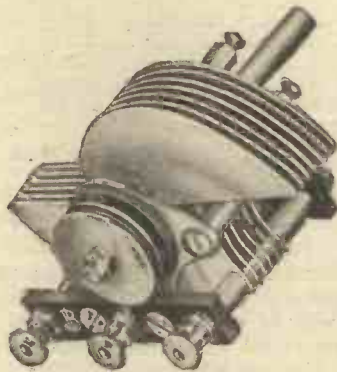
The above illustrations show the "Antinodal" Short Wave Converter exterior and interior views.

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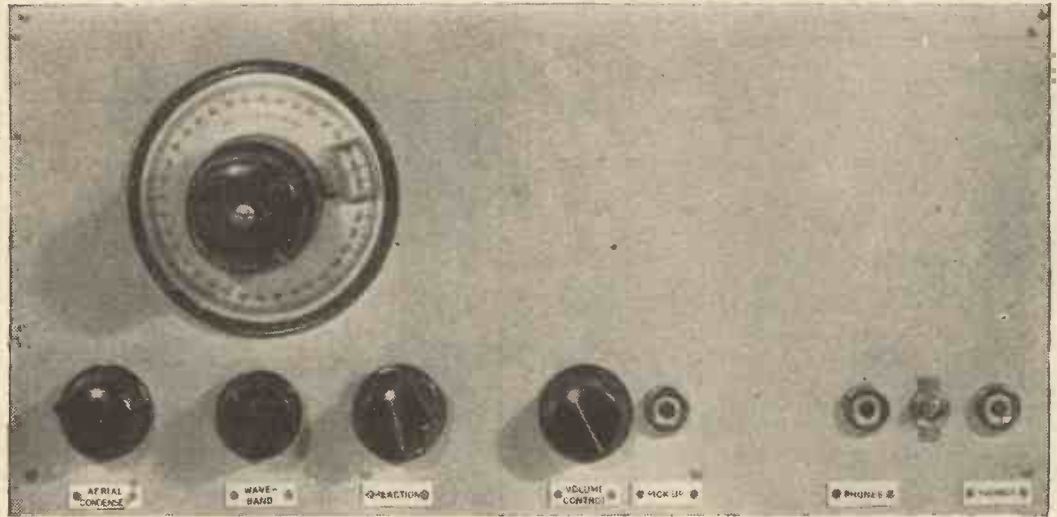
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BRITISH SUPERSENSITIVE TELEPHONES.

THE SHORT WAVES

THE EMPIRE 022



"WORLD-RADIO" SHORT-WAVE RECEIVER

WHEN the design of this receiver was under consideration it was decided that the following requirements should be fulfilled as far as possible:

- (a) The receiver should be easy to construct.
- (b) It should be easy to operate.
- (c) It should be easy to maintain in operation in any part of the world.

The first requirement meant that all the necessary components should be standard as far as possible, or easily made by a person having access only to the tools usually found in the average household.

The second requirement ruled out circuits which needed more than one tuning dial, and meant that hand-capacity effects and other difficulties often encountered in short-wave receivers should be eliminated as far as possible.

The third requirement entailed the use of as simple a form of power supply as possible, and arrangements to ensure that in the event of failure of a valve or other component the set would not be put completely out of action.

Waveband Switching

These three requirements were very carefully considered, and it was finally decided that plug-in coils should be used, but that switching arrangements should be provided to switch from one coil to another to avoid the necessity for frequent changing of coils. The two coils normally fitted in the receiver would therefore cover a sufficiently wide waveband for most purposes, but could easily be replaced by others if at any time it was desired to listen on a wavelength not covered by the normal coils.

High-frequency amplifying stages and superheterodyne circuits were ruled out as being too complicated for the requirements laid down for the receiver, and it was finally decided to use a push-pull detector stage followed by two low-frequency stages. This is indicated in the name of the receiver—the "Empire 022". The "0" indicates there are no valves in front of the detector stage; the first figure "2" indicates two detector valves; and the final "2" indicates two L.F. valves.

The advantages of a push-pull detector have been dealt with on several occasions in WORLD-RADIO and will be dealt with only briefly now. The high-frequency currents which

appear in the anode circuit of a detector valve have to be filtered out before the low-frequency rectified signals are passed on to the L.F. stages. Failure to do this satisfactorily results in the H.F. currents being fed back to the aerial circuit *via* headphone and loudspeaker leads, etc., and causes instability, bad reaction control, and howling.

Advantages of Push-Pull Detector

When a push-pull detector is used the H.F. currents in the two anode circuits flow in opposite directions and cancel out as far as the external anode circuit is concerned; consequently they are not passed on to the L.F. stages (Fig. 2). A further advantage of this cancellation of the H.F. currents in the common anode circuit is that they do not impose any damping on the tuned input circuit connected to the grids of the two detector valves. Hence the selectivity is much greater than with an ordinary single gridleak detector. Another point is that no grid condensers are required, and fairly high values of gridleaks can be used to give good rectification without at the same time causing loss of high notes.

Of course there is the disadvantage that an extra valve is required, but the advantages obtained easily outweigh this disadvantage. The two detector valves and the first L.F. valve

are of exactly the same type, so that if one spare valve is kept it can be used as a replacement in the event of failure of any one of the first three valves in the receiver. Further, failure of the output valve does not put the set out of action. Switching jacks have been included so that the output stage is not necessary when listening on headphones. Also the output valve can be used in the first L.F. stage in an emergency if a spare valve is not available to replace either a detector valve or the first L.F. valve which has failed.

Headphone and Loudspeaker Switching

Considerable thought has been given to the switching arrangements. Provision is made for plugging-in headphones after the first L.F. stage. This is the normal arrangement for listening on headphones. With the headphones in this position the filament circuit of the output valve is broken so that no unnecessary current is being used. On removing the headphone plug from this position the output valve is automatically switched on and the output is fed to two terminals to which the loudspeaker is connected. If the headphone plug is now inserted in the output jack the loudspeaker is automatically disconnected and the headphones can be used for listening with the output stage in circuit.

Another jack is provided for a gramophone pick-up. When a pick-up plug is inserted in this jack it automatically breaks the filament circuit of the two detector valves and connects the pick-up to the grid of the first L.F. valve. If this jack is not wanted for a pick-up it can of course be omitted; or it can be connected up in a similar manner to the one in the circuit of the first L.F. valve so that the headphones can be used immediately after the detector valve with the filaments of the two L.F. stages switched off.

Simplified Circuit

The basic circuit of the receiver is shown in Fig. 1. The switch for changing from one coil to another has been omitted, and of course need not be fitted by readers who have no objection to changing

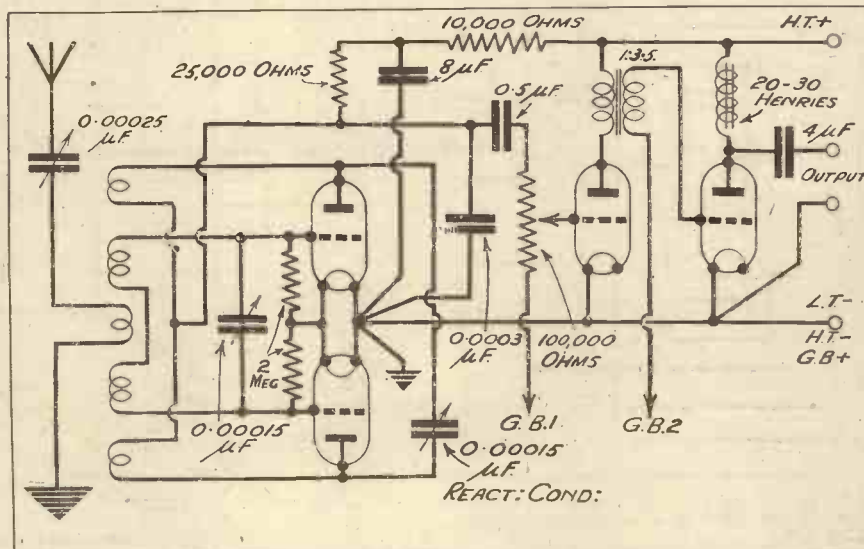


Fig. 1—Simplified circuit diagram, omitting wave-change switch and switching jacks

coils if they are unable to receive on one coil all the stations to which they wish to listen. In this connexion, however, an important point should be noticed. Standard coil-formers have only six pins, whereas seven connexions are actually required for the various windings necessary for the push-pull detector. The seventh connexion is used to earth the aerial winding, and if frequent coil-changing is to be carried out it will be necessary to fit an additional pin or other contact on the coil former, with the corresponding socket or contact on the coil base.

If two coils are fitted, with a change-over switch as shown in the complete diagram in Fig. 3, frequent coil-changing is not required, and the earth end of the aerial winding in each case can be connected by means of a small crocodile clip to a lead running to the main earth terminal of the receiver. Alternatively a small terminal can be fitted on each coil former to take the earth end of the winding and the end of the lead running to earth.

The earth connexion to each coil does not pass through the change-over switch, as do the other six connexions, so that only six sets of contacts are required on the change-over switch. The earth end of each aerial winding is therefore connected to earth whether the coil is in circuit or not.

Reaction Control

The method of controlling reaction will be seen from the simplified diagram. By using a reaction winding with its centre connected to the anode resistance common to the two detector valves, the H.F. currents flowing through the anode circuits of the two valves assist each other as far as the reaction winding is concerned, but cancel out in the common anode resistance (Fig. 2). The reaction condenser is connected across the reaction winding to control the amount of current flowing through the winding, and it will be found that very smooth control of reaction is obtained without any trace of backlash or sudden jumps into oscillation.

A variable resistance, having a maximum value of about 5,000 ohms, can be used in place of the reaction condenser, but most commercial resistances of this type do not give such a smooth variation as a condenser, although they have

been found to work quite well in this circuit. The small amount of damping present when a push-pull detector is employed is demonstrated by the relatively small number of turns required in the reaction winding. One turn in each half of the winding will usually be found to be adequate, and space should be left on the coil-former for increasing the distance between this

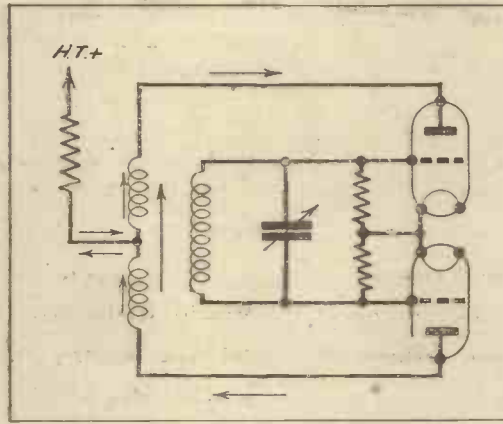


Fig. 2—Illustrating cancellation of H.F. currents in common anode circuit of push-pull detector valves. Reaction is obtained by a centre-tapped coil

winding and that of the grid winding, in the event of the amount of reaction being too great in any particular case where the use of low-loss components and careful wiring have kept the damping to a very low value.

Condensers

The variable condenser in series with the aerial is of great value in enabling smooth reaction to be obtained at any part of the waveband with any aerial. Normally, this condenser is set so that the reaction condenser is effective over the part of the waveband being used; but if this condenser, as well as the reaction condenser, is fitted with a slow-motion dial, it will be found that it can be used as an auxiliary reaction condenser for very fine control. It is not essential, however, for these two condensers to be fitted with slow-motion dials, but it is desirable to fit one to the reaction condenser,

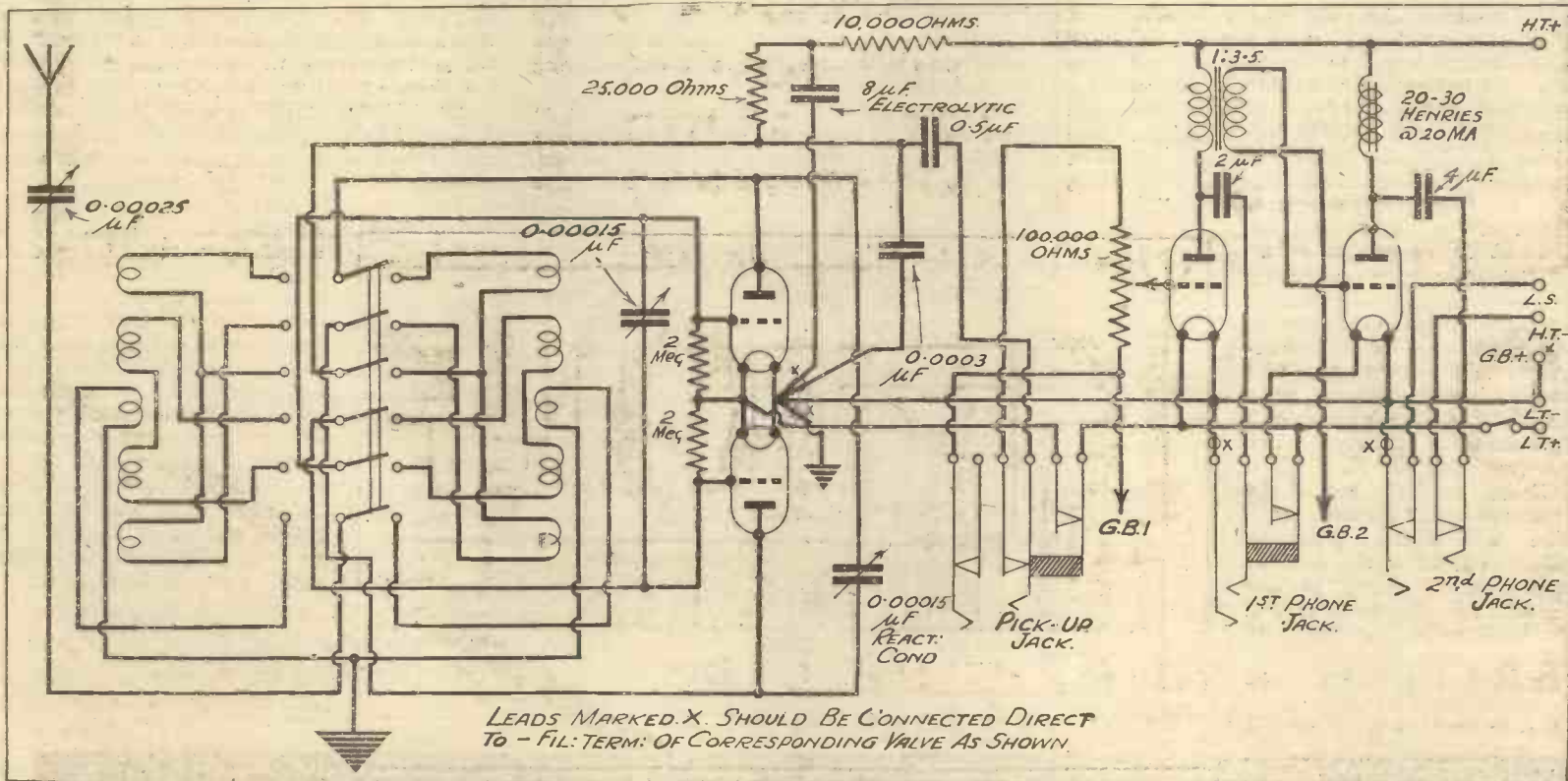
and, of course, essential to fit one to the main tuning condenser if weak stations are not to be missed.

