

LISTEN AND LEARN

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Number Seven

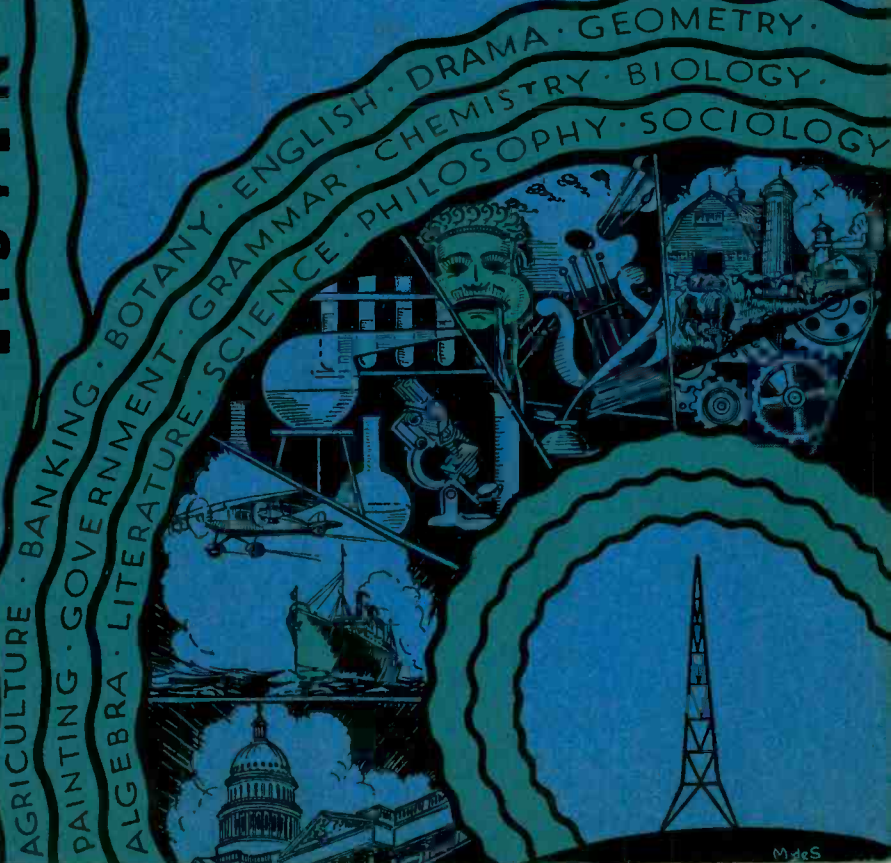


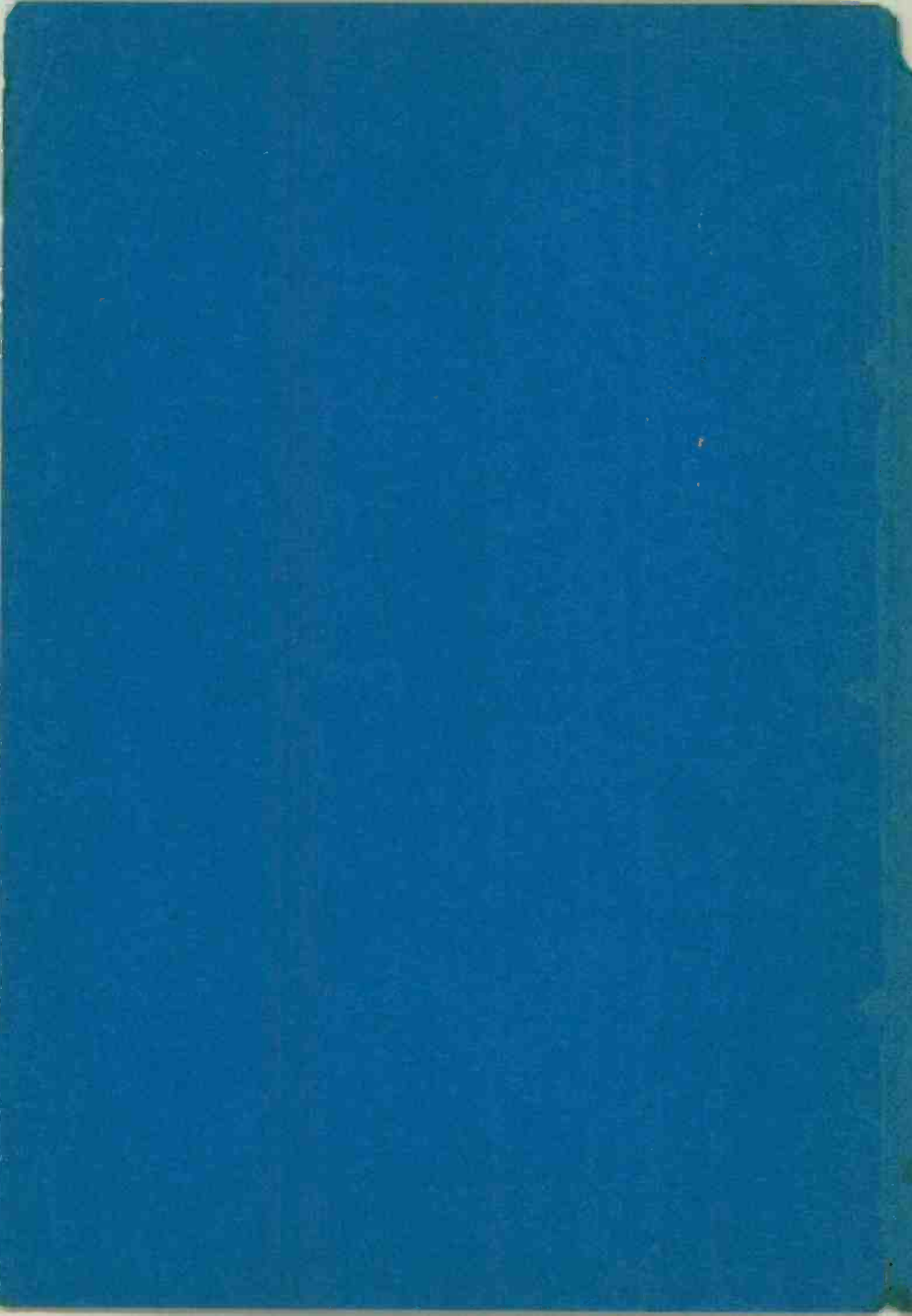
BROADCASTING ABROAD

REVISED EDITION

**NATIONAL ADVISORY COUNCIL ON RADIO
IN EDUCATION, INC.**

60 EAST 42ND STREET, NEW YORK





Information Series · Number 7

LEVERING TYSON, *Editor*

BROADCASTING ABROAD

COMPILED FOR THE COUNCIL BY THE
UNION INTERNATIONALE DE RADIO-
DIFFUSION, GENEVA, SWITZERLAND,
A. R. BURROWS, SECRETARY GENERAL

WITH A SUPPLEMENTAL MEMORANDUM ON
RADIO BROADCASTING IN THE FAR EAST
AND SOUTHERN PACIFIC BY THE AMERICAN
COUNCIL, INSTITUTE OF PACIFIC RELATIONS

NATIONAL ADVISORY COUNCIL
ON RADIO IN EDUCATION, INC.
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VISORY COUNCIL ON RADIO IN EDUCATION, INC.

FOREWORD TO SECOND EDITION

The enthusiastic reception accorded *Broadcasting Abroad* resulted in immediate exhaustion of the first edition. Consequently it was reprinted and the supply of reprints did not last very long after high-school and college debate teams all over America engaged themselves with the intricacies of the question, Resolved, that the United States should adopt the essential features of the British system of radio control and operation. Another reprint was contemplated when the author of the first edition offered to revise the material and bring it down to date as of December 31, 1933. The present bulletin is the result and the Council is indebted to Mr. Burrows of the Union Internationale de Radiodiffusion for the co-operation afforded in making the data available.

At approximately the same time the American Council, Institute of Pacific Relations, issued its *Memorandum on Radio Broadcasting in the Far East and Southern Pacific*. The material included therein is of considerable value to anyone who is making a study of the broadcasting systems operating in various parts of the world, and is included with permission of the Council to whom we hereby express our grateful acknowledgment.

The growing popularity of the all-wave receiving set is an index of increasing interest in radio programs emanating from foreign countries. What is more important, the same trend opens up heretofore undreamed-of possibilities in international understanding. All of this emphasizes the importance of appreciating the condi-

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tions under which broadcasting is conducted in various parts of the globe. To increase this appreciation the Council is glad that it can present again official statistics and well-founded opinion concerning practices which our radio neighbors are now following.

NEW YORK CITY
April 1, 1934

LEVERING TYSON

FOREWORD TO FIRST EDITION

The Council regards itself as particularly fortunate in being able to issue this bulletin. Much has been written and said in this country about broadcasting conditions abroad. Anyone who has had the opportunity to get first-hand experience with the systems operated in Great Britain and on the continent discovers that what is said and written in America about European broadcasting, to say the least, is highly colored. Without attempting in the slightest degree a defense of American broadcasting or a criticism of the European variety it is apparent to the casual first-hand observer that European broadcasting conditions are by no means ideal. In a comparatively young art or industry this is, of course, to be expected. For that reason it is comforting to get fact from an organization which is about the only body in Europe that has it available—the Union Internationale de Radiodiffusion, popularly known as the Geneva Union. When the Director of the Council was in Europe in the summer of 1931, arrangements were made with the Secretary-General of the Union, Mr. A. R. Burrows, formerly program manager of the British Broadcasting Corporation, for an interchange of factual material about educational broadcasting. This bulletin is the result. No opinion is quoted or indicated.

According to records of the Electrical Equipment Division of the Department of Commerce, there are now in use throughout the world 35,000,000 radio receiving sets, of which approximately half are in North America. Cer-

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tainly we in the United States use radio more than any other country in the world, and if anyone has adopted practices which are better than ours we ought to learn of it and benefit from such experience to the extent of our ability. Comparisons are difficult if not impossible because conditions are so dissimilar.

The footnotes throughout this bulletin are not the author's. For the sake of clarity several technical terms used in the manuscript were explained by members of the Council's Engineering Committee. European spelling and usage were retained—for example a "tube" in England is called a "valve." American readers interested in the statements of revenues and license fees as given in the various national currencies will find a table of coinage values in the Appendix.

The bulletin is copyrighted merely to safeguard its contents from possible misuse. It is available to anyone or to any organization interested in distributing correct information about broadcasting conditions abroad.

Dr. Stewart, who wrote the Preface to this bulletin, is assigned to radio by the Department of State and is thoroughly familiar with all international problems involving American broadcasting.

LEVERING TYSON

NEW YORK
May 1, 1932

PREFACE TO FIRST EDITION

It is a commonplace that radio recognizes no national boundaries. In some parts of the globe the owner of a broadcast receiving set, by a simple turn of the dial, may bring in stations in several foreign countries. In the United States, however, such is not the case with the ordinary receiving set, save that a few Canadian, Cuban, and Mexican broadcasting stations can be heard in various parts of the country.

For the most part the individual listener in the United States cannot compare the performance of American and foreign, particularly European, broadcasting stations as a result of direct observation. He is, therefore, dependent upon the testimony of others for facts upon which to base comparisons. Unfortunately, much that has been presented as fact by some observers has been denied by other observers. Without background of his own, the listener has difficulty in detecting inaccuracies in the accounts of others. At times, he appears to be confronted by an issue of veracity; and yet he is without sufficient information to judge the competence of the observers or to make allowances for any interests which the observers hope to serve.

It is quite practicable to reduce the amount of such confusion. There are certain facts with respect to broadcasting in each country which are susceptible of definite ascertainment and of impartial statement. The National Advisory Council on Radio in Education has performed a very worth-while service in presenting on the

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following pages a factual statement with respect to broadcasting in a number of foreign countries. Particularly is the Council to be congratulated upon enlisting the assistance of the International Broadcasting Union in the assembling of data.¹ That organization probably has more information with respect to the broadcasting situation in Europe than has any other body.

The reader of the following pages will find a simple presentation of facts, without attempt at interpretation. Much that he might hope to find has been deliberately omitted as not properly within the scope of the study. Thus he will not find a comparison of the relative merit of programs in the United States and in the various countries treated, nor of the programs in those countries. Nor will he find an estimate of listener interest or listener reaction, except as statistics showing the number of licensed listeners may be an indicator. Such factors at the present time are extremely difficult of ascertainment—as difficult of exact determination in other countries as in the United States. It would have been contrary to the purpose of the study to insert mere opinion or speculation on the point.

The strictly factual statements in the following pages may serve to dispel a number of illusions with respect to broadcasting in other countries. Variations in practices between countries may surprise many people who have thought of a single “system” as applicable in all countries outside of the United States.

A considerable portion of the study is devoted to the

¹ For a translation of the regulations which constitute the basis for the organization of the International Broadcasting Union, see *Journal of Radio Law*, I (October, 1931), 647-51.

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use of radio as an instrument of education. Here again no attempt has been made, nor should it have been, to compare the educational content of the programs in the various countries. In Europe, as in the United States, no absolute standard of measurement of the educational content of programs has been devised. The facts presented with respect to the amount of time devoted to educational programs will be of interest to those persons who have pictured Europe as being so blessed with educational programs that at any time of the day the listener need only choose from a variety of such programs.

Chapter i, which indicates the number of broadcasting stations, may profitably be kept in mind in connection with chapter iii which deals with educational programs.

The subject of "broadcasting abroad" is one upon which the facts are not readily available and upon which reports and opinions differ widely. The National Advisory Council on Radio in Education has performed a useful service in making accessible in a convenient form a large amount of factual information. While men hereafter will doubtless continue widely at variance in their interpretation of the facts, at least the Council has provided a point from which the variations in interpretation may start.

IRVIN STEWART

DEPARTMENT OF STATE
WASHINGTON, D.C.
May 1, 1932



INTRODUCTORY REMARKS

It will be seen that, according to the information published in Chapter One of this document, broadcasting in the majority of European countries is under some measure of State control. Where the State does not itself undertake the preparation and radiation of the programme it has granted this right for a limited period to a small number—or what is more commonly the practice—to a single organisation.

The degree of State control varies from country to country. In some cases the broadcasting organisations have almost an official character; others are semi-official in nature; a few are quite private.

With few exceptions the revenue for the preparation and transmission of programmes comes from the listeners themselves in the form of an annual payment (a tax) imposed by the State in return for the right to possess a receiving apparatus. The collection of this tax devolves upon the Postal Administrations, except in Japan. In some cases the whole of the sum thus collected is handed over to the broadcasting organisation; in others a percentage is retained by the Postal Administration for administrative expenses. Penalties of varying severity exist for the non-payment of these licence fees. In recent times the Postal Administrations have been active in the search for, and prosecution of listeners possessing receiving sets for which they have not received their annual licence.

In Holland and Iceland authorisation is necessary for

INTRODUCTORY REMARKS

the possession of a receiving set, but there are no compulsory licence fees.

In some States licences are granted, without payment of fees, to certain categories. In particular cases the blind are thus favoured; in Germany, unemployed and war victims are exempted from payment in extreme cases.

An outcome of this practice of obtaining revenue from the actual listeners is that the broadcasting organisations, being dependent only upon their listeners, have freedom in the development of their programme policy. The general tendency is to regard broadcasting as a public service, and to bring into the programmes those features of public service which broadcasting is so peculiarly fitted to perform. There is also general appreciation of the educational possibilities of broadcasting.

In accordance with article 5 of the Washington Convention¹ practically all the States forbid their listeners to divulge to third parties such messages (outside time signals, weather forecasts and the programmes of authorised broadcasting stations), as may be received from radiotelegraphic and radiotelephonic stations. In all cases the Governments reserve the right to forbid the use of wireless receivers in times of war or when their possession may be prejudicial to public security.

¹ Of 1927.

CHAPTER ONE

The organisation of broadcasting in the European and some other States

In this chapter the countries are taken alphabetically and the information upon the organisation of broadcasting is given in separate paragraphs in accordance with the following headings:

1. General information regarding the concession(s), in which it is explained who owns and who operates the stations;
2. The number of stations and their power;
3. The sources of revenue;
4. The number of licenced listeners.

AUSTRIA

A concession has been granted, until December 31, 1952, to a private organisation which may earn profits, known as the Oesterreichische Radio-Verkehrs A.G. or more commonly RAVAG. One-fifth of the members of the Council are nominated by the Government. The majority of shares are held by corporations or public institutions.