The condensers used in a push-pull circuit should preferably be of the symmetrical type, with two sets of fixed plates connected to the circuit, and a set of moving plates which is not connected to any part of the circuit but controls the capacity between the two sets of fixed plates. Unfortunately, there has been so little demand for condensers of this type during the last few years that they are not now easily obtained, although they have been used quite extensively in the past. Precautions have, therefore, been taken to ensure that condensers of the ordinary variety, with one set of fixed plates and one set of moving plates, can be used satisfactorily in this receiver

The main difficulty with the ordinary type is that the moving plates cannot be connected to earth in a push-pull grid-tuning circuit, since they are connected to the grid of one of the valves. In addition, they should have the same stray capacity to earth as the fixed plates which are connected to the other grid, so that both valves operate under conditions which are as nearly alike as possible. This difficulty has been overcome by fitting the grid-tuning condenser well away from the metal panel with an extension spindle of ebonite or other insulating material. At the same time, this arrangement prevents hand-capacity effects.

In order to keep the leads to the change-over switch short, this also has been fitted with an extension spindle. It is also desirable to do the same with the reaction condenser, but in order to avoid taking up more space than is absolutely essential, this condenser has been fitted on the panel with an insulating bush, and has been found to work satisfactorily, except that there is just a trace of hand capacity when working very near the oscillation point, and using only a small knob. This effect is absent when a slow-motion dial of about 2 in. diameter is used, or if the condenser is mounted sufficiently far behind the panel to prevent the metal spindle coming within half an inch or so of the panel.

Air condensers should preferably be used for both the reaction condenser and the aerial series condenser, as well as, of course, the main



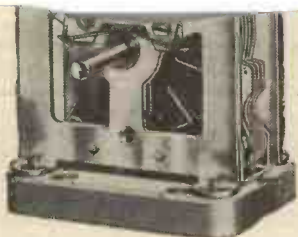
LEADS MARKED X SHOULD BE CONNECTED DIRECT TO - FIL. TERM. OF CORRESPONDING VALVE AS SHOWN.

Fig. 3—Complete circuit diagram of the "Empire 022" short-wave receiver

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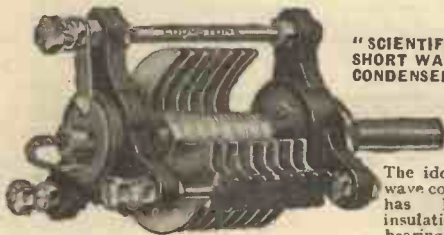


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IMPORTANT ANNOUNCEMENT

IN ANTICIPATION OF many requests from Readers for details of Kits of Tested Components to build the Short-Wave Receivers described in "World-Radio" Messrs. PETO-SCOTT Co. Ltd., famous for PILOT AUTHOR KITS, have decided to market "World-Radio" Kits, consisting of tested and matched components complete with drilled panels and baseboards, all fixing screws and connecting wires and FULL SIZED BLUE PRINT AND WIRING DIAGRAMS.

The technical staff is now engaged upon matching the components and preparing details for the "World-Radio" 4 valve Short Waver described in this issue.

All those interested are invited to write direct to Messrs. PETO-SCOTT Co. Ltd., at 77, City Road, London, E.C.1.

tuning condenser. Condensers with mica or similar insulating material between the plates are very compact, but they have an annoying habit of producing nasty scraping noises when used on short-waves.

It will be noticed that a volume control has been fitted to control the input to the first L.F. valve. This is very useful when listening on headphones to a badly-fading signal with the headphones plugged in after the last valve. The full amplification of the receiver is then available when the signal is weak, and the volume can be controlled by the potentiometer when the strength of the signal would otherwise be so great as to deafen the listener.

Layout

The general layout of the components can be seen from the photographs. The main point to be borne in mind is that the circuits connected to the two push-pull detector valves should be arranged as symmetrically as possible with respect to the valves. For the full advantages of this form of rectification to be obtained both valves must behave exactly alike, and to ensure this, all the connexions to them should be of exactly the same length and arrangement. The change-over switch has been arranged centrally for this reason, and the two coils which are connected to this switch have been placed on each side of it to keep the leads to them as short as possible.

The ordinary precautions should be observed with the L.F. stages, such as avoiding close proximity of grid and anode leads. Space has been left for fitting an output transformer in cases where a low impedance loudspeaker is used, and it is desired to fit the transformer in the receiver instead of at the loudspeaker.

The receiver should be fitted in a metal box or in a wooden cabinet which is metallised or lined with metal foil; and particular care should be taken to ensure that good electrical contact is made between the metal panel and all metal parts of the cabinet and the earth terminal.

Insulating bushes are required for the components mounted on the metal panel, but, if desired, a wooden panel can be used provided it is lined with metal.

If the receiver is to be used in the tropics, brass is probably the best metal to use for the panel, and it can be painted with cellulose enamel, but care must be taken that a good electrical connexion is made between the panel, brackets, etc., if the painting is done before assembly.

Coil Windings

The coils are wound with fairly thick wire, about No. 18, S.W.G., which should preferably be enamelled. When making connexions to enamelled wire particular care should be taken to scrape off the enamel at the point where connexion is made. Failure to do this properly may lead to mysterious faults which are not easily discovered. For example, it may be found that the receiver functions fairly well but cannot quite be made to oscillate, simply because one of the connexions has not been properly made.

The following are details of coils wound on a 2 3/4 in. former for use with a 0.00015 μ F tuning condenser. The turns are spaced 3/16 in. apart.

15—35 metres

- Aerial winding 2 turns
- Grid " 4 " (2 turns in each half)
- Reaction " 2 " (1 " " " ")

25—55 metres

- Aerial winding 2 turns
- Grid " 8 " (4 turns in each half)
- Reaction " 2 " (1 turn " " ")

The aerial winding is in the middle of the former, and the grid winding is split in two and wound on each side of the aerial winding, with the reaction winding in two halves on each side of the grid winding. All are wound in the same direction, but it will be seen from Fig. 3, which shows the connexions of the windings and the wave-change switch, that the end of the reaction winding which goes to the anode of one particular valve is in the opposite half of the coil former to the end of the grid winding which goes to the same valve. This has the effect of reversing the coil so that the reaction effect is in the correct sense.

List of Components

The following is a list of components required for the receiver.

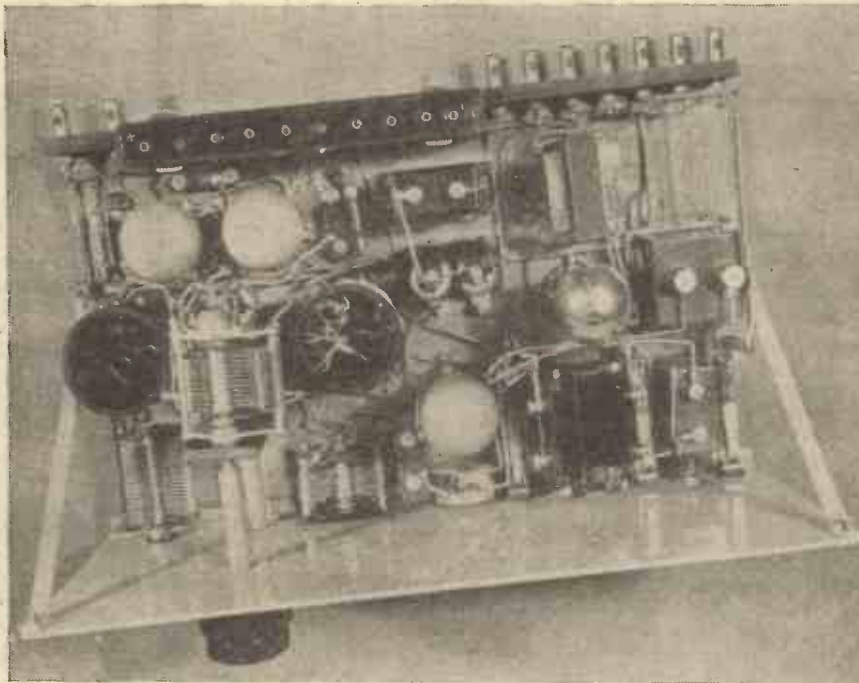


Fig. 4—Illustrating the layout of the receiver

- Main tuning condenser, 0.00015 μ F, with slow-motion dial.
- Extension spindle and supporting bracket for above.
- Aerial series condenser, 0.00025 μ F or 0.0003 μ F, preferably with slow-motion dial.
- Reaction condenser, 0.00015 μ F, preferably with slow-motion dial.
- 2 6-pin coil formers with bases.
- 6-pole, 2-way anti-capacity switch.
- Extension spindle for above.
- Anode resistance, 25,000 ohms.
- Decoupling resistance, 10,000 ohms.
- Fixed condenser, mica, 0.0003 μ F.
- Electrolytic condenser, 8 μ F.
- 2 2-megohm gridleaks.
- Fixed condensers, 0.5 μ F, 2 μ F, and 4 μ F.
- Potentiometer, 100,000 ohms, for L.F. volume control.
- Intervolve transformer, 1 : 3.5 ratio.
- Output choke, 20—30 henries at 20 mA.
- Filament switch.
- Jacks (two 6-point, one 4-point) and plug.
- Panel bushes.
- Metal panel, 18 in. by 8 in., and brackets.
- Baseboard, 18 in. by 10 in.
- Terminals and terminal strips.
- 4 low-loss valveholders.
- 3 2-volt valves about 20,000 ohms impedance.
- 1 2-volt output valve, about 2,000 ohms impedance.

- Grid-bias battery, 15 volts.
- H.T. battery 120 volts to give 12 mA.
- L.T. accumulator, 2 volt.

Further information regarding the connexions of the coils to the wave-change switch, and the wiring and operation of the receiver will be given next week.

Christmas Day on the Short Waves

THERE is every possibility that short-wave conditions will improve before Christmas Day, and, in fact, December 25 looks like being the peak day of a period of good reception.

Starting at 7 a.m., we should listen on the 49-metre waveband for a few late American broadcasters keeping up the festive spirit of Christmas Eve, or ushering in the new day with carols. Then, turning down the dials to 31 metres, we may possibly hear VK2ME, though I don't think that this popular station will be transmitting on this occasion,

but there is a possibility of picking up VK2ME on 31.28 metres between 6 and 8 a.m. on Christmas Eve.

From 8 a.m. until 11 a.m. watch should be kept from 14 to 30 metres, although no station is definitely known to be broadcasting at this time, but this is the best time for reception from the Far East and possibly J1AA on 30.4 metres might be heard, and some of the 15-16-metre Bandoeng stations.

Round about noon watch should be kept on 19 and 16 metres, since an early transmission by W8XK (19.72 metres), W2XAD (19.56 metres) or W3XAL (16.87 metres) should not be overlooked, but the best time for listening on these two broadcasting bands will be from 1 p.m. until 4 p.m. If conditions are particularly good, reception of W8XK on 13.93 metres should be attempted at these times as well. The 10 to 10.15 a.m. transmission by HVJ on 19.84 metres should not be overlooked, and if you do not

hear it, try for HVJ on 50.26 m.

The special Christmas Day broadcast by H.M. the King, timed to begin at approximately 2.58 p.m., will, I understand, be transmitted by the Empire station on two wavelengths—GSE (25.28 metres) and GSG (16.86 metres).

From 4 p.m. onwards, watch should be kept on 25 metres and on 31 metres, but the possibility of transmission by EAQ, Madrid (30 metres) may help to make things interesting. CNR, Rabat, may be working during the afternoon on 23.39 m. as this station is scheduled to transmit on Sundays and public holidays.

From 7 p.m. until 7.15 p.m., there is HVJ on 50.26 metres, and from 9 p.m. until 11 p.m. or midnight, watch should be kept for the United States broadcasters on 49 metres, especially W3XAL on 49.18 metres.

Any experimental transmissions by W2XAF should be heard best between 4 p.m. and 7 p.m., and the same times apply to transmissions in the 31-metre band—W1XAZ and W3XAU.

Rome should be available most of the afternoon on 25.4 metres, and Zeesen will probably be good on DJB (19.73 m.) at midday and on DJC (49.83 m.) from 7.30 p.m. onwards. OXY on 49.26 m. and Jelöy on 42.92 m. will be our final stations and should, of course, be listened for during the afternoon and evening.

A Merry Christmas—and Good Listening.
"MICROM."

SHORT-WAVE BROADCASTING HOUR BY HOUR

00.00 to 01.00

HCJB (73) 00.30—01.00 ex. Tues. VE9DR (49.96). DJC (49.83). W8XAL (49.5). VE9CS (49.43) Mon. W9XAA (49.34) Mon. W9XAA (49.34) Mon. CP5 (49.3) 00.30—01.00. VE9BJ (49.26). VE9GW (49.22). W3XAL (49.18) Sun., W9XF (49.18) ex. Sun. VE9HX (49.1) Sun., Mon. YV1BC (49.08). W2XE (49.02). W8XK (48.86). CN8MC (48) Tues. W3XL (46.69) Sat. TI4NRH (32). W2XAF (31.48) 00.45—01.00. DJA (31.38). EAQ (30). FYA (25.63). VE9JR (25.6) ex. Sun. W1XAL (25.45) Sun. W8XK (25.27).

01.00 to 02.00

HCJB (73) ex. Tues. VE9DR (49.96). DJC (49.83). W8XAL (49.5). W3XAU (49.5). VE9CS (49.43) Mon. CP5 (49.3). VE9BJ (49.26) 01.00—01.30. VE9GW (49.22). W3XAL (49.18) Sun. VE9HX (49.1) Sun., Mon. YV1BC (49.08). W2XE (49.02). W8XK (48.86). W3XL (46.69) Sat. VE9BY (46.67) Sat. W2XAF (31.48). DJA (31.38). FYA (25.63). VE9JR (25.6) ex. Sun. W1XAL (25.45) Sun. W8XK (25.27).

02.00 to 03.00

HCJB (73) ex. Tues. VE9DR (49.96). DJC (49.83) 02.00—02.15. W8XAL (49.5). W3XAU (49.5). VE9CS (49.43) Mon. CP5 (49.3). VE9GW (49.22). W3XAL (49.18) Sun. W9XF (49.18). VE9HX (49.1) Sat., Sun. YV1BC (49.08). W2XE (49.02). W8XK (48.86). W3XL (46.69) Sat. VE9BY (46.67) Sun. also Thurs. 02.30—03.00. PRADO (45.31) Fri. W2XAF (31.48). DJA (31.38) 02.00—02.15. VE9JR (25.6). W1XAL (25.45) Sun. W8XK (25.27).

03.00 to 04.00

VE9DR (49.96). W8XAL (49.5). W3XAU (49.5). VE9CS (49.43) Mon. CP5 (49.3). VE9GW (49.22). W3XAL (49.18) Sun. W9XF (49.18). VE9HX (49.1) Sun., Mon. YV1BC (49.08) 03.00—03.30. W2XE (49.02). W8XK (48.86). W3XL (46.69) Sat. VE9BY (46.67) Sun., also Thurs. 03.00—03.30. PRADO (45.31) Fri. TGW (45). HJ4ABB (41.9) Sun. W2XAF (31.48). FYA (25.63). VE9JR (25.6) Sun. W1XAL (25.45) Sun.

04.00 to 05.00

VE9DR (49.96) 04.00—04.30. W8XAL (49.5). W3XAU (49.5). VE9CS (49.43) Mon. CP5 (49.3) 04.00—04.30. VE9GW (49.22) d'ly & Sun. 04.00—04.30. W3XAL (49.18) Sun. W9XF (49.18) ex. Sat. W8XK (48.86). W3XL (46.69) Sat. TGW (45). PRADO (45.31) Fri. 04.00—04.30. FYA (25.63). VE9JR (25.6) Sun.