RAVAG operates the following stations:

<i>Stations</i>	<i>Kw. Car. Wave</i>	<i>Per Cent Modul.</i>
Wien (Bisamberg)	100.0	80
Dornbirn	2.0	—
Graz	7.0	80
Innsbruck	0.5	65
Klagenfurt	0.5	65
Linz	0.5	65
Salzburg	0.5	65

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RAVAG derives its income from its weekly magazine, *Radio Wien*, and from listeners' licences according to the following scale:

- 24 Austr.sh. per year for private subscribers payable by instalments of 2 sh. at intervals of not more than a month;
- 20 Austr.sh. per month for dealers in and manufacturers of wireless apparatus in Vienna and Graz;
- 12 Austr.sh. per month for the same in places of more than 20,000 inhabitants, with the exception of Vienna and Graz;
- 6 Austr.sh. per month for the same in all other places in Austria;
- 4 Austr.sh. per month for a receiving apparatus used in a public establishment.

In addition:

- 2 Austr.sh. per month for every loud speaker attached to such apparatus;
- 2 Austr.sh. per month for every five headphones attached to such apparatus.

These fees are collected by the Austrian Postal Department and 91 per cent of the total is handed to the broadcasting organisation RAVAG for the construction and maintenance of its stations and the production of programmes.

The number of licenced listeners in Austria at the end of December 1933 was 507,479.

AUSTRALIA

The Australian situation shows the existence of two types of station: a series of *Class A* stations of 3 to 5 kilowatts power owned and operated technically by the

BROADCASTING ABROAD

Australian National Broadcasting Service (a section of the Commonwealth Department of Posts and Telegraphs), but for which the programmes have been provided since July, 1932, by a Commission of five members nominated by the Government, known as the Australian Broadcasting Commission. The Commission is a corporate body with perpetual succession. Its Chairman and Officers hold office for a limited number of years.

The second type of station, *Class B* are, generally speaking, small-power privately-operated and privately-owned local stations.

There are 13 *Class A* stations and 48 *Class B* stations.

Class A Stations:

<i>Stations</i>	<i>Power in 1,000/amps</i>	<i>Stations</i>	<i>Power in 1,000/amps</i>
Adelaide 5CL	40/10	Newcastle 2NC	40/ 9
Brisbane 4QG	31/13	Perth 6WF	27/20
Corowa 2CO		Port Pirie 5CK	
Crystal Brook 5CK		Rockhampton 4RK	33/12
Hobart 7ZL	41/ 9	Sydney 2BL	40/15
Melbourne 3AR	60/25	Sidney 2FC	60/13
Melbourne 3LO	52/10		

Class B Stations (Incomplete)

Adelaide 5AD	13/ 6	Goulburn 2GN	
Adelaide 5DN	19/ 2.5	Gunnedah 2MO	21/ 3
Adelaide 5KA	20/ 3	Hamilton 3HA	
Albury 2AY	23/ 1	Hobart 7HO	17/ 4.5
Ballarat 3BA	20/ 2	Kalgoorlie 6KG	
Bendigo 3BO	47/ 2	Launceston 7LA	45/ 1.32
Brisbane 4BC	40/ 3	Lismore 2XN	26/ 4
Brisbane 4BH		Mackay 4MK	
Brisbane 4BK	10/ 6	Maryborough 4MB	
Broken Hill 2XL		Melbourne 3AK	
Canberra 2CA		Melbourne 3AW	
Geelong 3GL	20/ 2	Melbourne 3DB	36/ 3.75

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Class B Stations (Incomplete)—Continued

<i>Stations</i>	<i>Power in 1,000/amps</i>	<i>Stations</i>	<i>Power in 1,000/amps</i>
Melbourne 3KZ	27/ 4.25	Sydney 2KY	17/ 8
Melbourne 3UZ	36/ 5.5	Sydney 2SM	
Moss Vale 2MV	22.8/1.7	Sydney 2UE	21/55
Newcastle 2HD	23/ 2.3	Sydney 2UW	30/ 3
Newcastle 2KO		Toowoomba 4GR	15/ 1.25
Perth 6ML		Townsville 4TO	
Perth 6PR		Trafalgar 3TR	
Port Pirie 5PI		Ulverstone 7UV	
Rockhampton 4RO		Wagga Wagga 2WG	
Swan Hill 3SH		Wangaratta 3WR	24/ 2.7
Sydney 2CH		Wollongong 2WL	
Sydney 2GB	26/10		

The *Class A* stations receive their revenue in the form of a proportion of the monies collected by the State from listeners' licences. They may not broadcast advertisements.

The *Class B* stations derive their revenue from the broadcasting of advertisements.

The listener's annual licence fee in Australia is 24 shillings per year if he resides within 250 miles of a *Class A* station, or 17/6 if he resides between 250 and 400 miles from a *Class A* station.

The 24 shillings licence has been divided until recently as follows: twelve shillings to the programme organisation, nine shillings to the State Department of Posts and Telegraphs for the technical operation of the stations, three shillings to an Australian company controlling the patent rights on wireless receiving apparatus.

The 17/6 licence has been divided: twelve shillings to the programme organisation, two shillings 6d. to the State Department of Posts and Telegraphs for administration and the technical operation of the stations, three

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shillings to an Australian company controlling the patent rights on wireless receivers.

Some slight revision of this revenue distribution has been spoken of in view of the fact that the fee for patent rights on receivers has lapsed.

The number of licenced listeners in the Commonwealth of Australia on October 31, 1933, was 508,534.

BELGIUM

Broadcasting in Belgium is conducted mainly by a Belgian National Broadcasting Institute, created in June 1930 for a duration of at least 12 years, for the control of the programmes. This Institute is required to work with absolute impartiality. The Institute has at its disposal at least three exclusive wavelengths—in view of the language problem in Belgium. The Committee of Management of the National Institute consists of a representative of the Postmaster General, a President and nine members of which three are chosen by the King of the Belgians, three by the Senate, and three by the Chamber of Deputies. The Institute has the power to construct the necessary transmitters in conformity of course with the conditions set out by the State. It has also to see that the programmes conform to the literary, scientific and artistic needs of the Belgian peoples and take into account the two national languages. The Institute prepares each day an impartial spoken newspaper.

The Belgian National Broadcasting Institute possesses two highpower broadcasting stations, one for transmissions in the Flemish language, the other for transmissions in French.

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They are Brussels I and Brussels II, both situated at Velthem and each having an aerial power of 18 kilowatts with 80 per cent modulation.

There were a few private stations of very small power but the authorisation to transmit has recently been suspended.

The source of revenue in Belgium consists of State subventions, and 90 per cent of the taxes collected by the State from listeners under the licence system. Each listener pays 60 Fr. for a valve receiver and 20 Fr. for a crystal receiver per year.

The number of licenced listeners in Belgium at the end of December, 1933, was 465,791.

BULGARIA

The Bulgarian Government reported to the Lucerne Conference, in June, 1933, its intention to construct a State broadcasting station of 50 kilowatts aerial power in the neighbourhood of Sofia.

Meanwhile an interest in broadcasting is being developed by two groups, the one—Bolgarsko Radio—being in favour of private development, the other—Rodno Radio League—being opposed to a private monopoly. The latter, which has been working for some time with a transmitter of 500 watts only, is building a 3 kilowatt transmitter and station by cooperative effort in the suburbs of Sofia. The “Bolgarsko Radio” group proposes also to build a 4 kilowatt transmitter in a central position.

The revenue of Rodno Radio is gained by the broadcasting of advertisements and voluntary contributions on the part of the members of the Group.

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There exist a series of taxes for the possession of receiving sets, but the funds are retained by the State.

These taxes are:

- 300 Lev. for crystal receivers permitting of low-frequency amplification;
- 300 Lev. for simple one-valve detectors;
- 400 Lev. for two-valve receivers;
- 500 Lev. for receivers having more than two valves.

The number of licenced listeners on September 10, 1933, was 6,023.

CANADA

Canadian broadcasting is in a state of transition. The old state of affairs of independent effort by a number of privately owned stations reliant for their revenue on subsidies and the broadcasting of advertisement is giving place gradually to a centrally organised system combining a measure of remote State control with private initiative.

The Radio Broadcasting Act of 1932 and a subsequent amendment last year placed Canadian Broadcasting under the control and regulation of a Canadian Broadcasting Commission, an independent body appointed by Parliament. The Commission has power to determine the number, situation, power and wave-lengths of the Canadian transmitters. It may determine the proportion of time to be devoted by any station to national and local programmes; it may recommend to the Minister the suspension or cancellation of private broadcasting licences; it may prohibit the organisation or operation of privately owned stations, yet, on the other hand, may assist and encourage, with the

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Minister's approval, the construction of small private stations. It may also exploit itself individual stations or a chain of stations.

The Commission has already established new rules for the technical characteristics and efficiency of the Canadian transmitters and certain principles concerning the contents and presentation of programmes. Broadcast advertising is still permitted but the time devoted to this class of programme must not exceed 5 per cent of the whole. Not more than 40 per cent of the time may be given to programmes from abroad and "right of way" must always be given to programmes judged by the Commission to have national interest.

The Commission may have the aid of nine Assistant Commissioners—one for each Province. It has commenced to construct its own chain of stations.

There were at the end of 1933, 67 Canadian broadcasting transmitters.

These were:

<i>Stations</i>	<i>Kw.</i>	<i>Stations</i>	<i>Kw.</i>
Calgary CFCN	10	Hamilton CKOC	0.5
Toronto CFRB	10	Moncton CRCA	0.5
Montreal CKAC	5	Montreal CRCF	0.5
Toronto CRCT	5	Moose Jaw CJRM	0.5
Windsor CKLW	5	Ottawa CRCO	0.5
Winnipeg CKY	5	Regina CHWC	0.5
Sudbury CJCS	}	Regina CKCK	0.5
{ day		1	Saskatoon CFQC
Brandon CKX	0.5	Vancouver CJOR	0.5
Calgary CFAC	0.5	Vancouver CRCV	0.5
Calgary CJCJ	0.5	Yorkton CJGX	0.5
Charlottetown CFCY	0.5	Edmonton CHMA	0.25
Edmonton CJCA	0.5	Charlottetown CHCK	0.1
Edmonton CKUA	0.5	Chatham CFCO	0.1
Fleming CJRW	0.5	Chicoutimi CRCS	0.1
Fredericton CFNB	0.5	Chilliwack CHWK	0.1
Halifax CHNS	0.5	Cobalt CKMC	0.1

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<i>Stations</i>	<i>Kw.</i>	<i>Stations</i>	<i>Kw.</i>
Fort William CKPR	0.1	Toronto CKNC	0.1
Hull CKCH	0.1	Vancouver CKCD	0.1
Kamloops CFCJ	0.1	Vancouver CKMO	0.1
Kelowna CKOV	0.1	Waterloo CKCR	0.1
Kingston CFRC	0.1	Hamilton CHML	0.05
Lethbridge CJOC	0.1	Quebec CKCV	0.05
London CFPL	0.1	Sydney CJCB	0.05
Montreal CHLP	0.1	Vancouver CKFC	0.05
New Carlisle CHNC	0.1	Victoria CFCT	0.05
North Bay CFCH	0.1	Wolfville CKIC	0.05
Ottawa CKCO	0.1	Moose Jaw CHAB	0.025
Prescott CFLC	0.1	Prince Albert IOBI	0.025
Preston CKPC	0.1	Trail IOAT	0.025
Quebec CHRC	0.1	Canora IOBU	0.015
Summerside CHGS	0.1	Stratford IOAK	0.015
S. John CFBO	0.1	Wingham IOBP	0.015
Toronto CKCL	0.1	Brantford IOBQ	0.005

The revenue of the Canadian Broadcasting Commission is obtained from the annual licence fees paid by the possessors of receiving sets.

The fee is two Canadian dollars per year.

At the end of the last financial year—March 31, 1933—there were 751,329 licenced listeners.

CZECHOSLOVAKIA

Broadcasting is conducted throughout Czechoslovakia by an organisation the licence of which is renewed each three years, named Radiojournal. Radiojournal is a company with limited liability in which the State has a 51 per cent financial interest. The State has four members on the Governing Body. Radiojournal is responsible for the general administration of broadcasting, including programmes.

The broadcasting of advertisements is not permitted in Czechoslovakia.

There exist the following stations:

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<i>Stations</i>	<i>Kw.</i>	<i>Modul.</i>
Praha I	120	80
Brno	32	80
Bratislava	13.5	60
Moravska-Ostrava	11.2	80
Kosice	2.6	80
Praha II	5	—

All the stations except that of Prague are technically operated by the State Department of Posts and Telegraphs.

The only source of revenue is that provided by the licence system. The individual licence fee is 10 czech. crowns per month. Of this 50 per cent is handed to Radiojournal for its activities.

The number of licenced listeners in Czechoslovakia on December 31, 1933, was 554,499.

DANZIG

Broadcasting in the Free City of Danzig is conducted under a law of March, 1928, which is identical with the German law of January, 1928. The broadcasting is entirely in the hands of the State Administration of Posts and Telegraphs.

There is a single station of 500 watts aerial power.

Revenue is derived from licence fees.

The number of licenced listeners on December 31, 1933, was 20,909.

DENMARK

The broadcasting situation in Denmark is of special interest inasmuch as Denmark for several years has possessed the highest percentage of listeners in relation to the total population, not only in Europe, but amongst all countries of the world possessing a licence system and therefore able to show precise figures.

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Danish broadcasting is entirely in the hands of the State. It is directed by an organisation known as Radio-raadet which is under the joint control of the Ministry of Education and the Ministry of Public Works. There is nevertheless an Advisory Council which includes representatives of all the principal groups of Danish social life.

Three stations,

Kalundborg, a longwave station of 60 kilowatts aerial power; Skamlebaek, a longwave (reserve) station of 1 kw. power; and Herstedvester, near Copenhagen, a middle wave station of 10 kilowatts aerial power, are found sufficient for the service.

The Postmaster General has charge of the technical operation of the station.

The revenue for the broadcasting service comes exclusively from licence fees, each listener paying ten Danish kroner annually.

The number of licenced listeners at the end of December, 1933, was 532,992 in a total population of about three and a half millions.

ESTONIA

A broadcasting monopoly has been granted by the Government to a private organisation known as Raadio Ringhääling. This company is in close contact with the Government.

At the moment there are two stations in Estonia:

Tallinn: a middle-wave station of 20 kilowatts, and

Tartu: a smallpower middle-wave station of 500 watts.

The revenue for broadcasting is derived solely from licence fees.

These fees are:

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- 9 E.Kr. for crystal receivers.
 - 12 E.Kr. for receivers for one or two lamps.
 - 15 E.Kr. for receivers of three lamps or more.
 - 40 E.Kr. for receivers used in cafés, etc., and private wireless exchanges.
 - 9 E.Kr. for each loudspeaker or for headphones attached to a receiving apparatus when they exist in another building.
- The schools and barracks are exempt from taxation.
The Estonian broadcasting organisation receives 85 per cent of the taxes.

There were 14,758 licenced listeners in Estonia on December 31, 1933.

FINLAND

The programme side of broadcasting in Finland is in the hands of a non-profit-making organisation known as Osakeyhtiö Suomen Yleisradio. This organisation has to take into account the two languages of Finland—Finnish and Swedish. There is a Supervisory Council of 15 persons chosen by the "O.S.Y."

The Finnish broadcasting stations are constructed and operated by the Finnish State Department of Posts and Telegraphs. Amongst these stations is one (Lahti) operating on a longwave.

<i>Stations</i>	<i>Kw.</i>	<i>Modul.</i>
Lahti	50	—
Helsinki	10	—
Viipuri (Viborg)	10	—
Oulu (Uleaborg)	1.2	—
Pori	1	—
Tampère	0.7	—
Turku (Abo)	0.6	—
Helsinki II	0.4	—
Jacobstad (Pietarsaari)	0.25	—

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The revenue comes exclusively in the form of a percentage of the licence fees paid by the possessors of receiving apparatus.

These fees are:

100 Finn.M. each year (13 gold francs) payable also for each loud-speaker attached to a receiving apparatus but placed in another building.

The number of licenced listeners on December 31, 1933, was 121,014.

FRANCE

The situation in France was greatly clarified during 1933. On March 1, a law was passed requiring the possessors of wireless receiving sets to pay an annual licence fee to the State, thereby providing State broadcasting with a considerable source of revenue. The scale of payments which came into force on July 1, is:

- 15 francs for a simple crystal receiver;
- 50 francs for valve receivers used by individuals;
- 100 francs for receivers used in places open free of charge to the public;
- 200 francs for receivers installed in halls where charges are made for admission.

A tax was also instituted on valves imported from abroad, the amount varying according to the sale price of the valve.

Hospital installations, schools, the blind and incapacitated war victims are exempt from these taxes.

Plans were vigorously pushed forward for the construction and operation of a series of highpowered State transmitters destined to cover adequately the whole of French territory.

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The highpower longwave station (Radio-Paris), hitherto privately owned, was purchased by the State towards the end of the year and plans are afoot for the raising of its power from 80 kilowatts to 150 kilowatts. The other State stations already under construction, or contemplated, are:

<i>Stations</i>	<i>Kw.</i>
Paris	120
Toulouse	120
Nantes	} 120
Angers	
Limoges	100
Lyon	100
Marseille	100
Bordeaux	60
Lille	60
Nice	} 60
Cannes	
Strasbourg	60
Montpellier	30
Grenoble	20

For the construction of these State stations a vote of 65 million francs was made in 1931. New credits have been asked for to complete the work.

Decrees were issued at the end of 1933 extending the activities of a Committee of Coordination (formed in August, 1933) to cover the whole of the colonial and regional State stations; for the creation of a Council of Administration and Advisory Body to organise the programmes of the longwave national transmitter; and for the systematic elimination of electrical sources of interference with good reception.

A number of private stations reliant for their revenue upon local subsidies and the broadcasting of advertisements continue to exist.

They are:

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<i>Stations</i>	<i>Kw.</i>	<i>Modul.</i>
Poste Parisien	60.0	80
Radio-Toulouse	8.0	48
Bordeaux Sud-Ouest	3.0	—
Juan-les-Pins	0.8	—
Radio LL Paris	0.8	—
Radio-Lyon	0.7	30
Radio-Vitus	0.7	—
Radio-Agen	0.6	—
Radio-Béziers	0.3	—
Radio-Normandie (Fécamp)	0.2	—
Radio-Nimes (Corse)	0.07	—

On August 1, 1933, the first return of licenced listeners was 1,087,147. This figure had risen on December 31, 1933, to 1,367,715.

GERMANY

The German broadcasting system underwent considerable changes in 1933 following the accession to power of the National Socialists. Changes in detail continue to take place.

Until 1933 there had been in Germany nine broadcasting organisations corresponding to the nine principal subdivisions of the country. A central organisation known as the Reichs Rundfunk G.m.b.H., which had its headquarters in Berlin, had exercised a certain administrative and financial control over the provincial organisations.

The actual transmitting stations which had been constructed by the State Department of Posts and Telegraphs were entirely under State control. The programmes, prepared locally, were under the supreme control of a central Programme Board and a Supervisory Board for political questions.

In 1933 one of the first acts of the new régime was to

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bring the German broadcasting organisation under the control of the Ministry of Public Instruction and Propaganda. The Department of Posts and Telegraphs retains control of the technical operation outside the broadcasting studios and collects the revenue in the form of listeners' licence fees. The Reichs Rundfunk G.m.b.H. remains as an executive organ for the Ministry of Public Instruction and Propaganda. The significance of the change as described by the new Director General, Mr. Eugen Hadamovsky, is that the Reichs Rundfunk is now an organ of the State policy rather than one of private capital interests.

Economies are to be effected by bringing within the central administration the Reichs Rundfunk G.m.b.H., the operation of the national transmitter, the various shortwave stations and that of Berlin.

The Central Programme Board has been dissolved and instead the responsibilities for preparing and transmitting special types of programme have been transferred to definite groups of stations. Each change is understood to be dictated by a desire to put every pfennig contributed by the listener into efficient public service.

The change involved the replacing of the old Administrators, and the principal executive officers under the old régime, by supporters of the Nazi-Socialist movement.

Another important development in connection with German broadcasting has been the creation under the Minister of Instruction and Propaganda of a Chamber for German Culture. Within this Chamber are included six national Chambers or Federations—those occupying themselves with music, the figurative arts, the theatre,

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literature, journalism, and broadcasting. In the last, known as the National-Socialist Broadcasting Chamber, participate the radio clubs, various radio artists' and critics' organisations, manufacturers of receiving sets, in fact, all interested in the administrative, technical, and economic problems of broadcasting. By a recent decree anyone exercising a profession associated with broadcasting who does not enrol in the Broadcasting Chamber within a prescribed time will not be permitted to exercise his profession. One outcome of this unity of effort was the placing on the market in the autumn of 1933 of a standard valve receiving set for national purposes, at a price considerably below that hitherto paid for receivers giving similar service.

The German broadcasting stations are:

<i>Stations</i>	<i>Kw.</i>	<i>Modul.</i>
Leipzig	120	70
Berlin-Tegel	100	70
Hamburg	100	70
München	100	70
Mühlacker	100	70
Breslau	60	70
Heilsberg (Ermland)	60	70
Langenberg (Rheinland)	60	70
Zeesen (Königswusterhausen)	60	70
Frankfurt a/M	17	70
Stettin	15	—
Freiburg im Breisgau	5	—
Gleiwitz	5	50
Nürnberg	2	50
Trier	2	50
Bremen	1.5	50
Hannover	1.5	50
Keiserslautern	1.5	50
Koblenz	1.5	50
Flensburg	0.5	50
Kassel	0.5	50
Königsberg (Pr.)	0.5	50
Magdeburg	0.5	50

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<i>Stations</i>	<i>Kw.</i>	<i>Modul.</i>
Augsburg	0.25	50
Dresden	0.25	50
Kiel	0.25	50
Köln	} in reserve	
Stuttgart		

The licence fee for the possession of a receiver remains at 24 marks, collected in monthly instalments of 2 marks by the local postman.

The total number of licenced listeners on December 31, 1933, was 5,052,607.

GREAT BRITAIN

A monopoly for ten years from January 1, 1927, has been granted to a public Corporation without share capital, incorporated by Royal Charter (known as the British Broadcasting Corporation) "acting as Trustees for the National interest."

This corporation has five Governors appointed for a period of five years. The first Director General is also nominated in the Charter.

The Corporation is required to give to the Postmaster General an annual General report and statement of accounts duly audited and certified. The Corporation is required to broadcast anything which Government Departments may require to be broadcast and it must refrain from broadcasting matter (general or particular) if required to do so by the Postmaster General. The Government may take over the service, without compensation, in an emergency.

The British Broadcasting Corporation builds and operates its stations. Until recently it possessed 22 but with the development of what is known as the Regional scheme—a scheme providing at carefully chosen points

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twin highpower transmitters capable of radiating simultaneously alternative and contrasted programmes—the number of stations has been reduced. Most of the remaining small-power stations are synchronised to function simultaneously on one common wavelength.

<i>Stations</i>	<i>Kw.</i>	<i>Modul.</i>
London I (Regional)	50	80
Northern National Transmitter	50	80
North Regional Transmitter	50	80
Scottish National	50	80
Scottish Regional	50	80
Western National	50	80
Western Regional	50	80
Daventry 5XX (National)	30	80
Midland Regional	25	80
Aberdeen	1	80
Belfast	1	80
Bournemouth	1	80
Newcastle	1	80
Plymouth	0.12	80

The longwave Daventry station is to be replaced in July 1934 by a new transmitter at Droitwich having an unmodulated aerial power of 150 kilowatts. High power stations will eventually replace the existing Aberdeen and Newcastle transmitters.

Since December, 1932, there has been in service at Daventry a group of shortwave stations with aerials directed towards the principal British Dominions, for the systematic radiation of programmes to those Dominions at the most suitable hours.

The revenue is derived from the annual licence fee paid by each listener, and also from the sale of printed programmes and other publications. The annual licence fee is one of ten shillings.

The number of licenced listeners on December 31, 1933 was 5,974,000.

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GREECE

The situation in Greece is obscure. At the Lucerne official Conference in June, 1933, the Greek delegation claimed, as essential for a national broadcasting service, three wavelengths—one for a national station of high-power and two for regional stations of lower power.

It is understood that the National station at Athens will be of 50 kilowatts aerial power.

A concession was granted to an American organisation for the right to broadcast but it is understood the firm in question did not make use of its rights within the period agreed upon.

Broadcasts are made each Saturday evening by a Salonika Radio Society with a station of one kilowatt power.

HOLLAND

The situation in Holland is different from that in any other European country. There are five or six programme organisations founded generally on political or religious bases. There exists a central Committee for the study of problems common to these organisations. The broadcasting of advertisements is not permitted.

Two private stations exist which operate, alternatively, on long and medium wavelengths. It has recently been decided that a "public utility company," in which the Government will have a majority interest, shall be formed for the ownership and exploitation of the Dutch broadcasting stations.

<i>Stations</i>	<i>Kw.</i>	<i>Modul.</i>
Hilversum	7 and 20	80 and 100
Huizen	7	80

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The Government has recently constructed a station of 60 kilowatts at Kootwijk which is sharing in the service.

The emitting hours of Hilversum and Huizen are shared amongst the five or six above-mentioned organisations.

The source of revenue for the programmes are subsidies by the political or religious bodies, and by voluntary subscriptions.

The total number of registered listeners on December 31, 1933, was 648,275. These were registered voluntarily either as the possessors of wireless receiving apparatus or as subscribers to the various telephonic distribution systems existing in Holland, known in French as "radio-centrales."

HUNGARY

The Government has granted a monopoly to an organisation known as the Magyar Telefon Hirmondo és Radio R.T., which is under the control of the Administration of Posts and Telegraphs. The Programme Council is nominated by the Ministry of Commerce. The broadcasting of advertisements is not permitted.

<i>Stations</i>	<i>Kw.</i>
Budapest	120
Budapest II	0.8
Magyaróvár	1.25
Miskolcz	1.25
Nyíregyháza	1.25
Pécs	1.25

The licence fees paid by listeners provide the sole source of revenue. Each listener pays 2.4 pengoes per month.

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The number of licenced listeners on December 31, 1933, was 328,179.

IRISH FREE STATE

Broadcasting in the Irish Free State is conducted by the Government through the State Administration of Posts and Telegraphs. The broadcasting of advertising material is permitted.

There are three stations in the Irish Free State at this moment:

<i>Stations</i>	<i>Kw.</i>	<i>Modul.</i>
Athlone	60	—
Dublin	1.2	70
Cork	1	80

The revenue is derived from three sources: A tax on listeners (each possessor of a receiver paying ten shillings a year); a tax of 33½ per cent on imported wireless apparatus, and the broadcasting of advertisements.

The number of licenced listeners on December 31, 1933, was 45,008.

ITALY

The exclusive right to broadcast in Italy has been given by the Italian Government to an organisation known as Ente Italiano per le Audizione Radiofoniche. Control over the programme activities of this organisation is exercised by a Supervisory Commission chosen from amongst the leading personalities in Italian politics, art, literature, and science. A decree has placed at the disposal of the broadcasting organisation, subject to the payment of fees to be mutually agreed upon, such theatrical and other works of a musical or artistic character after they have been performed in three theatres.

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Advertising by radio is permitted in the case of the Italian stations but under the conditions firstly, that it is kept within the least objectionable forms and does not prejudice the artistic quality of the programmes; secondly, that it shall not occupy more than ten per cent of the programme time.

Special efforts have been made of late in Italy for the development of broadcasting to schools and to the rural population.

There are thirteen stations in existence, these being:

<i>Stations</i>	<i>Kw.</i>	<i>Modul.</i>
Roma I	50	
Milano	50	
Bari	20	
Firenze	20	
Genova	10	
Trieste	10	
Torino	7	
Milano II (Vigentino)	4	
Palermo	3	
Napoli	1.5	
Bolzano	1	
Roma II	0.5	
Torino II	0.2	

A third station for the relaying in Rome of programmes from Northern Italy is in construction and the power of Rome I is being raised shortly to 100 kw.

The revenue for Italian Broadcasting comes from four main sources: a tax on receiving apparatus sold to listeners and a series of annual taxes on the possessors of receiving apparatus, individuals or establishments such as cinemas, etc., a tax on municipalities and publicity.

The tax on each valve receiver sold is two per cent of its normal sale price; the annual tax on each listener is 80 liras of which 3 liras are retained by the State and

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5 lire by the Corporation of Spectacles. The taxes on municipalities vary according to the population.

The Government retains for administrative expenses a small percentage of the monies collected in the form of licence fees and about 10 per cent of the contributions by municipalities.

The number of licenced listeners on December 31, 1933, was 365,000.

JAPAN

Broadcasting in Japan is in the hands of a corporation known as the Japanese Broadcasting Corporation which has a Charter to control and operate the whole broadcasting service of that country. This is a public service organisation not existing for profit. The working headquarters of this Corporation is at Tokio but for operating purposes there are seven regional divisions. The Board of Directors is elected every two years by nearly six thousand members of the Corporation who each made a foundation gift to the Corporation. The programmes are divided into three main sections—those of general information, education and recreation and these sections have the assistance of advisory committees. A special feature of Japanese broadcasting is the attention paid by the Japanese Broadcasting Corporation through permanent and temporary "service stations," to the inspection and repair of the receiving apparatus possessed by its listeners. During 1929 for example 323,590 sets were thus inspected.

The broadcasting of advertisements is strictly forbidden in Japan. The Japanese broadcasting stations are 26 in number. They are:

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Akita JOUK	Mayobashi JOBG
Asahigawa JOCG	Nagasaki JOAG
Fukuoka JOLK	Nagano JONK
Fukui JOFG	Nagoya JOCK
Hakodate JOVK	Niigati JOQK
Hammamatsu JODG	Okayama JOKK
Hiroshima JOFK	Osaka JOBK
Kanazawa JOJK	Sapporo JOIK
Kochi JORK	Sendai JOHK
Kokara JOSK	Shizuoka JOPK
Kumamoto JOGK	Tokushima JOXK
Kyoto JOOK	Tokio I JOAK
Matsuyo JOTK	Tokio II JOAK

The revenue of the Japanese broadcasting organisation is obtained from the annual licence fees paid by listeners and the publications of the Corporation. Each listener pays to the J.B.C. a monthly fee of one yen; in addition to an initial fee of one yen to the State Communication Bureau. The monthly fee is collected by the J.B.C. which keeps a large clerical staff for the purpose.

The number of licenced listeners in Japan on December 15, 1933, was 1,618,415.

LATVIA

Broadcasting in Latvia is under the control of, and operated by, the Latvian State Department of Posts and Telegraphs.

Two transmitting stations exist:

	<i>Kw.</i>		<i>Kw.</i>
Riga	15	Madona	15

and a third, Kuldiga (35 kw.), is projected.

The revenue is derived from licence fees; these fees are:

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Per Year Per Month

10.50 Lats.	1 Lat.	for State establishments, hospitals, and sanatoria;
10.50 Lats.	1 Lat.	for loudspeakers and headphones which are attached to a neighbour's installation or to a wireless exchange (which includes a copy of the weekly list of printed programmes);
7.00 Lats.	0.70 Lat.	for the loudspeakers and headphones mentioned above, but without the right to a copy of the weekly printed programme.

The number of licenced listeners on December 31, 1933, was 50,808.

LITHUANIA

Here again the Government owns and operates the only broadcasting station. The technical operation is performed by the State Department of Posts and Telegraphs; the programme construction by the Ministry of Education. A very limited amount of advertising is permitted. The only station is that of Kaunas which has seven kilowatts of power in the aerial on a long wavelength.

The revenue for Lithuanian broadcasting is derived from three sources: Listeners' licence fees, advertising, and a Government subsidy. The listeners pay two lits per month for crystal sets in cities and one lit per month for crystal sets in rural areas, five lits per month for valve sets in cities and three lits per month for valve sets in rural areas. About ninety per cent of the listeners' licence fees is received by the Ministry of

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Education for the preparation of programmes, ten per cent being reserved by the Postal Administration for administrative expenses.

The number of licenced listeners in Lithuania on December 31, 1933, was 17,305.

LUXEMBOURG

The Government of Luxembourg has granted the exclusive broadcasting rights to a private organisation with mostly foreign capital, known as the Compagnie Luxembourgeoise de Radiodiffusion. The operations of the company are controlled by two Supervisory Committees.

There is one station of 150 kilowatts aerial power.

The revenue of the company is obtained exclusively from the broadcasting of advertisements.

NORWAY

Broadcasting in Norway underwent an important transformation in 1933. By a law passed on June 17, a State Broadcasting Service was created possessing a monopoly.

This State service is under a Direction consisting of five members nominated by the King. The programmes policy is directed by a National Programme Council of fifteen, of which eleven are nominated by the King and four by Parliament.

A smaller inner body which meets more frequently than the Council occupies itself with the practical realisation of the policy. The State Department of Posts and Telegraphs has charge of the Technical side of Norwegian broadcasting and also collects the licence fees

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payable by the possessors of receiving sets. The new broadcasting law came into force on July 1, 1933.