05.00 to 06.00

W8XAL (49.5). W3XAU (49.5). VE9CS (49.43) Sat. 05.30—06.00. W3XAL (49.18) Sun. W9XF (49.18) ex. Sat. ZTJ (49) 05.45—06.00 ex. Sun. W3XL (46.69) Sat.

06.00 to 07.00

VE9BY (62.56) Sun. W8XAL (49.5) 06.00—06.30. VE9CS (49.43) Sat. 06.00—06.45. W9XF (49.18) ex. Sat. ZTJ (49) 06.00—06.30 ex. Sun. VK2ME (31.28) Sun.

07.00 to 08.00

FIQA (52.7) Sun. 07.30—08.00. VK2ME (31.28) Sun.

08.00 to 09.00

FIQA (52.7) 08.00—08.45. Sun. to 09.00.

09.00 to 10.00

(No regular schedules)

10.00 to 11.00

HVJ (50.26) Sun. 10.00—10.30. ZTJ (49) ex. Sun. VK3ME (31.55) Wed. and Sat. VK2ME (31.28) Sun. FYB (28.36) Time Sig. 10.26. HVJ (19.84) 10.00—10.15.

11.00 to 12.00

W8XAL (49.5). ZTJ (49) ex. Sun. ZGE (48.9) Tues. and Fri. 11.30—12.00. VK3ME (31.55) Sat., also Wed. 11.00—11.30. VK2ME (31.28) Sun.

ALL TIMES ARE GIVEN IN G.M.T.

INTERNATIONAL WAVEBANDS FOR SHORT-WAVE BROADCASTING

Metres	Kc/s
50 - 48.8	6,000 - 6,150
31.6 - 31.2	9,500 - 9,600
25.6 - 25.2	11,700 - 11,900
19.85 - 19.55	15,110 - 15,350
16.9 - 16.85	17,750 - 17,800
14.0 - 13.9	21,450 - 21,550
11.7 - 11.27	25,600 - 26,600

ALLOCATION OF WAVELENGTHS FOR DAY AND NIGHT TRANSMISSIONS

Conditions	Metres
Daylight	14 and 16
Twilight	19 and 25
Evening	31
Night	49

Many Short-Wave Broadcasting Stations are experimental only and therefore schedules are liable to change, often without notice.

WORLD-RADIO COPYRIGHT

17.00 to 18.00

FIQA (52.7) Sat. 17.30—18.00. VE9DR (49.96). VQ7LO (49.5). VE9CS (49.43) Sun. UOR2 (49.4) Tues. and Thurs. W9XAA (49.34) Sun. VE9GW (49.22) Sun, Fri and Sat. VUC (49.1) ex. Fri., Sat. 17.45—18.00. VE9HX (49.1) 17.00—17.30. YV1BC (49.08) ex. Sun. ZTJ (49) ex. Sun. DJA (31.35) 17.30—18.00. W3XAU (31.28). VE9JR (25.6) ex. Sun. DJD (25.51). FYA (25.25). DJB (19.73) 17.00—17.30. W8XK (19.72). W2XE (19.64). CP4 (19.61) 17.00—17.30. W3XAL (16.87). W8XK (13.93).

18.00 to 19.00

FIQA (52.7) Sat. VE9DR (49.96). W8XAL (49.5) 18.30—19.00. VQ7LO (49.5). VE9CS (49.43) Sun. UOR2 (49.4) Tues. and Thurs. OXY (49.4). W9XAA (49.34) Sun. VE9GW (49.22) Sun. VUC (49.1) Sat. YV1BC (49.08) 18.00—18.30 ex. Sun. ZTJ (49) d'ly, Sun. to 18.30. DJA (31.38). W3XAU (31.28). 29.04 (Ruyssede). VE9JR (25.6) ex. Sun. DJD (25.51). FYA (25.25). W8XK (19.72). W3XAL (16.87). W8XK (13.93).

19.00 to 20.00

HVJ (50.26) 19.00—19.15. RW59 (50). VE9DR (49.96). DJC (49.83) 19.30—20.00. W8XAL (49.5). VQ7LO (49.5) Sat. VE9CS (49.43) Sun. UOR2 (49.4) Tues. and Thurs. OXY (49.4) W9XAA (49.34) Sun. VE9GW (49.22) Fri. Sat., and Sun. VUC (49.1) Sat. YV1BC (49.08) Sun. ZTJ (49). DJA (31.38). W3XAU (31.28). VE9JR (25.6) ex. Sun. DJD (25.51) 19.00—19.30. FYA (25.25) 19.00—19.15. W8XK (19.72). W2XAD (19.56) Sun., also Mon., Wed., Fri. 19.30—20.00. W3XAL (16.87).

20.00 to 21.00

EAJ25 (50) Sat. 20.30—21.00. RW59 (50). VE9DR (49.96). DJC (49.83). W8XAL (49.5) 20.00—20.30. VE9CS (49.43) Sun. UOR2 (49.4) Tues. and Thurs. OXY (49.4). W9XAA (49.34) Sun. VE9GW (49.22). VUC (49.1) Sat. YV1BC (49.08) Sun. ZTJ (49). CN8MC (48) Mon. and Tues. CNR (37.33) Sun. DJA (31.38). W3XAU (31.28). FYA (25.63). VE9JR (25.6) ex. Sun. W2XE (25.36). FYA (25.25). W8XK (19.72). W2XAD (19.56) Sun., also Mon., Wed., Fri. 20.00—20.30.

21.00 to 22.00

EAJ25 (50) 21.00—21.30. RW59 (50). VE9DR (49.96). DJC (49.83). VE9CS (49.43) Sun. OXY (49.4). W9XAA (49.34) Sun. VE9GW (49.22). W3XML (49.18) 21.30—22.00. W9XF (49.18). YV1BC (49.08) Sun. ZTJ (49) 21.00—21.30 ex. Sun. W8XK (48.86) 21.30—22.00. W3XL (46.69) Fri. 21.30—22.00. VE9BY (34.68) Mon. DJA (31.38). W3XAU (31.28). CT1AA (31.25) Tues. and Fri. 21.30—22.00. FYA (25.63). VE9JR (25.6) ex. Sun. W2XE (25.36). W8XK (25.27) 21.30—22.00. FYA (25.25). W8XK (19.72).

22.00 to 23.00

RW59 (50). VE9DR (49.96). DJC (49.83). VE9CS (49.43) Sun. OXY (49.4). W9XAA (49.34) Sun. VE9GW (49.22). W3XAL (49.18) Sat. W9XF (49.18). VE9HX (49.1) Sat. and Sun. YV1BC (49.08). ZTJ (49) Sat. 22.00—22.45. W8XK (48.86). W3XL (46.69) Fri. EAR110 (43) Tues. and Sat. 22.30—23.00. HBP (38.47) Sat. 22.00—22.45. DJA (31.38). HBL (31.32) Sat. 22.00—22.45. W3XAU (31.28). CT1AA (31.25) Tues. and Fri. CT3AQ (26.83) Tues and Thurs. FYA (25.63). VE9JR (25.6) ex. Sun. W1XAL (25.45) Sat. 22.30—23.00. W8XK (25.27). FYA (25.25). W8XK (19.72) 22.00—22.15.

23.00 to 00.00

VE9DR (49.96). DJC (49.83). VE9CS (49.43) Sun. W9XAA (49.34) Sun. VE9GW (49.22). W3XAL (49.18) Sat. W9XF (49.18) ex. Sat. VE9XH (49.1) Sat. and Sun. YV1BC (49.08) Sun. 23.00—23.00 only. W2XE (49.02). W8XK (48.86). W3XL (46.69) Fri. TI4NRH (32) 23.30—24.00. DJA (31.38). CT1AA (31.25) Tues. and Fri. EAQ (30). FYB (28.36) Time Sig. 11.20. CT3AQ (26.83) Tues. and Thurs. 23.00—23.39. FYA (25.63). VE9JR (25.6) ex. Sun. W1XAL (25.45) Sat. W8XK (25.27).

12.00 to 13.00

W8XAL (49.5). ZTJ (49) ex. Sun. ZGE (48.9) Sun., Tues, Fri. VK2ME (31.28) Sun. CNR (23.39) Sun. 12.30—13.00. PHI (16.88) ex. Tues. and Wed. 12.30—13.00. W8XK (13.93).

13.00 to 14.00

VE9DR (49.96). W8XAL (49.5). VQ7LO (49.5). UOR2 (49.4) Tues. and Thurs. 13.30—14.00. VE9GW (49.22) Fri. and Sat. ZGE (48.9) Sun., Tues., and Fri. 13.00—13.30 only. W1XAZ (31.35). VK2ME (31.28) Sun. PHI (25.57) ex. Tues., Wed. DJD (25.51). DJB (19.73). FYA (19.68). PHI (16.88) ex. Tues. and Wed. W8XK (13.93).

14.00 to 15.00

VE9DR (49.96). W8XAL (49.5). VQ7LO (49.5). UOR2 (49.4) Tues. and Thurs. VE9GW (49.22) Fri. and Sat. VUC (49.1) Fri. 14.30—15.00. VE9HX (49.1) 14.30—15.00. YV1BC (49.08) Sun. ZTJ (49) Sun. VK2ME (31.28) Sun. VE9JR (25.6) 14.30—15.00 ex. Sun. PHI (25.57) ex. Tues., Wed. DJD (25.51). DJB (19.73). FYA (19.68). PHI (16.88) Sat. and Sun., Tues. and Wed. 14.00—14.30. W3XAL (16.87). W8XK (13.93).

15.00 to 16.00

FIQA (52.7) ex. Sun. VE9DR (49.96). W8XAL (49.5) 15.00—15.30. VQ7LO (49.5). VOR2 (49.4) Tues. and Thurs. W9XAA (49.34) Sun. VE9GW (49.22) Fri. and Sat. VUC (49.1) 15.30—16.00 ex. Fri. and Sat. VE9HX (49.1). YV1BC (49.08) Sun. ZTJ (49). VK2ME (31.28) Sun. CT3AQ (26.83) Sun. 15.30—16.00. VE9JR (25.6) ex. Sun. PHI (25.57) ex. Tues., Wed. DJD (25.51). FYA (25.25). DJB (19.73). W8XK (19.72). FYA (19.68). W3XAL (16.87). W8XK (13.93).

16.00 to 17.00

VE9DR (49.96). VQ7LO (49.5). UOR2 (49.4) Tues. and Thurs. W9XAA (49.34) Sun. VE9GW (49.22) Fri. and Sat. VUC (49.1) ex. Fri. and Sat. VE9HX (49.1). YV1BC (49.08) d'ly Sun. to 16.30. ZTJ (49) d'ly, Sun. to 16.30. CT3AQ (26.83) Sun. VE9JR (25.6) ex. Sun. DJD (25.51). FYA (25.25) 16.15—17.00. DJB (19.73). W8XK (19.72). W2XE (19.64). CP4 (19.61) 16.30—17.00. W3XAL (16.87). W8XK (13.93).

Below 100 Metres

By "MIDLANDER"

(December 10-14)

CONDITIONS for short-wave reception have not shown any marked improvement this week, although they are slightly better than when I made my last report—a fortnight ago. Unfortunately this state of affairs lessens the chance of reporting items of outstanding interest.

On Sunday, December 10, at 11.30 a.m., Sydney, VK2ME (31.28 m.) was faintly audible, but, owing to long-period fading, was not highly intelligible. However, during the later session, beginning at 2 p.m., signal strength was much better and there was a corresponding increase in programme value. Although American telegraphy stations were audible during the afternoon and early evening, neither W8XK or W3XAL were heard during this period.

At 4.30 p.m., Moscow RW72 (45.38 m.) was an excellent signal and of very high intelligibility. RW59 (Moscow, 50 m.) was also an excellent signal at 9.40 p.m., being easily 100 per cent. intelligible. OXY (49.4 m.) was heard weakly, programme value being low owing to fading and static. FYA (25.25 m.) at this time was quite good, but suffering from his usual fluttering fade.

CT1AA Testing on 19.54 m.

Between 3 p.m. and 3.30 p.m. on Monday, December 11, the Portuguese station CT1AA continued tests on 19.54 m., and was a very strong signal, of excellent quality. During the earlier part of the transmission the carrier seemed excessively strong compared with modulation, although the latter was by no means weak.

At 3.40 p.m. FYA (19.68 m.) was of fair strength and about 80 per cent. intelligible. An hour later RW72 (Moscow) was again heard, being of very good strength, although programme value was spoilt by bad fading. Jelöy (42.92 m.) was heard at this time and, although signals were quite loud, intelligibility was marred by deep and frequent fading.

On Tuesday, commercial transmitters were very good signals round about 16 m. and 19 m., but nothing was heard of W3XAL and W8XK at 3 p.m. Three-quarters of an hour later W8XK was heard weakly, but was of low programme value. At 6.25 p.m., DJA (31.38 m.) was quite a good signal, but unfortunately suffering from terrific noise level.

At 2.35 p.m. on Wednesday, DJD (25.51 m.) was an excellent signal and of good quality, being easily 100 per cent. intelligible. CT1AA (19.54 m.) at this time was again testing, signals being very strong and quality excellent. Transmission, however, was marred by terrific noise level and bad fading. At 3 p.m. the carriers of W8XK and W3XAL were audible, but there was no sign of modulation. At 4.30 p.m. W3XAL was heard weakly with about 40 per cent. programme value. An occasional burst of strong modulation was all that could be heard of W8XK at this time. Jelöy (42.92 m.) was an excellent signal a few minutes later, being about 90 per cent. intelligible. At 7.50 p.m. W2XAD (19.56 m.) was audible but weak, with a programme value of about 40 per cent.

Moscow (50 m.) was a very good signal at this time, being easily 100 per cent. intelligible. OXY was of fair strength, but, owing to telegraphy interference, was of low intelligibility. Rome was also heard, but only as a "screechy" intelligible signal. On Thursday, December 14, at 10.5 a.m., AVJ (19.84 m.) was an excellent signal and of good quality, with no fading and of 100 per cent. intelligibility.

TO OUR READERS

Kindly mention WORLD-RADIO when replying to advertisements.

EDDYSTONE

ALL WAVE RADIO



Only those who have handled the new 1934 Kilodyne can appreciate its wonderful capabilities. Unlike many "All Wave" receivers, the Kilodyne is not an ordinary set adapted afterwards for short wave working, but an instrument designed for efficient short wave reception as a first consideration and adapted later for the higher wavelengths. The features of the design are ease of operation, an excellent slow motion open vision tuning control, freedom from objectionable body capacity effects even on the shortest waves, no dead spots in any wave-range, and smooth and definite reaction everywhere.

Folder K.4, free on request, gives full particulars of this outstanding receiver.

SPECIFICATION

COMPLETE KIT OF PARTS FOR BATTERY OR A.C. MAINS WORKING:—Four valve stages. S.G. Det. L.F. Pentode. Rigid one piece die-cast aluminium chassis, battleship grey cellulose finish. Bakelite wood finish panel. Automatic grid bias. Drop fed, decoupled H.T. Genuine one-dial tuning. Gramophone P.U. Terminals. Wave-range 13.92 metres and 230/490 metres, but adaptable to any other wavelength up to 2,000 metres if required. Easily assembled without soldering. Complete with erection and instruction booklet. Price does not include valves or cabinet.



KILODYNE 4

PRICE
Battery Model
£6.15.0
A.C. All Mains
Model
£12.0.0

STRATTON & CO., Ltd., BROMSGROVE ST., BIRMINGHAM. London Service Depot: 14, Soho St. Oxford St. W.1.

Two Ideal Gifts

EELEX

SHORT-WAVE CONVERTOR



52/6
less valve

A wonderful invention that converts sets into all-wave receivers. No alterations necessary—when connected to the aerial and earth terminals stations between 16-190 metres can be tuned in. Will add 70 extra stations to the log of most receivers.