Norway possesses at this moment the following stations:

<i>Stations</i>	<i>Kw.</i>	<i>Modul.</i>	<i>Stations</i>	<i>Kw.</i>	<i>Modul.</i>
Oslo	60	—	Bodö	0.5	50
Trøndelag	1.2	70	Kristiansand	0.5	50
Bergen	1	50	Stavanger	0.5	50
Finnmark	1	—	Aalesund	0.35	50
Fredrikstad	0.7	50	Rjukan	0.15	70
Hamar	0.7	50	Tromsøe	0.1	50
Porsgrund	0.7	50	Notodden	0.08	50

Plans are afoot to raise the transmitting powers of Bergen and Trøndelag to 20 kw., and those of Aalesund and Stavanger to 2 kw.

The Oslo station operates on a long wavelength.

The revenue for Norwegian broadcasting comes from three sources: A licence for the possession of receiving apparatus (20 kroner per set per annum); a tax of 10 per cent on the retail price of all receivers, and from a limited amount of broadcast advertising (15 minutes daily outside the most popular broadcasting hours).

The number of licenced listeners on December 31, 1933, was 137,968.

POLAND

The broadcasting monopoly in Poland has been granted to a private dividend-paying organisation, known as Polskie Radjo, in which, however, the Government owns 40 per cent of the stock and possesses about 66 per cent of the voting power. The programme side of the organisation works under an advisory Committee consisting of five representatives of the Government and four repre-

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sentatives of the company. A limited amount of broadcast advertising is permitted.

The Polish broadcasting stations, of which one (Warszawa I) is a longwave station, are as follows:

<i>Stations</i>	<i>Kw.</i>	<i>Modul.</i>	<i>Stations</i>	<i>Kw.</i>	<i>Modul.</i>
Warszawa I (Raszyn)	120	80	Warszawa II	10	70
Lwow	16	80	Krakowa	1.7	60
Wilno	16	80	Lodz	1.65	75
Katowice	12	70	Poznan	1.35	50

A station of 20 kw. is under construction for Poznan and one of 2 kw. for Torun.

The revenue for Polish broadcasting is derived from two sources: A monthly licence fee of three zlotys collected from listeners by the State Administration of Posts and Telegraphs, and the broadcasting of advertisements. The Postal Department of the State retains 15 per cent of the licence fees to cover costs of administration.

The number of licenced listeners in Poland on December 31, 1933, was 311,287.

PORTUGAL

According to a statement addressed to the Lucerne Official Conference in the summer of 1932, the Portuguese Government has the intention to put into service three broadcasting stations, one at Lisbon, a second at Oporto, and a third in the South of Portugal.

The station at Lisbon—one of 20 kilowatts—is already in an advanced state of construction. It is understood that the revenue for the service will be obtained from licence fees, but details both of the organisation and the system of taxation are not yet available.

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RUMANIA

A broadcasting monopoly is held by a joint stock company known as Societatea de Difuziune Radiotelephonica in which the State has a balance of financial interest and the banking interests are also well represented.

At the moment there are two broadcasting stations. These are:

<i>Stations</i>	<i>Kw.</i>	<i>Modul.</i>
Bucarest	12	100
Craciunelu	0.7	

The power of the Bucarest station is being increased by two stages and will be eventually 150 kilowatts.

The revenue for Rumanian broadcasting is derived from two sources: a licence fee paid to the State Department of Posts and Telegraphs by all possessors of receiving apparatus, and by the broadcasting of advertisements.

The taxes upon receiving sets are:

300 lei for crystal receivers,

600 lei for valve receivers,

5,000 lei for restaurants,

3,000 lei for theatres and cinemas.

70 per cent of this tax is handed by the Government to the broadcasting organisation.

The number of licenced listeners in Rumania on December 31, 1933, was 100,000.

RUSSIA

Broadcasting in Russia, which appears to be making big strides in all directions, is being used, as might be expected in a vast country which is sparsely provided

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with other means of rapid communication, as an instrument for the education of the Russian peoples in the principles and practical application of the Russian social system. A large number of stations were erected and operated by the Commissariat of Posts and Telegraphs, the programmes being provided by various officially recognised organisations. More recently the National Economic Council has erected another group of stations to be used specifically in the service of the Five Year Plan of national development and in January, 1933, there was created a Committee of Radiofication and Broadcasting, charged to study and put into practice the "radiofication" of Russia, the further development of actual broadcasting, the organisation of research and the manufacture of receiving sets, etc. Russian broadcasting relies not only on wireless transmitters for its efficacy, but also on the installation, in many public centres, of loudspeakers fed from a network of long-distance telephone circuits coupled direct to the broadcasting studios. Many of the talks broadcast from the Russian stations are given in the languages of other countries within the ranges of the stations.

At the moment there are 75 broadcasting stations in Soviet Russia, their situation and powers being:

<i>Stations</i>	<i>Kw.</i>	<i>Modul.</i>	<i>Stations</i>	<i>Kw.</i>	<i>Modul.</i>
Moskva-Noginsk			Novosibirsk RW76	100	—
Imeni			Sverdlovsk RW5	50	—
Komintorna			Moskva Imeni		
RW1	500	—	Popova RW58	40	—
Moskva Noginsk			Kiev RW9	36	60
Imeni Stalina			Minsk Kolodistchi		
RW39	100	70-90	RW10	35	70
Moskva Stchelkovo			Tiflis RW7	35	—
RW49	100	60	Tachkent RW11	25	65

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<i>Stations</i>	<i>Kw.</i>	<i>Modul.</i>	<i>Stations</i>	<i>Kw.</i>	<i>Modul.</i>
Kharkov RW4	20	70-80	Ijevsk RW78	4	—
Moskva Opytina RW2	20	60	Makhatch-Kala RW27	4	—
Rostov /Don RW12	20	—	Novosibirsk RW6	4	—
Saratov RW3	20	65	Simferopol RW52	4	—
Alma-Ata RW60	10	—	Tchernigov RW86	4	—
Arkhangelsk RW36	10	—	Tiraspol RW57	4	76
Astrakhan RW35	10	70	Voronej RW25	3	—
Bakou RW8	10	—	*Elista RW32	2	—
Erivan RW21	10	—	Oufa RW22	2	—
Gorkii RW42	10	—	Oukhta RW67	2	—
*Iakoutsk RW62	10	—	Smolensk RW24	2	—
Irkoutsk RW14	10	—	Stalinebad RW47	2	—
Ivanovo RW31	10	—	*Tourt-Koul RW81	2	—
Kazan RW17	10	—	Alexandrovsk (sakhalin) RW38	1.2	—
*Khabarovsk RW54	10	—	Gomel RW40	1.2	—
Kharkov RW20	10	—	Groznyi RW23	1.2	—
Leningrad RW70	10	—	Karaganda RW46	1.2	—
*Magnitogorsk RW80	10	—	Naltchik RW51	1.2	—
*Mourmansk RW79	10	—	*Oïrot-Toura RW83	1.2	—
Odessa RW13	10	—	Omsk RW44	1.2	50
*Ordjonikidze RW64	10	—	Oust-Abakansk RW84	1.2	—
Petrozavodsk RW29	10	—	Penza RW56	1.2	—
Samara RW16	10	—	Petropavlovsk Kamtchatski RW71	1.2	—
*Simferopol RW73	10	—	Syktyvkar RW41	1.2	—
Stalingrad RW34	10	—	Tcheboksary RW74	1.2	—
Stalino RW26	10	—	Engels RW55	1	—
*Verkhneoudinsk RW63	10	—	Iochkar-Ola RW61	1	—
Vinnitsa RW75	10	—	Krasnodar RW33	1	—
Achkhabad RW19	4	70	Moskva MosPS RW37	1	70
Dnepropetrovsk RW30	4	35	Orenbourg RW45	1	50-75
*Frounze RW82	4	—	*Saransk RW65	1	—
			Tcheliabinsk RW68	1	—
			Krasnoïarsk RW66	0.5	—
			Vladivostok RW28	0.5	—

*Stations under construction.

A number of these stations are being raised in power considerably in the near future.

Since March 7, 1933, the revenue, which came previ-

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ously from State and local subsidies, has come from licence fees payable by listeners. The fees are collected each six months. They vary between three roubles (for a crystal receiver) and 24 roubles (valve receiver fed by alternating current) per year. The revenue to be so derived is estimated at 10 million roubles a year.

By the decree of March 7, 1933, 93 per cent of this revenue is to be placed at the disposal of the broadcasting service and 7 per cent to be retained by the Postal and Electrical Department for working expenses; but at the moment the entire sum is available for broadcasting purposes. The advertising of commercial commodities is not permitted.

It is not possible to give even an approximate idea of the number of persons following regularly the broadcast programmes. The potential listening public in Russia, by reason of the installation of loudspeaking apparatus in a large number of village institutes and public places, is estimated officially at about 12 millions.

SPAIN

Broadcasting in Spain is regulated by a decree of June 14, 1924, subsequent decrees having been cancelled by the new régime. Under this decree the Government grants the right to erect and operate broadcasting stations to such organisation as it is satisfied will conduct a service suitable to the needs of the country. At the moment there is one predominant broadcasting organisation (Union Radio, possessing a number of stations and renting one from the Government), and a lesser organisation known as Radio Asturia. Other groups possess "experimental" licences. The broadcasting of advertise-

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ments is permitted. Reports have appeared from time to time stating that the Government has plans under consideration for the construction and operation itself of a number of highpower broadcasting stations and in its report to the Lucerne Conference in 1932 the State Department of Posts and Telegraphs foresaw the construction of a 120 kilowatt station at Madrid and 30 kilowatt stations each at Barcelona and Valencia. No data are yet available as to the method of exploitation for these stations.

The existing stations are:

<i>Stations</i>	<i>Kw.</i>	<i>Stations</i>	<i>Kw.</i>
Barcelona EAJ I	7.6	Oviedo Radio Asturias	0.2
Radio Valencia	3	Alcoy	0.1
Madrid EAJ 7	1.3	Burgos	0.1
Barcelona Radio		Cordoba	0.1
Asociacion	1	Malaga	0.1
Radio Espana	1	Onteniente	0.1
Sevilla	1	Tarragona	0.1
San Sebastian	0.6	Tarrasa	0.1
		Tartosa	0.1

The stations under construction are:

Algéciras	0.1
Alicante	0.1
Antequera	0.1
Huesca	0.1
Pampelune	0.1
Sabadell	0.1

The revenue for the broadcasting programmes is obtained by subventions, voluntary subscriptions from listeners, and the broadcasting of advertisements.

The Government requires each possessor of a receiving apparatus to register the fact and to pay an annual licence fee of five pesetas in the case of crystal receivers and valve receivers used privately, and 50 pesetas in the

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case of receivers used in public places. This revenue is retained by the State for its own uses.

There were stated to be 100,104 registered listeners at the end of 1932, but this number is considered to represent but a fraction of the actual number of listeners.

SWEDEN

The Swedish Government which builds and operates the broadcasting stations has placed the preparation of the programmes for those stations in the hands of a private organisation known as Radiotjänst, an organisation in which the Swedish Press has a considerable interest.

The work of programme production is centralised at Stockholm, the programmes being relayed from Stockholm to the various outlying stations by means of about 4,000 miles of telephone circuits. An advisory Committee exists (on which are represented the Ministries of Commerce and Education) to assist Radiotjänst in maintaining a representative artistic and cultural standard. No advertising by radio is permitted.

There are 31 stations including one highpower long-wave station (Motala). Some of the smaller stations are synchronised for simultaneous operation on a common wavelength. This practice is being extended.

The stations are:

<i>Stations</i>	<i>Kw.</i>	<i>Modul.</i>	<i>Stations</i>	<i>Kw.</i>	<i>Modul.</i>
Stockholm	55	80	Ostersund	0.6	40
Motala	30	70	Falun	0.5	—
Göteborg	10	80	Säffle	0.4	—
Hörby	10	80	Varberg	0.3	—
Sundsvall	10	80	Jönköping	0.25	—
Boden	0.6	40	Karlstad	0.25	—

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<i>Stations</i>	<i>Kw.</i>	<i>Modul.</i>	<i>Stations</i>	<i>Kw.</i>	<i>Modul.</i>
Kristinehamn	0.25	—	Eskilstuna	0.2	—
Norrköping	0.25	—	Gävle	0.2	—
Hamlstad	0.2	80	Trollhättan	0.2	—
Hälsingborg	0.2	—	Umeå	0.2	80
Kalmar	0.2	—	Boras	0.15	—
Karlskrona	0.2	—	Hudiksvall	0.15	—
Kiruna	0.2	—	Upsala	0.15	—
Malmberget	0.2	—	Malmö	0.12	80
Orebrö	0.2	—	Uddevalla	0.05	—
Ornsköldsvik	0.2	—			

The power of Motala is to be raised shortly to 120 kilowatts.

The revenue for broadcasting in Sweden is obtained from licence fees collected by the Government from the possessors of receiving apparatus. The annual licence fee, alike for all listeners, is 10 krona. Of the total sum thus collected Radiotjänst receives one-third. The State retains two-thirds for the construction and operation of the stations and administrative expenses. The maximum dividend of six per cent is permitted to the programme organisation; any balance must be used for the development of the service.

The number of licenced listeners on December 31, 1933, was 666,368.

SWITZERLAND

The Federal Government of Switzerland has granted an exclusive licence for broadcasting in Switzerland to a central organisation whose title is best translated in English as Swiss Broadcasting Company. This company which consists of seven regional broadcasting groups or companies, exists for purely idealistic ends and may not work for profit. The Federal authorities have

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five places on the Board of Management of this organisation which also includes representatives of the various local societies entrusted with the preparation of programmes. The Swiss Broadcasting Company occupies itself with the representation of Swiss Broadcasting in discussions with the Swiss authorities, Swiss organisations, or foreign organisations. It is also responsible for the centralisation of all developments either on the intellectual, economic, or technical side of Swiss Broadcasting, and for the distribution amongst the French-speaking, German-speaking, and Italian-speaking broadcasting groups of the proportions due to them of the revenue collected by the Federal Department of Posts and Telegraphs. The broadcasting of advertisements is prohibited in Switzerland.

The Swiss broadcasting stations are as follows:

<i>Stations</i>	<i>Kw.</i>	<i>Modul.</i>	
Beromünster	60	75	(German-speaking)
Sottens	25	80	(French-speaking)
Monte Ceneri	15	—	(Italian-speaking)
Genève	1.3	—	(French-speaking)
Bern	0.5	75	(German-speaking)
Basel	0.5	75	(German-speaking)

The revenue for Swiss broadcasting is derived exclusively from an annual licence fee paid by listeners for the possession of receiving apparatus. This fee is one of 15 Fr. Swiss.

On December 31, 1933, there were 300,051 licenced listeners, of whom 23,002 receive the programmes by "telediffusion," that is, along the State telephone circuits.

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TURKEY

A monopoly for broadcasting, which has still three years to run, has been granted by the Turkish Administration of Posts and Telegraphs to a private organisation—the Turkish Broadcasting Company—(Société anonyme Turque de Téléphone Sans Fil), in which the Government is understood to have an indirect financial interest. The broadcasting of advertisements is permitted, but this form of broadcasting is kept distinct from the musical parts of the programmes.

There are two stations at the moment, one in Turkey in Europe and the other in Asia. Each works on a long-wave:

	<i>Kw.</i>		<i>Kw.</i>
Ankara	7	Istanbul	5

The revenue for Turkish broadcasting is derived from three sources: an annual licence fee on listeners receiving apparatus, a percentage of the tax on imported wireless apparatus, and the broadcasting of advertisements. The annual licence fee is £10 Turkish (ten Turkish pounds).

The number of licenced listeners in Turkey on December 31, 1933, was 5,404.

YUGOSLAVIA

There are three broadcasting organisations in Yugoslavia, the most extensive being at Belgrade, the oldest at Zagreb, and a third at Ljubljana.

At the moment three transmitters are in existence.

<i>Stations</i>	<i>Kw.</i>	<i>Modul.</i>
Ljubljana	5.27	70
Belgrade	2.5	60
Zagreb	0.75	60

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Others are under construction for parts of the country remote from existing stations; the power of the Belgrade station is to be raised to 40 kilowatts and that of Zagreb to 10-20 kilowatts.

The revenue is derived mainly from the licence fees paid by listeners.

These taxes are:

300 dinars per year for apparatus privately installed;

800 dinars per year for portable apparatus;

1,200 dinars per year for apparatus installed on a vehicle
(train, ship, automobile).

1,500 dinars per year for apparatus in use for professional advantages such as for newspapers, for banks, etc.)

The fee is collected monthly and new subscribers pay three months in advance.

The number of licenced listeners on December 31, 1933, was 58,896.

CHAPTER TWO

The general composition of the programmes broadcast in Europe

Chapter One has shown that the broadcasting conditions in Europe vary considerably from country to country. Similar variations exist also in the composition of the programmes.

The International Broadcasting Office at Geneva circulates amongst its members three times a year, for their mutual information, a comparative analysis of the construction of the programmes in the different countries. The periods chosen are September-December (representing the autumn-winter "long night" season); January-April (covering the winter-spring "long night" season) and May-August (the summer "short night" season). For the purpose of this comparative analysis the programmes are divided into six main divisions each with subdivisions.

These are:

Music and Musical entertainments:

GRAND OPERAS	LIGHT MUSIC
LIGHT OPERAS	DANCE MUSIC
	SERIOUS MUSIC

Literature:

DRAMAS	FARCES
COMEDIES	RECITATIONS

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Talks:

HUMANITIES	SOCIAL SCIENCE
SCIENCES	FOREIGN LANGUAGES

Criticisms and News, Religious Services and "Various" including in most cases:

BROADCASTS OF GRAMOPHONE	CHILDREN'S HOURS
RECORDS AND TONE FILMS	WOMEN'S HOURS
EXCEPTIONAL TRANSMISSIONS	FARMERS' HOURS
TRANSMISSION OF PICTURES	

The most recent table prepared by the International Broadcasting Office, Geneva (for the summer period May–August, 1933) shows the following average composition of the programmes during that period in fifteen representative European countries:

Music and musical entertainments. . .	62.19 per cent
Literature.	5.08 per cent
Talks.	8.25 per cent
Criticisms and News.	12.36 per cent
Religious transmissions.	3.34 per cent
Various.	8.78 per cent

In most of the European countries contracts exist between the broadcasting organisations and the principal opera companies and orchestras. This gives even to the poorest listener, with his simple crystal receiver, an equality of opportunity with the possessor of the most luxurious apparatus for hearing the best music available.

The majority of the European broadcasters offer their best symphonic and operatic programmes to their fellow-members in the Broadcasting Union. Many such programmes are relayed internationally each year.

There has also been a marked growth in popularity in

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Europe in recent times of a programme feature termed the "wandering microphone," in which a skilled narrator takes a microphone to a great national or sporting event, or into a museum or factory, and describes what is happening before him. The practice is being extended internationally with the hope of developing international good feeling.

Certain European countries, possessing distant dominions, or whose nationals are living in large numbers in other parts of the world, have already installed or are installing shortwave highpower transmitters with the object of radiating typical programmes to these distant points. This practice may result eventually in a systematic intercontinental exchange of programmes (with in the limitations established by language difficulties).

Three features of European broadcasting today are: broadcast drama; talks of an educational character directed to the rural populations; and talks to children in schools.

The latter are specially designed to fit into the school curriculum and to supplement the class teaching. These "school broadcasts" will be dealt with in detail in the following chapters.

The broadcasting of plays commenced by the relaying from theatres of the more suitable portions of plays written for the stage. Experience soon showed how small a percentage, notably of the modern stage plays, were technically fitted for broadcasting. This has resulted in a parallel development of the adaptation of existing plays to the needs of the broadcaster and his listeners, and the writing of special plays, for what has been appropriately termed a "blind" audience.

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As an aid to broadcasters in studying the technique of "Radio-drame" the International Broadcasting Union circulates amongst its members a list of the most recently performed plays with the names of their writers or adaptors or translators. This list also includes such other details regarding these plays as are likely to be helpful to broadcasters in other countries in forming an impression of their suitability for adaptation to the needs of their countries.

CHAPTER THREE

Educational broadcasting in Europe

INTRODUCTION

In Europe, as elsewhere, the possibility of broadcasting as a medium of information for the listening masses was realised in the first days, and "talks" were given a place alongside musical transmissions. In some cases efforts were made at the very commencement to systematise these talks either by arranging a series on the same subject or by choosing subjects related to some great question of topical interest. In other cases, generally where the resources of the broadcaster were limited, the "talks" continued for a time to bear little relation one to another, or to the questions stirring public opinion at the moment.

Today the "talks" appearing in the European programmes are the result of careful thought. The courses are generally arranged, not as a subsidiary activity of a much-harassed programme director, but by educational experts or under the advice of a Council of experts. The courses are arranged well in advance of their delivery, the date and hour of each individual broadcast is widely circulated, and literature is prepared to assist the listener in a further study of the subject under treatment.

In a few countries the word "education" is not mentioned; perhaps wisely. In others the evening talks are divided into two categories (*a*) talks on topical subjects for which no educational character is claimed but which

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may exist nevertheless, and (b) talks which are chosen definitely with an educational object. In an ever-growing group of countries educational broadcasting is being extended into the school hours of the afternoon, and the highest authorities in the land are talking to scholars on subjects intimately related to their school curriculum. This of course entails close collaboration with the educational authorities. In some countries, of which Great Britain is one, this collaboration has been assured by the creation of Consultative Committees, composed of representatives of all, or many of, the interested sections of educational activity.

In the case of adult education emphasis is already being laid upon the importance of giving the listener a more positive part. The practice is growing, notably in the northern countries, of forming listening "groups" which meet in public libraries or educational institutes, and, under the direction of a trained leader, follow up the educational broadcasts with debates, etc. In other countries the listeners are encouraged to visit the museums, art galleries, etc., and examine personally the exhibits in the light of the information that has been broadcast. Some museums are setting apart rooms in which are placed temporarily the objects to which special reference is made in the current broadcast programmes.

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Educational programmes broadcast
to adults during the evening hours

AUSTRALIA

The first annual report of the Committee on Educational Broadcasts, prepared in collaboration with the Australian Broadcasting Commission, in 1933, says that in 1931 the Committee suggested a series of evening lectures suitable for the purpose of adult education. Several of these sets of lectures were very successful but in order to place this branch of work on a sounder basis it was decided to invite the co-operation of the Extension Board of the University of Melbourne and of the Workers' Educational Association. A decision was reached to transfer the organisation of evening lectures to a special Broadcasting Committee of the Extension Board and the Workers' Educational Association.

Considerable prominence is given in the programmes, which have since been developed, to broadcasts dealing with agriculture; in fact 13.75 per cent of the spoken programme had relation to land problems.

AUSTRIA

In Austria, the transmission of addresses of an educational character has been the practice since the first days of broadcasting in that country and a close alliance was established between the broadcasting organisation and the Museums and Art Galleries whereby the latter made special displays of their treasures which were being referred to in the broadcast programmes. On one occasion, each visitor to the museum was requested to

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give details regarding himself, with the result that some valuable statistics were obtained as to the relative intensity of interest created amongst various classes of persons by the educational talks.

A particularly successful feature of the Austrian adult educational programmes has been the teaching of languages. The scientific talks follow closely in popularity.

In Higher Austria, there are systematic talks on agricultural subjects.

At first, all these talks have been addressed to individual listeners. More recently experiments have been made in the creation of groups of listeners. It has also been decided recently that the educational broadcasts directed to adults should not be devoted to subjects remote from the everyday life of the listener but should concern more particularly the problems of the masses. The talks are being rearranged according to this policy.

BELGIUM

In Belgium the National Broadcasting Institute gives various series of talks of an educational character. The additions to these talks in the 1933-34 programme include series devoted to the principal anniversaries of the year, to workers' hygiene, to the art and literature of the Walloons, to research in the field of folklore, and to the literature of foreign countries. Regular periods are set apart for communiques from the Ministry of Agriculture.

CANADA

Educational broadcasting had been developed in Canada only to a limited extent before the control of Canadian Broadcasting was taken over by the Canadian Broadcasting Commission. It is anticipated that under

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the new régime very definite progress will be made in this branch of broadcasting service, in accordance with the recommendation of the Canadian Royal Commission on Radio Broadcasting, in its report of 1929. This was to the effect that "Certain specified hours should be made available for educational work, both in connection with the schools and the general public, as well as the so-called adult education, under Provincial auspices."

The first educational broadcasts in Canada were the outcome of initiative by a private broadcasting station at Montreal. Later, University Extension lectures were broadcast by a Winnipeg station. The Faculty of the Agricultural College in Manitoba has continued to broadcast regularly for between six and seven years, talks on agricultural questions.

Two or three years ago, a professor at Dalhousie University, in Nova Scotia, instituted a course of language lessons (French) with the collaboration of a local station, and of local tradesmen who defrayed the cost of printing the textbooks.

CZECHOSLOVAKIA

In Czechoslovakia, the national broadcasting organization, Radiojournal, transmits several series of educational programmes during evening hours covering all the sides of science, of art, and of contemporary culture.

Special attention is given to courses in foreign languages (including the Russian language). These latter courses have resulted in considerable correspondence with the listeners.

Three or four times a week transmissions are made of particular interest to women on such subjects as the family, fashion, domestic arrangements, the education of

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children, etc. Regular broadcasts are made on questions of importance to agriculturalists and workers in general.

Amongst the educational broadcasts of a less formal character are a review of the week, a broadcast feuilleton dealing with the theatres, books, music, fine-arts, films, etc.

The Czechoslovakian broadcasters have the collaboration of various institutes and organisms of public instruction, as well as the comments of their listeners in deciding the utility and popularity of the various educational broadcasts.

DENMARK

In Denmark, broadcasts of an educational character play a great part in the evening programmes and these individual broadcasts last in each case half an hour, which is longer than the time generally set apart for broadcast talks in other States.

Special features are made of the teaching of languages and gymnastic instruction. The former is organised in such a manner that the talks can be followed equally by beginners or by more advanced students. Courses are given in Danish, English, French, and German, and the listeners are aided in their studies by specially prepared textbooks, sold at 50 ore each copy. For the more advanced lessons, foreign professors are employed.

Outside these broadcasts of an instructive character, there are a great variety of less formal educational broadcasts. Two years ago these less formal broadcasts included talks on the history of music with demonstrations (twice a month), medical talks on subjects of spe-

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cial interest to women (organised by a Commission nominated by the various women's associations), talks on literature dealing with world-literature as well as Danish literature.

Another interesting feature at that period covered the outstanding legal questions from childhood to old age; and yet another, the history of the labour movement.

More recent courses have dealt with such topical questions as "Democracy and Dictatorship"; "Racial Heritage"; "Psychology." Debates have also been arranged before the microphone on such questions as "The Press—as It Is and as It Should Be."

The relative popularity of the different Danish educational broadcasts was first systematically examined in 1929, by means of a questionnaire which each listener was asked to use when taking out his annual licence. The results of this enquiry showed that, generally speaking, the talks were more popular in the country than in the town and, as might be expected, the rural population had a preference for special talks on agricultural questions. The workers in the Danish towns, on the other hand, sought more broadcasts on social matters.

FINLAND

In Finland the English, Esthonian, and German languages are taught by radio and numerous series of broadcasts are given on such subjects as agriculture, medicine, commerce, industry, and fine arts. The educative talks for adults are organised in collaboration with the Association for the Education of Adults. The transmissions are adapted to the programme of the study circles.

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FRANCE

The French Government stations, notably "Ecole Supérieure" and the Eiffel Tower, have broadcast for ten years the courses, lessons, and conferences given in the Sorbonne, the Collège de France, and the French Association for Scientific Development. The State stations in the provinces have broadcast the courses in the local faculties. Little has yet been done in the organising of listening groups.

Radio-Paris, when it was a private station, arranged wide series of systematic educational talks on such subjects as colonial questions, medical advice, the training of children, the history of music, English and German literature.

With the transfer of this station to the State, the programmes will come under the direction of a new special Committee which will undoubtedly dedicate part of the programme time to educational work.

GERMANY

The German evening programmes have been rich for years past in transmissions of an educational character. These transmissions were divided amongst groups, each one containing courses of talks and isolated talks. They were addressed to adults having a certain amount of knowledge.

One of these groups consisted of scientific lectures addressed to professional men in various walks of life.

A second group included courses of foreign languages (English, Esperanto, French, Italian, and Spanish), of shorthand and bookkeeping, and certain technical questions.

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Outside these educational talks there existed another group of entertaining yet instructive talks, which included courses on the art of speaking, singing, dancing, and on physical culture (notably Ju Jitsu).

The time given to these special groups was less than half of the time given to all forms of lectures.

Since the coming of the new régime, marked changes have taken place in the talks programmes, considerable time being devoted to subjects associated with the National Socialist doctrine. An analysis of the German talks for 1932 published in August, 1933, showed that 7,792 were instructive in character, 4,735 informative, 3,287 entertaining, 2,363 scientific and 1,059 on State and political questions. The average duration of such talks was about 22 minutes.

GREAT BRITAIN

The educational possibilities of broadcasting were recognised by the original British Broadcasting Company in 1922-23. The earliest evening programmes contained series of talks given by the Curators of, and official lecturers at, the various National Art Galleries and Museums. Later a Director of Education was appointed who specialised in the organisation of educational programmes, and in 1928 a Central Council for Broadcast Adult Education was created. This Central Council has now the aid of five regional organising Committees.

The talks cover a wide range of subjects and are usually related to a central theme such as recent changes in the various fields of economics, literature, art, science, politics, religion, and ethics. At the moment (spring, 1934) the central theme is "Taking Stock." The National character is being examined and criticised by

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distinguished home and foreign students and well-known publicists are expressing their opinions on the direction in which Great Britain is moving. Language teaching also occupies a prominent place.

The encouragement given to the formation of "listening groups," where organised debates follow the broadcasts, is a feature of educational broadcasting to adults in Great Britain. The leaders are trained at vacation courses. Well-illustrated booklets assist listeners in further study of the subjects treated; some millions have been distributed at cost price.

A detailed account of adult education by radio in Great Britain is given in *New Ventures in Broadcasting*.¹

HOLLAND

Educational broadcasting for adults has had a part in the Dutch programmes for five or six years. The courses naturally differ according to the nature of the organisation responsible for the emissions. The Catholic organisation, for example, gives, in addition to series on such general questions as hygiene, literature, colonial life, and agriculture, courses in common law, social discipline, and the education and instruction of the young. These courses are organised by special commissions.

On the other hand, the workers' broadcasting organisation has paid attention to the teaching of gymnastics, to home music (in which the listener is encouraged to play his own instrument at home, as an accompaniment to, or in collaboration with, the performance in the stu-

¹ *New Ventures in Broadcasting: A Study in Adult Education*, published by the B.B.C., 1928.

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dio); it also gives, as might be expected, special attention to sociology.

Esperanto is amongst the languages to which attention is given in the Dutch programmes.

HUNGARY

The Hungarian broadcasting organisation gives definitely instructive courses in foreign languages and a series of general courses on literary, musical, and political subjects. Special attention is given to foreign and world-politics. In May, 1932, a course of instruction was given to gymnastic professors and a weekly talk to workmen was introduced. A plebiscite taken on the subject of talks has shown an overwhelming majority in their favour.

ITALY

There has been a marked development in educational broadcasting in recent times and further extensions are foreseen. A feature of these broadcasts two years ago was a daily ten minutes devoted to the uplifting of the working classes. Talks in these series were prepared by a Government Department and covered a wide field ranging from history, agriculture, and domestic economy to the habits and customs of different people. A regular time is also given each evening to popular talks on agricultural subjects, whilst each Sunday morning the broadcaster on agricultural subjects answers questions which have been addressed to him. The agricultural broadcasts are arranged by a special organisation known as "Ente Radio Rurale."

Amongst the less formal instructive talks for general reception are advice to housewives, talks on artistic,

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theatrical, literary, and cinematographic topics, discussions on the scientific organisation of work and upon a whole range of other questions, economic, religious, medical, musical, etc.

The Italian listeners favour the delivery of these educational broadcasts in the form of conversations and dialogues. They also greatly appreciate the narratives given from various places such as workshops, aerodromes, railway stations, etc., wherein one also hears the characteristic sounds of these places.

JAPAN

The Japanese broadcasting organisation co-operates with the Japanese Department of Education and various educational, social, and industrial organisations in the planning of its educational programmes. Particular stress is laid upon the function of radio with regard to social education. In Tokio and Osaka a special programme committee, consisting of college professors and other well-known men, was formed some years ago to develop the educational features of the Japanese programmes. Series of talks on industrial, agricultural, cultural, and international subjects are broadcast as frequently as possible and are said to be very popular amongst the listeners.

The language courses include teaching in English, French, and German. Suitable textbooks are published at a nominal fee and many of the more interesting talks are printed afterwards in pamphlet form.

During the year 1932-33 the Japanese broadcasting stations devoted in all 48,150 hours to Educational broadcasting.

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MEXICO

The Department of Public Instruction broadcasts, through the radio station XFX, which is the property of that Department, educational programmes directed on the one hand to scholars in schools and, on the other hand, to adults. Seventy-two hours were devoted to school programmes by this one station in 1930; and 708 hours to the educational programmes for adults. Forty-seven hours were given in addition to the broadcasting of talks helpful in professional training, and eighteen hours to talks on agricultural questions.

The station XFI, controlled by the Ministry of Industry, Commerce and Labour, although not providing programmes to schools, broadcast in 1930 one hundred and thirty-two hours of educative material for adults, forty-eight hours of talks on agricultural questions, and one hundred and thirty-two hours of talks on current economic and industrial problems.