Short-wave reception is getting increasingly popular, more and more people are taking an interest in this fascinating side of broadcasting—the greater range that is possible on the short-wave attracts many enthusiasts who are interested in receiving programmes broadcast from America and all parts of the world. A wonderful gift for your friends.

EELEX TESTING PRODS



A gift of Eelex Testing Prods will be welcomed by your constructor friends. The ideal testing instrument for the wireless enthusiast, eliminating all danger of shock, burnt-out valves, or displaced wires. Recommended by all wireless papers. Price

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per pair.

Write for booklet D. 4.

J. J. EASTICK & SONS,
Eelex House, 118 Bunhill Row,
London, E.C.1.

Phone: Metropolitan 0314 (6 lines)

Correspondence

Screened-grid Valve as Detector

To the Editor of WORLD-RADIO

SIR,—In the Dec. 8 issue of WORLD-RADIO, I notice that W. T. W., of Burnham-on-Crouch, is asking for readers' opinions on the use of an SG valve in place of a triode, and I think he might be interested in my experience in this matter. I recently built a two-valve short-wave receiver, a straight circuit, but was not quite satisfied with the results, so I endeavoured to improve it, which I succeeded in doing with the aid of an SG valve in place of the triode, the only other parts required being a two mfd. condenser and an additional H.T. tapping. The strength of signals was doubled and quality has much improved. It has altogether put new life into the set, and I might add that it is perfectly easy to handle.

Yours faithfully,

Standon, Herts.

E. J. W.

Short-Wave Aerials

To the Editor of WORLD-RADIO

SIR,—With regard to the letter entitled "Short-wave Aerials" in a recent issue of WORLD-RADIO, I see that the writer has had disappointing results when using a SG valve in place of a triode valve as detector. About three years ago I converted an existing o-v-2 short-wave set to this method of detection with a reasonable amount of success. One big advantage is the absence of "blind spots" in the tuning, and I am certain that an all-round gain in signal strength resulted. Incidentally the set was not critical in regard to the choice of SG valve. It is of course very hard to tell when any improvement has been effected in a short-wave set because of the infinitely variable conditions from one day to another. My present short-wave set is a SG-v-1 type, and if the SG valve does not give much H.F. amplification in this position it compensates in one or two other respects.

With regard to the writer's comments on short-wave aerials, I have carried out a few tests, and I think that there is little, if any, difference in results obtained with special aerials or standard broadcast aerials. I find that an inverted-L type of aerial, about 12 feet long in the horizontal portion and 25 feet long in the down-lead, tends to give slightly better results on wavelengths from 12 metres to about 30 metres. This aerial, I would add, is indoors.

Yours faithfully,

Rotherham.

E. S.

"A Voz do Brazil"

To the Editor of WORLD-RADIO

SIR,—Replying to A. W. M. (Middlesbrough) in your issue of November 3, I have no doubt the station he heard has long since been identified in Europe as The Radio Club of Brazil, in its session, "A Voz do Brazil"—the voice of Brazil. This club recommenced its short-wave transmissions early that month on a wavelength of 36.6 m., beginning at 00.00 and closing down at 00.30 (G.M.T.), during which period Brazilian music and the news of the country and world news is given out by the Brazilian writer, Medeiros e Albuquerque. The closing announcements are in Portuguese, Spanish, and English. On certain evenings in the near future special advertising programmes will begin at 23.00 G.M.T.

The station is situated at Rio de Janeiro, the capital of Brazil, but I do not know the actual power used. The station is about 800 miles south of Bahia and is received here with great strength every evening.

With all good wishes,

Yours faithfully,

Bahia, Brazil.

W. R. J.

Short-Wave Hints

Winding Low-Loss Coils

When winding short-wave coils on ribbed formers it is a good idea to cut away some of the superfluous ebonite between the ribs, leaving only a ring at each end for support. If the former is very long, intermediate rings may be left so as not to weaken the former unduly. When cutting out the former a hole should first be drilled at each corner to admit the saw, which may be a hack saw or a keyhole saw with a special fine-toothed blade. A somewhat similar idea may be used with a tubular former when it is desired to take tappings with a crocodile clip, only in this case a slot is cut in the former under the section to be tapped. The clip will then fit right down over the wire and make a good contact.

Receiver Cabinets

When constructing a cabinet for a short-wave receiver it may, with advantage, be made from aluminium-backed plywood. The aluminium, when earthed, forms a complete screening box. If a permanent cabinet of better wood is constructed, aluminium foil may be glued all over the inside. Foil glued to the back of a lid should have a pigtail connexion to the case to ensure a positive, crackle-free contact at all times.

Short-Wave Reports

To the Editor of WORLD-RADIO

SIR,—Perhaps my report of twelve hours' reception on December 3 may be of interest.

G.M.T.
13.30 DJD (25.51 m.) R9/N/N. Call.
13.40 ZRO (25.4 m.) R6/F/S/N. Music.
13.45 GSE (25.28 m.) R6/F/S/N. Call.
14.30 FYA (19.68 m.) R5/F/R/X. Call.
15.00 RW59 (50 m.) R9/F/S/X. Call.
15.05 ZTJ (49 m.) R5/F/R/XX. Divine Service.
15.30 LCL (42.9 m.) R6/N/X. Opera.
14.00 PHI (25.57 m.) R4/N/X. Talk.
21.35 South American Station relaying LR4 (about 30.5 m. R7/F/S/X. Call.
22.00 OXY (49.4 m.) R5/F/R/XX. Dance music.
22.05 GSA (49.59 m.) R6/F/S/XX. Lecture.
22.10 DJC (49.83 m.) R5/F/S/X. Dance Music.
22.15 GSC (31.3 m.) R6/N/X. Lecture.

My receiver is o-v-2, with switched coils and an indoor aerial.

Yours faithfully,

Glasgow.

A. N.

Short-Wave Reporting

At the request of a number of new readers, we give below particulars of the abbreviations to be used when submitting short-wave 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
Superhet. Adaptor and 2 H.F.—Det.—2 L.F.	A+2-v-2
Superhet. Adaptor and superhet. receiver (6 valve)	A+SH6

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 G.M.T.

m.	kc/s	kW	Station	Dial Readings	m.	kc/s	kW	Station	Dial Readings
76	3947	..	Maracay (Venezuela) YV11AM.	.....	43	6976	..	Madrid EAR110. TUES., SAT., 10.30 p.m.	.....
73	4110	0.15	Quito (Ecuador) HCJB. Daily exc. TUES., 12.30-3 a.m.	.....	42.92	6990	1	Jeløy (Norway) LCL (Relays Oslo).	.....
70.2	4273	20	Kharbarovsk RV15.	.....	41.9	7150	0.2	Manizales (Colombia) HJ4ABB. SUN., 3-4 a.m.	.....
62.56	4795	..	London (Ontario) VE9BY. SUN., 6 a.m.	.....	41.6	7211	0.05	Tenerife Radio Club EAR58.	.....
58.31	5145	..	Prague OK1MPT. Experimental.	.....	40.3	7444	..	Radio Nations (Prangins) (Switzerland) HBQ.	.....
58.03	5170	..	Bandoeng (Java) PMY.	.....	38.47	7799	..	Radio Nations (Switzerland) HBP. SAT., 10-10.45 p.m.	.....
52.7	5692	0.5	Tananarive (Madagascar) FIQA. Dly. (ex. SUN.), 8-8.45 a.m., 3-4 p.m. SAT., 5.30-7 p.m. SUN., 7.30-9 a.m.	.....	37.33	8035	10	Rabat (Radio Maroc) CNR. SUN., 8-9 p.m.	.....
50.26	5969	10	Vatican City (Italy) HVJ. Daily, 7.0-7.15 p.m., SUN., 10-10.30 a.m. also.	.....	36.65	8186	..	Rio de Janeiro (Brazil) PSK.	.....
			Barcelona Radio Club (Spain) EAJ25. SAT., 8.30-9.30 p.m.	.....	34.68	8650	..	London (Ontario) VE9BY. MON., 9-10 p.m. and irreg.	.....
50	6000	0.3	Bucharest (Romania).	.....	32	9374	0.2	Heredia (Costa Rica) TI4NRH. Daily, 11.30 p.m.-1 a.m.	.....
		20	Moscow RW59 (Relays Moscow T.U.). 7-11 p.m.	.....	31.6	9490	1	Poznań (Poland) SRI. (Temporarily Suspended.)	.....
49.96	6005	0.05	Montreal VE9DR. 1 p.m.-4.30 a.m.	.....			..	Caracas (Venezuela) YV3BC.	.....
49.83	6020	8	Zeesen DJC (Germany). 7.30 p.m.-2.15 a.m.	.....			20	*Davenport GSB.	.....
			Boston (Mass.) W1XAL.	.....	31.55	9510	3	Melbourne (Australia) VK3ME. WED., 10 a.m.-11.30 a.m. SAT., 10 a.m.-12 noon.	.....
49.67	6040	{	Miami Beach (Florida) W4XB.	.....			0.5	Skamlebaek (Denmark) OXY.	.....
		..		.....			40	Schenectady (N.Y.) W2XAF. Daily, 12.45 a.m.-4 a.m.	.....
49.59	6050	20	*Davenport GSA.	.....			8	Zeesen (Germany) DJA, 5.30 p.m.-2.15 a.m.	.....
		10	Cincinnati W8XAL. 11 p.m.-6.30 a.m., 11 a.m.-3.30 p.m. and 6.30-8.30 p.m.	.....	31.51	9520			.....
49.5	6060	0.5	Nairobi (Kenya) VQ7LO. Daily 1-7 p.m. (SAT. to 8 p.m.).	.....	31.48	9530			.....
		1	Philadelphia (Pa.) W3XAU. Daily, 1-6 a.m.	.....	31.38	9560			.....
49.43	6069	..	Vancouver (B.C.) VE9CS. SAT., 5.30-6.45 a.m. SUN., 5 p.m.-5 a.m. (MON.).	.....	31.35	9570	5	Springfield (Mass.) W1XAZ. Daily, from 1 p.m.	.....
		0.02	Vienna Experimental UOR2. TUES. and THURS. (at intervals) from 1.30-9 p.m.	.....	31.32	9580	18	Radio Nations (Switzerland) HBL. SAT., 10-10.45 p.m.	.....
49.4	6075	0.5	Skamlebaek (Denmark) OXY. Relays Copenhagen. Daily 6 p.m.-11 p.m.	.....	31.3	9585	20	*Davenport GSC.	.....
		0.5	Chicago (Ill.) W9XAA. Relays WCFL. SUN., 3 p.m.-1 a.m. (MON.).	.....	31.28	9590	{	Philadelphia (Pa.) W3XAU. 5-11 p.m.	.....
49.34	6080	..	La Paz (Bolivia) CP5. 12.30 a.m.-4.30 a.m.	.....	31.25	9600	20	Sydney (Australia) VK2ME. SUN., 6-8 a.m.; 10 a.m.-4 p.m.	.....
49.3	6085	..	St. John (New Brunswick) VE9BJ. Daily, 12 m'nt.-1.30 a.m.	.....	30	10,000	2	Lisbon (Portugal) CT1AA. TUES. and FRI., 9.30-12 m'nt.	.....
49.26	6090	0.1	Bowmanville (Canada) VE9GW. Daily, 8 p.m.-5 a.m. (FRI., SAT., from 1 p.m.); SUN., 5 p.m.-4.30 a.m.	.....	29.04	10,330	20	Madrid (Spain) EAQ. Daily, 11 p.m.-1 a.m.	.....
49.22	6095	0.5	Bound Brook (N.J.) W3XAL. Relays WJZ. SAT., 9.30 p.m.-6 a.m. (SUN.).	.....	28.36	10,578	..	Ruyssede (Belgium) Relays Brussels 6 p.m.	.....
49.18	6100	5	Chicago (Ill.) W9XF. SUN., 2-7 a.m., 9.30 p.m.-12 m'nt. Weekdays, 2.30-7 a.m., 9.30 p.m.-1 a.m. (Ex. SAT.).	.....	26.83	11,181	0.05	Paris (France) FYB. Time Sig., 10.26 a.m. and 11.26 p.m.	.....
		0.5	Calcutta (India) VUC. D'y (ex. Fri. & Sat.), 3.30-6 p.m.; Fri. 2.30-3 p.m.; Sat. 5.45-9 p.m.	.....	25.63	11,705	15	Funchal (Madeira) CT3AQ. TUES. and THURS., 10 p.m.-11.30 p.m., SUN., 3.30-5 p.m.	.....
49.1	6109	0.2	Halifax (N.S.) VE9HX. SAT. & SUN. 10 p.m.-4 a.m. Wk'dys. 2.30-5.30 p.m.	.....	25.6	11,715	2	Radio Colonial (Paris) FYA. 8 p.m.-2 a.m., 3-5 a.m.	.....
49.08	6112	0.2	Caracas (Venezuela) YV1BC. Daily (ex. SUN.), 4-6.30 p.m., 10.45 p.m.-3.30 a.m. SUN., 2-4.30 p.m., 7-11.30 p.m., 12.30-3.30 a.m.	.....	25.57	11,730	20	Winnipeg (Canada) VE9JR Experimental. Daily (ex. SAT. and SUN.) (at intervals), from 2.30 p.m.-3 a.m. SAT., 2.30 p.m.-5 a.m. SUN., 2-3 a.m.	.....
49.02	6120	10	Wayne (N.J.) W2XE. 11 p.m.-4 a.m.	.....	25.53	11,750	20	Eindhoven (Holland) PHI. (ex. TUES. and WED.) 1-4 p.m.	.....
49	6122	5	Johannesburg (S.A.) ZTJ. D'y (ex. SUN.), 5.45-6.30 a.m., 10 a.m.-1 p.m., 3-9.30 p.m. (10.45 p.m. SAT.). SUN., 2-4.30 p.m., 6.30-9 p.m.	.....	25.51	11,760	8	*Davenport GSD.	.....
			Maracay (Venezuela) YV11BMO.	.....	25.45	11,790	5	Zeesen DJD (Germany). 12.55-7.30 p.m.	.....
48.95	6127	{	Bogotá (Colombia) HJ4ABE.	.....	25.4	11,810	9	Boston (Mass.) W1XAL. SAT., 10.30 p.m.-4 a.m.	.....
		..	Kuala Lumpur (Fed. Malay States). ZGE. TUES. and FRI., 11.30 a.m.-1.30 p.m. SUN., noon-2 p.m.	.....	25.36	11,830	1	Rome (Italy) 2RO.	.....
48.86	6140	40	Pittsburgh W8XK. 9.30 p.m.-5 a.m.	.....	25.28	11,865	20	Wayne (N.J.) W2XE. 8-10 p.m.	.....
48.78	6150	..	Caracas (Venezuela) YV3BC.	.....	25.27	11,870	40	*Davenport GSE.	.....
48.6	6170	..	Bogotá (Colombia) HJ3ABI.	.....	25.25	11,880	15	Pittsburgh W8XK. 9.30 p.m.-3 a.m.	.....
			Casablanca (N. Africa) CN8MC. Relays Rabat. MON., 8-9 p.m., TUES., 12 m'nt-1, and 8-9 p.m.	.....	25	12,000	20	Radio Colonial (Paris) FYA. 4.15-7.15 p.m., 8-11 p.m.	.....
48	6250	{	Bogotá (Colombia) HJ3ABF.	.....	23.39	12,825	10	Moscow (Russia) RNE.	.....
		..	Bound Brook (N.J.) W3XL. (Experimental) FRI., 9.30 p.m.-6 a.m. SAT.	.....	19.84	15,120	10	Rabat (Radio Maroc) CNR. SUN., 12.30 p.m.	.....
46.69	6425	18	London (Ontario) VE9BY. THURS., 2.30-3.30 a.m. SAT., 1-1.55 a.m., and SUN., 2-4 a.m.	.....	19.82	15,140	15	Vatican City (Italy) HVJ. 10-10.15 a.m.	.....
46.67	6426	..	Moscow RW72 (Russia).	.....	19.73	15,200	8	*Davenport GSF.	.....
45.38	6610	10	Riobamba (Ecuador) PRADO. FRI., 2-4.30 a.m.	.....	19.72	15,210	40	Zeesen (Germany) DJB. 12.55-5.30 p.m.	.....
45.31	6620	..	Guatemala City (S. America) TGW. Daily, 3-5 a.m.	.....	19.68	15,243	15	Pittsburgh W8XK. 3-10.15 p.m.	.....
		0.01	Constantine (Algeria) 8KR.	.....	19.67	15,250	5	Radio Colonial (Paris) FYA. 1-4 p.m.	.....
		0.2		.....	19.64	15,270	15	Boston (Mass.) W1XAL.	.....
				.....	19.61	15,295	..	Wayne (N.J.) W2XE. 4-6 p.m.	.....
				.....	19.56	15,330	20	La Paz (Bolivia). CP4. 4.30-5.30 p.m.	.....
				.....	16.89	17,760	8	Schenectady W2XAD. MON., WED., and FRI., 7.30-8.30 p.m. SUN., 7-9 p.m.	.....
				.....	16.88	17,770	20	Zeesen (Germany) DJE.	.....
				.....	16.87	17,780	14	Eindhoven (Holland) PHI. MON., THURS., and FRI., 12.30-2.30 p.m.; SAT. and SUN., 12.30-3 p.m.	.....
				.....	16.86	17,790	15	Bound Brook (N.J.) W3XAL. 2-8 p.m.	.....
				.....	13.93	21,540	..	*Davenport GSG.	.....
				.....				Pittsburgh W8XK. Noon-7 p.m.	.....