NEW ZEALAND

The first annual report (January, 1933) of the new Zealand Broadcasting Board states that under the auspices of the Workers' Educational Association, some 260 talks were delivered on such subjects as psychology, science, economics, natural history, literature, music, etc. It also points out in connection with the programme of general talks that whilst the primary object of these general talks is to afford entertainment, a number of them unquestionably have a high educational value.

NORWAY

The Norwegian broadcasting organisation, Norsk Rikskringkasting, includes amongst its evening broad-

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casts numerous lectures selected by a special Committee and given personally from the Oslo studio by University professors. Other series are given by representatives of the museums, the Technical Academy and the Agricultural Academy. Regular features in the educational field of the evening programmes also include talks on current Norwegian politics, foreign politics, exchange. Recently much prominence has been given to talks specially intended for workers on the land, which are arranged to take place at hours convenient to this—a large—section of the community. Outside these definitely instructive series of talks, fifteen minutes are given daily to comments by journalists, public men, authors, etc., on subjects of topical interest.

POLAND

Until two or three years ago the definitely educational part of the evening programmes had been reserved for farmers and rural workers. The transmissions had been organised in close collaboration with a committee which included representatives of the different agricultural organisations, the majority representing the central agricultural organisation. Considerable prominence is still given to these “rural” broadcasts.

The lectures are given by eminent specialists accustomed to public speaking. About two weeks before the one when specially interesting lectures are arranged to take place, illustrated sheets are prepared and distributed amongst twenty of the most important agricultural schools in Poland and also privately. The circulation of these sheets is a matter often of thousands.

The importance of these transmissions on agricultural

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questions may be gauged by the fact that there exist three million farmers in Poland, widely distributed over a large area. To reach these distant points, and at the same time in order to make it possible for people of very limited means to benefit by the programmes, the Polish broadcasting organisation erected in 1930 a station of 153 kilowatts, which, working on a longwave, permits of a reception throughout the country with a simple crystal receiver. The Polish broadcasting organisation itself sells complete receiving sets for this purpose, costing about four American dollars (old monetary basis). No pains are spared to make the agricultural programmes attractive, music is freely dispersed amongst the items, and listeners are invited to put questions which are subsequently answered by radio.

The spoken broadcasts will occupy 6.55 per cent of the programme time in Poland during the season 1933-34. English, Esperanto, and French are the languages which are being taught in the 1933-34 programme of educational broadcasts.

RUSSIA

Twenty-seven per cent of the programme time of the Moscow transmissions, in December, 1931, was given to talks.

These talks at that time were of two main classes:

1. Miscellaneous courses of an educational character intended for all—but having a close bearing upon the development of the Five-Year Plan;
2. Systematic courses from various “radio-Universities.” The followers of the latter courses, which were said to be very popular, sent in to the boards of the radio-Universities their

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homework for correction and comment. The number of radio-scholars in 1931 at Moscow alone was said to have reached 130,000.

In 1933 the Russian Soviet Broadcasting Committee voted 170,000 roubles to develop the broadcasting of complementary instruction to workers in industry. Large sums of money have also been spent in establishing contact by radio with the land workers and their instruction by radio notably in the systematic conduct of the fundamental process of preparing the land, sowing the seed and reaping the harvests. An intensive effort is also being made in the training of leaders for listening groups.

SWEDEN

The prominence given to programmes of an educational character in Sweden is due to the expressed wish of Swedish listeners. In 1928, when 150,000 listeners gave their opinions upon the relative interest attached to the various programme items, forty per cent were definitely in favour of the series of talks; in fact only popular songs and old time dance music gained higher appreciation.

There is a great liberty of speech allowed in the Swedish talks programme, and the Director of this section prefers the delivery of talks by an individual in his normal conversational style to the use of dialogue, which he regards as likely to become artificial. Great use is made of the Sunday morning period for educational broadcasts to adults.

The programme of Swedish talks for 1932 was divided roughly as follows:

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- Sundays:* On voyages of discovery, on liquor legislation in Sweden and abroad.
- Mondays:* Masters of music and present-day economic problems.
- Tuesdays:* Swedish labour questions.
- Wednesdays:* Agricultural and rural questions; Swedish foreign trade.
- Thursdays:* Natural science; religious questions (including such questions as: Does the modern man need religion?).
- Fridays:* Humanistic questions (e.g., Goethe, the industrial revolution, the historical novel, etc.).
- Saturdays:* Philological talks (e.g., our street-names, orthography, Swedish place-names, loan-words in Swedish, how language changes before our eyes.)

The Sunday morning talks are arranged generally by the Workers' Educational Union and the Young Agriculturalists' Union. Lessons and talks in Danish, English, French, German, and Norwegian are given at frequent intervals. Esperanto is broadcast once a month.

The programme for 1933-34 includes a series of talks on the development of self-government in Sweden and a second series dealing with the Swedish situation in relation to world-finance and economics. The group system of listening to educational talks has grown rapidly in popularity in Sweden. This winter (1933-34) the groups are receiving a series of talks on "the problem of modern housing."

SPAIN

Although until recently there had been no systematic collaboration with the State Department of Education in the presentation of educational programmes, the prin-

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cial Spanish stations have nevertheless transmitted several series of talks of an educational character. The talks programme for the present winter (1933-34) includes series relating to health and hygiene, and agriculture.

SWITZERLAND

In Switzerland ever growing attention is being given to the educational side of the programmes. Special courses of a definitely instructive character are being given in the hours set apart for women and children and in the preparation of these courses.

The Swiss broadcasting stations work in close collaboration with various social and educative institutions—such as the societies for the guidance of youth, for professional education, and the various State organisations existing for the gratuitous granting of advice on various problems in civil life.

Apart from the definitely instructive broadcasts, 70 per cent of the talks broadcast in Switzerland can be considered as educative. The success of these talks as a means of developing the ethical and practical science of life is generally recognised not only by school masters but by the different organisations associated with ethical activities.

YUGOSLAVIA

Since the first days of Yugoslavian broadcasting, definitely instructive broadcasts have been given twice a week on questions of medicine and public hygiene and on musical history, literature, and philosophy. Some of the most eminent specialists in the country have assisted

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in the delivery of these talks. The series of talks on hygiene and medicine are reported to have given impressive results for, following the specific broadcasts, large numbers of invalids, notably those suffering from venereal disease, have visited medical men.

French and German are taught by radio largely under the form of dialogues, and ever growing attention is given to broadcasts on agricultural questions.

Educational programmes broadcast to young people to assist them in their professional training

AUSTRALIA

The International Broadcasting Union has no information to date (February, 1934) of special broadcasts of a vocational character having been arranged in the Commonwealth.

AUSTRIA

For some years past special weekly broadcasts of this character have been given for peasants, workers, builders and teachers. Three times a week, short helpful talks have been given to housewives. These are now being supplemented by similar talks in the morning hours. From time to time, gardeners, cattle breeders, and hunters are also given instruction by radio.

An interest in the various occupations is also stimulated by the broadcasting of interviews given by the representatives of different professions.

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BELGIUM

In Belgium it has been the practice, since the beginning, to introduce amongst the transmissions to scholars, a number of broadcasts intended to stimulate an interest in professional life. Visits are made with microphones to big business houses in Brussels, where the routine of these businesses is described. Even the daily life of a civil aerodrome has been demonstrated by this method.

CANADA

The International Broadcasting Union has no definite information regarding vocational broadcasts in Canada but it is understood that individual efforts have been made in this field of activity.

CZECHOSLOVAKIA

Czechoslovakia has made a feature of vocational broadcasting. Twice a day, in the morning and evening hours, and also on Sunday afternoon, broadcasts are made on subjects interesting to foresters, to the owners of bee-hives, the flower and vegetable gardeners, and the cattle breeders. Once a day, also, including Sunday, an evening broadcast is given to labourers, and each Sunday, in the early afternoon, social and industrial information is broadcast. During the economic crisis indications have been broadcast of districts and industries offering employment.

DENMARK

Danish broadcasting has also been giving for some time past a prominent place to broadcasts of a profes-

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sional character. Agriculture, horticulture, industrial questions, and miscellaneous occupations are each treated twice a month in lectures given by specialists chosen from associations representing the professions.

FRANCE

In France both the Governmental and the principal private stations have given time in their programmes to broadcasts of a vocational character. Radio Paris (now the National Post of the State broadcasting system) has reserved for some years past a quarter of an hour each Saturday evening for broadcasts arranged by the Union of big organisations associated with professional life.

GERMANY

The German programmes under the old régime included at frequent intervals broadcasts intended for candidates for the various professions. Talks of value to officials in various municipal and civil services were also given from time to time. A feature of these vocational broadcasts was the radiation, notably to school teachers in distant parts, of recent experiences gained in the art of teaching. Two Teachers Associations were formed for the collection and diffusion of recent experiences considered to be of value to the whole teaching community.

There were also regular courses of professional information for gardeners, officials generally, and for business men. There was an hour of child culture, for parents, also an hour on household problems. Isolated lessons or series of lessons were given from time to time, dealing with other professions (electrotechnical, mechanical, and others).

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The intentions of the new régime in the matter of vocational broadcasting have not reached the compilers of these data at the moment of their revision.

GREAT BRITAIN

The British broadcast programmes have, in recent years, contained many talks by authorities on the prospects afforded by the various professions. Both the evening and afternoon series of talks are arranged to contain, from time to time, information helpful in the choice of professions and in the mastery of the technique of the professions.

HUNGARY

Vocational broadcasting in Hungary appears to be confined, at the moment, to an hour devoted to agriculture.

ITALY

Italy is giving much attention to the use of broadcasting as a means of instructing the rural population, notably in agriculture.

JAPAN

In Japan the vocational broadcasts, are closely bound up with the general educational broadcasts which, as has already been indicated, cover a wide field.

NORWAY

Norway pays considerable attention to broadcasting of a vocational order. Numerous addresses are broadcast for the peasants, for mothers, school masters, young doctors, young jurists, artisans, fishermen, workers in the forests and in the mines.

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RUSSIA

In Russia vocational broadcasting, notably the giving of instruction in the systematic cultivation of the soil and the harvesting of crops, is being steadily intensified.

SWITZERLAND

Vocational broadcasting was introduced into Latin-speaking Switzerland in 1929, under the form of courses for apprentices in the various professions. The Canton of Vaud probably can claim with justice to have been the pioneer in this activity.

The Swiss development was perhaps unique inasmuch as the courses were made compulsory under law for young people in isolated districts and examinations were based upon the lectures broadcast.

Many lectures and dialogues have also been given by the various Swiss posts for the instruction of parents, and also young people, on the various possibilities of each profession.

YUGOSLAVIA

In Yugoslavia, notably at the Belgrade station, vocational broadcasts have had a regular place for some years. There have been talks on agricultural questions of outstanding importance once a week.

Twice a month programmes of an educative character containing material of a vocational order, helpful to the working classes, have been transmitted.

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School broadcasting during school hours

AUSTRALIA

The Committee on Educational Broadcasting, in collaboration with the Victorian Division of the Australian Broadcasting Commission, carried out in 1931 and 1932 extensive experiments in school broadcasting and issued in 1933 a distinctly interesting report. This showed that whilst broadcasts to schools were "already making themselves felt as an important and valuable auxiliary to the ordinary work of the schools" and "would appear to be well worthy of continuance and encouragement" there was "still much room for experiment and investigation in regard to the best methods of presenting the subject matter and the best methods of organising the groups of listening pupils." Further "the sympathy and assistance of the class teachers is essential to any measure of success."

The Committee on Educational Broadcasting, in this same report, suggested further research into the possibility of developing broadcast talks by teachers of the Correspondence Branch to isolated pupils living in remote areas, and to an extension of the school broadcasts to younger pupils (aged 12-15 years) and secondary schools. The subjects in this latter case would be Economics, Geography, English Literature, Science, French, and History, and of the standard required for the Intermediate or Leaving Certificate of the University of Melbourne.

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AUSTRIA

Broadcasting to schools in Austria commenced on January 8, 1932, and rapidly became popular. In a few months more than 1,000 schools were taking part. The policy has been to give to the scholars the personal impressions and experiences of well-known people rather than direct teaching. Dialogues in French and English are sometimes given to Senior classes, to assist the scholars in the correct pronunciation of these languages.

BELGIUM

The school broadcasts are in charge of a semi-official organisation constituted by the Ministry of Science and Arts, known as l'Office National de Radiodiffusion Scolaire.

This organisation commenced its activities in December, 1931.

Considerable success has attended these transmissions which have been addressed in general to scholars of the middle-schools and classes of the higher elementary schools, normal and technical. The course for secondary schools in 1932 was devoted to literature of a certain epoch and those for 1933 to theatrical art and humanitarian and social questions. The 1932 course for elementary schools was devoted to diction and pronunciation. In 1933, 275 normal schools and from 250 to 300 primary schools were receiving these courses.

CANADA

The most systematic effort in educational broadcasting for children yet brought to our notice is one being made by the Government of Saskatchewan, where half-

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hour transmissions are made between 6 and 6:30 P.M. five days a week. These educational talks on English, French, German, Latin, History, and Science are directed to children who are widely scattered over a great area and have but limited educational facilities. The talks are associated with correspondence courses instituted by the same authorities. Ten thousand children are said to be following the courses. The Saskatchewan Government Telephones loan their telephonic circuits and five private commercial broadcasting stations in Saskatchewan contribute the free use of their stations.

CZECHOSLOVAKIA

School broadcasting has made great strides in Czechoslovakia in the last three or four years. Recent returns show that of a total of 11,778 elementary and higher grade schools in the Republic, 2,892 listen regularly to the scholastic broadcasts and 308 occasionally. In these schools 7,303 teachers and 302,622 children are listening regularly, and 2,105 teachers and 67,180 children occasionally. Schools participating in these special broadcasts are to be found in all regions—in Bohemia, in Moravia and Silesia, in Slovakia and sub-Carpathian Russia.

The school broadcasts, which are organised by a special Committee of the Ministry of Public Instruction, working in collaboration with the Czechoslovakian organisation Radiojournal, are arranged in three groups according to the ages of the scholars. The latest development is the introduction of a special series for the Hungarian schools in Czechoslovakia. In April, 1934, the school broadcasts will be extended to secondary

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schools. A feature of the broadcasts is a "Spoken newspaper for children," to which the scholars are invited to make contributions in the light of their own observations and experiences. The organising Committee edits a special magazine known in Czech as *Skolsky Rozhlas*, which is distributed freely amongst the interested schools.

DANZIG

Educational broadcasting to schools is taking place in the Free City of Danzig. The compilers of this report are not in possession of recent details.

DENMARK

School broadcasting in Denmark has taken place for seven years. The transmissions have been organised by a special committee nominated by the Minister of Public Instruction and separate courses have been broadcast for primary, secondary, professional schools, and lycées.

The courses are arranged some months in advance, which enables the schools to adjust their programmes to these transmissions.

The subjects treated include the Danish language, foreign languages, natural science and geography, history, world literature, the history of fine arts, music, and general topics. Foreign languages and physical culture lessons are the main features of the current syllabus.

FRANCE

Transmissions to primary schools have been given from the Eiffel Tower, Bordeaux-Lafayette, and Toulouse-Pyrénées. Various series of transmissions have also been made to children of school age outside school hours.

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GERMANY

Each of the ten German broadcasting organisations includes regularly in its programme broadcasts specially for schools. These were prepared under the old régime by collaboration between the broadcasting organisations and educational commissions created by the Ministry of Public Instruction.

According to figures published in 1932, 20,000 schools were then equipped to receive these programmes. Of these, 83 per cent were elementary rural schools, 10 per cent elementary town schools, and 7 per cent secondary schools. The number of listeners taking part in these transmissions was then estimated at 65,000 school masters and two and a half million scholars. The programmes consisted of about 24 per cent music, 22 per cent German history, 10 per cent geography, 15 per cent history and citizenship, 12 per cent natural history, economics, and technical subjects, and 17 per cent foreign languages.

The broadcasts were listened to by scholars ranging between 7 and 19 years of age, but the greatest percentage of children following the courses was 13 and 14 years of age.

The experience of those entrusted with the organisation of German school broadcasting showed that the broadcasts must be of a living character and must not consist of stereotyped addresses. In 1932 there was a diminution of the number of purely instructive talks and a growth in the number of radio-plays for schools and in "reportages" made on current events and industrial activities. Considerable importance has always been attached to these school broadcasts in Germany, because

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of their possibilities in breaking down the barriers of solitude which have existed between life in the cities and in the rural districts.