* At present the Empire transmitters are being interchanged experimentally.

(For Long and Medium Wave Stations see page 866)

GERMAN

Weihnachts- und Neujahrgrüsse (Christmas and New Year's Greetings)

Weihnachten, Christmas (lit. holy nights; originally the winter festival (solstice) of the old Germanic people, from December 24 to January 6).

Frohe (or: fröhliche) Weihnachten! A merry Christmas!—Herzliche Weihnachtsgrüsse! Hearty Christmas Greetings!—Fröhliche (or: vergnügte) Feiertage! Joyous (or: pleasant) holidays!—Ein gesegnetes Weihnachtsfest! A blessed Christmas (festival)!—Ein glückliches neues Jahr! A happy (prosperous) New Year!—Die besten Wünsche zum neuen Jahr(e)! (The) best wishes for the New Year!—The expressions: "With the Season's greetings" and "With the compliments of the Season" have no equivalent in German.

Translation of the Reading-Text of Lesson 8, p. 29, of *The Reader*.

Der Morgen (The Morning)

It is morning. The alar(u)m clock goes off (or: rings) and wakes me (up). I wake up, jump out of (the) bed and go to the open window (in order) to see what the weather is like. The weather is fine, the sun is shining brightly, I breathe in the fresh air (lit. I breathe the fresh air in). I do my physical exercises (for) about ten minutes, then I go (in)to the bathroom and wash (myself). I wash myself with water and (with) a piece (of) soap. Then I have a shower-bath (lit.: put myself under the shower-bath). The shower-bath is very cold, but it's refreshing (lit. it refreshes). Then I dry myself with a towel (off). Sometimes I have (take) a bath. The bath is hot (lit. warm). After the bath I always have a shower-bath. I only use a sponge if I have not a shower-bath. I brush my hair(s) with a brush and comb my hair(s) with a comb. Then I clean my teeth with a tooth-brush and (with) tooth-paste. My teeth become white and clean. Next (lit. now) I dress (myself). When I have finished I sit down at the writing-table and work (for) an hour. I write a letter or read a book or learn (some) new words. The writing-table is (lit. stands) by the window: I overlook the garden (lit. I look on (to) the garden) and enjoy (the) air and (the) sun. Then I go (in)to the dining-room and have (lit. take) my breakfast. The whole family is at (the) table: (my) father, (my) mother, my brother and my sister. I have (drink) a cup (of) coffee and (eat) two slices of bread with butter and jam.

Lesson 8, Exercises (cont.), p. 32, C.—Es ist Morgen. Die Weckuhr läutet und weckt ihn. Er wacht auf, springt aus dem Bett und geht zum offenen Fenster. . . . Er atmet die frische Luft ein. Er turnt . . . dann geht er . . . und wäscht sich. Er wäscht sich . . . Dann stellt er sich . . . Dann trocknet er sich . . . ab. Manchmal nimmt er ein Bad. Nach dem Bade stellt er sich . . . Einen Schwamm gebraucht er nur, wenn er keine Brause hat. Er bürstet . . . und kämmt . . . Dann putzt er die Zähne . . . Nun zieht er sich an. Wenn er fertig ist, setzt er sich . . . und (arbeitet) . . . Er schreibt einen Brief oder liest ein Buch oder lernt neue Wörter. Er sieht . . . und genießt . . . Dann geht er . . . und nimmt sein Frühstück . . . sein Bruder und seine Schwester. Er trinkt . . . und isst . . .

D. Es ist Abend. Die Familie setzt sich an den Tisch. Der Vater sitzt oben am Tisch. Das Mädchen bringt das Abendessen. Sie stellt die Schüsseln auf den Tisch. Alle essen und trinken. Der Vater liest . . . Dann gehen alle . . . Um 9 Uhr geht . . . Auch sein Bruder Hans geht zu Bett. Er schläft . . . Am Morgen steht Fritz auf, wenn . . . läutet. Er klopft . . . "Schläfst Du noch?" "Nein," sagt Hans, "ich schlafe nicht. Kommst Du zu mir?" Fritz geht . . . und Fritz und Hans turnen und springen. Da kommt der Vater. Er fragt:

FOREIGN LANGUAGES SECTION

"Was macht ihr?" Sie sagen: "Wir turnen nur" . . . wenn ihr turnt; das Haus fällt fast ein."

Translation A, p. 32.—du arbeitest; er geht; wir lesen; ihr atmet; Sie halten; sie nimmt; ich schlafe; ihr legt; ihr liegt; es verlässt; ich lege, ich setze, ich stelle; du klopfst; wir stehen.

B. Es ist Morgen; das Wetter ist schön. Ich springe aus dem Bett und gehe zum Fenster und genieße (die) Sonne und Luft. Ich bin jung und kräftig, und ich turne (ein wenig—a little), um meinen Körper zu kräftigen. Ich nehme Seife und Schwamm und Handtuch ins Badezimmer und bade mich. Ich putze auch meine Zähne. Ich gehe wieder in mein Zimmer und ziehe mich an. Ich stehe auf dem Balkon und atme die frische Luft eine Minute (lang) ein. Dann sitze ich an meinem Schreibtisch und lese und schreibe; denn ich bin (ein) Student. Bald klopft das Dienstmädchen an die Tür. Das Frühstück ist fertig. Ich gehe ins Esszimmer im Erdgeschoss (the dining-room which is where? im Erdgeschoss, Dative) Meine Mutter und mein Vater sitzen am Tisch, aber mein Bruder ist nicht da; er schläft noch; er ist faul.

Expressions Heard from German Broadcasting Stations

(The translations given are in most cases free translations and the terms used are such as would be made in English announcements.) Der Rundfunk (lit. round spark), wireless, broadcasting; der Ansager, the announcer; ansagen, to announce; der Sender, the transmitting station.

1. Liebe Hörerinnen und Hörer! Dear Listeners (lady-listeners and gentlemen-listeners). 2. Liebe Volksgenossen und -genossinnen (mostly used in political speeches). Ladies and Gentlemen (Dear compatriots). 3. Hier ist der Westdeutsche Rundfunk mit der Wettervorhersage. This is the "Westdeutsche Rundfunk." Here is the weather-forecast. 4. Wir bitten um eine Pause von 5 Minuten. There will be a five minutes' interval (lit., we ask for a pause of five minutes). 5. Nun hören Sie (now you hear) ein Orchesterkonzert aus Stuttgart; wir schalten um (we are switching over). We are now taking you over to Stuttgart for an orchestral concert. 6. Sie hörten den Wetterbericht aus Essen; es folgt (there follows) der Sportbericht aus Köln. You have (just) heard the weather-forecast from Essen, sports' bulletin from Cologne will follow immediately. 7. Bis morgen früh (early). Until to-morrow morning. 8. Bitte, vergessen Sie nicht, Ihre Antenne zu erden. Please don't forget to earth your aerial. 9. Wir wünschen Ihnen allen (to you all) eine recht angenehme Ruhe. We wish everybody a very pleasant rest. 10. Gute Nacht, schlafen Sie wohl (sleep well)! Good-night (everybody). We wish you a good night's rest. MAX KROEMER.

Readers are reminded that Herr Kroemer will give an extra Talk on January 2.—Ed.

Esperanto Transmissions

Sunday—Lyon-la-Doua, 9.45 p.m., Course. Karlskrona, 12 noon, Talk. Monday—Prague, etc., 9.15 p.m., Kristnaska Amuzhoreto Nuraj novaĵoj kaj surprizoj. Aranjos J. Samla Prezantos profesiaj aktoroj sciantaj Esperanton. Tuesday—Leningrad, 8.30 p.m., "Radja pieco Galileo." Wednesday—Warsaw, 9 p.m., "Memhelpo de Blinduloj en Polujo" (Z. Sobolta: blindulo). Vienna, 9.5 p.m., "Wien, la metropolo de la muziko" (M. Fiedler). Thursday—Paris, Limoges, Alpes-Grenoble, 5.45 p.m., Course: News. Kaunas, 8 p.m., Talk. Friday—Sottens, 5.30 p.m., Course. Radio-Côte d'Azur, 8.15 p.m., Course. Saturday—Tour Eiffel, 2.45 p.m., Turismo. Brno, 4.15 p.m., Talk. Huizen, 4.55 p.m., News. Lyon-la-Doua, 8.10 p.m., News.

SPANISH

(Este artículo va dirigido a los que hayan leído algunas obras de Cervantes. El artículo del 5 de enero se titulará "Notas Lingüísticas".)

El arte de Cervantes

PUESTO que en sus obras se hallan ecos de lo picaresco (*Rinconete y Cortadillo*), el marco caballeresco (*el Quijote*), el ambiente pastoril (*La Galatea*), el estilo de la novela bizantina (*Persiles y Sigismunda*), y que el conjunto forma una complejidad extraordinaria, mezcla de subjetivismo romántico, idealismo neo-platónico, y realismo naturalístico, se puede decir que reunen las formas más salientes que hasta entonces había contribuido la literatura. De este conjunto abigarrado hay que aislar el elemento genio (del cual los demás no son más que las especies) para comprender cuál era para Cervantes la fuerza motriz de sus ideas estéticas. Este punto de partida, es su penetrante comprensión de lo irreal de la realidad, (la actitud filosófica moderna) cuyo ejemplo más saliente es el conocido episodio 'baci-yelmo' en el *Quijote*. Y Cervantes cambiaba el color de su prisma según la psicología de sus caracteres o el ambiente del momento. Consideradas sus novelas en general, vemos que los dos grupos principales en que se pueden dividir (*Quijote-Novelas*, y *Persiles-Galatea*) se diferencian por pertenecer uno, a su visión de lo real o verosímil, otro al de lo ideal o imposible, así como en cada obra se verifica esta misma lucha característica, llegando el 'claroscuro' a su punto álgido en el *Quijote*.

Cervantes cifró todo su afán artístico en reproducir lo verosímil conque no nos queda más remedio que aceptar su interpretación de esta idea si queremos comprender el *Persiles*. Veamos la definición que él mismo hizo de su arte: "Nunca a disparidad abre las puertas mi corto ingenio, y hállalas siempre de par en par, la consonancia abiertas."

Una vez reconocida la actitud agnóstica de Cervantes ante la realidad, se deduce que lo verosímil para él no significa lo probable, sino meramente lo que es lógicamente posible, dadas las premisas mayores. En el *Persiles* la primera premisa es el plan fantástico del argumento.

Cervantes se ha retratado a sí mismo en sus obras, pues el elemento más característico tanto de su propia psicología como de su arte, es el dualismo. Su idealismo inmanente lucha con el realismo, hijo de la reflexión. Tjene el don de ver los aspectos contrarios de las cosas. El lastre de la autocrítica irónica (representado generalmente por el humorismo de Sancho), es uno de los mejores elementos en el *Quijote*. A primera vista parece que el *Persiles* carece de autocrítica. Pero está sin embargo muy presente, aunque más disfrazada pues sólo se vislumbra entre renglones. Allí no está Sancho para hacer contrapeso constante y enfático a la fantasía. ¡Y qué bien se burla Cervantes de las obras pastoriles, sin perdonar su propia *Galatea* (que en el fondo le entusiasmaba) en su novela "El Coloquio de los Perros"!

Comparado con el realismo humorístico del *Quijote*, de seguro queda muy a la zaga el *Persiles*, pero si ahondamos en la obra hallamos debajo de la superficie irreal, la misma técnica cervantina, que aparece implacable para con los personajes que infrigen las leyes de la naturaleza, (Rosamunda, Policarpo, el enamorado portugués etc.) y en medio de lo fantástico se adhiere a su actitud racionalística, con la cual desarrolla los caracteres sin dejar jamás que ninguno se desvíe del curso de su psicología, y el rumbo de su sino artístico. En el *Quijote* y las *Novelas*, encuéntrase infinidad de antítesis y detalles graciosos. Pero el *Persiles* es todo ello una obra humorística. No se puede creer ni un momento, que el autor escribiera todas esas coincidencias imposibles, y exagerara la nota de las aventuras y los amores, con toda seriedad. Cervantes con su fina ironía sabe hacer reír aun cuando más en serio parece

estar. Donde no se ve sombra de ironía es en sus tipos de "amor concorde." Citemos algunos: el Cautivo y Zoraida en el *Quijote*, Ricardo y Leonisa en *El Amante Liberal*, Periandro y Auristela en el *Persiles*. En ellos Cervantes da rienda suelta a su idealismo immanente. Aun en la vejez desconocía el cinismo que suele ser fruto de la experiencia, o de un espíritu que nunca ha sido joven. Hasta hace pocos años era costumbre entre los críticos ver en Cervantes un "ingenio lego". ¡Opinaban algunos de ellos que la novela inmortal por excelencia, la escribió Cervantes, como quien dice, sin darse cuenta! Y es que nadie había estudiado a fondo, científicamente, las obras de Cervantes. Desde que el insigne erudito don Américo Castro, publicó su estudio "*El pensamiento de Cervantes*" (1925) ha cambiado por completo la opinión de la crítica moderna. Con su análisis penetrante y muchas pruebas irrefutables, ha comprobado que Cervantes lejos de ser escritor inconsciente e irreflexivo, era pensador, y que sus obras todas revelan el plan sistemático de un filósofo. Utilísimo y de mucho mérito es la obra del Sr Castro, pero no es infalible. Cuando trata de la "hipocresía de Cervantes" en cuestiones religiosas, nos alegramos de que otros eruditos modernos de no menos fama, y exentos de prejuicio anticatólico, (como Mr. Aubrey F. G. Bell.) hayan podido comprobar (lo que desde luego salta a la vista) que Cervantes fué siempre escritor sincero y creyente. La brevedad de este artículo no permite citas. Basta decir que Cervantes no tenía por qué temer la sinceridad, y siendo esta virtud el elemento más necesario para una obra inmortal, si faltara en el *Quijote* o en las *Novelas*, dejarían de ser inmortales.

Cervantes (1547-1616)

¿Por qué será (1) que Cervantes, coetáneo de la reina Isabel (Elizabeth) está mucho más próximo a nuestras ideas (2) y sentimientos que casi ningún escritor del siglo XVIII? El, soldado errático, persaguado del infortunio, que tan heroicamente sobrellevaba (3) fué el primero que supo describir en vez de narrar. "Todo lo veía, y lo tasaba en su valor exacto"; era estoico en su vida y obras; llamaba al (4) *Quijote* una historia reseca como el esparto; gran sentimentalista, capaz sin embargo de una noble ternura. Pero fué el repositorio de algunas de las más sutiles corrientes críticas del renacimiento y de la contrarreforma. ¿Estaba loco (5) Don Quijote? preguntamos, ¿quién tiene razón? ¿quién está equivocado (6)? No lo sabemos. Cervantes creía que la naturaleza, en un sentido casi del siglo XVIII, tenía generalmente razón (7).

PROFESSOR ANTONIO PASTOR.

(1) The future used with this type of Question. (2) Better than *pensamiento* here. (3) or: *sobrellevado heroicamente*. (4) "Personal a" used to avoid ambiguity. (5) *Estar* for temporary state. (6) Or: ¿quién no la tiene? (7) or: *rara vez podía equivocarse*

ITALIAN

Esercizi Linguistici Italiani

Ecco la traduzione:—

"Dodici anni fa, Miranda," continuò Prospero, "io ero duca di Milano e tu eri una principessa e la mia unica erede. Avevo un fratello minore, che si chiamava Antonio, al quale affidavo ogni cosa; e, come amavo una vita ritirata e studi profondi, lasciavo usualmente la cura dei miei affari di Stato a tuo zio, il mio sleale fratello (giacchè tale si dimostrò). Io, trascurando tutti i fini mondani, seppellito fra i miei libri, dedicavo tutto il mio tempo al miglioramento del mio spirito. Mio fratello Antonio, avendo così in mano il mio potere, cominciò a credersi davvero il duca. L'opportunità ch'io gli davo di farsi popolare fra i miei sudditi risvegliò nella sua cattiva natura l'orgogliosa ambizione di privarmi del mio ducato; e ciò egli portò presto ad effetto con l'aiuto del re di Napoli, un principe potente ch'era mio nemico."

"E perchè," disse Miranda, "non ci hanno uccisi allora?"

"Figlia mia," rispose suo padre, "non osarono, tanto era l'amore che ci portava il popolo. Antonio ci trasportò a bordo di una nave, e quando fummo ad alcune leghe al largo ci costrinse a discendere in una piccola

barca senza né funi, né vela, né albero: colà ci lasciò, com'egli credeva, a perire. Ma un signore gentile della mia corte, un certo Gonzalo, che mi voleva bene, aveva segretamente messo nella barca acqua, provigioni, cordame, e alcuni libri ch'io valuto di più del mio ducato."

Retirement potrebbe tradursi con *ritiro*, ma questa parola dà piuttosto l'idea di un "ritiro spirituale" (dove i credenti si ritirano periodicamente a meditare e a pregare) o di "ritiro in pensione."—Management of affairs si può anche rendere con "il disbrigo degli affari."—Mind, in questo caso nella maggior parte dei casi, implica qualcosa di più che l'italiano *mente*, perciò l'abbiamo reso con *spirito*.—"Avere in mano il potere" si adopera a indicare il puro fatto, indipendentemente dalla sua legittimità o illegittimità. Suddito è sinonimo di soggetto, ma si usa prevalentemente il primo. —Privately non si tradurrebbe "privatamente" in questo caso.—To prize=stimare, reputare, tenere in conto di.

Si osservi l'uso che abbiamo fatto dell'imperfetto anzichè del passato remoto; avevo, affidavo, amavo, lasciavo, dedicavo, davo. Si tratta, in fatti, di stati o azioni che si ripetono costantemente. Ma quando l'azione avviene in un preciso momento o tempo, allora usiamo il passato remoto: "ciò egli portò ad effetto"; "Antonio ci trasportò"; "ci costrinse a discendere," ecc. Una frase che illustra la differenza fra l'uso dei due tempi è questa: "Essi non osarono, tanto era l'amore che ci portava il popolo." Non osarono (in quella speciale circostanza), il popolo ci portava amore (in ogni tempo, prima e dopo, costantemente).

Ora la nuova traduzione:

Paffagonia, ten or twenty years ago, appears to have been one of those kingdoms where the laws of succession were not settled; for when King Savio died, leaving his brother Regent of the kingdom, and guardian of Savio's orphan infant, this unfaithful regent took no sort of regard of the late monarch's will; had himself proclaimed sovereign of Paffagonia under the title of King Valoroso XXIV., had a most splendid coronation, and ordered all the nobles of the kingdom to pay him homage. So long as Valoroso gave them plenty of balls at Court, plenty of money and lucrative places, the Paffagonian nobility did not care who was king; and, as for the people, in those early times they were equally indifferent. The prince Giglio, by reason of his tender age at his royal father's death, did not feel the loss of his crown and empire. As long as he had plenty of toys and sweetments, a holiday five times a week, and a horse and gun to go out shooting when he grew a little older, and, above all, the company of his darling cousin, the King's only child, poor Giglio was perfectly contented; nor did he envy his uncle the royal robes and sceptre, the great hot, uncomfortable throne of state, and the enormous cumbersome crown in which that monarch appeared from morning till night. King Valoroso's portrait has been left to us; and I think you will agree with me that he must have been sometimes *rather tired* of his velvet, and his diamonds, and his ermine, and his grandeur. I shouldn't like to sit in that stifling robe, with such a thing as that on my head. (From Thackeray's *Rose and the Ring*.)

Poche osservazioni:—Appears to have been=sembra che fosse. Guardian=tutore. He had himself proclaimed=si fece proclamare. As long as=fin tanto che. Rather tired=alquanto seccato. Ma, per rendere la forza che le parole in corsivo hanno nel testo, ci aggiungerei un "davvero" o un "proprio." Pel resto il vocabolario non mi par difficile. Anzi, consiglieri i miei invisibili allievi di provare a tradurre questo brano senza dizionario e veder che cosa ne vien fuori.

E intanto, prima di chiudere, do a tutti il buon Natale!

D. PETTOELLO.

Listeners' Verdicts

LAST WEEK'S BEST PROGRAMMES

Dramatised News

LISTENERS to American stations may be familiar with the Columbia Broadcasting System's "March of Time" programme, but to others, like myself, it came as a very interesting surprise when it was relayed in the National programme on Saturday night. As those who heard it will remember, it consisted of a highly dramatised presentation of the news of the week, and although I am inclined to think that constant repetition might dull its edge, it was a most agreeable novelty. To hear, for example, a reproduction of the actual start of the Lindberghs' latest flight, and to hear a fictitious Lindbergh say, "All ready, Ann?" and a fictitious Mrs. Lindbergh reply, "All ready, Charles," certainly gave one a much better impression of the flight than a mere news paragraph could have done. And again, when the "March of Time" moved on to Hitler's interview with a French journalist, the dramatisation of the interview fixed it very firmly in the memory. It was interesting, too, to observe how the Americans treated the "Princes in the Tower" discovery, and the quotations from *Richard III* seemed very appropriate. The Roosevelt speech was also attractively done, and the whole programme made one hope that it will be relayed again. But not too often, I hope! The "March of Time" is sufficiently impressive in its own right, but one would not appreciate a continual dramatisation of events which are quite dramatic enough in themselves. R. L. R.

Readers are invited to submit short commentaries on outstanding broadcast items of the previous week. Contributions should not exceed 350 words, for which payment will be made.

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The Empire Station

Reports of Reception

Reception in Ceylon

To the Editor of WORLD-RADIO

SIR,—I must reply to Mr. Tiarks's letter to you of August 15, which appeared in your Empire Station reports of September 22.

What I wrote to you were the facts. I have been listening now for a further fortnight, after reading Mr. Tiarks's letter, and I find that the station comes in every bit as well, or even better, and I give you below the results:—

Transmission No. 1: 19.8 metres comes in at strength R4 to R7 on loudspeaker; received here at 12.30 to 2.30 p.m.

Transmission No. 2: At 5.30 until 7 p.m. comes in at R5 to R8 on the 19.8 metres, but on this wavelength there is a morse station which spoils the transmission on some evenings; but on most occasions I have been able to cut it off completely. I think that this wavelength is the best, as on the 16.86 metres one generally gets Holland, and it takes very careful tuning to separate the two. This is, I think, because my coils are out of displacement, and when I can get some more coils I am going to wind one for the 16.86 metres alone. At present there is none to be had in the shops out here.

Transmission No. 3: On 19.8 metres it comes in fairly steady, R6 to R8 and no atmospherics or background on most days, unless, of course, there is very severe thunder and lightning. On these days, of course, it is useless putting it on, or if there is a storm brewing it does not come in so well; but this is no fault of the transmission. On the 25.28 and 25.53 metres it does not come in always so clear as it does on the 19.8 metres until 9.30 p.m., in which case I switch on to the 31.3 or 31.55 metres (whichever is on). These come in at R9, and I have to detune to make it nice, either for the drawing-room loudspeaker or for the loudspeaker that I have up in the veranda.

Transmission No. 4: Comes in just as clear on the 31-odd-metre waveband, and I have not tuned it in on the 49.59 metres; but it should come in very well on this wavelength.

Transmission No. 5: Comes in very strong on the 31.55 metres, but at times there are some atmospherics.

But, taking it on the whole, they all come in very well, so I do not know where I am misleading you, or other listeners. It is as I find it on my set.

Yours faithfully,

EDWARD HAWKINS.

Ingiriya, Ceylon, November 6, 1933.

Congratulations to the Announcer

To the Editor of WORLD-RADIO

SIR,—May I, a regular listener, thank you for the many pleasant hours of entertainment with which you have provided me? I cannot for a moment say that I like everything you give us; that would be an impossibility. I appreciate that the task of providing for all tastes is an enormous one, and that the best you can do is to give a little of everything, concentrating as far as possible on the entertainment of the majority.

Most of those with whom I have discussed the matter agree that a little more light or frivolous music, in place of the heavy variety of which we seem to get a great deal, would be very welcome.

We like the following: Big Ben, Bow Bells, the news football results, Christopher Stone and his records, the organ concerts from Blackpool, variety concerts, Henry Hall and his

orchestra (of whom we don't have nearly enough), and many other items which I cannot recall at the moment.

I must congratulate you on your announcers—especially the announcer to this zone, whom I have named "George." He is splendid, and is really a pleasure to listen to.

Don't you think the new call of Transmission No. 4, or whatever it is, sounds as though we are merely a part of a machine, not human? I prefer the old call of "... calling the African zone."

The last six or seven days, or rather nights, you have been coming through very strongly (except on the 2nd, when you and all other stations were very weak) on 31.3 m. (GSC) and 31.55 m. (GSB), though on the former we are getting interference. Later in the evening the interference sometimes stops; it is from a morse station. Your 25-m. wave isn't very strong, and can only be received weakly on the loudspeaker. The Frenchman is usually very strong indeed, though we find his music rather distorted at times. On the 1st and 2nd your 31-m. wavelength was more powerful than he was.

I can get the Indian zone at times on the 25-m. wavelength, but not usually until dark. I picked it up at 8.15 p.m. local time last night, and it came through very clear and steady at quite good loudspeaker strength.

Yours faithfully,

F. COGLE.

Nairobi, Kenya, November 4, 1933.

Inside Aerial Found Best

To the Editor of WORLD-RADIO

SIR,—I feel it will interest you to know of the splendid reception we have had lately from Daventry since the wavelength GSB, 31.55 metres, has been used during the entire Transmission 3. The volume and quality of the reception is excellent, and an interesting feature is that I find the best results are obtained when using an inside aerial which is just a piece of fine picture wire stretched across the room. I have a big aerial on the roof with which I get most stations and the other wavelengths of Daventry, but GSB is much more powerful on the inside aerial. The only complaint I have to make is that a very loud morse comes in about an hour after the transmission has started, and rather spoils reception at times—that is on GSB.

Since the monsoon ceased, I have found the shortest wave stations very difficult to obtain and results extremely poor. But at any time if I tuned in at 6 a.m. (Calcutta time) I could get the end of Transmission 5 most excellently. For some time I have been wishing that you would use GSB and GSA for Transmission 3, and am truly delighted that you are now doing so.

I have had America, Australia, South Africa, and many Continental stations, both on short and medium wavelengths, but the greatest thrill and satisfaction of all is to hear Big Ben striking 2 p.m., and then the Empire News Bulletin. I would like to add that the Bulletin seems to have improved of late, and is most interesting. We can also get GSE quite well, but the two highest wavelengths, GSA and GSB, are now best of all.

I think your programmes have improved greatly also, and I would like to add that the fact of being able to listen to London, and to programmes from all over the British Isles has made the most enormous difference to our life out here. We feel so much in touch now with the Old Country.

I forgot to mention that we are twelve miles from Calcutta, and we are the envy of owners of short-wave sets in the town, whose reception is so poor owing to so much interference. Also,

I must mention how much I enjoy reading the copies of WORLD-RADIO which I get weekly.

Yours faithfully,

DORIS BIRKMYRE.

Hastings, Rishra, E.I.R., India,

November 27, 1933.

Traffic Noises Wanted

From Bulawayo, S. Rhodesia:—

"About two months ago I completed building a short-wave four-valve receiver, and, having heard you inviting listeners to write to you on the subject of Empire programmes, I am taking this opportunity of doing so.

"In the first place, I must say how delightful it is to be able to listen to programmes from London, and especially to hear dear old Big Ben striking again. In my opinion we do not get enough of it. Give us more noises of London, and, as mentioned recently in a letter published in Empire WORLD-RADIO, why not put the microphone out of the window occasionally and let us hear some traffic noises? Of course, I realise that you cannot please everyone, but I am sure I am voicing the opinion of a lot of 'exiled' Londoners in making this request. On the whole, the programmes are all that could be desired.

"Practically for a whole month prior to the 18th instant, reception was very poor, being very weak and 'jumpy'; it has considerably improved in strength, but still fades, though not badly. For the last week reception has been best on 31 metres, being about 25 per cent. stronger than the 25-metre transmission. Although I do not know a lot about wireless, I should like to suggest that the power be increased, which I am sure would result in greatly improved reception. Daventry would be a wonderful station if it came through as consistently strong and clear as Radio-Colonial.

"The Indian transmission is fairly good, but Radio-Colonial interferes with it to a great extent. I have not yet been able to pick up the omnidirectional programme, but I have received the Canadian and Australian transmissions, the latter very weak."

Likes All Talks

From Kenya:—

"I find very little to criticise in your programmes, for there is something in them for everyone. But, unlike many of your critics, I like Talks, no matter what the subject. The present series of talks 'Anywhere for a News Story' I find especially interesting, and so must most listeners. But talks of a scientific or political nature also interest me.

"I never listen to plays on the wireless. The Promenade Concerts I enjoy very much, and wish you could find it possible to broadcast more Symphony Concerts, especially the works of Beethoven and Mozart. Sports Talks, especially those given by Mr. Howard Marshall on cricket, are always welcome.

"I must thank the B.B.C. for the great pleasure it has given and is giving me, and wish it every success."