The German school broadcasts last on an average of 25 minutes, but in exceptional cases, as long as 45 minutes. There are no uniform hours of transmissions for the whole of Germany, as the schools work under highly varying conditions in the different States. Generally these broadcasts take place in the morning hours.

A considerable literature has arisen in Germany around these broadcasts.

GREAT BRITAIN

Great Britain was the first country in Europe and possibly the first in the world to study systematically the possibilities of broadcasting to schools. In 1923, the British Broadcasting Corporation took the initiative in establishing an Advisory Committee on school broadcasts. This Committee, which included representatives (chosen by the organisations themselves) of local educational authorities, of the various headmasters' and headmistresses' associations, of the training colleges for teachers—in fact practically all educational bodies directly associated with elementary and secondary education, made a series of experimental transmissions to specially-equipped schools, employing for this purpose eminent authorities on their respective subjects.

The Board of Education detached one of their Inspectors, the late Mr. J. C. Stobart, to follow the activities of this Committee and, on a favourable report being received, seconded him with the sanction of the Treasury to the services of the British Broadcasting Corpora-

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tion for one year. At the end of that year, Mr. Stobart joined the British Broadcasting Corporation for full-time service in the capacity of Education Director.

By the autumn of 1924, 200 schools were taking the school broadcasts; in 1926 this number had risen to 2,000; since then the numbers have continued to rise between 500 and 700 per year.

In 1929, the responsibility for the development of school broadcasting was handed over to a Central Council representing all the important educational interests of Great Britain and Northern Ireland. The Council has established machinery for exercising detailed supervision of programme and pamphlet material destined for use in school. It has also created a series of sub-committees—one for each subject in the curriculum—which Committees consist of experts in the subject itself, in the method of teaching the subject, and of a number of teachers from schools using the broadcast lessons.

The programmes include broadcasts not only on orthodox school subjects, but on others related to the school curricula, but intended to give an even wider outlook; for instance, a recent series of broadcast talks on world-history entitled "Empires, Movements and Nations."

A novelty introduced in the school programme of 1932 was a series of unfinished debates, in which a speaker in the broadcasting studio would present for seven minutes his viewpoint on a suitable subject, and be followed by another speaker providing an opposing viewpoint. Then the transmission would cease and the scholars in the school, under the direction of their masters and mistresses, would be left to continue the debate. These

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“unfinished debates” proved to be very popular. Special courses for Welsh schools were introduced in the autumn of 1933.

Each of the subjects included in the British programmes to schools is treated in an illustrated pamphlet (which also contains lists of other books on the same subject). This is available for all interested schools at a nominal charge.

A considerable literature is already growing up around English school broadcasting. One of the most interesting books is the Kent report of the Carnegie Institute upon systematic research in educational broadcasting, published in the year 1928. More recently the above-mentioned Central Council has published separate considered studies on the place of broadcasting in the teaching of geography and history, and the influence of broadcasting on pronunciation.

HOLLAND

School broadcasting was commenced in Holland about three years ago by the Catholic group of broadcasters. No details are yet available upon the subjects thus treated.

ITALY

School broadcasting in Italy, which has been the subject of interesting experiments, is about to be developed systematically.

After noting the results of various isolated experiments in school broadcasting, the Italian Government created in 1933 a State Rural Institute with headquarters at Rome which has as its object the use of broadcasting for the raising of the cultural and moral level of

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the Italian rural population. This Institute, which is directed by a Committee of nine members, including a representative of the Ministry of National Education, has amongst its objects the equipment of schools with wireless receivers.

On the other hand the Italian broadcasting organisation, E.I.A.R., commenced in February, 1933, systematic transmissions to schools. The first consisted of the diffusion of patriotic hymns. This aroused a widespread interest in the possibilities of school broadcasting.

JAPAN

The International Broadcasting Union has not yet received recent details from Japan on school broadcasting. A number of transmissions on subjects likely to be of value to scholars are known to have been made during the school hours. Nineteen such transmissions were made in the spring of 1931 on the lives and characteristics of foreign peoples, and two upon the League of Nations and other international organisations.

NEW ZEALAND

The first annual report of the recently formed New Zealand Broadcasting Board says "The success of the educational session for schools presented once a week from the Board's Wellington Station by the Education Department is undoubted, and has encouraged the Board to explore the possibility of arranging similar sessions at the other three stations. Already the educational authorities at Auckland have approved such an arrangement and it is hoped to introduce an educational session at that place at an early date.

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NORWAY

School broadcasting made its début in Norway in 1931. During this first year 120 half-hour broadcasts of this character were given and, in addition, ten or twelve specially for the school masters. The practice was at that time to interrupt occasionally the address from the studio in order to make references to illustrations or for the purpose of giving musical demonstrations. This practice conformed with that in many other countries, in that it sought to avoid an undue strain on the scholars. The Norwegian broadcasters recognise, however, that new technical methods may be evolved.

POLAND

Poland introduced broadcasting to schools in 1930, by transmitting at noon each Saturday a special programme of about 35 minutes' duration consisting of a talk and a concert of educational value. Each spring a special series of talks is arranged with the object of assisting students in obtaining their school-leaving certificate.

RUSSIAN SOVIET REPUBLICS

School broadcasting is developing in various Russian districts but details concerning the organisation of these broadcasts and the subjects treated are not available. Recent reports from official sources show that in Lenin-grad, in 1933, there were 247 schools equipped to receive such broadcasts and that an Executive Committee in the town of Ivanovo had decided to equip before March, 1934, at least 400 schools—344 in the city, and the rest in rural areas—with receiving sets which would

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be linked up with the local distributing networks. Fifty model schools in country districts also are to be equipped with valve receivers, and 100 scholastic installations which are at present out of service are to be repaired. The Russian second Five-Year plan is stated to include the linking up of 14,950 schools with the broadcast service through the medium of the telephone circuits, and 4,030 other schools by the installation of wireless receiving sets. A special body is also to be appointed for the methodical organisation of broadcasts to the young.

SPAIN

The situation in Spain at the moment (February, 1934) in respect to school broadcasting is not known to the compilers of this report. The Department of Public Instruction in May, 1932, contemplated asking for a credit to provide 400 schools with wireless receiving apparatus.

SWEDEN

School broadcasting in Sweden was commenced in the spring of 1929, and has developed considerably since that date to embrace not only preliminary schools and finishing schools, but also the secondary ones. By the spring of last year (1933) no less than 1,305 schools (1,222 elementary and 83 secondary schools) were taking part in the movement.

The courses include the Swedish language and literature, Swedish history, social science, music, recitations in other Scandinavian languages, and hints upon the choice of professions.

The school broadcasts are given in three forms: talks,

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recitations, and dialogues, but the latter form, as in the case of broadcasts to adults, is apt to become a little artificial.

The Swedish broadcasting organisation had produced, by the spring of 1932, eighteen pamphlets related to the school broadcasts. In the spring and autumn of 1931, 86,000 such brochures were distributed free of charge. For the brochures in Norwegian and Danish, a purely nominal charge was made. The Swedish Superior Direction of Schools, which has followed intimately the school broadcasts in Sweden, has arranged, from time to time, competitions, in some cases with money prizes.

A questionnaire put to the Swedish schools in the spring of 1931 showed that the most popular transmissions were the recitation of, and comments on, the religious Swedish hymns of the late Archbishop Nathan Söderblom; conferences on hygiene; a voyage story; "the popular Swedish songs"; and two series of conferences on "The elaborate Swedish language" and "A small Swedish farmhouse" (agriculture). In each case, over a thousand classes listened to these broadcasts.

SWITZERLAND

The first experiments in Switzerland in broadcasting to schools were made in 1930, when the Berne station transmitted for three months, during two-and-a-half hours each week, a series of talks to elementary schools. The transmissions were highly successful.

Further experiments were made in the spring of 1932 from the German-Swiss station of Beromünster.

The Swiss Association for school broadcasting then created a special Commission to study the technical

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problems associated with the reception of transmissions in schools and to give indications to school masters upon the choice of suitable receivers. Recently school broadcasting in French-speaking Switzerland has been reorganised and becomes the interest of regional Committees. A Committee has also been formed for the development of school broadcasting in Italian-speaking Switzerland.

YUGOSLAVIA

Since the spring of 1930, the Yugoslavian broadcasting organisation at Belgrade has made two or three transmissions each week, intended either for scholars in schools or for children listening in their own homes. The materials for these broadcasts have been carefully prepared in collaboration with the union of school masters.

Educational transmissions to scholars,
outside school hours

AUSTRALIA

In all States of the Australian Commonwealth broadcasts have been made to scholars in their own homes. The programmes include French, German, and illustrated music lectures. The broadcasts take place in the early evening hours.

AUSTRIA

In Austria a certain amount of educational material is included in the hours devoted to young men and chil-

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dren. Into these hours again are introduced transmissions specially intended to develop the manual dexterity of children.

CZECHOSLOVAKIA

The Czechoslovakian broadcasters arranged two or three years ago transmissions specially for scholars in their homes—once a week, half an hour talk on literature for the young and, also once a week, half an hour of music for the young, in which explanations were given.

FRANCE

The highpower station of Radio-Paris organised in 1931 a series of broadcasts specially for children on the history of music, employing gramophone records to illustrate this subject. A preliminary course of English was broadcast twice a week in the winter season, 1931-32.

HOLLAND

The Catholic broadcasting organisation in Holland transmits various language courses to scholars in their own homes.

NORWAY

Several times a month broadcasts are made to boys and girls of school age, tending to develop their manual dexterity and their interest in hygiene and sport.

SPAIN

In Spain the teaching of shorthand by broadcasting to boys and girls of school age was a feature of the programmes for some time.

CONCLUSION

Whilst the brief summaries in the preceding chapter may serve a useful purpose in indicating a very general development of the educational side of broadcasting and an interest by the educational authorities themselves in broadcasting as a new educational medium, it must not be assumed that the space given to each individual country represents the relative importance of the activity of one country to that of other countries. Neither must the conclusion be reached that broadcasting can or will displace existing educational methods. The loud-speaker cannot replace the teacher in the schools but it can be used to present to students of all ages the experiences and viewpoints of the greatest authorities on their respective subjects. Few will dispute the greater relative value of the spoken word over the written word as means of human appeal.

In Europe, where the technique of educational broadcasting has been the subject of two or three international conferences, much has been said and written upon the "art" of educational broadcasting. Some broadcasters hold that advantages are to be gained by "training" men who are eminent in their own walks of life to the special requirements of the broadcasting medium; others argue that the keynote to success in broadcasting, as in many other things, is "personality" and that any effort to lay down stereotyped rules for the presentation of matter before the microphone is dangerous, as it may lead to the destruction of personality. Instead these advocates

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of the broadcasting of "personality" would reproduce in the broadcasting studio, for the benefit of all its most eminent broadcasters, the conditions under which they have been known to work most successfully in the past. The last word has not yet been heard upon this question.

European broadcasting organisations which have taken up seriously systematic broadcasting to schools during school hours, have each in turn discovered the impracticability of using for reception purposes in schools the apparatus generally sold for use in the home. The ear of a child appears to be much more sensitive to distorted sounds than that of an adult, and as a consequence a decline in attention and interest is soon noticeable in a schoolroom possessing a receiver guilty, in the least way, of giving distorted speech.

This difficulty has been solved in one or two instances by the Chief Engineers of the broadcasting organisations preparing specifications of distortionless receivers and distributing these amongst the schools, leaving the schools free, of course, to choose the manufacturer of the receiver. In addition, corps of engineers have been established, to make periodical visits to the schools known to be taking part in the school broadcasts, to ensure that the receiving sets are functioning at their highest efficiency and that their position in the classroom is the best possible from an acoustic point of view.

In Great Britain interesting experiments have recently been made by some of the contributors to the programmes of school broadcasts. Instead of speaking direct before the microphone they have recorded their addresses on a reel of steel wire and then have been present, unknown to the schoolchildren, at the schools during the

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hour set apart for their transmission. They have then been able to study for themselves the reaction upon the scholars and to make such adjustments in their methods of presentation as they have considered to be necessary.

For a further study of educational broadcasting as practised in various countries, the Geneva Office of the International Broadcasting Union draws attention to the following publications, of which it has personal experience. There are undoubtedly others in existence on the same subject of which the National Advisory Council on Radio in Education is informed.

LIST OF PUBLICATIONS REGARDING EDUCATIONAL BROADCASTING

League of Nations:

International Institute of Intellectual Co-operation (Paris):
Radiodiffusion Scolaire, 1933

League Secretariat (Geneva):

Educational Survey, 1931

Australia: Report of the Committee on Educational
Broadcasts, 1931-32

Canada: The School Trustee, March, 1931

Germany: Wie weit sind wir im Schulfunk? 1929-30
Fernschulzeitung, January-June, 1931
Der Schulfunk (Review), June-August, 1931

Great Britain: Educational Broadcasting (Report of a Special Investigation in the county of Kent, during the year 1927, published by the Carnegie United Kingdom Trustees), 1928

New Ventures in Broadcasting, 1928

World Conference on Adult Education—
Cambridge, 1929

International Handbook of Adult Education,
1929

The Evidence Regarding Broadcast History
Lessons (Inquiry Pamphlet, No. I), 1930

The Evidence Regarding Broadcast Geography
Lessons (Inquiry Pamphlet, No. II),
1931

Wireless Discussion Groups, What They Are,
etc., December, 1931

Some Problems of School Broadcasting, 1932

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- United States of America:* Education Tunes in (Levering Tyson), 1926
Radio in the American School System, 1929
Adult Education and Radio Discussion Groups, 1929
Radio in Education (Armstrong Perry), 1929
The Payne Fund (Annual Report), 1930
Report of the Advisory Committee on Education by Radio, 1930
The National Committee on Education by Radio, 1930
For a Genuine Radio University (A new Venture in Radio Broadcasting), 1930
The Ohio School of the Air Courier, 1930-31
Education on the Air (Yearbook of the Institute for Education by Radio), 1933
Journal of Adult Education, June, 1931
Radio and Education (Levering Tyson) (Proceedings of the Third Assembly of the National Advisory Council on Radio in Education), 1933
The American School of the Air (Alice Keith) (Teachers' manual and classroom guide), 1930-31-32
Education by Radio, 1931-32
The Art of Teaching by Radio (Cline M. Koon), 1933

Also a large number of Syllabuses published in Great Britain, the Scandinavian States, and the United States of America.

ANNEX

EGYPT

The Egyptian Government concluded on July 21, 1932, an agreement with Marconi's Wireless Telegraph Company, whereby the latter undertakes as agents for the Egyptian Government, and under its direction, the working of the Government's Broadcasting stations. The Company undertakes to work and maintain the emitting equipment and to emit programmes of educational and entertainment matter only.

The programmes are to be approved by a special board of five members, three appointed by the Government and two by the Company, but official notices of a public service character are to be broadcast without submission to the Programme Board. The Company will receive 60 per cent of the fees derived by the issue of licences to listeners, but on the stipulation that there is an annual expenditure by the Company of at least £18,000.

The Company shall not, without the previous consent in writing of the Government, permit the broadcasting of advertising matter. Should the company be so permitted the proceeds thereof shall be paid to the Government.

Stations are projected for Cairo (20 kw.) and Alexandria, and it is hoped to commence the service at the end of April, 1934.

A licence fee of approximately sixteen shillings per year is contemplated. The registration of listeners had not commenced on December 31, 1933.

MEMORANDUM ON RADIO BROADCASTING IN THE FAR EAST AND SOUTHERN PACIFIC

[The material in this section has been reprinted by courtesy of the American Council, Institute of Pacific Relations, from their *Memorandum on Radio Broadcasting in the Far East and Southern Pacific*, dated February 24, 1934.¹]

While in the United States and Canada radio broadcasting represents one of the most effective channels for reaching millions of hearers and thus directly influencing public opinion on current issues, the less direct impact through a selective distribution of news and comment is more important for the Pacific area as a whole. Direct radio reception through home receiving sets is as yet a relatively insignificant item in such countries as China, French Indo-China, the Netherlands-Indies, or the Philippines, although large plans are under way—particularly in the last-named country—for making radio instruction an integral part of the school system. Even in Japan, the distribution of news by various radio agencies to the press is a larger factor in communication than direct broadcasting.

¹ This is one of a series of fortnightly Memoranda published by the American Council, 129 East 52d Street, New York City. Annual subscription \$2.00.

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JAPAN

The number of listening sets per 1,000 persons in Japan Proper was only 20 in July, 1932, as compared with 122 in the United States, 115 in Great Britain, 70 in Germany, and 55 in Canada. At the end of 1932, the total number of sets in Japan Proper was 1,320,143; with 17,121 in Chosen, 11,880 in Formosa, and 10,000 in the Kwantung Province.