News Items Considered Stale

From Istanbul, Turkey:—

"First of all, I must make my compliments for your transmissions. They are perfect. But I should like to suggest to you, why do you give the Reuter news only? I should like you to give for each time the latest news of the newspapers. Believe me, they would be more varied and perhaps as quick as the others. And, secondly, I should like to hear the news in Transmission 2, but in the beginning. Why do we not have news in that transmission; and why in Transmission 1 do we hear the old news of the night before, when you have all the London papers out about that time, and many people have read them and thrown them away already? The Empire transmitter gives them as new."

Broadcasting News

New Zealand's Broadcasting Policy

Advertising Revenue Barred

(From our New Zealand Correspondent)

"IN broadcasting, we are following a safe guide in pursuing a similar policy to that of the British Broadcasting Corporation. This is looked upon as the best system in the world." In these words the New Zealand Postmaster-General (the Hon. A. Hamilton) summarised the general lines of policy for broadcasting, following the Government's purchase of three secondary broadcasting stations which had been able to carry on their operations under permits to broadcast programmes sponsored by advertisers. The system has been rigorously controlled, but, as the Minister explained in a statement to Parliament, the B stations running under these conditions required more and more revenue to meet the requirements of extended hours, so that they requested wider facilities for advertising. Twice the Regulations were amended, each extension being accepted as the last one necessary. But "the Regulations were being exceeded continually, with resultant annoyance to many who, while anxious to hear over the air music and talks of an educative value, objected to the introduction of advertising, which has been so destructive of pleasure in broadcast reception in other countries."

The purchase of a B station in Auckland, Wellington, and Christchurch was undertaken by the Government to end the system of sponsored advertising programmes, which are not to be permitted after March 31 next from any station. The Auckland and Wellington B stations, acquired at a cost of £4,500, are to be taken over by the New Zealand Broadcasting Board, and operated to provide alternative services to the A stations. The Postmaster-General is appreciative of the services of the B stations in giving alternative programmes, particularly in the earlier days of broadcasting, when their efforts increased public interest. He declared that the Government felt it owed a moral, if not a legal, debt to these station owners, and it was taking over their concerns at a time when it was becoming increasingly difficult for them to conduct their business on a profitable basis, because the agreement for use of radio patents expires next May, and broadcasters may have to face claims for patent rights hitherto covered by the general arrangement between the Post Office and Amalgamated Wireless (Australasia) Ltd. The claim against B stations in respect to copyright on music is being pressed, and the latest stipulation is from certain gramophone companies which have forbidden B station owners to broadcast records issued after 1931. "These claims are relatively new," the Postmaster-General stated, "but it cannot be said that they are unjust."

Information, Education, and Entertainment

Advertising is to be rigorously excluded from New Zealand broadcasting, and the cost of the services is to be paid wholly by the listener. Through its Broadcasting Regulations, the Government is able to define the general lines of broadcasting policy for the Dominion, and this is clearly expressed by the Postmaster-General: "Parliament decided on the retention of broadcasting as a national utility service. It is therefore desired to keep it free from the errors into which some countries have drifted. It is intended that it shall be used for information, educational, and entertainment purposes. Every effort will be made to avoid using it as an advertising medium, or as a means of propaganda for the benefit of any section."

AUSTRALIA

Dame Clara Butt on Broadcast Music

(From our Australian Correspondent)

Dame Clara Butt, who has just arrived in Sydney, declared, in an interview, that for many listeners radio had brought music into contempt. "Broadcasting," she said, "has in many ways developed public appreciation and understanding of music. But there is a reverse aspect to the picture. When people go to a concert to hear an artist, they pay that artist the compliment of giving attention to him. When he sings for the wireless they go on with their bridge or conversation. Perhaps, when the solo is nearly finished, someone looks up for a moment and remarks, 'That's nice. Who's that singing?' Such an attitude is destructive of all the finer qualities of musical art. But I am convinced that it will pass. The human presence of the performer is something that must reassert itself sooner or later. The influence of phonograph records is not so generally baneful. And the standard of reproduction, nowadays, I find truly amazing."

NEW ZEALAND

(From our New Zealand Correspondent)

Wavelength Changes

Changes in the wavelengths of all but twelve minor broadcasting stations in New Zealand came into operation as from December 1. There are thirty-six stations transmitting, and the most important alterations are in connexion with the four principal stations of the New Zealand Broadcasting Board. All the alterations involve longer wavelengths, the object being to improve the coverage by extending the non-fading area. Wellington (2YA) serves a number of provincial towns, one being Masterton, 65 miles distant. This town is at present beyond the point of first-class reception, being on the edge of the fading area, but tests demonstrate that with a change from 416.4 metres to 526 metres Masterton will be effectively served. No change is to be made at 3YA (Christchurch) until its new and more powerful transmitting plant is in operation. The alteration of the Christchurch wavelength will avoid interference with Wellington auxiliary station, 3YC.

Radio on Coastal Vessels

The value of radio communication for ships at sea is so much appreciated by owners of small coastal steamers trading in New Zealand waters that they are anxious to equip vessels with broadcasting apparatus, even though they are not of the class which comes within the limits of the compulsory requirements of the law. Only vessels of over 1,600 tons gross tonnage, or which carry more than twelve passengers, or nineteen persons, are legally required to be fitted, but owners of smaller vessels have expressed a desire to provide equipment, owing to its value in keeping the ships in touch with headquarters during their voyages. This demand has led the Post & Telegraph Department to experiment with radio installations of a small and compact type, and it is now prepared to consider the establishment of a radio service according to prearranged schedules, on [waves in the vicinity of 60-100 metres, from low-power apparatus situated at various centres primarily for emergency purposes. The Dominion has a complete series of emergency radio stations for use if the normal communications are interrupted, and regular tests are conducted to ensure that contact can be maintained with other stations.

An Empire Causerie

Broadcasting in Hong Kong

THE Hong Kong station ZBW continues to make satisfactory progress, despite the annoyances, already referred to, of the loudspeakers, which are too much in evidence. During October there were 283 hours of programmes, of which 163.5 hours were European, and 119.5 hours Chinese items. The gramophone record is inevitably the backbone of the musical programmes. ZBW has a library of a minimum of 350 records, which is kept constantly up to date. The broadcasting authorities are hoping to come to an arrangement with the gramophone companies to pay only a nominal sum for the use of the records. An interesting item is the weekly hour for Chinese children. So far as "live" items are concerned, relays from European events are popular. The activities of ZBW may sound rather limited, but considering all the circumstances they are most creditable to everyone concerned.

The Bombay Programme

The relay from Bombay was most interesting. The new Governor, Lord Brabourne, made a most appropriate and finely phrased speech. The programme of Indian music was of a fascinating kind, and must have stirred many memories in the minds of those who have spent some time in India. The only suggested improvement that one might be disposed to make was that there might with advantage have been more of the street noises and background. If another programme of this nature is arranged, perhaps an effort will be made to transmit more of Bombay's characteristic sounds, which are unlike anything else in the world. Some of the music was so joyous that one might have imagined it came from Athlone while a dance programme was in progress. There was one instrument that sounded like the xylophone, but the operator had not anything like the speed of Teddy Brown. Altogether the programme was a memorable one, quite as much for what it suggested as for what it presented. It is to be hoped that it will be the forerunner of many more. It may be of interest to add that European nations regarded the broadcast as of such importance that arrangements were made to relay it by land-line to Czechoslovakia, Denmark, Switzerland, Germany, Latvia, and Finland, while the U.S.A. picked it up *via* the Empire transmission. The Bombay Station Director will be grateful for any reports on this broadcast.

Kenya Station

The Kenya broadcasting station, which is run by the British East African Broadcasting Co., Ltd., is romantically situated in the plains about five miles from Nairobi. Although Mount Kenya is about ninety miles distant, so clear is the atmosphere that it is often seen, dominating the horizon. Lions roam around the station occasionally, but they do not seem to do any damage. Indeed, there is in London an ex-member of Parliament who met one of these lions one day. He stared fixedly at the beast, and it slunk away with its tail between its legs. His friends allege that he made a political speech to the poor animal and that was why it fled. The listeners to the Nairobi station are very keen on market reports, fashion talks, and speeches from public dinners. (There is no accounting for tastes!) There is also a demand for sketches which require only a few characters. Most of these sketches are obtained from the B.B.C., but local playlets are welcome when they can be found. Miss Bradford, a former Cape Town journalist, is in charge of the station, which functions nightly from 6.30 to 9.30 p.m. (local time).

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
155	1935	7	Kaunas Lithuania	.. .. .	689	436	0.25	Malmberget (relays Boden) (Sweden)	.. .. .
		7	Huizen (Holland)	.. .. .			55	Stockholm (Sweden)	.. .. .
160	1875	50	Radio-Kootwijk (Holl.) (Transmits Huizen programme after 3.40 p.m.)	.. .. .	696	431	1.5	Paredo (Portugal)	.. .. .
					698	429.7	2.8	Belgrade (Yugoslavia)	.. .. .
167	1796	40	Lahti (Finland) (Relays Helsinki)	.. .. .			2	Madrid (Union Radio)(EAJ7)(Spain) 7-8.30 p.m. and (except Monday) 10 p.m. to 12 m'nt.	.. .. .
174	1725	75	Radio-Paris (France)	.. .. .				Madrid (Radio Espana)(Spain) 5-7 p.m. (Mon. 5 p.m. to 12 m'nt.)	.. .. .
183.5	1635	60	Deutschlandsender (Germany)	.. .. .	707	424.3		Moscow-Stalin RW39 (Russia)	.. .. .
193	1554.4	30	Daventry National (Great Britain)	.. .. .			100	Munich (Germany)	.. .. .
195	1538	7	Ankara (Turkey)	.. .. .	716	419	100	Rabat (Morocco)	.. .. .
202.5	1481	500	Moscow (Komintern) RW1 (Russia)	.. .. .	721.5	415.7	6	Athlone (Ireland)	.. .. .
207.5	1445.7	13	Eiffel Tower (Paris) (France)	.. .. .	725	413	60	Katowice (Poland)	.. .. .
212.5	1411	120	Warsaw No. 1 (Poland)	.. .. .	734	408	16	Sottens (Switzerland)	.. .. .
217.5	1380	100	Novosibirsk RW76 (Russia)	.. .. .	743	403	25	Midland Regional (Gt. Britain)	.. .. .
222.5	1348	30	Motala (Sweden) (relays Stockholm)	.. .. .	752	398.9	25	Bucharest (Romania)	.. .. .
235	1276.3	0.5	Kasbah (Tunis)	.. .. .	760	394.7	12	Leipzig (Germany)	.. .. .
240	1250		Vienna Experimental (Austria)	.. .. .	770	389.6	120	Toulouse (Radio) (France)	.. .. .
242	1239.5	0.6	Boden (Sweden)	.. .. .	779	385	8	Lwów (Poland)	.. .. .
250	1200	5	Istanbul (Turkey)	.. .. .	788	381	16	Scottish Regional (Nr. Falkirk) (Gt. Britain)	.. .. .
252	1191	200	Reykjavik (Iceland)	.. .. .	806	372	1.5	Hamburg (Germany)	.. .. .
260	1153.8	30	Luxembourg	.. .. .			1	Bolzano (Italy)	.. .. .
			Kalundborg (Denmark) (relays Copenhagen)	.. .. .			10	Helsinki (Finland)	.. .. .
265	1132	15	Monte Ceneri (Switzerland)	.. .. .	815	368.1	1.5	Seville (Union Radio) (EAJ5) (Spain)	.. .. .
269	1115	40	Moscow (Popoff) RW58 (Russia)	.. .. .			0.2	Radio-Galicia (EAJ4) (Spain)	.. .. .
271.5	1105	35	Minsk Kolodistchi RV10 (Russia)	.. .. .			0.7	Fredriksstad (Norway) (relays Oslo)	.. .. .
277	1083	60	Oslo (Norway)	.. .. .			10	Kharkov RV20 (Russia)	.. .. .
280	1071.4	10	Tiflis (Russia)	.. .. .	818	366.7	1.2	Radio LL (Paris) (France)	.. .. .
290	1034.5	36	Kiev RV9 (Russia)	.. .. .	824	364	1	Bergen (Norway)	.. .. .
300	1000	100	Moscow RV49 (Russia)	.. .. .	825.5	363.3	13	Algiers (N. Africa)	.. .. .
351	857	100	Leningrad RW70 (Russia)	.. .. .	832	360.5	100	Berlin (Germany)	.. .. .
355	844.8	3	Budapest No. 2 (Hungary)	.. .. .	843	356	50	London Regional (Great Britain)	.. .. .
364	824.1	50	Sverdlovsk RV5 (Russia)	.. .. .	852	352.1	7	Graz (Austria) (relays Vienna)	.. .. .
400	749.9	1.5	Geneva (Switzerland)	.. .. .	859.2	349	100	Leningrad (Russia)	.. .. .
402	746.2	0.6	Östersund (Sweden) (relays Sundsvall)	.. .. .	861	348.4	8	Radio-Barcelona (EAJ1) (Spain)	.. .. .
416.6	720	20	Moscow (Experimental) (Russia)	.. .. .	869	345	11.5	Strasbourg (France)	.. .. .
434.7	690	1.2	Oulu, Uleaborg (Finland)	.. .. .	878	342	35	Brno (Czechoslovakia)	.. .. .
515	582.6	0.5	Tartu (Estonia)	.. .. .	888	337.8	15	Brussels No. 2 (Belgium) (Flemish programme)	.. .. .
522	574.7	7	Ljubljana (Yugoslavia)	.. .. .	896	335	5.5	Cadiz (Spain)	.. .. .
526	570.2	0.7	Hamar (Norway) (relays Oslo)	.. .. .	897	334.4	1.9	Poznań (Poland)	.. .. .
527	570	0.25	Grenoble (PTT) (France)	.. .. .	903	332.2	50	Milan (Italy)	.. .. .
			Freiburg-im-Breisgau (Germany) (relays Stuttgart)	.. .. .	914	328.2	60	Poste Parisien (Paris) (France)	.. .. .
530	566	16	Wilno (Poland)	.. .. .	923	325	60	Breslau (Germany)	.. .. .
			Augsburg (Germany) (relays Munich)	.. .. .	932	322	10	Göteborg (Sweden) (relays Stockholm)	.. .. .
536	560	0.25	Kaiserslautern (Germany) (relays Munich)	.. .. .			0.25	Dresden (Germany) (relays Leipzig)	.. .. .
			Tampere (Finland) (relays Helsinki)	.. .. .	941	319	1.5	Naples (Italy)	.. .. .
545	550.5	120	Budapest No. 1 (Hungary)	.. .. .			1	Sofia (Rodno-Radio) (Bulgaria)	.. .. .
554	542	10	Sundsvall (Sweden)	.. .. .	950	315	2.5	Marseilles (PTT) (France)	.. .. .
556	539.5	3	Palermo (Italy)	.. .. .	959	312.8	1.5	Cracow (Poland)	.. .. .
563	533	100	Stuttgart (Mühlacker) (Germany)	.. .. .	960	312	10	Genoa (Italy)	.. .. .
571	525.3	15	Riga (Latvia)	.. .. .	968	309.9	0.25	Pietarsaari (Jacobstad) (Finland) (relays Helsinki)	.. .. .
580	517.2	100	Vienna (Bisamberg) (Austria)	.. .. .			50	West Regional (Gt. Britain)	.. .. .
589	509.2	15	Brussels No. 1 (Belgium)	.. .. .	977	307	0.5	Falun (Sweden)	.. .. .
598	501.6	20	Florence (Italy)	.. .. .			0.75	Zagreb (Yugoslavia)	.. .. .
605	495.8	1.2	Trondheim (Norway)	.. .. .	986	304	13	Radio-Vitus (Paris) (France)	.. .. .
614	488.6	120	Prague (Czechoslovakia)	.. .. .	995	301.5	50	Bordeaux-Lafayette (PTT) (France)	.. .. .
625	480	50	North Regional (Manchester) (Great Britain)	.. .. .	1004	298.8	11	North National (Manchester) (Great Britain)	.. .. .
635	473	60	Langenberg (Germany)	.. .. .			20	Tallinn (Estonia)	.. .. .
644	465.8	15	Lyons (La Doua) (France) (relays PTT)	.. .. .	1013	296.1	7*	Hilversum (Holland)	.. .. .
653	459	60	Beromünster (Switzerland)	.. .. .	1022	293	2.5	Kosice (Czechoslovakia)	.. .. .
			Bödo (Norway)	.. .. .	1031	291	0.7	Limoges (PTT) (France)	.. .. .
			Klagenfurt (Austria) (relays Vienna)	.. .. .			13.2	Viiuri (Viborg) (Finland) (relays Helsinki)	.. .. .
			Porsgrund (Norway) (relays Oslo)	.. .. .	1040	288.5	1	Bournemouth (Gt. Britain)	.. .. .
			Salamanca (Spain) (EAJ22)	.. .. .			50	Scottish National (Nr. Falkirk) (Gt. Britain)	.. .. .
			San Sebastian EAJ8 (Spain). Mon., Wed., Fri., 7.30-9 p.m.; other days, 10 p.m.-12 midnight	.. .. .	1049	286	0.8	Montpellier (France)	.. .. .
662	453.1	0.1	Tromsø (Norway)	.. .. .	1054	284.6	0.7	Radio-Lyons (France)	.. .. .
			Uppsala (Sweden) (relays Stockholm)	.. .. .			0.5	Berlin Relay (Germany)	.. .. .
			Pori (Björneborg) (Finland) (relays Helsinki)	.. .. .	1058	283	0.5	Magdeburg (Germany)	.. .. .
			Milan (Vigentino) (Italy)	.. .. .			0.5	Stettin (Germany) (relays Berlin)	.. .. .
			Radio-Agen (France) 12.30-1.30 p.m. and 7.30-8.30 p.m.	.. .. .			0.5	Innsbruck (Austria) (relays Vienna)	.. .. .
667	449.8	10	Odessa RV13 (Russia)	.. .. .	1063	282.2	2	Lisbon (Portugal)	.. .. .
			Aalesund (Norway)	.. .. .	1067	281	0.75	Copenhagen (Denmark)	.. .. .
			Notodden (Norway)	.. .. .	1073	279.5	14	Bratislava (Czechoslovakia)	.. .. .
671	447.1	0.08	Paris (PTT) (Ecole Supérieure) (France)	.. .. .	1085	276.5	60	Heilsberg (Germany) (rel. Königsberg)	.. .. .
			Rjukan (relays Oslo) (Norway)	.. .. .	1096	273.7	7	Turin (Italy)	.. .. .
			Danzig (Free City) (relays Königsberg)	.. .. .	1105	271.5	1.3	Rennes (France)	.. .. .
680	441	50	Rome (Italy)	.. .. .				