Broadcasting in Japan Proper is controlled by the Nippon Hoso Kyokai, an incorporated broadcasting society under the jurisdiction of the Department of Communications. A similar society has the broadcasting monopoly in Chosen. In Formosa, an incorporated society broadcasts commercial news and collects fees for this service from receivers who secure this news over a government sending station. In Kwantung Province, the Government itself until recently managed all broadcasting (see below). There are in all 19 radio stations in Japan Proper, 1 in Chosen, 2 in Formosa, and 1 in Kwantung Province. The colonial stations largely depend for their programs and news supply on the stations in Japan Proper, and are equipped with technical aids to direct transmission. Similarly, in Japan Proper, a large part of the programs issued from the local stations represents material received from Tokyo.

The Japanese Government does not permit the use of broadcasting for commercial or industrial advertisement but regards the system essentially as a public service devoted to the dissemination of news and cultural education. Comment on political events thus is under complete control. An analysis of topics broadcast in Japan Proper during the twelve months October, 1931, to Sep-

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tember, 1932, shows that of a total of 52,565 hours on the air, about 41 per cent were given to news—and of this time about one-third to news about the Sino-Japanese situation. Of the average broadcasting day, another 31 per cent fell to “talks” or lectures, 22 per cent to amusements, and 6 per cent to children’s entertainment. The 22 per cent of the time given to amusement consists of 9 per cent given to plays and other entertainments, 8 per cent to Japanese music, and 5 per cent to foreign music. A large increase in the number of receiving sets in 1931–32 is generally explained with the aroused public interest in the events in Manchuria; the strong political influence of this agency of news dissemination on Japanese public opinion is officially acknowledged. During the military operations in Manchuria, the populace of Tokyo listened to the staccato of machine gun fire and the cheering of Japanese troops. Army manoeuvres are broadcast to crowds waiting on the streets. Patriotic airs are popularized over the air; and every effort is made both by the Government and by the Broadcasting Society to use to the utmost the potentialities of radio communication for curtailing radicalism and building up national solidarity. It is reported that the Japanese use of broadcasting has been studied by representatives of the Hitler Government in Germany to suggest ideas for controlling mass psychology.

Nevertheless, the testimony of foreign observers is to the effect that on the whole the strict control of broadcasting in Japan is proving a great aid to every phase of education and the spread of useful information. It is this civilizing function of broadcasting which is regarded as its primary object. Second in importance, according

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to a Japanese source, is the quotation of stocks, broadcast several times a day, together with weather forecasts which have a bearing on the prices of agricultural products. It is reported that "economic news," including such stock exchange information, comes next to general news in the total number of hours allotted to different topics.

With the completeness of the control previously described, it is not surprising that Government censorship of broadcasting is very strict. Except for a few items of economic news, every paragraph to be put on the air has to be submitted to the censor in advance; and whenever a manuscript varies even slightly from the copy submitted, the program may be switched off.

In order to increase the number of home receiving sets, the monthly subscription fee was reduced in April, 1932, from one yen to 75 sen. Largely as a result of this step, 220,000 sets were added between April and October of that year; though there is some complaint that the fee is still too high.

The further extension of radio reception in Japan has been held up, in the opinion of some observers, not so much by the registration fee as by the defences which the Government finds it necessary to erect against the reception by citizens of news and comment broadcast from without the country. Broadcasting in Japan, until recently, was carried on over a number of stations with low electric power. But to overcome the powerful broadcasting stations operating in Eastern Siberia and in China, the Director General of the Department of Communications was reported recently to be planning the use of a higher electric power—with the probable result that

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the Nippon Hoso Kyokai will not be able at once to carry out a project to set up twelve new radio stations to complete its network.

At the Banff Conference, Japanese speakers referred to the danger of foreign propaganda as likely to disturb the effective contribution which, in their opinion, the educational programs and news dissemination of their radio system was making to the cause of international understanding. If Soviet and Chinese stations were reaching the Japanese radio receivers only with materials broadcast in the language of their own respective countries, there would be little cause for just complaint. What the Japanese object to is the broadcasting from foreign stations—often over wavelengths cutting out programs of Japanese origin—of talks in English and Japanese, designed to reach the Japanese public. Incidentally, reference was made also to the aid rendered by the Japanese radio system in teaching foreign languages—proof, it was held, that there is no desire on the part of the Government to isolate the people from foreign sources of information.

MANCHURIA

Radio broadcasting in Manchukuo, under an agreement signed on March 26, 1933, between the Manchukuo and Japanese authorities, has with other electrical communication services been made a monopoly of the Manchuria Telegraph and Telephone Company, a joint Manchu-Japanese concern with a capital of 50 million yen. This organization has for one of its purposes the unification of all radio-broadcasting services in the Kwantung Leased Territory, the South Manchuria Rail-

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way Zone, and the region under the jurisdiction of Manchukuo. It does not, however, control the powerful sending stations of the military and other government authorities.

CHINA

A very different picture is presented by the radio situation in China. Here 72 broadcasting stations compete for the ear of the citizens—all under Government regulations, but for the most part in private ownership. Of these 72 stations, 43 are in Shanghai, and the rest are distributed over the commercial and industrial centers of the eastern provinces. The relatively large number of stations—considering the poverty of the people and small number of receiving sets in use—is explained by the fact that many of them, particularly in the smaller cities, serve only local uses. In 1932, the Central Kuomintang erected in Nanking a broadcasting station of 75 kilowatts.

Under the Chinese Constitution, all electrical means of communication are in theory owned and controlled by the State. This provision, however, so little corresponds to the actual situation that in 1932 the Government saw itself obliged to promulgate provisional regulations governing private radio broadcasting. Under these regulations, Chinese citizens, corporations and organizations, as well as Sino-foreign corporations or organizations duly registered with the National Government, may establish and operate radio broadcasting stations in China. Permits, issued after formal application, are effective for six months, a separate license being required for operation after inspection of the station. In addition to a

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license fee of \$50, a cash security of \$200 or shop guarantee of \$1,000 has to be deposited, to be returned—after deduction of any fines incurred—upon termination of the agreement. Such licenses are not transferable. Broadcasting programs are limited to lectures or speeches “calculated to promote public welfare,” news reports (subject to special prohibitions), music and other entertainments, and business reports. The last-named category includes advertising, with the stipulation that the time taken up by it must not exceed 20 per cent of the daily broadcasting time.

The Government reserves for itself the right to demand the broadcasting of Governmental news and mandates, specifically including also “propaganda matter of benefit to the public,” all such Government reports to have precedence over other programs. Private stations may be stopped also to give a clear field to emergency calls from ships or airplanes. Among other conditions are provisions designed to prevent the disturbance of Government and other public broadcasting, communication between several stations, the transmission of private messages, the broadcasting of news, songs, stories, or talks which are “contrary to public peace or good morals,” mutual disturbance between stations, and—most difficult to obey—the broadcasting of “unauthentic news.” Penalties may take the form of suspension of operation, revocation of license, fines, or even confiscation of radio apparatus. In so far as they are not contrary to these regulations, the provisions of the International Broadcast Convention are recognized.

Foreign as well as Chinese-owned stations are subject to these regulations, in spite of the difficulties due

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to extra-territoriality. Some measure of control by the Government is not unwelcome to the foreign owners, or some of them, who experienced some difficulty in the past with mutual interference. For the same reason, the Municipal Council of Shanghai recently cooperated with the Government by introducing special legislation, subjecting the stations situated in the International Settlement to a form of registration and licensing similar to that elsewhere imposed by the Government. A foreign editor in China gave it as his view, at the Banff Conference, that Chinese censorship is severe only in situations of civil disorder. There was testimony also to the effect that although the Chinese Government is naturally sensitive to criticism in the present unsettled condition of Chinese public opinion, broadcasting stations using ordinary discretion have little to fear from Government interference.

Chinese educators are becoming interested in the potentialities of radio broadcasting as an important educational force in a country with so large a prevalence of illiteracy. While considerable progress is being made in the extension of an elementary knowledge of reading and writing, through the spread of the Mass Education Movement and similar agencies as well as the efforts of the Government itself, the particular difficulties of the process as compared with the same task in western countries make it especially desirable as quickly as possible to supplement an academic type of education with every device to aid oral learning. At least one distinguished foreign student of Chinese education believes that with an extended use of radio China may yet lead in the popular movement of progressive education away

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from a literary conception of that process to one more intimately related to the needs of every-day life.

BRITISH COMMONWEALTH

The British interest in the dissemination of British influence through broadcasting in the Pacific area has been greatly aided by the opening, in December, 1932, of a new short-wave station at Chelmsford, transmitting on 24 meters with a power of 12 kw. This station, using the new "Empire" transmitters, can be picked up by listeners all over the world, and is providing a program and news service suitable in time and content to all parts of the Empire. A special program intended for the Southern and Western Pacific—covering Australia and Tasmania, New Zealand, Papua and the Pacific Islands, as well as North Borneo, Sarawak, and Hong Kong, is broadcast in London from 9:30 to 11 A.M., reaching the Pacific zone at local times ranging from 5 to 11:30 P.M.

The only British-controlled station in the Pacific is that at Victoria Peak, Hong Kong, which gives news, weather reports, and musical programs daily on wavelength 350 meters, but can be picked up with ordinary receiving sets only over a relatively small area. British programs are, however, from time to time relayed by Australian and New Zealand stations; and skillful listeners in these outlying parts of the Empire with powerful receiving sets have always been able to tune in on stations in the homeland.

New Zealand supports no less than 34 private and four official broadcasting stations, serving 75,000 receivers, the major portion of whose license fees helps to support the four stations maintained by the New Zealand

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Broadcasting Board. The dominion, because of its isolation, is especially interested in the extension of private amateur and research radio transmission—classes recognized under the radio regulations of 1932 as deserving of official encouragement by the issue of special licenses. In both cases, technical qualifications are required.

Australia, through the National Broadcasting Service, controlled by the Postmaster-General, maintains two stations each in Sydney and Melbourne, and one station in eight other cities. In addition, 50 licensed stations serve 369,000 registered listeners. The national service is paid for from the listeners' license fees of 24 shillings per annum. The programs sent out over the Government stations are provided by the Australian Broadcasting Commission, composed of five persons appointed by the Commonwealth Government. The license fee for private broadcasting stations is £25; their income is derived entirely from advertising. The Australian system has been particularly active in recent years in creating machinery for simultaneous broadcasting, by means of telephone trunk lines and amplifying apparatus. In this way also the reception of news from, and distribution of news to, the homeland has been greatly improved.

British Malaya and British North Borneo, according to a recent report of the U.S. Bureau of Foreign and Domestic Commerce, are without wireless facilities, other than two Government stations for communication with ships at sea.²

² No reliable first-hand information is available about radio broadcasting services in French Indo-China, Siam, and the Netherlands-Indies. A number of stations are listed for each of these countries of

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THE SOVIET UNION

The U.S.S.R. in 1932, reported the use of 66 radio stations and 2,888,000 "receiving points," the total number of listeners being estimated as being between ten and twelve million. How many of either the sending stations or the receiving sets are located in eastern Siberia is not known. The American navy map indicates the existence of between 25 and 30 broadcasting stations in Eastern Siberia; but from their location it seems probable that most of them serve shipping and other official purposes rather than general broadcasting. It is important, however, to record that every nationality in the Soviet Union may have programs broadcast in its own language, and that in fact fifty different languages are used in this service. The radio "receiving points" just mentioned represent, for the most part, centers of study, some of them in the most outlying and distant places. All programs are, of course, part of the official educational system; and the Government provides both the transmitting plants and the receiving sets. The Soviet Government plans for a gradual increase in the number of the more powerful stations—not only as an aid to control, but also as a matter of economy, since the weaker stations require the more expensive receivers. With the intention of increasing the number of receiving sets to twenty million, the Government proposes to turn out

the West Pacific (but not for the Philippines) on the Communication Chart of the World issued by the Hydrographic Office of the U.S. Navy Department, September, 1933. It must be surmised that most of these stations, if not all, serve government and press purposes and are not used for general broadcasting. The number of receiving sets in these countries, it was reported at Banff, is as yet exceedingly small.

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600,000 of them annually during the next five years and a million and a half annually after that.

IN CONCLUSION

In spite of occasional reports which make it appear as though the whole Japanese population were being impregnated by its Government against "dangerous thoughts" through the agency of broadcasting; in spite of enthusiastic forecasts from the Philippines picturing the whole population as learning English from a teacher in a government office at Manila; in spite of the Soviets' second five-year plan; and in spite of technical improvements which make it possible for the Prince of Wales to be heard all over the world, radio broadcasting in the Western and Southern parts of the Pacific is yet in its childhood. Three obstacles stand in the way of a rapid extension of its uses in the popular distribution of information: cost, technical shortcomings, and the fear of governments. Where large sections of the population are in process of adapting their economic existence and their social life to the demands of modern world relations, fear of too rapid and too indiscriminate an exposure of illiterate people to the clashing voices of diverse nations and groups within nations may well be justified by reference to sound educational and administrative principles. Only if monopolies were established to exploit this new instrument for the selfish purposes of classes or parties would criticism be in place. But judging from the evidence, it does not seem that such a condition prevails in the Western or Southern parts of the Pacific. So far, no method of control in use has isolated an important part of the population from contact with world opinion. The

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chief danger of the use of radio broadcasting as an instrument of mass conditioning is, rather, that, however public-spirited may be its intention, it is apt to create new emotional barriers to international understanding. The Governments of the Pacific have shown that such a result does not inevitably follow from censorship, but that this tool of government policy also can be used with discretion and varying in the strictness of its application with different degrees of danger to the public order.

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APPENDIX

Foreign Coinage Table

(without reference to current exchange rates)

<i>Country</i>	<i>Unit</i>	<i>Par Value in American Currency</i>
AUSTRIA	schilling	.14
AUSTRALIA	shilling	.24
BELGIUM	belga	.14
BULGARIA	lev	.007
CANADA	dollar	1.00
CZECHO-SLOVAKIA	crown	.03
DENMARK	kroner	.27
ESTONIA	kroon	.27
FINLAND	mark	.025
FRANCE	franc	.04
GERMANY	mark	.24
GREAT BRITAIN	shilling	.24
HOLLAND	guilder	.40
HUNGARY	pengo	.175
IRISH FREE STATE	shilling	.24
ITALY	lira	.0525
JAPAN	yen	.50
LATVIA	lat	.193
LITHUANIA	lita	.10
NORWAY	kroner	.27
POLAND	zloty	.1125
PORTUGAL	escudo	1.08
RUMANIA	lei	.006
SPAIN	peseta	.193
SWEDEN	krona	.27
SWITZERLAND	franc	.193
TURKEY	piaster	.044
YUGOSLAVIA	dinar	.193

COUNCIL PUBLICATIONS

In order to record the progress and the results of the work in which it is engaged, the Council will issue from time to time bulletins in an Information Series, of which the Director is editor. In this series the following have already appeared or are in the course of preparation as indicated:

BULLETIN OF INFORMATION SERIES

- Number 1.* National Advisory Council on Radio in Education, Inc.
- Number 2.* What to Read About Radio (*An annotated reading list*)
- Number 3.* The Broadcaster and the Librarian
- Number 4.* Research Problems in Radio Education
- Number 5.* Present and Impending Applications to Education of Radio and Allied Arts
- Number 6.* The Broadcaster and the Museums (*In preparation*)
- Number 7.* Broadcasting Abroad
- Number 8.* Group Listening
- Number 9.* Broadcasting to Schools
- Number 10.* The Problem of the Institutionally Owned and Operated Station
- Number 11.* Educational Broadcasting from the Point of View of the Radio Industry (*In preparation*)
- Number 12.* Broadcasting by National Voluntary Organizations with Public Service Objectives

The Council has designated the University of Chicago Press, Chicago, Illinois, as its publisher for the distribu-

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tion of literature about educational broadcasting and various problems related to it which are likely to have wide popular appeal and more lasting value than the bulletins of the Information Series. Such publications will include, wherever possible, the proceedings of the Annual Assembly or of other conferences, transcripts of actual broadcasts, and various books or handbooks on the general subject of educational broadcasting. The Council believes that by means of its own publications and this alliance with an educational publishing house, its sphere of influence will be greatly increased.

The Press also makes available to the public at small cost reprints of addresses in various programs broadcast under Council auspices. This is done in the belief on the part of officers both of the Press and of the Council that the spoken word and the written word are supplementary; that one arrests and stimulates; and that the other captures and retains.

RADIO AND EDUCATION SERIES

Radio and Education, 1931. Proceedings of the 1931 Assembly. Edited by Levering Tyson

Radio and Education, 1932. Proceedings of the 1932 Assembly. Edited by Levering Tyson

Radio and Education, 1933. Proceedings of the 1933 Assembly. Edited by Levering Tyson

Educational Broadcasting. A Bibliography by Robert Lingel
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