* until 5.40 p.m.

STATIONS IN ORDER OF FREQUENCIES AND WAVELENGTHS (Continued)

Table with columns: kc/s, m., kW, Station, Dial Readings. Lists stations from Bremen (Germany) to Umea (Sweden).

Table with columns: kc/s, m., kW, Station, Dial Readings. Lists stations from Uddevala (Sweden) to St. Quentin (France).

DEVIATIONS

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

Table with columns: Frequency (kc/s), Deviation (m.), Station. Lists stations like Motala (Sweden), Ljubljana (Yugoslavia), etc.

(For List of Short-Wave Stations see page 861)

CROSSWORD No. 21

"Scrooge; Pickwick, pick where you will, Their master's sleeping, but they live on still."

Note.—A proportion of the solutions to the clues in this Crossword refer to Charles Dickens and his works.

ACROSS

- 1 and 5 He really got more than he bargained for.
9 Shivering in Prague.
10 The novelist of the people.
12 and 43 Dickens' cheerless place.
13 By means of it we often hear one.
14 "I love to read Dickens, he always makes his characters live" (Hidden).
16 Sweet little Dickens' character.
19 Though whirling it may be short for 17.
21 How next would describe a polar direction.

- 23 See last.
25 Dickens wrote a tale of these cities.
26 Often both heard and read at Christmastide.
27 Otherwise 10.
28 Sow here, though seed will not grow.
29 Rotting half of a mean room often described by Dickens.
31 Game, more Christmassy with a dragon.
32 A young wife has lost her head and is now motoring.
35 State of 13 at high levels.
38 A beast from the "Old Curiosity Shop."
39 An evil tutor for 1 and 5 across.
41 Thrashed by Nicholas Nickleby.
42 Dickensian blackbird.
43 See 12.
44 How some of the boys reacted to Mr. Creakle's cane ("David Copperfield").

- 22 Two months ago (abbreviated).
24 The Fat Boy had some in the "Blue Lion."
28 Offshoots.
30 Dickens' novels were this to life as he saw it.
33 A peaceful Christian name.

- 34 A novel Midshipman, but not a Dickens' one.
36 This muddled composer didn't mean to be near.
37 Spot but no pimple.
38 Pick out.
40 Much bother that Shakespeare made of nothing.

SOLUTION No. 20

Grid solution for crossword No. 20 with words: POLAND, CANCER, REORNAE, INTERNATIONAL, NTMODELAA, CREW, DIMADIT, EROBOPERA, RMOG, CPLEAS, COSW, AVID, GAY, NEVA, RLPICOTXR, MASSACHUSETTS, EELSAEA, NANTES, FLOTOW.

DOWN

- 2 Dickens' fame was by no means this.
3 Always change to change direction.
4 Foolhardy.
5 Merely but a low-pitched instrument.
6 "Aren't that 'ere 'Boz' a tip-top feller, Lots writes well, but he writes." (Hood.)
7 "Our Mutual Friend" reads extracts out of the "Pickwick Papers" each evening (Hidden).
8 Paradise Lost.
11 Oven or oast, In it bracks roast.
15 Obtain by force.
17 See 20.
18 Orison.
20 With 17, a mystery to which Dickens' did not give the solution.

Crossword grid for No. 21 with numbered squares 1-44.

Russian Listeners and Classical Music

THE Russian wireless journal, *Govorit S.S.S.R.* ("Russia Speaks"), gives an interesting survey of the reaction of "low-brow" listeners to classical music. It appears that when broadcasting started it was unusual for the broadcasting authorities to receive even thirty letters criticising any given concert.

Now the situation has entirely changed. As many as 800 letters are received from workers after the "day workers' concerts." The contents of these letters clearly show that the level of musical culture is quickly rising among the masses. The letters also show that the uneducated people are listening to classical music in greater and greater numbers, and are understanding it better. There are still many letters complaining that symphony concerts are far beyond the comprehension of the average worker, but there is another side to this question. Here is a typical letter from a factory worker in Voronege:—

"... Statements to the effect that 'a worker cannot rest from his labours while listening to classical music' cannot be applied to all workers. Nowadays, the workman is not the fellow who flopped his ears like a donkey when listening to Beethoven, and could be charmed only by the balalaika and the accordion. In my opinion, classical music is very necessary, and should be given often over the radio."

Another factory worker writes: "Your concerts have greatly pleased me. The excerpts from the different operas and complete works of famous composers are not difficult to follow; on the contrary, they are easily assimilated while listening. The music given during the last concert was very melodious and has produced a profound impression."

Another letter, from a woman worker: "I often listen to your transmissions. I have now begun gradually to understand music, and I like Tchaikovsky, Rimsky-Korsakov, and Bizet." Another writes: "I listen to your concerts systematically, and am beginning to understand the music of various composers."

The working people send in many suggestions for future concerts. Out of 314 letters, 181 ask for excerpts from well-known operas, fifty-four for light music and operettas, twenty-six for classical music, thirteen for serious "romantic" music, and only six insist on the common folk songs.

In connexion with the above, it is interesting to notice the plans of the Russian broadcasting authorities for a series of some 100 concerts during the season of 1933-1934. The first twelve concerts represent a review of the Soviet composers. The largest works of contemporary composers are given the place of honour, most of them being conducted by the composers themselves. Two concerts are devoted to Ukrainian Caucasian composers, and one concert will illustrate the music of the revolutionary composers of the West.

Five concerts will show what is new in Russian compositions, and they will be followed by *The Seasons* (Haydn), "The Fantastic Symphony" and "Requiem" (Berlioz); Bruckner's seventh symphony, and a symphony by Mahler; *The Rite of Spring*, by Stravinsky, as well as his "Swdebka." The First Symphony and "Prometheus," by Scriabin, *A Faust Symphony*, by Liszt, "Spring," by Debussy, Wagner's *The Valkyrie* and Mozart's *Don Giovanni* are also included in this series.

A special series of concerts is devoted to Tchaikovsky; it will include all the six symphonies, *Manfred*, *Hamlet*, *Françesca da Rimini*, *Romeo and Juliet*, *The Voyevode*, etc.

Last Week's Log

(December 10-13)

By "THE SEARCHER"

OWING to the earlier press dates necessitated by the Christmas season, this Log covers the four days between Sunday, December 10, and Wednesday, December 13 only. "Northerner" will take up the thread from the 14th, and when my turn comes again I will round off the Log by reporting on any days that he misses from the week that would normally be his.

Conditions have been very good indeed, and all the signs point to first-rate long-distance reception over the holidays. There are no atmospheric, and though there is a little fading, it is of the milder kind. When using a set fitted with automatic volume control one hardly knows that it is there; in fact, once or twice I have had to verify my suspicions by changing over to a set without A.V.C. The all-round strength of stations is great and, though there are certain heterodynes, the number of stations that can be heard with good quality and clear of all interference is large.

There has been some good entertainment for the long-distance listener. At nine o'clock on the Sunday Toulouse's orchestra gave a pleasing concert version of the music of Leoncavallo's *Pagliacci*. On the Monday my household demanded dance music, and I gave them Warsaw's relay from a restaurant.

On the Tuesday my preferences were a concert of folk music by a mandolin band, given by the Frankfurt studio, but received from Langenberg, and Huizen's concert by the K.R.O. Boys, to which I listened from 10.45 p.m. onwards. On the Wednesday Rome gave a fine performance of Bizet's *Carmen*, and during the intervals I listened to an attractive concert by Stuttgart's station orchestra, relayed from the Deutschlandsender.

Huizen suffered from interference only on the Monday; but on the Wednesday evening the 7-kW transmitter must have been in use, for the signals were quite weak. Radio-Paris has been temporarily closed down, but as I write on Thursday morning I have just tuned to the settings of Radio-Paris and find a tuning note being transmitted preparatory to the 12.30 p.m. concert. Both the Deutschlandsender and Warsaw have come in well, but I have not heard Motala at all. Luxembourg was badly heterodyned on the Monday and Wednesday. Kalundborg was very weak on the Monday and was not heard on the Tuesday. The station came in moderately well on the Sunday and Wednesday. Oslo was excellent on the Sunday, Monday, and Wednesday.

Of the medium-wave stations, Budapest is in magnificent form, giving almost perfect reception whenever one tunes to 550.5 metres. Munich is still using the old transmitter, but Vienna, Brussels No. 1, Florence, Prague, and Lyons (La Doua) are very well received.

Schweizerischer Landessender has been heterodyned; Rome and Stockholm have both been good. Belgrade was well heard on the Tuesday, but was heterodyned on the Wednesday. Berlin (Witzleben) came in well on the Sunday and Tuesday. Radio-Suisse Romande was at his best on the Wednesday. Toulouse has been good throughout the week. Milan Experimental gave good volume on the Sunday. Leipzig, Hamburg, Strasbourg, Brussels No. 2, the Poste Parisien, and Breslau have all scored full marks. Milan was a little below form except on the Sunday.

Hilversum was fading on the Sunday, but was otherwise good, and I found Heilsberg rather below strength at the beginning of the

(Continued at foot of next column)

Which Station Was That?

Replies to Queries

THEA (Moradabad, India): KZRM ("Z" pronounced "Zee"), Manila (Philippine Islands): 485 m. (618.5 kc/s). WIRELESS CRAZY (Ballyneety): Radio-Normandie, Fécamp; closes with a gramophone record, Ma Normandie (Bérat); and Radio-Toulouse, La Toulousaine. NUNKUN (Teddington): Montie Ceneri (Switzerland). B. K. W. (Cadiz): HAT2, Szekesfehervar (Budapest), 43.86 m. (6,840 kc/s). BING (Peterboro): Cannot definitely identify, but you would appear to have received a harmonic of a long-wave telephony transmission from Rugby. INTERESTED (N.W.8): Beromünster (Switzerland), relay, Berne. NO. U. NOT (Hayward's Heath): (1) regret, cannot trace G6AR; (2) G5CU, advertised as amateur transmitter at Scarborough (Yorks), on 41 m. (7,156 kc/s). ALBECQIAN (Guernsey): (1) W3WX, Amateur transmitter at Harrisburgh, Pa. (U.S.A.); (2) cannot trace W1VAZ, but if W1BAZ, amateur at Bridgeport, Conn. (U.S.A.). TIM (Walton-on-Thames): Wavelength apparently wrong; details would tally with Radio-Luxembourg and Reykjavik (Iceland); the latter station heard in intervals of the former. LIVE WIRE (Edinburgh): (1) this was Hilversum; Dutch time is twenty minutes in advance of G.M.T.; (2) Frankfurt-am-Main; late night concert. CRARTY (Southend-on-Sea): Scheveningen-Haven (Holland); commercial transmissions only. ERIC (Stockport): This was Madrid (EAJ7). GRADUATE (Middleton): (1) regret, cannot trace; (2) this was Madrid (EAJ7); variety programme. HALIFAX TOWN (Yorkshire): Details are too vague to trace definitely, but might tally with Boden (Sweden), relaying church service from Stockholm.

Free Query Service

Each query should be numbered and the questions on the coupon carefully answered. Letters must be addressed to the Editor, WORLD-RADIO, Broadcasting House, London, W.1.

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 condition for "Free Queries."

Extra-European Inquiries

In the case of readers of WORLD-RADIO living in countries outside Europe who desire identification of transmissions the condition that a coupon must be enclosed is waived; the other conditions should, however, be observed.

IDENTIFICATION COUPON (No. 254)

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.

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 signal.
7. Details of programme or signal received.
8. Name and address.
9. Nom de Plume. (Proprietary names must not be used.)

While we are willing to help readers to identify stations heard, we cannot undertake the verification of the reception abroad of B.B.C. stations.

(Continued from previous column)

week. Toulouse PTT was a good signal on the Monday and Tuesday. Trieste and Nürnberg have both given good reception, but Fécamp was heterodyned on the Sunday and interfered with by spark signals on the Monday. Lille PTT was well received on the Sunday.

"BON NOËL"
 "FROHLICHE WEIHNACHTEN"
 "BUENAS PASCUAS"
 "A HAPPY XMAS FOLKS"
 "VROOLIJK KERSTFEEST" "BUON NATALE"

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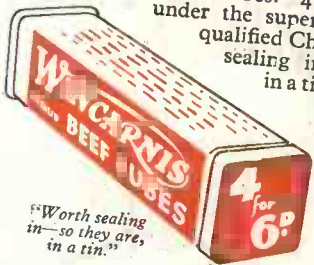
OR

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